

NATIONAL BISON RANGE

Visitor Numbers (regarding how many visitors will be/can be allowed to use Range)

What alternative outcomes result from differences in how many visitors are allowed on the Range?

- 1.* Visitor numbers are allowed to increase until they are not compatible with purpose of the refuge. Limited only by compatibility to resources, not visitor experiences with wildlife? (Not reached yet in areas where visitors are currently allowed. *Can increase until numbers modify bison grazing patterns or rutting behavior...or see a decline in number of native birds present or nesting, other indicators?*)
2. Visitor numbers are restricted to current levels to maintain current wildlife experience for visitors. Keep/limit numbers to current levels of use. (*Limiting visitors is probably the biggest question in Natural Resource agencies. To limit, you would need a controllable access point with enough staff, including Law Enforcement, to enforce the limit. Limits could be set on a first-come, first-served basis with or without time limits to use the Refuge, a reservation system (chosen by first-come, first served and/or lottery) or a combination of types. You could have a specified percentage allowed for locals only so they would always have an opportunity to use the Range. I would stay away from using fees as a means of controlling numbers as this discriminates against those who cannot afford the price. The biggest cost investment would be staff - extra staff at the entrance/control point, extra Law Enforcement to enforce the limits, extra staff to do reservations if we go that way (unless we get a private company to do it - which they've done at some National Parks for campground/backcountry permits). An educational/advertisement campaign to inform the public and shift use elsewhere (where is a big question) may alleviate use a bit. While some locals may have advocated this, I don't think others, especially businesses who want more visitors to come, would go for it.*)
3. Decrease numbers to provide a quieter, more solitude experience for visitors.
4. Decrease numbers to provide less disturbance to wildlife/resource (*assume there is a problem with too many people now*).
5. Delete visitor use - Refuges for wildlife (*this may not be an option since one of our legislative mandates is "to provide adequate pasture for the **display** of bison*).
6. Actively promote use to limit of compatibility (*this is something local businesses would like - I know of a few who have commented to me that we could get lots more visitors if we advertised, which they feel would increase their business as well*).

Access (concerning areas that are currently closed to public use)

What alternative outcomes result from differences in where visitors are allowed on the Range?

- 1* Visitors are allowed into areas currently accessible - places that limit wildlife/resource disturbance and increase public safety. *There are no limits to who can use these areas when they are open (some closures due to weather, safety). These include - picnic area & nature trail, visitor center and grassland trail, Bitterroot trail and High Point trail, Scenic drives (west loop, red sleep, winter drive), Mission Creek and Jocko River fishing access, corrals (during roundup).*
2. Access is opened up to some areas for **all** users (*ie: more roads, fishing access areas, seasonal openings/closings of areas (including leaving tour road open longer)*) as long as compatible with resources.
3. Access is opened to some areas for specific users (*ie: photographers, fishing*) as long as compatible with resources. *Would need to issue special use permits and set up a way to process requests (ie: first-come, first-served basis or lottery system if more requests than any limits, who would/wouldn't qualify for permits (ie: open to all or just "professional") and how to judge qualifications) which may require more staff, also more Law Enforcement staff to patrol and regulate this use. Under the current recreational use fee program, we could charge extra for these uses, but we need to make sure we don't charge an excess amount so as to limit users by income.*
4. Types of access compatible to resources are increased in areas currently open to visitor use (*ie: more hiking, boating, mountain bikes*).
5. Current access is deleted or reduced for all visitor use - Refuges for wildlife (*this may not be an option since one of our legislative mandates is "to provide adequate pasture for the **display** of bison*).
6. Decrease some types of access to enhance wildlife/wild experience (*limit use of campers/trailers on all tour roads, less car access for more walking/hiking opportunities*).

Visitor Facilities

This includes picnic area (pit toilets (one accessible), water, picnic shelter, fire grates/grills, baseball diamond), Visitor Center (opened 1981 - flush toilets (accessible), displays, book store, information, parking lot, kiosk, theater and video), scenic drives (mostly graded gravel with accessible pit toilet), Environmental Education Campground (has a picnic shelter only, no water or toilets on site), display pasture.

What alternative outcomes result from differences in visitor facilities? (The maintenance facility plans, road system/display pasture plan, and quarters plan probably should be considered under step down plans - they are tools to reach an alternative, for example, rerouting visitors to the display pasture other than through the housing area would enhance their natural experience or increasing housing for public use staff would provide more staff (probably seasonal) to provide more visitor opportunities, etc.)

- 1.* Current facilities are maintained within available funding and minimum safety/accessible standards to provide a moderate level of amenities and visitor education. *Limits to visitors is limited by space, staffing, funding and compatibility. Maintain current VC size, toilets in picnic area and Bitterroot Trail, picnic area and baseball kept, gravel roads. No increase, no elimination, maintain at current status.*
2. Facilities are enhanced to meet **current** numbers of visitors within levels of compatibility (*increase Visitor Center/theater to accommodate school and tour groups sizes, increase parking lot size, add bathroom facilities (including accessible), add toilet facilities in picnic area and along tour road, more shelters in picnic area*).
3. Visitor facilities are enhanced to provide a high level of amenities and visitor education to increasing numbers of visitors. (*Like #2, with the addition of flush toilets in picnic area, paved roads. This may include a certain amount of promotion of facilities - if we have better stuff, the increase in visitors would be greater than if no enhancement.*)
4. Visitor facilities that provide some amenities yet prioritize for a wildlife experience (*increase visitor center to expand educational opportunities, remove baseball field, replace pit toilets in picnic area with fewer but better ones, more parking below but leave all trailers and campers out of more areas than now. May include removing some facilities to enhance naturalness of viewing?*).
5. Remove all facilities for visitors - Refuges for wildlife (*this may not be an option since one of our legislative mandates is "to provide adequate pasture for the **display** of bison*).

WILDLIFE DEPENDENT USES - Hunting, fishing, wildlife observation, wildlife photography, interpretation, environmental education.

What alternative outcomes result from differences in which recreational activities are allowed? (This will need to be "designed" so as not to be confusing or unwieldily - some items need to be addressed under the big heading of all uses while some would be best addressed separately - see below).

- 1.* Current uses are allowed to continue and/or increase as long as it stays within compatibility with resources, staff, facilities, safety. We will keep up with demand if able. (Uses currently allowed - fishing in limited areas; wildlife photography and wildlife observation allowed for both groups equally along tour roads, nature trails, fishing access; interpretation mainly impersonal with brochures, kiosks, displays with exception of Visitor Center staff; environmental education limited by facilities and staff. Hunting is not currently allowed.)
2. Delete/decrease visitor use - Refuges for wildlife (*this may not be an option since one of our legislative mandates is "to provide adequate pasture for the **display** of bison*).

3. Limit uses at current level, do not allow any more increases of numbers, types, make changes needed to meet current uses (ie: *enlarge visitor center, additional tour road, public use staffing for environmental education/interpretive opportunities*).
4. Provide additional opportunities by means of increasing open areas to the public for these same uses (subject to compatibility, not to conflict with refuge management, or approved research activities) to maximize wildlife viewing/photography, environmental education, interpretation. (ie: *special use permits for photography in closed areas, more areas for hiking, additional tour road, additional fishing areas* - may want to address under separate category headings?)

Items to address - either separate or under big heading of Wildlife Dependent Uses. There is some overlap but also some concerns specific to each category. Would get unwieldy to put ALL options under one heading.

- Hunting -
 - 1)* Continue current policy of no hunting
 - 2) allow recreational hunting to manage population levels of big game animals (elk, deer, pronghorn, sheep, goats) as needed. (*Would need to set up a system if plan to allow hunting only every other year or so if don't go with yearly.*)
 - 3) allow recreational hunting season for big game, ducks, upland games birds or some combination (*would need to consider which regulations to go under - Tribal and or state, who would qualify/be allowed to hunt (tribal vs non-tribal)*).
- Fishing -
 - 1)* Continue at current access.
 - 2) reduce/eliminate fishing (*non-consumptive public uses only*)
 - 3) expand fishing opportunities by opening new access areas (ie: *more of Mission Creek*)
 - 4) promote fishing opportunities by holding festivals, erecting better/more visible directional signs (*a push by FWS to promote National Fishing Week in early June*)
- Wildlife Observation -
 - 1)* Continue at current levels where limited only by compatibility, resource impact, safety. Current roads/trails/areas not currently limited to total numbers of users.
 - 2) reduce/eliminate use to limit impact on wildlife/resources (*refuges for wildlife*)
 - 3) provide additional areas accessible for wildlife viewing - *additional tour road(s), additional hiking/walking trails, additional overlook(s) on Hwy 93.*
 - 4) actively promote wildlife observation opportunities - including festivals, migratory bird day activities, etc. (*local businesses already promote the Range, a few wonder why we don't "advertise" because it would "increase business", including theirs*).

- Wildlife Photography -
 - 1)* Continue at current levels which are limited only by compatibility, resource impact, safety. Current roads/trails/areas not currently limited to total numbers of users.
 - 2) reduce/eliminate use to limit impact on wildlife/resources
(refuges for wildlife)
 - 3) provide additional areas accessible for wildlife photography - issue special use permits that would allow access to closed areas as long as compatible with resources, safety, compatibility. (Would need to issue special use permits and set up a way to process requests (ie: first-come, first-served basis or lottery system if more requests than any limits on numbers of users allowed).)

- Environmental Education -
 - 1)* Currently allow for all users until/unless limited by compatibility, safety, staff limits, facility limits. (ie: school group size/number limited at to one at a time in Visitor Center due to space. However, have not yet reached limit on number of schools using picnic area or scenic drives at one time.)
 - 2) Meet current needs by expanding facilities and staff. Work with partners, state, Tribe to address curriculum needs.
 - 3) Actively encourage/increase environmental education. Facilities and staff expanded to meet current and future needs. Work with partners, state, Tribe to address curriculum needs. (EE is currently being pushed by Washington. EE expansion in new law (partners and volunteers) passed in October, 1998.)
 - 4) Reduce/eliminate - Refuges for wildlife

- Interpretation -

Very similar to EE needs, with expansion of facilities and staff need to meet/increase this use, partnership with state and Tribe very important to get balance interpretation of history, events, area.

PUBLIC USE BACKGROUND - National Bison Range

Early Public Use

Frank Rose, Manager, 1923-1924, Public Relations man, gave first public tours

“...to provide for adequate pasture for the display of bison...” (72 Stat.561, Aug. 12, 1958)

Recent Trends

Favinger and Trent (1993) made a number of predictions on recreational use trends. Among them are that there will be an increase in demand for recreation opportunities for a wide variety of activities, an increase in demand for access to public lands, in demand for environmental education, in demand for off-season (fall, winter, spring) recreation and there will be an increase in conflicts among recreationists. They also reported that nonresident visitors to Montana increased from 5.17 million in 1988 to 6.5 million in 1992, an increase of 26%. Scenery and wildlife were the leading attractions to nonresident visitors during that period. In addition, they reported that Montana's population has and will continue to shift to the western part of the state.

Extended seasons encouraged by State Tourism personnel also brings increased traffic during months (fall, winter, spring) when no seasonal staff is available.

National surveys by FWS have shown a substantial increase in wildlife viewing and other nonconsumptive uses of wildlife. Between 1980 and 1990 there was a 76% increase in primary nonresidential participation in nonconsumptive activity in the Mountain States. (U. S. Department of Interior and U. S. Department of Commerce, 1993).

Current Public Use

Facilities

Approximately 30 acres of irrigated meadows dominated by introduced grasses are found in the headquarters area, along with a picnic area covering about 15 acres. Roads, buildings, residences, maintenance areas and corrals cover about 145 acres.

Most of the educational and interpretive use of the NBR occurs at the Visitor Center, Nature Trail, Picnic Area, Exhibition Pasture, along a 19-mile self-guided auto tour and on 2 shorter tours near the Visitor Center.

Visitor Center - The building housing this Center was constructed in 1981 and contains 2,900 sq. ft. of space open to visitors for reception area, information desk, interpretive displays, theater, a Cooperating Association Book Sales area,

environmental education learning center and accessible restroom facilities. The Center has up to 1,000 visitors a day in summer, with as many as 250 people in the building at peak times. Studies done when the Center was constructed deemed the building overcrowded when occupied by more than 50 people. The Theater is 784 square feet and was designed to accommodate 20 chairs. Chairs have been added and there are now 40 chairs crowded into this room but capacity is still exceeded on a regular basis. There is no air conditioning. The theater is used for all tour groups, schools and general visitors for presentation of interpretive videos, programs and workshops. Parking areas for Visitor Center were laid out in 1981 and provide space of about 30 passenger cars and 12 small trailers or motor homes.

Scenic Drives - Tour routes include the Red Sleep Mountain Drive, a 19-mile, one-way graveled loop road which gains 2,000 feet in altitude through grasslands, wetlands, mountain forest and riparian areas. This road has steep grades, sharp switchbacks and no guard rails. One accessible restroom is available along this route. This drive is open from mid-May through late-October. Shorter drives, including the West Loop and Prairie Drives accommodate large buses and other units unable to negotiate the long tour and are open year-round, pending weather.

Roadside Displays - Roadside displays include an interpretive kiosk in the Visitor Center parking area which provides visitors with bison facts, a map, regulations, and safety information. A geology display at the high point of the Red Sleep Mountain Drive, explains the area's unique geologic history. An elk antler display, including a pylon of shed antlers, near the Exhibition Pasture explains annual antler growth. These roadside displays are located at sites with existing parking areas. There is a Wildlife Viewing area just off U.S. Highway 93, on Ravalli Hill, along the east boundary of the Bison Range. This site often provides good views of wildlife on the open hillsides and in the Ravalli Ponds area.

Trails - Hiking is not allowed on the refuge except on four short interpretive trails. The Bitterroot Trail and High Point Trails are in the high country and are reached from the Red Sleep Mountain Drive. The Nature Trail in the day use area weaves through an area of wetlands, streamside thickets, small meadows and riparian forest. Most of these trails are paved and provide full use by wheelchairs as well as access to a fishing bridge designed for use by people with disabilities. The Grassland Trail is located behind the Visitor Center and allows a short foray into the grassland habitat of the Range.

Exhibition Pasture - A 20-acre irrigated Exhibition Pasture is located in the housing area. Since bison are not always visible from the auto tour roads, a few bison are kept in this pasture year around as a guarantee that visitors can see bison when they visit here. This complies with the legislative purpose "to maintain adequate pasture for the display of bison".

Picnic Area - A shaded picnic area provides a support and rest area for education programs. Many education activities use the picnic area tables and short grassy areas for projects as well as for rest and nourishment time. Since there are no nearby visitor services, general visitors also find this site refreshing after two or more hours viewing wildlife along the often hot and dusty Red Sleep Mountain Drive.

Environmental Education/Interpretive Program

An extensive education program was initiated in 1980 to fill the need for a nature center for area schools, to build an interest and concern for wildlife and wild places and to help young people develop a sense of stewardship for their natural heritage.

Teacher Workshops - Discovery Workshops for Teachers are held 2-4 times each year, providing them with tools to use the outdoors as a classroom.

School Groups - Teachers who have attended Bison Range Workshops return to the Range each year with some 5,500 students to conduct activities they have learned at study sites along nature walks, in the grasslands, wetlands or forest. Schools are scheduled to minimize conflicts and to reduce stress on activity areas and sites are rotated to allow time for recovery. These groups spend approximately 20,000 activity hours engaged in direct contact, outdoor learning activities. Student groups range from developmentally disabled and pre-school groups through university graduate level.

Summer Day Camps started when the education program was initiated in 1980 and continued to 1995. These are offered for children ages six through eleven. Separated by age level, these two-day camps consist of one learning day and one exploration day. Stopped when other groups

Natural Material collections - A collection of wildlife specimens is maintained by NBR for educational purposes. These include mammal and bird skulls, study skins, fur swatches and pressed plant materials.

Nature Study Sites - The Nature Trail and Grassland Trail areas provide education sites.

ACCESS Program for People with Disabilities - Existing educational materials have been adapted for use with a variety of disability needs. The Interpretive and Education Center, theater and restrooms are wheelchair accessible as are the major portion of the nature trails, roundup corrals, a pond study area and a number of other sites. Hands-on props and course work used by other education programs are very adaptable to people with disabilities. Natural materials collections are especially helpful to the visually impaired, many of whom have never seen or touched an antler and have no concept at all of how a

bird is shaped. The ACCESS program provides organized learning activities and live enrichment for people with disabilities of all kinds. Activities are arranged through pre-existing support organizations and school resource classes.

Environmental Education Campground - a small, primitive campsite is provided for educational groups working on multi-day projects.

Special Events

International Migratory Bird Day

Annual Bison Roundup - Approximately 4,000 people attend this event, including about 1,000 school children. Visitor use is restricted to the corral area. This is a unique education and interpretation opportunity. Visitors may watch from catwalks mere feet from active wild bison.

Saddle Club Ride - This event is the single instance where visitors are able to ride horses on the National Bison Range. It has been conducted for many years through arrangements by the Mission Riders Saddle Club and offers a unique venue for education about bison and range management. Staff riders accompany the group and select the route for minimal impact to habitat and wildlife.

Staffing

Regional/National Trends

Banking on Nature: The economic Benefits to Local Communities of National Wildlife Refuge Visitation. FWS report July 1997. Spending to local communities from recreational visits to Refuges (does not include spending by employees, commercial activities on refuges, etc.)

Future Trends

Option 1: Convey National Bison Range lands to the CSKT.

Pursuant to Congressional approval, the FWS would convey the National Bison Range (NBR) lands to the Confederated Salish and Kootenai Tribes and abandon the refuge management easement at Nine Pipe and Pablo NWRs (CSKT owns the land at Nine Pipe and Pablo NWRs). National Bison Range lands include nine Waterfowl Production Areas within the Flathead Reservation, owned in fee by the FWS.

As part of this process the FWS would transfer (FWS-selected) surplus bison from the National Bison Range to other National Wildlife Refuges, for a period of five consecutive years, with the surplus bison number not greater than the annual NBR bison herd production.

In exchange, the FWS would receive one of the following:

1. **Divesture without compensation.** National Bison Range lands will be transferred to the CSKT and the refuge management easement for Nine Pipe and Pablo NWRs will be abandoned without compensation.

2. **Exchange of NBR lands for other lands in Montana.** The CSKT would provide an equal-value exchange of lands for the National Bison Range and for the abandoned refuge easements for Nine Pipe and Pablo NWRs. Exchange lands could include lands/easements within approved refuge acquisition projects in Montana including but not limited to the Rocky Mountain Front or Centennial Valley. The exchange would be brokered by a third party (e.g. a non-profit conservation organization).

3. **Exchange of NBR lands for other DOI lands.** The Secretary of Interior would transfer other lands (e.g. BLM) to the FWS in exchange for NBR lands and the refuge easements for Nine Pipe and Pablo NWRs.

Option 2: Cooperative Agreement with CSKT to fill vacant positions at the National Bison Range:

Per the FWS written offer to the CSKT of April 27, 2007, the FWS proposes a Cooperative Agreement that could include the following:

1. The Cooperative Agreement would be between the FWS and CSKT, operating through the CSKT Division of Fish, Wildlife, Recreation and Conservation (DFWRC), and provide a role for CSKT in operation of NBR and associated refuges within the boundaries of the Flathead Reservation.
2. The Cooperative Agreement would begin on October 1, 2007, with funding for FY 08 according to our approved workforce plan for NBR. The Agreement would be for a period of 5 years, renewable annually by the mutual agreement of both parties.
3. The DFWRC would provide employees to fill any vacant permanent positions, excluding the refuge manager positions, and any Term or Temporary positions funded on an annual basis. Pending mutually satisfactory results, additional positions could be offered to CSKT in subsequent years. For FY 08, the positions available are:
 - a. Maintenance Worker, 0.5 FTE, Permanent,
 - b. Park Ranger, 1.0 FTE, Permanent,
 - c. Biological Technician, 1.0 FTE, Term,
 - d. Park Ranger, 3 positions of 0.33 FTE each, Temporary.
4. All work performed at the NBR would be supervised by the FWS Refuge Manager. Each party would agree to allow the other party to have input in its staffing decisions. The FWS would not be able to terminate or discipline a CSKT employee, but would work with the CSKT Division of Fish, Wildlife, Recreation and Conservation to ensure that the individual's performance or conduct was unacceptable to the FWS. Such decisions would be subject to a dispute resolution process under the guidance of the recently selected ombudsman. CSKT would agree to do the work/activity as asked by FWS, and then appeal to the ombudsman after the fact.
5. The Agreement would provide for rapid dispute resolution at the lowest level possible. The FWS Refuge Manager and Manager of the CSKT Division of Fish, Wildlife, Recreation and Conservation would be authorized and charged to informally resolve all disputes at the local level. Regular meetings would be required at that level, and any unresolved issues would be elevated rapidly to higher authority. The ombudsman would be engaged by FWS and/or CSKT prior to elevating the decision to the Regional Director. Ultimate resolution of any disputes would be by the FWS Regional Director, in consultation with the CSKT Tribal Chairman.

6. The FWS would agree to modify signs at NBR to indicate to the public that the refuge is managed by the FWS, in cooperation with the CSKT.
7. The CSKT Division of Fish, Wildlife, Recreation and Conservation would be involved as a full partner in preparing annual work plans for management of NBR and its satellite refuges.
8. As a part of this cooperative agreement the FWS would continue an Annual Fire Management Operating Plan (separate document presented to the CSKT Tribal Council on June 12, 2007). This Annual Operating Plan among the FWS, Bureau of Indian Affairs, and the CSKT is prepared annually for the detection, initial attack, and suppression of wildfires on the National Bison Range Complex.

PUBLIC USE HISTORY - NATIONAL BISON RANGE

Pat Jamieson, Outdoor Recreation Planner

The National Bison Range has always attracted visitors. The earliest public tours were given by Manager Frank Rose (1923-1924) to those few who arrived at the Refuge. He felt they were a great public relations tool. Other managers felt tours were a good way to present the mission of the U.S. Fish and Wildlife Service and the management of the Range to the public. Managers and staff continued with these personally-conducted tours until 1941. They were canceled because of increase in visitors (may have been up to 5,000 visitors per year), lack of staff and time limitations. Staff continued to guide special visitors, especially those from other agencies, scientists, photographers and school groups, over the Range to continue good public relations. Visitors were not allowed to travel the Refuge without a staff person with them.

In 1955, the Range initiated a guided tour using a wildlife student intern from the University of Montana. Originally conducting 2 tours per day on Wednesdays, Saturdays and Sundays, this went to a single afternoon daily tour during the summer season. These drives were very popular but the biggest complaints were the dusty road conditions and the fact they were given only once a day (drop-in visitors didn't always have time to wait for the 3:30 p.m. tour). The Range was opened for self-driving in 1966 and the daily guided trip was canceled.

The Accelerated Public Works program (APW) provided \$100,000 for recreational development in 1962 and made the self-guided trip possible. Money was spent on two projects: 1) improving the tour road (the road over Headquarters Ridge was built, allowing visitors access to the Red Sleep Mountain Drive from the Headquarters area) and 2) improving and enlarging the picnic area (doubled in size).

From the 1930's to early 1981, visitors could stop at the old Headquarters, located in the housing area for orientation and information. New displays were put up in 1970. When the current Visitor Center opened in 1982, the old Headquarters became an Environmental Education Center until converted to housing in 1985. School groups are a major component of visitation in May and during Roundup and have long used the Bison Range for field trips (the 1952 narrative mentions schools coming to see the bison butchering operation). Refuge staff conduct yearly teacher workshops to expand and encourage environmental education opportunities. The Range's Environmental Education Program won both a state and national "Take Pride in America award in 1990 and an award from the National Environmental Awards Council in 1991.

The current Visitor Center opened to the public in 1982 (office staff was in the building by November, 1981). The Bicentennial Heritage program provided funds. Visitors had access to a variety of informational displays, including an Apple IIE computer station with a program about managing the Bison Range. Additional displays were added over time - stereographic viewer and Sharp's replica rifle (1984), projected video

for theater (1986), big game mounts on loan (1995), touch screen interactive computer (1997). The current field guide/brochure took first place in the media awards from the National Association of Interpretation in 1996.

After the Range was designated as a User Fee Area in 1965, headquarter staff found they were spending most of their time collecting fees during the peak summer season and two staff now had to be employed on weekends (one to patrol tour, one to collect fees). A self service fee was then set up at the entrance until the program was canceled in 1970. Public use fees again started up in 1989 for one year. They were then reinitiated in 1994 and continue to the present time. Currently, 100% of public use fees are returned to the station for public use needs and educational programs.

Although it was not until 1958 that Executive Order 3596 stated the Range was "...to provide adequate pasture for display of bison in their natural habitat at a location readily available to the public", bison and other wildlife were kept in an exhibition pasture by headquarters from as early as 1936. At first staff brought in bison for the summer months and released them to the Range during winter. Big Medicine was rotated through the display starting in 1940, but in 1949 staff kept a few bison there year round, mainly to keep Big Medicine company as he was permanently brought in to the pasture due to health concerns. Also for the public viewing, longhorn steers were brought in from Ft. Niobrara in 1952, another 2 from Wichita Mountains in 1964. They were gone by 1978. The area also had tamed deer and elk, which visitors enjoyed photographing.

After the 1958 Executive Order, there was mention of establishing a "Ravalli exhibition pasture" and photographs showed private lands between the Bison Range and Highways 93 and 212 as a potential site. But no mention was made of exactly what would be acquired or how. The viewing site at Ravalli Hill (Highway 93) has always attracted visitors when bison can be seen from that area. In 1950, management wondered how to count these visitors; a vehicle counter was installed at the pullout in 1991.

Other visitor use opportunities include a picnic area, first developed in 1936 by a Civilian Conservation Corps group. Staff used an old gravel pit as a base to construct the nature pond in 1942 for swimming and ice skating. Closed to swimming in 1953 because of unsafe water (tularemia), it is now used by school groups for aquatic and wetland studies. An interpretive wildlife trail was built around the pond in 1971, including two foot bridges. In 1986, part of these trails were made accessible. In 1991, the trails were paved and an accessible fishing bridge installed in 1994.

Hunting is not allowed on the Bison Range but the Regional Office approved a fishing management plan in 1966 for the portion of the Jocko River within Refuge boundaries. It was opened in 1966 to fishing with portions of Mission Creek opened in 1982. Wildlife photographers were accommodated with backcountry access starting in 1983. Initially there was a \$10 fee, increasing to \$25 in 1987. The Refuge canceled this program in 1994 because of excess demand caused by an article in a popular

photographic magazine. Photographers also enjoy the photo opportunities at the annual Bison Roundup. From 1984 to 1992, staff provided special guided access to areas beyond the those open to the general public. This access was discontinued in 1993 due to the redesign of the corral system which eliminated the areas for photographers to safely set up out of the way of the bison and working staff.

A special yearly event is the Range Ride sponsored by the Mission Valley Saddle Club (St. Ignatius, MT). The first ride occurred in 1951 and has been held yearly since. The Spokane Saddle Club sponsored a ride in 1969 and also came in 1972. Management began to discourage horse use/requests at this time.

As early as 1938, Refuge managers commented about the increase in visitation (close to 5,000 per year) and the strain on the limited staff. The 1981 public use plan expected visitation levels to stabilize at 75,000 to 80,000 with absolutely no more than 90,000 per year. This was already exceeded in 1983 with visitation at 131,287. The record year of 1993 showed 217,200 visitors through the front gate. Current visitation has been between 150,000 and 175,000 a year. The 1995 Public Use Minimum Requirements report had three major concerns; 1) the need for another full-time permanent public use staff to meet current needs, 2) expansion of the Visitor Center to meet needs (theater, display area, parking) and 3) front gate redesign for safety.

The 1998 National Wildlife Refuge System Improvement Act emphasized the protection and preservation of wildlife, plant and habitat on Refuge lands. But it also allows for the provision of high quality, wildlife dependent recreational uses for the public. This Comprehensive Conservation Plan is one way to provide visitor uses in the best way possible within time, budget and resource constraints.

TOP 6 - *Wildlife-dependent priority public recreational uses*

May want to have large heading defining these - hunting, fishing, wildlife observation, wildlife photography, interpretation, and environmental education. These can be allowed if compatible with refuge legislation and mandates. Other recreational uses have to have a good justification (unless mandated) to be allowed (and “because we’ve always done so” is not considered justification). This is one of the big reasons for the Executive Order/Refuge Administration Act - to help reduce non-wildlife-dependent uses from refuges and give some legal backing to the effort.

Some areas are best addressed in relationship to one of the TOP 6, or to wildlife-dependent public use in general. For example, public access on the Bison Range is related to what wildlife-dependent public uses we feel should/should not be allowed, what is compatible, use limits, etc. Otherwise, why would there be public access? Some exceptions would be use under the Native American Religious Freedom Act for access to sites (for example, gathering sage) - but that has its own legislation. I don’t consider researchers to be “public” since they need a special use permit.

The TOP 6 may not hold very much weight for NNP or PAB. It would be used for what USFWS would allow under the easement but if the use is not incompatible with the easement and the tribe allows it, we may not have much say in the matter. Some of the TOP 6 uses would be great ways to coordinate with the Tribe to enhance the quality of visitor experiences and explain the partnership/joint management of the areas.

Public Use History - National Bison Range

- 1908 National Bison Range established
- 1909 bison on range
- 1923-1924 1st public tours by Frank Rose, Manager, as public relations
- 1933 Big Medicine born
- 1936 tours conducted over drives personally upon request, usually the manager
CCC - picnic area developed (tables, fireplace, water); stone entrance gates using Washington, DC plans; 10.5 miles new road, some at exhibition pasture
- 1938 4886 visitors viewed exhibition pasture (some folks thought white bison would always be here)
personal tours if requested
*discussed increase in visitors, small staff; will need to change tour arrangements if increase continues
- 1939 attempted to hire 2 WPA workers as Recreation Workers (Jr) but vetoed by Montana office
5223 visitors, personal tour of exhibition pasture
drinking fountain in at HQ
- 1940 enlarged picnic area - WPA
more toilets
Wildlife Restoration Week celebration in March - open house, Big Medicine at exhibition pasture (summers)
3,203 visitors May-Oct.
- 1941 no more guided tours; lack of staff, locals disappointed
exhibit pasture - bison and Big Medicine in May to October
HQ staffed weekends, rotated permanent staff
WPA cleaned up CCC camp at gate
- 1942 pond built at Picnic Area for swimming and wading (in old gravel pit), bath house
set up "recognition signs" (entrance signs) at entrance and Ravalli Hill
visitation down, war years
- 1943 "recreation pond" at picnic area used for winter skating
- 1944 tame elk brought in by State Game (FW&P), in exhibition pasture, popular with visitors
lots of hand-raised, fed deer at HQ
- 1947 estimated yearly visitation - 20,000-25,000 (all report numbers relate to Front Gate only, for comparison)
black topped entrance road and HQ area
- 1948 400' reel buffalo film - "Buffalo Lore", filmed by George E. Mushback, superintendent of Refuges
Service filmed Roundup
- 1949 Big Medicine kept in exhibition pasture through winter (for health) with a few other bison, good for winter visitors

- 1950 photographers at Roundup, 1 Service, 2 private
- managem
ent estimated visitation 25,000
refer to numbers of visitors coming to Roundup and butchering
beginning St Ignatius Saddle Club - first ride, May 27, 36 members escorted (yearly ever since)
to wonder
how to
count
numbers
of visitors
stopping
and
viewing
bison on
Ravalli
Hill1951
- 1952 estimated visitation 26,000
trash collection in picnic area
if time, visitors taken on tours of Range; mostly other government agencies or larger/school
groups
schools come to see butchering operation
Saddle Club/Mission Rangers (May 18) hosted other clubs, 325
longhorn cattle (2 steers) from Ft Niborara for exhibition only
- 1953 swimming pond closed, water unsafe, tularemia
June 14 - main bison herd held near N. Pacific RR for special sightseeing tour
donated 3 hides/skulls (1 bull, 1 cow, 1 heifer) to MT Historical Museum, Helena
- 1954 estimated visitation 26,000 - public use report form
installed/constructed 4 swings, sandbox in picnic area
taking visitors on tour if time, good PR - scientists, photographers
photographers at Roundup
- 1955 Car caravan tours - new program, wildlife student (UM) employed, 2 tours per day (Wed, Sat
and Sun), information sheets
advertised in papers, visitation increase 10%
tours - 1,050 (May-Oct), total estimated visitation - 20,000 (May-Oct)
- 1956 estimated visitation 31,000
school groups
boy scouts (western MT) Camporee at Range, June 8-10 - 275, camped on Range (no
overnight camping for public)
daily tours - once a day at 3 p.m. only, but every day, 957 people
complaints dusty road
cattle guards on tour road eliminated some gates to open/close on tour
500 visitors at Roundup and butchering
- 1957 some camping allowed for public below HQ on Mission Creek, many requests
Daily tours at 3:30 p.m.; 1,306; increase 40%, greater publicity
dust control on 2-mile portion of tour road, calcium chloride
nesting island built in pond
- 1958 estimated visitation 35,000 (increase due to anniversary publicity)
50th anniversary (Sept 27) - buffalo barbecue in picnic area, special tour had 263 cars
daily tours 1302
"Hwy" 212 being constructed to "village" of Charlo
Exec Order 3596 "...to provide adequate pasture for display of bison in their natural habitat at a
location readily available to the public."

- 1959 estimated visitation 28,000
resurfaced entrance road/HQ
daily tours @ 3:30 - 1,131
traffic counter at front gate in August
Big Medicine died August 25 (skin to MT Historical Society Museum, Helena)
- *photograph of Moiese Valley Golden Jubilee Celebration held on Range July 16, celebrate opening of reservation to whites (tribal dancers)
"Ravalli daily tours - 1,115 (complaints of dust)
exhibition paper mache of Big Medicine for many summer parades
pasture closed Range at night - posted signs (no gates) due to poaching of tame deer, parties proposed"
but no mention in narrative of why, how to acquire (part of plan to comply with Exec Order 3596???)
1960
- 1961 daily tours 1,030
annual Conservation Education Association picnic area Aug 15 - 200
first note of "crowding" at roundup - comments on discouraging audience or rearranging facilities to accommodate, esp parking
- 1962 estimated visitation - 26,250 (World's Fair in Seattle)
daily tours 1,794
Accelerated Public Works program (APW) for recreational development - \$100,000, extra staff
1) tour road improvement - HQ ridge road built (in/out Pauline Gate prior), widen (esp switchbacks), culverts
2) improve/enlarge (X2) picnic area
10 staff went to First Aid
- 1963 estimated visitation - 31,500
APW program continued - recreational development continued with +\$50,000 for 2nd phase - finished 19-mile tour road, graveled; picnic area toilets, display shelter at pond
daily tour 2451, complaints only one trip a day, can't go on own, overcrowding
- 1964 2 new longhorn steers from Wichita Mtns
daily tours 2501
- 1965 estimated visitation 80,000
roundup, 300-400 people plus school groups; improvement of catwalks
daily tours 2775
User Fee Area designation (Sept 3), under Land & Water Conservation Act, fees for guided tours (accept \$7 rec/conservation sticker or \$.25 per person). Sold \$568.75, costs \$215.00, net \$353.75
Fishing mgmt plan approved by Regional Office, Jocko River 1.5 miles (start 1966)
"new" entrance sign based on old sign)
- 1966 fishing on Jock allowed - estimated 200
first year self-guided touring on Red Sleep; June 17-Sept 5, closed 3 p.m.
Tour leaflet

filmed Lassie episode; headstart kids got to pet her at HQ
fees - office staff spending most time collecting fees at peak season, 2 staff on weekends (one on tour, one to collect fees/orient)
National Wildlife Week displays at local stores (March)

1967 estimated visitation 67,000
corral area set up for parking at Roundup
signs for self service fees and leaflets at entrance
felt cars turning around because have to pay before find out what available
public fishing access road/parking at Jocko done by Kickinghorse Job Corps

1968 estimated visitation 69,000

- 1969 estimated visitation 79,400
student trainee (UM) closing tour at night
2 longhorns died (originals), 2 steers left
picnic shelter by KH Job Corps
self service fees, accept Golden passes
- Spokane estimated visitation 91,730
Saddle interpretive stop and small parking area at pond
Club - fee suspended, then eliminated due to questions about Golden passes
June 21, students; 1,460 for Environmental education in May, 450 for Roundup
80 folks new displays at old HQ
(as well recreation use reports
as regular
Mission
Club)197
0
- 1971 estimated visitation 111,171
wildlife interp trail at nature pond, 2 foot bridges put in
interp sign for exhibition pasture
car counters at main gate replaced
1st marriage at High Point
- 1972 estimated visitation 113,400
car counter put on long tour
approx 40 photographers throughout year
St Ignatius Saddle Club - 338; also Spokane group again
- 1973 estimated visitation down 12% (gas shortage)
electronic trail counter at Nature Trail
Roundup, 726 students
effort to discourage horse riders
- 1974 estimated visitation 98,884
Students - 1,100 in May
Roundup total 2,350
Recreation Specialist position created
- 1975 international group of journalists
recycle cans in picnic area for Lake County Mentally Handicapped Assoc
- 1976 enlarged viewing at corral
power lines buried to old HQ
concession - covered wagon trips ("Buffalo Trail Rides, Inc", not on Red Sleep) and bus trips
(little interest), July-Sept, (had plans for future but only this one year)
car off tour road, stalled engine on downgrade (power steering/brakes), elderly driver, minor
injuries to 1 of 5
- 1977 attempted rape
recorder put in for well for picnic area, old CCC campsite well
- 1978 High Point lookout cabin removed
longhorns terminated from exhibition pasture
2 steers, sold to Msla Livestock (15 year old, \$.55/lb for \$976.25 and 16 year old,
\$.49/lb for \$635.29)
affiliated with GNHA
- 1979 Environmental education campground site developed by YCC
VC well drilled
buried power lines

- started VC building, funded by Bicentennial Heritage program
- 1980 new well for VC, stock tank in West Loop
enclosed Buffalo Prairie pasture
- first YCC public use plan - "expected present levels to stabilize to 75,000-80,000, not get more than
non-resid 90,000/year"
ential 1) not near population centers (Kalispell, Msla, Spokane, Seattle)
camp198 2) increase fuel prices
1 3) local use increase
4) local area projected to grow slowly over next 5 years.
VC office opened in November
- 1982 VC opened May 1982 - slide/tape shows, new refuge brochure (auto tour), new signs, AM radio
station installed, new West Loop
converted old HQ to Environmental education center
opened Mission Creek to fishing access
received stereo photos
GNHA in operation (signed in 1979), books for sale, monies for interp/education
- 1983 estimated visitation (front gate) 131, 287
3-day limit for backcountry photographers established, 3/party limit, \$10 fee establish -48
provided copies of Apple IIE programs to schools
new Big Medicine display
antler pile moved to old HQ site
- 1984 estimated visitation (front gate) 105,663
backcountry photog - 31, roundup - 60
returned Range's environmental education library from Missoula Area Teacher's Resource
Center
stereographic viewing, Sharp's replica
new Marantz transmitting system
1st year seasonal LE
front gate installed for security
- 1985 estimated visitation (front gate) 96,061
backcountry photog - 41, roundup - 18
ACCESS program started, accessible outdoor studies
special education and resource group - pilot program for learning disabled
old HQ to housing, no longer available for Environmental education programs
fire closures
famous elk shot
- 1986 estimated visitation (front gate) 109,858
backcountry photog - 61, roundup - 43
projected video installed in theater, programs converted to video
Home on the Range published
nature trail made accessible, log with dates on trail
accessible toilet in picnic area

- 1987 estimated visitation (front gate) 125,477
backcountry photog -130, roundup 55; increase fee to \$10 from \$25
radio station, digital voice recorder
antler interpretive sign installed
roundup horseback parking initiated
grade age limited for schools at roundup (crowding and safety)
new fire pits in picnic
theater video completed
- cultural estimated visitation (front gate) 110,720
use - two backcountry photog 55, roundup 30
tribal visitor gored
members fees initiated 2nd time
fasted on big screen TV purchased
Refuge, fire closures
request
approved
through
cultural
committe
e1988
- 1989 estimated visitation (front gate) 123,800
backcountry photog 50, roundup 33
geologic interp panels installed at High Point
fees charged
American Wilderness series on ESPN
- 1990 estimated visitation (front gate) 132,000
backcountry photog - 68, roundup - 26
Environmental education program won "Take Pride in America" award (state and national
winner)
Montana Watchable Wildlife book publishes with NBR entry
land exchange to dispose of concession (store) at gate (problem with underground tank)
folks filming for a variety of programs
fees stopped
- 1991 estimated visitation (front gate) 156,010
backcountry photog 78, roundup - 39
nature trail paved
car counter at Ravalli Hill
Environmental education program received Environmental Achievement Award (National
Environmental Awards Council)
bird list updated
- 1992 estimated visitation (front gate) 166,00
backcountry photog - 89, roundup - 39
roundup visitors 3,750
- 1993 RECORD YEAR -estimated visitation (front gate) 217,200
backcountry photog - 50, roundup - 0; new corral system, no places left, still allowed in public
areas
roundup visitors 3,800
new catwalks (accessible) at corral, no photog permits allowed
meeting sight for other agencies, field trips
restrooms rebuilt at Bitterroot trail
VC theater 20 seats to 40 seat
Home on Range out of print

- 1994 estimated visitation (front gate) 168,200
backcountry photog - 0, excess demand caused by article in popular photo mag
attempted friends group, split with compacting controversy
field guide done
fees reinstated \$4/car, golden passes accepted
Pilot Customer Service program, high satisfaction rates (biggest complaint when animals not
seen or not close to road)
facilities: parking area kiosk, accessible fishing bridge, skull case
VC water problems
- no day estimated visitation (front gate) 176,300
camps - mounts for VC on loan (lion, bear, pronghorn)
staffing, *Bison priscus* skull replica on loan for VC
increase public use minimum requirements evaluation (RO) - three major concerns
in other 1) need another full-time permanent public use staff to meet visitation needs
camps 2) VC upgrade needs to meet visitation - expand theater, expand display area, new
using displays, air conditioner, expand parking
area1995 3) front gate traffic safety concerns
- 1996 estimated visitation (front gate) 159,400
Hellgate Treaty Day July 16, special use permit; estimated 2,200
new demo fee program initiated in August - 100% of fees returned for public use
National Wildlife Refuge week initiated (October) as part of 100 on 100 refuge recognition
campaign, other special events (IMBD, etc)
Bison Range field guide/brochure won first place media award with National Assoc of Interp
- 1997 estimated visitation (front gate) 163,400
commercial filming special use permits (Bird TV, Turner Broadcasting)
grassland trail put in
Customer survey - part of national effort
Dust control tried on road - CaCl (good results, will use fee money in future to continue)
New touch screen interactive computer display in VC (MOYOCO grant)
- 1998 estimated visitation (front gate) 156,300
90th birthday celebration
customer survey canceled national wide
interp signs installed at nature trail by pond
moved antler pile to VC

QUESTIONS : 1) when was Bitterroot Trail built?

UNITED STATES GOVERNMENT
memorandum

DATE: October 12, 2016

Reply to: Dave Wiseman, Refuge Manager
ATTN OF: National Bison Range

SUBJECT: Cultural Resource Overview comments and changes

TO: Rhoda Lewis, Archaeologist, RW/OPS-60130

There are a few comments/concerns that are important enough that you may need to send them in with appropriate course of action for the TPO.

- 1). The WPAs are still not included even though the contract was for all Service lands in the valley. They need to be covered, even if generally with the overall valley history. If no known cultural sites/significance known, this needs to be mentioned.
- 2). Under the Introduction, the 4 objectives listed are not part of the CCP - they are just 4 objectives of the contract we have with the TPO. We need to have this worded correctly so as not to give the impression this is the cultural part of the CCP. It should be presented as one resource for us (USFWS) to used to develop the CCP. Otherwise, public may feel the recommendations presented in the Overview are authorized by the Service. (Also see comments in #3 for disclaimer.)
- 3). So the it is clear that this is not the cultural part of the CCP, it may be necessary to have a disclaimer in the document. We may need to be given to the TPO prior to printing any final copies, so it will be included in any copies that may be distributed directly from the TPO. Disclaimer should be along the following line:

“The US Fish and Wildlife Service contracted with the Tribal Preservation Office of the Confederated Salish and Kootenai Tribes to provide a Cultural Resource Overview as a reference resource for completion of the Comprehensive Conservation Plan for the Bison Range Complex. Materials in this Overview will be used as reference resources **ONLY** and are not to be construed as authorized management options or considerations.”

Again, because these are pretty major concerns, I think they should come from you since some of it actually affects contractual obligations. If you have questions, or any problems, please contact me.

Thanks for your help, and patience, in this matter.

NBR - DOI - National Bison Range Wilderness Study Report

WILDERNESS STUDY REPORT

NATIONAL BISON RANGE
LAKE AND SANDERS COUNTIES, MONTANA

U.S. DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Bureau of Sport Fisheries and Wildlife



FWS 000027

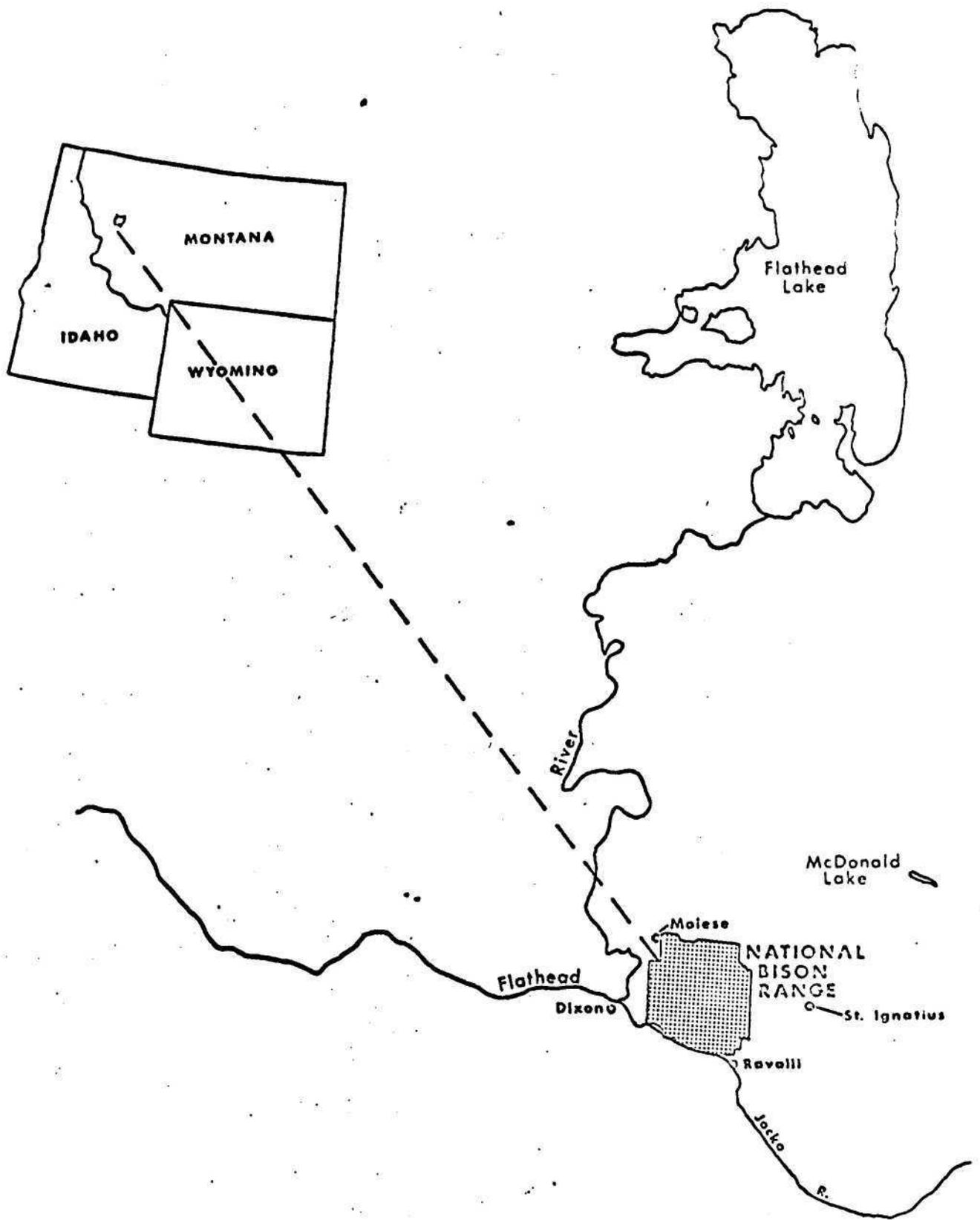


Figure 1. Location of National Bison Range

PHOTOGRAPHS

Bison and Wilderness Scenery	Frontispiece
Antelope on range	End of Chapter 3
Mounted Indians	End of Chapter 4
Diversified habitat: Timber, grass, browse, stone outcrops, and water drainage. Note inconspicuous pasture division fence	End of Chapter 5
Organized trail ride	End of Chapter 6
Existing headquarters administrative site	End of Chapter 7
Mule deer in winter lowlands	End of Chapter 8
Bison lowland range	End of Chapter 9

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- F. Acreage Summary Record
- G. Memorandum re land status and purchase, signed
J. T. McBroom
- H. Water ditch record dated 7-29-15
- I. County recorded water appropriations, 3-11-10 . . .
- J. Cooperative Agreement, B.I.A. and BSWF, Powder
house
- K. Electrical power line right-of-way agreement
dated 7-7-64
- L. U.S.D.A. road right-of-way Agreement dated 3-21-31.
- M. Highway right-of-way dated June 1958
- N. Highway right-of-way Amended, dated 9-22-59
- O. Letter re historic sites, Montana Fish and Game
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- U. Proposed Headquarters Plot Plan Map
- V. Budget sheets for Master Plan Cost Development . .
- W. Master Plan Brochure

PREFACE

This study report is presented as part of the requirements of the Wilderness Act (P.L. 88-577). Input has been from technicians, associate research personnel, wilderness specialists, and research management personnel of the area and locale.

The National Bison Range was studied for suitability as a unit of the National Wilderness Preservation System notwithstanding the objectives for which the area was originally created.

Located in the picturesque Flathead Valley of mountainous western Montana, the National Bison Range exists as a living tribute to our human culture sensitive to intrinsic and heritage values.

As one of the very first sanctuaries established for the preservation of the American bison, the area is one of the oldest refuges in the National Wildlife Refuge System. Its contribution is for species perpetuity, for it ensures that this magnificent heritage animal may be observed and enjoyed by all current and future generations.

Refuge lands were originally a part of the Salish-Kootenai Confederation Indian Reservation which was established in 1855. Congressional acts in 1908 and 1909 authorized transferal of the 18,542 acres to the Federal Bureau of Biological Survey, the predecessor of the current Bureau of Sport Fisheries and Wildlife, Department of the Interior.

Considering the essential detailed operations and manipulations of the

area which include water supply and fence maintenance, patrol roads, tour routes, and easement access, some areas appear nonsuitable as wilderness. Nonetheless, much of the range does appear suitable for wilderness designation and would not overall substantially impede original refuge objectives nor the local socio-economic conditions. These themes and philosophies are expanded in subsequent chapters.

CHAPTER ONE

INTRODUCTION

The National Bison Range was established by special Congressional Acts, May 23, 1908 (35 Stat. L. 267-8, Agricultural Appropriations Act, Fiscal Year 1909) and March 4, 1909 (35 Stat. 1051, Agricultural Appropriations Act, Fiscal Year 1910), which authorized the President to reserve a maximum of 20,000 acres of land on the Flathead Indian Reservation, Montana, for a permanent National Bison Range. The refuge contains 18,540 acres and is in Lake and Sanders Counties, Montana. It is administered solely by the Bureau of Sport Fisheries and Wildlife.

Executive Order Number 3596 dated December 22, 1921, provided additional protection for the area by establishing it as a refuge and breeding territory for bird life.

The National Bison Range is currently dedicated to the maintenance of a representative herd of American Bison. Additional species of big-game animals are also afforded habitat to provide a semblance of the native ecosystem.

Other species of wildlife found are Richardson's grouse, ruffed grouse, ring-necked pheasants, chukar partridge, and gray (Hungarian) partridge. In addition, most species of furbearers, predators, and small mammals and birds utilizing western Montana in this life zone are found on the area. Habitat requirements of these species are generally fulfilled as an indirect benefit of the big-game management program. However, specific

attention is given to species whose population or status require positive and direct recognition and support, such as bighorn sheep, antelope, elk, etc.

The refuge has no flyway waterfowl management objectives since both production and maintenance are insignificant to total accrued values, but records are maintained as to population dynamics. Habitat development for waterfowl are and will remain incidental so as not to alter natural qualities.

The scope of management objectives has naturally changed from efforts oriented towards exclusively to propagate bison to present multiple wildlife-use values. Programs will probably continually be modified to best provide optimized wildlife benefits for people.

CHAPTER TWO
STUDY OBJECTIVES

The Wilderness Act of September 3, 1964 (Public Law 88-577) requires the Secretary of the Interior to have review of every roadless area of 5,000 contiguous acres or more and every roadless island within the National Wildlife Refuge System and within ten years after the effective date of the Act, report to the President of the United States his recommendations as to the suitability or non-suitability of each such area or island as wilderness.

In defining wilderness, the Act permits review of roadless areas of less than 5,000 acres that are of sufficient size to make preservation and use in an unimpaired condition practical. The National Bison Range possibly contains potential wilderness resources that meet standard basic criteria contained in the Wilderness Act.

The objectives of field investigations were to evaluate the suitability or non-suitability of the National Bison Range, or a portion of the refuge, for inclusion in the National Wilderness Preservation System.

In addition, field studies were designed to:

1. Clearly delineate and describe those areas within the refuge that could be suitable for consideration as wilderness.
2. Clearly delineate and describe those areas within the refuge that were found to be non-suitable as wilderness.
3. Determine whether classifying all or part of the refuge as wilderness

would conflict with the purposes for which it was established and is administered as a unit of the National Wildlife Refuge System.

4. Determine what conflicts or benefits there might be if all or part of the refuge were classified as wilderness by the Congress of the United States.

5. If suitable, develop wilderness boundaries which can be (a) identified on the ground, (b) legally described, and (c) surveyed.

CHAPTER THREE

LAND STATUS

A. Federal Lands

Through efforts of the American Bison Society and other concerned private citizens, the National Bison Range became a reality.

The Agricultural Appropriation Act of May 23, 1908 (35 Stat. 267-8) allowed the President to "...reserve and except from unallotted lands now embraced within the Flathead Indian Reservation, in the State of Montana, not to exceed 12,800 acres.... for a permanent bison range..." The range was increased "...so as to make the total acreage not to exceed 20,000 acres" by the Agricultural Appropriation Act of March 4, 1909 (35 Stat. 1051).

A schedule of lands describing 18,521.35 acres was approved by the President on June 15, 1909, to be reserved for the National Bison Range.

An 18.50-acre tract was acquired from George D. and Vera A. Pratt on July 22, 1931. An additional 0.75 acre was conveyed by the Pratt family to the Bureau, as a gift, the deed was recorded March 14, 1932. One parcel of land was an "Indian allotment never relinquished, sold in 1916, and title passed from supervision and control of Government" (McBroom's memo of 3-3-65). This reduced the total acreage by .31 acre to the present 18,540.29 acres.

All lands within the Bison Range boundary are federal and are administered solely by the Bureau of Sport Fisheries and Wildlife. Executive Order

No. 3596 named the National Bison Range as a refuge and breeding ground for birds. Copies of legal documents concerning establishment of the National Bison Range are appended to this report.

B. State Lands

No state lands were involved in the study.

C. Private Lands

No private lands were involved in the study.

D. Easements

The Bureau of Indian Affairs (B.I.A.) has an easement for an irrigation ditch in the northern part of the range. The Montana Power Company has a right-of-way for an electric transmission line across the northeastern corner of the range. The State Highway Department has right-of-ways across the northwest and southeast corners of the range. There is a cooperative agreement with the Bureau of Indian Affairs for an explosive's storage facility in the $W\frac{1}{2}SW\frac{1}{4}$, Sec. 29, T18N., R20W. This agreement provides access through the use of the refuge patrol road. Copies of all these permits, agreements, and right-of-ways are appended.

E. Special Designation Areas

There are no Research Natural Areas or other special designation areas on the National Bison Range at the time of current writings.

F. Other

According to exhaustive research, there are no known outstanding mineral rights on the National Bison Range.

G. Water Rights

An appropriation for water to irrigate 200 acres of federally benefited land within the National Bison Range is appended.



FWS-000043

CHAPTER FOUR
HISTORICAL

Lewis and Clark passed within 50 miles of this region during their exploration of 1804-06, but little is known about the inhabitants of the Flathead Country before the arrival of the first fur traders in 1808. In that year, the Northwest Fur Company sent a representative to explore the territory and establish trade with the native people. He found three major tribes: The Salish, erroneously called the Flathead, the Kalispel, known as the Upper Pend d'Oreille; and the Kootenai, all of the same linguistic dialect.

The fur trading industry flourished, trading posts were built, and the white man soon began to exert his influence upon the traditional Indian culture. Not until the Fort Connah trading post, located six miles north of St. Ignatius, was closed in 1871 did the colorful fur trading era finally come to an end.

Christianity was first formally preached in Montana in 1840, but missionaries did not reach the Flathead Valley until 1854. At the invitation of a Kalispel Chief, baptized Alexander, the Jesuit priests, commonly called "Black Gowns", came to a place known as the Rendezvous by the Indians and served as a common area for trading and visiting by neighboring tribes. This was the starting area of the St. Ignatius Mission. A log hut, which still stands, was erected for the original Catholic missionaries. Before the end of that year, a chapel, two houses, a carpenter and a blacksmith shop were built. The mission fully related

to reservation people and flourished until about 1900. Many of its programs remain active and of value today.

On July 16, 1855, the Flathead Indian Reservation was designated and the first Indian Agency was established in the Jocko Valley a year later. With the survey and parceled allotment of reservation lands, beginning in 1904, the last stage in the historical settlement of the Flathead people commenced in 1909. And with the opening of certain unallotted reservation lands to white settlement, the reservation was pitifully reduced to nearly half its original size. Much of the Flathead Valley is now settled by non-Indian people.

The heritage of the Range's buffalo herd has its roots deep in Flathead history of this century: The Pend d'Oreille Indian, Walking Coyote, captured a few calves on the plains in eastern Montana in 1873 and herded them to the Flathead Valley. Descendants of these animals comprised the famous Pablo-Allard herd, part of which later became the "Conrad herd" near Kalispell, Montana. It was from this latter group that the American Bison Society purchased the original 34 bison for their program. The American Bison Society was organized in 1905, as an outgrowth of public concern for the preservation of the few bison remaining on the continent. The Society led a campaign that resulted in the final establishment and stocking of the Bison Range, and is credited with having raised more than \$10,000 (volunteer subscription) to buy the first animals that were established on the refuge on October 17, 1909. The Conrad Estate donated two additional animals, and donations were made also by Charles Goodnight of

Goodnight, Texas, in 1909, and also by the Blue Mountain Forest Association of New Hampshire which contributed three animals from the "Corbin herd" in 1910.

Other species of big-game animals were subsequently introduced, beginning in 1911, to provide for a wildlife associated complexity, with emphasis on bison environment and representative populations of other large mammals such as elk, antelope, mule and white-tailed deer, bighorn sheep, mountain goats, and related wildlife community species.

The refuge was established by a special Congressional Act, May 23, 1908, (35 Stat. L. 267-8, Agricultural Appropriations Act, Fiscal Year 1909) and March 4, 1909, (35 Stat. 1051, Agricultural Appropriations Act, Fiscal Year 1910), which authorized the President to reserve, not to exceed 20,000 acres of land, on the Flathead Indian Reservation, Montana, for a permanent National Bison Range. Acquiring the refuge was authorized in accordance with the provisions of the Act of Congress, approved April 23, 1904, which provided for the survey and allotment of the former reservation lands. In accordance with the Act of 1908, the total acreage included within the refuge, 18,523.85 acres, was appraised and acquired from the Flathead Indian people.

On July 22, 1931, an 18.11-acre tract was purchased at the present entrance to refuge headquarters from George D. and Vera A. Pratt. An additional 0.75 acre was conveyed to the Bureau by the Pratts as a gift by deed recorded March 14, 1932. This brought the total refuge acreage to its present 18,542.71 acres.

Executive Order No. 3596, dated December 22, 1931, provided additional protection for the area by establishing it as a refuge and breeding grounds for bird life.



CHAPTER FIVE

PHYSICAL CHARACTERISTICS

The refuge is located in the southern end of the Flathead Valley, between the Cabinet Mountains on the west and the majestic Mission Range on the east.

Flathead Valley is within the Flathead River Basin, comprising the northeastern portion of the Columbia River Drainage. The scenic quality of the basin is exemplified by Glacier National Park, Flathead National Forest with Bob Marshall Wilderness Area, the towering Mission Mountains, and Flathead Lake - all within 100 miles of the refuge.

Lake and Sanders Counties, a combined area of 4,494 square miles, are sparsely settled, with a total 1960 census population of 19,904. Federal Highways 93 and Interstate Route 10-A traverse the area, connecting it with most of the northwest, including Canada, 100 miles to the north. Several major transportation companies serve the area. Airline service is available in Missoula, 48 miles to the south.

Major local industrial centers are Missoula and Kalispell, with populations of 30,000 and 10,000, respectively. Several small towns of less than 5,000 population are located in the Flathead Valley. Economy is largely dependent on agricultural and forest products. However, tourism and recreation are fast growing industries, ranking third in Montana's economy.

The Bison Range is essentially a small mountain, connected with the Mission Range by a gradually descending spur. This mountain is an ancient island which was once partially submerged in prehistoric Lake Missoula, formed by an ice dam on the Clark Fork River. The lake attained a maximum elevation of 4,200 feet, and old beach lines remain strikingly evident on north-facing slopes.

Glaciation was prominent in shaping many features of the region. Most parent soil materials in the valley were transported and deposited during glacial advances and recessions. Topsoil on refuge lands is generally quite shallow and mostly underlain with rock, which are exposed in areas and form rocky ledges and talus slopes throughout much of the area.

Elevations vary from 2,585 feet at the headquarters to 4,885 feet at Highpoint on Red Sleep Mountain, the highest point on the refuge.

The Flathead Valley, particularly that portion lying south of Flathead Lake, has a microclimate usually characterized by relatively mild winter temperatures and little wind. Snow cover melts quickly at lower elevations. Subzero weather is uncommon. Summer temperatures seldom exceed 100 degrees. Precipitation averages 12.74 inches annually at refuge headquarters, with slightly more at higher elevations. The growing season averages 90-110 days. Freezing conditions are generally had from late November to March.

The refuge possesses several distinct plant-cover types, but is basically a grassland area. The 15,900 acres of grassland consist largely of Palouse Prairie vegetation, with bluebunch wheatgrass, rough fescue,

and Idaho fescue occurring as the dominant species. The forest portions, comprising about 2,500 acres, are predominantly Douglas fir on northern exposures and ponderosa pine on southern exposures. Swales and drainage courses contain snowberry, hawthorn, and related browse. Rocky outcrops and stony areas give rise to scattered stands of chokecherry, serviceberry, and mockorange.

About 142 acres contain the headquarters site, corrals and slaughterhouse, recreational facilities, and refuge road system.



FWS-000052

CHAPTER SIX

RESOURCES

A. Archaeological

All archaeological occupation sites found on the Bison Range during an intensive 1969 University study showed no signs of remaining sub-surface material. Two sites along Mission Creek revealed a few pieces of stone artifacts. A few pits were found on talus slopes near Highpoint which were described as possible eagle catching pits. Other evidence found was some stone cairns along the Jocko River. As this was a rather detailed study, it appears doubtful that the Bison Range has any paramount historically valuable archaeological significance of national importance. A summary of the 1969 study is included in the appendixes.

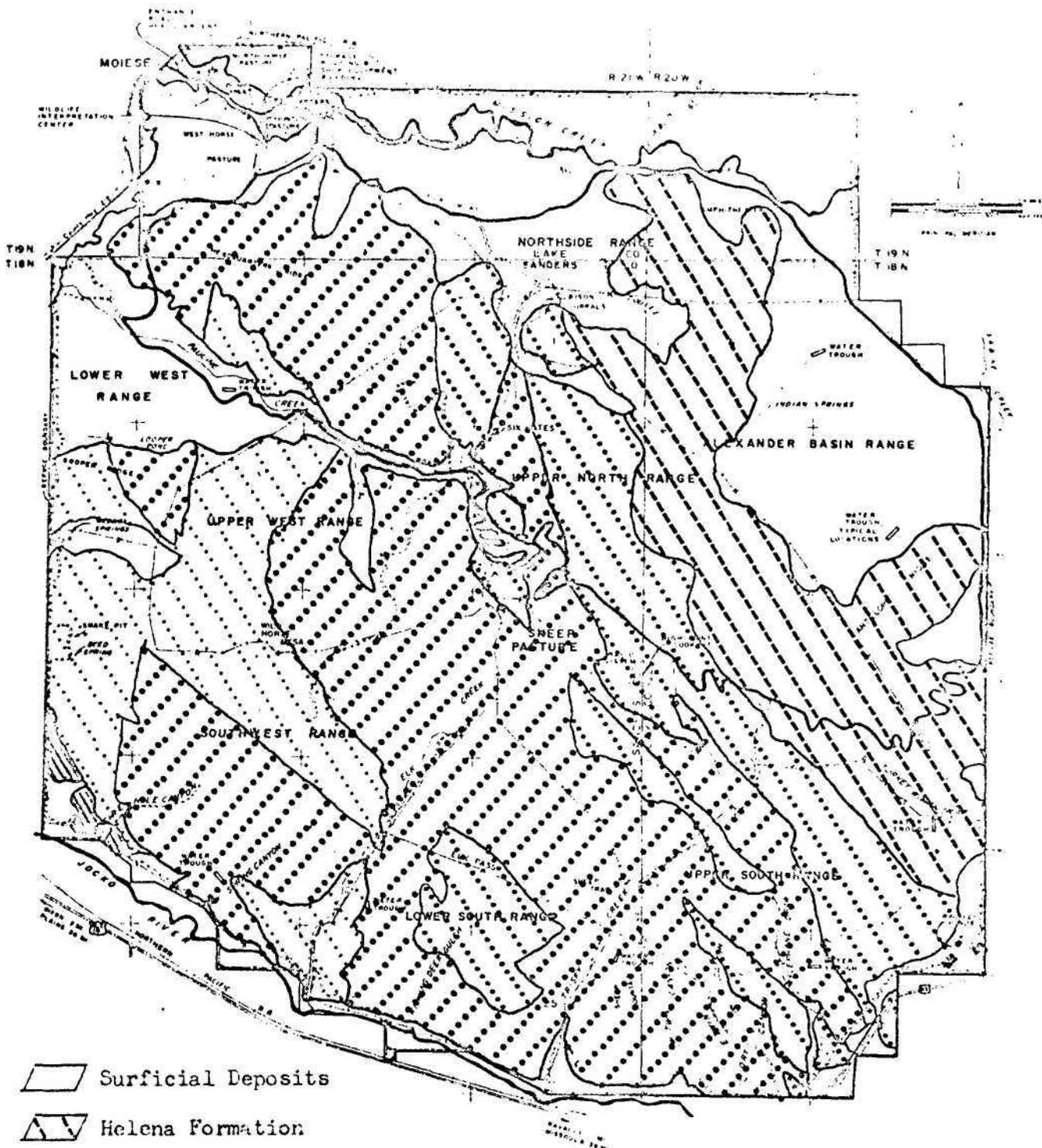
B. Mineral

A rather intensive mineralogical and geochemical survey of the Mission Mountains in Western Montana and Pend Orielle Mountains in Eastern Idaho was conducted by U. S. Geological Survey in recent years. Since the Bison Range lies between these two areas, with similar rock formations, it is assumed the mineral deposits are similar also. There is no known history of any feasible hard-rock mining on the refuge.

U.S.G.S. Bulletin 1261-D, entitled Study Related to Wilderness Primitive Areas of the Mission Mountains and Missoula and Lake Counties, Montana, states: "None of the metallic mineral occurrences found are a potential future source of metals, and no valuable occurrences of building stone were found. On the basis of available data, there is little probability

that mineral deposits of economic value exist in the primitive area."

Since these studies on similar, nearby geology has failed to uncover any significant deposits, it appears that the National Bison Range has little or no commercial mineral potentials.



-  Surficial Deposits
-  Helena Formation
-  Spokane Formation
-  Revett Formation
-  Burke Formation
-  Prichard Formation

NATIONAL BISON RANGE

Moiese, Montana

PROPOSED PLAN

Figure 2. Geology of National Bison Range

EWS-000055

EXPLANATION OF FIGURE 2

- Surficial Deposits - Largely glacial outwash and lake beds (gravel and silt); includes alluvial silt and mud along present drainages.
- Helena Formation - Green calcareous argillite and white limestone layers, lenses, and pods; some black argillite and blue-black dolomite containing highly irregular calcite stringers that weather out leaving a "worm-eaten" look to the rock.
- Spokane Formation - Maroon argillite and minor quartzite; scattered layers of green argillite. Contains non-commercial concentrations of copper minerals in some green beds, particularly near contact with the Helena Formation.
- Revett Formation - Characterized by thick blocky beds of white buff, or purple laminated quartzite; also contains olive argillite and siltstone. Forms abundant talus.
- Burke Formation - Generally alternating beds of gray to green argillite and siltstone; lower part contains layers of black laminated biotitic argillite.
- Prichard Formation - Black laminated, rusty-weathering, biotitic argillite.

C. Recreational

Wildlife oriented recreation at the National Bison Range is centered around non-consumptive uses. The present average annual visitor increase is about 15% per year. Last year's total visits were 113,000. The demand is anticipated to continue at about the same annual percentage, until it becomes necessary to control the amount of use.

The following table provides a resume of total visitor hours spent in various activities:

	<u>Total Act. Hrs.</u>
Foot trails	6,429
Auto routes	73,230
Visitor contact	922
Program (other)	1,501
Environmental education	3,234
Professional services rendered	80
Fishing, coldwater	485
Wildlife observation	40,040
Picnicking	32,316
Photography	633
Horseback riding	3,584

Approximately 70 percent of the visits to the area occur during the five-month period of May through September. Peak use is during mid-summer.

The established picnic area near the headquarters site plays an accepted

role in providing one place for all picnics. Although the area is probably inadequate to meet future demands, it is sufficient to meet established refuge objectives. One small picnic area is maintained also at the Jocko fishing access. There are no plans to expand either of these facilities. No camping is permitted.

For SAFETY (possible hostile large mammals) and management reasons it is important to keep public vehicle travel on designated routes. These trails provide adequate access for public use. Hiking, except on designated trails, is not permitted.

Conservation education is an extremely important segment of the public use program. Elementary and high schools throughout Northwestern Montana make periodic trips to the Bison Range to view and study big game. The University of Montana (Missoula) and other colleges also use the area for educational purposes. Use of this type is encouraged and will be expanded. Present management provides ample opportunity for numerous basic and in-depth wildlife management studies.

D. Soils

The major portion of the range consists of soils developed in materials weathered from the strongly folding pre-Cambrian quartzite and agrillite bedrock. These soils are well drained, steep, and range from very shallow to moderately deep in parent material. They have a loamy surface horizon with near neutral reactions, high organic matter content, and varying degrees of rock fragments.

Except for surface soils, lower horizons have a loamy texture with rock fragment dispersals. Depth to bedrock ranges from a few inches on the very shallow soils to many feet in the deep zonations. Exposed rock outcrops are common.

Available moisture supply is limited some years. Water percolation rates are high, thus soil erosion is only minimal.

Most of the western edges of the range consist of soils developed in clayey and silty lacustrine deposits. Those deposits appear to be from Lake Missoula of the "Wisconsin glacial Period." Soils in the northeastern section contain the highest clay content. On the lower slopes the surface horizon is thin, light, and of low parent material. With increasing elevation the surface horizon becomes thicker and darker in color. The northwestern and western refuge sections are similar soils to the northeastern section except they contain more silt and less clay.

Along Mission Creek is a narrow band of deep, poorly drained, heavy organic "A" horizon loamy soils.

E. Vegetation

Vegetative types consist primarily of bunchgrass of the Palouse Prairie - bluebunch wheatgrass (Agropyron spicatum), rough fescue (Festuca scabrella), and Idaho fescue (Festuca idahoensis). Approximately 2,500 acres are forested. Major species are Douglas fir (Pseudotsuga menziesii), ponderosa pine (Pinus ponderosa), and juniper (Juniperus scopulorum). Browse plants are located in the swales, valleys, and on rocky outcrops. Most common

are snowberry (Symphoricarpos occidentalis and albus), hawthorn (Crataegus douglasii), chokecherry (Prunus virginiana), serviceberry (Amelanchier alnifolia), mockorange (Philadelphus lowisii), and rose (Rosa spp.).

Forbs are abundant throughout the area.

In general, the entire range remains in native grasses. A few introduced species are found along roadsides, (mainly crested wheat), and two small experimental test plots of about 1 - 2 acres, each seeded to sheep fescue (Festuca ovina) within recent years. These areas are not fenced separately.

F. Water

Canal, creek, and well water is used for irrigation of big-game exhibition pastures, hay meadows, headquarters lawns and associated grounds, resident culinary purposes, fire-fighting supply, and big-game watering facilities. (An incidental waterfowl display pond is also maintained at refuge headquarters.)

Water for irrigation of exhibit pastures and hay meadows is diverted from the Mission "H" Canal, which conveys water from a point on Mission Creek (NW $\frac{1}{4}$ Sec. 36, T19N., R21W., Montana Principal Meridian) through the refuge administrative site to private lands to the west of the refuge. That canal was originally constructed by the Bureau of Biological Survey. It was later enlarged and extended by the Indian Irrigation Service in accordance with a cooperative use agreement. The use of the "H" canal by the Irrigation Service is of a lesser use priority rights than the BSW.

Water for the irrigation of headquarters grounds and maintenance is

supplied directly from Mission Creek at the headquarters site.

Several range-water sources of springs, seeps, and minor creeks have collection points for big-game water storage.



CHAPTER SEVEN
DEVELOPMENT AND MANAGEMENT

A. Existing facilities

1. Roads. Three types of roads service the refuge and are: (1) the primary tour route; (2) the primary administrative roads and (3) secondary administrative roads. The perimeter road, the Trisky road, the Wild Horse Mesa road, and the Headquarters Ridge Road comprise the primary administrative road and is passable with a conventional automobile. Secondary administrative roads are faint tracks and are not passable with a conventional vehicle.

A sketch map is at the end of this chapter that shows roads and other improvements.

2. Fences. Two types of fences are used to maintain the bison herd. They are boundary fences and the interior pasture division fences.

The boundary fences are 8 feet high and of woven and barbed wire and steel and wooden posts. Interior fences are 47" woven wire placed with 18" clearance underneath for antelope passage. Mid-slope location of the interior fences renders them relatively unnoticeable.

The management-needed existing fence system is elaborate though not overly obvious. It is extremely stout in construction so as to restrain the huge bison.

Contemporary conditions of these fences (both boundary and interior) have

evolved by the use of motorized equipment. Future maintenance of them will also have to be done with motorized equipment, though with discretion of course.

Even if it were practical to use draught animals and a wagon, soil and vegetation distance would far exceed that of proper motorized equipment.

3. Buildings. The refuge has two concentrations of buildings; the headquarters complex and the bison corral-slaughterhouse complex. Additionally, there is an observation tower near the tour route on Red Sleep Mountain with a small, stone caretaker's house. (See map, end of chapter and in appendix).

4. Water Developments. Twelve small earthen impoundments and 15 improved springs are scattered throughout the range. The springs consist of a collection box, delivery pipe, and trough and serve wildlife watering needs.

5. Power Lines. Three electric transmission lines run through the NE corner of the refuge. One of these carries electrical power to the slaughterhouse.

B. Management

A deferred rotation grazing system is used for managing the bison within the capacity of refuge habitat. The system is designed to sustain and perpetuate the native forage resource. Only one pasture in four years is used during the growing season. The range is divided into eight units with the interior fences. It has been sometimes necessary to alter these

fences to prevent serious erosion problems that develop as a result of animal trailing along the fence or on steep slopes. The herd has been divided into two groups and each group has four pastures. Both groups are rotated every three months. Saddle horses are normally used to move the animals; however, it is occasionally necessary to use a vehicle. Vehicles are required also for certain fence maintenance.

Bison are rounded up once each year in early October. At that time surplus animals are culled from the herd, female calves are vaccinated for brucellosis, and all calves are vaccinated for pasturella. Calves are branded also on the rump with number corresponding to the year of birth. Bulls are changed from one herd to another, and a representative sample of all age classes are weighed.

Surplus bison are sold alive by competitive, sealed bid. Bid invitations are circulated in August, returned in September, and animals are to be picked up at roundup time.

Occasionally, it is necessary to destroy a bison on the range for humane reasons. If possible, the meat is sold to schools for the cost of handling. Surplus deer and elk also are disposed of in this manner. If possible, these salvage programs will be performed near the roads, or with the aid of a saddle horse at more distant points. However, it must be remembered that, as in the past, motorized equipment may have to be employed, with discretion. Cases of this necessity is when need is to collect whole animals for furthering field studies or proper necropsy protocol. Or when those post mortem examinations are field done with

elaborate equipment. Also, at times (especially with bison) to handle carcasses as sanitarilly as possible when disposal is intended for public school lunch programs.

Interior fences are designed to allow other big-game animals to roam throughout the range (e.g. - 18" clearance from the ground).

Management of antelope, deer, bighorn sheep, elk, and mountain goat consists of comprehensive inventories for computing surplus animals. Basically, management involves maintaining correct numbers to assure proper forage protection.

Surplus antelope and bighorn sheep are usually live-trapped and transplanted to other areas within the State and elsewhere in the U.S. for restocking purposes. Mountain goat surplus has been collected for scientific studies.

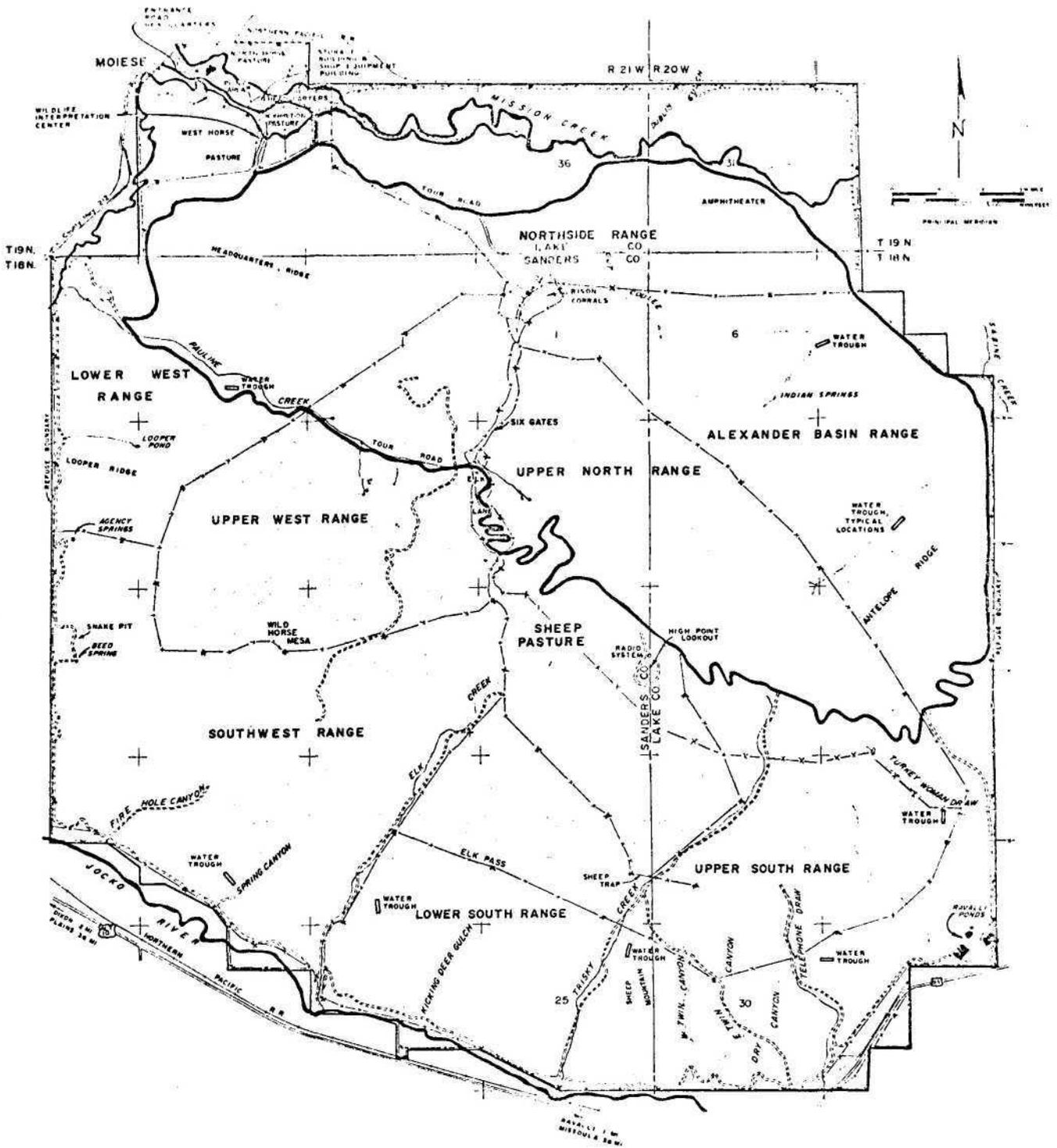
The range is blessed with adequate water for all species. Several small creeks run year-round. Some creeks have small check dams that pool water for big groups of bison. Springs are common and most of them are developed with a concrete spring box and concrete tanks approximately 4'-15'. Both springs and ponds require occasional maintenance. Maintenance usually consists of deepening the water ponds and cleaning the spring boxes. Spring boxes rarely require replacement.

Treatment of sick or wounded animals is only necessary about two or three times a year. Sometimes it is accomplished in the field and other times the animal is brought into the corrals.

Range studies to properly monitor the deferred rotation grazing system and other management programs include 28 - 30 Parker 3-step transects, 24 photo plots on browse and grass species condition and trend studies (S.C.S.), and annual utilization studies.

Spraying of noxious exotic weeds is an important management tool for maintaining range in a native condition and to prevent contamination of adjacent private lands. Spraying, except along the roads, is done by aircraft.

Horse trails through timbered areas are necessary to move and control bison. Blow down have been periodically cleared with a power saw in the past. Under wilderness status clearance will be performed with handsaw and ax.



NATIONAL BISON RANGE

Moiese, Montana

General Facility, Road, Boundary, and Water Source Map FWS-000068



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CHAPTER EIGHT
SOCIO-ECONOMIC CONSIDERATIONS

A. Archeological

For the purpose of this report it is sufficient to say that the dedication of the National Bison Range, or parts thereof, for wilderness will sustain archeological values.

B. Minerals

As related in other chapters of this report, no mineral exploration or contingencies of claims exist on the Refuge.

The U. S. Geological Survey has done some preliminary field observations on the area, but found nothing of significance.

C. Recreational

No changes in current public-use values or basic resource management are proposed. Therefore, little if any socio-economic effects are expected.

D. Soils

In quick detail we can relate that refuge soils are largely glacial out-washes of gravel and silt with modest surface organic material. Soils are rather fertile in this arid locale and the underlying formations are classified as Helena, Spokane, Revett, Burke, and related formations of parent material.

We can conclude that soils, geologically rather new, are stable. Perhaps most importantly, soils will not be altered or manipulated under wilderness

designation since the area is now managed to preserve all natural resources, including soils.

E. Vegetation

The refuge possesses several distinct and unique plant-cover types, but basically it is a grassland area with related forbs and associates.

In conclusion, it can be said that preservation of this relatively pristine climax vegetation can best be accomplished through wilderness preservation or similar preservation action.

F. Water

About two dozen water sources, natural and developed, exist on the refuge.

These sources must be maintained to support wildlife populations and afford animal distribution and proper range use.

Some of these watering sources are collection dams or potholes. Others are weathered cement troughs with overflow pipes and further collection tanks below.

The wildlife watering system has been evolved over the past 50 years, but mainly in recent times. Without maintenance these vital watering sources would revert to where they are non-functional. Pawing, trampling, wallowing, silting, and algae plugs do occur. Maintenance is currently done with motorized equipment. For example, to dislodge algae plugs in conveyor pipes a portable air compressor is used.

Maintenance is infrequent - depending on the individual water source -

perhaps every five to 20 years. And then under an emergency nature. But it must be done.

Under wilderness establishment provisions must be allowed for discretionary management use of motor equipment to clean water sources when such cleaning and repair cannot be done by hand labor and the use of draught animals.

G. Wildlife

The primary purpose of the National Bison Range is to maintain a representative herd of American Bison under reasonably natural conditions to insure the preservation of the species for continued public enjoyment.

The present herd is maintained consistent with proper range use and viable gene diversity. Between 300 and 500 animals roam the range.

Management of the refuge must include essentially all of the details presented in Chapter 7 (Development and Management) of this report.

Therefore, wilderness status, if applied as a secondary designation to the area, can have little significant effect on wildlife.



CHAPTER NINE

WILDERNESS CONCLUSIONS

The National Bison Range has several large areas that qualify as wilderness (map presented at the end of this chapter). These areas could be excluded from future development needs such as roads, buildings, etc.

A. Exclusions

Essentially only four areas are disqualified from wilderness consideration: (1) The headquarters area; (2) the future exhibition pasture and visitor contact station site. (This area is bounded by the entrance road, the public tour route, part of the western refuge boundary and part of the northern refuge boundary); (3) that portion of the road system that is passable by conventional automobile; and (4) the amphitheater area which is used for trapping surplus antelope (northeast portion of refuge) and has drive lanes and handling facilities.

Where the roads form boundaries for the proposed wilderness areas, a one-chain width maintenance area on each side is required to facilitate the use of maintenance equipment. In the northeast portion, the right-of-way for the power line forms a segment of that boundary, together with a fence running between the slaughterhouse and the southeast corner of NW $\frac{1}{4}$, NW $\frac{1}{4}$, Sec. 5, T20W., R18N. The wilderness boundary along the power line will be established 50 feet from the pole line right-of-way.

The perimeter road, the public tour route, the Elk Creek, Trisky, Wild

Horse Mesa, and the Headquarters Ridge roads were excluded because they are passable by standard vehicles and also because they are an integral part of the administrative and public-use facilities. All are dominating scars and without wilderness character.

The fenced bison drive lane between the slaughterhouse and Pauline Creek was excluded because of the lack of naturalness. The area, once each year, is subjected to a tremendous concentrated trampling by about 300 buffalo. As a result, the area is actually much like an extension of the corrals.

The Amphitheater Area was excluded because this area is required for antelope trapping and transplanting.

The irregular parcels that lie between the perimeter road and the exterior boundary were disqualified because they are very small and impossible to manage practically as wilderness.

The headquarters area was disqualified due to the overwhelming presence of man's works. The area contains shops, houses, storage sheds, bins, etc.

The exhibition pasture and visitor contact station sites are identified in the Master Plan as required for compatible wildlife-wildlands public use. (copy in Appendix)

B. Administrative Entry

To maintain a virile bison herd, approximately 300-400 animals are required

to prevent excessive inbreeding. This means that the available habitat is placed in danger without the use of cross-fencing (which distributes use). Some vehicle entry is needed to maintain these cross fences as well as to treat or salvage diseased animals. Water developments also require unscheduled entry to maintain the troughs, ponds, and collection systems. Details as to fence and water problems are given in Chapter 7 (A-2, Fences) and Chapter 8 (F, water) respectively.

C. Proposed Areas

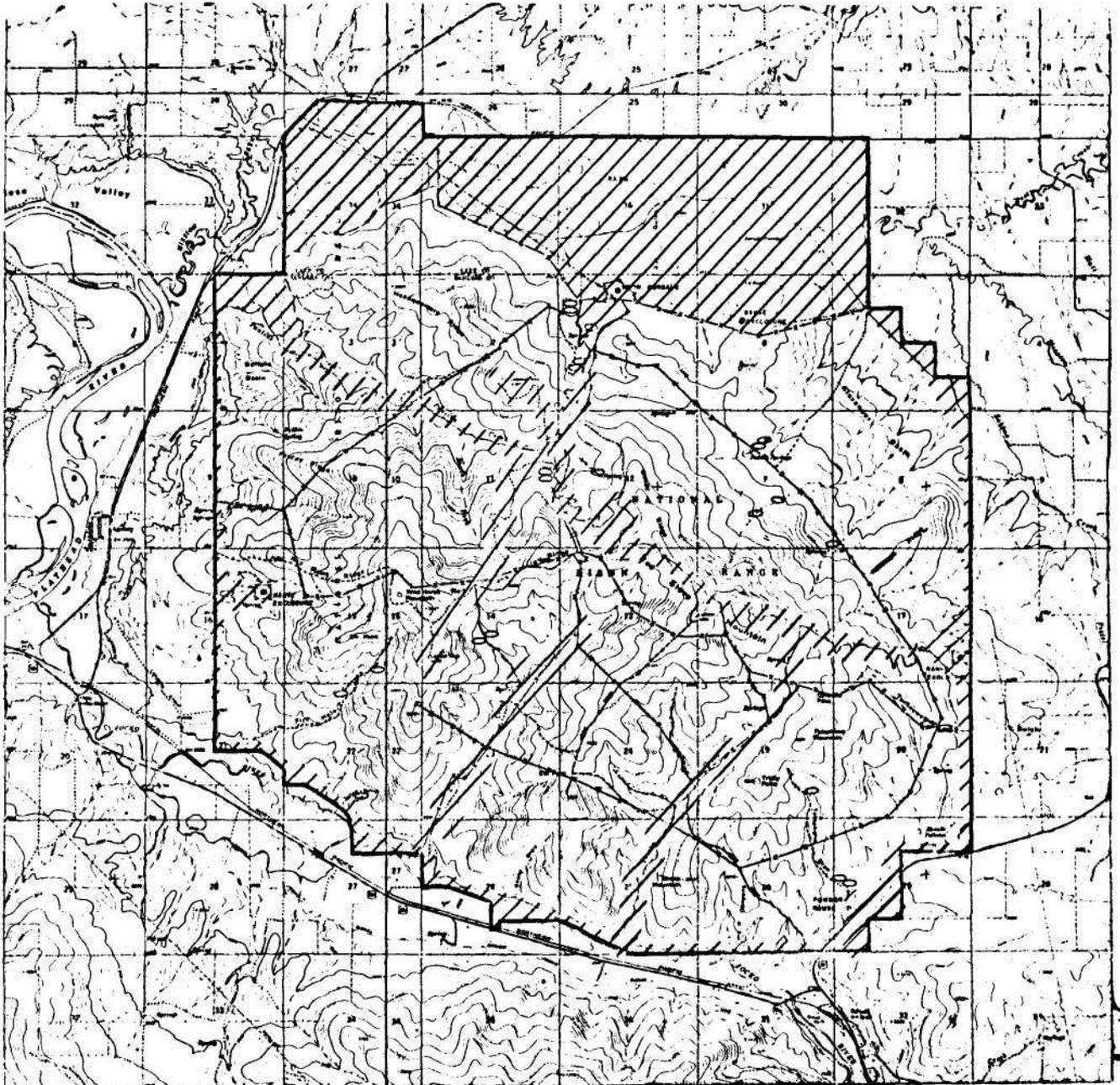
Four units are proposed as wilderness (map follows this page). They vary from the 2,235-acre Upper South Range Unit in the southeast to the 7,516-acre Southwest Range Unit in the southwest quarter of the refuge. The Headquarters Ridge Unit covers 1,680 acres while the Telephone Mountain Unit contains 3,504 acres.

June 22, 1973

NATIONAL BISON RANGE WILDERNESS PROPOSAL

NATIONAL BISON RANGE

PRELIMINARY-SUBJECT TO CHANGE



LEGEND

////// EXCLUSIONS

FIGURE 3

FWS-000077



APPENDIX



Public Law 88-577
88th Congress, S. 4
September 3, 1964

An Act

To establish a National Wilderness Preservation System for the permanent good of the whole people, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Wilderness Act.

SHORT TITLE

SECTION 1. This Act may be cited as the "Wilderness Act".

WILDERNESS SYSTEM ESTABLISHED STATEMENT OF POLICY

Sec. 2. (a) In order to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition, it is hereby declared to be the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resource of wilderness. For this purpose there is hereby established a National Wilderness Preservation System to be composed of federally owned areas designated by Congress as "wilderness areas", and these shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness; and no Federal lands shall be designated as "wilderness areas" except as provided for in this Act or by a subsequent Act.

(b) The inclusion of an area in the National Wilderness Preservation System notwithstanding, the area shall continue to be managed by the Department and agency having jurisdiction thereover immediately before its inclusion in the National Wilderness Preservation System unless otherwise provided by Act of Congress. No appropriation shall be available for the payment of expenses or salaries for the administration of the National Wilderness Preservation System as a separate unit nor shall any appropriations be available for additional personnel stated as being required solely for the purpose of managing or administering areas solely because they are included within the National Wilderness Preservation System.

78 STAT. 890.

78 STAT. 891.

APPENDIX

Pub. Law 88-577

- 2 -

September 3, 1964

DEFINITION OF WILDERNESS

(c) A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic or historical value.

NATIONAL WILDERNESS PRESERVATION SYSTEM—EXTENT OF SYSTEM

Sec. 3. (a) All areas within the national forests classified at least 30 days before the effective date of this Act by the Secretary of Agriculture or the Chief of the Forest Service as "wilderness", "wild", or "canon" are hereby designated as wilderness areas. The Secretary of Agriculture shall—

(1) Within one year after the effective date of this Act, file a map and legal description of each wilderness area with the Interior and Insular Affairs Committees of the United States Senate and the House of Representatives, and such descriptions shall have the same force and effect as if included in this Act: *Provided, however,* That correction of clerical and typographical errors in such legal descriptions and maps may be made.

(2) Maintain, available to the public, records pertaining to said wilderness areas, including maps and legal descriptions, copies of regulations governing them, copies of public notices of, and reports submitted to Congress regarding pending additions, eliminations, or modifications. Maps, legal descriptions, and regulations pertaining to wilderness areas within their respective jurisdictions also shall be available to the public in the offices of regional foresters, national forest supervisors, and forest rangers.

Classification.

Presidential
recommendation
to Congress.Congressional
approval.78 STAT. 821
78 STAT. 817

(b) The Secretary of Agriculture shall, within ten years after the enactment of this Act, review, as to its suitability or unsuitability for preservation as wilderness, each area in the national forests classified on the effective date of this Act by the Secretary of Agriculture or the Chief of the Forest Service as "primitive" and report his findings to the President. The President shall advise the United States Senate and House of Representatives of his recommendations with respect to the designation as "wilderness" or other reclassification of each area on which review has been completed, together with maps and a definition of boundaries. Such advice shall be given with respect to not less than one-third of all the areas now classified as "primitive" within three years after the enactment of this Act, not less than two-thirds within seven years after the enactment of this Act, and the remaining areas within ten years after the enactment of this Act. Each recommendation of the President for designation as "wilderness" shall become effective only if so provided by an Act of Congress. Areas classified as "primitive" on the effective date of this Act shall continue to be administered under the rules and regulations affecting such areas on

June, 1969

a-2

WILDLIFE REFUGES

APPENDIX

September 3, 1964

- 3 -

Pub. Law 88-577

the effective date of this Act until Congress has determined otherwise. Any such area may be increased in size by the President at the time he submits his recommendations to the Congress by not more than five thousand acres with no more than one thousand two hundred and eighty acres of such increase in any one compact unit; if it is proposed to increase the size of any such area by more than five thousand acres or by more than one thousand two hundred and eighty acres in any one compact unit the increase in size shall not become effective until acted upon by Congress. Nothing herein contained shall limit the President in proposing, as part of his recommendations to Congress, the alteration of existing boundaries of primitive areas or recommending the addition of any contiguous area of national forest lands predominantly of wilderness value. Notwithstanding any other provisions of this Act, the Secretary of Agriculture may complete his review and delete such area as may be necessary, but not to exceed seven thousand acres, from the southern tip of the Gorge Range-Eagles Nest Primitive Area, Colorado, if the Secretary determines that such action is in the public interest.

(c) Within ten years after the effective date of this Act the Secretary of the Interior shall review every roadless area of five thousand contiguous acres or more in the national parks, monuments and other units of the national park system and every such area of, and every roadless island within, the national wildlife refuges and game ranges, under his jurisdiction on the effective date of this Act and shall report to the President his recommendation as to the suitability or nonsuitability of each such area or island for preservation as wilderness. The President shall advise the President of the Senate and the Speaker of the House of Representatives of his recommendation with respect to the designation as wilderness of each such area or island on which review has been completed, together with a map thereof and a definition of its boundaries. Such advice shall be given with respect to not less than one-third of the areas and islands to be reviewed under this subsection within three years after enactment of this Act, not less than two-thirds within seven years of enactment of this Act, and the remainder within ten years of enactment of this Act. A recommendation of the President for designation as wilderness shall become effective only if so provided by an Act of Congress. Nothing contained herein shall, by implication or otherwise, be construed to lessen the present statutory authority of the Secretary of the Interior with respect to the maintenance of roadless areas within units of the national park system.

(d) (1) The Secretary of Agriculture and the Secretary of the Interior shall, prior to submitting any recommendations to the President with respect to the suitability of any area for preservation as wilderness—

(A) give such public notice of the proposed action as they deem appropriate, including publication in the Federal Register and in a newspaper having general circulation in the area or areas in the vicinity of the affected land;

(B) hold a public hearing or hearings at a location or locations convenient to the area affected. The hearings shall be announced through such means as the respective Secretaries involved deem appropriate, including notices in the Federal Register and in newspapers of general circulation in the area: *Provided*, That if the lands involved are located in more than one State, at least one hearing shall be held in each State in which a portion of the land lies;

Report to President.

Presidential recommendation to Congress.

Congressional approval.

Suitability.

Publication in Federal Register.

Hearings.

Publication in Federal Register.

78 STAT. 892.

78 STAT. 893.

APPENDIX

Pub. Law 88-577

- 4 -

September 3, 1964

(c) at least thirty days before the date of a hearing advise the Governor of each State and the governing board of each county, or in Alaska the borough, in which the lands are located, and Federal departments and agencies concerned, and invite such officials and Federal agencies to submit their views on the proposed action at the hearing or by no later than thirty days following the date of the hearing.

(2) Any views submitted to the appropriate Secretary under the provisions of (1) of this subsection with respect to any area shall be included with any recommendations to the President and to Congress with respect to such area.

(c) Any modification or adjustment of boundaries of any wilderness area shall be recommended by the appropriate Secretary after public notice of such proposal and public hearing or hearings as provided in subsection (d) of this section. The proposed modification or adjustment shall then be recommended with map and description thereof to the President. The President shall advise the United States Senate and the House of Representatives of his recommendation with respect to such modification or adjustment and such recommendations shall become effective only in the same manner as provided for in subsections (b) and (c) of this section. Proposed modification.

USE OF WILDERNESS AREAS

Sec. 4. (a) The purposes of this Act are hereby declared to be within and supplemental to the purposes for which national forests and units of the national park and national wildlife refuge systems are established and administered and—

(1) Nothing in this Act shall be deemed to be in interference with the purpose for which national forests are established as set forth in the Act of June 4, 1897 (30 Stat. 11), and the Multiple-Use Sustained-Yield Act of June 12, 1960 (74 Stat. 215).

(2) Nothing in this Act shall modify the restrictions and provisions of the Shipstead-Nolan Act (Public Law 539, Seventy-first Congress, July 10, 1930; 46 Stat. 1020), the Thye-Blatnik Act (Public Law 733, Eightieth Congress, June 22, 1918; 62 Stat. 568), and the Humphrey-Thye-Blatnik-Andresen Act (Public Law 607, Eighty-fourth Congress, June 22, 1956; 70 Stat. 326), as applying to the Superior National Forest or the regulations of the Secretary of Agriculture.

(3) Nothing in this Act shall modify the statutory authority under which units of the national park system are created. Further, the designation of any area of any park, monument, or other unit of the national park system as a wilderness area pursuant to this Act shall in no manner lower the standards evolved for the use and preservation of such park, monument, or other unit of the national park system in accordance with the Act of August 25, 1916, the statutory authority under which the area was created, or any other Act of Congress which might pertain to or affect such area, including, but not limited to, the Act of June 8, 1906 (34 Stat. 225; 16 U.S.C. 432 et seq.); section 3(2) of the Federal Power Act (16 U.S.C. 796(2)); and the Act of August 21, 1935 (49 Stat. 666; 16 U.S.C. 461 et seq.).

(b) Except as otherwise provided in this Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character. Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.

June, 1969

a-4

WILDLIFE REFUGES

APPENDIX

September 3, 1964

- 5 -

Pub. Law 88-577

PROHIBITION OF CERTAIN USES

(c) Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.

SPECIAL PROVISIONS

(d) The following special provisions are hereby made:

(1) Within wilderness areas designated by this Act the use of aircraft or motorboats, where these uses have already been established, may be permitted to continue subject to such restrictions as the Secretary of Agriculture deems desirable. In addition, such measures may be taken as may be necessary in the control of fire, insects, and diseases, subject to such conditions as the Secretary deems desirable.

(2) Nothing in this Act shall prevent within national forest wilderness areas any activity, including prospecting, for the purpose of gathering information about mineral or other resources, if such activity is carried on in a manner compatible with the preservation of the wilderness environment. Furthermore, in accordance with such program as the Secretary of the Interior shall develop and conduct in consultation with the Secretary of Agriculture, such areas shall be surveyed on a planned, recurring basis consistent with the concept of wilderness preservation by the Geological Survey and the Bureau of Mines to determine the mineral values, if any, that may be present; and the results of such surveys shall be made available to the public and submitted to the President and Congress.

(3) Notwithstanding any other provisions of this Act, until midnight December 31, 1983, the United States mining laws and all laws pertaining to mineral leasing shall, to the same extent as applicable prior to the effective date of this Act, extend to those national forest lands designated by this Act as "wilderness areas"; subject, however, to such reasonable regulations governing ingress and egress as may be prescribed by the Secretary of Agriculture consistent with the use of the land for mineral location and development and exploration, drilling, and production, and use of land for transmission lines, waterline, telephone lines, or facilities necessary in exploring, drilling, producing, mining, and processing operations, including where necessary the use of mechanized ground or air equipment and restoration as near as practicable of the surface of the land disturbed in performing prospecting, location, and, in oil and gas leasing, discovery work, exploration, drilling, and production, as soon as they have served their purpose. Mining locations lying within the boundaries of said wilderness areas shall be held and used solely for mining or processing operations and uses reasonably incident thereto; and hereafter, subject to valid existing rights, all patents issued under the mining laws of the United States affecting national forest lands designated by this Act as wilderness areas shall convey title to the mineral deposits

Mineral leases,
claims, etc.

76 STAT. 894.
76 STAT. 895.

APPENDIX

Pub. Law 88-577

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September 3, 1964

within the claim, together with the right to cut and use so much of the mature timber therefrom as may be needed in the extraction, removal, and beneficiation of the mineral deposits, if needed timber is not otherwise reasonably available, and if the timber is cut under sound principles of forest management as defined by the national forest rules and regulations, but each such patent shall reserve to the United States all title in or to the surface of the lands and products thereof, and no use of the surface of the claim or the resources therefrom not reasonably required for carrying on mining or prospecting shall be allowed except as otherwise expressly provided in this Act: *Provided*, That, unless hereafter specifically authorized, no patent within wilderness areas designated by this Act shall issue after December 31, 1983, except for the valid claims existing on or before December 31, 1983. Mining claims located after the effective date of this Act within the boundaries of wilderness areas designated by this Act shall create no rights in excess of those rights which may be patented under the provisions of this subsection. Mineral leases, permits, and licenses covering lands within national forest wilderness areas designated by this Act shall contain such reasonable stipulations as may be prescribed by the Secretary of Agriculture for the protection of the wilderness character of the land consistent with the use of the land for the purposes for which they are leased, permitted, or licensed. Subject to valid rights then existing, effective January 1, 1984, the minerals in lands designated by this Act as wilderness areas are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to mineral leasing and all amendments thereto.

Water resources.

(4) Within wilderness areas in the national forests designated by this Act, (1) the President may, within a specific area and in accordance with such regulations as he may deem desirable, authorize prospecting for water resources, the establishment and maintenance of reservoirs, water conservation works, power projects, transmission lines, and other facilities needed in the public interest, including the road construction and maintenance essential to development and use thereof, upon his determination that such use or uses in the specific area will better serve the interests of the United States and the people thereof than will its denial; and (2) the grazing of livestock, where established prior to the effective date of this Act, shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary of Agriculture.

(5) Other provisions of this Act to the contrary notwithstanding, the management of the Boundary Waters Canoe Area, formerly designated as the Superior, Little Indian Sioux, and Caribou Roadless Areas, in the Superior National Forest, Minnesota, shall be in accordance with regulations established by the Secretary of Agriculture in accordance with the general purpose of maintaining, without unnecessary restrictions on other uses, including that of timber, the primitive character of the area, particularly in the vicinity of lakes, streams, and portages: *Provided*, That nothing in this Act shall preclude the continuance within the area of any already established use of motorboats.

(6) Commercial services may be performed within the wilderness areas designated by this Act to the extent necessary for activities which are proper for realizing the recreational or other wilderness purposes of the areas.

WILDERNESS HANDBOOK

APPENDIX

September 3, 1964

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Pub. Law 88-577

(7) Nothing in this Act shall constitute an express or implied claim or denial on the part of the Federal Government as to exemption from State water laws.

70 STAT. 895.
70 STAT. 896.

(8) Nothing in this Act shall be construed as affecting the jurisdiction or responsibilities of the several States with respect to wildlife and fish in the national forests.

STATE AND PRIVATE LANDS WITHIN WILDERNESS AREAS

SEC. 5. (a) In any case where State-owned or privately owned land is completely surrounded by national forest lands within areas designated by this Act as wilderness, such State or private owner shall be given such rights as may be necessary to assure adequate access to such State-owned or privately owned land by such State or private owner and their successors in interest, or the State-owned land or privately owned land shall be exchanged for federally owned land in the same State of approximately equal value under authorities available to the Secretary of Agriculture: *Provided, however,* That the United States shall not transfer to a State or private owner any mineral interests unless the State or private owner relinquishes or causes to be relinquished to the United States the mineral interest in the surrounded land.

transfers, re-
acquisition.

(b) In any case where valid mining claims or other valid occupancies are wholly within a designated national forest wilderness area, the Secretary of Agriculture shall, by reasonable regulations consistent with the preservation of the area as wilderness, permit ingress and egress to such surrounded areas by means which have been or are being customarily enjoyed with respect to other such areas similarly situated.

(c) Subject to the appropriation of funds by Congress, the Secretary of Agriculture is authorized to acquire privately owned land within the perimeter of any area designated by this Act as wilderness if (1) the owner concurs in such acquisition or (2) the acquisition is specifically authorized by Congress.

Acquisition.

GIFTS, BEQUESTS, AND CONTRIBUTIONS

SEC. 6. (a) The Secretary of Agriculture may accept gifts or bequests of land within wilderness areas designated by this Act for preservation as wilderness. The Secretary of Agriculture may also accept gifts or bequests of land adjacent to wilderness areas designated by this Act for preservation as wilderness if he has given sixty days advance notice thereof to the President of the Senate and the Speaker of the House of Representatives. Land accepted by the Secretary of Agriculture under this section shall become part of the wilderness area involved. Regulations with regard to any such land may be in accordance with such agreements, consistent with the policy of this Act, as are made at the time of such gift, or such conditions, consistent with such policy, as may be included in, and accepted with, such bequest.

(b) The Secretary of Agriculture or the Secretary of the Interior is authorized to accept private contributions and gifts to be used to further the purposes of this Act.

WILDERNESS HANDBOOK

APPENDIX

Pub. Law 88-577 -8- September 3, 1964

ANNUAL REPORTS

Sec. 7. At the opening of each session of Congress, the Secretaries of Agriculture and Interior shall jointly report to the President for transmission to Congress on the status of the wilderness system, including a list and descriptions of the areas in the system, regulations in effect, and other pertinent information, together with any recommendations they may care to make.

Approved September 3, 1964.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 1538 accompanying H. R. 9070 (Comm. on Interior & Insular Affairs) and No. 1829 (Comm. of Conference).

SENATE REPORT No. 109 (Comm. on Interior & Insular Affairs).

CONGRESSIONAL RECORDS:

Vol. 109 (1963): Apr. 4, 8, considered in Senate.

Apr. 9, considered and passed Senate.

Vol. 110 (1964): July 28, considered in House.

July 30, considered and passed House, amended,
in lieu of H. R. 9070.

Aug. 20, House and Senate agreed to conference
report.

APPENDIX

UNITED STATES
DEPARTMENT OF THE INTERIOR
Office of the Secretary
Washington

ORDER NO. 2920

JAN 20 1969

Subject: Reviews of Roadless Areas and Roadless Islands
under the Wilderness Act

Sec. 1 Purpose. The purpose of this Order is to delegate authority, establish procedures, and provide for coordination of reviews of roadless areas and roadless islands under the provisions of the Act of September 3, 1964 (78 Stat. 890; 16 U.S.C. 1131-1136), referred to in this Order as the Act, and regulations pertaining thereto (43 CFR Part 19).

Sec. 2 Policy and procedure. Certain policies and practices with respect to wilderness preservation are set forth in 43 CFR, Part 19.

Sec. 3 Delegation. (a) The Assistant Secretary for Fish and Wildlife, Parks, and Marine Resources may exercise the authority of the Secretary of the Interior to:

(1) Approve proposed recommendations concerning the suitability or nonsuitability of roadless areas or roadless islands for preservation as wilderness.

(2) Authorize the publication of notices of public hearings on proposed recommendations.

(3) Appoint a qualified officer of the Department to hold a public hearing or hearings on such proposed recommendations.

WILDLIFE REFUGES

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June, 1969

ORDER NO. 2920 - CONTINUED

(b) The authority granted in paragraph (a) of this section may not be redelegated.

(c) Final action within the Office of the Secretary on recommendations of bureaus and other recommendations concerning the suitability or nonsuitability of roadless areas and islands for preservation as wilderness involves interrelationships between program areas and departments and is considered of major policy significance. Accordingly, proposed recommendations to the President under the Act shall be forwarded to the Secretary for approval.

Sec. 4 Reviews within the National Park System.

(a) The National Park Service shall perform such work as is necessary to:

(1) Review every roadless area of 5,000 contiguous acres or more that was in the National Park System on September 3, 1964.

(2) Submit a report of such review and proposed recommendation as to suitability of the areas for preservation as wilderness after public views and the views of State and local officials have been received.

(3) Facilitate issuance of public information prior to public hearings and the reconsideration of the suitability or nonsuitability of the areas for preservation as wilderness after public views and the views of State and local officials have been received.

(4) Submit proposed recommendations for transmittal to the President.

APPENDIX

(b) Each report of review shall identify any roadless area of 5,000 contiguous acres or more which is considered not suitable for preservation as wilderness because of future requirements for historic preservation, interpretation, rights-of-way, use facilities, administrative installations, or other resource use of nonwilderness nature.

Sec. 5 Reviews within the National Wildlife Refuge System. (a) The Bureau of Sport Fisheries and Wildlife shall perform such work as is necessary to:

(1) Review every roadless area of 5,000 contiguous acres or more and every roadless island regardless of size that was in a national wildlife refuge or game range on September 3, 1964.

(2) Submit a report of such review and proposed recommendation as to suitability or nonsuitability for preservation as wilderness.

(3) Facilitate issuance of public information prior to public hearings and the reconsideration of the suitability or nonsuitability of the areas for preservation as wilderness after public views and the views of State and local officials have been received.

(4) Submit proposed recommendations for transmittal to the President.

(b) Each report of review shall identify any roadless area of 5,000 contiguous acres or more or any roadless island which is considered not suitable for preservation as wilderness because of future requirements for rights-of-way, use facilities, conservation structures, administrative installations, or other resource use of nonwilderness nature.

APPENDIX

Sec. 6 Maps and reports. (a) Lines delineating areas considered suitable for preservation as wilderness should be drawn so far as possible in a manner that will permit identification on the ground. Roadless areas within units of the National Wildlife Refuge System and units of the National Park System shall be identified by reference to the public land surveys and protractors thereof where available and practicable.

(b) Maps and reports shall be compiled in a form that can be easily duplicated for public distribution.

(c) Maps and reports released before final action shall be plainly marked, "Preliminary - Subject to Change."

Sec. 7 Coordination. (a) The Assistant Secretary for Fish and Wildlife, Parks, and Marine Resources shall provide staff coordination of reviews under the Act, including liaison with the headquarters offices of other Federal departments.

(b) The Regional Coordinators shall aid inter-bureau coordination of field activities under the Act, including liaison with field offices of other Federal departments and State and local governments.

(c) The Bureau of Outdoor Recreation shall aid coordination of outdoor recreation aspects of reviews under the Act, with special regard to (1) relationships to inventories of outdoor recreation needs and resources; (2) the system for classification of outdoor recreation resources; (3) comprehensive outdoor recreation plans; (4) research relating to outdoor recreation; and (5) liaison with outdoor recreation agencies and organizations.

Sec. 8 Revocation. This Order revokes and supersedes Order No. 2893, dated February 17, 1966.

/s/ Stewart L. Udall

Secretary of the Interior

June, 1969

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WILDLIFE REFUGES

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P
Y

NATIONAL BISON RANGE, MONTANA

Establishment

"The President is hereby directed to reserve and except from the unallotted lands now embraced within the Flathead Indian Reservation, in the State of Montana, not to exceed 12,800 acres of said lands, near the confluence of the Pend d'Oreille and Jocko Rivers, for a permanent national bison range for the herd of bison to be presented by the American Bison Society. And there is hereby appropriated the sum of - - - - - \$30,000 - - - - - or so much thereof as may be necessary, to enable the Secretary of the Interior to pay the confederated tribes of the Flathead, Kootenai, and Upper Pend d'Oreille, and such other Indians and persons holding tribal relations or may rightfully belong on said Flathead Indian Reservation, the appraised value of said lands as shall be fixed and determined under the provisions of the Act of Congress approved April 23, 1904, entitled "An Act for the survey and allotment of lands now embraced within the limits of the Flathead Indian Reservation, in the State of Montana, and the sale and disposal of all surplus lands after allotment." And the Secretary of Agriculture is hereby authorized and directed to inclose said lands with a good and substantial fence and to erect thereon the necessary sheds and buildings for the proper care and maintenance of the said bison; and there is hereby appropriated therefor the sum of \$10,000, or so much thereof as may be necessary; in all \$40,000." (35 Stat. 267-8, Act of May 23, 1908 - Agricultural Appropriation Act, Fiscal Year 1909.)

"For the maintenance of the Montana National Bison Range and other reservations for mammals and birds, \$7,000, and so much of the \$40,000 heretofore appropriated for the Montana National Bison Range as remains unexpended is hereby reappropriated, the same to be immediately available, to be expended in fencing said lands, the erection thereon of the necessary sheds and buildings, and enlarging the limits heretofore established so as to make the total acreage not to exceed twenty thousand acres, and the President is hereby directed to reserve and except from the unallotted lands now embraced within the Flathead Indian Reservation, in the State of Montana, a sufficient area to enlarge said range as herein provided." (35 Stat. 1051 - Act of Mar. 4, 1909 (Agricultural Appropriation Act for Fiscal Year 1910.)

A schedule of lands describing 18,521.33 acres of land was submitted to the President on June 15, 1909, and was approved by him on that date, namely, that same be reserved for a National Bison Range, (June 15, 1909.)

(C O P Y)

3.
Land Allotments
51019-1908
39383-1909

Department of the Interior
Office of Indian Affairs

Washington, D. C. June , 1909.

The foregoing schedule describing 18,521.35 acres of land reserved for a National Bison Range on the Flathead Indian Reservation in Montana, in accordance with the provisions of the Acts of Congress approved May 23, 1908 (35 Stat.L. 267) and March 4, 1909 (35 Stat. L. 1051) is respectfully submitted with the recommendation that it be laid before the President for his approval.

R. G. Valentine,
Acting Commissioner.

Department of the Interior,
Washington,
June 15, 1909.

Respectfully laid before the President for approval as recommended.

R. A. Ballinger,
Secretary,

Approved June 15, 1909, (Pierce)

The White House,
W. H. Taft.

Schedule of Lands reserved for National Bison Range in the Flathead Indian Reservation, in Montana, in accordance with the provisions of the Acts of Congress of May 23, 1908, (35 Stat. 267) and March 4, 1909, (35 Stat. 1061), approved by President June 15, 1909.

Sub-division	Section	Town.	Range	Area	
SE $\frac{1}{4}$ of NW $\frac{1}{4}$	5	18	20	40	
Lot 4 and SW $\frac{1}{4}$ of NW $\frac{1}{4}$	5	18	20	80	.01
SW $\frac{1}{4}$	5	18	20	160	
W $\frac{1}{2}$ of SE $\frac{1}{4}$	5	18	20	80	
SE $\frac{1}{4}$ of SE $\frac{1}{4}$	5	18	20	40	
All of	6	18	20	631	.24
All of	7	18	20	632	.08
All of	8	18	20	640	
All of	17	18	20	640	
All of	18	18	20	633	.08
All of	19	18	20	634	.20
All of	20	18	20	640	
N $\frac{1}{2}$ of NE $\frac{1}{4}$	29	18	20	80	
NW $\frac{1}{4}$	29	18	20	160	
N $\frac{1}{2}$ of SW $\frac{1}{4}$	29	18	20	80	
SW $\frac{1}{4}$ of SW $\frac{1}{4}$	29	18	20	40	
All of	30	18	20	634	.62
All of	31	19	20	629	.88
W $\frac{1}{2}$ of W $\frac{1}{2}$	32	19	20	160	
All of	1	18	21	641	.40
All of	2	18	21	644	.04
All of	3	18	21	644	.56
E $\frac{1}{2}$	4	18	21	321	.56
E $\frac{1}{2}$	9	18	21	323	
All of	10	18	21	640	
All of	11	18	21	640	
All of	12	18	21	640	
All of	13	18	21	640	
All of	14	18	21	640	
All of	15	18	21	640	
E $\frac{1}{2}$	16	18	21	320	
NE $\frac{1}{4}$	21	18	21	160	
And beginning at the 1-4 Cor. Secs. 21 & 22, thence W.13.22 chains - S. 52° - 5' E. 16.76 chains, N. 3' W.10.30 chains to point of beginning in the	21	18	21	6	.81
NE $\frac{1}{4}$ of SE $\frac{1}{4}$	22	18	21	320	
W $\frac{1}{2}$	22	18	21	160	
SE $\frac{1}{4}$	22	18	21	160	
				14013	.38

	<u>Section</u>	<u>Town.</u>	<u>Range</u>	<u>Area</u>	
Sub-division					
Brought forward				14013	.38
And beginning at $\frac{1}{4}$ Cor. Secs. 21 & 22 thence S. 3 ¹ E. 20 chains E. 15.38 chains. S. 54 ^o 40 ¹ E. 1.60 chains S. 57 ^o 30 ¹ E, 21 chains, S. 39 ^o E. 8.91 chains N. 3 ¹ W. 38.25 chains, W. 40 chains to point of beginning in the S.W. $\frac{1}{4}$	22	18	21	100	.44
All of	23	18	21	640	
All of	24	18	21	640	
N $\frac{1}{2}$	25	18	21	320	
S.E. $\frac{1}{4}$	25	18	21	160	
N $\frac{1}{2}$ of SW $\frac{1}{4}$	25	18	21	80	
Beginning at the 1/16 Com. to Secs. 25 & 26 S. 1/2 - thence S. 64 ^o 10 ¹ E. 11 chains S. 55 ^o E. 6.54 chains, S. 65 ^o 35 ¹ E. 24 chains, N. 80 ^o E. 2.75 chains, N. 1 ¹ W. 17.40 chains, W. 40 chains to point of beginning in S $\frac{1}{2}$ of SW $\frac{1}{4}$	25	18	21	37	.69
N $\frac{1}{2}$	26	18	21	320	
N $\frac{1}{2}$ of SE $\frac{1}{4}$	26	18	21	80	
Beginning at $\frac{1}{4}$ Cor. Center of Sec. thence W. 24.31 chains, S 71 ^o 30 ¹ E. 25.49 chains, N. 2 ¹ W. 8.20 chains to point of beginning	26	18	21	9	.84
N $\frac{1}{2}$ of NE $\frac{1}{4}$	27	18	21	80	
S $\frac{1}{2}$ of SE $\frac{1}{4}$	27	19	21	80	
SE $\frac{1}{4}$ of SW $\frac{1}{4}$	27	19	21	40	
All	34	19	21	640	
All	35	19	21	640	
All	36	19	21	640	
				<u>18821</u>	<u>.35</u>

February 16, 1922.

National Bison Range:

The General Land Office informs Game and Bird Reservations that, so far as their records show, under the Act of 1904, Section 36, T. 19 N., R. 21 W., Montana, became the property of the State of Montana, and is still the property of that State unless it has been sold." However, this section was ceded to the Government by the State but the date when this was done can not be found in the records of the Bureau.

Land Purchased from Geo. D. Pratt as an Addition to the Bison Range, 1931.

Acreage 18.86 acres

Located in SW $\frac{1}{4}$ SW $\frac{1}{4}$, T. 19 N., R. 21 W., Lake Co., Mont.

39

Executive Order

Setting apart the Montana National Bison Range, Sullys Hill (N. Dak.) National Park Game Preserve, and Elk Refuge (Wyo.) as bird refuges.

It is hereby ordered that all the lands that now are or may hereafter be included within the boundaries of the Montana National Bison Range, Montana; the Sullys Hill National Park Game Preserve, North Dakota; and the Elk Refuge, Wyoming, be and the same are hereby further reserved and set apart for the use of the Department of Agriculture as refuges and breeding grounds for birds.

It is unlawful for any person to hunt, trap, capture, wilfully disturb or kill any bird of any kind whatever, or take the egg of such bird, within the limits of these reservations, except under such rules and regulations as may be prescribed by the Secretary of Agriculture.

Warning is expressly given to all persons not to commit any of the acts herein enumerated, under the penalties prescribed by Section 80 of the U. S. Penal Code, approved March 4, 1909 (35 Stat. 1085).

WARREN G HARDING

THE WHITE HOUSE,

December 22, 1921.

"No. 35101"

ACREAGE SUMMARY RECORD

	RESERVED FROM PUBLIC DOMAIN			ACQUIRED BY OTHER FEDERAL AGENCY		DEVISE OR GIFT	PURCHASED		MEANDERED AREA	NON FEDERAL LAND	TOTAL ACRES
	SOLE OR PRIMARY	SECONDARY	JOINT	SOLE OR PRIMARY	SECONDARY		ACRES	COST			
69	18,521.35										18,521.35
71	18,521.35						18.50	700.00			18,539.85
72	18,521.35					0.75	18.50	700.00			18,540.60
75	0.00			18,521.04		0.75	18.50	700.00			18,540.29
77				18,521.04		0.75	18.50	700.00			18,540.29
78				18,521.04		0.75	18.50	700.00			18,540.29
79				18,521.04		0.75	18.50	700.00			18,540.29
70				18,521.04		0.75	18.50	700.00			18,540.29
71				18,521.04		0.75	18.50	700.00			18,540.29
72				18,521.04		0.75	18.50	700.00			18,540.29

ACQUISITION DATE 6-15-09 by Presidential approval of land reservation

PROPERTY NO. I-FWS-58-1

STATE	UNIT	COUNTY
Montana	Montana National Bison Range	Lake Sanders

7

UNITED STATES GOVERNMENT

Memorandum

Mr. Tolson
 Mr. E. A. Tamm
 Mr. Clegg
 Mr. Glavin
 Mr. Ladd
 Mr. Nichols
 Mr. Rosen
 Mr. Tracy
 Mr. Carson
 Mr. Egan
 Mr. Gurnea
 Mr. Harbo
 Mr. Hendon
 Mr. Pennington
 Mr. Quinn
 Mr. Nease
 Miss Gandy
 ✓ Gen. Chief of Dept. to
 X
 ✓ Ref. a. by Ref.
 2/14/65

TO : Regional Director, Portland, Oregon

DATE: FEB 3 1965

FROM : Assistant Director - Technical Services

LA- Montana
National Bison Range

SUBJECT: Status of National Bison Range lands

Although the statistical records of the Washington Office have indicated that 18,521.35 acres of land in the National Bison Range are reserved public lands, we have been aware for some time that the lands are not strictly public. Since the Indians were paid for most of these lands we believe our records should reflect their status as being acquired lands.

According to information in our files the status of the 18,521.35 acres in the schedule approved by the President on June 15, 1909 and reserving for the range these lands under the provisions of Acts of Congress approved May 23, 1908 (35 Stat. 267) and March 4, 1909 (35 Stat. 1051) is as follows:

<u>Acres</u>	<u>Remarks</u>
16,566.57	Indian tribal lands appraised at \$28,955.48 which was paid to tribe at large.
994.78*	Indian allotments (6 entirely within range and 7 partly within) - relinquishments obtained with selections of lieu lands outside range. \$941 paid for improvements on allotments.
960.00	State lands ceded to U. S. by Clear List approved 11-21-33.
-0.31*	* According to Indian Affairs memo of 6-11-41 this parcel (pt. NW ¹ SW ¹ , sec. 26 T. 18 N., R. 21 W.) is Indian allotment never relinquished, sold in 1916, and title passed from supervision and control of Government.
<u>18,521.04</u>	

29,896.48

Our files indicate that the payments for these lands were made by the Forest Service. Accordingly, it would seem that the former Indian lands should be carried in the statistical report as "Acquired by Other Federal Agency, Sole or Primary." The 960 acres of former State land would be carried as "Devise or Gift."

Realty Supervisor WMS
 Appraisal WMS
 Realty Mgr. WMS
 File _____

It appears that background material on status is in your Realty files. If you agree with the above comments it is in order for you to submit appropriate Forms 3-147 to restate the land status. Revised GSA Forms 1166 for the GSA Inventory Report and Dawson Committee Report should also be submitted when due.


James T. McBroom

(C O P Y)

H

Department of Agriculture
Office of the Secretary
Washington

July 29, 1915.

The Honorable

The Secretary of the Interior.

Sir:

The letter of Assistant Secretary Sweeney of June 15, 1915, is a request for permission to utilize a ditch constructed by this Department in the Montana National Bison Range to convey water from a point on Mission Creek in the NW 1/4, Sec. 36, T. 19 N., R. 21 W., M. P. M., to the Department's administrative station in the NE 1/4 of Sec. 34 of the same Township and Range, and to construct and operate a continuation of the ditch which will pass through certain other portions of the Bison Range, all as shown on the map attached hereto, designated Accession No. 16494. It is understood that the water to be conveyed through the ditch is for the purpose of irrigating lands to the west of the Bison Range, as authorized by Congress in various acts relating to the irrigation of lands in the Flathead Indian Reservation, the project being constructed by the Reclamation Service for the Bureau of Indian Affairs of your Department.

I have the honor to advise you that the permission requested, as above stated, is granted upon the following conditions:

1. That the work to be done by the Reclamation Service in and about the enlargement, if any, of the existing ditch and the construction of the continuation thereof, will be performed in such manner as not to obstruct or impair any of the improvements, including roads, which have been constructed by this Department for the utilization and administration of the Bison Range.

2. That the use of this Department's ditch and of the proposed continuation thereof, and of the water therein, will at no time interfere with the utilization by this Department of so much of the water already appropriated by this Department as may be necessary for the purposes and objects of the Montana National Bison Range.

3. That the proposed extension of the ditch will cross the Bison Range fence at three points only, namely, (a) at a point on the line dividing the SE 1/4 of the SW 1/4 from the SW 1/4 of the SW 1/4 of Sec. 27, T. 19 N., R. 21 W.; (b) at a point on the line dividing the SW 1/4 of the SE 1/4 of Sec. 33, T. 19 N., from the NW 1/4 of the NE 1/4 of Sec. 4, T. 18 N., R. 21 W.; and (c) at a point on the line dividing the NW 1/4 of the NE 1/4 from the NE 1/4 of the NW 1/4 of Sec. 4, T. 18 N., R. 21 W., all as shown on the map hereinbefore mentioned.

4. That in order to reduce to a minimum the crossing of the fence by the proposed extension of the ditch, the Reclamation Service, at its own expense, will remove the fence along the line dividing Sections 33 and 34 in Township 19 North Range 21 West, and reconstruct it immediately to the east of the proposed extension

of the ditch in the western part of Section 34, all as indicated on the map hereinbefore mentioned.

5. That the three crossings of the Bison Range fence mentioned in Paragraph 3 above, will be in the form of wooden culverts with openings approximately 18 by 48 inches, protected by tied gates, to prevent the passage of coyotes or other predatory animals.

6. That before any work is done by the Reclamation Service within the limits of the Bison Range, notice will be given to the Department's warden in charge of the Range, in order that he may provide for the safety of the bison on the Range, and of those engaged on the work in and about the project.

7. That the Department of Agriculture will be put to no expense on account of the permission hereby given, save and except that it will annually, when necessary, contribute or expend not to exceed \$75.00 for the maintenance of that part of the ditch already constructed by it.

Respectfully,

(signed) D. F. HOUSTON,

Secretary.

Welf

2

NOTICE OF APPROPRIATION

UNITED STATES OF AMERICA,
Mission
County of Missouri

TO ALL WHOM THESE PRESENTS MAY CONCERN:

WE IT KNOW, That the United States of America, acting through the Biological Survey of the Department of Agriculture, by A. R. Hodges, its officer and agent, duly authorized to the premises, does hereby publish and declare, as a legal notice to all the world as follows, to-wit:

1. That the said United States has a legal right to the use, possession and control of said lands four cubic feet per second of the waters of Mission Creek in said County and State, for irrigating and other purposes.

2. That the purposes for which said water is claimed, and the place of intended use are as follows: It is proposed to irrigate 200 acres of land lying within and a part of the National Bison Range reserved by the President of the United States under the authority of an act of Congress approved May 22, 1908, (35 Stat., C. 2877) entitled "An Act making appropriations for the Department of Agriculture for the fiscal year ending June thirtieth, nineteen hundred and nine."

3. That the means of diversion, with the size of flume, ditch, pipe or aqueduct, by which it is intended to divert the said water is as follows: A ditch 12 ft. deep, 12 ft. wide at bottom 3 ft. wide at top. The point of diversion of the said ditch is located on Mission Creek, North 60° 50' E. 25.68 chains from the $\frac{1}{4}$ section corner between sections 35 and 36 T. 19 N., R. 21 W. M. P. M. the lands to be irrigated lie in the NW $\frac{1}{4}$ and the NW $\frac{1}{4}$ Section 34 and the SE $\frac{1}{4}$ of SW $\frac{1}{4}$ and the SE $\frac{1}{4}$ of SW $\frac{1}{4}$ Sec. 37, all in Township 19 North Range 21 W. M. P. M.

4. That the said United States of America is the appropriator of said water, and said appropriation was made on the 27th day of March A. D. 1910, and said appropriation and the diversion of said waters is to be effected and consummated by means of said ditch.

5. That the said United States also hereby claims said ditch and the right of way therefor, and for said water by it conveyed, or to be conveyed from said point of appropriation to said land or point of final discharge, and also the right of location upon any lands of any canals, flumes, reservoirs, constructed, or to be constructed by the said United States in appropriating and in using said water.

6. That the said United States also claims the right to keep in repair and to enlarge said means of water appropriation at any time.

CLAIMING THE SAME ALL AND SINGULAR, under any and all laws National and State, and in accordance with the rulings and decisions thereunder, in the matter of water rights, TOGETHER WITH ALL AND SINGULAR, the hereditaments and appurtenances thereto belonging and appertaining, or to accrue to the same.

The United States of America,

By A. R. Hodges,
its officer and Agent in that behalf and thereto
duly authorized.

State of Montana)
County of Missoula)ss

A. R. Hodges, having first been duly sworn deposes and says: That he is of lawful age and an officer and agent of the United States of America, the appropriator and claimant of the water and the water right mentioned in the foregoing notice of appropriation and claim, and that affiant makes the said appropriation of said water and claims the said water right for and on behalf of the said United States, as its agent thereto duly authorized; that affiant is the person whose name is subscribed thereto as officer and agent of the appropriator and claimant, the said United States; that he knows the contents of said foregoing notice and that the matters and things therein stated are true.

A. R. Hodges,

Subscribed and sworn to before me, this 11th day of March A. D. 1910.

(SEAL)

F. W. Kaphal,
Clerk and recorder in and for Missoula County,
State of Montana,

I certify that I received and filed this Instrument for record on the 11th day of March, 1910 at 10:30 o'clock A. M.

F. W. Kaphal,
County Recorder,

271 - Montana
224 - Bureau
812

J

COOPERATIVE AGREEMENT

This Cooperative Agreement made and entered into this 14th day of November, 1957, by and between the U. S. Fish and Wildlife Service and the Bureau of Indian Affairs witnesseth:

WHEREAS, the U. S. Fish and Wildlife Service has under its jurisdiction certain lands in Lake and Sanders Counties, Montana, designated as the National Bison Range and set aside for wildlife conservation purposes, and,

WHEREAS, the Bureau of Indian Affairs, Flathead Irrigation Project, St. Ignatius, Montana, is desirous of establishing and maintaining storage facilities for explosives used in its operations,

NOW, THEREFORE, it is mutually understood by and between the parties hereto that the U. S. Fish and Wildlife Service hereby grants permission to the Bureau of Indian Affairs to utilize designated parts of W $\frac{1}{2}$ SW $\frac{1}{4}$, Sec. 29, T. 18 N., R. 20 W., as delineated on the map attached hereto, subject to the following stipulations:

1. The use of this land by the Bureau of Indian Affairs shall be only for the purpose of erecting, maintaining and using a powder house and a cap house for storing explosives and the permission hereby granted shall be for a period of 20 years beginning on the day and year as first above written, subject to renewal upon such terms and conditions as may be mutually agreed upon by the parties hereto.

2. The powder house will be approximately 8' x 12' in exterior dimensions and will be built of precast reinforced concrete sections with a minimum wall thickness of 6". The roof will be of precast concrete slab. The building will be equipped with double steel doors and provided with adequate ventilation facilities.

3. The cap house will be located about 500 feet north of the powder house and will be approximately 4' x 3' x 3' in exterior dimensions. It will consist of a steel drum around which concrete will be cast and it will be provided with a single steel door, adequate ventilation, and with legs to support it above ground level.

4. Both buildings will be kept securely locked with suitable padlocks at all times and adequate warning signs will be displayed. Not to exceed 500 lbs. of dynamite in 20 to 60 percent strengths will be stored in the powder house and not to exceed 800 caps will be stored in the cap house.

5. The Bureau of Indian Affairs agrees to comply fully with standards established by the Federal Safety Council for handling explosives; to keep the buildings in a neat and orderly condition at all times; and to take all necessary precautions to protect them on the range.

6. The Bureau of Indian Affairs agrees to permit the U. S. Fish and Wildlife Service to store explosives when storage facilities listed under Section 4 hereof are available.

7. The authorization herein contained shall include access to the power house and cap house sites through use of the refuge gate road emanating from the sub-station, provided, however, that such access shall be restricted to employees of the Bureau of Indian Affairs who are authorized to handle explosives, and, provided further, that the Bureau of Indian Affairs shall cooperate fully in keeping the gate at the sub-station locked and the access road otherwise barred to general public use.

8. The use of firearms is prohibited on the land covered by this agreement and on all of the lands within the National Bison Range. Except as modified by this agreement, all laws and regulations applicable to the National Bison Range shall continue to be applicable to the lands covered by this agreement.

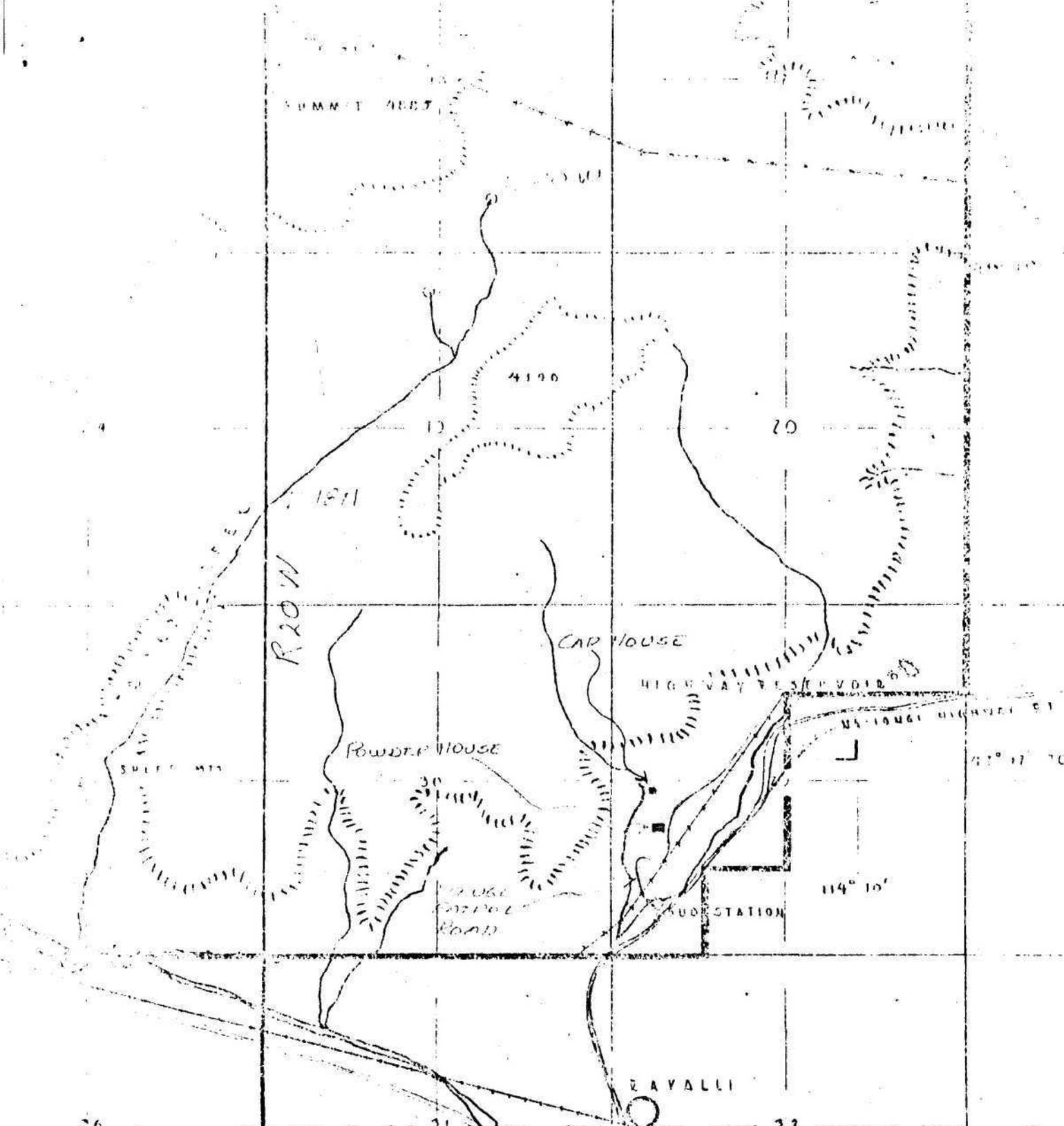
9. The Bureau of Indian Affairs shall acquaint all of its personnel concerned in the construction, maintenance and use of the explosive storage facilities with the regulations applying to the lands of the National Bison Range with respect to hunting, fishing, trapping, trespassing, carrying of firearms, penalties and other aspects of wildlife conservation laws.

10. Upon cessation of use and need by the Bureau of Indian Affairs of the designated tract, the U. S. Fish and Wildlife Service shall be immediately notified and this Cooperative Agreement shall be considered to be terminated upon receipt of such notice. The lands involved shall be turned over to the U. S. Fish and Wildlife Service and full jurisdiction thereof shall revert and re-vest in the U. S. Fish and Wildlife Service upon such termination. Any improvements constructed by the Bureau of Indian Affairs on the designated parts of the tract, Sec. 29, T. 18 N., R. 20 W., shall be removed within a reasonable time by the Bureau of Indian Affairs upon termination of this agreement.

IN WITNESS WHEREOF the U. S. Fish and Wildlife Service and the Bureau of Indian Affairs, through their respective officials hereinafter affixed their signatures, have executed this Cooperative Agreement on the day and year first above mentioned.

/s/ Percy E. Melis
Area Director
Bureau of Indian Affairs

/s/ Leo L. Laythe
Regional Director
U. S. Fish and Wildlife Service



NOTE: BROWN NAMES

SCALE = 1/25,000



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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Land Office
1245 North 29th Street
Billings, Montana 59101

IN REPLY REFER TO **Attn: 952**
Right of Way
Serial No. of
Grant:
MONTANA 066143

July 7, 1964

DECISION

The Montana Power Company
Electric Building
Butte, Montana

Right-of-way granted

MONTANA 066143

Details of Grant

Map designations showing the location and dimensions of grant: **Hot Springs - Anaconda**
230 KV line

Date filed : **June 2, 1964**

Permitted use by grantee : **Construct, operate, and maintain electric power transmission line.**

Authority for grant : **March 4, 1911 (36 Stat. 1253; 43 U.S.C. 961)**

Applicable regulations: 43 CFR ~~2234~~ **2234, excepting 2234.4-1(b)(4)(iv) and 2234.4-1(c)(3)(4)(5)**

Circular(s) No. **1915, 2069**

Date of Grant : **July 7, 1964**

Expiration date of grant : **July 7, 2014**

Rental per ~~calendar~~ year: \$ **84.00 for 30 year period**

Payable ~~-----~~

Terms and Conditions of Grant

Pursuant to the authority vested in the undersigned by Order No. 684 of the Director, Bureau of Land Management, dated August 28, 1961 (26 F.R. 8216), as amended, a right-of-way, the details of which are shown above, is hereby granted, subject to the following terms and conditions.

1. All valid rights existing on the date of the grant.
2. All regulations in the circulars specified above.
3. Filing of proof of construction within 5 years of date of grant.
4. Further terms and conditions as follows:

~~Stipulations as contained in MSO-F-151 attached.~~

See attachment

(Sgd) **Kenneth J. Siro**

Kenneth J. Siro
Chief, Lands Section

- Distribution**
- Original: File**
 - Copy (1): Grantee**
 - Copy (1): Director, BLM, Washington, with map**
 - Copy (2): Bureau of Fish & Wildlife Service, Portland, Oregon, with maps**
 - Copy (1): Records**

Attachment, Decision dated July 7, 1964, The Montana Power Company

Special Terms and Conditions:

1. Control of soil erosion resulting from construction or maintenance activities.
2. Bend groups of hardware within 6" intervals.
3. Provide overhead ground wires to minimize fire hazards.
4. Provide adequate breaker protection.
5. No roads are to be constructed.
6. Entry into the National Bison Range is to be as authorized by the Refuge Manager in charge.

Copy

26

DEPARTMENT OF AGRICULTURE

Washington.

WHEREAS, by Acts of Congress approved May 23, 1908, (35 Stat. 267-8), and March 4, 1909, (35 Stat. 927), the land comprising the National Bison Range in the State of Montana were acquired and placed under the jurisdiction and administration of the U. S. Department of Agriculture for the maintenance of the said National Bison Range.

WHEREAS, according to the provisions of Section 17 of the Federal Highway Act of November 9, 1921, (42 Stat. 212), I have determined that certain lands of the United States within the said National Bison Range, in Sections 29 and 30, Township 18 North, Range 21 West, N.P.M., Lake County, Montana, more particularly described as follows, are reasonably necessary for the right of way of a Federal Aid Highway, known as Montana Project 194:

A strip of land 90 feet wide, being 50 feet wide on the northerly side and 40 feet wide on the southerly side of the following described center line; Beginning at a point on the south line of said Section 30, which said point bears westerly along said south line a distance of 319.0 feet, more or less, from the southeast corner of said Section 30; thence from the said point of beginning along a curve to the right of 636.7 feet radius, 22.6 feet; thence N. 74 58' E., 193.1 feet to a point; also a strip of land 80 feet wide, being 40 feet wide on each side of the following described center line; thence continuing from the last described point along a curve to the left of 955.0 feet radius, 465.5 feet; thence N. 46 55' E., 796.0 feet; thence along a curve to the left of 2865.0 feet radius, 380.0 feet; thence N. 39 19' E., 1536.7 feet to a point; also a strip of land 100 feet wide being 60 feet wide on the westerly side and 40 feet wide on the easterly side of the following described center line; thence continuing from the last described point along a curve to the left of 716.3 feet radius, 612.5 feet to a point; also a strip of land 80 feet wide, being 40 feet wide on each side of the following described center line; thence continuing from the last described point N. 9 41' W., 141.4 feet; thence along a curve to the right of 573.0 feet radius, 862.8 feet; thence N. 86 42' E., 6.5 feet to a point on the east line of said SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 29, which said point bears southerly along said east line a distance of 311.7 feet, more or less, from the northeast corner of said SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 29, and containing in all 9.53 acres, more or less.

NOW THEREFORE, I, C. F. Marvin, Acting Secretary of Agriculture, under the authorization given by said Section 17 of the Federal Highway Act, and subject to the following conditions, do hereby appropriate and transfer to the State Highway Commission of the State of Montana, solely for the purpose hereinabove stated, the above described lands included in said right of way:

FWS-000112

1. The right of way hereby granted shall not be used, except by permission of the Secretary of Agriculture of the United States, for any purpose other than the construction, maintenance, and operation of a public highway.

2. The State Highway Commission shall comply with all Federal laws, rules and regulations now or hereafter applicable to the National Bison Range, and shall, upon completion of the said highway, remove all refuse and other material used in the construction of the highway, and shall at all times keep the right of way in a neat and orderly condition.

3. The right of way hereby granted shall always be subject to dominant use of the said premises by the United States in its control over game, fur-bearing animals, and wild birds, and the said State Highway Commission shall not do or suffer to be done by any of its agents any act which may interfere with the control of the United States over wild animals and birds as provided for by the law and regulations for the administration of Federal wild life refuges or the protection of wild animals and birds.

4. The State Highway Commission shall take all reasonable precautions to prevent and suppress fires on the right of way hereby granted.

5. The State Highway Commission shall at all times allow officials and employees of the Bureau of Biological Survey of the United States Department of Agriculture, when in the discharge of their official duties, free and unobstructed access to any portion of the said right of way.

6. This right of way is granted with the understanding, and upon the express condition, that the State Highway Commission shall assume full responsibility and liability for any and all damages or injury to property or person of whatever kind that may occur by reason of, or be in any wise attributable to, the construction, use, and maintenance of said highway over the land of the United States under authority of this permit.

7. The State Highway Commission shall take such steps as may be necessary to protect the springs and water therefrom, and to carry the water under the highway for use at the administrative site.

If at any time the need for the above described right of way or any portion thereof for highway purposes shall no longer exist, notice of the fact shall be given by the State Highway Commission to the Secretary of Agriculture, and such right of way, or portion thereof, shall immediately revert to its present status as a portion of the National Bison Range.

Witness my hand and seal of the United States Department of Agriculture this 21st day of March, 1931.

C. F. Marvin

Acting Secretary

(SEAL)

FWS-000113

Filed
for
County
Refugee



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Land Office
1245 North 29th Street
Billings, Montana

Right-of-Way
Serial Number
MONTANA 031190

DECISION

State Highway Commission
Helena, Montana

Right-of-Way

RIGHT-OF-WAY APPROVED

Your right-of-way application and map for a right-of-way have been examined, found to conform to the appropriate regulations, and approved pursuant to the Act, regulations, and conditions as set forth below:

Name of Right-of-Way: Project S178(3)

Type: Federal Aid Highway

Act: November 9, 1921(42 Stat. 212)

Map filed: October 3, 1958

Regulations: 43 CFR Section 244

Expiration date: Indeterminate

Annual Rental: None

Length^{on} of Public Lands: Refer to Map

Width: Refer to Map

Lands Affected

T. 19 N., R. 21 W., P.M., Montana

Section 27: S $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$

Right-of-way subject to the following:

- (1) All valid existing rights.
- (2) All regulations including terms and conditions of Sec. 244.9 43 CFR.
- (3) That the width of right-of-way (70') east of the center line and between Stations 0+00 and 2+50 as shown on map, is required for connection of an adequate connection with the Bison Range entrance road and will not be used as a source of material (borrow pit) for the construction.
- (4) The Highway Department will reconstruct and resurface as much of the Bison Range headquarters entrance road as necessary to provide adequate access, of reasonable and uniform grade, to the highway. In the performance of any necessary reconstruction and resurfacing all due caution will be exercised to preclude damage to or interference with existing recognition signs.
- (5) The Highway Commission will construct, entirely at its expense, fences along the easterly side of the right-of-way to replace existing fences to be removed from the right-of-way requested. Removal of the existing fences will be by the Highway Commission. Fences constructed by the Highway Commission will be to standards equal or superior to those of existing fences and will be joined to existing fence in such manner that the resulting fence will be uniform in strength and appearance.

Merlin J. Chadsey

Merlin J. Chadsey
Acting Manager

1. Original
2. State Highway Commission
3. Bureau of Land Management
4. County
5. Copy of map
6. Copy of Public Roads



Leaky *sp*

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Land Office
1245 North 29th Street
Billings, Montana

IN REPLY REFER TO:

Right of Way
MONTANA 031190
Attn: 940

N

September 22, 1959

Certified Mail
Return Receipt Requested

DECISION

Montana State Highway Commission
:
:
Helena, Montana
:
:
:
Right of Way
Project S 178 (3)

Right of Way Amended

Subsequent to decision dated November 5, 1958, which granted the Montana Highway Commission a right of way under the Act of November 9, 1921 (42 Stat. 212) to cross the S $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 27, T. 19 N., R. 21 W., P.M., Montana, the Bureau of Sport Fisheries and Wildlife requested that additional stipulations be included in the right of way. The State Highway Commission was informed of these additional stipulations by a copy of the Bureau of Sport Fisheries and Wildlife memorandum, dated November 25, 1958.

No objections have been filed by the State Highway Commission. Therefore, the decision of November 5, 1958, is amended to include the following stipulations:

6. The permittee shall not disturb, obliterate, or destroy any land boundary or survey monument unless the permittee has requested and received from the Regional Director, Bureau of Sport Fisheries and Wildlife, approval of measures taken to perpetuate the location of aforesaid monuments.
7. The permittee agrees to formally abandon that part of the old right of way within the National Bison Range lying outside the new right of way.
8. Notwithstanding the provisions of 43 CFR 244.54(d), the permittee agrees that the right of way shall be used for the construction, maintenance and development of a highway only, and that no other facilities of whatsoever nature shall be placed or permitted to be placed within such right of way except under such terms and conditions as may be prescribed by the Director of the Bureau of Sport Fisheries and Wildlife.



This decision becomes final 30 days from its receipt unless you appeal it to the Director, Bureau of Land Management. If an appeal is taken, there must be strict compliance with the regulations in Part 221, Title 43 of the Federal Regulations (See enclosed Form 4-1364).

(Sgd) Merlin J. Chadsey

Merlin J. Chadsey
Chief, Land Adjudication

Enclosure
Form 4-1364

Distributions:

Original: File
Copy (1): State Highway Commission
Copy (3): F & W Service
Copy (1): Missoula DO
Copy (3): Bureau of Public Roads

W. Alderson
STATE OF MONTANA

DEPARTMENT OF

FISH AND GAME

Helena, Montana
May 21, 1973



Mr. Burton W. Rounds
Area Manager
Bureau of Sport Fisheries & Wildlife
711 Central Avenue
Billings, Montana 59102

Dear Mr. Rounds:

I have located three historic sites which were at one time located on the boundary, or within the U L Bend National Wildlife Refuge. The sites are marked on the enclosed map and are undoubtedly underwater now from the Fort Peck Reservoir. The sites were:

Fort Hawley, c. 1866-68, constructed by the "Northwestern Fur Company of St. Paul," a complex transportation and contracting firm. Approximate location: Sec. 10, Township 21 North, Range 28 East.

Fort Andrews, c. 1862. Approximate location: Section 10, Township 21 North, Range 28 East.

Camp at the Musselshell, c. 1868-1874. A military, seasonal, camp used to guard trails and supply shipments up the Missouri River in the period 1870-1874.

✓ The Moise National Bison Range, while having no historic sites within, is itself worthy of being designated a historic site, having been created in 1908 by President T. Roosevelt to help preserve the bison.

Sincerely,

Ashley C. Roberts
Ashley C. Roberts, Administrator
Recreation and Parks Division

ACR:op
Encls.

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FWS-000117



United States Department of the Interior

BUREAU OF OUTDOOR RECREATION

MID-CONTINENT REGION
BUILDING 41, DENVER FEDERAL CENTER
DENVER, COLORADO 80225

IN REPLY REFER TO:

D72

MAY 10 1973

Memorandum

To: Area Manager, Bureau of Sport Fisheries and Wildlife,
Billings, Montana

From: Manager, State Operations Division

Subject: Recreation Information for Wilderness Studies

We have coordinated your request for recreation information for wilderness studies, dated April 24, 1973, with Don L. Brown, Administrator of Planning Division, Department of Fish and Game, Lindfield Hall, Montana State University, Bozeman, Montana 59715. We frequently refer requests such as yours directly to the State involved as they have more detailed and up-to-date information concerning local situations than we maintain in our office.

Enclosed is a copy of the Bureau of Outdoor Recreation Classification System in response to your request No. 2.

Also enclosed is a brief bibliography (list of publications) that includes some publications relating to research in outdoor recreation and a listing of outdoor recreation agencies in the fifteen states affiliated with the Mid-America Council of State Outdoor Recreation Planners.

Direct telephone contact to Don Brown may be necessary to meet the deadline on National Bison Range. (FIS 406-587-4511 --994-4241).

If we can be of any further assistance to you in this or other matters, please do not hesitate to contact us.

for Glenn F. Tiedt
Glenn F. Tiedt

Enclosures

711 Central Avenue
Billings, Montana 59102

~~SECRET~~

ATTENTION:

To: Regional Director, ~~Department of the Interior, Bureau of Land Management~~

From: Area Manager

Subject: Recreation Information for Wilderness Studies

Re: Investigating the suitability for wilderness designation of four federal wildlife refuges in Montana. The refuges being studied are:

- 1) National Bison Range, Lake and Sanders Counties
- 2) Medicine Lake National Wildlife Refuge, Roosevelt and Sheridan Counties
- 3) Towle's National Wildlife Refuge, Phillips County
- 4) WL Bend National Wildlife Refuge, Phillips County

Will you please provide us with information for the above areas concerning the outdoor recreation aspects of the studies under the Wilderness Act with special regard to 1) relationships to inventories of outdoor recreation needs and resources; 2) the system for classification of outdoor recreation resources; 3) comprehensive outdoor recreation plans; 4) research relating to outdoor recreation; and 5) liaison with outdoor recreation agencies and organizations.

To help us meet our deadlines, we would like to have your input for the areas by the following dates:

- National Bison Range - May 14
- Medicine Lake National Wildlife Refuge - June 13
- Towle's National Wildlife Refuge - July 16
- WL Bend National Wildlife Refuge - August 13

Thank you.

/S/ Burton W. Rounds

Burton W. Rounds

JMartin:BW.Rounds:ns

Surname
<i>Burton W. Rounds</i>
FWS-000119

711 Central Avenue
Billings, Montana 59102

April 24, 1973

Mr. Ashley C. Roberts
Chief, Recreation and Parks Division
Montana Department of Fish & Game
Michell Building
Billings, Montana 59601

Dear Mr. Roberts:

The Wilderness Act of 1964 instructed the Bureau of Sport Fisheries and Wildlife to evaluate all roadless areas of 5,000 acres or more and all roadless islands within the National Wildlife Refuge System. We are currently investigating the National Bison Range, Medicine Lake, Dismal, and Bl-Bend National Wildlife Refuges.

As part of this evaluation, all historic and archaeological sites will be identified. If your records contain any sites within the above named refuges, we would appreciate your description and location. Maps of the subject refuges are enclosed.

Since the wilderness study report must reach our Washington Office in June, we need your input by May 14. Thank you for your cooperation.

Sincerely,

/S/ **Burton W. Rounds**

Burton W. Rounds
Area Manager

Enclosures

JMartins

Surname
<i>J. Martins</i>
<i>10/1/73</i>

FWS-000120

HERBARIUM INVENTORY, FEBRUARY, 1965

EQUISETACEAE

Equisetum arvense L. Horsetail or Scouring Rush

CUPRESSACEAE

Juniperus scopulorum Sarg. Rocky Mountain Juniper

POACEAE

Agropyron smithii Rydb. Western Wheatgrass

Agropyron spicatum (Pursh.) Scribn. & Smith.

Bluebunch Wheatgrass

Agrostis alba L.

Redtop

Alopecurus aequalis Sobol.

Short-awn Foxtail

Apera interrupta (L.) Beauv.

No common name (2 specimens)

Aristida longiseta Steud.

Red Three-awn Grass

Bromus brizaeformis Risch. & Mey. Rattlesnake Chess

Bromus japonicus Thumb.

Japanese Chess

Bromus marginatus Nees.

Mountain Bromegrass

Bromus mollis L.

Soft Chess

Bromus tectorum L.

Cheatgrass or Downy Chess

Buchloe dactyloides (Nutt.) Engelm.

Buffalo Grass

Deschampsia elongata (Hook.) Munro.

Slender Hairgrass

Distichlis stricta (Torr.) Rydb. Desert Saltgrass

Elymus cinereus Scribn. & Merr. Inland Giant Wild Rye

Festuca arundinacea Schreb. Alta Fescue

POACEAE (Cont.)

<u>Festuca idahoensis</u> Elmer.	Idaho Fescue (2 specimens)
<u>Festuca octiflora</u> Walt.	Six Weeks Fescue
<u>Festuca ovina</u> L.	Hard or Sheep Fescue
<u>Festuca scabrella</u> Torr.	Rough Fescue
<u>Glyceria stricta</u> (Lam.) Hitch.	Fowl Managrass
<u>Hordeum jubatum</u> L.	Foxtail Barley
<u>Hordeum pusillum</u> Nutt.	Little Barley
<u>Koeleria cristata</u> (L.) Pers.	Junegrass
<u>Phleum pratense</u> L.	Timothy
<u>Poa annua</u> L.	Annual Bluegrass
<u>Poa bulbosa</u> L.	Bulbous Bluegrass
<u>Poa compressa</u> L.	Canada Bluegrass (2 specimens)
<u>Poa junciflora</u> Scribn.	Alkali Bluegrass
<u>Poa pratensis</u> L.	Kentucky Bluegrass
<u>Poa secunda</u> Presl.	Sandberg Bluegrass
<u>Puccinellia airoides</u> (Nutt.) Wats. & Coult.	Nuttall Alkaligrass
<u>Stipa columbiana</u> Macoun.	Columbia Needlegrass
<u>Stipa comata</u> Trin. & Rupr.	Needle and Thread

CYPERACEAE

<u>Eleocharis macrostachya</u> Britt.	Common Spikerush
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LILIACEAE

<u>Brodiaea douglasii</u> S. Wats.	Wild Hyacinth
<u>Erythronium grandiflorum</u> Pursh.	Dogtooth Lily
<u>Fritillaria pudica</u> (Pursh.) Spreng.	Yellow Bell

LILIACEAE (Cont.)

Smilacina stellata (L.) Desf.

False Solomon's Seal

Zygadenus venosus S. Wats.

Death Camas

ORCHIDACEAE

Spiranthes romanzoffiana Cham.

Hooded Ladies' Tresses

BETULACEAE

Betula glandulosa Michx.

Bog or Scrub Birch

SANTALACEAE

Comandra umbellata Nutt.

Bastard Toadflax

POLYGONACEAE

Eriogonum heracleoides Nutt.

Wyeth Eriogonum

Eriogonum umbellatum Torr.

Sulphur Eriogonum

Rumex acetosella L.

Sheep Sorrel

PORTULACACEAE

Claytonia linearis Dougl.

Spring Beauty

Lewisia rediviva Pursh.

Bitterroot

CARYOPHYLLACEAE

Arenaria serpyllifolia L.

Thyme-leaved Sandwort

Cerastium arvense L.

Field Chickweed

Dianthus armeria L.

Pink

Holosteum umbellatum L.

No common name

RANUNCULACEAE

Anemone patens L.

Pasque Flower

Clematis linguaticifolia Nutt.

Western White Clematis

Delphinium bicolor Nutt.

Low Larkspur

Ranunculus glaberrimus Hook.

Early or Sagebrush Buttercup

410
630
2/30

BRASSICACEAE

<u>Arabis holboellii</u> Horn.	Holboel Rock Cress
<u>Arabis nuttallii</u> Robin.	Rock Cress
<u>Arabis</u> sp.	
<u>Capsella bursa-pastoris</u> (L.) Medic.	Shepard's Purse
<u>Draba nemorosa</u> L.	Woods Draba
<u>Draba verna</u> L.	Spring Draba
<u>Erysimum asperum</u> (Nutt.) DC.	Plains Wallflower
<u>Lepidium perfoliatum</u> L.	Clasping Pepperweed
<u>Rorippa nasturtium-aquaticum</u> (L.) Schinz. & Thell.	Watercress
<u>Thlaspi arvense</u> L.	Fanweed

CAPPARIDACEAE

<u>Cleome serrulata</u> Push.	Western Bee Plant
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CRAAULACEAE

<u>Sedum douglasii</u> Hook.	Stonecup
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SAXIFRAGACEAE

<u>Heuchera flabellifolia</u> Rydb.	Allumroot
<u>Lithophragma bulbiferum</u> Rydb.	Bulbous Woodslandtar
<u>Ribes cereum</u> Doug.	Squaw Currant
<u>Saxifraga columbiana</u> Piper.	Columbian Saxifrage

ROSACEAE

<u>Amelanchier alnifolia</u> Nutt.	Service Berry
<u>Fragaria virginiana</u> Duch.	Wild Strawberry
<u>Geum triflorum</u> Pursh.	Prairie Smoke

ROSACEAE (Cont.)

<u>Potentilla flabelliformis</u> Hook.	Fanleaf Cinquefoil
<u>Potentilla glandulosa</u> Lindl.	Gland Cinquefoil
<u>Prunus virginiana</u> L.	Chokecherry
<u>Rosa woodsii</u> Lindl.	Woods Rose

FABACEAE

<u>Astragalus agrestis</u> Dougl.	Purple Milkvetch
<u>Astragalus inflexus</u> Dougl.	Milk Vetch
<u>Glycyrrhiza lepidota</u> (Nutt.) Pursh.	Wild Licorice
<u>Lotus corniculatus</u> L.	Birdsfoot Trefoil

GERANIACEAE

<u>Erodium cicutarium</u> (L.) Her.	Storkbill
<u>Geranium viscosissimum</u> Fisch. & Mey.	Sticky Geranium

ACERACEAE

<u>Acer glabrum</u> Torr.	Mountain or Dwarf Maple
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BALSAMINACEAE

<u>Impatiens esalcarata</u> Blankenship.	Spurless Touch-me-not
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VIOLACEAE

<u>Viola adunca</u> J. E. Sm.	Western Violet
<u>Viola praemorsa</u> Dougl.	Canary Violet

ONAGRACEAE

<u>Clarkia pulchella</u> Pursh.	Fairy Fan or Deer Horn
<u>Epilobium adenocaulon</u> Haus.	Northern Willow-herb
<u>Epilobium angustifolium</u> L.	Fireweed

ONAGRACEAE (Cont.)

<u>Epilobium paniculatum</u> Nutt.	Panicked Willow-herb
<u>Gaura coccinea</u> Pursh.	Scarlet Gaura
<u>Oenothera</u> ^{biennis L.} <u>rydbergii</u> House.	Rydberg's ^{Evening} Primrose

APIACEAE

<u>Lomatium cusickii</u> (S. Wats.) C & R.	Cusick's Lomatium
<u>Lomatium montanum</u> C. & R.	Mountain Lomatium
<u>Lomatium triternatum</u> (Pursh.) C. & R.	Nineleaf Lomatium

PRIMULACEAE

<u>Dodecatheon conjugens</u> Greene.	Shooting Star
<u>Dodecatheon cusickii</u> Greene.	Cusick's Shooting Star
<u>Lysimachia ciliata</u> L.	Loosestrife

ASCLEPIADACEAE

<u>Asclepias speciosa</u> Torr.	Showy Milkweed
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POLEMONIACEAE

<u>Collomia linearis</u> Nutt.	Narrow Leaved Collomia
<u>Polemonium pulcherrimum</u> Hook.	Showy Polemonium

HYDROPHYLLACEAE

<u>Phacelia leucophylla</u> Torr.	Scorpion Weed
<u>Phacelia linearis</u> (Pursh.) Holz.	Phacelia

BORAGINACEAE

<u>Lithospermum ruderale</u> Dougl.	Hardseed or Wooly Groundsel
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VERBENACEAE

<u>Verbena hastata</u> L.	Blue or Swamp Verbena
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LAMIACEAE

<u>Mentha arvensis</u> L.	Field Mint
<u>Monarda fistulosa</u> L.	Beebalm or Horse Mint (2 specimens)
<u>Prunella vulgaris</u> L.	Common Selfheal
<u>Scutellaria galericulata</u> L.	Marsh Skullcap

SOLANACEAE

<u>Solanum dulcamara</u> L.	Climbing Nightshade
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SCROPHULARIACEAE

<u>Besseyia rubra</u> (Dougl.) Rydb.	Red Kitten-tails
<u>Castilleja lutescens</u> (Greene) Rydb.	Yellow Paintbrush
<u>Castilleja miniata</u> Dougl.	Scarlet or Indian Paintbrush
<u>Collinsia parviflora</u> Dougl.	Blue-eyed Mary
<u>Linaria vulgaris</u> Hill.	Butter and Eggs
<u>Mimulus guttatus</u> Fischer.	Monkey Flower
<u>Orthocarpus tenuifolius</u> (Pursh.) Benth.	Owl Clover
<u>Penstemon albertinus</u> Greene.	Alberta Penstemon
<u>Penstemon confertus</u> Dougl.	Yellow Penstemon
<u>Penstemon procerus</u> Dougl.	Littleleaf Penstemon
<u>Verbascum blattaria</u> L.	Moth Mullein
<u>Veronica americana</u> Schwein.	American Speedwell

PLANTAGINACEAE

<u>Plantago lanceolata</u> L.	Buckhorn Plantain
<u>Plantago purshii</u> R. & S.	Wooly Plantain

RUBIACEAE

Galium boreale L.

Bedstraw

CAPRIFOLIACEAE

Symphoricarpos occidentalis Hook.

Snowberry or Coralberry

CAMPANULACEAE

Campanula rotundifolia L.

Harebell

~~Tridax~~ perfoliata

'Venus' Looking-glass (no specimen)

Achillea lanulosa Nutt.

Yarrow

Anseris glauca

False Dandelion

Anaphalis margaritacea (L.) Benth. & Hook.

Pearly Everlasting

Antennaria rosea (Eat.) Greene. Rose Pussytoes

Arnica cordifolia Hook.

Arnica

Arnica soraria Greene.

Arnica

Artemisia dracunculus L.

Green Sage

Artemisia frigida Willd.

Fringed Sage

Artemisia ludoviciana Nutt.

Cudweed Sagewort

Balsamorhiza sagittata (Pursh.) Nutt.

Arrowleaf Balsamroot

Centaurea maculosa Lam.

Spotted Knapweed

Chrysopsis villosa (Pursh.) Nutt.

Golden Aster

Chrysothamnus nauseosus (Pall.) Britt.

Rabbitbrush

Erigeron compositus Pursh.

Fernleaf Fleabane

Erigeron divergens T. & G.

Spreading Fleabane

ASTERACEAE (Cont.)

<u>Caillardia aristata</u> Pursh.	Blanket Flower
<u>Grindellia squarrosa</u> (Pursh.) Donal.	
<u>Microseris albertinum?</u>	Curlycup Gumweed Hawkweed (No specimen)
<u>Lactuca pulchella</u> (Pursh.) DC.	Blue Lettuce
<u>Matricaria matricarioides</u> (Less.) Porter.	
	Pineapple Weed
<u>Senecio canus</u> Hook.	Wooly Groundsel
<u>Senecio lugens</u> Rick.	Groundsel
<u>Solidago gigantea</u> Ait.	Goldenrod
<u>Solidago missouriensis</u> Nutt.	Goldenrod
<u>Sonchus arvensis</u> L.	Sow Thistle
<u>Taraxacum eriophorum</u> Rydb.	Dandelion
n <u>Tragopogon dubius</u> Scop.	Common Salsify



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MAMMALS OF THE NATIONAL BISON RANGE

The National Bison Range is in the Flathead Valley of western Montana, 48 miles north of the city of Missoula and 30 miles south of Flathead Lake. It was established in 1908, with the aid of the American Bison Society, for the preservation and maintenance of a representative herd of American bison, or buffalo. It is one of the oldest wildlife refuges in the country.

Bison and other large mammals are restricted to the refuge by about 23 miles of heavy woven-wire fence, which surrounds the entire area of 18,541 acres. Principal habitat types are an eastern extension of the palouse prairie (wheatgrass-fescue association) and the montane forest (Douglas fir-ponderosa pine association). The latter is found only at higher elevations; the rest of the area, with the exception of the river bottoms, falls into the palouse prairie classification. The elevation on the Bison Range is from 2,585 feet above sea level at headquarters to 4,885 feet at the Highpoint Lookout, less commonly known as Red Sleep (Quil-c-e) Mountain.

In order to provide for a representative wildlife association--one typical of the natural buffalo environment--on the Bison Range, animals other than buffalo have been introduced throughout the years. Representative herds of several big game species are now present on the refuge. These include elk, mule deer, whitetail deer, bighorn sheep, and pronghorn, or antelope. All of these animals, with the exception of the bighorn, may usually be seen in the headquarters area.

Some of the most common smaller mammals are the yellow pine chipmunk, the deer mouse, the meadow vole, and the mountain vole. Less common, or seldom seen, mammals include the striped skunk, red squirrel, mountain cottontail, Columbian ground squirrel, porcupine, longtail weasel, badger, coyote, and bobcat. Along the more densely vegetated creek bottoms the vagrant shrew is very common. The muskrat is to be found in suitable backwaters and ponds, along with the less common mink and beaver. The little brown bat is often seen flying along the creeks and other suitable locations during the summer.

To reach refuge headquarters from the south, turn off Montana Highway 200 about a mile east of Dixon, and drive 5 miles north over Highway 212 to the main entrance at Moiese. Travelers from the north may turn off U.S. Highway 93 at the junction with Highway 212 about 5 miles south of Ronan.

Correspondence relating to the refuge should be addressed to the Refuge Manager, National Bison Range, Moiese, Montana 59824. Calls should be directed to (406) 644-2955 via the Charlo exchange.

The following list, representing 38 species, was prepared by refuge personnel in cooperation with the Zoology Department and Forestry School at Montana State University. It is believed that further field work will reveal the presence of additional species. The order in which the species appear and the scientific names follow Miller and Kellogg (List of North American Recent Mammals, U.S. National Museum Bulletin 205). Common names follow Burt and Grossenheider (A Field Guide to the Mammals, Houghton Mifflin Co.)

ANNOTATED LIST OF THE MAMMALS OF THE NATIONAL BISON RANGE

- Vagrant Shrew (Sorex vagrans). Abundant along stream bottoms and in moist, heavily vegetated areas. Less abundant in the montane forest belt.
- Little Brown Myotis (Myotis lucifugus). Commonly found in old buildings and attics, hollow trees, and rock ledges. Often seen flying over or near water on summer evenings.
- Long-eared Myotis (Myotis evotis). Present, but status unknown; there is a specimen from the refuge at Montana State University.
- Silver-haired Bat (Lasionycteris noctivagans). One collected in 1959, and another in 1960. Probably more common than these records would indicate.
- Whitetail Jackrabbit (Lepus townsendii). There are few, if any, jackrabbits left in this valley although they are reported as having been fairly common at one time.
- Snowshoe Hare (Lepus americanus). Quite uncommon; restricted to the Douglas fir-ponderosa pine forest.
- Mountain Cottontail (Sylvilagus nuttallii). Occasionally seen but mainly at the lower elevations.
- Yellowbelly Marmot (Marmota flaviventris). Common in suitable rocky localities, especially in the vicinity of the Snake Pit and in the clay banks along Mission Creek.
- Columbian Ground Squirrel (Citellus columbianus). Found in varying numbers in the grasslands. The species is subject to rather drastic population fluctuation. It is a favorite food of badgers.
- Yellow Pine Chipmunk (Eutamias amoenus). Common to abundant in forested, brushy, and rocky areas.
- Red Squirrel (Tamiasciurus hudsonicus). To be found in moderate numbers in the Douglas fir-ponderosa pine belt.

Northern Pocket Gopher (Thomomys talpoides). Common in some localities and scarce to absent in others.

Beaver (Castor canadensis). Occasional along Mission Creek and the Jocko River.

Deer Mouse (Peromyscus maniculatus). Abundant throughout the refuge.

Bushtail Woodrat (Neotoma cinerea). Found occasionally in old buildings and rocky areas.

Meadow Vole (Microtus pennsylvanicus). Common in grasslands at lower elevations. The population of this species fluctuates quite widely on a 3-to 5-year cycle.

Mountain Vole (Microtus montanus). Common in grasslands, usually at higher elevations than M. pennsylvanicus. This species exhibits a 3-to 5-year population cycle similar to that of M. pennsylvanicus.

Longtail Vole (Microtus longicaudus). Found at higher elevations, mainly in damp wooded habitat.

Muskrat (Ondatra zibethicus). Fairly common in quieter waters along the main watercourses and also in some of the ponds.

House Mouse (Mus musculus). Common in and around human habitations.

Porcupine (Erethizon dorsatum). Seen occasionally in timbered areas and creek bottoms.

Coyote (Canis latrans). Present throughout the refuge in limited numbers.

Black Bear (Euarctos americanus). Not a year-round resident of the Bison Range although generally recorded at least one or twice each year. At times, they feed heavily on thornapple and chokecherry fruit.

Raccoon (Procyon lotor). Presently uncommon, but appears to be increasing.

Shorttail Weasel (Mustela erminea). Apparently to be found throughout the refuge, although they are probably rather scarce.

Longtail Weasel (Mustela frenata). Found in limited numbers throughout the refuge; probably more common than erminea.

Mink (Mustela vison). Fairly common along the main water courses.

Striped Skunk (Mephitis mephitis). Fairly common at lower elevations but appears to be subject to population fluctuations.

Badger (Taxidea taxus). Found occasionally in the prairie association where rodents are common.

Mountain Lion (Felis concolor). Rare at best, and then only a transient. Listed here by virtue of one set of tracks positively identified as that of a mountain lion.

Bobcat (Lynx rufus). Found in limited numbers in the more rocky areas and in the creek bottoms.

Elk (Cervus canadensis). Found mainly in the Douglas fir-ponderosa pine forested areas; a herd of about 75 animals is maintained. These Rocky Mountain elk were introduced from Idaho and Wyoming during the years 1911-1916.

Mule Deer (Odocoileus hemionus). These animals were introduced into the Bison Range from Yellowstone Park in 1918. The present herd is maintained at about 200 to 300 animals, which range at higher elevations.

Whitetail Deer (Odocoileus virginianus). Although whitetail deer habitat is somewhat limited, the herd is estimated to vary from 150 to 200 animals. These deer were first introduced to the refuge in 1910, a gift from the city of Missoula.

Moose (Alces alces). Although moose are not uncommon to western Montana, there is only one record for the refuge. This was a single cow that managed to find its way into the refuge in August 1958. It was seen frequently for about 2 or 3 weeks after which it apparently found its way out again.

Pronghorn, or Antelope (Antilocapra americana). Pronghorns were first introduced in 1910 but apparently did not prosper; the last of these animals disappeared in 1926. The present herd is the result of introductions which were begun in 1951 for the purpose of conducting a research project by Montana State University. This herd is maintained at about 75 head.

Bison, or Buffalo (Bison bison). Bison were introduced in 1909. The present herd is kept at between 300 and 500 head, depending upon range conditions and the season of the year.

Bighorn Sheep (Ovis canadensis). Introduced from Banff National Park, Alberta, in 1922. The herd is maintained at about 50 animals. The bighorns frequent the higher and rockier country, mainly on the south side of the refuge.



UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

Refuge Leaflet 302-R2 • March 1969





BIRDS OF THE NATIONAL BISON RANGE

The National Bison Range, located in the Flathead Valley of western Montana in Sanders and Lake Counties, is 48 miles north of Missoula. Established in 1908, this area is maintained for the protection and preservation of a representative herd of American bison. It is one of the oldest wildlife sanctuaries in the country.

The refuge is nestled between the Cabinet Mountains on the west and the majestic Mission Range on the east. Its 18,541 acres of natural grassland and montane forest are surrounded entirely by a heavy game-proof fence. The preserve is primarily an upland area, with elevations from 2,585 feet above sea level to 4,885 feet at the highest point. Douglas fir and western yellow pine grow on the higher parts of the area and provide habitat for nuthatches, crossbills, western tanagers, Clark's nutcrackers, Lewis' woodpeckers, blue grouse, and many other forest species. One spectacular bird that is relatively common here is the golden eagle. This species is often seen during trips over the higher sections of the Range.

In the bottomlands, along Mission Creek and the Jocko River, such trees and shrubs as juniper, aspen, alder, birch, and willow provide habitat for various warblers, thrushes, swallows, woodpeckers, flycatchers, and orioles. In the open grasslands that cover much of the refuge are found such species as the vesper sparrow, rock wren, western meadowlark, horned lark, short-eared owl, and many hawks, including the marsh, red-tailed, and rough-legged, and the prairie falcon.

Although the refuge does not support any extensive marsh areas, it contains a few potholes and swampy areas formed by the backwaters of Mission Creek. These are large enough to provide nesting places for several species of waterfowl, including mallards, green-winged teal, goldeneyes, and common mergansers. During the fall and winter months, there are large concentrations of mallards along Mission Creek, and occasionally a few Canada geese stop here.

Most persons visiting the Bison Range will be watching for the large mammals for which the area is famous. The herd of American bison or buffaloes is kept below 500 head. In addition, there are 75 elk, about 200 mule deer, 150 to 200 whitetail deer, 50 bighorn sheep, and about 75 antelope. These herd limitations are based upon the normal carrying capacity of the range. Some of these animals can usually be seen in the exhibition pasture near headquarters.



UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE



FWS-000134

Part of the Bison Range is visible from U.S. Highway 93. To reach the headquarters, not far from the junction of U.S. Highway 93 and Montana Highway 200, turn off 200 about a mile east of Dixon and drive 5 miles north over an oiled road, State Highway 212, to the main entrance at Moiese. Correspondence about a visit should be addressed to the Refuge Manager, National Bison Range, Moiese, Montana 59824, or you can telephone the refuge through the Charlo exchange, (406) 644-2955.

The following list of birds that are found here contains 186 species that have been observed by various individuals since the establishment of the refuge in 1908. Species nesting locally are preceded by an asterisk. Season and abundance symbols are defined as follows:

S - March-May	a - abundant
S - June-August	c - common
F - September-November	u - uncommon
W - December-February	o - occasional
	r - rare

- - - - -

	<u>S</u> <u>S</u> <u>F</u> <u>W</u>		<u>S</u> <u>S</u> <u>F</u> <u>W</u>
Red-necked Grebe	r r r	*Hooded Merganser	u o u o
Eared Grebe	r r r	*Common Merganser	c u c c
Western Grebe	r r	Turkey Vulture	o
Pied-billed Grebe	r r r	Goshawk	r r r r
Great Blue Heron	c c c u	Sharp-shinned Hawk	o o o
American Bittern	u u u	Cooper's Hawk	o o o
Whistling Swan	o o o	*Red-tailed Hawk	c c c
*Canada Goose	c u c u	Swainson's Hawk	u u u
Snow Goose	u u	Rough-legged Hawk	c c c
*Mallard	c c a a	Ferruginous Hawk	u u u
*Gadwall	o o o	*Golden Eagle	c c c c
*Pintail	c u c o	Bald Eagle	o o o
*Green-winged Teal	c c c u	*Marsh Hawk	c c c u
*Blue-winged Teal	c c u	Osprey	u u u
Cinnamon Teal	u u u	Prairie Falcon	u u u u
American Widgeon	u u c	Peregrine Falcon	o o
Shoveler	o o o	Pigeon Hawk	o o
*Wood Duck	o o o	*Sparrow Hawk	a a a u
Redhead	o o o	*Blue Grouse	u u u u
Ring-necked Duck	r r	*Ruffed Grouse	o o o o
Canvasback	r r	*Ring-necked Pheasant	c c a c
Lesser Scaup	r r	*Chukar	c c c c
*Common Goldeneye	c o c c	*Gray Partridge	c c c c
Barrow's Goldeneye	u u	Virginia Rail	r r r
Bufflehead	r r	*Sora	o o o
Ruddy Duck	r r r	*American Coot	u u u o

	<u>S</u> <u>S</u> <u>F</u> <u>W</u>		<u>S</u> <u>S</u> <u>F</u> <u>W</u>
*Killdeer	c c c o	Traill's Flycatcher	u u
Semipalmated Plover	o	Western Flycatcher	u u
Black-bellied Plover	o o	*Western Wood Pewee	u u
Common Snipe	c u c o	Horned Lark	u u u c
Long-billed Curlew	r r r	*Violet-green Swallow	c c u
*Spotted Sandpiper	c c c	*Tree Swallow	a a c
Solitary Sandpiper	u u	*Bank Swallow	a a c
Willet	r r r	*Rough-winged Swallow	c c u
Greater Yellowlegs	u u u	*Barn Swallow	c c c
Lesser Yellowlegs	o o o	*Cliff Swallow	c a a
Dowitcher	o o	Gray Jay	r
Semipalmated Sandpiper	o o	Steller's Jay	o
Marbled Godwit	r	*Black-billed Magpie	a a a a
American Avocet	o o	Common Raven	o o u u
*Wilson's Phalarope	u c	*Common Crow	c u c
Northern Phalarope	o	*Clark's Nutcracker	c c c c
Ring-billed Gull	o o	*Black-capped Chickadee	c c c c
Forster's Tern	r r	Mountain Chickadee	c u c c
Common Tern	o o o	White-breasted Nuthatch	o o o o
Black Tern	o u u	*Red-breasted Nuthatch	c u c c
*Mourning Dove	a a a u	*Pigmy Nuthatch	c u c c
Black-billed Cuckoo	r	Brown Creeper	u u u
Screech Owl	o o o o	*Dipper	u u u u
*Great Horned Owl	c c c c	*House Wren	c c c
Pygmy Owl	o o o	Long-billed Marsh Wren	o o
Burrowing Owl	o o o	*Rock Wren	c c c
Long-eared Owl	u u	Catbird	o o o
*Short-eared Owl	c u u c	*Robin	a a a o
Saw-whet Owl	o	Varied Thrush	r
*Common Nighthawk	c a	Swainson's Thrush	o
Black Swift	u u u	Veery	o o o o
Vaux's Swift	r	Mountain Bluebird	c u c
Black-chinned Hummingbird	r	Townsend's Solitaire	u o c c
Broad-tailed Hummingbird	r	Golden-crowned Kinglet	o
Rufous Hummingbird	u u	*Ruby-crowned Kinglet	c c c
Calliope Hummingbird	o o	Water Pipit	u c
*Belted Kingfisher	u u u o	Bohemian Waxwing	c c a
*Red-shafted Flicker	c c c o	*Cedar Waxwing	c c u
Pileated Woodpecker	o o o o	Northern Shrike	o u u
*Lewis' Woodpecker	c c u	*Starling	a a a u
*Yellow-bellied Sapsucker	c c c	Solitary Vireo	r
*Hairy Woodpecker	c c c u	*Red-eyed Vireo	c c u
*Downy Woodpecker	c c c u	*Warbling Vireo	c c u
*Eastern Kingbird	c c	Orange-crowned Warbler	o o
*Western Kingbird	c c	*Yellow Warbler	c c u
Say's Phoebe	r r r	*Audubon's Warbler	c c u

	<u>S</u> <u>S</u> <u>F</u> <u>W</u>		<u>S</u> <u>S</u> <u>F</u> <u>W</u>
Northern Waterthrush	o	Hoary Redpoll	o o
*MacGillivray's Warbler	c c u	Common Redpoll	u u
*Yellowthroat	c c u	Pine Siskin	u u u
Yellow-breasted Chat	u u	*American Goldfinch	c c c
Wilson's Warbler	o o	*Red Crossbill	u c u u
American Redstart	u u	White-winged Crossbill	r
*House Sparrow	c c c c	*Rufous-sided Towhee	c c c
Bobolink	r	Lark Bunting	r
*Western Meadowlark	a a a o	*Savannah Sparrow	u u
Yellow-headed Blackbird	o o o	*Grasshopper Sparrow	c c
*Redwinged Blackbird	a a c o	*Vesper Sparrow	c c c
*Bullock's Oriole	c c	Lark Sparrow	u
*Brewer's Blackbird	a a a	Slate-colored Junco	o o o
Brown-headed Cowbird	r r	*Oregon Junco	c c c c
*Western Tanager	c c u	Tree Sparrow	c
*Lazuli Bunting	c c	*Chipping Sparrow	c c u
Evening Grosbeak	u o c c	White-crowned Sparrow	c c c
Cassin's Finch	u	Fox Sparrow	o
Black-headed Grosbeak	o o	Lincoln's Sparrow	u
Pine Grosbeak	r o	*Song Sparrow	a a a u
Gray-crowned Rosy Finch	c c c	Snow Bunting	o u o

T

A Summary Outline:
1969 Archaeological Study of the
National Bison Range, Moiese, Montana

During the summer of 1969, Cecil D. Barnier, an anthropology major at the University of Montana, was hired under the Federal Work Study Program to conduct a preliminary archaeological survey of the National Bison Range. Mr. Barnier was under direction of the University of Montana Statewide Archaeological Survey.

The purpose of the project was to locate and record all archaeological sites within the boundaries of the refuge. Recommendations were also to be made concerning the protection and preservation or salvage of those sites located. A brief summary of the study follows.

The National Bison Range lies in the Flathead Valley near the heart of the vast western Montana region that was controlled during prehistoric times by Salishan and Kootenai speaking peoples. Although little is known of the archaeology in the area, there is some evidence to suggest occupation over a considerable length of time. Small leaf-shaped projectile points are suggestive of Plains artifact types dating from 2,000 to 4,000 B.C., widely dispersed in the Flathead Valley. One "Cascade type" blade or projectile point and the center section of a parallel oblique flaked blade have been found at MacDonald Lake some 10 air miles from the refuge. Elsewhere in Montana and Wyoming,

these two artifact types have been radiocarbon dated at 5,000 to 7,000 B.C. The age of those sites found on the Bison Range, however, fall much later in time.

Of the seven sites found on the refuge, three are possible eagle catching pits and two were occupation sites (campsites). Two placer mining sites were also located.

The small number of occupation sites found is probably due to two factors. First, camas, the root of which was a staple food of the Salish and Kootenai Indians, is not present in this section of the Flathead Valley. The lack of camas probably resulting in much lighter use of the area correlates with the type of sites found on the Bison Range. Here the scarcity of cultural debris and small scale of the sites suggest overnight stops by hunting or traveling parties, rather than longer stays such as were required for the collecting and preparation of the camas root. The second reason for the scarcity of located habitation sites is the extremely lush grass cover of the refuge. Since the method of survey employed was strictly surface reconnaissance, it is difficult to say that all sites were located because forage and grass cover have the ground well protected and hidden.

Among the more interesting sites are the several "pits" about 4 ft. in diameter and 3 1/2 ft. deep, located in the slopes near the top of Red Sleep Mountain. This

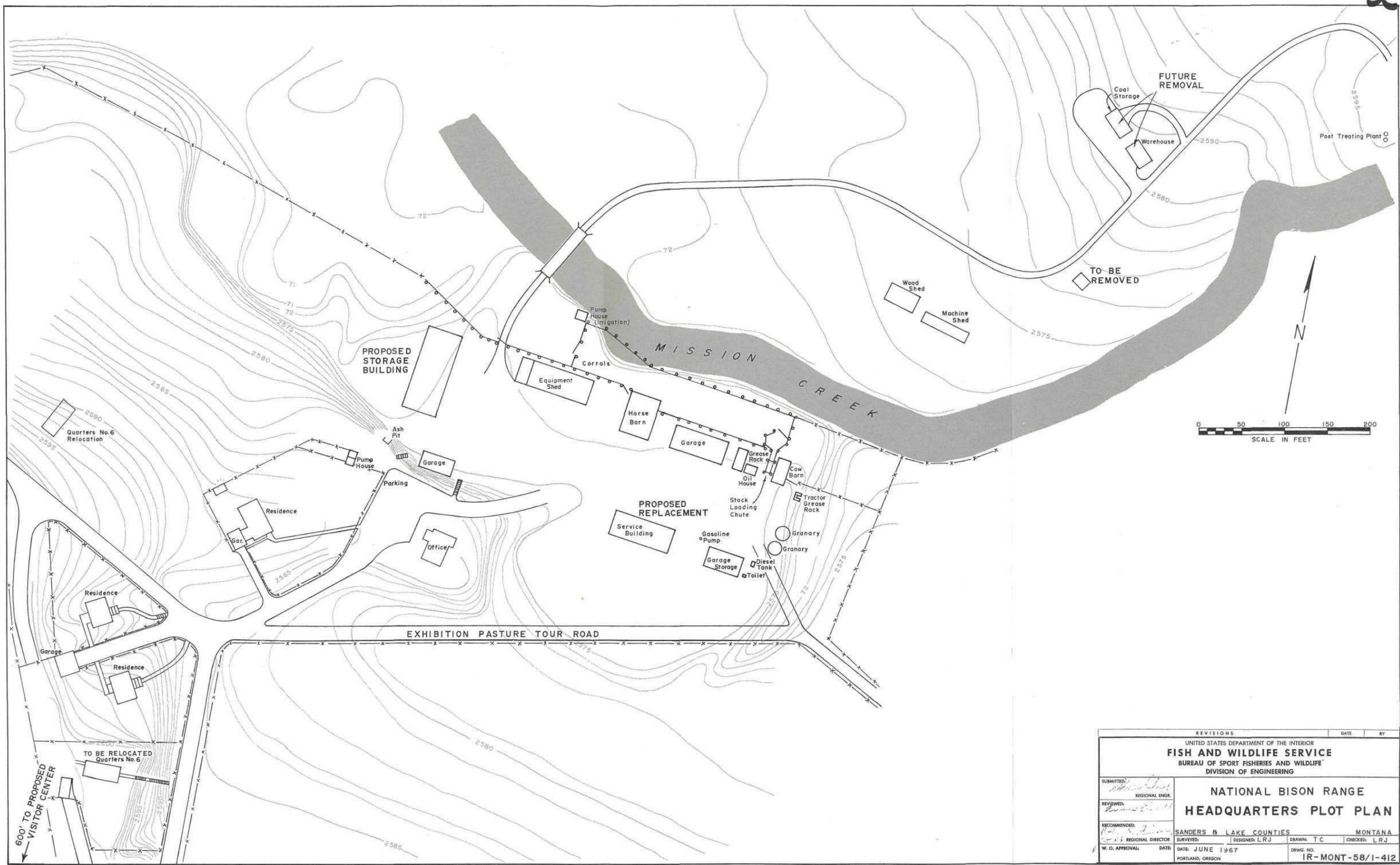
mountain is the highest point of elevation on the refuge. Although more research must be done before any conclusive statement can be made, it is supposed that these sites were used by the Indians to catch eagles. In catching eagles, an Indian would place meat on the lip of the pit, crouch within it, and cover himself with grass or shrubbery. An eagle alighting to get the bait was grabbed, dragged into the pit and killed.

Moving now into the realm of historic archaeology, two apparent placer mining deposits were found on the Bison Range -- one at the mouth of Triskey Creek and at the mouth of Elk Creek. Again, more research needs to be done, but cursory evidence suggests that the deposits are remains of gold mine operations sometime close to the turn of the century. The disturbed area is small compared to some placer operations, but is large enough to suggest that some amount of wealth has been removed from the area.

A far more complete report is presently being prepared for publication. This final report will be submitted to the Bison Ranger Manager for approval before being published in a nationally distributed anthropological journal.

The administrative personnel of the National Bison Range have taken a pioneering step as far as Montana is concerned. Other than Yellowstone National Park, no other park or refuge in the state has seen fit to institute a program for the protection and preservation of

archaeological sites within its boundaries. It can only
be hoped that others will follow the example set by Moiese.



REVISIONS		DATE	BY
UNITED STATES DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE BUREAU OF SPORT FISHERIES AND WILDLIFE DIVISION OF ENGINEERING			
NATIONAL BISON RANGE HEADQUARTERS PLOT PLAN		MONTANA	
SANDERS & LAKE COUNTIES		SURVEYED: LRJ	DRAWN: TC
REGIONAL DIRECTOR:		CHECKED: LRJ	DATE: JUNE 1967
W. O. APPROVAL:		DATE:	DRWG. NO. IR-MONT-58/1-412

V

NATIONAL BISON RANGE

DEVELOPMENT COST SUMMARY

BIOLOGICAL DEVELOPMENT	\$ 4,900.00
BUILDINGS	64,500.00
FENCING	100,000.00
ROADS	161,400.00
STRUCTURES AND UTILITIES	5,200.00
RECREATION DEVELOPMENT	<u>247,000.00</u>
TOTAL	\$ 583,000.00

National Bison Range
Master Plan

SUMMARY

Biological Development

Item 10 Watering Troughs \$4,900.00

Buildings

Item 7 Shop-Equipment \$38,500.00
Item 8 Storage \$26,000.00
\$64,500.00

Fencing

Item 5 Boundary & Interior \$100,000.00

Roads

Item 1 Entrance to Headquarters \$6,300.00
Item 2 Visitors Center \$22,600.00
Item 4 Tour Road \$112,200.00
Item 9 Exhibition Pasture \$20,300.00
\$161,400.00

Structures & Utilities

Item 6 Radio System \$5,200.00

Recreation Development

Item 3 Visitor Center \$247,000.00

GRAND TOTAL \$583,000.00

NATIONAL BISON RANGE

DEVELOPMENT COST ESTIMATES

September 1967

1. Entrance Road Headquarters

Seal Coat 0.75 mile
at \$6.666 per mile
E & C

\$5,000.00
1,300.00

Total

\$6,300.00

2. Entrance Road Visitor Center

0.75 mile
A Subgrade 4:1 - 22' - 4:1
Av. 2' fill'
266 c.y. per station
XD, 640 c.y. at .304
E & C

\$3,190.00
800.00
\$3,990.00

Total

B Surfacing 6" x 20'
46 c.y. per station
1840 c.y. at \$2.50
E & C

\$4,600.00
1,150.00
\$5,750.00

Total

C Oil mat 3" - 20' wide
37 tons oil at
\$80 per mile
2400 tons stone
at \$3.00 per mile

\$2,960.00
7,200.00
\$10,160.00

75 mile =
E & C

\$7,620.00
1,900.00

Total

\$9,520.00

D Culverts

Sta 3 + 00
54' of 44" x 72" csp
3 connectors
Installation
Riprap
E & C

\$1,350.00
150.00
200.00
50.00
450.00
\$2,210.00

Total

Sta. 13400	
50' of 12" x 24" cp	\$285.00
1 hour	7.50
Installation	100.00
Riprap	50.00
E & C	107.50
Total	<u>\$550.00</u>

Sta. 23400	
Same as at 13400	
Total	<u>\$550.00</u>

Total Item No. 2 \$22,600.00

3. Visitor Center

2-story with daylight basement & office	\$240,000.00	
6000 sq. ft. at \$40		
Water Sewer etc.	7,000.00	
Total	<u>247,000.00</u>	<u>\$247,000.00</u>

4. Four Road, 19 miles

Surfacing 12' wide 2" thick		
3/4" crushed rock at \$1.25 per ton		
per mile =	\$894.75	
60-70 Prime Oil at \$40.00 per ton		
per mile =	\$360.40	
Type II plant mix at \$4.17 per ton		
per mile =	\$3,231.76	
Total per mile 4,476.91		
19 miles =	\$85,061.29	
Reshaping & Turnouts	<u>\$4,938.71</u>	
Total	\$90,000.00	
E & C	22,200.00	
Total		<u>\$112,200.00</u>

5. Big Game Fence

Boundary & Interior 16 miles		
at \$5,000.00 E & C \$1,250.00		
= \$6,250.00 per mile		
x 16		
Total		<u>\$100,000.00</u>

6. Radio system

System \$4,200.00
E & C 1,000.00

Total \$ 5,200.00

7. Shop-Equipment Building metal

Modoc type 40' x 100'
at \$7.00 \$28,000.00
+ 10% price increase 2,800.00
E & C 7,700.00

Total \$38,500.00

8. Storage Building, metal

Modoc type 40' x 100'
at 4.75 per sq. ft. \$19,000.00
+ 10% price increase 1,900.00
E & C 5,100.00

Total \$26,000.00

9. Exhibition pasture road 1.3 miles

Reshaping and grading \$ 500.00
Resurfacing 1,500.00
3" oil mat 20' wide at \$10,160 14,200.00
E & C 4,092.00

Total \$20,300.00

10. Watering troughs

10 at \$400.00
E & C \$900.00

Total \$ 4,900.00

TOTAL \$583,000.00

PRIORITY SUMMARY

PHASE I

Visitor Center, 6000 square feet	\$ 247,000.	
Entrance and Visitor Center Road	<u>22,600.</u>	\$ 269,600.

PHASE II

Storage Building, 4000 square feet	\$ 26,000.	
Big Game Fence, 16 miles	100,000.	
Equipment Building, 4000 square feet	38,500.	
Radio System, base and 4 field units	5,200.	
Water Troughs, 10 each	<u>4,900.</u>	\$ 174,600.

PHASE III

Exhibition Pasture Road, 1.3 miles	\$ 20,300.	
Headquarters Entrance Road, 0.75 miles	6,300.	
Tour Road, 19 miles	<u>112,200.</u>	\$ 138,800.

Total Development Costs \$ 583,000.

No major developments scheduled for Ninepipe or Pablo.

WILSON
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NATIONAL BISON RANGE
HABITAT MANAGEMENT PLAN

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U.S. Fish & Wildlife Service
National Bison Range
Moiese, Montana

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HABITAT MANAGEMENT PLAN

National Bison Range

I. Description of Range

The National Bison Range, located in Sanders and Lake Counties, Montana near Moiese, includes an area of 18,541 acres. It was established by Acts of Congress of May 23, 1908 and March 4, 1909, primarily for the preservation of the animal for which it was named.

The overall mission of the National Bison Range is to maintain a representative herd of American bison, or buffalo, under reasonably natural conditions, to ensure the preservation of the species for continued public enjoyment.

Since establishment, however, other big game animals have been introduced onto the area and current management emphasis is directed toward species diversity. Other big game animals currently inhabiting the area include Rocky Mountain elk and bighorn sheep, mule deer and white-tailed deer, pronghorn antelope, and mountain goats. A brief summary of introduction dates of these animals is included in Appendix IV.

Range elevation varies from 2585 feet at headquarters to 4885 feet at Highpoint on Red Sleep Mountain, the highest point on the range.

The portion of the Flathead Valley in which the range is located has a microclimate usually characterized by relatively mild winter temperatures and little wind. Snow cover melts quickly at lower elevations. Subzero weather is uncommon. Summer temperatures seldom exceed 100 degrees. Precipitation averages 12.74 inches annually at range headquarters with slightly more at higher elevations. The growing season averages 90-110 days. Freezing conditions are generally had from late November through March.

The range is essentially a small, low-rolling mountain connected to the Mission Mountain Range by a gradually descending spur. Much of the range was once surrounded by prehistoric Lake Missoula which was formed by a glacial dam on the Clark Fork River. The lake attained a maximum elevation of 4200 feet. Old beach lines are still evident on north-facing slopes.

Topsoil on the range is generally shallow and mostly underlain with rock which is exposed in many areas, forming ledges and talus slopes. Soils over the major portion of the range were developed from materials weathered from strongly folding pre-Cambrian quartzite and argillite bedrock. These soils were well drained, steep, and range from very shallow to moderately deep in parent material. They have a heavy surface horizon with near neutral pH, high organic matter content, and varying degrees of rock fragment. Except for surface

soils, lower horizons have a loamy texture with rock fragment dispersals. Water percolation rates are high, thus soil erosion is minimal.

Most of the western edges of the range consist of soils developed in clayey and silty lacustrine deposits. Soils in the northeastern section of the range contain the highest clay content. On the lower slopes the surface horizon is thin, light, and of low parent material. With increasing elevation the surface becomes thicker and darker in color. The northwestern and western sections of the range are similar to the northeastern section except they contain more silt and less clay. A narrow band of deep, poorly drained, heavy organic surface horizon loam occurs along Mission Creek.

A summary of the different habitat types found on the National Bison Range is as follows:

<u>Land Classification Type</u>	<u>Acres</u>
Open fresh water	5
Rivers and streams	120
Irrigated-green browse, perennial	20
Native grasslands	14,561
1. Commerical forests	2600
Brush	600
Rocks	490
Buildings, roads, parking lots, etc.	145

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 3000
 761
 } 17,761

II. Overview of Habitat

The major grassland types found on the National Bison Range are as follows:

- (1) Rough fescue (Festuca scabrella)
- (2) Idaho fescue (Festuca idahoensis)
- (3) Rough & Idaho fescues - bluebunch wheatgrass (Agropyron spicatum)
- (4) Bluebunch wheatgrass - prairie junegrass (Koeleria cristata)
- (5) Bluebunch wheatgrass - red threeawn (Aristida longiseta)
- (6) Bluebunch wheatgrass - western wheatgrass (Agropyron smithii) -
basin wildrye (Flymus cinereus)

(7) Basin wildrye - alkali grass (Puccinellia nattallii)

Major disturbance stands include cheatgrass (Bromus tectorum), cheatgrass-wormwood (Artemisia dracunculus), snowberry (Symphoricarpos albus)-rose (Rosa woodsii), cudweed sagewort (Artemisia ludoviciana)-horse mint (Monarda fistulosa), Kentucky bluegrass, goatweed (Hypericum perforatum), and Columbia needlegrass (Stipa columbiana).

Conifer species found interspersed throughout the grasslands include ponderosa pine (Pinus ponderosa) on open, southern exposures, with a gradual transition to a pine-Douglas-fir (Pseudotsuga menziesii) mix at higher elevations, and Douglas-fir on northern exposures. A mixture of juniper (Juniperus scopulorum)-cottonwood (Populus angustifolia) aspen (Populus tremuloides) is found along Mission Creek in the northern and northeastern sections of the range.

Shrub types include mockorange (Philadelphus lewisii)-chokecherry (Prunus virginiana) on rock outcrops; maple (Acer glabrum)-serviceberry (Amelanchier alnifolia) on rock talus slopes; rose-snowberry-hawthorne (Crataegus douglasii) along creek bottoms and swales; and sumac (Rhus glabra) on rocky, south-facing slopes. Range sites identified during the most recent Range Site and Condition Survey included Shallow, Very Shallow, Silty, Clayey, and Thin Hilly. However, the diversity of soils, slope, aspect, elevation, precipitation, plant communities, and production potential precludes the ability to type map large, contiguous areas. The condition classes of the eight range management units vary from fair to excellent.

The wide range of habitat types found on the range and the large amount of "edge" area, or interspersion, assures a wide selection of animal and bird niches as evidenced by an inspection of refuge bird and mammal lists (Appendix VI). This inherent habitat diversity accrues from a combination of topography, soil type, slope aspect, elevation, and moisture conditions.

Past use of the range prior to establishment as a sanctuary included grazing of horses by members of the Salish-Kootenai Tribe. After refuge establishment, bison numbers reached a high of 675 animals in 1924. As late as 1949 maximum populations of bison fluctuated between 500-600 animals. High bison numbers, combined with high elk population, during the mid-20's, put severe pressure on the range grasslands.

As a result of the heavy grazing pressure, range condition began to deteriorate. A three-month bison rotation schedule was initiated in 1964, and in 1966 a deferred-rotation grazing system was begun. Grazing use and distribution were closely watched throughout 1967 with the aid of S.C.S. personnel. Light to moderate use was noted in all grazing units and initial results were encouraging. Since the initiation of this program, range condition has continued to improve to the point that in 1977, 95% of the rangeland was classified as being in excellent or good condition. (See Appendix II).

Current conditions, based on a Range Site and Condition Survey conducted in 1979, reflect a slight decline in overall range condition from 1977 conditions. Two successive relatively wet early spring periods in 1978 and 1979 are believed to have caused an irruption of Kentucky bluegrass and various forb species, thus lowering condition classes in many range sites.

Current range conditions for each unit are listed in Table I.

III. Special Considerations Affecting Grassland Management

Bald eagles are occasionally observed along Mission Creek and the southwestern part of the range along the Jocko River. There is no known nesting occurring on the range. No effect on migrants is expected to occur as a result of plan implementation.

Prescribed burns will be conducted only after local authorization is granted. This entails the issuance of a permit from the County Public Health Department, designation of a day or days within the permit period as being "burn" days, and notification of the local fire chief of the intent to burn on a particular day. As a member of the Montana State Airshed Group we will adhere to the objectives outlined under the Montana Smoke Management Memorandum of Agreement. (Appendix III).

Under Montana law, local weed control districts are responsible for the enforcement of the provisions of the Montana Weed Law, which includes the control of noxious weeds. Noxious weeds present in the Bison Range grasslands which must be considered in the management plan and on which some degree of control must be exerted include Canada thistle, goatweed (Hypericum perforatum), spotted knapweed (Centauria maculosa), dalmation toadflax (Linaria dalmatica), and musk thistle (Carduus natans).

In order to adhere to the conditions of the Archeological and Historic Preservation Act of 1974 (88 Stat. 174; 16 U.S.C. 469 A), any site scheduled for significant physical disturbance to the ground must be investigated by professional archeologists or historians, and given a clearance as having no adverse archeological or historical impacts, prior to disturbance.

As mandated by the Regional Director in a December 4, 1978 memo regarding Native Grassland Management Guidelines, native rangeland will not be destroyed, but will be protected and managed. Range rehabilitation practices will be conducted with the primary objective of protecting or improving native vegetation sites.

IV. Specific Range Objectives Supported by Grassland Management

Specific range objectives which depend upon management of grasslands are listed in priority order as follows:

1. Provide for a representative herd of American bison maintained under reasonably natural conditions on a year-around basis. Present objective levels for bison are set at 325 animals plus or minus 10%, depending upon range condition.
2. Management of all available wildlife habitat guided by ecological principles basic to the maintenance of a native vegetative association with natural environmental qualities.
3. Provide an opportunity for the public to view and enjoy bison and the other natural resources of the refuge.
4. Maintenance of small, representative populations of Rocky Mountain elk, mule and white-tailed deer, Rocky Mountain bighorn sheep, and pronghorn antelope to provide for representative wildlife association typical of the natural buffalo environment, for public enjoyment and for research purposes, to the extent that such populations do not endanger the primary objective. Present objective levels for the different species are as follows: elk-75 to 125; mule deer-200; white-tailed deer-200; bighorn sheep-50; and pronghorns-100.
5. Provide for maximum educational benefits from refuge wildlife and associated resources.
6. Provide optimum habitat conditions for species of wildlife other than big game.

V. Basic Resource Inventory Data

The most recent Range Site and Condition Survey was conducted by U.S. Soil Conservation Service and Bison Range personnel in 1979. Copies of the U.S.F.W.S. Range Site and Condition Record are available in refuge files. No complete soil survey of the Bison Range has been done. Information on grass seedings and weed control efforts are also available in refuge files.

Wildlife inventory data include estimates of fall, 1980 big game populations. At that time there were an estimated 309 bison, 175 elk, 275 mule deer, 145 white-tailed deer, 54 bighorn sheep, 93 pronghorn antelope, 18 mountain goats and 2 black bears present on the range. Other wildlife species which inhabit the range are included on appended mammal and bird lists. (Appendix V.)

Wildlife inventory plans for all big game species; small and predacious mammals; upland game birds; migratory waterfowl; and wading and shore birds, predacious birds, and psaltrine birds are available in refuge files. However, due to money and manpower constraints, much of the inventory work must, of necessity, be accomplished during the performance of other duties.

Waterfowl and shorebird use of the range is limited to Mission Creek, Jocko River, Ravalli Ponds, and one or two of the ponds in Pauline Creek. Total Canada goose production for 1980 was estimated to be 18 birds. These birds were produced from five artificial nest structures near Mission Creek. An estimated 12 ducks were produced near Ravalli ponds.

During the summer of 1980, 14 Columbian sharp-tailed grouse were transplanted from the Curlew National Grassland in southeastern Idaho in an effort to reestablish a native upland bird species which has been extinct on the range since the early 1950's. These birds were released in the Pauline Creek drainage.

Research conducted on the National Bison Range regarding niche relationships of the seven ungulates has evaluated spatial distribution, food habits, behavioral interactions, and habitat characteristics. (McCullough, 1980)

Potential for improvement of habitat conditions, insofar as pronghorn, mule deer, and white-tailed deer are concerned, is dependent upon the ability to manipulate vegetational succession using bison as a management tool.

VI. Management Measures

Proposed management measures include alteration of the existing deferred-rotational grazing system to reduce grazing pressure on selected areas in order to improve habitat conditions for pronghorn and deer; prescribed burning of selected areas to reduce or retard conifer growth and improve habitat conditions for deer and upland birds; continued weed control using both biological and chemical control methods to improve range grassland conditions; preservation of aquatic habitat for waterfowl and shorebirds; and preservation of woodlands for cavity-nesting birds, raptors, and mammals.

Habitat maintenance or improvement, insofar as grasslands are concerned, will be dependent upon regulation of bison grazing pressure. Management of aquatic habitat and woodlands will consist primarily of the preservation of those areas, recognizing their importance to the various wildlife species which are dependent upon those particular habitat types.

The primary method by which bison grazing pressure will be regulated is the deferred-rotation grazing system which was initiated in 1966. Under this system, the range is divided into eight units and the bison are split into two herds, one slightly larger than the other. Each herd is rotated from one pasture to another every three months as outlined in Appendix I. Using this system, a range unit is grazed only once out of every four years during the seed-producing period of April-June. Theoretically, this will result in seed production three years out of every four. However, in reality species such as rough and Idaho fescue are dependent upon adequate fall pasture in order to produce seed heads. Since maintenance and improvement of range condition is partially dependent upon the distribution and vigor of these species, the deferred-rotation system alone may not be sufficient to adequately maintain or improve the condition of some units. Possible variations, by unit, are discussed in Section VII.

Aquatic and forested habitats, while not actively managed, will be preserved in accordance with Objective No. 2 in order to provide wildlife species diversity as mandated by Migratory Birds PMD, Section III., Goal No. 2 and Mammals and Non-migratory Birds PMD, Section III., Goal No.2.

VII. Grassland Management Units

Acres of the various range pasture units are as follows:

Northside Range	2404 acres
Alexander Basin Range	2323 "
Upper North Range	2473 "
Sheep Pasture	637 "
Upper South Range	1598 "
Lower South Range	2050 "
Southwest Range	2314 "
Upper West Range	1684 "
Lower West Range	2318 "

West Horse Pasture, which is 214 acres, is the site of the new Visitor Center/Office complex. This area, which is very fragile due to the clayey soil type, will serve, basically, as an area to acquaint visitors with the primary range grass species and their importance to accomplishment of range objectives. The unit will be left as is for aesthetic purposes. The unit currently supports small numbers of pronghorns and mule deer. Small numbers of bison may, possibly, be pastured for very short periods in the future, should it be deemed necessary to graze in order to improve grass and forb composition or vigor.

The Sheep Pasture, due to its small size and relatively rocky and timbered character, is not suitable for inclusion into the rotational grazing system for bison. The area is grazed periodically by elk. Bighorn sheep and mule deer also use the area. The unit contains approximately 382 acres with the site classification of Very Shallow and 255 acres classed as Shallow. Grass species present in this unit include bluebunch wheatgrass, rough fescue, Columbian needlegrass, Idaho fescue, and prairie junegrass. Rock outcrops and tallus areas support stands of chokecherry, mockorange, mountain maple, and serviceberry. Present condition of the unit is rated as fair to excellent. Grazing of bison in this unit will be limited to those period of grass shortage in the Upper South Range.

Objectives: Primarily maintenance of bighorn sheep, mule deer, and elk.

Description: No change in management. Continue to use the unit as a back-up unit to prevent overuse of Upper South Range by bison.

The Lower South Range contains 2150 acres, of which 1000 acres is classed as Very Shallow, 900 acres as Shallow, and 100 acres as Silty. Current condition is rated as good for 2010 acres and fair for the remaining 140 acres.

The lower end of Trisky Creek bisects this unit providing approximately five acres of riparian habitat suitable for seasonal use by a variety of up-land and songbirds, including gray partridge, long billed marsh wrens, lazuli buntings, mourning doves, rufous-side towhees, and several warbler species. The easternmost portion of this unit contains Ravalli Ponds. This is approximately 100 acres in size with a site classification of Silty and condition rating of fair. The three ponds present comprise approximately two acres and provide a resting and breeding area for small numbers of blue-wing teal. This relatively small area supports a grass stand composed primarily of bluebunch wheatgrass and Great Basin wildrye. Some teal nesting occurs in the vicinity of the ponds. Future bison grazing of this area will be regulated toward maintaining its suitability for teal nesting habitat. This unit also supports small numbers of gray partridge.

Objectives: Bison maintenance, blue-winged teal use and production; wildlife diversity.

Prescription: Bison use in accordance with the deferred-rotation schedule and stocking rates outlined in Appendix I. and Table II. The bison grazing system will help maintain riparian habitat around Trisky Creek and duck nesting habitat near Ravalli Ponds.

The Upper North Range contains 2473 acres which includes 1562 acres with a site classification of Very Shallow, 781 acres classed as Shallow, and 130 acres as Silty. The unit is rated as being in good to excellent condition, except for 67 acres of the silty site, which is rated as fair. This unit includes approximately 200 acres of ponderosa pine-Douglas-fir habitat which provides food and/or cover for a variety of mammals and birds including elk, snowshoe hares, blue grouse, and raptors, including red-tailed sharp-shinned, and Cooper's hawks, and golden eagles. Regeneration of Douglas-fir in this pasture and others throughout the range is occurring primarily on the north and northwest perimeters of old growth stands. Timber encroachment into the grasslands has been observed for several years and conifer reproduction photo points were established by Refuge Manager Mazzoni in 1968. However, since initial photos were taken, there is no evidence of any further documentation. These photo points will be utilized for future documentation of conifer regeneration. Though Douglas-fir encroachment into the grassland is not necessarily considered undesirable from the standpoint of providing habitat diversity, there are particular areas of the range where encroachment retardation, through prescribed burning, is desirable. One such area, composed of approximately 12 acres, is located in this grazing unit. The burn will be accomplished during the fall of 1981 if conditions are right. This burn will be experimental in nature to determine if prescribed burning is a viable method of stimulating regrowth of the bunchgrasses present and of retarding the spread of Douglas-fir. If successful, this practice will be a relatively inexpensive method by which to remove grass cover from selected areas, as the need arises.

Objectives: Bison Maintenance and wildlife diversity.

Prescription: Bison use in accordance with the deferred-rotation schedule and stocking rates outlined in Appendix I. and Table II. Prescribed burning on an experimental basis to determine

Objectives: Bison and elk maintenance.

Prescription: Bison use in accordance with the deferred-rotation schedule and stocking rates outlined in Appendix I. and Table II. Possible alteration of the deferred-rotation schedule to permit more intensive use of the unit by bison.

Northside Range contains 2404 acres which include approximately 200 acres of riparian habitat along Mission Creek. These subirrigated and overflow sites support relatively dense stands of willows, cattails (Typha sp.), and sedges (Carex sp.), and provide habitat for white-tailed deer and, occasionally, elk. Ducks and geese periodically use Mission Creek for resting. An estimated 18 geese were produced from artificial nesting structures along the creek in 1980. During winter, when reservoirs and potholes are frozen, waterfowl concentrate along the creek. Approximately 600 acres of the unit are classed as Thin Hilly sites, 1284 are classed as Clayey, and 320 acres are classed as Shallow. Condition is rated as good to excellent on 1794 acres and fair on 410 acres. This unit supports part of the Bison Range antelope population, hence production of forb species is an important objective.

Approximately 250 acres of the western portion of this unit will be used as a wildlife observation area in conjunction with the short tour route. A fence enclosing the area will be constructed in the summer of 1981 and approximately 10-12 bison will be kept in the unit from April through November to provide viewing opportunities for visitors not wishing to take the 19-mile tour over the range. Approximately 5-6 of these animals will be moved to the headquarters display area during the winter and kept there through the winter months to provide public viewing opportunities after the tour route is closed. The rest of the animals from the unit will be turned out on the range during round-up.

Objectives: Bison, white-tailed deer, pronghorn, and elk maintenance; waterfowl use and production; wildlife observation and interpretation.

Prescription: Bison use over approximately 2150 acres in accordance with the deferred-rotation schedule and stocking rates outlined in Appendix I. and Table II. Grazing system will help protect riparian habitat important for goose production, duck maintenance, and deer and elk maintenance. Approximately 250 acres will be fenced to provide seasonal public viewing of bison, elk, and pronghorn.

The Upper South Range is the smallest of the eight range pastures, containing only 1598 acres. Approximately 639 acres are classed as Very Shallow and 959 acres are classed as Shallow sites. Condition is rated as excellent on 1384 acres and fair on the remaining 214 acres. Primary grass species include bluebunch wheatgrass and Idaho fescue with lesser amounts

of rough fescue. An estimated 75-80 acres are timbered. Due to its relatively small size and inability to support the large bison herd for the full three-month grazing period, this unit is usually augmented by adjacent Sheep Pasture. This unit is an important bighorn sheep and mule deer area. Important browse and forb species include lupine (Lupinus sericeus), snow berry, fleabane (Erigeron sp.), flannel mullein (Verbascum thapsus), prairie smoke (Geum triflorum), and fringed sagewort (Artemisia frigida). Trisky Creek flows through the unit, providing approximately three acres of riparian habitat. Chokecherry (Prunus virginiana), elderberry (Sambucus cerulea), hawthorn (Crataegus douglasii), and clematis (Clematis lingusticifolia) fulfill habitat needs for migrant passerines.

Objectives: Bison, bighorn sheep, and mule deer maintenance; wildlife diversity.

Prescription: Bison use in accordance with the deferred-rotation schedule and stocking rates outlined in Appendix I. and Table II., using Sheep Pasture to provide additional AUM's as needed. Preservation of riparian habitat for migrant passerines through the deferred-rotation grazing system.

The Southwest Range contains 2314 acres comprised of 1620 acres classed as Very Shallow sites and 694 acres classed as Shallow sites. Approximately 1420 acres are in a 15"-19" precipitation zone. Of the 694 acres classed as Shallow sites, 231 acres are in a 10"-14" precipitation zone and 463 acres are in a 15"-19" zone. Condition is rated as good to excellent on 2166 acres, and fair on 148 acres. Primary grass species include bluebunch wheatgrass, Idaho fescue, and rough fescue with small amounts of prairie junegrass and Sandberg bluegrass (Poa secunda). Red threeawn (Aristida longiseta), and Japanese brome (Bromus japonicus) have invaded many south-facing slopes. Primary browse and forb species include mockorange, serviceberry, mountain maple, arrowleaf balsamroot, and lupine. The unit contains approximately 800 acres of timbered area. This range unit receives substantial use by elk, mule deer, bighorn sheep, and mountain goats. Elk Creek, which parallels much of eastern boundary of the unit, provides approximately three acres of riparian habitat. The south side of this unit borders the Jocko River which is an important area for Lewis' woodpeckers during spring, summer, and early fall periods. Timbered areas along this portion of the unit contain numerous dead snags which provide nesting cavities and feeding areas for these and other species of woodpeckers. The west side of the unit supports small numbers of gray partridge. A 4-acre enclosure near the west of this unit was constructed in 1970 to facilitate an ecological study of the primary productivity of fescue grasslands. The study was conducted over a 10-year period by Professor Melvin Morris of the University of Montana as a part of the U.S. International Biological Program. Results of the study are contained in refuge files. The enclosure will be maintained for comparison of grazed and ungrazed range in this unit.

Objectives: Bison, elk, mule deer, bighorn sheep, and mountain goat maintenance; protection of riparian, upland, and forest habitat to promote wildlife diversity.

Prescription: Bison use in accordance with the deferred-rotation schedule and stocking rates outlined in Appendix I. and Table II. Bison grazing system will help maintain riparian and up-land habitat. Old growth timber will be preserved to provide bird nesting and feeding habitat.

The Upper West Range contains 1584 acres in a 15"-19" precipitation zone. Approximately 950 acres are classed as Very Shallow sites, 554 acres as Shallow sites, and 80 acres as Silty sites. A total of 1544 acres are rated as being in excellent or good condition and 40 acres as fair. This unit contains some of the more vigorous stands of rough fescue found on the range. Plots sampled in 1979 by Soil Conservation Service personnel contained up to 40% rough fescue, by weight, on Very Shallow sites and up to 38% on Shallow sites. Total forage production was estimated to be 1000 and 1300 pounds per acre on Very Shallow and Shallow sites, respectively. Approximately 300 acres of the unit are forested, providing habitat for elk, snowshoe hares, blue grouse, black bears, and occasionally, bobcats. Pauline Creek and the south fork of Pauline Creek provide approximately 15 acres of riparian habitat for passerines and, occasionally, waterfowl. This unit will probably be subjected to more bison grazing pressure in future rotations by extending the period of use.

Objectives: Bison and elk maintenance; wildlife diversity.

Prescription: Bison use in accordance with the deferred-rotation schedule and stocking rates outlined in Appendix I. and Table II., with the possibility of extending the period of use to more effectively utilize available forage while preserving the inherent habitat diversity of the unit.

Elk Lane is a narrow 40 acre corridor which runs from Sheep Pasture to the bison corrals between the Upper North and Upper West pastures. This unit is used to facilitate the movement of bison from pasture to pasture and from the range to the corrals. Additionally, the lane has been used in the past to trap other big game animals for transplantation to other areas. This unit will continue to be used for these purposes. No active management of the unit is proposed.

Water developments, in the form of concrete tanks and earthen-dammed ponds, are located throughout the range units. Approximately 43 concrete troughs are located near natural springs and seeps to provide year-around water sources. Locations of these water sources are available in refuge files.

Salting areas are located in areas well away from water sources in an effort to achieve better distribution of grazing pressure in range units. However, this practice is not as successful with bison as it is with cattle. Bison tend to seek out natural licks and their affinity for salt is, apparently, not as strong as that of cattle.

To summarize proposed management practices, we plan to, basically, follow the deferred-rotation schedule outlined in Appendix I. with minor deviations in grazing intensity to more effectively utilize available forage and improve vigor and distribution of desirable grassed and forbs. The key grass species in determination of range condition is rough fescue. Management practices must key on the condition of this species in order to maintain and improve overall range condition.

VIII. Reference Units or plots

As mentioned in Section VII., the 4-acre enclosure in the Southwest Range will be maintained as a reference site with which to compare grazing effects. Two more areas of approximately 40 acres each were fenced in 1977 and have not been grazed since then. These areas, located in Section 5, T18N, R20W, and adjacent to Alexander Rain Range, will also be used as reference sites. (See Appendix V.)

IX. Monitoring of Grassland Habitat Conditions and Management Practices

Range condition and trend will be monitored using the Parker Three-Step (Parker and Harris, 1959) method of sampling. A total of 25 transect clusters have been established throughout range units. Sampling is done each July in range units which receive July-September bison use. Procedures are described in the U.S. Forest Service Range Analysis Field Guide, FSH 2212.01 R1 (Dec. 1963).

Browse transects will be established in 1981 to provide information relative to deer and elk use of browse species.

Goatweed photo points will be maintained and conifer encroachment photo points established by Refuge Manager Mazzoni in 1968 will be re-established in 1981.

X. Monitoring of Wildlife Responses

Wildlife surveys, as outlined in the Bison Range Wildlife Inventory Plan, will be conducted periodically. An attempt will be made to document known areas of bison concentration in order to monitor vegetational changes. A random sample of bison will continue to be weighed during the annual fall round-up in order to detect nutritional or genetic problems.

SIGNATURE PAGE

Submitted by: _____
Robert C. Brown
Refuge Manager
Date

Reviewed by: _____
Robert M. Ballou
Ass't. Area Manager-Refuges & Wildlife
Date

Approved by: _____
Wally Steucke
Area Manager
Date

LITERATURE CITED

McCullough, Yvette
1980 Niche Separation of Seven North American Ungulates.
Determination of Food Habitats Relationships of
National Bison Range Ungulates.

Parker, Kenneth W. and Harris, Robert W.
1959 The 3-Step Method for Measuring Condition and Trend
of Forest Ranges: A Resume of its History, Develop-
ment, and Use.

TOTAL AUM'S

AUM'S

ACRES

CONDITION CLASS

SITE CLASSIFICATION

PRECIP. ZONE

UNIT

UNIT	PRECIP. ZONE	SITE CLASSIFICATION	CONDITION CLASS	ACRES	AUM'S	TOTAL AUM'S
Northside Range	10" - 14"	Subirrigated Overflow Thin Hilly " Clayey " " Shallow "	—	50	50	790
			Good	150	75	
			Fair	270	81	
			Excellent	330	50	
			Good	940	376	
			Good	264	79	
			Fair	80	16	
			Excellent	288	58	
			Good	32	5	
Upper West Range	15" - 19"	Very Shallow " Shallow " " Silty " "	Excellent	819	246	515
			Good	131	26	
			Excellent	445	178	
			Good	69	21	
			Fair	40	8	
			Excellent	36	18	
			Good	44	18	
Upper North Range	10" - 14" " 15" - 19"	Silty " Very Shallow " Shallow "	Good	63	19	789
			Fair	67	13	
			Excellent	1406	422	
			Good	156	31	
			Excellent	703	281	
			Good	78	23	

UNIT

PRECIP. ZONE

SITE CLASSIFICATION

CONDITION CLASS

ACRES

AUM'S

TOTAL AUM'S

UNIT	PRECIP. ZONE	SITE CLASSIFICATION	CONDITION CLASS	ACRES	AUM'S	TOTAL AUM'S
Southwest Range	10" - 14"	Very Shallow	Excellent	126	19	583
	"	"	Good	74	7	
	15" - 19"	Shallow	Excellent	139	28	
	"	"	Good	92	14	
Lower South Range	10" - 14"	Very Shallow	Excellent	1224	306	457
	"	"	Good	196	39	
	15" - 19"	Shallow	Excellent	315	126	
	"	"	Fair	148	44	
Alexander Basin	10" - 14"	Very Shallow	Excellent	981	196	495
	"	"	Good	109	11	
	15" - 19"	Shallow	Excellent	396	119	
	"	"	Good	524	105	
Alexander Basin	10" - 14"	Shallow	Fair	40	6	495
	"	"	Fair	100	20	
	15" - 19"	Silty	Excellent	603	121	
	"	"	Good	514	77	
Alexander Basin	10" - 14"	Silty / Clayey	Good	484	145	495
	"	"	Fair	632	126	
	15" - 19"	Very Shallow	Excellent	81	24	
	"	"	Good	9	2	

TABLE 1

UNIT PRECIP. ZONE SITE CLASSIFICATION CONDITION CLASS ACRES AUM'S TOTAL AUM'S

Upper South Range	15" - 19"	Very Shallow " Shallow "	Excellent Fair Excellent Fair	521 118 863 96	156 18 345 19	538
Lower West Range	10" - 14"	Very Shallow " Shallow " Silty / Clayey " Very Shallow Shallow	Excellent Good Fair Excellent Good Fair Excellent Good Fair Excellent Excellent	210 140 135 175 115 114 625 208 210 210 175	42 21 14 53 29 17 250 62 42 63 70	663
Sheep Pasture	15" - 19"	Very Shallow " Shallow "	Excellent Fair Excellent Good	344 38 220 35	103 6 88 11	208

TABLE II

RANGE SITES, PRECIP. ZONES, CONDITIONS, AND AUM'S PER RANGE UNIT

SOUTHWEST RANGE - 2314 A.

VS 10" - 14" PZ 200 A.

EC - 126 A. x .15 = 19 AUM'S
 GC - 74 A. x .10 = 7 AUM'S
 26 AUM'S

VS 15" - 19" PZ 1420 A.

EC - 1224 A. x .25 = 306 AUM'S
 GC - 196 A. x .20 = 39 AUM'S
 345 AUM'S

SH 10" - 14" PZ 231 A.

EC - 139 A. x .20 = 28 AUM'S
 GC - 92 A. x .15 = 14 AUM'S
 42 AUM'S

SH 15" - 19" PZ 463 A.

EC - 315 A. x .40 = 126 AUM'S
 FC - 148 A. x .30 = 44 AUM'S
 170 AUM'S

TOTAL AUM'S = 583

LOWER SOUTH RANGE - 2050 A.

10" - 14" PZ

VS -1090 A.

EC - 981 A. x .20 = 196 AUM'S

GC - 109 A. x .10 = 11 AUM'S

207 AUM'S

SH - 960 A.

EC - 396 A. x .30 = 119 AUM'S

GC - 524 A. x .20 = 105 AUM'S

FC - 40 A. x .15 = 6 AUM'S

230 AUM'S

SI - 100 A. (Ravalli Pond Area)

FC - 100 A. x .2 = 20 AUM'S

TOTAL AUM'S = 457

ALEXANDER BASIN RANGE - 2323 A.

VS - 15" - 19" PZ
EC - 81 A. x .30 = 24 AUM'S
GC - 9 A. x .20 = 2 AUM'S
26 AUM'S

SH - 10" - 14" PZ 1117 A.
EC - 603 A. x .20 = 121 AUM'S
GC - 514 A. x .15 = 77 AUM'S
198 AUM'S

SI - CY - 10 " - 14" PZ 1116 A.
GC - 484 A. x .30 = 145 AUM'S
FC - 632 A. x .20 = 126 AUM'S
271 AUM'S

TOTAL AUM'S = 495

UPPER WEST RANGE - 1584 A.

15" - 19" PZ

VS - 950 A.

EC - 819 A. x .30 = 246 AUM'S

GC - 131 A. x .20 = 26 AUM'S
272 AUM'S

SH - 554 A.

EC - 445 A. x .40 = 178 AUM'S

GC - 69 A. x .30 = 21 AUM'S

FC - 40 A. x .20 = 8 AUM'S
207 AUM'S

SI - 80 A.

EC - 36 A. x .50 = 18 AUM'S

GC - 44 A. x .40 = 18 AUM'S
36 AUM'S

TOTAL AUM'S = 515

NORTHSIDE RANGE - 2404 A.

10" - 14" PZ

SB 50 A. x 1.0 = 50 AUM'S
OV 150 A. x .50 = 75 AUM'S

TH 600 A.
GC - 270 A. x .30 = 81 AUM'S
FC - 330 A. x .15 = 50 AUM'S
131 AUM'S

CY 1284 A.
EC - 940A. x .40 = 376 AUM'S
GC - 264 A. x .30 = 79 AUM'S
FC - 80 A. x .20 = 16 AUM'S
471 AUM'S

SH 320A.
EC - 288 A. x .20 = 58 AUM'S
GC - 32 A. x .15 = 5 AUM'S
63 AUM'S

TOTAL AUM'S = 790

UPPER SOUTH RANGE - 1598 A.

15" - 19" PZ

VS - 639 A.

EC - 521 A. x .30 = 156 AUM'S

FC - 118 A. x .15 = 18 AUM'S
174 AUM'S

SH - 959 A.

EC - 863 A. x .40 = 345 AUM'S

FC - 96 A. x .20 = 19 AUM'S
364 AUM'S

TOTAL AUM'S = 538

UPPER NORTH RANGE - 2473 A.

VS 15" - 19" PZ 1562 A.
EC - 1406 A. x .30 = 422 AUM'S
GC - 156 A. x .20 = 31 AUM'S
453 AUM'S

SH 15" - 19" PZ 781 A.
EC - 703 A. x .40 = 281 AUM'S
GC - 78 A. x .30 = 23 AUM'S
304 AUM'S

SI 10" - 14" PZ 130 A.
GC - 63 A. x .30 = 19 AUM'S
FC - 67 A. x .20 = 13 AUM'S
32 AUM'S

TOTAL AUM'S = 789

LOWER WEST RANGE - 2318 A.

VS 10" - 14" PZ 485 A.
EC - 210 A. x .20 = 42 AUM'S
GC - 140 A. x .15 = 21 AUM'S
FC - 135 A. x .10 = 14 AUM'S
77 AUM'S

VS 15" - 19" PZ
EC - 210 A. x .30 = 63 AUM'S

SH 10" - 14" PZ 404 A.
EC - 175 A. x .30 = 53 AUM'S
GC - 115 A. x .25 = 29 AUM'S
FC - 114 A. x .15 = 17 AUM'S
99 AUM'S

SH 15" - 19" PZ
EC - 175 A. x .40 = 70 AUM'S

SI - CY 10" - 14" PZ 1043 A.
EC - 625 A. x .40 = 250 AUM'S
GC - 208 A. x .30 = 62 AUM'S
FC - 210 A. x .20 = 42 AUM'S
354 AUM'S

TOTAL AUM'S = 663

SHEEP PASTURE - 637 A.

15" - 19" PZ

VS - 382 A.

EC - 344 A. x .30 = 103 AUM'S

FC - 38 A. x .15 = 6 AUM'S

109 AUM'S

SH - 255 A.

EC - 220 A. x .40 = 88 AUM'S

GC - 35 A. x .30 = 11 AUM'S

99 AUM'S

TOTAL AUM'S = 208

APPENDIX I

NATIONAL BISON RANGE
DEFERRED-ROTATION GRAZING PROGRAM

YEAR	UPPER SOUTH 1598 ACRES	ALEXANDER BASIN 2310 ACRES	NORTHSIDE 2029 ACRES	LOWER WEST 2318 ACRES
1980	OCT - NOV - DEC	JAN - FEB - MAR	APR - MAY - JUNE	JUL - AUG - SEPT.
1981	JUL - AUG - SEPT.	OCT - NOV - DEC	JAN - FEB - MAR	APR - MAY - JUNE
1982	APR - MAY - JUNE	JUL - AUG - SEPT.	OCT - NOV - DEC	JAN - FEB - MAR
1983	JAN - FEB - MAR	APR - MAY - JUNE	JUL - AUG - SEPT.	OCT - NOV - DEC
YEAR	SOUTHWEST 2314 ACRES	UPPER WEST 1789 ACRES	UPPER NORTH 2292 ACRES	LOWER SOUTH 2164 ACRES
1980	JUL - AUG - SEPT.	OCT - NOV - DEC	JAN - FEB - MAR	APR - MAY - JUNE
1981	APR - MAY - JUNE	JUL - AUG - SEPT	OCT - NOV - DEC	JAN - FEB - MAR
1982	JAN - FEB - MAR	APR - MAY - JUNE	JUL - AUG - SEPT	OCT - NOV - DEC
1983	OCT - NOV - DEC	JAN - FEB - MAR	APR - MAY - JUNE	JUL - AUG - SEPT

HERD #1
137 A.U.

HERD #2
121 A.U.

RANGE CONDITION CLASS OF THE NATIONAL BISON RANGE

Condition Class	1964		1969		1973		1977		1979	
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
Excellent	570	3	1,759	10	2,971	17	14,206	83	11,345	67
Good	7,320	42	13,853	78	11,548	67	2,064	12	3,607	21
Fair	9,500	54	2,013	12	2,741	16	893	5	2,148	12
Poor	235	1	T	-	T	-	0	0	0	0

ADM'S

Pasture	1964		1969		1973		1977		1979	
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
West Horse Pasture	65	65	65	0	65	0	65	0	65	0
Lower West Range	559	518	592	+ 74	532	- 60	690	+159	663	- 27
Southwest Range	456	224	226	+ 2	482	+256	596	+114	583	- 13
Lower South Range	352	388	461	+ 73	407	- 54	472	+ 65	457	- 15
Alexander Basin Range	495	840	1,024	+184	636	-388	640	+ 4	495	-145
Northside Range	397	390	390	0	765	+375	805	+ 40	790	- 15
Upper West Range	421	671	764	+ 93	428	-336	529	+101	515	- 14
Upper North Range	513	418	430	+ 12	695	+265	813	+118	789	- 24
Upper South Range	335	538	584	+ 46	468	-116	566	+ 98	518	- 23
Sheep Pasture	148	318	374	+ 59	326	- 48	257	- 69	208	- 49
Totals	3,676	4,367	4,910	+543	4,804	-106	5,433	+629	4,104	-139

MONTANA SMOKE MANAGEMENTMEMORANDUM OF AGREEMENT

This Agreement is entered into effective July 31, 1978. The agencies and companies which are signatories to this Agreement hereby agree to abide by the Cooperative Smoke Management Plan for Montana attached hereto. As each agency and company signs this Agreement, they shall automatically become a member of the State Airshed Group described herein. Other agencies and companies may from time to time become a party to this Agreement and a member of the State Airshed Group by signing this Agreement and submitting a copy to each of the other signatories. The signatories hereto are dedicated to the preservation of air quality in Montana. However, the continuing importance of prescribed burning for removal of logging residue to assure protection and regeneration of forest areas and for other accepted forest practices, such as wildlife habitat improvement, is recognized.

The objectives of this Agreement are as follows:

1. To minimize or prevent the accumulation of smoke in Montana when prescribed burning is necessary for the conduct of accepted forest practices such as hazard reduction, regeneration and wildlife habitat improvement. The development of alternative methods shall be encouraged when such methods are practical.
2. To develop a smoke management plan for reporting and coordinating burning operations on all forest and range lands in the State. Guidelines in the plan will be based upon the principles of and technical information currently available on smoke dispersion and on State and Federal air quality

regulations. A copy of the Smoke Management Plan is attached and incorporated herein by reference. The Smoke Management Plan shall be reviewed periodically and changes may be made with the approval of all signatories. Such approval shall be given in writing.

3. At the end of each burning year, evaluate the program, review the Agreement and improve the Smoke Management Plan where feasible.

Any signatory hereto may withdraw from this Agreement upon thirty (30) days written notice to the State Airshed Group in care of the Montana Department of Health and Environmental Sciences, Air Quality Bureau.

Agreed to by MONTANA SMOKE MANAGEMENT AGREEMENT signatories:

PC Knight _____ Date
 Director, Dept. of Health and Environmental Sciences

James A. Lanier _____ Date
 Area Director (BIA) SEP 29 1978

Robert T. Johnson 9/27/78 Date
 Regional Forester, R-1 (USFS)
Ellis

James C. ... 31/04/78 Date
 Administrator, Division of Forestry

Harmon Richards 11/5/78 Date
 Acting State Director (BLM)

W. H. ... Aug 20, 1978 Date
 Burlington Northern, Inc.

... 9/19/78 Date
 Plant Manager, St. Regis Paper
 Company

... 9/23/78 Date
 Champion Timberlands
 Champion International Corporation

... 10/17/78 Date
 Director, National Weather Service, Western Region

... _____ Date
 Director, Department of Fish & Game

May add others from time to time

FWS-000180

Montana Smoke Management Memo of Agreement signatories:(2nd page)

Bob [Signature]
Operations Manager, Wickes Forest
Industries

1/18/79
Date

Date

[Signature]
Superintendent, Glacier National
Park

2-22-79
Date

Date

John A. [Signature]
Superintendent, Yellowstone National
Park

7/25/79
Date

Date

Wally [Signature]
Area Manager - U.S. Fish & Wildlife
Service

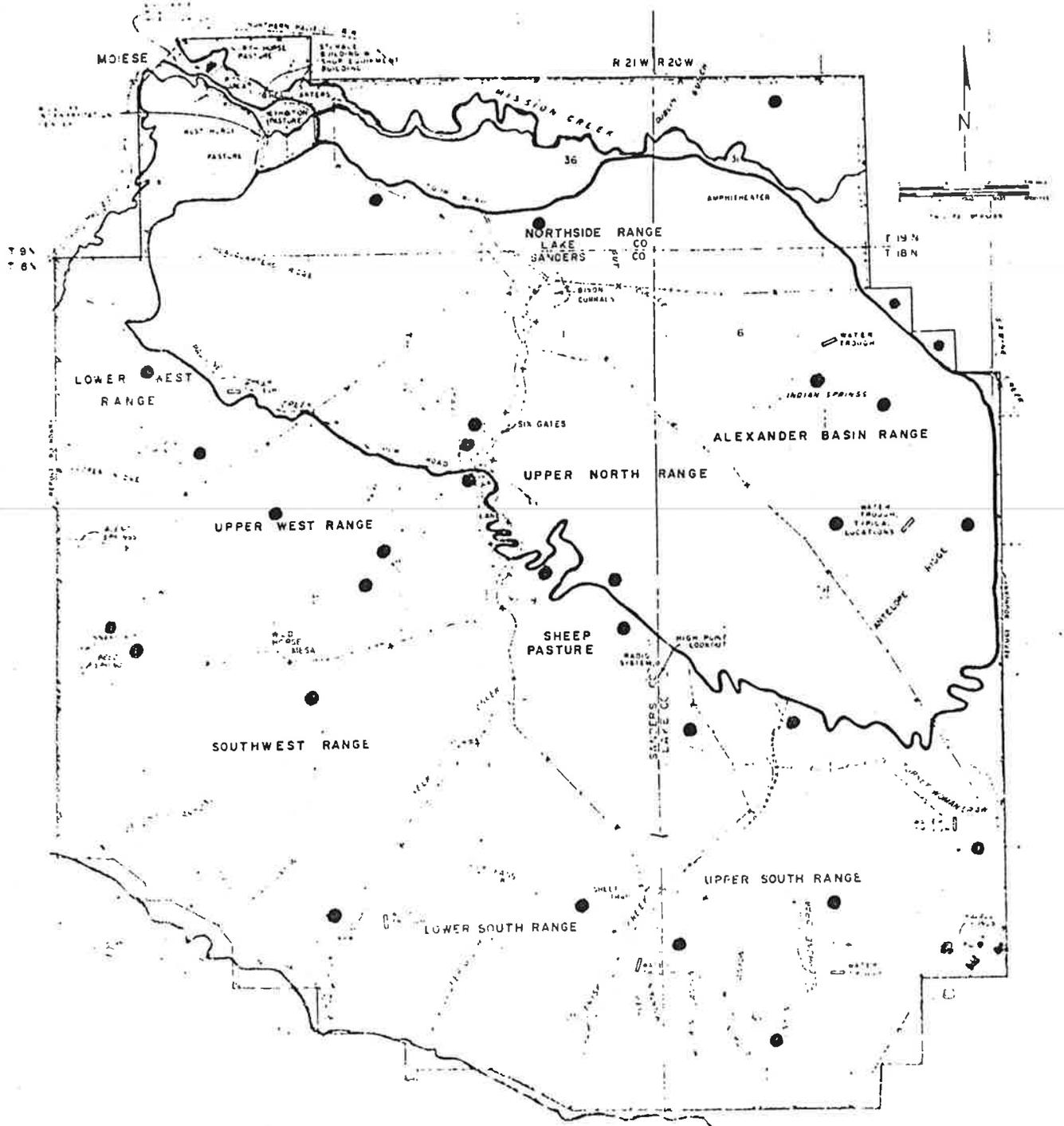
10/10/79
Date

Date

Date

Date

APPENDIX V



LEGEND:

● - APPROPRIATE SITE

⊙ - THREE-STEP TRANSITS

⊠ - AERIAL PHOTO POINTS

NATIONAL BISON RANGE

Moose, Montana

NATIONAL BISON RANGE
Moiese, Montana

FENCED ANIMAL
MANAGEMENT PLAN

U.S. Department of the Interior
Fish and Wildlife Service
Region 6

NATIONAL BISON RANGE
FENCED ANIMAL MANAGEMENT PLAN

PART I
BISON MANAGEMENT

Submitted by Jon M. Malcolm ^{BWD} . Date 5/18/88 .
Refuge Manager

Approved by Ly Barry . Date 6/17/88 .
(Regional Office)

Fenced Animal Management Plan
National Bison Range

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PART I. BISON MANAGEMENT

I. INTRODUCTION

The National Bison Range was established by special Congressional Acts, May 23, 1908 (35 Stat. L. 267-8, Agricultural Appropriations Act, Fiscal Year 1909) and March 4, 1909 (35 Stat. 1051, Agricultural Appropriations Act, Fiscal Year 1910), which authorized the President to reserve a maximum of 20,000 acres of land on the Flathead Indian Reservation, Montana, for a permanent National Bison Range. The refuge currently contains 18,540 acres and is in Lake and Sanders Counties, Montana. It is administered solely by the U.S. Fish and Wildlife Service.

Executive Order Number 3596 dated December 22, 1921, provided additional protection for the area by establishing it as a further sanctuary for bird life. Copies of the Congressional Acts and Executive Order appear in Appendix XV.

A. Refuge Objectives

The objective of the National Bison Range, in support of those for the National Wildlife Refuge System, is to maintain a representative herd of North American bison and bison habitat, along with representative populations of other big game species and their habitats, under reasonably natural conditions, to:

1. Assist in maintaining a publicly-owned gene pool for continued preservation of bison as a native species of North America.
2. Provide for public viewing and enjoyment of the animals and their habitat to foster understanding and appreciation for wildlife and wildlands.
3. Serve as an educational, demonstration, and training area for people interested and involved with the conservation and management of bison, other wildlife and their habitats.
4. Promote such research on bison, other wildlife species and their habitats as may be compatible with other objectives.
5. Provide surplus bison and other big game species as a source of breeding stock, transplant stock or meat to other public and private entities.

B. Herd History

The National Bison Range herd was started in 1909-10 at a time when the species, once numbering in the millions, was in danger of extinction. The majority of 40 animals in the

founder herd can be traced to northern Great Plains origin, but there was some southern plains blood included. Some 36 of the original founder herd came from the Conrad herd at Kalispell, which was formerly part of the Pablo-Allard herd of the southern Flathead Valley. This herd had origins in the Milk River area of north-central Montana, but had also received animals from southern plains sources. One female in the founder herd came directly from a southern plains source, the Goodnight herd in Texas. The remaining three bison came from the Corbin herd at the Blue Mountain Preserve in New Hampshire, which traced back to northern plains sources.

Additions of outside animals since original establishment have included 2 bulls in 1939 from the 7-UP Ranch at Cameron, Montana, (origin unknown), 4 bulls from Fort Niobrara Wildlife Refuge (included northern plains and Yellowstone blood) in 1952, 2 bulls from Yellowstone in 1953, and 4 cows from the Maxwell State Game Refuge, Kansas, in 1984 (southern plains blood mainly from Wichita Mountains). See Appendix I for a schematic drawing of origins and recorded transfers among several public bison herds.

By 1924, the NBR herd had grown to about 700 animals (Appendix II), and forage conditions deteriorated rapidly due to overgrazing. At that time the first major herd reduction occurred when 197 bison were removed. Some removals were made annually from then on, but the base population was not reduced enough to allow range recovery. Spring feeding of hay was employed from 1924 through 1940 to offset the lack of forage. Steps to bring herd numbers within range carrying capacity were not taken until the early 1950's. Since then, peak populations (before removals) have been maintained at 400-500 bison with removals approximating annual production.

Recovery of range condition did not occur until after cross fencing, which allowed initiation of a deferred-rotation bison grazing system, was completed in the early 1960's. Since the early 1960's peak populations have fluctuated between 400 and 500 bison.

Productivity of the herd has been good over the years. Percent of breeding age cows with a calf at side at October roundup is shown in Appendix III, and has averaged 87.4 percent since 1956.

Disease has not been a problem. Natural mortality has averaged only 1.7 percent of the peak population annually over the past 10 years. For the period 1910-1972, average natural mortality rates were calculated at 2.4 percent for calves and 1.5 percent for adults.

II. HERD MANAGEMENT

A. Herd Objectives

1. Population Size

To provide for the maximum public viewing opportunity and to help prevent the loss of genetic material through genetic drift or inbreeding, it seems appropriate to maintain herd size as large as possible. Range forage capacity and maintenance of a healthy native bunchgrass community (with consideration for forage use by other species) then becomes the primary limiting factor.

The most recent Soil Conservation Service Range Site and Condition survey was done in 1979, and indicated a total proper use stocking rate of 5,100 AUM's for the range on a 50 percent utilization basis (Appendix IV). However, a change in the rotation grazing system, as described in Section II-B1, was made in 1985. We believe the new system is increasing condition and health of the range and that an increase of at least 15-20 percent can safely be added to total AUM capacity under the new system.

Total AUM's of grazing use by all species should be held at 6,000 or less. As shown in Appendix V, approximately 1,920 AUM's are set aside for other big game species, with 4,080 remaining for bison. The recommended objective of 370 bison in the post removal population and 500 peak population averages approximately 330 animal units and total 3,960 AUM's per year.

2. Herd Sex and Age Composition

Policy is to maintain a sex and age structure approximating natural conditions. There is no known information available on age and sex structure of bison herds as they occurred naturally on the plains, so estimation of a natural composition is somewhat arbitrary.

We can look to the larger, unmanaged herds of Yellowstone Park and Wood Buffalo Park for some guidelines. Information from both areas indicates that calves comprise 15-20 percent of summer populations. At the MacKenzie Bison Preserve north of Wood Buffalo where the wood bison herd is rapidly expanding, calves average 21 percent of the population. Age classes of female bison trapped in a reduction program at Yellowstone in 1964-65 averaged 22 percent calves, 18 percent yearlings, 8 percent 2 years, 8 percent 3 years, and 44 percent older. Post removal populations here for the past 20 years have

been maintained at about 25 percent calves, 15 percent yearlings, 12 percent 2 years, 10 percent 3 years, and 38 percent older.

Information from the larger, unmanaged herds indicates that a more natural age structure might be simulated by harvesting some of the calves each year. However, calves have never been sold here. The main reason is probably that the October roundup is too early to successfully wean most calves. Only the earliest born calves could be sold because calf demand is solely for breeding stock and buyers would want a high survival rate. If calves were sold, we would be removing the larger, stronger animals that have a head start. We believe it advantageous to long-term herd welfare to retain the early calves and recommend continuing no sales until the yearling age class. Recommended age class objectives for the post removal population is roughly 25 percent calves, 15 percent yearlings, and 60 percent older animals.

In the past, a few animals have been special-branded with individual brands and thereafter kept in the herd as a check on natural longevity. It is recommended that this practice continue, and that roughly 5 percent of the post removal herd be represented by special-marked animals.

It is believed that natural sex composition in bison favors females, particularly in the older age classes due to the aggressive behavior and fighting by males during the rut. This is borne out by longevity records of special-branded animals indicating that cows will live to 20 or more years while bulls usually don't last beyond 15-16 years. Those who have studied the herd at Wood Buffalo National Park believe that the adult population is normally represented by about 60 percent females and 40 percent males. A 60-40 ratio is therefore recommended for sex ratio in the NBR herd.

3. Herd Genetics

Herd genetics should be considered both in maintaining the health and welfare of the NBR herd itself and in helping to maintain the overall bison species gene pool. Of approximately 100,000 bison currently present in North America, some 16,000 are found in public herds, with the majority in the hands of private buffalo ranchers. Private ranchers can be expected to breed and select bison largely for meat production with little or no regard for the history or destiny of bison as a species. It seems, then, an important obligation of public bison herd officials to maintain the species genetically as closely as possible to that surviving the bottleneck of near extinction.

→ If this point is accepted, one method of accomplishing the goal is for public herds to periodically trade and mix blood to keep the genetic material spread over a larger base population. It appears that there was a good deal of trading and intermixing of herds during the period of population regrowth following the bottleneck (Appendix I). Hence, it is likely that the degree of genetic diversity surviving the bottleneck is still present in the overall population. However, blood typing studies have shown that there are genetic differences among some of the public herds. Appendix VI gives a comparison of allele frequencies in blood groups among several herds. The frequency analysis indicates less diversity in blood group alleles in the NBR herd than in most of the others. Appendix VII shows the genetic identity relationship of the NBR bison herd with 7 other herds, based on blood typing. This was one of the factors leading to the introduction of four heifers from the Maxwell herd in Kansas.

Recommended genetic objectives for the NBR herd include:

- 1) Periodic introductions of animals from other public herds (each 5-10 years) to maintain genetic diversity and prevent inbreeding depression.
- 2) Monitor genetic diversity of the herd by blood testing the entire calf crop once every 5-10 years to document gain or loss of genetic material and assess results of introductions from other herds.

For a source of new herd blood, it is recommended that available blood typing information be used, and that a more distantly related herd be sought as opposed to a more closely related herd. Females are the recommended route for bringing in new blood as their reproductive success is more reliable and predictable. Bulls may or may not become dominant breeders. If they do, it could result in a major change of bloodlines in a few years, which is not necessarily the goal.

B. Grazing Management

1. Range Units

From 1965 through 1985, the bison have been run in 2 herds on 8 separate range units with each herd using 4 units under the deferred rotation grazing system illustrated in Appendix VIII. Annual AUM use by other big game species has ranged from about 1,000 to 1,900 annually, averaging approximately 1,500. Total grazing use by all species has averaged about 5,000 AUM's.

The most recent Range Site and Condition survey in 1979 indicated a proper use capacity of approximately 5,100 AUM's (Appendix III). This was a slight decrease from a previous survey in 1977. That decrease, and observations since, led to suspicions that range condition had reached a plateau and was declining under the grazing rotation and stocking rates employed. It appeared that a combination of overuse and over-rest was occurring in a patchy pattern within small areas. Some patches were being continually regrazed and weakened with each scheduled grazing period, while old growth in other patches was continually avoided, with bunchgrasses becoming decadent. This may have had bearing on the proliferation of noxious weeds, particularly goatweed, that occurred from 1980 to 1986.

In 1985, we made an experimental change in the grazing rotation to force more complete and even use of bunchgrasses and also to determine if trampling effect might help in reducing goatweed density. The new rotation is shown in Appendix IX, and essentially amounts to doubling the stocking rate by leaving bison in fall units for 6 months, rather than moving to the next unit in January. Since the recommended stocking rates from SCS are based on 50 percent utilization and 3 months of bison use is 75-90 percent of stocking rate, depending on the unit, the 6 months treatment graze removes 75 to 90 percent of the annual forage produced. The treatment graze is done on each unit once during the 4-year cycle and occurs during the fall and winter when grasses are dormant and not subject to root reserve depletion. The new rotation also eliminates moving buffalo in January, precluding the hazardous situation of men on horseback on the snowy and icy sidehills.

The new system is now in its third year of use and appears to be working well. Approximately 3,900 AUM's were used annually by bison during the first two years of the new rotation system, approximately half coming off of the 2 units that received the treatment graze each year. The utilization on units grazed 6 months was full, with nearly all dead standing vegetation used. There was plenty of trampling and fertilizer effect, yet remaining ground litter was adequate to protect soil from erosion. Regrowth the spring following treatment was excellent both years on the units that were treatment grazed.

There were approximately 1,900 AUM's utilized each year by other species of big game during the first two years of the new rotation, for a total of about 5,800 AUM's used annually. Observations this far have indicated that the range can safely accommodate 6,000 AUM's annually under the new system. It is recommended that

the new system be continued and watched closely to assess its impact on range condition. The schedule for units is shown in Appendix X.

Bison moves from one range unit to another should not follow exact calendar dates, but should follow the general schedule with consideration given to plant condition and forage availability. For example, units should be monitored closely toward the end of the fall-winter treatment graze period to insure that there is adequate forage for bison during the later stages of pregnancy. If forage supply becomes inadequate, herds should be moved early to spring units.

Appendix XI shows animal unit equivalents for the various age and sex classes of bison that are used for calculating AUM's. To match with capacities of the range units, approximately 60 percent of the bison animal units should be in Herd 1 and 40 percent in Herd 2. Maximum animal units should be 190 for Herd 1, and 140 for Herd 2, for a total of 330.

2. Display Pastures

Two display pastures of about 200 acres each have been fenced out near headquarters and the Visitor Center to provide viewing opportunities during the tourist season. One or the other of these is stocked with 8-10 bison and 5-6 elk. Grazing of display animals should be rotated in accordance with the following schedule.

	<u>East Display Pasture</u>	<u>West Display Pasture</u>
1988	Apr-Sept	Deferred
1989	Deferred	Apr-Sept.
1990	Apr-June	July-Sept
1991	July-Sept	Apr-June
1992	Apr-Sept	Deferred

3. Exhibition Pasture

The 20-acre Exhibition Pasture is cross-fenced in 2 sections and is sprinkler-irrigated at least three times each summer. There are 4-7 bison kept in the pasture year-around. Hay can be cut for winter feeding this small bunch. Animals can be shifted between sections during sprinkler irrigating and during haying operations. Due to the intensive use, the pasture should be fertilized every 3-4 years with a standard irrigated pasture mix for this vicinity.

C. Surplus Animal Disposal

1. Annual Sealed Bid Sale

It is recommended that the annual sealed-bid live sale continue as the primary means of surplus disposal. Bid sheets showing the number of bison offered in the various sex and age classes should be prepared in late July (Appendix XII). The bid sheets are mailed to individuals on a list maintained in the computer files. Bid sheets are sent out about August 10, and sealed responses should be due in the office September 10-15. This leaves time to notify successful bidders, collect balance of payments due, and schedule pick up times prior to the roundup.

It should be noted that 10 percent of surplus bison will be made available for American Indians religious activities in accordance with 7 RM5.12B (copy in Appendix XVI) prior to sending out bid invitations.

Selection of Sale Animals

Excess numbers of each age and sex class are determined by reviewing the numbers turned back to the range after the previous roundup, while considering known mortality records for the year and assuming an average current calf crop. The post removal objective for population size and age/sex composition then dictates the removal targets. In addition, the bison herds should be inspected just prior to preparation of bid sheets. This inspection can identify animals that should be sold due to substandard condition, lameness, white eyes (lesions resulting from pinkeye), broken horns, or other reasons. This will ensure a spot on the bid sheet for such animals that could otherwise be missed if bid sheets were prepared strictly by the numbers.

The specific animals sold are selected when the bison are worked through the corrals at roundup. The successful bidders and prospective disposition of sale animals have already been determined at this point, and should be considered in the selection process. Selection of sale animals is to some extent a culling process, but to meet the required disposal targets the majority of animals sold are perfectly good. "Culls", for whatever reason, normally number less than 15 animals out of the entire bunch. Animals with defects such as broken horns, lameness, eye spots, partial blindness, or substandard condition should be selected for buyers planning to butcher the animals or put them in a feedlot. Animals without such defects should be selected for buyers planning to use the animals as breeding stock. Scales have been installed to aid in the selection process so that weight can be used as a selection criteria. It

seems logical that the larger and stronger animals would be more likely to survive in a natural population, so the animals of average to below average weights should be selected for sale in the absence of other criteria.

The sealed-bid sale is advertised as gate cut, so buyers have no guarantee on the condition of the animals they get. However, there is generally adequate flexibility to match animals to the buyers plans and avoid dissatisfaction. Animals in very poor condition should not be sold, but should be sacrificed or returned to the range and monitored for possible recovery.

Injuries precluding movement of bison to the corrals occasionally arise during the August rut or roundup activities. It is sometimes possible to field slaughter these animals to fill a successful bid. If not, attempts should be made to salvage the meat and sell the animal to the next highest interested bidder or donate the carcass to a charitable institution.

2. Donations

Donations of live bison for breeding purposes can be made during the annual roundup in accordance with policy in 7RM5, 7RM13, and 50CFR 30.2.

Animals found injured on the range should be humanely dispatched. If possible, carcasses can be salvaged and donated in accordance with 50CFR 30.2.

The Confederated Salish and Kootenai Tribes, from which land for the Bison Range was purchased, have occasionally requested donations of bison to provide meat for various celebrations and special occasions. It seems a neighborly gesture to honor these requests with a bison or two per year. When this is done, the animals selected should be individuals that would be removed during the next roundup anyway.

3. Annual Roundup

Field preparations for the roundup should begin in early September. Personnel should begin riding and exercising horses to get them in good strong condition by late September. The bison corrals should be inspected and repaired as necessary to insure they are in good working condition. Volunteers and temporary help should be contacted to insure adequate manpower for the corral work. Range personnel should ride vacant range units during the third and fourth week of September to gather any stray buffalo.

Roundup corral work has traditionally been done the first Monday and Tuesday of October. The two main bison

herds should be moved from range units into Elk Lane on the Wednesday and Thursday before corral work, leaving Friday free in case of problems. The herds are held in separate sections of Elk Lane until the corral work begins. The roundup cutting pen can also be used as part of the holding area for one herd.

When corral work begins the herds are moved into the cutting pen one at a time. Four riders then proceed to cut groups of about 20 bison from the herd and move them into the corral system. Bison are then split into progressively smaller groups. Adult animals are then weighed and inspected individually.

Sale animals are selected, back-tagged, and moved into a squeeze chute for brucellosis and tuberculosis testing as necessary. They are then sorted into holding pens according to age and sex class and buyer lots. Tuberculosis testing is required for animals for out-of-state transfer, requiring another run through the squeeze chute 72 hours from the initial inoculation. This should be considered in assigning holding pens, so that sorting and handling operations are held to a minimum.

All calves are run through a smaller calf squeeze chute for year-branding. Heifer calves are vaccinated for brucellosis. Blood can also be taken here for genetic blood type monitoring if desired. All calves are weighed following branding and then returned to the range herds.

Range herds are held in two holding pens above the corrals. As herds for the coming year are formed, bulls 3 years and older are switched from one herd to the other. Alteration of bulls annually between cow herds may help prevent direct line inbreeding and increase genetic diversity in calf crops.

Buyers are scheduled to pick up their animals Wednesday through Friday of roundup week. The 72-hour TB tests should be coordinated with loading schedules to minimize handling of animals.

D. Disease Prevention and Control

Diseases have not been a significant problem, largely due to close monitoring of herd health and preventative measures taken during annual roundups.

Brucellosis

Brucellosis is a disease of primary concern in bison that has been prevented here by annual vaccination of all heifer calves. There were problems in the late 1960's and early 1970's with some animals that were positive reactors to brucellosis blood tests. The positive reactions were thought

to represent reactions to the vaccine rather than the actual disease, so vaccination of heifer calves was discontinued in 1973. It was resumed in 1981 when a new dilute-strength vaccine became available. Among subsequent tests of females vaccinated annually since then there have been no positive reactors. Currently, there are 3 older cows in the herd that were vaccinated with the original vaccine prior to 1973. About 12 percent (26 head) of females in the herd are non-vaccinates born from 1973 through 1980.

In 1983, some suspect reactors among the non-vaccinated cows prompted a second roundup and complete herd test for brucellosis. That herd test came out clean and "brucellosis free" certification was granted (Appendix XIII).

Leptospirosis

Leptospirosis is a water-borne disease that can cause abortion, jaundice and ulcerated eyes. In 1979, a vaccination program was started in calves after several years of a high percentage of late calves. In 1980, the calf crop was only 74 percent and lepto vaccinations were expanded to all bison. An annual booster of 5-way lepto vaccine has been given to all animals each year since then.

The vaccinations appear beneficial, as calf crops have averaged 85 percent since 1981, the number of late calves has dropped and few white or ulcerated eyes are noticed. Since Mission Creek provides a potential outside source of this water-borne disease it is recommended that the annual booster shots be continued for all bison.

Endoparasites

Internal parasites are apparently no problem where bison are run in large pastures and under a grazing rotation. Fecal samples were collected from a number of bison at the 1985 roundup, and there were no indications of endoparasites. Samples collected in 1987 revealed eggs of the internal parasites Trichostrangyles sp., Nematodirus sp., and Ostenti sp. in 6 of 34 samples. However, concentrations were minimal and no cause for concern.

Tick Paralysis

Tick paralysis has occasionally been a problem in some bison, particularly yearlings. The problem can be treated by removing all ticks from downed animals, particularly the ticks on top of their heads. The majority of animals have usually recovered after tick removal.

Heel Fly Larvae

Problems with heel fly larvae (grubs) in the skin of bison developed in the late 1970's. At that time, annual

treatment of all animals with a pour-on solution of fenthion was begun to prevent larval infestation. However, the practice was discontinued in 1986 in view of research implicating fenthion in the death of raptors. Another treatment should be sought if problems with heel fly larvae again become evident.

Quarantine of Introduced Animals

To help prevent introduction of new diseases or parasites, any animals introduced should be tested for brucellosis and tuberculosis. In addition, they should be treated with Ivermectin to kill any internal parasites and quarantined at the corrals for 90 days prior to release on the range.

Compliance With Animal Health Regulations

Management should maintain contact with State and Federal veterinarians to keep abreast of livestock disease matters and insure our compliance with State and Federal regulations.

The District Veterinarian of the State Livestock Department should be contacted prior to roundup to schedule his presence along with necessary supplies. He is in charge of blood testing sale animals and a sample of others if deemed necessary, and he prepares the necessary health permits prior to departure of sale animals from the area.

Periodic Herd Inspections

The bison herds should be inspected at least twice monthly, and more often during spring and summer. If disease or sickness problems are detected, the State vet is normally available to provide diagnosis, autopsy or treatment services.

Very sick or injured animals should be humanely destroyed, and sick animals necropsied if deemed appropriate. Dead animals found on the range should be removed from public view and left for scavengers.

III. MANAGEMENT OF PUBLIC VIEWING

A. Long Auto Tour

The rotation grazing schedule works out so that bison are present in at least one of the range units traversed by the long tour during the primary visitor season of May through September. Thus, there is always potential for visitors to see bison on the tour, although there is no guarantee that they will always be near or within sight of the road.

For safety reasons and to help provide viewing opportunities for more visitors, people are required to remain at their vehicles and on the road while on the tours. Walking or hiking away from the road is prohibited except for 2 designated foot trails. These trails are closed when bison are present in the Upper North range unit. Bison and some of the other big game species have become accustomed to vehicles, but will usually run when approached on foot. If hiking were allowed, people would constantly keep animals driven away from the road reducing viewing opportunities as well as disturbing grazing patterns. Enforcement of the hiking prohibition requires constant patrol during the visitor season. Off-road hiking is the most common violation encountered.

B. Short Auto Tours

Two short tours, the East and West Buffalo Prairie Drives have been developed near the Visitor Center and a small group of bison are kept along one or the other during visitor season. This provides opportunity for visitors to view bison closely under reasonably natural conditions without having to take the 19-mile long tour. This experience satisfies many of the visitors, who then leave on their travels elsewhere. This helps hold down use and improves the quality on the long tour drive.

The hiking prohibition is also enforced on short tours. Personnel patrolling the auto tours keep Visitor Center personnel apprised of current bison locations and viewing opportunities, so that visitor inquiries can usually be answered accurately.

C. Exhibition Pasture

Bison kept in the Exhibition Pasture provide a year-around guarantee that visitors have the opportunity to see a bison here. Although the setting is not as natural as the display pastures or range units on the long drive, the Exhibition Pasture fills a definite need. It is quite popular with locals during the off-season when the long auto tour is closed. In addition, there are times during the visitor season when bison cannot be seen from either the long or short auto tours. The Exhibition Pasture is then the only bison viewing opportunity.

D. Annual Roundup

The two days of corral work has been open to the public for many years and has become a traditional event. It is attended primarily by western Montana residents, but seems more attractive to tourists each year.

Overcrowding and concern for public safety presents a serious management challenge. So long as funding allows

adequate core staff, and volunteers are willing to assist in visitor control, the crowds can be handled. It appears that about 2,500 visitors can be accommodated over the two-day period without overcrowding and public safety problems.

Crowds have been held to this capacity most years by avoiding aggressive publicity prior to roundup and by controlling visits by school groups. If over-capacity crowds develop in the future, other means of limiting visitors will be required or additional viewing facilities will need to be developed to increase capacity.

IV. MANAGEMENT NEEDS

A. Personnel

1. Bison Moving, Checking, and Handling

This part of the operation requires a cadre of personnel who have experience and on-the-job training in working with buffalo. The safety hazards are unique and require personnel with special skills. The horseback work in moving and rounding up bison is the most hazardous. Riders must be skilled at handling horses in the steep and rocky terrain which is often negotiated on the run. They must be familiar with the lay-of-the-land and trail locations. Riders also need the ability to "read" the behavior and action of bison being chased, and must develop the sense of deciding when to push or when to back-off during encounters. Anyone new to this part of the operation will require specific instructions, training, and experience before they are put in a spot jeopardizing their safety or that of other crew members.

Riding to move bison herds or bring them into holding areas for the roundup requires a crew of 6-8 people. Regular crew members should be employed to the fullest extent possible. If extras or volunteers are used, they will require specific instructions, close watching, and assignment to the least hazardous spots.

2. Maintenance of Facilities

Maintenance of fences, roads, corrals, watering facilities, and buildings requires at least 2 permanent, full-time and 3-4 seasonal maintenance personnel.

3. Annual Roundup

The two days of corral work at the annual roundup requires a total staff of about 40 people. About 25 are required to handle the buffalo and approximately 15 are needed for visitor assistance and crowd control.

The roundup corral work presents varying degrees of hazard depending on assignment, but the hazards to both crew and animals can be held to a minimum if workers have experience at their particular job. Foot work on ground level hazing of bison is done only in the first two corral sections and should be assigned only to 2-3 regular crew members who have received specific training. Other ground level work is performed at the large squeeze chute and at the calf chute. Personnel assigned there should be refuge regulars, paid temporaries, or volunteers who return annually. The remainder of work is done from overhead catwalks where hazards are not as critical, but experience still promotes a more efficient operation. Volunteers are important in accomplishing the roundup corral work, and efforts should be made to promote the annual return of as many as possible.

4. Personnel Needs Summary

Task	FWS Employees		Volunteer	
	No.	Man-Days	No.	Man-Days
Bison moves & roundup	8	160	2	10
Herd inspection, salting, etc.	2	50	-	-
Roundup corral work	20	70	20	40
Facilities maintenance	6	200	-	-
Admin., records, reports, etc.	3	50	-	-
		<u>530</u>		<u>50</u>

B. Facilities

There are approximately 23 miles of big game boundary fence and 34 miles of interior fence that are necessary for bison management. This fence has all been converted to steel posts and will remain in good shape for at least the next 10 years. No major rehabilitation needs are anticipated, but constant annual maintenance is required.

Over 50 miles of gravel and dirt patrol roads and tour roads require periodic maintenance with a motor patrol.

The bison corrals are in good shape and recent additions to sale pens should provide adequate facilities for handling bison. Wooden catwalks will be replaced with non-skid aluminum material over the next 2-3 years. With proper annual maintenance and painting as necessary, no major rehabilitation needs are anticipated for the next 10 years.

C. Equipment

Funding has been adequate in recent years to provide for replacement of key equipment used in bison management. A new

stake truck used for transportation of horses has just been received and a four-horse trailer is only a year old. Three pickups in the fleet are fairly new and three more have been ordered.

A string of 8-10 horses is required. Horses should be replaced as necessary to insure that riders have sound mounts. Replacement needs generally average one horse per year. Only geldings at least 4-5 years old should be purchased and arrangements should be made to try them out prior to purchase if possible. Horses should be on a good program of feeding, pasture, and health care. The string can be turned out onto a range unit for winter, but not in the same unit with bison.

APPENDIX II

Basic population data for the National Bison Range bison herd,
1910-1987.

Biological Year	Pop. Before Reproduction	Calves Produced	Natural Losses	Removals	Final Population
1910-11	37	11			48
1911-12	51	19	1		69
1912-13	69	16			85
1913-14	85	19			104
1914-15	104	26			130
1915-16	130	34	1		163
1916-17	163	32	2		193
1917-18	193	47	1		239
1918-19	239	56			295
1919-20	295	73	3		365
1920-21	365	58	10		413
1921-22	413	68	7		474
1922-23	474	82	5		551
1923-24	551	85	4	29	603
1924-25	603	96	5	197	497
1925-26	497	77	20	93	461
1926-27	461	140	11	50	540
1927-28	540	118	16	178	464
1928-29	464	79	28	190	325
1929-30	325	77	3	105	294
1930-31	294	76	8	8	354
1931-32	354	92	7	3	436
1932-33	436	134	9	89	472
1933-34	472	94	2	89	475
1934-35	475	117	12	178	402
1935-36	402	74	6	32	438
1936-37	438	80	4	110	404
1937-38	404	83	4	157	326
1938-39	326	81	10	8	389
1939-40	389	97	7	110	369
1940-41	369	91	13	55	392
1941-42	392	114	6	62	438
1942-43	438	111	6	75	468
1943-44	468	139	17	105	485
1944-45	485	129	8	125	481
1945-46	481	134	10	141	464
1946-47	464	119	9	125	449
1947-48	449	166	7	128	481
1948-49	481	175	17	167	472
1949-50	472	148	3	219	398
1950-51	398	134	21	166	345
1951-52	345	84	6	121	302
1952-53	302	97	3	91	305
1953-54*	305	83	16	75	299

APPENDIX II, Page 2

Biological Year	Pop. Before Reproduction	Calves Produced	Natural Losses	Removals	Final Population
1954-55	299	90	5	72	312
1955-56	312	95	13	91	303
1956-57	303	81	5	67	312
1957-58	312	88	2	71	327
1958-59	327	100	3	87	337
1959-60	337	92	4	85	340
1960-61	340	78	4	78	336
1961-62	336	104	3	77	360
1962-63	360	101	2	91	368
1963-64	368	102	8	94	368
1964-65	368	120	11	99	378
1965-66	378	102	18	131	331
1966-67	331	82	6	87	320
1967-68	320	89		80	329
1968-69	329	91		91	329
1969-70	329	102	12	79	340
1970-71	340	69	15	80	314
1971-72	314	88	5	83	314
1972-73	314	89	15	62	326
1973-74	326	91	9	81	327
1974-75	327	78	4	110	291
1975-76	291	88	7	66	306
1976-77	306	82	16	73	304
1977-78	304	83	6	73	308
1978-79	308	88	-	66	323
1979-80	323	81	13	66	325
1980-81	325	78	19	76	308
1981-82	308	99	-	68	339
1982-83	339	87	1	83	329
1983-84	329	99	3	92	337**
1984-85	337	90	-	66	361
1985-86	361	103	15	92	357
1986-87	357	95	2	77	373

*Discrepancies in these years are a result of adults introduced on the refuge.

**Four heifer calves introduced from Maxwell Refuge, Kansas.

APPENDIX III

NATIONAL BISON RANGE

Bison Reproductive Success (1956-1987)
 32-Year Average - 87.4 Percent

<u>Year</u>	<u>Breeding Age Cows</u>	<u>Calves Born</u>	<u>Reproductive Success (percent)</u>
1956	88	81	92
1957	104	87	84
1958	104	99	95
1959	102	92	90
1960	97	76	78
1961	111	103	93
1962	121	101	84
1963	105	96	91
1964	124	120	97
1965	109	102	95
1966	97	82	85
1967	105	89	85
1968	107	91	85
1969	107	102	95
1970	96	69	72
1971	94	88	94
1972	97	89	92
1973	97	91	94
1974	91	78	86
1975	95	88	93
1976	91	82	90
1977	89	83	93
1978	95	88	79
1979	103	81	79
1980	109	81	74
1981	104	99	95
1982	101	87	86
1983	118	99	84
1984	112	89	79
1985	110	90	82
1986	115	103	90
1987	121	95	79
Totals	<u>3,319</u>	<u>2,901</u>	Average <u>87.4</u>

RANGE CONDITION CLASS OF THE NATIONAL BISON RANGE

Condition Class	1964		1969		1973		1977		1979	
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
Excellent	570	3	1,759	10	2,971	17	14,206	83	11,845	67
Good	7,320	42	13,853	78	11,548	67	2,064	12	3,607	21
Fair	9,500	54	2,013	12	2,741	16	893	5	2,148	12
Poor	235	.1	T	-	T	-	0	0	0	0

ADM'S

Pasture	1940		1964		1969 Previous Survey		1973 Previous Survey		1977 Previous Survey		1979 Previous Survey	
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
West Horse Pasture (Display)	559	65	518	65	592	0	532	65	690	0	663	65
Over West Range	456	224	226	2	482	+74	482	-60	596	+159	583	+114
Southwest Range	352	388	461	2	407	+73	407	-54	472	+65	457	+114
Over South Range	495	840	1,024	0	636	+184	636	-388	640	+4	495	+4
Alexander Basin Range	397	390	390	0	765	0	765	+375	805	+40	705	+40
Northside Range	421	671	764	93	428	+93	428	-336	529	+101	515	+101
Upper West Range	513	418	430	12	695	+12	695	+265	813	+118	789	+118
Upper North Range	335	538	584	46	468	+46	468	-116	566	+98	704	+98
Upper South Range	148	318	374	59	326	+59	326	-48	257	-69	43	-69
Sheep Pasture												
East Display Pasture												
Totals	3,676	4,367	4,910	+543	4,804	-106	5,433	+629	5,103	-330		

APPENDIX V

Objective Population Levels and AUM Allocations for 7 Big Game Species

Establishment purpose of NBR dictates that bison should be the dominant ungulate species, so the majority of the AUM's have been allocated to bison. Population objectives for other big game species require analysis of habitat availability for each species. Information on the area, productivity and use of the various species habitats on NBR was in part obtained from the 1980 M.S. Thesis "Niche Separation of Seven North American Ungulates on the National Bison Range" by Y. McCullough from the University of Michigan.

Species population objectives, within habitat constraints, have also been set in consideration of the numbers necessary to provide the visiting public with reasonable viewing opportunities. These objective levels are listed below.

<u>Species</u>	<u>Peak Population</u>	<u>Post Removal Population</u>	<u>Average Animal Units</u>	<u>AUM's</u>
Bison	500	370	330	3,960
Elk	165	130	70	840
Mule Deer	260	200	35	420
White-tailed Deer	225	175	25	300
Pronghorn	120	100	10	120
Bighorn Sheep	100	75	15	180
Rocky Mountain Goat	40	30	5	60
Total All Species	1,410	1,080	490	5,880

The relationship of objective populations to available habitat is shown below.

<u>Species</u>	<u>Available Habitat</u>		<u>Peak Populations</u>	
	<u>Sq. Mi.</u>	<u>Sq. Km.</u>	<u>No./Sq. Mi.</u>	<u>No./Sq. Km.</u>
Bison	27.7	71.7	15	6
Elk	10.3	26.7	16	6
Mule Deer	14.8	38.3	18	7
White-tailed Deer	4.8	12.4	47	18
Pronghorn	8.9	23.0	13	5
Bighorn Sheep	4.8	12.4	21	8
Rocky Mountain Goat	2.1	5.4	19	7

APPENDIX VI

A Comparison of Gene Frequencies at 8 Blood Group Loci in Four Public Herds of American Bison (Data From Stormont Laboratories)

Gene Locus	Alleles	National Bison Range			WMWR	WCNP	MR	CSP
		1981	1982	1983	1981	1983	1983	1984
A	a	0.946	0.931	0.935	0.835	0.822	0.850	0.859
	aA	0.054	0.069	0.065	0.165	0.178	0.150	0.141
B	b	0.000	0.006	0.005	0.382	0.347	0.66	0.364
	bE'3	0.000	0.000	0.000	0.000	0.019	0.00	0.035
	bJ'	0.255	0.128	0.151	0.070	0.097	0.16	0.066
	bQ'	0.734	0.793	0.729	0.302	0.370	0.06	0.394
	bE'3Q'	0.000	0.000	0.000	0.230	0.000	0.06	0.010
	bJ'Q'	NT	0.073	0.099	0.000	0.069	0.00	0.010
	bA'J'Q'	0.000	0.000	0.000	0.000	0.000	0.06	0.106
	bGE'3Q'	0.011	0.000	0.005	0.016	0.097	0.00	0.015
C	c	0.979	0.976	0.084	0.661	0.574	0.92	0.645
	cw	0.006	0.006	0.005	0.245	0.116	0.04	0.157
	ccw	0.015	0.018	0.011	0.094	0.310	0.04	0.197
F	f	0.989	0.994	0.995	1.000	1.000	0.90	0.995
	fN'	0.011	0.006	0.005	0.000	0.000	0.10	0.005
J	j	0.947	0.963	0.878	0.692	0.481	0.76	0.647
	jJ	0.053	0.037	0.122	0.308	0.519	0.24	0.353
M	m	0.858	0.850	0.790	0.990	0.844	0.62	0.980
	mM'	0.142	0.150	0.210	0.010	0.156	0.38	0.020
S	s	0.746	0.753	0.755	0.907	0.708	0.76	0.778
	su	0.254	0.247	0.000	0.093	0.000	0.00	0.000
	sS1	NT	NT	0.136	NT	0.292	0.24	0.222
	sS2	NT	NT	0.109	NT	0.000	0.00	0.000
Z	z	0.442	0.440	0.448	0.448	0.648	0.76	0.611
	zZ	0.558	0.560	0.552	0.552	0.352	0.24	0.389
Average Degree of the Animals' Heterozygosity for 8 Loci		NT	NT	2.58	NT	4.00	3.50	3.49
Range of the Animals' Heterozygosity for 8 Loci		NT	NT	0-5	NT	2-7	0-7	0-7

National Bison Range: 1981-95 animals, 1982-83, 1983-96. WMWR-Wichita Mountains National Wildlife Refuge: 96 animals. WCNP-Wind Cave National Park: 108 animals. MR-Maxwell Refuge, Kansas: 25 animals. CSP-Custer State Park-99 animals

APPENDIX VIIb

TABLE 1

Genetic relationship of seven bison herds averaged over gene frequencies in the blood group systems A, B, C, F, M, S and Z plus the carbonic anhydrase system

	Herds*					
NBR	FNNWR	CSP	WCNP	TRNPSU	TRNPNU	MR
	.958	.923	.913	.887	.877	.845
		.957	.945	.971	.952	.923
			.995	.942	.886	.932
				.937	.885	.923
					.954	.949
						.879

- * NBR - National Bison Range
- FNNWR - Ft. Niobrara National Wildlife Refuge
- CSP - Custer State Park
- WCNP - Wind Cave National Park
- TRNPSU - Theodore Roosevelt National Park - South Unit
- TRNPNU - Theodore Roosevelt National Park - North Unit
- MR - Maxwell Refuge

From Stormont, 1987

APPENDIX VIIc

TABLE 2

Order of relationship between various bison herds* where number 1 indicates the closest relationship and number 6 the most distant relationship

	NBR	FNNWR	CSP	WCNP	TRNPSU	TRNPNU	MR
NBR	-	1	2	3	4	5	6
FNNWR	2	-	3	5	1	4	6
CSP	5	2	-	1	3	6	4
WCNP	3	2	1	-	4	6	5
TRNPSU	6	1	4	5	-	2	3
TRNPNU	6	2	3	4	1	-	5
MR	6	3	2	4	1	5	-

- * NBR - National Bison Range
 FNNWR - Ft. Niobrara National Wildlife Refuge
 CSP - Custer State Park
 WCNP - Wind Cave National Park
 TRNPSU - Theodore Roosevelt National Park - South Unit
 TRNPNU - Theodore Roosevelt National Park - North Unit
 MR - Maxwell Refuge

From Stormont, 1987

NATIONAL BISON RANGE

1966-85

4 Year Rotation for an Individual Pasture

<u>Year</u>	<u>Jan-Feb-Mar-Apr-May-June-July-Aug-Sept-Oct-Nov-Dec</u>
1	-----XXXXXXXXXXXX-----
2	XXXXXXXXXXXX-----
3	-----XXXXXXXXXXXX-----
4	-----XXXXXXXXXXXX-----
	Grazed XXXXXX
	Rested -----

NATIONAL BISON RANGE

1985

4 Year Rotation for an Individual Pasture

<u>Year</u>	<u>Jan-Feb-Mar-Apr-May-June-July-Aug-Sept-Oct-Nov-Dec</u>
1	-----XXXXXXXXXXXX
2	XXXXXXXXXXXX-----
3	-----XXXXXXXXXXXX
4	-----XXXXXXXXXXXX

Grazed XXXXXX
Rested -----

APPENDIX X

Grazing Rotation Schedule for NBR Bison Herds

Herd 1
Maximum 190 Animal Units

	<u>Upper South</u>	<u>Upper North</u>	<u>Northside</u>	<u>Lower West</u>
1988	Apr-June	Oct-Dec	Jan-Mar	July-Sept
1989	July-Sept	Jan-Mar	Apr-June	Oct-Dec
1990	Oct-Dec	Apr-June	July-Sept	Jan-Mar
1991	Jan-Mar	July-Sept	Oct-Dec	Apr-June
1992	Apr-June	Oct-Dec	Jan-Mar	July-Sept

Herd 2
Maximum 140 Animal Units

	<u>Alexander Basin</u>	<u>Upper West</u>	<u>Lower South</u>	<u>Southwest</u>
1988	Apr-June	Oct-Dec	Jan-Mar	July-Sept
1989	July-Sept	Jan-Mar	Apr-June	Oct-Dec
1990	Oct-Dec	Apr-June	July-Sept	Jan-Mar
1991	Jan-Mar	July-Sept	Oct-Dec	Apr-June
1992	Apr-June	Oct-Dec	Jan-Mar	July-Sept

BISON ANIMAL UNIT WEIGHT EQUIVALENTS*

<u>AGE CLASS</u>	<u>ANIMAL UNITS</u>			
	<u>MALE</u>		<u>FEMALE</u>	
	<u>ACTUAL</u>	<u>ADOPTED</u>	<u>ACTUAL</u>	<u>ADOPTED</u>
CALVES	.34	.3	.31	.3
YEARLINGS	.70	.7	.60	.6
2-YR. OLDS	.99	1.0	.79	.8
3-YR. OLDS	1.26	1.3	.87	.9
4-YR. OLDS	1.42	1.4	.93	.9
5-YR. OLDS	1.64	1.6	.94	.9
6-YR. OLDS	1.67	1.7	.98	1.0
7-YR. OLDS	1.71	1.7	1.02	1.0
8-YR. OLDS	1.74	1.7	1.01	1.0
9-YR. OLDS	1.80	1.8	.99	1.0
10+	1.75	1.8	.97-1.05	1.0

*BASED ON 1000 LB. ANIMAL UNIT AND AGE-WEIGHT STUDY SUMMARIZED IN 1967 NARRATIVE REPORT.

BID INVITATION
 SALE OF LIVE BUFFALO

National Bison Range
 Moiese, Montana 59824

Date Issued: August 10, 1987

Bid Opening Date: September 15, 1987

The National Bison Range is offering seventy-one (71) live American bison (buffalo) for sale by sealed, competitive bid. Top bid per animal for each group will be awarded first, then the second highest bid, and so on until all animals in each sex and age group have been awarded. No multiple choice bids will be accepted, bid only on the animals wanted. Bids are accepted for one or more animals. No bids of less than \$350 per animal will be considered. Sealed bids in single copy will be received at the above office until 1:00p.m. (Mountain Daylight Saving Time), September 15, 1987, and will be publicly opened at that time. Bid envelopes should be marked "Bison - Open 1:00pm., September 15, 1987".

NOTICE: Group 13 is located at Fort Peck, Montana.

Additional information may be obtained by contacting the National Bison Range, Moiese, Montana 59824. Telephone: 406-644-2211

GROUP	QUANTITY	DESCRIPTION	NUMBER DESIRED	PRICE BID PER ANIMAL	TOTAL BID
1.	11	Long-yearling Heifers*	_____	\$ _____	\$ _____
2.	3	Three-year Old Cows*	_____	\$ _____	\$ _____
3.	2	Four-year Old Cows*	_____	\$ _____	\$ _____
4.	2	Seven-year Old Cows	_____	\$ _____	\$ _____
5.	3	Eight-year Old Cows	_____	\$ _____	\$ _____
6.	6	Mature Cows Ten-plus	_____	\$ _____	\$ _____

*These animals were calfhood vaccinated for brucellosis with the new dilute-strength vaccine. Bidders should be aware that older cows were not calfhood vaccinated for brucellosis, and should check their state livestock health laws before bidding.

GROUP	QUANTITY	DESCRIPTION	NUMBER DESIRED	PRICE BID PER ANIMAL	TOTAL BID
7.	24	Long-yearling Bulls	_____	\$ _____	\$ _____
8.	4	Two-year Old Bulls	_____	\$ _____	\$ _____
9.	9	Three-year Old Bulls	_____	\$ _____	\$ _____
10.	3	Four-year Old Bulls	_____	\$ _____	\$ _____
11.	1	Nine-year Old Bull	_____	\$ _____	\$ _____
12.	3	Mature Bulls, Ten-plus	_____	\$ _____	\$ _____
13.	1	Long-yearling Bull	_____	\$ _____	\$ _____

Name of Individual or Firm (Please Print)

Signature of Individual or Person Authorized to Sign for Firm

Address

Telephone Number

Date

SALES CONDITIONS

1. Bidders may bid on one or any number of animals. Minimum bid is \$350 per animal.
2. A 10% deposit is required with all bids. All deposit checks should be made payable to the U.S. Fish and Wildlife Service with the exception of Group 13, deposit for this group should be made payable to the U.S. Corps of Engineers.
3. No bids will be accepted by phone or after closing date.
4. All animals (except Group 13) will be delivered to buyer's trucks at the refuge corrals on October 6-9, 1987, from 8:00a.m. until 4:30p.m. Group 13 will be picked up at the Corp of Engineers, Fort Peck, Montana.
5. Every effort is made to deliver only normal, healthy animals. A few may have imperfect horns. The Bison Range is certified "brucellosis free" by Montana Livestock Department.
6. Selection of animals at the corrals will be on the basis of gate cut only.
7. An appropriate "Bill of Sale" will be given each buyer, also necessary Health Certificates. Animals will be tested for brucellosis and TB if required or desired.
8. Hauling equipment must be sturdy and also covered completely with wood or metal (buffalo settle down quicker in a dark area). It is recommended that buyers plan on hauling two-year old bulls separately from females, and three-year old bulls and older individually or in individual compartments. Yearling bulls can be hauled in groups or with cows. Light pickup stock racks or small trailers are not sturdy enough for any animal over a yearling and will not be loaded.
9. All trucks and trailers must be cleaned prior to entry into the National Bison Range. Vehicles with uncleaned beds will not be loaded.

MONTANA DEPARTMENT OF LIVESTOCK



STATE OF MONTANA

(406) 449-2043

HELENA, MONTANA 59620

Handwritten notes:
COSTOL STATION
/ [unclear]
[unclear]
X [unclear]

November 16, 1983

Mr. Jon Malcolm, Manager
National Bison Range
Moiese, MT 59824

Dear Mr. Malcolm:

Thank you for your cooperation in the recent Brucellosis test conducted on the bison herd.

We are happy to report that the herd is free from any signs of Brucellosis infection. It is also felt strongly that continuation of the vaccination program with the reduced Brucella dosage should be maintained.

Again, the Department appreciates your cooperation and will do all we can to help you maintain a healthy Brucellosis free herd.

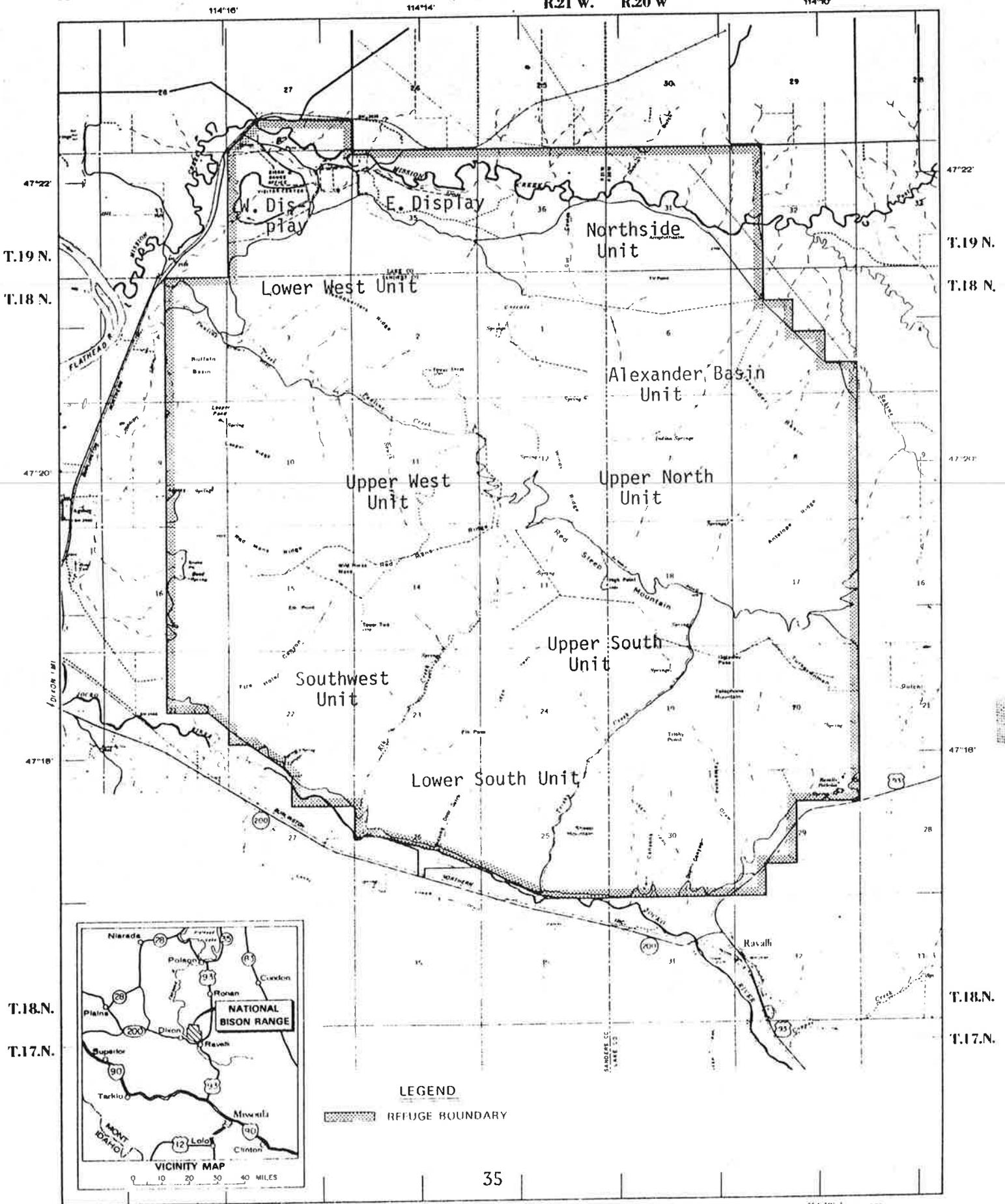
Sincerely,

Handwritten signature of Bradford F. Newcomb

BRADFORD F. NEWCOMB, D.V.M.
Chief, Disease Control Bureau

BFN:mc





LEGEND
 [Shaded Box] REFUGE BOUNDARY

NATIONAL BISON RANGE, MONTANA

Establishment

"The President is hereby directed to reserve and except from the unallotted lands now embraced within the Flathead Indian Reservation, in the State of Montana, not to exceed 12,800 acres of said lands, near the confluence of the Pend d'Oreille and Jocko Rivers, for a permanent national bison range for the herd of bison to be presented by the American Bison Society. And there is hereby appropriated the sum of - - - - - \$30,000 - - - - - or so much thereof as may be necessary, to enable the Secretary of the Interior to pay the confederated tribes of the Flathead, Kootenai, and Upper Pend d'Oreille, and such other Indians and persons holding tribal relations or may rightfully belong on said Flathead Indian Reservation, the appraised value of said lands as shall be fixed and determined under the provisions of the Act of Congress approved April 23, 1904, entitled "An Act for the survey and allotment of lands now embraced within the limits of the Flathead Indian Reservation, in the State of Montana, and the sale and disposal of all surplus lands after allotment." And the Secretary of Agriculture is hereby authorized and directed to inclose said lands with a good and substantial fence and to erect thereon the necessary sheds and buildings for the proper care and maintenance of the said bison; and there is hereby appropriated therefor the sum of \$10,000, or so much thereof as may be necessary; in all \$40,000." (35 Stat. 267-8, Act of May 23, 1908 - Agricultural Appropriation Act, Fiscal Year 1909.)

"For the maintenance of the Montana National Bison Range and other reservations for mammals and birds, \$7,000, and so much of the \$40,000 heretofore appropriated for the Montana National Bison Range as remains unexpended is hereby reappropriated, the same to be immediately available, to be expended in fencing said lands, the erection thereon of the necessary sheds and buildings, and enlarging the limits heretofore established so as to make the total acreage not to exceed twenty thousand acres, and the President is hereby directed to reserve and except from the unallotted lands now embraced within the Flathead Indian Reservation, in the State of Montana, a sufficient area to enlarge said range as herein provided." (35 Stat. 1051 - Act of Mar. 4, 1909 (Agricultural Appropriation Act for Fiscal Year 1910.)

A schedule of lands describing 18,521.33 acres of land was submitted to the President on June 15, 1909, and was approved by him on that date, namely, that same be reserved for a National Bison Range, (June 15, 1909.)

(C O P Y)

3.
Land Allotments
51019-1908
39383-1909

Department of the Interior

Office of Indian Affairs

Washington, D. C. June , 1909.

The foregoing schedule describing 18,521.35 acres of land reserved for a National Bison Range on the Flathead Indian Reservation in Montana, in accordance with the provisions of the Acts of Congress approved May 23, 1908 (35 Stat.L. 267) and March 4, 1909 (35 Stat. L. 1051) is respectfully submitted with the recommendation that it be laid before the President for his approval.

R. G. Valentine,

Acting Commissioner.

Department of the Interior,

Washington,

June 15, 1909.

Respectfully laid before the President for approval as recommended.

R. A. Ballinger,

Secretary,

Approved June 15, 1909,

(Pierce)

The White House,

W. H. Taft.

Schedule of Lands reserved for National Bison Range in the Flathead Indian Reservation, in Montana, in accordance with the provisions of the Acts of Congress of May 23, 1908, (35 Stat. 267) and March 4, 1909, (35 Stat. 1051), approved by President June 15, 1909.

Sub-division	Section	Town.	Range	Area	
SE $\frac{1}{4}$ of NW $\frac{1}{4}$	5	18	20	40	
Lot 4 and SW $\frac{1}{4}$ of NW $\frac{1}{4}$	5	18	20	80	.01
SW $\frac{1}{4}$	5	18	20	160	
W $\frac{1}{2}$ of SE $\frac{1}{4}$	5	18	20	80	
SE $\frac{1}{4}$ of SE $\frac{1}{4}$	5	18	20	40	
All of	6	18	20	631	.24
All of	7	18	20	632	.08
All of	8	18	20	640	
All of	17	18	20	640	
All of	18	18	20	633	.08
All of	19	18	20	634	.20
All of	20	18	20	640	
N $\frac{1}{2}$ of NE $\frac{1}{4}$	29	18	20	80	
NW $\frac{1}{4}$	29	18	20	160	
N $\frac{1}{2}$ of SW $\frac{1}{4}$	29	18	20	80	
SW $\frac{1}{4}$ of SW $\frac{1}{4}$	29	18	20	40	
All of	30	18	20	634	.52
All of	31	19	20	629	.88
W $\frac{1}{2}$ of W $\frac{1}{2}$	32	19	20	160	
All of	1	18	21	641	.40
All of	2	18	21	644	.04
All of	3	18	21	644	.56
E $\frac{1}{2}$	4	18	21	321	.56
E $\frac{1}{2}$	9	18	21	323	
All of	10	18	21	640	
All of	11	18	21	640	
All of	12	18	21	640	
All of	13	18	21	640	
All of	14	18	21	640	
All of	15	16	21	640	
E $\frac{1}{2}$	16	18	21	320	
NE $\frac{1}{4}$	21	18	21	160	
And beginning at the 1-4 Cor. Secs. 21 & 22, thence W.13.22 chains - S. 52° - 5' E. 16.76 chains, N. 3' W.10.30 chains to point of beginning in the	21	18	21	6	.81
NE $\frac{1}{4}$ of SE $\frac{1}{4}$	22	18	21	320	
N $\frac{1}{2}$	22	18	21	160	
SE $\frac{1}{4}$	22	18	21	160	
				14013	.53

2.

Section Town. Range Area

Sub-division

Brought forward				14013	.38
And beginning at $\frac{1}{4}$ Cor. Secs. 21 & 22 thence S. 3° E. 20 chains E. 15.38 chains. S. 54° 40' E. 1.60 chains S. 57° 30' E, 21 chains, S. 39° E. 8.91 chains N. 3' W. 38.25 chains, W. 40 chains to point of beginning in the S.W. $\frac{1}{4}$	22	18	21	100	.44
All of	23	18	21	640	
All of	24	18	21	640	
N $\frac{1}{2}$	25	18	21	320	
S.E. $\frac{1}{4}$	25	18	21	160	
N $\frac{1}{2}$ of SW $\frac{1}{4}$	25	18	21	80	
Beginning at the 1/16 Com. to Secs. 25 & 26 S. 1/2 - thence S. 64° 10' E. 11 chains S. 55° E. 6.54 chains, S. 65° 35' E. 24 chains, W. 80° E. 2.75 chains, N. 1' W. 17.40 chains, W. 40 chains to point of beginning in S $\frac{1}{2}$ of SW $\frac{1}{4}$	25	18	21	37	.69
N $\frac{1}{2}$	26	18	21	320	
N $\frac{1}{2}$ of SE $\frac{1}{4}$	26	18	21	80	
Beginning at $\frac{1}{4}$ Cor. Center of Sec. thence W. 24.31 chains, S 71° 30' E. 25.49 chains, N. 2' W. 8.20 chains to point of beginning	26	18	21	9	.84
E $\frac{1}{2}$ of NE $\frac{1}{4}$	27	18	21	80	
S $\frac{1}{2}$ of SE $\frac{1}{4}$	27	19	21	80	
SE $\frac{1}{4}$ of SW $\frac{1}{4}$	27	19	21	40	
All	34	19	21	640	
All	35	19	21	640	
All	36	19	21	640	
				<u>18521</u>	<u>.35</u>

Executive Order

Setting apart the Montana National Bison Range, Sullys Hill (N. Dak.) National Park Game Preserve, and Elk Refuge (Wyo.) as bird refuges.

It is hereby ordered that all the lands that now are or may hereafter be included within the boundaries of the Montana National Bison Range, Montana; the Sullys Hill National Park Game Preserve, North Dakota; and the Elk Refuge, Wyoming, be and the same are hereby further reserved and set apart for the use of the Department of Agriculture as refuges and breeding grounds for birds.

It is unlawful for any person to hunt, trap, capture, wilfully disturb or kill any bird of any kind whatever, or take the eggs of such bird, within the limits of these reservations, except under such rules and regulations as may be prescribed by the Secretary of Agriculture.

Warning is expressly given to all persons not to commit any of the acts herein enumerated, under the penalties prescribed by Section 84 of the U. S. Penal Code, approved March 4, 1909 (35 Stat. 1088).

WARREN G HARDING

THE WHITE HOUSE,

December 22, 1921.

[No. 3596.]

February 16, 1922.

National Bison Range:

The General Land Office informs Game and Bird Reservations that, so far as their records show, under the Act of 1904, Section 36, T. 19 N., R. 21 W., Montana, became the property of the State of Montana, and is still the property of that State unless it has been sold." However, this section was ceded to the Government by the State but the date when this was done can not be found in the records of the Bureau.

Land Purchased from Geo. D. Pratt as an Addition to the Bison Range, 1931.

Acreage 18.86 acres

Located in SW $\frac{1}{4}$ SW $\frac{1}{4}$, T. 19 N., R. 21 W., Lake Co., Mont.

NATIONAL BISON RANGE

MOIESE, MONTANA

STATION PLANNING

Submitted By:

Reviewed By:

Jan M. Malcolm 8/3/89 Bonnie W. Schrock 10/11/89
Refuge Manager (Date) Refuge Supervisor (Date)

Approved By:

Ralph F. Frie 10/11/89
ARD, Refuges and Wildlife (Date)

Part I

BACKGROUND STATEMENT NATIONAL BISON RANGE

I. PHYSICAL CHARACTERISTICS

The National Bison Range encompasses 18,501 acres of Sanders and Lake Counties in western Montana. The headquarters is located at the northwest corner of the range near Moiese. The area is also located in the center of the Flathead Indian Reservation. The lands were purchased from the Confederated Salish and Kootenai Tribes at the time of establishment in 1908. The Range is located at the southern end of the Flathead Valley. This area has a microclimate characterized by relatively mild winter temperatures and little wind. Snow cover melts quickly at lower elevations. Sub-zero weather is uncommon and summer temperatures seldom exceed 100 degrees. Precipitation averages 12.7 inches annually, with a growing season of about 90-110 days. The range is essentially a small, rolling mountain connected to the Mission Mountain Range by a gradually descending spur. Elevation varies from 2,585 feet at headquarters to 4885 feet at the top of Red Sleep Mountain.

Habitat:	Acres
Native grasslands	14,521
Non-commercial forests	2,600
Brush	600
Rocks	490
Buildings, roads, parking lots, etc.	145
Rivers and streams	120
Irrigated, green browse, perennial	20
Open fresh water	15
Total	18,501

Big game animals inhabiting the area include American bison, Rocky Mountain elk, bighorn sheep, mule deer, white-tailed deer, pronghorn, and mountain goats. In addition there have been 187 species of birds observed on the range.

II. LEGAL RESPONSIBILITIES

A. The Range was established by Acts of Congress (35 STAT. L. 267) May 23, 1908; on May 23, 1908; and (35 STAT. L. 1051) on March 4, 1909, "for a permanent National Bison Range for the herd of bison." In addition it was established "as refuges and breeding ground for native birds" by Executive Order 3596, dated December 22, 1921. Additional lands were established "to provide adequate pasture for the display of bison (P.L. 85-622 - 72 STAT. 561) dated August 12, 1958.

B. Although the Range was established to preserve the bison, other big game animals have been introduced onto the area and current management emphasis is directed toward species diversity.

Part II

OPERATING STATEMENT

NATIONAL BISON RANGE

MISSION: TO IMPROVE AND MAINTAIN A REPRESENTATIVE HERD OF NORTH AMERICAN BISON AND BISON HABITAT, ALONG WITH REPRESENTATIVE POPULATIONS OF OTHER BIG GAME SPECIES AND THEIR HABITATS, UNDER REASONABLY NATURAL CONDITIONS FOR PUBLIC VIEWING AND ENJOYMENT.

Goal I - Endangered Species - Preserve, restore and enhance federally listed threatened or endangered species and the habitats upon which they depend.

Objectives

1. Protect and enhance refuge habitat to maintain or increase its use by endangered species historically found in the area.
2. Carry out the recommendations of Endangered Species Recovery Plans as they apply to the National Bison Range.

Goal II - Protect and maintain Congressionally established wilderness areas and state and nationally designated historic, cultural, and natural areas and objects unique to the southern Flathead Valley.

Objective

1. Identify, preserve, and protect all cultural resource values in accordance with public law.

Goal III - Bison - Provide the life requirements of bison and other big game species occurring on the Range.

Objectives

1. Support the national goal of maintaining a publicly owned gene pool for continued preservation of bison as a native species.
2. Protect and enhance range habitat to maintain its use by bison and native big game species. Peak populations for each species should not exceed 500 bison, 165 elk, 260 mule deer, 225 white-tailed deer 120 pronghorn antelope, 100 bighorn sheep, and 40 mountain goat.
3. Preserve a natural diversity and abundance of other fauna and flora associated with the grassland ecosystem.

Goal IV - Environmental Quality - Preserve and enhance the environmental quality, wild character, and natural beauty of habitats on the Range.

Objectives

1. Reduce the adverse impacts of weeds that have invaded the native habitats on the Range.
2. Control weeds by methods that are least harmful to the environment and pursue biological control methods as a long-term solution.
3. Identify adverse water quality degradation and reduce or eliminate any impacts.
4. Reduce the adverse impacts to Range lands resulting from developments on adjacent lands.
5. Preserve unique and/or representative ecotypes.

Goal V - Migratory Birds - Provide the life requirements of waterfowl and other migratory birds occurring on the Range.

Objectives

1. Develop and maintain waterfowl habitat, emphasizing nesting and brood rearing.
2. Contribute to the restoration of species that are in critically low numbers and help achieve national population or distribution objectives.
3. Increase production of nesting waterfowl.
4. Contribute to achievement of national population and distribution objectives identified in the North American Waterfowl Plan and flyway management plan.
5. Promote use by the maximum number of species of migratory birds at optimum population levels.

Goal VI - Research - Promote research on bison, other wildlife species and their habitats as may be compatible with other objectives.

Objectives

1. Make the areas and their wildlife available to research interests while ensuring that the level and type of research activity is not in conflict with other goals and objectives.

2. Promote management-oriented research as opportunities permit.

Goal VII - Environmental Education - Make the areas available to educational groups at all levels, with emphasis on working with teachers.

Objectives

1. Continue providing Outdoor Education Workshops annually for interested school teachers, stimulating them to plan and implement hands-on activities for their students.
2. Provide talks, tours, and technical expertise to specialized educational groups as time and personnel resources permit.

Goal VIII - Interpretation and Recreation - Provide a wide range of opportunities for compatible wildlife/wildlands-oriented interpretation, education and recreation.

Objectives

1. Prepare people for informed decision making on issues involving grassland and wetland resource use.
2. Increase environmental values and encourage considerate use of public, natural resources and facilities through maintenance of a Visitor Center, Auto Tour, Nature Trails and other interpretative facilities.
3. Provide outdoor recreation opportunities oriented toward wildlife and wildlands.

NATIONAL BISON RANGE

LAKE AND SANDERS COUNTIES, MONTANA

UNITED STATES
DEPARTMENT OF THE INTERIOR

UNITED STATES
FISH AND WILDLIFE SERVICE

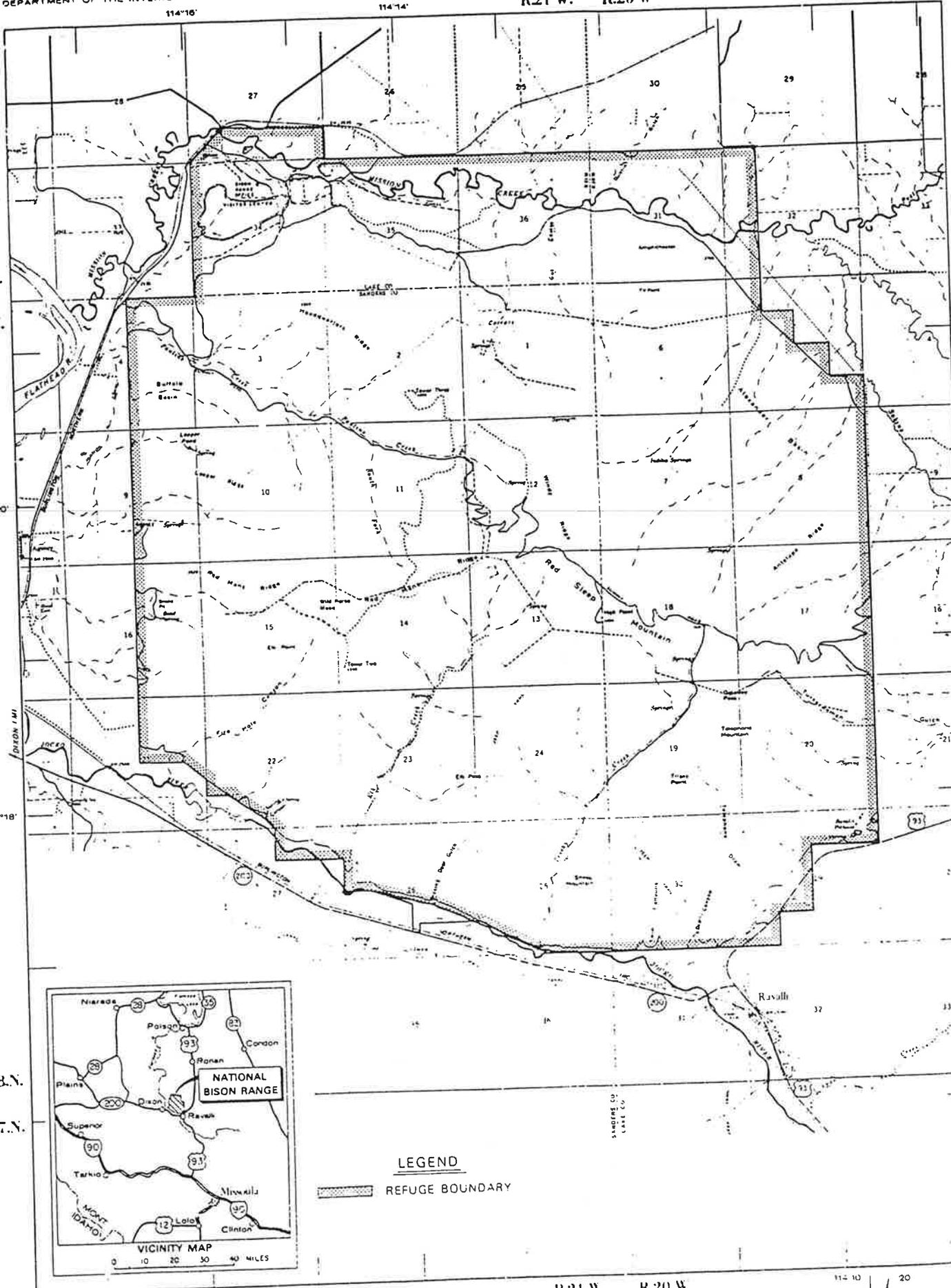
114°14'

R.21 W. R.20 W

114°10'

47°22'
T.19 N.
T.18 N.
47°20'
47°18'
T.18 N.
T.17 N.

47°22'
T.19 N.
T.18 N.
47°20'
47°18'
T.18
T.17



LEGEND
 REFUGE BOUNDARY

114°14' R.21 W. R.20 W
 PRINCIPAL MERIDIAN

112°10' 20

COMPILED IN THE DIVISION OF REALTY FROM SURVEYS BY THE BLM USGS AND FWS

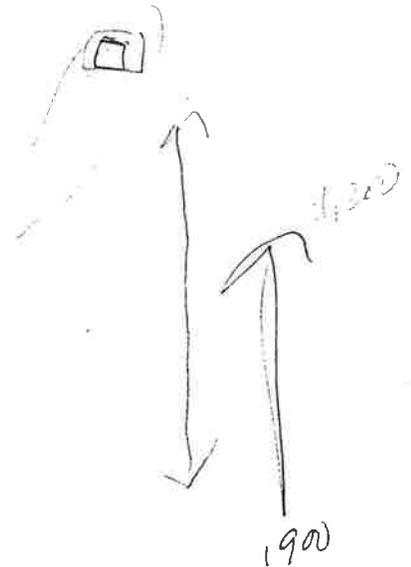
2640 5287 7920 10660 FEET

FWS-000235 MEAN DECLINATION

Cultural Resource Overview

The following is the basic information needed for the document:

- ◆ A literature review of both the refuges and the surrounding area
- ◆ Ethnographic information \Rightarrow Animals, plants
- ◆ Environmental data \rightarrow
- ◆ Chronological model
- ◆ Types of sites known
- ◆ Types of sites anticipated and density (if feasible)
- ◆ Anticipated features
- ◆ Settlement and subsistence patterns (if the data exists)
- ◆ Research Questions/goals
- ◆ Site locations and sensitive areas within the refuge area plotted on a map



Historical Settlement

Ethnographic —
utilized for ethnographic

Acquisition Biologist - Ro Dow

KEEP

Lynn

**NATIONAL BISON RANGE COMPLEX
COMPREHENSIVE CONSERVATION PLAN
Worksheet of Detailed Steps and Duties**

Task	Who Responsible	Due	Done
Preplanning			
Assemble Core Planning Team			7/96
Brainstorm for purpose and need	Core team		7/96
Draft Purpose and Need section			Fall 96
Draft Guiding Laws and Policy section			Fall 96
Brainstorm/review resources and manage issues, opportunities, concerns	Core team		7/96
Draft the Plan Format and Outline			Fall 96
Brainstorm public involvement, interested publics, tools	Core team		7/96
Draft Public Involvement Plan, Mailing List, Schedule, tools			Done
Develop list of adjacent landowners to all properties of Complex	Lynn - Lake & Sanders	Lynn - Talk to Mike - like might help	Appraise the Bure.
Identify compliance requirements			
Identify info/data needs for plan; identify map requirements and standards			
Develop presentation poster boards about the general ccp process and the FWS for use in open houses			
Identify Administrative Needs	Core Team		
Maintain the Planning Record and Files	Lindy		

Imp/keys/steeps.tbl

Lynn - Sanders Co & Lake Co. Ownership - Around Service Lands

Task	Who Responsible	Due	Done
Brief Regional Directorate <i>When made draft document Responsibility</i>	Adam		
Publish Notice of Intent in Federal Register			
Draft NOI	Adam		
Gather signatures, clearance and send NOI	Adam		
Brief congressional delegation <i>News Release</i>	Terry v w Paul		<input checked="" type="checkbox"/>
Publish news release that planning has been initiated			
Track Responsiveness Summary/Listening Log (document all public comment written or phoned in by date, who, and issues it pertained to) <i>When make Form</i>	<i>Phone people respond when give to Lindsey keeps track</i>		
Request Initial Input on Issues from Stakeholders			
Develop newspaper display ad with initial 3 questions	<i>In RO w/ Requester</i>	<i>Mid, Nov. 16</i>	
Develop mailing packets to stakeholders with 3 questions, request for PTT and informational handouts <i>to 180 to Zoo</i>	<i>Lindsey</i>	<i>mid Nov. 16</i>	
Review initial input <i>Summarize</i>	<i>Lindsey</i>	<i>before Christmas</i>	
Draft vision statement (or wait until open house input?) <i>Wait for Open house</i>	<i>input</i>		

Missoula
Jan 22
4-8pm
Lynn

Helena
Jan 24
1-5pm

Bozeman - Tuesday Jan 27
8AM - 8PM
Lynn

Task	Who Responsible	Due	Done
Hold Public Scoping Meetings to Identify Issues (and review vision statement?)			
Establish schedule, location, staff, and materials for open houses	Done		
Prepare news release with schedule and location of open houses; provide to Congressional delegation; notify interested publics on mailing list	Lindy	Jan. 9	
Reserve rooms, coordinate equipment and facilities, track costs	Lindy		
Prepare "Issues Workbook" for use at meetings and to be mailed	Drafted - Lindy		
Prepare Fact Sheets for each refuge as handouts and compile other informational handouts			
Have generic ccp presentation sideboards ready and available for meetings; put up flip sheets for public to comment on specific issues or unit			
Greet the public and inform them of the open house setup and methods for providing input (workbook, flip sheets, short comment form, speak to staff)			
<i>Prepare a handout with draft Vision Statement to have available to provide to people and ask for comment there or on a form that they can mail back to us?? Or wait until open house input and then draft vision statement??</i>			

Samie - Realty - Maps

Task	Who Responsible	Due	Done
Review Public Input			
Summarize input by issue and/or unit	hindy		
Assemble Planning Administration Team	Core	Early Mar Early Mar	
Establish rationale for selection or exclusion of issues to be covered in the plan	Core		
Determine which issues need more information and types of expertise may need for Interdisciplinary Technical Team(s)	Core		
Prepare scoping report	hindy	End Mar.	
Draft Vision and Goal statements			
Mail scoping report to PIT and request input on members for ITT	hindy	mid April	
Brief Regional Directorate	lindy & Dave	Early April	
Gather Information Needed for Analysis (Affected Environment sections)			
Use issues to help guide information gathering and analysis			
Identify information needed			
Identify important habitat, wildlife, cultural, and public use resources presently on refuge lands and current management practices			
Research and summarize historical fire regime and current uses in valley			
Summarize what, how, why, and where of wildlife surveys conducted on Complex by staff or partners			

How does Complex fit into Ecosystem, Firecycles etc.

Task	Who Responsible	Due	Done
Determine wildlife and habitat data analysis needs and summarize data (e.g., weed coverage, duck production for wpas, and bison production for last ten years)	Refuge Staff		
Summarize public use data for last ten years (e.g., numbers, workshops, school visits)	Refuge Staff		
Identify important habitat, wildlife, cultural, and public use resources on partners' lands, or on unacquired lands located in potential expansion areas, as well as any management concerns or opportunities for refuge or for partnerships (i.e., ecosystem analysis)			
<i>How does Complex fit into the ecosystem, Pucca etc.</i>			
Develop a Range of Alternatives (for each unit?) See next task "Workshops"			
Assemble Planning Administration Team; review the results of Issues Workbook and open houses, prepare a list of issues to be dealt with in the NEPA document; Review draft vision and goal statements			
Establish the "no action" alternative			
Identify a "reasonable range of appropriate alternatives, including those considered but not developed			
Prepare an "issues matrix" for the alternatives. How does each respond to the issues			

Task	Who Responsible	Due	Done
Select a tentative “preferred alternative” which will be further developed into the Draft Plan			
Brief Regional Directorate			
Hold Workshop(s) with Partners, Public, and Interdisciplinary Team Members to develop Alternatives with objectives and strategies			
Prepare a list of partners & specialists (within and outside of Service) to invite to workshop(s) where additional information necessary to develop objectives that address a particular issue or alternatives that address the issues			
Make final arrangements for workshop(s) (location, dates, facilitator, etc.) And send out invitations for workshop(s)			
Use presentation to set the stage for workshop(s) Present Service & refuge system missions, refuge purposes, ecosystem priorities, and any other special priorities (N. American Waterfowl Mgmt. Plan, T&E species recovery plans, etc), summary of issue scoping report			
Present important habitat, wildlife, cultural, and public use resources on partner’s lands, or on unacquired lands in potential expansion areas, as well as management concerns or opportunities (to help determine refuge priorities, i.e., ecosystem analysis)			
Review draft vision and goal statements			

Task	Who Responsible	Due	Done
Define tentative objectives and strategies in different alternatives that would help achieve the goals			
Identify potential partnerships to help achieve refuge objectives (including expanding and enhancing wildlife-dependent recreational activities)			
Prepare a transcript of results of workshop(s) and send to all participants and PTT			
Assembly Planning Administration Team; review workshops and duties for assessing impacts			
Assess Environmental Effects of Alternatives and Select Preferred Alternative			
Describe effects of alternatives on the physical, human, cultural, and biological environment			
Determine how each alternative addresses management opportunities and issues			
Review the "preferred alternative"			
PAT and ITT research and draft impacts			

Task	Who Responsible	Due	Done
Publish Draft Plan/NEPA Document			
Compile plan chapters and NEPA document sections			
Develop step-down plans			
Prepare cover sheet, executive summary with response sheet, glossary, bibliography, appendices			
Submit for internal review			
Prepare executive summary of Draft Plan/NEPA Document			
Print Draft Plan/NEPA document and executive summary			
60-day Public Comment and Review Period			
Prepare Notice of Availability of Draft Plan/NEPA Document, gather signatures and publish NOA in Federal Register			
Prepare presentation about the alternatives for use at public open houses			
Distribute Draft Plan/NEPA document (or executive summary) to mailing list and libraries and town offices			
Schedule informal open houses and finalize details			
Prepare news release (or display ad)? for local newspapers. Inform PTT and interested publics on the mailing list of the upcoming open houses			
Hold open houses for informal walk-in sessions to allow people to come in and see displays about the alternatives, ask questions and submit comments			

Task	Who Responsible	Due	Done
Review and Respond to Public Comment			
Number, date, and file all public comment received in writing			
Review all public comments and identify those that provide “substantive” input on environmental issues, the alternatives or toward improvement of the documents			
Make appropriate revisions to the documents based on the “substantive” input (including the proposed alternative, if necessary)			
Prepare appropriate responses to all “substantive” input that is not used to revise the documents. Explain how comments were responded to in the plan.			
Prepare a discussion on the “Comments and Responses” chapter			
Submit revised document for internal review			
Brief the regional directorate			
Prepare an executive summary of the Final Plan			
Print Final Plan			
Publish Final Plan			
Prepare Notice of Availability of Final Plan			
Gather signatures and publish NOA of Final Plan in Federal Register			
Distribute Final Plan (or an executive summary) to mailing list, and libraries and town offices			

Task	Who Responsible	Due	Done
30-day Waiting Period			
Once the Final Plan has been distributed, observe a 30-day waiting period			
Adopt Plan and Issue Record of Decision			
Prepare a Record of Decision for Regional Directors signature, officially adopting the plan			
Prepare a Notice of Availability of the Record of Decision			
Gather signatures and publish NOA of the Record of Decision in the Federal Register			
Implement Plan			
Begin implementing management directions and partnerships identified in plan, including step-down plans; Project Leader determines sequence of objective accomplishment			
Monitor/evaluate actions and accomplishment of objectives			
Update RONS/RMIS, funding requests, challenge cost share submittals with projects identified in plan			

Task	Who Responsible	Due	Done
Periodically Review and Update Plan			
Project Leader recommends revision or updates depending upon how the management strategies are achieving the objectives			
Updates will be provided to the public through newspaper articles, news releases, etc.			
Inform and Involve the Public Throughout Plan Implementation, Review, and Revision			
If major changes are proposed by Project Leader, changes will be explained to the public and comments will be requested			
If minor changes are proposed, it is Service policy for the level of public involvement and associated documentation is at the Project Leaders discretion (subject to RO approval)			

NBR Staff Meeting - January 8, 1997

Terry Terrell

Paul Gertler

Ty Berry

Linda Brown *ing*

Dave Wiseman

Bill West

Dean Vaughan

Lynn Clark

Lindy Garner

Pat Jamieson

Terri Middlemist

Tana Novak

Lonnie Trunko

Skip Palmer

Brent Woodger

Tim Driscoll

Bob King

Loren Clary

Rachael Sykes

Absent: Kyle Todd

Paul Terms - future and status

Decided to go through OPM to convert term to career-seasonal

Folks would have to compete, would name select and make job descriptions very specific but still risk

Negotiations - nothing going on at this point

No idea of time line or even if Tribe will start again

FWS has provided Tribe with all the information they requested and ball is in their court

If negotiations resume - FWS position is they are willing to negotiate with Tribe on an Annual Funding Agreement (AFA) on management of Range

Will discuss how/if jobs and positions will continue, FWS or Tribal, and will negotiate this at that time

Ray question about northern part of valley, what impact would that be since it's off reservation

Paul Tribe needs to show cultural, historical or geographic nexus but can and may request to compact northern units

Ty Northern units would be involved in the CMP process because it covers the entire complex

Paul FWS has ultimate decision on CMP

Ray What programs would be compacted in future if Tribal positions replace FWS

Paul Minimum would be a FWS manager, beyond that all positions may be negotiated to Tribe

Current employees may work Tribal, depends on negotiated terms

Ray What if employee decides not to work with Tribe

Paul Positions may be moved off NBR complex or RIF

Dave Mentioned legislation introduced to exempt Refuges from Self-Determination Act except those areas set up specifically for Tribes

Ty Reminded us they are giving us worse case scenario, may never get this far

Dave/Terry Reminded us this is national, not specific or confined to Range

Tana Brought up possibility of law suit for discrimination in hiring practices

Paul Laws allow for Indian Hiring Practices, can file suit but there is this law

Paul Time line on Negotiations

1 ½ years ago FWS presented counterproposal

Tribe walked away from talks

Tribe currently reactivated talks

Department of Interior supported FWS position

OCT 96 - Tribe met with Interior, no FWS representatives there

Secretary mentioned that some alternatives would be added

Requested FWS to list additions - a surprise to Denver

Follow-up meeting - Paul, Dan Ashe, John Rogers, Duncan Brown, Jim Pipkin

gave documents with alternatives, including original proposal

also fire program, Congress to delete Range from Refuge system, etc.

Secretary wanted to move forward and do something for Tribe

Thought FWS reluctant to negotiate in good fath

Has changed this thought

Next meeting with Tribe and Secretary - Ralph Morgenweck

1. discussion of quickest mechanism of becoming involved with CMP

This would be outside of an AFA

2. FWS to look at Fire Program and Visitor Center Programs to AFA.

quickly

Paul suggested that Congress be advised at this point of status

Did contact

Tribe disagreed - said these meetings were **not** negotiations

A surprise to FWS

Last Meeting - Paul, Ralph, Jim Pipkin (not Secretary), Duncan, Tribe

Tribe made clear they were unhappy

Jim Pipkin said he heard enough of that and needed to move on

FWS would provide sample AFA

FWS estimate how long it would take to transfer money for help with CMP

Tribe claimed protocols broken

Haven't heard from them since

Misunderstandings: Tribe felt FWS told them they could do all CMP
FWS told them that CMPs could be contracted out
Ralph said he thought the Tribe had talked partnerships

Terry there has been very bad communication throughout all meetings
may need to try a new method, ie: with facilitators, transcribers

Skip Director set direction of negotiations, but who decides details
can FWS say no and back off from negotiations

Paul the law say can't negotiate anything inherently federal
this is murky by is where the "line in sand" lies
Interior wants FWS to be more expansive than less

Terry Secretary won't let us back off
but does involve FWS, realizes the FWS has been acting in good faith

Skip concerned with arrogance of Tribe
should FWS trust them
concern with working under Tribe
need to check Tribal track record

Bill concerned that manager would lose control with tribal employees

Paul this would affect AFA - if there is harm or potential harm to trust resources

Dave Tribe considers themselves the trust responsibility, not the resources/range

Bill concern that Tribe won't work within Partnership

Terry as Secretary sees this happening, see how Tribe acts, may change his direction

Paul things this process may already have begun with Jim Pipkin's meeting in DC
FWS has increased integrity with Secretary by taking high and fair road
result has built integrity with Secretary

Ray what has been the congressional interest, any amendments?

Paul Burns has an interest

Skip What happens when it gets to Congress

Paul there is this law but no regulations on how to implement it
these are being implemented
once AFA drafted - 90 day review in Congress
but does Congress has ability to approve/disapprove?
Or just comments to Secretary which he can ignore or has to incorporate
Congress could pass law to change AFA
But would Secretary be able to okay regardless?

Self Determination Act - allows Tribes to take over programs designed specifically for Tribes

Self Governance Act (Amendment) - Any tribe from list of qualified can apply to compact any area with historical, cultural or geographical nexus
Government agencies are required to negotiate, not required to agree

Lynn what of conflict of Self Governance Act for benefit of Indian people versus Refuge System Act for benefit of resources and US people

Paul control with AFA

Lynn what if Tribal employees replace FWS and AFA is not renegotiated who gets to come back to work if everyone is gone

Ty Duncan Brown feels original counter proposal is no longer valid working under new stuff

★ Note

Paul Interior gave Ralph Morgenweck authority to sign agreements now was a complaint of Tribe that people at table couldn't sign what was agreed on

Skip what about constitutional rights of employees not hired because not Tribal

Paul Indian Hiring Preference Act is a Congressional Law individuals have right to go through litigation, Congress

Staff Meeting - January 8, 1997

Terry Terrell
Paul Gertler
Ty Berry
Linda Brown

Dave Wiseman
Bill West
Dean Vaughan
Lynn Clark
Lindy Garner
Pat Jamieson
Terri Middlemist
Tana Novak

Lonnie Trunko
Skip Palmer
Brent Woodger
Tim Driscoll
Bob King
Loren Clary
Rachael Sykes

JOB INFORMATION

Linda Brown, Personnel, RO-6 Denver

will pick up term to career-seasonal

will name request from register

employees have to apply

risk that someone else will be higher, ie. Vet, RIF within commuting area, etc

will make job description very specific to individuals to narrow field

if can't pick up an individual, will cancel announcement and keep as term

2 week open period, OPM has outreach covered by announcing everywhere

Within 30 days, job announcement should be out

3 WG Animal Caretakers, 3 GS Park Rangers

Personnel is committed to doing this

will send announcements out to individuals to make sure get it

there will be a computerized rating system (fill in dots for skill self rating)

can call Personnel to ask any questions

Will be 2 to 3 months before hiring

Vets (Tim and Kyle) make sure have DD214

EEO officer in Region (See attached list)

Employee Assistance Program can set up seminars on stress, etc (see attached)

Employee rights

Career-seasonal

get reinstatement rights if don't go with Tribe

Career Transition Program (CtaP)

Reemployment priority list (PPL)

Works within all agencies but have more priority to move within FWS

Term

just terminated if don't go with Tribe

no rights after this

If work with Tribe, ie. Stay on for a year

no longer able to RIF because have to resign to take this job
would have reinstatement rights as past career-seasonal employee

IPA - (Interagency Personnel Assignment)

FWS would need to have FTEs and money in place
would not be written into negotiation

Can be offered by Tribe on individual basis

If work with Tribe

Retirement could go over, both employee and Tribe pay into FERS

EMPLOYEE ASSISTANCE PROGRAM

Denver Regional Office
Sue Winderby
1-800-222-0364



Rebecca Ubando Tanrath

Assistant Regional Director

Office for Human Resources/Equal Employment Opportunity



U.S. Fish & Wildlife Service
Department of Interior
Region 6
134 Union Boulevard
Lakewood, CO 80228

P.O. Box 25486
Mail Stop 60170
Denver Federal Center
Denver, CO 80225
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U.S. FISH AND WILDLIFE SERVICE
Mountain - Prairie Region

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**PROPOSED SCHEDULE FOR THE NATIONAL BISON RANGE COMPLEX
COMPREHENSIVE MANAGEMENT PLAN PROCESS**

(Planning steps involving the public are underlined)

Preplanning (July - December 1996)

Brief Congressional Delegation (Early-mid January 1997)

Press Release (Early-mid January)

Provide Initial Desk/Phone-In Materials (Mid January-completion of plan)

Tribal, State, and Local Government Consultation (January-completion of plan)

Consult Local Interest Groups (February 4, 5 or 6)

Assemble Partners Input Team (early March)

Brief Congressional Delegation (early - mid March)

Press Release (mid March)

Mail Issue Workbooks (late March)

Open Houses/Meetings (April and May)

Gather information & Assemble "Planning Administration Team" (June - July)

Assemble "Interdisciplinary Technical Team" (August)

Assemble information & "Planning Administration Team" (August - September)

Draft vision, goals, and objectives (late August - early December 1997)

Circulate Draft Statements (November and December) Internal→Tribe→ITT

Assemble "Partners Input Team" (December - January 1998)

Open Houses/Meetings (January and February)

Review comments, compile chapters & draft Plan (March - December 1998)

Internal Review (December - January 1999)

Interdisciplinary Technical Team Review (December - January 1999)

Partners Input Team Review (December - January)

Publish Draft Plan and Popular Summary (February)

Press Release (February)

90-day Public Comment and Review Period (February - April)

Review and Respond to Public Comments (May - June)

Revise Plan (May - July)

Publish Final Plan and 30-day Waiting Period (August - September)

Adopt Plan & Issue Record of Decision (October)

Implement Plan (October 1999)

Evaluate & Monitor Objective(s) Accomplishment Yearly

• Review & Update Plan every 3-5 Years

NATIONAL BISON RANGE COMPLEX COMPREHENSIVE MANAGEMENT PLAN TEAMS

Planning Administration Team

This team has oversight and administration responsibilities for the completion of the plan. The team consists of representatives across programs of the U.S. Fish and Wildlife Service.

National Bison Range Refuge Manager, Assistant Manager, Outdoor Recreation Planner, Planning Coordinator/Wildlife Biologist (Moiese, Mt)

NWMT Wetland Management District Refuge Operations Specialist (Creston, Mt)

MT/WY Geographic Assistant Regional Director (Denver, Co)

MT/WY Geographic Refuge Supervisor (Denver, Co)

MT/WY Geographic Outdoor Recreation Planner (Helena, Mt)

Regional Chief, Land-Acquisition & Refuge Planning (Denver, Co)

Regional Planner (Denver, Co)

Regional Archaeological & Cultural Resource Specialist (Denver, Co)

Regional Migratory Nongame Bird Coordinator (Denver, Co)

Missouri/Yellowstone River Ecosystem Team Representative (Lewistown, Mt)

Wk4 → Carhart Wilderness Training Center-USFWS Representative (Huson, Mt)

Confederated Salish & Kootenai Tribe Representative (Pablo, Mt)*

* Due to the special relationship the Service has with Native Americans, a representative(s) from the Confederated Salish & Kootenai Tribes may serve as an informal liaison between the team and tribe.

Partners Input Team

This team will represent stakeholders (the variety of governments, federal and state agencies, and public interest groups) with an interest in the management of the National Bison Range Complex. They will serve as an initial sounding board for ideas, provide political review of materials, and provide input from each of their perspectives. This team does not have review approval authority and is open to anyone.

Potential members that will be invited to participate include:

Confederated Salish and Kootenai Tribes

Defenders of Wildlife

Ducks Unlimited

Farm Service Agency

Flathead Agency Irrigation Division

Flathead County Commissioners and Planning Office

Flathead Land Trust

Flathead Reservation Human Rights Coalition and Neighbors

Flathead Resource Organization

Flathead Wildlife, Inc.

Lake County Commissioners and Planning Office
Mission Valley Conservation Foundation
Montana Audubon Council (Five Valley Audubon Society, Flathead Montana Audubon Society)
Montana Department of Fish, Wildlife & Parks
Montana Environmental Information Center
Montana Land Reliance
Montana Natural Heritage Program
Montana Wilderness Association
Montana Wildlife Federation
Montanans for Multiple Use
Natural Resources Conservation Service
Nature Conservancy
Native Plant Society
Office of the Governor of Montana
Owl Research Institute
Pheasants Forever
Polson Outdoors
Ravalli County Fish and Wildlife Association
Sanders County Commissioners
Trout Unlimited Montana Council
University of Montana, Flathead Lake Biological Station
U.S. Bureau of Indian Affairs
U.S. Bureau of Land Management
U.S. Citizens Desiring to be Treated as Such
U.S. Forest Service
U.S. Geological Service--Biological Research Division (formerly NBS)
Vital Ground Foundation
Western Montana Fish & Game Association

Interdisciplinary Technical Team

This team will be nominated once the issues have been outlined and the Planning Administration Team determines what type of expertise is necessary to respond to the issues effectively. The members will provide professional scientific knowledge and review for draft goal and objective statements.

Questions and Answers about Comprehensive Management Planning for the National Bison Range Complex

Why do a Comprehensive Management Plan for the National Bison Range Complex?

- To provide long-range management direction that will carry out the purposes for which these areas were established; and
- To provide the public with a clear, goal-directed rationale for long-term continuity in refuge management actions.

Why go through the planning process?

- Evaluate management goals and objectives to maintain the best possible conservation efforts, while providing for wildlife-dependent recreation opportunities that are compatible with the establishing purposes;
- Ensure public involvement opportunities in refuge planning and management activities;
- Maintain government-to-government relationships; and
- Develop partnerships.

What are the objectives of the plan?

- Define issues and priorities for the Complex;
- Establish vision, goals, and objectives;
- Set management strategies to accomplish objectives;
- Provide a tool for evaluating implementation success; and
- Provide a framework for budget allocation and requests.

Is it just the National Bison Range that is developing a Comprehensive Management Plan?

No, the plan is being developed for the National Bison Range Complex. The Complex includes:

- National Bison Range;
- Ninepipe National Wildlife Refuge;
- Pablo National Wildlife Refuge;
- Swan River National Wildlife Refuge;
- 12 Waterfowl Production Areas in Lake and Flathead Counties; and
- U.S. Fish & Wildlife Service Conservation Easement Program in Northwestern Montana.

Who is developing the Comprehensive Management Plan for the National Bison Range Complex?

The U.S. Fish & Wildlife Service, with input from other tribal, federal, state, county, and local governments, interest groups and private citizens.

What are the steps in the planning process?

- Preplan
 - develop planning strategy, draft planning schedule, prepare public involvement plan, draft issues and concerns

- Gather public input
 - consult other agencies and governments, meet with interested publics, identify issues and concerns

- Gather information
 - identify existing conditions and information gaps, consult experts and specialists, determine information needed to address issues and concerns and to draft goals and objectives

- Draft vision, goals, and objectives and obtain public input

- Draft plan with management strategies and step-down plans and obtain public input

- Develop final plan

- Implement, monitor and evaluate plan

Where is the Fish and Wildlife Service in this process?

Refuge staff are completing preplanning and beginning to gather public input and consult with other agencies and governments.

How much will this planning effort cost?

Refuge planning monies are allocated from the Regional Office after Congress appropriates a total amount for U.S. Fish & Wildlife Service planning. The National Bison Range Complex received \$10,000 for fiscal year 1996 and \$75,000 budgeted for total costs in fiscal year 1997. Funds are spent on supplies (e.g., computers, paper, displays, mapping, etc.), travel, and salary for plan preparation, much of which is public involvement logistics (e.g., hiring facilitators, renting rooms, media costs, etc.).

When will the plan be complete?

The target date for completion of the Comprehensive Management Plan for the National Bison Range Complex is Fall 1999.

How can I be involved in Refuge planning?

The U.S. Fish & Wildlife Service is interested in hearing and understanding your concerns, ideas, and suggestions for future management of the National Bison Range Complex. We want to know how you use the areas, why they are important to you, and if there are any specific issues which are of particular interest to you. You can get involved by getting on the mailing list, attending forums and open houses, and filling out the issues workbook. We hope to learn how people feel about these important intermountain grassland and wetland areas in the Flathead and Swan Valleys and how they should be managed. We will do our best to address everyone's concerns and issues while maintaining the wildlife and habitat that the units were established to conserve.

Where can I get more information about the National Bison Range Complex or this planning process?

Write: Refuge Manager
National Bison Range
132 Bison Range Road
Moiese, MT 59824

Or call: (406) 644-2211

**PRELIMINARY ISSUE/OPPORTUNITY LIST FOR
NATIONAL BISON RANGE COMPLEX CMP**

The National Bison Range Complex Planning Unit presently consists of The National Bison Range, Ninepipe National Wildlife Refuge, Pablo National Wildlife Refuge, Swan River National Wildlife Refuge, and the Northwest Montana Wetland Management District (12 Waterfowl Production Areas in Lake and Flathead Counties and conservation easements).

The following is a list of issues and opportunities that are a result of a brainstorming session by U.S. Fish & Wildlife Service staff during the initial Comprehensive Management Planning (CMP) meeting. Listed issues may/may not be topics that someone wishes to see addressed in the Comprehensive Management Plan. The list can be appended or edited to any extent.

Forests

Diseased trees

Dead young growth

NTMB use

- Forest on the National Bison Range is encroaching upon the native prairie and forest litter is building up to produce a fire danger.
- Management tools (e.g., fire and manual removal) may be a concern with some.
- Swan River National Wildlife Refuge has limited logging potential that could be incorporated into Forest Service projects.

Grasslands

- On the National Bison Range native grasslands, grazing maintains the grassland; opportunities exist for additional tools, such as fire.
- Introduced grasslands on Waterfowl Production Areas, Ninepipe, Pablo, and Swan River National Wildlife Refuges are maintained by haying, grazing, mowing, farming or with fire.
- Grasslands on Waterfowl Production Areas and Pablo, Ninepipe, and Swan National Wildlife Refuges are maintained or restored in dense nesting cover, grass native/non-native mixture, native prairie composition.

Invasive/Exotic Weeds

- Invasive/exotic weed species (e.g., dalmatian toadflax, knapweed, etc.) occur on the Complex and reduce the quality of grasslands. Tools for management include biological (e.g., insect root miners or defoliators), chemical (e.g., Tordon, 2,4-d etc.), prescribed fire, grazing, mowing, haying, and farming. Many neighboring land owners are concerned with weed seed moving onto their property. There are also concerns with how much chemical product is used, whether biological control is efficient and effective or moves onto nontarget plants, and the use of fire and it potentially escaping to additional lands.

- *Used for food by NTMBs*
Russian Olive trees are an exotic species in the valley. These trees can choke riparian and upland areas, provide roost sites for avian predators of nesting migratory birds, which could lead to reduced nest success, and are spreading on Pablo National Wildlife Refuge.
- Purple Loosestrife is an exotic wetland plant species found in the valley and is a problem on Waterfowl Production Areas and Ninepipe National Wildlife Refuge. It outcompetes native wetland species that are beneficial for wetland-dependent wildlife.

Wetland Management - Look at Ecosystem. Tribes Manage for Shorebirds
USFWS for Ducks } mou

- Water control structures manipulate water levels to maintain wetlands at full pool for wetland-dependent wildlife on Waterfowl Production Areas and Pablo National Wildlife Refuge.
- There is opportunity to benefit shorebirds and other waterbirds (e.g., rails) through wetland management on Waterfowl Production Areas, Ninepipe, Pablo and Swan River National Wildlife Refuges.

- Riparian & Amphibians*
- The effects of various water levels, timing of drawdowns or flooding to full pool, and speed of water manipulation on wetland-dependent wildlife are not well known for some species on Waterfowl Production Areas, Ninepipe, Pablo, and Swan River National Wildlife Refuges.

- North shore of Flathead Waterfowl Production Area is eroding.

Riparian Management on the National Bison Range

- There is opportunity for stream restoration of channelized areas (completed in 1950s) of the Jocko River.
- Riparian vegetation composition is changing along Mission Creek and may warrant a closer look for whether providing riparian wildlife habitat.

Bison

- Bison are moved between fenced pastures in a rotational grazing regime. Some believe the bison should not be moved among fenced pastures but allowed to roam freely over open range.
- Bison are rounded up every year to count adults and calves, give vaccinations (maintained for disease-free status) and dispose of individuals (based on age and sex ratios) to maintain herd at a designated target.
- Surplus bison are disposed of by donation to states, other federal agency herds, or Tribes for genetic management, augmentation, or establishment of other herds. Remaining individuals are disposed of by live sale (determined by sealed bid) to private individuals.

Other Wildlife

- Threatened and endangered species occur, or have the potential to occur, on many areas of the complex (see below). People may wish to see how the complex will deal with the presence of such species (e.g., which uses would be discontinued or modified with these species presence):

- Bull Trout (*Salvelinus confluentus*; Federal candidate) in Jocko, Swan River, and Flathead WPA
- Grizzly Bear (*Ursus arctos horribilis*; Federally listed threatened) use of Ninepipe NWR and Swan River NWR
- Gray Wolf (*Canis lupus*; Federally listed endangered) use of Ninepipe NWR, Swan River NWR or National Bison Range
- Nesting Peregrine Falcons (*Falco peregrinus*; Federally endangered) on Crow WPA and Bald Eagles (*Haliaeetus leucocephalus*; Federally listed threatened) on Ninepipe NWR, Swan River NWR, and Flathead WPA - Pablo
- Water Howellia (*Howellia aquatilis*; Federally listed threatened) on WPAs, Ninepipe NWR, Pablo NWR, or Swan River NWR.

- State-ranked species of S1 (critically imperiled) or S2 (imperiled because of rarity) occur, or have the potential to occur, within the Complex, but data and management efforts are limited.

- Columbian Sharp-tailed Grouse (*Tympanuchus phasianellus columbianus*)
- Townsend's Big-eared Bat (*Corynorhinus townsendii*)
- Fisher (*Martes pennanti*)
- North American Wolverine (*Gulo gulo luscus*)
- Breeding occurrences of American white pelican (*Pelecanus erythrorhynchos*), black-crowned night-heron (*Nycticorax nycticorax*), trumpeter swan (*Cygnus buccinator*), harlequin duck (*Histrionicus histrionicus*), yellow rail (*Coturnicops noveboracensis*), black-necked stilt (*Himantopus mexicanus*), forster's tern (*Sterna forsteri*)

Black Tern
Aspian Tern

- Plant species state ranked S1 or S2 within Flathead, Lake, or Sanders Counties that could exist in habitat types of the Complex, but data are limited.

Green-leaf manzanita (*Arctostaphylos patula*)
Wedge-leaved saltbush (*Atriplex truncata*)
Beck water-marigold (*Bidens beckii*)
Watershield (*Brasenia schreberi*)
Bristly sedge (*Carex comosa*)
Small-winged sedge (*Carex stenoptila*)
Many-headed sedge (*Carex sychnocephala*)
Deer indian paintbrush (*Castilleja cervina*)
Small yellow lady's-slipper (*Cypripedium calceolus var parviflorum*)
Howell's gum-weed (*Grindelia howellii*)
Water star-grass (*Heteranthera dubia*)
Western pearl-flower (*Heterocodon rariflorum*)
Slender hareleaf (*Lagophylla ramosissima*)
Flowering quillwort (*Lilaea scilloides*)

Guadalupe water-nymph (*Najas guadalupensis*)
Pygmy water-lily (*Nymphaea tetragona*)
Blunt-leaved pondweed (*Potamogeton obtusifolius*)
Toothcup (*Rotala ramosior*)
Water Bulrush (*Scirpus subterminalis*)
Spalding Campion (*Silene spaldingii*)
Columbia water-meal (*Wolffia columbiana*)
Big-leaf sedge (*Carex amplifolia*)
Common clarkia (*Clarkia rhomboidea*)
Sand springbeauty (*Claytonia arenicola*)
Short-pointed flatsedge (*Cyperus acuminatus*)
Small-headed tarweed (*Madia minima*)
White-margined Knotweed (*Polygonum polygaloides*)
Shinyleaf gooseberry (*Ribes cognatum*)
Early forget-me-not (*Myosotis verna*)

- Large-mammal populations are maintained at a stable carrying capacity (bison, elk, mule deer, white-tailed deer) on the National Bison Range. Surplus individuals are removed and donated to states, other federal agencies, Tribes, or tax-supported organizations (e.g., public schools).
Where did these target #'s come from - should they be adjusted

- Small populations of bighorn sheep, pronghorn antelope, and mountain goats on the National Bison Range are closely monitored for survival and reproduction. Augmentation may occur to maintain a healthy gene pool. Surplus animals are donated to other herds for augmentation.

- Black bear, mountain lions, and badgers occur on the National Bison Range Complex; baseline data on population size, habitat use, and survival and reproduction of these species are minimal.
Bobcats

- There are opportunities to monitor migratory bird populations (waterfowl, shorebirds, other waterbirds, raptors, and songbirds) for nesting success. The effects of waterfowl management practices on other migratory birds are not well known.
- There are opportunities for stream restoration to benefit bull trout and westslope cutthroat trout in the Jocko River on the National Bison Range.
- There are concerns about removing coyotes to increase pronghorn fawn and bighorn sheep lamb survival on the National Bison Range, and skunk removal to increase ground-nesting bird survival and nest success on Waterfowl Production Areas.

Bulls

Archaeological & Cultural Resources

- There is some question as to whether the rock gate entrance and entrance sign that the Civilian Conservation Corp built, the old headquarters and horse barn on the National Bison Range are eligible for listing on the National Historic Register.
- The public has a high interest in the Blasdell Barn on Blasdell Waterfowl Production Area and how the U.S. Fish & Wildlife Service will care for and preserve it.
- The Confederated Salish & Kootenai Tribes view bison, bald eagle, silver sage, point sites, and the National Bison Range itself as archaeological and cultural resources.
- Other Tribes request use of silver sage as a cultural resource.
- The opportunity exists for the staff at the National Bison Range and Confederated Salish & Kootenai Tribes to work together to develop and present Salish & Kootenai cultural and interpretive programs.
- Native Americans request special use of the National Bison Range for religious and cultural practices.

Land Administration

- Boundaries of Pablo and Swan River National Wildlife Refuges are not completely surveyed and posted.
- Some are concerned with the U.S. government acquiring lands under fee title, as well as under easement within the Flathead Reservation. Others are supportive of the U.S. Fish & Wildlife Service Conservation Easement Program in northwestern Montana. - who holds Easements
- Completion of land acquisition for authorized acreage remains incomplete for the National Bison Range.
- Mitigation programs are pending in Flathead and Lake Counties.

Water Rights

- Federal reserved water rights have been quantified (except for Jocko River) but have not been formally presented to Montana Reserved Water Rights Compact Commission, pending discussions with the Salish and Kootenai Tribes. The Tribes believe that National Bison Range water rights should be negotiated either by the Tribes, or with full Tribal participation in U.S. Fish and Wildlife Service negotiations.
- Water rights for some Waterfowl Production Areas were claimed in the adjudication by the Service's predecessors in interest, but have not been adjudicated. Other Waterfowl Production Areas receive water pursuant to contract with Flathead Irrigation Project, whose water rights claims conflict with those filed by Bureau of Indian Affairs on behalf of the Tribes.
- Annual operation and maintenance costs for Flathead Irrigation Project are \$20+/acre for the 700 acres of Waterfowl Production Areas under the project. These costs must be paid each year, whether or not any water is delivered.
- Water management at Ninepipe and Pablo National Wildlife Refuges, and the Pablo Ducks Unlimited Units (200+ acres), is subject to the needs of Flathead Irrigation Project.

Public Use

- There are joint tribal-state permits required to hunt or fish on federal or private lands within reservation boundaries, and it is only a state permit elsewhere on federal or private lands.
- Some people would like to have hunting and trapping on the Complex.
- A few people disagree with prohibiting boats and flotation devices on Ninepipe National Wildlife Refuge.
- Research investigators using the Complex are concerned about maintaining access, equitable treatment, and freedom of research design. The Complex maintains that research be compatible with refuge purposes and comply with Service policy. *Notice to Researchers (John Biers)*
- The opportunity exists for increased wildlife-oriented educational and interpretive uses on the Complex if funding is available: additional interpretive trails, expanding interpretive programs and teacher workshops.
- Use of the National Bison Range visitor center, offices, and visitor parking have exceeded their capacity.
- Fair and equitable access and permission are a concern for special-use activities on the Complex (e.g., wildlife photographers, Mission Valley Saddle Club Trail Ride, and Tribal celebrations).

- The Bison Round-Up and the auto tours on the National Bison Range are beginning to exceed their capacity.
- There are opportunities for road improvement of auto tours and adding an intermediate distance auto tour.
- Concerns exist about accessibility to the National Bison Range visitor center and all public use programs for people with disabilities.
- There is concern for health and safety of all refuge visitors and staff.
- There may be opportunity to place an emergency medical technician on the National Bison Range staff due to the number of visitors and hazardous staff duties combined with the isolated nature of the refuge.

Administration

- The public is interested in the status of government-to-government (federal, state, tribal, and local) relations, requests for information, partnering, or work assistance.
- The Complex has exceeded its capacity of all facilities.
- There are insufficient Complex funds and staff to maintain visitor services, fences, roads, buildings, animal care, etc.
- Presently, there is inappropriate use of less-than-permanent positions.
- * • There is a lack of staff for adequate law enforcement. - Who should do LE + when
Winter Weekends + evenings

Indian Springs Rehab - fire - Riparian

BRIEFING STATEMENT

PREPARED FOR: Governor of Montana, Montana Congressional Delegation, USFWS Region 6
Regional Director, and USFWS Native American Desk

SUBMITTED: 15 January 1997

TITLE: National Bison Range Complex Comprehensive Management Plan

ISSUE: Tribal and public participation in refuge planning

BACKGROUND/STATUS:

- Comprehensive management planning was initiated in July 1996. Staff have completed preplanning. The planning unit includes the National Bison Range, Ninepipe, Pablo, and Swan River National Wildlife Refuges, and the Northwestern Montana Wetland Management District (12 Waterfowl Production Areas and the U.S. Fish & Wildlife Conservation Easement Program in Lake and Flathead Counties).
- The government-to-government relationship with the Confederated Salish & Kootenai Tribes will be maintained. The Tribe has been invited to an initial consultation meeting on 29 January 1997 at the National Bison Range Visitor Center. The proposed discussion topics include the planning process and our schedule; consultation protocols; public involvement techniques; Tribal involvement; resource issues/opportunities; and "Partners Input Team."
- The Partners Input Team will consist of any interested stakeholder. Their role will be to serve as an initial sounding board for ideas, provide political review of material, and provide input from each of their perspectives. This team does not have review approval authority.
- Other local governments and federal and state agencies will be consulted on 30 January 1997 at the Visitor Center with the same agenda as for the Tribe.
- Local interest groups are invited to the Bison Range Visitor Center on 6 February 1997 with the same agenda as for the Tribe and other local governments.
- Public open houses are tentatively scheduled for April and May in towns throughout the Complex to gather input on resource issues and opportunities.
- Public involvement will be fostered by maintaining a mailing list and a Listening Log, providing an "Issues Workbook" and "Questions and Answers" handout, public open houses, CMP program at local interest group meetings, and establishing a Partners Input Team. Press releases will be published in several local newspapers as details become available.

CONTACTS: David Wiseman, Project Leader, National Bison Range, (406) 644-2211; Ty Berry, MT/WY Geographic Refuge Supervisor, Regional Office, Denver, CO, (303) 236-7400.



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

NATIONAL BISON RANGE
132 Bison Range Rd.
Moiese, Montana 59824
406/644-2211

IN REPLY REFER TO:

15 January 1997

Rhonda Swaney, Chairwoman
Confederated Salish & Kootenai Tribes of the Flathead Nation
P.O. Box 278
Pablo, Montana 59855

Dear Madam Chairwoman:

I would like to invite you and your staff to the National Bison Range Visitor Center on 29 January at 2:00 pm and 30 January at 9:30 am. These are informal meetings to discuss and gather input on the comprehensive management plan for the National Bison Range Complex. The first meeting on Wednesday will include only the Confederated Salish & Kootenai Tribes and USFWS. The second meeting on Thursday will include federal and state agencies and tribal, state and local governments. Proposed discussion topics include:

- proposed public involvement;
- consultation protocols;
- comprehensive management planning process and our schedule;
- resource issues, opportunities; and
- planning teams.

Enclosed are informational materials about our planning process and a draft list of issues that we may need to respond to in the plan. Please bring any concerns, comments and questions you may have to the meeting. We look forward to cultivating and maintaining working relationships that will result in long-term conservation of the fish and wildlife resources of this intermountain grassland ecosystem.

Sincerely,



David Wiseman
Refuge Manager

Ing/enclosures (Summary Schedule, Q&A, Planning Teams, Issues List)

cc: Ty Berry, USFWS, Denver
Duncan Brown, USFWS, Washington
Sam Morigeau, CS&K, Pablo
Adam Misztal, USFWS, Denver

Lynn's Copy

U.S. FISH & WILDLIFE SERVICE NEWS RELEASE

15 January 1997

Dave Wiseman 406-644-2211

MANAGEMENT PLANNING FOR THE NATIONAL BISON RANGE
COMPLEX IN PROGRESS

The U.S. Fish & Wildlife Service recently initiated comprehensive management planning for the National Bison Range Complex. As part of the planning process, this spring the Fish and Wildlife Service will consult with other agencies and governments, and hold open houses to gather input from the public throughout the valley. Dates, times and locations for these will be announced in local media. To be placed on the mailing list to receive information about the planning project, write the Refuge Manager, USFWS, National Bison Range, 132 Bison Range Road, Moiese, MT 59824, or call (406) 644-2211.

The comprehensive management planning process guides management decisions by identifying refuge goals, long-range objectives, and strategies that will carry out the purposes for which these areas were established. The plan also provides the public with a clear picture of the future direction of the refuge complex.

Some of the specific issues which will be addressed during the planning process will include grassland and wetland management, exotic weeds, and public use. The Fish & Wildlife Service asks to hear why the areas are important to the community and if there are any other specific issues of particular interest to the public.

The National Bison Range Complex includes the National Bison Range, Ninepipe National Wildlife Refuge, Pablo National Wildlife Refuge, Swan River National Wildlife Refuge, 12 Waterfowl Production Areas in Lake and Flathead Counties, and the U.S. Fish & Wildlife Easement Program in northwestern Montana.



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

NATIONAL BISON RANGE

132 BISON RANGE ROAD
MOIESE, MONTANA 59824
(406) 644-2211
FAX (406) 644-2661

IN REPLY REFER TO:

16 January 1997

TO: Mayor John Glueckert (P.O. Box 238, Polson, 59860)
Mayor Kim Aipperspach (440 7th Ave. NW, Ronan, 59864)
Mayor Sam Roullier (Box 103, St. Ignatius, 59865)
Flathead County Commissioners (800 S. Main, Kalispell, 59901)
Flathead County Planning Office (723 5th Ave. E., Room 414, Kalispell, 59901)
Flathead County Weed & Rodent Control District (800 S. Main, Kalispell, 59901)
Lake County Commission (106 4th Ave. East, Polson, 59860-2175)
Lake County Community Development (1205 Terrace Lake Road, Ronan, 59864)
Lake County Extension Office (300 3rd Ave. S.W., Ronan, 59864)
Lake County Land Services-Planning (106 4th Ave. East, Polson, 59860-2175)
Lake County Weed Office (P.O. Box 670, Pablo, 59855)
Sanders County Commission (P.O. Box 519, Thompson Falls, 59873)
Julie Lapeyre, State of Montana, Office of the Governor (State Capitol, Helena, 59620-0801)
Rhonda Swaney, Confederated Salish & Kootenai Tribes (P.O. Box 278, Pablo, 59855)
U.S. Bureau of Indian Affairs (P.O. Box A, Pablo, 59855)
Darrell Sall, Area Mgr., U.S. Bureau of Land Management (3255 Ft. Missoula Rd., Missoula, 59804)
Bob Richard, USDA, Ag. Plant Health Inspection Service (P.O. Box 170278, Bozeman, 59717-0278)
Norman Rees, USDA, Ag. Research Service (402 Culbertson Hall, MSU, Bozeman, 59717)
USDA, Agricultural Stabilization Conservation Service (1213 Hwy 93 S, Ronan, 59864)
Sue Matthews, Carhart National Wilderness Training Center (20325 Remount Rd., Huson, 59846)
Carlos Rodriguez, USDA, Natural Resources Conservation Service (P.O. Box 766, Polson, 59860)
Farm Service Agency-FMIA (53108 Hwy 93 S, Polson, 59860; 30 Lower Valley Rd., Kalispell, 59901)
Chuck Wildes, Supervisor, Lolo National Forest (Bldg. 24, Ft. Missoula, Missoula, 59804)
Rodd Richardson, Supervisor, Flathead National Forest (1935 3rd Ave E., Kalispell, 59901)
Kemper McMaster, USFWS, Ecological Services (100 N. Park Suite 320, Helena, 59601)
Chris Servheen, Grizzly Bear Recovery Office (Univ. Hall, Room 309, Univ. MT, Missoula, 59812)
Pat Gonzales, Refuge Mgr., Lee Metcalf National Wildlife Refuge (P.O. Box 257, Stevensville, 59870)
Jim Hedrick, USFWS Missouri/Yellowstone River Ecosystem (P.O. Box 110, Lewistown, 59457)
Jim Stutzman, USFWS, Partner's for Wildlife (922 Bootlegger Trail, Great Falls, 59404-6133)
Joe Ball, U.S. Geological Survey, Mt Coop. Wildl. Research Unit (Bot.205, Univ.Mt, Missoula, 59812)
Department of Environmental Quality (Metcalf Building, P.O. Box 200901, Helena, 59620-0901)
Environmental Quality Council (Capitol Building, Helena, 59620-1704)
Montana Department of Fish, Wildlife & Parks (Reg. Dir. Richard Clough, 3201 Spurgin Rd., Missoula, 59801; Reg. Dir. Dan Vincent, 490 N. Meridian Rd., Kalispell, 59901; Dir. Pat Graham, 1420 East 6th Street, Helena, 59620)
Jim Jensen, Montana Environmental Information Center (P.O. Box 1184, Helena, 59624)
Montana Historical Society, State Historic Preservation Office (225 North Roberts, Helena, 59620-1201)

Montana Natural Heritage Program (1515 East 6th Ave., P.O. Box 201800, Helena, 59620-1800)
Sen. Mike Taylor (P.O. Box 152, Proctor, 59929) Sen. Arnie Mohl (3303 Hwy 2 E., Kalispell, 59901)
Sen. Larry Baer (6093 Hwy 35, Bigfork, 59911) Sen. Robert DePratu (Box 1217, Whitefish, 59937)
Sen. Barry Stang (Drawer M, St. Regis, 59866) Sen. John Harp (53 Willow Drive, Kalispell, 59901)
Rep. Rick Jore (5200 Cheff Ln., Ronan, 59864) Rep. Rod Bitney (Box 10501, Kalispell, 59904)
Rep. John A. Mercer (Box 450, Polson, 59860) Rep. Bob Lawson (Box 686, Whitefish, 59937)
Rep. Bob Keeman (P.O. Box 697, Bigfork, 59911)
Rep. Paul Bankhead (89 Cottonwood Rd., Heron, 59844)
Rep. Sylvia Bookout (35 Plateau Rd., Box 327, Alberton, 59820)
Rep. Paul Sliter (Box 130, 55 Somers Rd., Somers, 59932)
Rep. Tim Dowell (46 Westview Drive, Kalispell, 59901)
Rep. William Boharski (1433 5th Ave. W., Kalispell, 59901)
Rep. Douglas Wagner (Box 190021, Hungry Horse, 59919)
Rep. Darrel Adams (155 Eastland Crossroad, Columbia Falls, 59912)

Dear Sir/Madam:

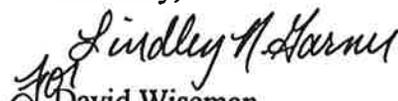
I would like to invite you and your staff to the National Bison Range Visitor Center on 30 January at 9:30 am. This is an informal meeting to discuss and gather input on a comprehensive management plan for the National Bison Range Complex. This coordination and consultation meeting will include federal and state agencies and tribal, state and local governments.

Proposed discussion topics include:

- proposed public involvement;
- consultation protocols;
- comprehensive management planning process and our schedule;
- resource issues/opportunities; and
- planning teams.

Enclosed are informational materials about our planning process and a draft list of issues that we may need to respond to in the plan. Please bring any concerns, comments and questions you may have to the meeting. We look forward to cultivating and maintaining working relationships that will result in long-term conservation of the fish and wildlife resources of this intermountain grassland ecosystem.

Sincerely,


David Wiseman
Refuge Manager

ing/enclosures (Summary Schedule, Q&A, Planning Teams, Issues List)

cc: Ty Berry, USFWS-MT/WY Refuge Supervisor,
Adam Misztal, USFWS-Land Acquisition & Planning,

Senator Max Baucus
Senator Conrad Burns
Representative Rick Hill

MEMO

To: Lindy
From: Lynn Clark
Subject: CMP Thoughts
Date: January 22, 1997

Why is Carhart Wilderness Training Center on Planning team?

Should NTMB use be an issue in forest management? My first instinct is no because the forest encroachment on the NBR is due to lack of fire and would not be occurring without fire prevention; however, fire prevention in national forests may be selecting against young DF regeneration in surrounding habitats so this may be an important habitat in western Montana even though it is not important to the Bison Range.

What is killing so many trees in our forests and is this an issue?

The Montana state nursery rates Russian Olive as an excellent forage species for NTMB.

Wetland Management -

- Can this be looked at from an ecosystem perspective - ie. The USFWS manages most of their land for waterfowl and the Tribes manage for shorebirds. This would not be a distinct line but would be based on land use and water regimes. There is no point in the FWS converting good waterfowl habitat to benefit shorebirds if there is good shorebird habitat on Tribal land. The opposite would also be true.
- Reptiles and especially amphibians should be included in developing timing of drawdowns and flooding.

Riparian Management -

- Should Indian Springs be rejuvenated and if so how? Fire? What changes have occurred at Indian Springs with the development of brushy vegetation thickets and loss of aspens? Are these changes beneficial to some species at the detriment of others? (ie. Beneficial to Clay-colored Sparrows and detrimental to Lazuli Buntings?)

Other Wildlife -

- I think we have seen Caspian Terns at Ninepipe so you might want to add them to the threatened and endangered species list.
- Bald eagles nest at Pablo.
- Perhaps we should look at how the target numbers for large mammals were derived and

Lindy
Page 2
January 22, 1997

if they are still applicable.

- Add bobcat to list of species without baseline data.
- Coyote and skunk removal are addressed - what about the gulls on Ninepipe and Pablo? They have been a concern in the past.

Land Administration

- Would it be appropriate to address who can manage the easements here? For instance can they be assigned to the tribe or the state with landowner preference?

Public Use

- Will the researchers (John Byers) be notified about the CMP so they can have input.

I'm not quite sure how the final CMP works but I would like to be involved in biological input. I think it would be good to keep every one involved in certain areas such as all public use people in the public use aspect and maintenance in public use, bison management etc.

Lynn

CMP Meeting with NBR Staff

27 January 1997

- team definitions not clear. Planning Administration Team is made up of FWS employees and they decide what goes into the plan, i.e., decision-making authority; Partners Input Team is made up of any interested stakeholder, i.e., representative from federal and state agencies, tribe, conservation groups... This team may be limited if gets unmanageable in terms of numbers and they act as a sounding board for input and exchange of information. Interdisciplinary Technical Team members will be invited by the Planning Administration Team once they determine what type of expertise is needed to address issues and objectives of the plan.

-public involvement with govt. Meetings? Public can attend to observe and if space is available, even though intergovernmental meetings are not subject to open meeting laws. Government to government meetings (us with Tribe) are closed because they are exempt also.

-who is the "FWS", Ref. Mgr. Or RO--who decides? Refuge manager responsible for plan but regional office must sign off on it also.

-staff protocol--direct calls to Dave, Bill, Lindy--provide blue comment form at desk if someone asks to provide input; we prefer comments in writing

-phone calls when D,B, or L unavail. Ask caller first if they would write their comment and send it to us. If not, then take notes and repeat their input to them on the phone and ask them if correct; take date, their name, your name, and input.

-system for people to leave voice mail messages for input recorded?? Our phones aren't probably set up to be able to handle this.

-put out our email address for input???

Could provide the perception that we are more open to comment

Can we track it and keep up with it logistically?

Can we get a separate address?

Are we inviting problems with increased access?

Lindy is going to look into this.

-Communication with the Tribe; their internal communications are creating problems for us because we apparently aren't getting our material or messages to the appropriate people, even though we thought we were; use certified mail with a receipt so that we get feedback

-how do we respond to erroneous information in the paper; may hurt us more than help in public eyes. We document it internally but doesn't help us with the public. Could write a letter to the editor but again would probably hurt more than help.

-what about a court reporter for the meeting; even if recorded there could still be different interpretations and both parties would have to agree

CMP meeting with NBR staff cont.

-staff involvement at meetings;

For public meetings do not come in uniform unless asked to help with the meeting and make sure if make comment that you are speaking as a private citizen

Tribal meeting no public or press; staff in uniform can observe if space available and regional office says ok

-Meeting with other governments, staff and public can attend to observe if space available

-Media treated as public; can observe if space available at other governments and public meetings--not tribal meeting.

-cmp and self-gov are connected in that the cmp will direct How the management is done but not Who manages. Self-gov decides who manages and they will manage how the cmp directs. CMP has much more public involvement than self-governance. CMP has public involvement all during the process before a plan ever is proposed to the public. Self governance comes to an agreement and then it is provided to Congress for review, i.e., public review.

-how often for staff meetings or others; will have staff meetings periodically and already plan to circulate drafts of things for all staff to read for knowledge and input. Staff must remember they will get information that will not necessarily be ready for the public yet and is for internal review only, not distribution.

-we have to take all issues and respond to why or why not doing them

**NATIONAL BISON RANGE COMPLEX
COMPREHENSIVE CONSERVATION PLANNING PROCESS**

- ◆ Preplan: Develop Planning Strategy & Public Involvement Plan (July 1996-March 1997)
- ◆ Introduce Planning Project to the Public (January 1997-March 1997)
- ◆ Initial Tribal, State, & Local Government Consultation (January 1997-completion of plan)
- ◆ Request & Review Public Input to Identify Issues/Concerns (November 1997-January 1997)
- ◆ Compile, Review & Analyze Data (December 1997-May 1998)
- ◆ Draft Vision & Goal Statements (April 1998-May 1998)
- ◆ Develop Alternatives with objectives [Includes public workshop] (June 1998-November 1998)
- ◆ Assess Impacts of Alternatives (September 1998-February 1999)
- ◆ Develop Draft Plan/NEPA Document (November 1998-April 1999)
- ◆ Draft Plan Review by Fish & Wildlife Service & Teams (May 1999-June 1999)
- ◆ Publish Draft Plan/NEPA Document [60-day Public Comment Period] (June-August 1999)
- ◆ Conduct Open Houses to Answer Questions on Draft Plan (June 1999-August 1999)
- ◆ Review Public Comments & Revise Plan as Necessary (September 1999-November 1999)
- ◆ Publish Final Plan & Record of Decision; Adopt Plan (November 1999-December 1999)
(30-day Waiting Period Prior to Implementation of the Plan)
- ◆ Begin Implementing Comprehensive Management Plan (January 2000)
- ◆ Monitor & Evaluate Objective(s) Accomplishment
- ◆ Periodically Review & Update Plan
- ◆ Inform and Involve the Public Throughout Plan Implementation, Review, and Revision

Comprehensive Management Plan Proposed Schedule

		1999													
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1998													
		1997													
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		Mtng													
		Identify Issues & Concerns													
		Compile, Review, & Analyze Data													
		Develop Vision & Goals				Develop Alternatives with Objectives with Public Workshop				Internal Review				Internal Review	
		Assess Impacts													
		Develop Draft Plan/NEPA Documents						Internal Review						Internal Review	
		Develop Step-down Plans (Implementation & Monitoring Plans)													
		Publish Draft Plan/NEPA												Review Public Comment, Revise, Service Approval	
		Publish Final Plan/NEPA A													

Planning step that provides for public review and comment.

lng/cmepschdl.wpd

Public Involvement

NATIONAL BISON RANGE COMPLEX COMPREHENSIVE CONSERVATION PLAN

PUBLIC INVOLVEMENT PLAN

Background of the project: The National Bison Range Complex initiated Comprehensive Conservation Planning in July 1996. The proposed planning unit includes the National Bison Range, Ninepipe, Pablo, and Swan River National Wildlife Refuges, and the Northwestern Montana Wetland Management District (12 Waterfowl Production Areas and the U.S. Fish & Wildlife Conservation Easement Program in Lake and Flathead Counties). The purpose of the plan is to guide management actions in line with the purposes for which these areas were established; and provide the public with a clear, goal-directed rationale for long-term continuity in refuge management actions.

The comprehensive conservation plan process will last approximately 2 years and involve 5 general steps where we can learn from the public.

- 1) Preplan by developing a planning strategy, schedule, public involvement plan, mailing list, gathering background information, etc.
- 2) Consult tribal, local governments, and federal and state agencies about public involvement plan and resource issues. Gather public input to identify issues and concerns. This information helps us draft vision and goal statements, and alternatives with objectives.
- 3) Gather public input on draft statements and alternatives, revise, and develop draft plan/NEPA document.
- 4) Publish draft plan/NEPA document and provide for public comment.
- 5) Review public comment and develop final plan, adopt, and implement.

Public Involvement Needs Assessment

The public involvement plan is based on the assumption that no environmental impact statement will be needed for this plan, and that an environmental assessment will carefully document management alternatives and anticipated impacts.

The Service does not foresee the comprehensive conservation plan as producing major changes in current management practices or public use, but recognizes there is potential for such change. The Service must provide the opportunity for changes to be proposed, evaluated, and implemented if determined as the best management strategy. This planning effort will provide local communities their first opportunity to have significant impact on the future direction of the Complex. Many individuals and potential partners (organizations, agencies, governments) have different views on how the Complex could be managed and its priorities. The primary thrust for the planning process is to provide a forum for ideas and issues to be

reviewed and evaluated. It is also important for the Service to provide information to the public throughout the process.

There is also contention, or the perception of contention, between local individuals, tribal government, and other local governments pertaining to one government or group having greater influence on Service programs than others. Therefore, this public involvement process must be large-scale and open to everyone equally and within the boundaries of public involvement legislation, such as the National Environmental Policy Act (42 U.S.C. 4321-4347) and the Federal Advisory Committee Act (5 U.S.C. 2).

The public may be, or become, misinformed about how the comprehensive conservation plan and the compacting request for management authority by the Confederated Salish & Kootenai Tribes' affect or are related to each other. The Service views the planning process as separate from the Tribe's compacting request for management authority. The Service's message must be clear that the comprehensive conservation plan outlines how the Complex will be managed, not who manages it.

Public Involvement Objectives:

- To provide the opportunity for the public, other agencies, governments, and groups to provide input in the refuge comprehensive conservation plan for the National Bison Range Complex,
- To inform the public of Service actions, progress, and constraints that the Service must work within, and that decisions are made in a fair and equitable manner,
- Continue to establish working relationships and partnerships with the counties, Confederated Salish and Kootenai Tribes, and Montana government that results in long-term conservation of fish and wildlife resources,
- To work on resolving potential conflicts of proposed actions or policies, and
- To cultivate and maintain the United States government's unique government-to-government relationship with the Confederated Salish and Kootenai Tribes regarding the refuge comprehensive conservation plan for the National Bison Range Complex.

Affected Publics

This should be a fairly large-scale approach for public involvement. The National Bison Range has a wide range of interested publics from local governments of three counties, farmers and ranchers, many conservation/environmental groups active in the area, large contingency of

summer tourists, tribal members of the Confederated Salish & Kootenai Tribes, to several state and federal natural resource agencies.

The Complex planning process can also be a model for how we coordinate and collaborate with a Native American Tribe with self-governance. The National Bison Range, Ninepipe National Wildlife Refuge, Pablo National Wildlife Refuge, and that portion of the wetland management district in Lake County, Montana lie within the exterior boundaries of the Flathead Indian Reservation. Swan River National Wildlife Refuge and that portion of the wetland management district in Flathead County, Montana are not within the reservation boundaries. There are also local individuals, governments, and agencies that own property or have jurisdiction on the reservation, but are not tribal members or government, that feel strongly about the National Bison Range Complex and having an equal opportunity to provide input.

Public Involvement Approach:

The following planning process steps outline how public involvement is included for each step.

Step 1. Preplan (July 1996 - March 1997)

- Begin developing a mailing list of affected publics, gather information on public involvement techniques, and draft a public involvement plan.

Step 2. Introduce Planning Project (January 1997 - March 1997)

- Brief Congressional Delegation with notice to prepare a CCP and provide tentative dates, attendees, and agenda of consultation meetings.
- Publish a press release on intent to prepare a CCP for the Bison Range Complex; that we intend to work closely with the Tribe, local governments, and public; that they can call or write the Bison Range for more information and a mailing list form to be put on the mailing list for future material; and that we will be publishing a second news release that includes the detailed public involvement plan and schedule sometime in April. Placed in the Missoulian, Lake County Leader, Char-Koosta, Daily InterLake, Hungry Horse News, Bigfork Eagle, Sanders County Ledger, and Seeley/Swan Lake Pathfinder
- Provide mailing list form to the Visitor Center desk and mail to anyone requesting further information
- Begin Responsiveness Summary/Listening Log (weekly log of anything heard or read that could be considered potential input to the project; record date, source, input, input's relevance, and recommended response; summarize raw input by issues and provide to any interested party; compile raw input into sanitized issue statements with response and provide to any interested party)

Step 3. Initial Tribal, State, and Local Government Consultation (January 1997 - completion of plan)

- Day 1 (Jan. 29) - Invite Tribal representatives to the National Bison Range Visitor Center for an informal intergovernmental meeting.

- Day 2 (Jan. 30) - Invite representatives from other local governments, federal agencies, and state agencies to the National Bison Range Visitor Center for an informal intergovernmental meeting.
Agenda for both days: give briefing on the CCP process; discuss consultation protocols and partnerships; discuss draft public involvement plan (e.g., open houses, issues workbook, responsiveness summary/listening log), resource issues/opportunities, and planning teams

Step 4. Request Stakeholders to Identify Issues; Form Partners Input Team (November 1997)

- Write newspaper article (paid ad) to the public and letters to conservation groups (locally & nationally) explaining our CCP process and schedule, and ask them to respond to 3-4 general questions. This initial input will be used to develop an Issues Workbook and focus attention to issues where more information may be needed. In letters to stakeholder groups ask them to respond by mid November whether they are interested in placing a representative on the Partners Input Team.
Placed in the Missoulian, Lake County Leader, Char-Koosta, Daily InterLake, Sanders County Ledger, and Seeley/Swan Lake Pathfinder
- Via letters and phone calls contact other governments, and federal and state agencies about a representative for the Partners Input Team by mid November. Hopefully through phone calls we will have heard from stakeholder groups from previous step on initial input.
- Brief Congressional Delegation (early - mid December 1997) with schedule for open houses and Partners Input Team members and their role.

Step 5. Conduct Open Houses and Mail Issues Workbooks (January 1998)

- Provide press release (early January 1998) on the open house schedule, what we are looking for in the open houses, and that input received will be put into a scoping report and provided to the public
Placed in the Missoulian, Lake County Leader, Char-Koosta, Daily InterLake, Hungry Horse News, Bigfork Eagle, Sanders County Ledger, and Seeley/Swan Lake Pathfinder
- After reviewing initial input received from newspaper ad, develop Issues Workbook and then mail (early January 1998) Issues Workbook and Schedule for Public Open Houses to everyone on Mailing List
- Conduct open houses (mid-late January 1998) to scope for additional input on issues/opportunities with open houses in Missoula, Ronan, and Kalispell.
Format: Information about our CCP process and schedule will be provided through wall panels and informational handouts. People can provide input through summary sheets on the wall, filling out the Issues Workbook, talking with staff, and getting their name on the mailing list. Additional information will be provided through FWS displays, Wild Facts for each refuge, and each unit's brochure.

Step 6. Review Public Input and Gather Information (December 1997 - May 1998)

- Review and summarize public input
- Assemble "Planning Administration Team" (late February 1998)
 - Discuss public involvement and review summary
 - Establish rationale for selection or exclusion of issues that will be covered in the plan
 - Review issues and determine which disciplines require more information for the issues to be addressed adequately
 - Gather information to address issues raised by the public; determine what type of Interdisciplinary Technical assistance is needed
 - Draft vision and goal statements
- Prepare scoping report (March 1998) that explains how issues were selected, address those that were excluded from the plan, and explain that the issues will be used to draft vision and goal statements, and alternatives with objectives
- Mail letter (April 1998) with scoping report to Partners Input Team

Step 7. Draft Vision and Goal Statements (April 1998 - May 1998)

- Planning Administration Team prepares draft vision, goal, and objective statements
- Circulate draft vision and goal statements within the Service
- Circulate draft statements to the Tribes and Partners Input Team for review and comment
- Gather public input by preparing and submitting a news release or "update" with draft vision and goal statements, request feedback, and announce public workshop(s) to develop alternatives

Step 8. Develop Alternatives with Objectives (June 1998 - November 1998)

- Assemble Planning Administration Team (June 1998)
 - Brainstorm alternatives
 - Finalize Interdisciplinary Technical Team workshops
- Assemble Interdisciplinary Technical Team(s) (July 1998 - November 1998) to gain input on how to deal with issues/opportunities raised by the public; discuss potential alternatives objectives; identify areas or species of special concern; identify partnerships to achieve goals
- Assemble Planning Administration Team (October 1998) to review information provided by the Interdisciplinary Technical Team, and fine-tune alternatives and objectives

Step 9. Assess Impacts of Alternatives (September 1998 - February 1999)

- Planning Administration Team and Interdisciplinary Technical Teams will research and draft impacts of alternatives
- Select Preferred Alternative

Step 10. Develop Draft Plan/NEPA Document (November 1998 - April 1999)

- Develop preferred alternative further into Draft Plan
- Draft and compile chapters, maps, appendices, step-down plans and summary

Step 11. Draft Plan Review within the Service and Teams (May 1999 - June 1999)

- Circulate draft plan within the Service (May 1999) for review, comment, and approval for release to the public
- Circulate draft plan to Interdisciplinary Technical Team (May 1999) for review and comment, revise plan as necessary
- Circulate draft plan to Partners Input Team (June 1999) for review and comment, revise plan as necessary

Step 12. Publish Draft Plan/NEPA Document with 60-day Public Comment Period (June 1999 - August 1999)

- Print Draft Plan, including step-down plans, and Popular Summary (June 1999)
- Provide press release (June 1999) of availability of draft plan for public comment for 60-day review period
Placed in the Missoulian, Lake County Leader, Char-Koosta, Daily InterLake, Hungry Horse News, Bigfork Eagle, Sanders County Ledger, and Seeley/Swan Lake Pathfinder
- Distribute Draft Plan and Summary to mailing list and libraries (Missoula, Ronan, St. Ignatius, Polson, Salish & Kootenai College, Creston or Bigfork) (June - July 1999)

Step 13. Conduct Open Houses to Answer Questions on Draft Plan (June 1999 - August 1999)

- Conduct open houses to answer questions about Draft Plan in National Bison Range Visitor Center, Polson, and Swan Lake (Swan Store/Morley's Canoe?).

Step 14. Review Public Comments & Revise Plan (September 1999 - November 1999)

- Review and document comments and explain how they were addressed in the plan
- Revise plan as necessary to address comments

Step 15. Publish Final Plan & Record of Decision (November 1999 - December 1999)

- Circulate Final Plan for review within the Service and approval by the Regional Director
- Regional Director issues a Record of Decision and formally adopts plan
- Publish Final Plan with Record of Decision in Federal Register and notice in local newspapers
If a Finding of No Significant Impact, Service must make it available to the public
- Provide for 30-day waiting period prior to implementation

Step 16. Begin Implementing Plan (January 2000)

- Project Leader determines sequence of objective accomplishment

Step 17. Monitor & Evaluate Objective(s) Accomplishment

- Each step-down plan will have a monitoring scheme that will also be determined during the planning process and described in the plan that the public will have had an opportunity to comment on in the Draft Plan

Step 18. Periodically Review & Update Plan

- Project Leader recommends revisions or updates depending upon how the management strategies are achieving the objectives based on evaluation and monitoring
- Updates will be provided to the public through newspaper articles, news releases, etc.

Step 19. Inform and Involve the Public Throughout Plan Implementation, Review, and Revision

- News releases will be used to keep the public informed of progress or modifications
- If major changes are determined necessary by the Project Leader, the changes will be explained to the public and comments will be requested
- If minor changes are proposed, it is Service policy for it to be at the Project Leaders discretion for the level of public involvement and associated NEPA documentation (subject to approval by the Regional Office)

**DRAFT FORMAT
NATIONAL BISON RANGE COMPLEX
COMPREHENSIVE CONSERVATION PLAN**

BACKGROUND FOR COMPLEX

- Purpose & Need
- Planning Units
- Guiding Laws and Policy
- Affected Environment

Each unit will have alternatives

VISION STATEMENT FOR COMPLEX

SUMMARY ISSUE STATEMENT FOR COMPLEX (broad summary with reference to each unit's issue section)

NATIONAL BISON RANGE

- Establishment history and purposes
- Refuge Resources
- Refuge Issues
- Refuge Direction
 - Purposes
 - Goals
 - Objectives
 - Strategies

Implementation & Monitoring

NINEPIPE

- Establishment history and purposes
- Refuge Resources
- Refuge Issues
- Refuge Direction
 - Purposes
 - Goals
 - Objectives
 - Strategies

Implementation & Monitoring

PABLO

- Establishment history and purposes
- Refuge Resources
- Refuge Issues
- Refuge Direction
 - Purposes

WILDERNESS REVIEW

PARTNERSHIP OPPORTUNITIES

SUMMARY OF PUBLIC INVOLVEMENT

STEP-DOWN PLANS (or put with each refuge?) *with each ind. Refuge as Unit*

APPENDICES (e.g., fonsi, rod, cd, sec.7, rons, bib, chrono, policy statmnts.)

Ing/ccpfmt.wpd

SWAN

- Establishment history and purposes
- Refuge Resources
- Refuge Issues
- Refuge Direction
 - Purposes
 - Goals
 - Objectives
 - Strategies

Implementation & Monitoring

WETLAND MANAGEMENT DISTRICT

- Establishment history and purposes
- Refuge Resources
- Refuge Issues
- Refuge Direction
 - Purposes
 - Goals
 - Objectives
 - Strategies

Implementation & Monitoring

PABLO cont.

- Goals
- Objectives
- Implementation & Monitoring

*Lost trail Ranch
Separate or Under
Acquisition*

Step down Plans -

- ~~I+E~~ Public Use - I+E (Law Enforcement)
- Public Use Activities
- Fenced Animal Management
- ~~Upland~~ Management Plan Upland
Habitat Wetland
Fire
- Acquisition Plan Water management
- Biological Inventory + Monitoring Plan

Whats Available

1967 master plan

1989 Mission,

1990 Fenced Animal Management Plan

Upland EA

compatibility determinations

⇒ - Predator Management plan (Find for Lindy)

⇒ Tracy Look for all Plans ←

**DRAFT OUTLINE
NATIONAL BISON RANGE COMPLEX
COMPREHENSIVE CONSERVATION PLAN**

I. BACKGROUND FOR THE COMPLEX

- A. Purpose and Need for a Comprehensive Management Plan
- B. Planning Units
- C. Guiding Laws and Policy for Management of the Complex
 - 1. System Mission
 - 2. System Guiding Principles
- D. Affected Environment
 - 1. Location and General Description
 - a. Northwest Montana
 - b. Mission and Swan Valley
 - c. Flathead Reservation; land ownership
 - d. Towns & Counties
 - e. Land Use
 - f. Recreation
 - g. Economic and Social Environment
 - 2. Climate
 - 3. Geological History and Physiography
 - a. Mountains
 - b. Glaciers
 - c. Lake Missoula
 - d. Soils
 - 4. Air Quality
 - 5. Watershed and Hydrology
 - 6. Habitat Types
 - 7. Cultural Resources
 - 8. Ecosystem Roles
 - 9. Role of Fire

II. VISION STATEMENT FOR COMPLEX

III. PLANNING ISSUES AND OPPORTUNITIES FOR THE COMPLEX

- A. Water Rights
- B. Forests
- C. Grasslands
- D. Invasive/Exotic Weeds
- E. Wetland Management
- F. Riparian Management
- G. Land Administration
- H. Bison
- I. Other Wildlife
- J. Archaeological and Cultural Resources
- K. Public Use
- L. Administration

OR

III. SUMMARY ISSUE STATEMENT FOR COMPLEX (reference each unit's issue section)

IV. National Bison Range

A. Establishment Purpose(s) and History

B. Refuge Resources and Uses

1. Natural

a. Location and General Description (co., size, topo., habitat type)

b. Water

c. Habitat Diversity

Native Grasslands

Shrublands

Montane Forests

Wetlands

Riparian Habitat

d. Threatened and Endangered Species

e. Wildlife Diversity

Bison

Other Large Mammals (ungulates, predators)

Small Mammals

Birds

Reptiles, Amphibians, & Fish

Invertebrates

2. Cultural and Archaeological

3. Public Use

a. Wildlife-dependent Recreation (hunting, fishing, wildl.obs.&photo.)

b. Environmental Education & Interpretation

c. Recreation

d. Research

4. Administrative and Maintenance Resources

a. Staff

b. Funding

c. Facilities

C. Refuge Issues

D. Refuge Direction

1. Purpose(s)

2. Goals, Objectives, & Strategies

E. Implementation and Monitoring

1. Compliance Requirements

2. Step-down plans (or at end of all units)

3. Implementation Schedule

4. Monitoring Program

V. Ninepipe National Wildlife Refuge

A. Establishment Purpose(s) and History

B. Refuge Resources

1. Natural

a. Location and General Description (co., size, topo., habitat type)

b. Water

c. Habitat Diversity

Grasslands

Wetlands

d. Threatened and Endangered Species

e. Wildlife Diversity

Large Mammals (ungulates, predators)

Small Mammals

Birds

Reptiles, Amphibians, & Fish

Invertebrates

2. Cultural and Archaeological

3. Public Use

a. Wildlife-dependent Recreation

b. Environmental Education & Interpretation

c. Recreation

d. Research

4. Administrative & Maintenance Resources

a. Staff

b. Funding

c. Facilities

C. Refuge Issues

D. Refuge Direction

1. Purpose(s)

2. Goals, Objectives & Strategies

E. Implementation and Monitoring

1. Compliance Requirements

2. Step-down plans (or at end of all units)

3. Implementation Schedule

4. Monitoring Program

VI. Pablo National Wildlife Refuge

A. Establishment Purpose(s) and History

B. Refuge Resources

1. Natural

a. Location and General Description (co., size, topo., habitat type)

b. Water

c. Habitat Diversity

Grasslands

Wetlands

d. Threatened and Endangered Species

e. Wildlife Diversity

Large Mammals (ungulates, predators)

Small Mammals

Birds

Reptiles, Amphibians, & Fish

Invertebrates

2. Cultural and Archaeological

3. Public Use

a. Wildlife-dependent Recreation

b. Environmental Education & Interpretation

c. Recreation

d. Research

4. Administrative & Maintenance Resources

a. Staff

b. Funding

c. Facilities

C. Refuge Issues

D. Refuge Direction

1. Purpose(s)

2. Goals, Objectives, & Strategies

E. Implementation and Monitoring

1. Compliance Requirements

2. Step-down plans (or at end of all units)

3. Implementation Schedule

4. Monitoring Program

VII. Swan River National Wildlife Refuge

A. Establishment Purpose(s) and History

B. Refuge Resources

1. Natural

a. Location and General Description (co., size, topo., habitat type)

b. Water

c. Habitat Diversity

Grasslands

Wetlands

d. Threatened and Endangered Species

e. Wildlife Diversity

Large Mammals (ungulates, predators)

Small Mammals

Birds

Reptiles, Amphibians, & Fish

Invertebrates

2. Cultural and Archaeological

3. Public Use

a. Wildlife-dependent Recreation

b. Environmental Education & Interpretation

c. Recreation

d. Research

4. Administrative & Maintenance Resources

a. Staff

b. Funding

c. Facilities

C. Refuge Issues

D. Refuge Direction

1. Purpose(s)

2. Goals, Objectives, & Strategies

E. Implementation and Monitoring

1. Compliance Requirements

2. Step-down plans (or at end of all units)

3. Implementation Schedule

4. Monitoring Program

VIII. Northwest Montana Wetland Management District

A. Waterfowl Production Areas

1. Establishment Purpose(s) and History

2. Area Resources

a. Natural

Location and General Description (co., size, topo., habitat type)

Water

Habitat Diversity

Grasslands

Wetlands

Threatened and Endangered Species

Wildlife Diversity

Large Mammals (ungulates, predators)

Small Mammals

Birds

Reptiles, Amphibians, & Fish

Invertebrates

b. Cultural and Archaeological

c. Public Use

Wildlife-dependent Recreation

Environmental Education & Interpretation

Recreation

Research

d. Administrative and Maintenance Resources

Staff

Funding

Facilities

3. Waterfowl Production Areas Direction

a. Purpose(s)

b. Goals, Objectives, & Strategies

4. Implementation and Monitoring

a. Compliance Requirements

b. Step-down Plans

c. Implementation Schedule

d. Monitoring Program

2. Conservation Easements

a. Establishment Purpose(s) and History

b. Natural Resources

Location and General Description (co., size, topo., habitat type)

Water

Habitat Diversity

Grasslands

Wetlands

Threatened and Endangered Species

Wildlife Diversity

Large Mammals (ungulates, predators)

Small Mammals

Birds

Reptiles, Amphibians, & Fish

Invertebrates

c. Administrative and Maintenance Resources

Staff

Funding

Facilities

d. Private Property Rights

e. Public Access

f. Easement Purpose(s)

g. Goals, Objectives, & Strategies

e. Implementation and Monitoring

Compliance Requirements

Step-down Plans

Implementation Schedule

Monitoring Program



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

NATIONAL BISON RANGE

132 BISON RANGE ROAD
MOIESE, MONTANA 59824
(406) 644-2211
FAX (406) 644-2661

IN REPLY REFER TO:

18 November 1997

NOTE:

To: Planning Administration Team (Core members: Wiseman, West, Washtak, Garner, Jamieson, Clark, Rogers, Misztal, Fojtik, Heath, Lewis, Berry)

From: Planning Facilitator *JA*

Subject: Open houses to scope issues for the CCP

Please note the following open house schedule and details. All members of the core planning team are invited to participate in the open houses. The staff listed for each open house are the minimum required.

NATIONAL BISON RANGE COMPLEX COMPREHENSIVE CONSERVATION PLAN

OPEN HOUSE DETAILS

Jan. 21, 1997-Wednesday
Missoula
3:00pm - 8:00pm
Dave, Lindy, Adam, Bill,
Pat, Ray, Rox, & Lynn

Jan. 23, 1997-Friday
Kalispell
3:00pm - 8:00pm
Dave, Lindy, Adam, Ray,
Rox, Pat

Jan. 27, 1997-Tuesday
Ronan
10:00am - 8:00pm
Dave, Lindy, Adam, Lynn,
Pat, Bill

Table 1 - Flashy fun info (refuge brochures, wildlife stewardship brochures and posters, refuge week posters, fee cards...)

Table 2 - Refuge specific information (bison range pamphlets, checklists, Fact Sheets-Pat/Terri and Diane Katzenberger working on the Fact sheets)

Table 3 - Planning info (short comment form, issues workbook, mailing list forms, Q&A)

Table 4 - Refreshments

Lindy greet people as they come in and explain to them it is an informal open house for folks to provide input or ask questions. Explain the various methods available for them to provide input (i.e., flip sheets, issue workbooks, short comment form, or talk to staff) and ask them to sign-in.

On the walls - refuge specific flip sheets and issue specific flip sheets with markers for people to write on

Poster board display-That explains generic ccp process and the Service - a who, what, how, and why plan presentation (Adam and Jaymee working on presentation boards)

Map displays-Jaymee getting us a vicinity map, and base maps for each unit

Staff circulate to explain information or answer questions.

If a visitor starts to provide verbal input, staff should ask them to write it down also. Any other verbal points can be repeated and notes taken as soon thereafter as possible on note cards that Lindy will provide (one person's input/card)

No formal presentation

Staff not in uniform, but pocket insignias worn. (Joan is ordering pocket insignias)



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NATIONAL BISON RANGE

132 BISON RANGE ROAD
MOIESE, MONTANA 59824
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FAX (406) 644-2661

IN REPLY REFER TO:

24 November 1997

NOTE:

To: Planning Administration Team (Core members: Wiseman, West, Washtak, Garner, Jamieson, Clark, Rogers, Misztal, Fojtik, Heath, Lewis, Berry)

From: Planning Facilitator *JL*

Subject: Minutes from PAT meeting and updated Key Steps Table

Enclosed are the minutes from the meeting on November 5 and 6, 1997, an updated key steps table, schedule, and list of PAT members. Would everyone would please review the minutes and the key steps to remind yourself of the assignments made. Also, make note on your calendars of future meeting times.

cc: Carol Taylor, Refuge Planning

cc: Terry Sexson & Diane Katzenberger, External Affairs

**NATIONAL BISON RANGE
COMPREHENSIVE CONSERVATION PLAN**

Notes for Planning Administration Team Meeting
(Wednesday & Thursday, Nov. 5-6, 1997, Bison Range Visitor Center)

Attendees

Dave Wiseman, Refuge Manager, National Bison Range
Bill West, Assistant Refuge Manager, National Bison Range
Lindy Garner, Planning Facilitator, National Bison Range
Pat Jamieson, Outdoor Recreation Planner, National Bison Range
Lynn Clark, Biological Technician, National Bison Range
Bob King, Maintenance Foreman, National Bison Range
Carol Taylor, Chief Land Acquisition and Refuge Planning, Reg. Office
Adam Misztal, Refuge Planner/Biologist, Reg. Office
Rhoda Lewis, Archaeologist, Reg. Office
Terry Sexson, Asst. Reg. Dir. of External Affairs
Jaymee Fojtik, Cartographer, Reg. Office

Guest Presentation - Marcia Cross, Archaeologist, Tribal Historic Preservation Office,
Confederated Salish & Kootenai Tribes

Agenda

See separate sheet

Notes

Planning Team

Carol reviewed changes from the new legislation's effects on planning

- NOI will be policy
- Notice of Opportunity for comment on draft plan is required
- ccp must be consistent with state plans
- revisions required every 15 years
- plan will be required for every refuge within 15 years
- must manage by the plan
- public involvement required
- summary of public comment required

Dave had a concern about the language of consulting and being consistent with other plans of the states and local agencies if there was disagreement among agencies on a management issue

Adam & Carol gave overview of makeup and how other ccp teams have worked

Core PAT 11/97 mtng. minutes cont.

Plan format and outline

We went over plan format and outline. Discussion centered on the need to treat each refuge separately even though there may be much repetition among certain sections. The background will still be written as an overall for the Complex

Get regional office staff involved prior to written drafts

When setting goals and objectives use an interdisciplinary team as much as possible. Get regional office folks to come out to the Range for the initial working meeting to establish draft goals and objectives

Lost Trail acquisition-Dave asked whether the planning for it as a new refuge could be done at the same time as the ccp. It can if the decision for it to be made a refuge is made in time during this planning process. It could also be covered in the ccp under acquisition strategy rather than singling it out. Prior to the January open houses, Paul will have to give us guidance on how to handle questions pertaining to the acquisition. There would be a big advantage in time and money if we could tell the public and plan for it as a new refuge during the ccp process, rather than doing it again in a year or two. The Decision Document for the acquisition will be separate from the plan. Terry suggested that we were getting close to putting predecisional information into motion and to be careful about that. He suggested we stay away from predecisional, and handle it under acquisition strategy in open houses.

Step-down plans - we discussed whether we were still going to include them in the plan. We listed those that would need to be completed, but this could be modified once we get into the process (e.g., I&E, Fenced Animal Mgmt., Habitat Mgmt., Acquisition, Biological Inventory & Monitoring). We do want to get the majority of them completed. Lynn had a concern about having to determine all the details and method necessary for a step-down plan. But, that analysis or research can actually be part of a step-down plan. We may want to have a separate Maintenance & Facilities Step-down Plan or incorporate all the aspects into the other plans. Step-down plans will have project worksheets. If funds or some other reason keep us from doing a project, that is not a problem. The problem is if you try to do a project different than the step-down plan. However, the plans can be modified. The question then came up about the Tribes fencing on NNP. The plan won't discuss who fences, but how the fencing should be done.

Information Needs

Listed information available.

Lindy has copies of 1967 Master Plan, 1989 Mission, Goals, & Objectives for NBR, 1990 Fenced Animal Mgmt. Plan, 1981 Public Use Mgmt. Plan, 1978 Visitor Center EA, NBR Educ. & Interp. Uses EA, Hunt Plan for Swan, 5 Valley's Concept Plan, 5yr Weed Plans for NBR, Predation EA for MT, Marcy's compilation of information such as history...

Core PAT 11/97 mtng. minutes cont.

In the files that need to be dug out - some data in narratives or personal files. Have Tracy look for compatibility determinations (pat gave lindy an old disk of marcy's), research reports, and forestry survey by emily in the files.

Rhoda has some history information that she will get a copy of to Lindy.

Lindy still needs

Upland EA-from Pat?

Skunk WMD, Coyote NBR EAs-from Lynn

Solicitor Opinions - from Dave

Cooperative Agreements on NNP and Pablo - from Bill

Mission Valley Wetland Management Decision Document when done - from Bill

Current budget and staffing information - from Dave?

RMIS, MMS, RCAR, RONS summaries - from Pat, Lynn, and Dave

Trapping Report - from Lynn

Any information for Flathead WPAs and Swan River not listed here - from Ray

Rhoda discussed the Cultural Resources Overview that the Tribes were asked to consider doing. She had discussed with Marcia Cross a literature review, ethnographic review, environmental data (soils, plants, wildlife), chronological table, types of known sites, research questions & goals, and topos with sensitive areas located in general based on where sites are usually located. Some discussion centered on where the time line would be drawn to begin from for the overview and how the CS&KT may put a spin on it. It was felt that this would not happen with Marcia's background with the university system and previous work with the Forest Service. More discussion would be conducted when Marcia Cross came the next day.

Process schedule and steps

The schedule for the planning process was reviewed. It seems attainable, but modifications may have to be made as we move through the process. The data gathering step should probably be extended throughout the time frame used to develop the alternatives also. It was pointed out to be sure and allow time for regional office review. The suggestion was to give them a draft to review with a specific time frame for comment and note stating that the process moves forward after the deadline.

The process steps were walked through and assignments were made with discussion of details to be completed.

Lindy asked whether we should consider developing a draft vision statement from the initial input and posing it to the public during the open houses for comment to try to shorten a step. It was felt that there would not be enough input or time to do this prior to the January open houses. So a vision statement for the Complex will be developed after the issue scoping.

Core PAT 11/97 mtng. minutes cont.

Public involvement

Terry emphasized the importance of briefing ro and congressional delegations of the red flag issues after scoping. In accordance with that, the congressional delegation also likes to get information just prior to public release (e.g., news releases...) So that they know it's coming and cc it to RO external affairs. It's important to check on which congressional staffers are in charge of our issues and keep them informed monthly or so.

Newspaper ad release needs to be close in timing to when stakeholders get their packets.

Must handle anonymous comments with special attention such that there isn't "stuffing the ballot box" per se.

The Partners Input Team again must be sure and handled such that each person is providing an individual perspective, don't try to reach consensus, and we are not asking for advice or recommendations. During any meetings with them they must be open to the public. Also be careful not to listen to someone's comment and try to interpret it for them to the group. Let someone else from that "culture" respond (for an example at the extreme, don't let an environmentalist interpret what an anti-environmentalist just said). It may create tension in a group meeting.

RO will help pay for open house logistics

Do not forget to use a sentence in news release or letters for open houses asking people with disabilities to let us know what they need and accommodations will be made. This sentence is a disclaimer for the Service.

Discussion on setting goals and objectives

Since there are different interpretations for what is an objective and goal, we will use the handbook put out by the RO to reduce time in argument and to write good goals and objectives. It was unclear how much clearance of draft goals and objectives was necessary before they can be released to the public (Skip and Paul sign off?) We will try to keep RO folks informed and get as many people at to the Range to help develop the goals and objectives.

Once we have some input on issues, the NBR staff will meet prior to the meeting for setting goals and objectives to establish some starting points

There was much exciting discussion on what are alternatives and how they mesh with the goals and objectives. There are different viewpoints and I'm sure another lively discussion will be held when we get to that point. The issues will separate the alternatives for different strategies to meet the objectives.

Core PAT 11/97 mtng. minutes cont.

Carol said the surname process was:

NBR→Ty→Paul→Adam→Carol→Harvey→Skip→Deputy→RD

Other RO folks will provide input, but not approval.

Terry is going to check on the protocol for us contacting the congressional delegation with news releases and planning updates/briefings. He thought we could just send it out and cc it to Ty and Paul. If it is a regional issue then we want to make sure and get it to those papers at the same time or just prior to local papers. The regional papers won't pick it up if it is "old news", i.e., published in a local paper first.

There was concern about putting our email address out there for the public to use as an avenue for input. Some felt it necessary to remove it, others said to just make sure the public understood that we would not be responding to each comment individually. I took it off the newspaper ad, mailing packets, and NOI.

Bill & Dave suggested to make sure I had Ralph Goode, Brian Lipscomb, and Marcia Cross on our mailing list. I put them on.

It was suggested to have extra mailing packets available for folks calling after they see the newspaper ad.

Open House details

Everyone thought it would be better to have the Missoula open house first since we thought it would be the 'easiest' one and a good practice run. Therefore, most people would need to be at it to get the exposure. Dave thought we might need more people at Ronan and to have it last.

Dave did not want uniforms, and thought the pocket insignias would be enough recognition.

For future meetings, Bill suggested the Methodist Church in Bigfork, and the library in Polson.

There was some concern on whether the Issues Workbook could get clearance in time for use in open houses. Lindy has one drafted but it may change once she summarizes the initial input. Adam was going to take the present draft back to Ty and Paul and show it to them for their initial reaction at using something like this at the open houses for people to take and comment.

There will be a staff training day for conducting the open houses. Date has yet to be set. Lindy is tentatively scheduling it for Tuesday, Jan. 20.

There were questions for whether law enforcement was necessary for any of the open house. It was decided unnecessary, unless something comes up later.

Core PAT 11/97 mtng. minutes cont.

November 6

Mapping Needs

Jaymee presented what she could get to us for open houses and asked for boundaries. She will get us a vicinity map and base maps for each unit. There will also be a status map depicting land ownership, e.g., federal, state, tribal. Other maps will be developed once we get into the process more and determine what is needed for the plan. Jaymee suggested we think about maps for things such as trails, recreation areas, auto tours, flyways, weeds, fire...

Marcia Cross from THPO

Marcia discussed what the Tribes could do for us for a cultural resources overview relative to the list Rhoda had outlined. Marcia did not think there would be a problem for her office writing the overview in terms of the Council being favorable, but that she would have to go talk to them about it. She will get back to us or Rhoda when she knows. She did know that her office could not cover all the material that Rhoda wanted in the overview for the money Rhoda was offering. Marcia said she would review what would be possible and get back to Rhoda. We were all favorable to her office taking part in the process and were hopeful of it happening.

Marcia also proposed us talking to the Tribes about fire management and she was anxious to work some of their information into the overview. We let her know that we had already had been coordinating with their fire people and how it worked out well.

She also talked about traditional plant gathering areas. She stated that almost all natural resources are cultural resources and so the Tribes have an interest in them. We asked about our requests from other Tribes to collect things such as silver sage and how we would just as soon have the Tribes develop some type of protocol or process to deal with requests rather than Dave. She pointed out that the CS&KT were always the host tribe when other tribes came to gather, so they have exclusive right.

Marcia asked whether we had ever documented or inventoried bitterroot or camas. We haven't, but then we haven't had a chance to inventory for many things.

Administrative details

It was suggested and agreed for the staff at NBR to have weekly meetings to just allow a time specifically for the ccp. It will allow everyone to stay updated on what is going on, ask questions, and get help. Lindy will set these up.

When writing sections the process will be for the author to provide it to Lindy first for review, edit, and formatting. Lindy will then distribute it to the core planning administration team (including Ty which will get a copy to Paul). Reviews returned to Lindy for revisions and she will distribute then to the remaining planning administration team. Reviews again to Lindy, revisions, and she'll distribute to other teams (PIT and/or ITT) or the public.

**NATIONAL BISON RANGE COMPLEX
 COMPREHENSIVE CONSERVATION PLAN
 Worksheet of Detailed Steps and Duties**

Task	Who Responsible	Due	Done
Preplanning			
Assemble Core Planning Team			7/18/96
Brainstorm for purpose and need	Core team		7/18/96
Draft Purpose and Need section	Lindy		Fall 96
Draft Guiding Laws and Policy section	Lindy		Fall 96
Brainstorm/review resources and manage issues, opportunities, concerns	Core team		7/18/96
Draft the Plan Format and Outline	Lindy		Fall 96
Brainstorm public involvement, interested publics, tools	Core team		7/18/96
Draft Public Involvement Plan, Mailing List, Schedule, tools	Lindy		done
Develop list of adjacent landowners to all properties of Complex	Lynn-Lake & Sanders Rox-Flathead	12/31/97	
Identify compliance requirements	Adam		
Identify info/data needs for plan; identify map requirements and standards	Core team		7/18/96 11/5/97
Develop presentation poster boards about the general ccp process and the FWS for use in open houses	Adam & Jaymee	1/16/97	
Identify Administrative Needs	Core Team		11/5/97

Task	Who Responsible	Due	Done
Maintain the Planning Record and Files	Lindy		
Brief Regional Directorate on initiation of planning	Adam		
Publish Notice of Intent in Federal Register			
Draft NOI	Lindy		done
Gather signatures, clearance and send NOI	Adam		
Brief congressional delegation	Lindy		1/15/97
Publish news release that planning has been initiated	Lindy		1/15/97
Track Responsiveness Summary/Listening Log (document all public comment written or phoned in by date, who, and issues it pertained to)	Lindy		
Request Initial Input on Issues from Stakeholders			
Develop newspaper display ad with initial 3 questions	Lindy	11/7/97	appeared 11/16/97
Develop mailing packets to stakeholders with 3 questions, request for PT and informational handouts	Lindy	11/14/97	11/12/97
Review initial input and summarize issues	Lindy	12/16/97	
NBR staff meeting to review initial input, flag issues for ro and congressnl staff	Lindy brief staff	12/17/97	

Task	Who Responsible	Due	Done
Hold Public Scoping Meetings to Identify Issues (and review vision statement?)			
Establish schedule, location, staff, and materials for open houses	Lindy & Core team	11/5/97	done
Draft news release with schedule and location of open houses	Lindy	12/30/97	
Draft briefing for congressional delegation on initial input for issues and open house schedule	Lindy	12/30/97	
NBR staff meeting to review news release and briefing; gather info for open houses	Lindy & NBR staff	1/6/98	
RO External Affairs review news release and briefing	Lindy fax to Terry and Diane	12/31/97 back by 1/6/98	
Fax congressional delegation	Lindy	1/8/98	
Fax news release	Lindy	1/9/98	
Notify interested publics on mailing list of open house schedule	Lindy	1/9/98	
Reserve rooms, coordinate equipment and facilities, track costs	Lindy	11/28/97	11/18/97
Prepare "Issues Workbook" for use at meetings and to be mailed (Lindy draft 1/22/96; Lindy revise w/initial input; Adam walk through RO for use at open houses	Lindy & Adam (new version to Adam by 1/5/98	1/16/98	
Prepare Fact Sheets for each refuge as handouts and compile other informational handouts	Pat/Terri M./Diane K.	12/31/97	
Have generic ccp presentation sideboards ready and available for meetings; put up flip sheets for public to comment on specific issues or unit	Adam and Jaymee	1/16/98	

Task	Who Responsible	Due	Done
Greet the public and inform them of the open house setup and methods for providing input (workbook, flip sheets, short comment form, speak to staff)	Lindy	1/21, 23, 27/98	
Get update from Paul on how to handle Lost Trail in open houses	Dave/Adam	1/16/97	
Facilitation Training	Lindy	1/12-16/97	
Open House training day for staff	Lindy/Staff	1/20/97	
Review Public Input from Open Houses			
Summarize input by issue and/or unit	Lindy	2/98	
Assemble Planning Administration Team to review issues and draft goals & obj.	Lindy	3/2-6/98	
Establish rationale for selection or exclusion of issues to be covered in the plan	Core team	3/2-6/98	
Determine which issues need more information and types of expertise may need for Interdisciplinary Technical Team(s)	Core team	3/2-6/98	
Draft Vision and Goal statements	Core team	3/2-6/98	
Prepare scoping report	Lindy	3/27/98	
Mail scoping report to PTT and request input on members for ITT	Lindy	4/17/98	
Brief Regional Directorate on issues	Adam/Dave/Lindy	4/10/98	

Task	Who Responsible	Due	Done
Gather Information Needed for Analysis (Affected Environment sections)			
Use issues to help guide information gathering and analysis	Lindy		
Identify information needed	Core team		
Identify important habitat, wildlife, cultural, and public use resources presently on refuge lands and current management practices	NBR staff		
Research and summarize historical fire regime and current uses in valley	Bill	3/2/98	
Summarize what, how, why, and where of wildlife surveys conducted on Complex by staff or partners	Lindy	3/2/98	
Determine wildlife and habitat data analysis needs and summarize data (e.g., weed coverage, duck production for wpas, and bison production for last ten years)	NBR staff		
Summarize public use data for last ten years (e.g., numbers, workshops, school visits)	NBR staff		
Identify important habitat, wildlife, cultural, and public use resources on partners' lands, or on unacquired lands located in potential expansion areas, as well as any management concerns or opportunities for refuge or for partnerships (i.e., ecosystem analysis)			
How the Complex fits into the ecosystem	Bill	3/2/98	

Task	Who Responsible	Due	Done
Develop a Range of Alternatives (for each unit?) See next task "Workshops"			
Assemble Planning Administration Team; review the results of Issues Workbook and open houses, prepare a list of issues to be dealt with in the NEPA document; Review draft vision and goal statements			
Establish the "no action" alternative			
Identify a "reasonable range of appropriate alternatives, including those considered but not developed			
Prepare an "issues matrix" for the alternatives. How does each respond to the issues			
Select a tentative "preferred alternative" which will be further developed into the Draft Plan			
Brief Regional Directorate			
Hold Workshop(s) with Partners, Public, and Interdisciplinary Team Members to develop Alternatives with objectives and strategies			
Prepare a list of partners & specialists (within and outside of Service) to invite to workshop(s) where additional information necessary to develop objectives that address a particular issue or alternatives that address the issues			
Make final arrangements for workshop(s) (location, dates, facilitator, etc.) And send out invitations for workshop(s)			

Task	Who Responsible	Due	Done
Use presentation to set the stage for workshop(s)			
Present Service & refuge system missions, refuge purposes, ecosystem priorities, and any other special priorities (N. American Waterfowl Mgmt. Plan, T&E species recovery plans, etc), summary of issue scoping report			
Present important habitat, wildlife, cultural, and public use resources on partner's lands, or on unacquired lands in potential expansion areas, as well as management concerns or opportunities (to help determine refuge priorities, i.e., ecosystem analysis)			
Review draft vision and goal statements			
Define tentative objectives and strategies in different alternatives that would help achieve the goals			
Identify potential partnerships to help achieve refuge objectives (including expanding and enhancing wildlife-dependent recreational activities)			
Prepare a transcript of results of workshop(s) and send to all participants and PTT			
Assembly Planning Administration Team: review workshops and duties for assessing impacts			

Task	Who Responsible	Due	Done
Assess Environmental Effects of Alternatives and Select Preferred Alternative			
Describe effects of alternatives on the physical, human, cultural, and biological environment			
Determine how each alternative addresses management opportunities and issues			
Review the “preferred alternative”			
PAT and ITT research and draft impacts			
Publish Draft Plan/NEPA Document			
Compile plan chapters and NEPA document sections			
Develop step-down plans			
Prepare cover sheet, executive summary with response sheet, glossary, bibliography, appendices			
Submit for internal review			
Prepare executive summary of Draft Plan/NEPA Document			
Print Draft Plan/NEPA document and executive summary			

Task	Who Responsible	Due	Done
60-day Public Comment and Review Period			
Prepare Notice of Availability of Draft Plan/NEPA Document, gather signatures and publish NOA in Federal Register			
Prepare presentation about the alternatives for use at public open houses			
Distribute Draft Plan/NEPA document (or executive summary) to mailing list and libraries and town offices			
Schedule informal open houses and finalize details			
Prepare news release (or display ad)? for local newspapers. Inform PT and interested publics on the mailing list of the upcoming open houses			
Hold open houses for informal walk-in sessions to allow people to come in and see displays about the alternatives, ask questions and submit comments			
Review and Respond to Public Comment			
Number, date, and file all public comment received in writing			
Review all public comments and identify those that provide “substantive” input on environmental issues, the alternatives or toward improvement of the documents			
Make appropriate revisions to the documents based on the “substantive” input (including the proposed alternative, if necessary)			
Prepare appropriate responses to all “substantive” input that is not used to revise the documents. Explain how comments were responded to in the plan.			

Task	Who Responsible	Due	Done
Prepare a discussion on the "Comments and Responses" chapter			
Submit revised document for internal review			
Brief the regional directorate			
Prepare an executive summary of the Final Plan			
Print Final Plan			
Publish Final Plan			
Prepare Notice of Availability of Final Plan			
Gather signatures and publish NOA of Final Plan in Federal Register			
Distribute Final Plan (or an executive summary) to mailing list, and libraries and town offices			
30-day Waiting Period			
Once the Final Plan has been distributed, observe a 30-day waiting period			
Adopt Plan and Issue Record of Decision			
Prepare a Record of Decision for Regional Directors signature, officially adopting the plan			
Prepare a Notice of Availability of the Record of Decision			

Task	Who Responsible	Due	Done
Gather signatures and publish NOA of the Record of Decision in the Federal Register			
Implement Plan			
Begin implementing management directions and partnerships identified in plan, including step-down plans; Project Leader determines sequence of objective accomplishment			
Monitor/evaluate actions and accomplishment of objectives			
Update RONS/RMIS and funding requests with projects identified in plan			
Periodically Review and Update Plan			
Project Leader recommends revision or updates depending upon how the management strategies are achieving the objectives			
Updates will be provided to the public through newspaper articles, news releases			
Inform and Involve the Public Throughout Plan Implementation, Review, and Revision			
If major changes are proposed by Project Leader, changes will be explained to the public and comments will be requested			
If minor changes are proposed, it is Service policy for the level of public involvement and associated documentation is at the Project Leaders discretion (subject to RO approval)			

**NATIONAL BISON RANGE COMPLEX
COMPREHENSIVE CONSERVATION PLAN**

PLANNING ADMINISTRATION TEAM

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SUMMARY: This Notice invites interested parties to attend a public meeting and/or to submit written comments on the Department's administration of FHIP funding, including criteria and/or incentives to be included in the FY 1998 FHIP Notice of Funding Availability (NOFA) for activities that assist the Department in its efforts to double enforcement actions under the Fair Housing Act.

DATES: The public meeting will be held on December 15, 1997 at 2:00 p.m. The written comment Due Date is December 19, 1997.

ADDRESSES: Persons interested in attending the public meeting are invited to attend in Room 10233, Department of Housing and Urban Development, 451 Seventh Street, S.W., Washington, D.C. 20410. Persons interested in submitting written comments are invited to submit comments regarding this Notice to the Rules Docket Clerk, Office of General Counsel, Room 10278, Department of Housing and Urban Development, 451 Seventh Street, S.W., Washington, D.C. 20410. Communications should refer to the above docket number and title. A copy of each communication submitted will be available for public inspection and copying between 7:30 a.m. and 5:30 p.m. weekdays at the above address.

FOR FURTHER INFORMATION CONTACT: Maxine B. Cunningham, Director, Office of Fair Housing Initiatives and Voluntary Programs, Room 5234, 451 Seventh Street, S.W., Washington, D.C. 20410-2000; telephone number (202) 708-0800 (this is not a toll free number). Persons who use a text telephone (TTY) may call 1-800-290-1617.

SUPPLEMENTARY INFORMATION: The Fair Housing Initiatives Program is an essential component in the enforcement of the Fair Housing Act and in the Department's commitment to doubling its enforcement actions. In anticipation of the next round of funding under the FHIP, the Department desires to provide an opportunity for comment from prior grantees and applicants, potential applicants and any other interested parties, on the administration of FHIP funding, application procedures for funding in general, and on the content of FHIP NOFAs in particular. The Department is also interested in suggestions regarding criteria and/or incentives to include in the FY 1998 FHIP Notice of Funding Availability (NOFA) to assist the Department in its efforts to double enforcement actions under the Fair Housing Act. In addition to suggestions, the Department welcomes comments on the merits of: bonus points for activities that result in enforcement actions by HUD;

requirements that specific types of cases be filed with HUD; and incentives for other cooperative activities that further the Department's enforcement program. Enforcement actions are defined as issuance of a charge by HUD or referral by HUD to the Department of Justice for enforcement. The Department will consider the comments received in response to this Notice when formulating plans for the disposition of funds appropriated for Fiscal Year 1998.

Dated: December 3, 1997.

Eva M. Plaza,

Assistant Secretary for Fair Housing and Equal Opportunity.

[FR Doc. 97-32151 Filed 12-4-97; 11:12 am]

BILLING CODE 4210-28-P

DEPARTMENT OF THE INTERIOR

Environmental Statements; Availability, etc.: National Bison Range Complex, MT: Comprehensive Conservation Plan

AGENCY: Fish and Wildlife Service.

ACTION: Notice of intent to prepare a comprehensive conservation plan.

SUMMARY: This notice advises that the U.S. Fish and Wildlife Service (Service) intends to gather information necessary to prepare a comprehensive conservation plan (CCP) and associated environmental document for the National Bison Range Complex in northwestern Montana. The Service is furnishing this notice in compliance with Service CCP policy to advise other agencies and the public of its intentions and to obtain suggestions and information on the scope of issues to be considered in the planning process.

DATES: Written comments should be received by January 7, 1998.

ADDRESSES: Comments and requests for more information to Project Leader, Attention Planning Team, National Bison Range Complex, 132 Bison Range Road, Moiese, Montana 59824.

FOR FURTHER INFORMATION CONTACT: Dave Wiseman, Refuge Manager 406-644-2211.

SUPPLEMENTARY INFORMATION: The Service has initiated Comprehensive Conservation Planning for the National Bison Range Complex. The Complex includes the National Bison Range; Ninepipe, Pablo, and Swan River National Wildlife Refuges; and the Northwest Montana Wetland Management District. Each National Wildlife Refuge has purposes for which it was established. Those purposes are used to develop and prioritize management goals and objectives within

the National Wildlife Refuge System mission, and to guide which public uses occur on the refuge. The planning process is a way for the Service and the public to evaluate management goals and objectives for the best possible conservation efforts of this important wildlife habitat, while providing for wildlife-dependent recreation opportunities that are compatible with each national wildlife refuge's establishing purposes.

In 1908, the first purchase of land for the exclusive protection of wildlife occurred when Congress appropriated money for the establishment of the National Bison Range "for a permanent national bison range for the herd of bison." (45 Stat. 267-8) and subsequently in 1921 "as refuges and breeding grounds for birds," (Executive Order 3596). Ninepipe and Pablo National Wildlife Refuges were established as easement refuges in 1921 "as a refuge and breeding ground for native birds," (Executive Order 3503-Ninepipe, Executive Order 3504-Pablo). The Tribes have the right to use these for all purposes consistent with the permanent refuge easements. Swan River National Wildlife Refuge was established in 1973 "for use as an inviolate sanctuary, or for any other management purpose, for migratory birds," (Migratory Bird Conservation Act, 16 U.S.C. 715-715r). Finally, the Northwest Montana Wetland Management District are lands acquired "as Waterfowl Production Areas" subject to "all of the provisions of such Act (Migratory Bird Conservation Act) * * * except the inviolate sanctuary provisions," (Migratory Bird Hunting and Conservation Stamp Act, 16 U.S.C. 718).

The National Bison Range Complex is an integral part of the community in northwestern Montana. The National Bison Range, Ninepipe and Pablo National Wildlife Refuges, and that portion of the Wetland Management District in Lake County, Montana lie within the exterior boundaries of the Flathead Indian Reservation of the Confederated Salish and Kootenai Tribes. The units of the Complex that are not within the reservation include the Swan River National Wildlife Refuge and that portion of the Wetland Management District in Flathead County, Montana. The Comprehensive Conservation Plan will define how the Complex is managed, not who manages it. Therefore, this planning effort is separate from the Confederated Salish and Kootenai Tribes' compacting requests for management authority. The Service and the Tribes have discussed working together to develop the CCP.

The Service may contract with the Tribes for resource personnel or services as needed. The Service will conduct the planning process providing the Tribes, as well as other governments, agencies, organizations, and the public with an opportunity to participate in the scoping and public comment process.

The Service is requesting input for concerns, ideas, and suggestions for the future management of the National Bison Range Complex. Anyone interested in providing input is invited to respond to the following three questions.

(1) What makes the National Bison Range Complex (or any specific unit) special or unique for you?

(2) What problems or issues do you want to see addressed in the Comprehensive Conservation Plan?

(3) What improvements would you recommend for the National Bison Range Complex (or any specific unit)?

The Service has provided the above questions for your optional use. There is no requirement to provide information to the Service. The Planning Team developed these questions to facilitate finding out more information about individual issues and ideas concerning the National Bison Range Complex. Comments received by the Planning Team will be used as part of the planning process, individual comments will not be reference in our reports or directly responded to.

There will also be an opportunity to provide input at open houses scheduled for late January 1998 to scope issues and concerns (schedule can be obtained from the National Bison Range at above address). All information provided voluntarily by mail, phone, or at public meetings becomes part of the official public record (e.g., names, addresses, letters of comment, input recorded during meetings). If requested under the Freedom of Information Act by a private citizen or organization, the Service may provide copies of such information.

The environmental review of this project will be conducted in accordance with the requirements of the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 *et seq.*), NEPA Regulations (40 CFR 1500–1508), other appropriate Federal laws and regulations, Executive Order 12996, the National Wildlife Refuge System Improvement Act of 1997, and Service policies and procedures for compliance with those regulations.

We estimate that the draft environmental document will be available for review in June 1999.

Dated: November 26, 1997.

Ralph O. Morgenweck,

Regional Director, Denver, Colorado.

[FR Doc. 97–32007 Filed 12–5–97; 8:45 am]

BILLING CODE 4310–55–M

DEPARTMENT OF THE INTERIOR

Geological Survey

Technology Transfer Act of 1986

AGENCY: United States Geological Survey, Interior.

ACTION: Notice to accept contribution from private sources.

SUMMARY: The United States Geological Survey (USGS) is accepting a \$25,000 contribution per year for two years from Amoco Overseas Exploration Company to support the World Energy Project.

ADDRESSES: If any other parties are interested in making contributions for the same or similar purposes, please contact Mr. Vito Nuccio of the U.S. Geological Survey, Central Region Energy Resources Team, Mail Stop 939, Denver Colorado 80225–0046; telephone (303) 236–1654; e-mail vnuccio@usgs.gov.

SUPPLEMENTARY INFORMATION: This notice is to meet the USGS requirement stipulated in the Survey Manual.

Dated: November 21, 1997.

P. Patrick Leahy,

Chief, Geologic Division.

[FR Doc. 97–32000 Filed 12–5–97; 8:45 am]

BILLING CODE 4210–31–M

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[AK–910–0777–74]

Committees, Establishment, Renewal, Termination, etc: Alaska Resource Advisory Council; Nominations

AGENCY: Bureau of Land Management, Interior.

ACTION: Call for Nominations for Alaska Resource Advisory Council.

SUMMARY: The Bureau of Land Management, Alaska State Office, is soliciting nominations for the Alaska Resource Advisory Council. The council provides advice and recommendations to BLM on land use planning and

management of 90 million acres of public lands in Alaska. Public nominations will be considered for 30 days after the publication date of this notice.

The Federal Land Policy and Management Act (FLPMA) directs the Secretary of the Interior to involve the public in planning and issues related to management of lands administered by BLM. Section 309 of FLPMA directs the Secretary to select 10–15 member citizen-based advisory councils as established and authorized under the Federal Advisory Committee Act. Council members represent the various interests concerned with the management of the public lands in Alaska. These include three categories:

- Category One—Representatives of energy and mining development, timber industry, off-road vehicle use and developed recreation.
- Category Two—Representatives of environmental and resource conservation organizations and archaeological or historic interests.
- Category Three—Representatives of state and local government, Alaska Natives, academicians involved in natural sciences, and the public-at-large.

BLM is currently seeking nominations to fill vacancies in categories one and two.

Individuals may nominate themselves or others. Nominees must be residents of the State of Alaska, and will be evaluated on the basis of education, training, experience of the issues, and knowledge of Alaska's public lands. Nominees should have a demonstrated commitment to collaborative resource decision making. All nominations must be accompanied by letters of reference from represented interests or organizations and a completed nomination form.

ADDRESSES: To request a nomination package, contact External Affairs, Bureau of Land Management, 222 W. 7th Avenue, #13, Anchorage, AK 99513–7599.

DATES: All nominations should be received on or before January 7, 1998.

FOR FURTHER INFORMATION CONTACT: Teresa McPherson, Bureau of Land Management, Alaska State Office, (907) 271–5555.

Dated: November 24, 1997.

Tom Allen,

State Director.

[FR Doc. 97–32005 Filed 12–5–97; 8:45 am]

BILLING CODE 4310–JA–P

Big Game Alternatives ccpalt.98

The big game species listed were mule deer, white-tailed deer, elk, bighorn sheep, goats, pronghorn, bears and mountain lions. Although bears and mountain lions are big game species, I think they should be addressed under predator management. To include them in big game species alternatives creates a conflict because maximum numbers of bears and lions means reduced numbers of deer, sheep, pronghorn, etc. Here is what I came up with anyway.

Outcomes -

- Maximum number of species at highest possible numbers under the restraints of carrying capacity, bison numbers and competition.
 - Under this alternative new species could be brought in. (I personally can't think of any new species we would want to add to the Bison Range, but I guess someone might feel it necessary to add caribou some day. This is a separate viable alternative even if we just manage for the existing species.)
- Maximize ungulate species at carrying capacity and allow lions and bears to the extent they don't jeopardize these populations.
 - This would be the same alternative as above if we considered bears and lions under predators rather than as big game species.

Current →

- Keep big game species at predetermined target levels.
 - This outcome uses dispersal/reduction and augmentation to keep populations at predetermined levels.
 - The predetermined target levels could be to insure healthy native prairie, to maximize bison numbers or to maximize public uses such as wildlife viewing, hunting or photography.
- Allow some species to decline and manage for others.
 - This outcome takes into account that some species are not doing well and perhaps this is not the best habitat for those species - IE. goats, sheep and pronghorn.
- Allow existing species to remain. Control if exceed carrying capacity but do not augment populations.
 - This would be the "let nature take its course alternative". It is not a viable alternative to allow the species to increase to levels where they exceed carrying capacity.

■ Bird Habitat Management

- Manage habitats to maximize bird diversity and numbers. (Maximize types of habitats.
 - Would involve maintaining diverse habitats such as young growth Douglas Fir, shrubby areas and maybe even weeds. Also consider species that select heavily grazed areas.
- Manage habitats to maximize declining and species of concern numbers. (Manage for habitats that species of special concern use.)
- Manage habitat as a native palouse prairie ecosystem (with associated riparian and brushy vegetation) to maximize native species.

Current →

- Manage grasslands for other priorities without special emphasis on bird habitats.
 - This alternative may include monitoring birds to ensure management practices aren't significantly impacting species of special concern - regionally or nationally.
- Allow natural processes to occur and the associated bird habitats to evolve.
 - Would allow regeneration, weeds, etc.

Notes -

- Not viable alternative to manage for game species such as pheasant and partridge because not in the legislation? Non-native. What about allowing hunting of these species?
- Where does the possibility of reintroduction come into play - such as the reintroduction of sharp-tailed grouse?
- Must also consider managing for species such as burrowing owls?

Another way of looking at these alternatives would be for Bird Management rather than Bird Habitat Management. I like this method because it allows us to look at numbers, predator control, parasitism, etc. This can't be done under the bird habitat method above. ☺ Lynn's Preference

- Bird Management

- Maximize diversity and numbers of birds.
 - Maximize diversity of habitats - allow regeneration, promote aspen stands and brush, keep native and non-native grasslands.
 - This may include maximizing nesting and brood survival by providing natural and man made nest sites.
 - Bison management to decrease cowbird parasitism on bird species most vulnerable.
 - Predator control.
- Manage for those species threatened, endangered or of special concern in the area.
 - Manipulate habitat to benefit these species.
 - Promote nesting and brood survival for these species.
- Manage to maximize numbers of palouse ecosystem species and numbers.
 - Manage habitat for native Palouse prairie, riparian areas and associated brush patches.
 - Could include predator control, parasitism control (brown-headed cowbird), and nest structures - natural or man made.
- Manage for viable populations of palouse prairie ecosystem species.
 - This outcome is similar to the one above but to a lesser degree.

Current →

- Accept species diversity and numbers that result from other management objectives such as bison and grassland management.
 - Monitor species numbers to ensure management practices are not adversely impact bird species at an unacceptable level.

Ramblings -

There are really two questions being answered here. What species do we manage for and to what extent. The first question has three degrees - 1) Manage for maximum diversity. 2) Manage for a predetermined diversity. 3) Manage for naturally occurring species. The second part of the question is to what degree do we manage. The options are 1) for maximum numbers. 2) For predetermined acceptable levels or 3) naturally occurring numbers. Then we must ask what we are managing for - 1) all species, 2) species of special concern, 3) palouse prairie species. The table below shows the 9 options that come from the first two questions. These choices can then be applied to what we are managing for from above. The result is 18 options.

Manage for all species -

Maximum diversity	Maximum numbers
Maximum diversity	Predetermined acceptable numbers
Maximum diversity	Naturally occurring population numbers
Predetermined diversity	Maximum numbers
Predetermined diversity	Predetermined acceptable numbers
Predetermined diversity	Naturally occurring population numbers
Natural diversity	Maximum numbers
Natural diversity	Predetermined acceptable numbers
Natural diversity	Naturally occurring population numbers

Manage for species of special concern -

Maximum diversity	Maximum numbers
Maximum diversity	Predetermined acceptable numbers
Maximum diversity	Naturally occurring population numbers
Predetermined diversity	Maximum numbers
Predetermined diversity	Predetermined acceptable numbers
Predetermined diversity	Naturally occurring population numbers
Natural diversity	Maximum numbers
Natural diversity	Predetermined acceptable numbers
Natural diversity	Naturally occurring population numbers

Manage for palouse prairie species -

Maximum diversity	Maximum numbers
Maximum diversity	Predetermined acceptable numbers
Maximum diversity	Naturally occurring population numbers
Predetermined diversity	Maximum numbers
Predetermined diversity	Predetermined acceptable numbers
Predetermined diversity	Naturally occurring population numbers
Natural diversity	Maximum numbers
Natural diversity	Predetermined acceptable numbers
Natural diversity	Naturally occurring population numbers

DATA SUMMARIES NEEDED (listed below plus whatever else you think might be useful to review when trying to write an objective on any particular issue)

Bill

Weed 5-yr summary

acres sprayed/year, spray location/year

Amount of chemical used/year

dollars spent on chemical/year

dollars spent on biocontrol/year, release location /year, how many species released/plant

acres mechanically treated and where

Grazing

Where occurred and why-each unit

aum rate

how many acres

when

for how long

Pat

public use rates

how public use rates determined

number of workshops/year

attendance to each workshop-avg.

Number of schools/year

% of school groups requiring staff for programs, how long are programs (avg.)

List where interpretive materials are available (kiosks, nature trail signs, etc.)

Lynn

sheep and pronghorn production and survival numbers

big game count data summarized for last ten years/species, and removal

range site condition summaries last ten years

current vegetation species composition

weed mapping

waterfowl nesting success data for last ten years

skunk removal data

pair count data last ten years

Lindy

land type inventory

ntmb summaries

wildlife inventory surveys summary

coyotes removed and location

waterfowl and skunk data

new map for bison range, swan river, and wetland management district

woodland acreage for nbr (mapped), amount of second growth, where cuts occurred, how many

acres treated with cuts

weed mapping

aerial survey for goose broods and mid-winter flight numbers summarized for last 5-10 years

Kyle?

Summary of violations

Dave

bison herd size, production, and removal data for last ten years

weights by sex (and separate for calves) for last ten years

Bison Range Alternatives

- Grassland Management
- Riparian Vegetation Management
- Forest Management
- Weed Management
- Bison Population Management
- Bison Habitat Management
- Big Game Population Management
- Bird Habitat Management
- Fisheries Management
- Predator Management
- T&E Management
- Water management
- Research
- Religious & Cultural Use
- Wildlife-dependent Recreation
- Visitor Use/Experience
- Visitor Numbers
- Visitor Facilities
- Visitor Access
- Interpretation
- Education
- Land Acquisition
- Tribal uses
- Tribal Consultation
- Wildlife Foremost
- Native plant management
- Management Facilities (Maintenance and Quarters)

Wetland Management

Habitat Management

Purpose
Vision
Goals
Objectives

Goals

Public Use

- Big 6
- Cultural Resources
- Religious Use
- Public Use

Habitat (Landscape)

- grasslands
- Forests
- wetlands
- Riparian

Week of
January 10th

Population goals

- Bison Goat
- T & E Goal
- Resident Wildlife
 - Mammals
 - Birds
 - Amphibians
- migratory wildlife

- Habitat Protection

→ Under ecosystem Approach

- Private lands
- Acquisition
 - Fee Title
 - Easements

- Tribal Coop
- other public agency
Cooperation

Comprehensive Conservation Plan

National Bison Range Complex

Contact: Dave Wiseman
Refuge Manager
Address: National Bison Range
132 Bison Range Road
Moiese, MT 59824

Phone: 406/644-2211
Fax: 406/644-2661
E-mail: r6rw_nbr@fws.gov

Refuge Area:
Sanders, Lake,
and Flathead
Counties



Scoping Report

The U.S. Fish and Wildlife Service began the initial request for public input on the National Bison Range Complex Comprehensive Conservation Plan in November 1997. Issue identification provides a sound basis for developing management objectives and strategies. To ensure that future management of the refuge has considered and is reflective of the issues, concerns and opportunities expressed by the public, other agencies and governments, and within the Service, a variety of scoping mechanisms were employed.

Three general questions on a short comment form were developed to scope out preliminary issues about which the public were concerned, and how the Complex was unique or important to them. These three questions were published in a newspaper display ad, a Notice of Intent in the Federal Register, and through special mailings in November. During January 1998, the Service held a series of three **Open Houses** in Missoula, Kalispell, and Ronan, Montana. The locations, dates, and times for these meetings were announced in local newspapers, on radio and TV, as well as in over 300 special mailings. Over 100 people attended the open houses. These informal meetings were to provide an opportunity for people living in the area and others to ask questions and share valuable information concerning their vision of how the National Bison Range Complex is to be managed in the future.

The short comment form (initial three general questions) and an **Issues Workbook** were prepared to use as a tool to help collect people's ideas, thoughts and concerns about some important issues associated with the Complex. Copies were mailed to people on our mailing list, congressional delegation, Tribal, county, and state governmental offices, nongovernmental organizations (e.g., Pheasants Forever, Audubon Society, Western Montana Stockman's Assoc.), and given to everyone who attended the open houses. Copies were also sent to anyone who requested one. People were asked to read through the workbook or short comment form and jot down their thoughts on the issues and action options listed. They were also asked to respond to a series of questions on what they valued most about the refuge Complex, their vision for the



National Bison Range Complex Scoping Report

future, and the Service's role in helping to conserve important wildlife habitat. Over 175 workbooks and 500 short comment forms were distributed. Thirty-seven workbooks and over 50 responses to the short comment form questions were completed and returned.

This **Update** summarizes the responses gathered from the short comment form, the open houses, letters, and the workbook. In looking at these responses, it is important for you to remember that they:

- 1) **do not represent** a random sample of the opinions of everyone who may have an interest in the National Bison Range Complex; and
- 2) **only represent** the opinions of those who received, completed and returned the short comment form or workbook, attended an open house, or provided comments through letters or informal meetings within the Service.

Keeping this in mind, the results do provide a great many ideas and suggestions that will be used to help guide the Service in its efforts to review alternative ways to conserve and manage the important wildlife habitat of the National Bison Range Complex. In fact, all of the ideas and suggestions received during informal meetings, at the open houses, through the workbook and short comment form, and from within the Service, will be used to help prepare an Environmental Assessment and Draft Comprehensive Conservation Plan for this project.

This update is organized into three major sections; 1) values, vision, and public characteristics, 2) issue statements, and 3) suggested improvements. The first section describes respondents comments to questions in the workbook on what they value about the refuge Complex, what they want the future to hold, and who they are. The second section will provide summary statements of all the issues brought forth by the respondents when asked what problems or issues they would like to see addressed in the plan and how they responded to the issues listed for each unit in the workbook. The last section includes the comments from the workbook about the planning process and from the short comment form on improvements suggested by respondents. After each question, additional comments that were provided by the publics are included "in their own words", and therefore, may contain erroneous or unflattering information and opinion. The Service does not defend the validity or correctness of this raw input.

All of the public comments, as well as comments received from within the Service will be used as input for the plan. The input does not dictate changes, rather, the information is weighed and considered for development of goals, objectives and management strategies.

National Bison Range Complex Scoping Report

Questions on Values, Vision, and Use of the Bison Range Complex

Your answers to these questions will help us understand you and public opinion better, and provide guidance for the planning project.

What do you value most about the Bison Range Complex? (Please check all that apply)

Note: Thirty-seven (37) workbooks were returned. The following numbers indicate the percentage of the workbook respondents that checked the question items; in other words, 70% of the 37 respondents valued the Bison Range for open space, while 81% of the 37 respondents valued Ninepipe National Wildlife Refuge for fish and wildlife habitat, compared to 57% of the 37 respondents who valued Ninepipe for fishing opportunities.

<u>37 Respondents</u>	Bison Range	Ninepipe NWR	Pablo NWR	Swan River NWR	Waterfowl Prod. Areas	Easement Program
open space	70%	59%	51%	49%	51%	57%
fish & wildlife habitat	73%	81%	68%	62%	65%	54%
wildlife observation	89%	73%	57%	57%	54%	43%
hunting opportunities	0	24%	16%	11%	30%	14%
fishing opportunities	22%	57%	43%	32%	14%	22%
birdwatching opportunities	62%	68%	51%	51%	57%	35%
scenic quality	73%	57%	49%	57%	35%	30%
religious & cultural opportunities	14%	3%	5%	3%	3%	3%
native prairie grassland	76%	32%	32%	27%	32%	19%
bison herd	92%	5%	5%	5%	5%	5%
research opportunities	57%	43%	43%	41%	41%	27%
photography opportunities	78%	59%	51%	51%	49%	30%
other (please specify)						

Seventeen (17) additional values/comments were mentioned and summarized, including:

- Limited or no religious or cultural activities
- No hunting and fishing, unless hunting for population control and done by staff
- Limited research opportunities
- Easement program
- Photography opportunities
- Observation of wildlife opportunities
- Bison herd
- Federal management being maintained
- Birdwatching opportunities
- Conservation of wildlife and habitat

National Bison Range Complex Scoping Report

What makes the Bison Range Complex (or any of the specific units) special or unique for you? What do you like about it? This question was mainly answered relative to the Complex as a whole. Eighty-two (82) percent of the 85 people that responded to this question wrote a comment, summarized to include:

- ↳ 55% find the Complex special because of the wildlife and habitat diversity it protects
- ↳ 42% enjoy the Complex because of great opportunities to view wildlife
- ↳ 29% enjoy the recreation opportunities throughout the Complex (fishing and picnicking on Bison Range, birding on Ninepipe, Pablo, WPAs and Swan, hunting on WPAs)
- ↳ 29% feel the Complex is unique and special because of the lack of disturbance and undeveloped nature of the lands
- ↳ 26% hold the Complex special because of the scenic beauty of the landscape and open space
- ↳ 20% enjoy public education opportunities provided by the Bison Range and Ninepipe
- ↳ 17% like the easy access to the Complex and access for people with disabilities
- ↳ 10% find the Complex unique because of its historical significance (long history in the area, geological history, cultural significance)
- ↳ 6% commented that the bison herd,
- ↳ 6% the research opportunities on the Complex, and
- ↳ 6% hunting on the WPAs as special to them

Twelve (12) additional comments were mentioned, including:

- The ability to photograph wildlife with a photography permit. This is a wonderful opportunity for us.
- The Roundup has to be experienced at least once.
- Average visitor gets the impression of well-managed refuge where taxes have been well spent.
- A unique place--the Bison Range itself I often tell people is the best you can get this side of East Africa. The photo opportunities are without equal.
- I grew up near it, ate buffalo in school lunches, watched the roundup, took friends there as a grownup and had school parties there as a kid. There's nothing else like it in the USA.
- Hospitality of everyone managing the Complex. Its our crown jewel of the Mission Valley.
- Truly a mix of landscapes which makes it remarkably unique.
- We have many visitors who consider the range the #2 attraction in western Montana, after Glacier Park, yet much more accessible.
- It's good to have this in our area.
- I have always liked that the entrance to the Bison Range is at Moiese and not on Highway 93.
- Leave management of "Bison Range" as is.
- I have lived by and viewed the range for 65 years. It is part of my life. It is being well managed--offers many benefits to education, recreation, and wildlife.

National Bison Range Complex Scoping Report

What do you want the future to hold for the Bison Range Complex? (Please check all that apply)

Note: Thirty-seven (37) workbooks were returned. The following numbers indicate the percentage of the workbook respondents that checked the question items; in other words, 19% of the 37 respondents wanted more public use & access on the Bison Range, while 57% of the 37 respondents wanted Pablo National Wildlife Refuge to have sustainable wildlife populations.

37 Respondents	Bison Range	Ninepipe NWR	Pablo NWR	Swan River NWR	Waterfowl Prod. Areas	Easement Program
more public use & access	19%	8%	8%	11%	5%	8%
less public use & access	0	0	0	0	3%	5%
more recreational opportunities	11%	8%	11%	5%	3%	5%
less recreational opportunities	3%	3%	3%	0	5%	0
biodiversity increased	22%	24%	22%	19%	22%	16%
sustainable wildlife populations	76%	62%	57%	54%	57%	38%
more development opportunities	3%	3%	3%	3%	3%	3%
more farm & ranch opportunities	3%	3%	0	0	3%	11%
stricter enforcement of regulations	24%	22%	19%	19%	22%	11%
land acquisition	38%	35%	30%	30%	38%	38%
increased resource stewardship	22%	22%	16%	16%	22%	19%
more economic uses (e.g., haying, grazing)	3%	5%	3%	3%	8%	5%
little or no change from today	51%	49%	30%	30%	30%	19%
other (please specify)	3% handweeding					

Fifteen (15) additional comments about the future were mentioned and summarized, including:

- Do not increase public use and access, recreation, or development or farm opportunities
- Conserve wildlife and habitat first, maintain status quo, and limit land acquisition
- Provide waterfowl production areas more attention, use prescribed fires more, and keep interior fences on the Bison Range, and allow hunting for excess removal of deer and elk by permit
- Increase hiking access
- Handweed
- Remove race track
- Restore native grass on Swan River National Wildlife Refuge

National Bison Range Complex Scoping Report

What are your major concerns identified about the Bison Range Complex? (Please check all that apply)

Note: Thirty-seven (37) workbooks were returned. The following numbers indicate the percentage of the workbook respondents that checked the question items; in other words, 32% of the 37 respondents were concerned about wildlife disturbance on the Bison Range, while 54% of the 37 respondents were concerned about weeds on Swan River National Wildlife Refuge.

37 Respondents	Bison Range	Ninepipe NWR	Pablo NWR	Swan River NWR	Waterfowl Production Areas	Easement Program
wildlife disturbance	32%	30%	27%	24%	27%	24%
habitat disturbance	32%	32%	30%	24%	30%	24%
incompatible use (please specify)						
pesticides	24%	27%	24%	19%	27%	14%
overexploitation	32%	22%	22%	19%	19%	16%
exotic plants/weeds	76%	73%	65%	54%	54%	38%
increased public use & access	14%	19%	16%	14%	14%	14%
public use & access	14%	8%	8%	5%	5%	5%
federal control	16%	16%	16%	16%	16%	19%
religious & cultural opportunities	30%	24%	24%	16%	19%	14%
land acquisition	16%	16%	16%	16%	19%	16%
cattle grazing	30%	38%	38%	24%	30%	24%
other (please specify)		3% fishing	3% fishing			

Seventeen (17) additional concerns were mentioned, including:

- Remove or limit cattle grazing on Ninepipe and Pablo National Wildlife Refuge.
- Weed control
- Religious and cultural activities
- Conserving fish and wildlife habitat first, not increasing public use and access
- Maintain federal management, but limit federal control
- Expand or limit land acquisition
- Do not allow hunting and increase fishing opportunities
- Overcrowding on the Bison Range, and remove the race track on Pablo National Wildlife Refuge

National Bison Range Complex Scoping Report

*What role do you see for the U.S. Fish & Wildlife Service in protecting important wildlife habitat?
(Please check all that apply)*

Note: Thirty-seven (37) workbooks were returned. The following numbers indicate the percentage of the workbook respondents that checked the question items; in other words, 54% of the 37 respondents felt that the Service had a role to serve acquiring wildlands in fee title.

- | | |
|--|---|
| a. <u>54%</u> Fee title acquisition of wildlands | g. <u>73%</u> Habitat restoration and management |
| b. <u>70%</u> Conservation easement acquisition | h. <u>08%</u> No active involvement |
| c. <u>73%</u> Partnerships with private landowners | I. <u>49%</u> Partnerships with conservation groups |
| d. <u>35%</u> Partnerships with other governments | j. <u>00%</u> Other (please specify) |
| e. <u>38%</u> Cooperative management agreements, with primary responsibility | |
| f. <u>22%</u> Cooperative management agreements, with secondary responsibility | |

Seven (7) additional comments were mentioned, including:

- Partnerships with private landowners could help control noxious weed problems and enforcement problems. Partnerships with conservation groups could help promote programs involving participation in areas of restoration, and land or easement acquisition.
- Cooperative management agreements with primary or secondary responsibility I am still undecided, but secondary responsibility certainly a possibility if responsibilities, access, etc are worked out with a real try for consensus.
- No partnerships with other governments, cooperative management agreements with primary responsibility, or cooperative management agreements with secondary responsibility. The USFWS has done a pretty good job in this area. I want to see it handled the same way it has been in the past. No Cooperative management agreements!
- Be involved. The management and ownership should always be managed by state or federal on all public lands. Tribal involvement is not a consideration.
- Limit habitat restoration and management, and limit active involvement.
- Voluntary partnerships with private landowners. Limited habitat restoration and management in natural. Limited active involvement.
- Fee title acquisition of wildlands only for the Bison Range.

How frequently do you visit each unit?

On average;

- 6 times/year National Bison Range (27 respondents)
- 13 times/year Ninepipe Nation Wildlife Refuge (20 respondents)
- 5 times/year Pablo National Wildlife Refuge (14 respondents)
- 2 times/year Swan River National Wildlife Refuge (11 respondents)
- 13 times/year Waterfowl Production Areas (9 respondents)

Eight (8) additional comments were mentioned, including;

- Enjoy seeing pheasants and waterfowl on private land.
- I live in the middle of most of these areas except Swan River.
- Quite often.
- When photography permits were available 6-10 days per year.

National Bison Range Complex Scoping Report

- I am owner of the nearest camp hostel to the Bison Range and encourage all my guests to visit there. Am advertising Bison Range on my web page www.com/stignatius/
- We look at the Bison Range every day and drive by Ninepipe and Pablo NWR several times a week, besides actual visits.
- 15-25 year for Ninepipe, Drive through on Hwy 93 to and from Flathead Lake
- Research project ongoing on Bison Range

When (summer, pheasant season, fall, elk bugling season) do you visit?

On average;

- 47% all seasons, 33% summer and fall, 20% spring at National Bison Range (30 respondents)
- 57% all seasons, 19% summer, 14% spring and fall (hunting season), 10% fishing season at Ninepipe National Wildlife Refuge (21 respondents)
- 46% all seasons, 38% summer, 8% spring and fall (hunting season), 8% fishing season at Pablo National Wildlife Refuge (13 respondents)
- 60% summer, 40% spring and fall at Swan River National Wildlife Refuge (10 respondents)
- 40% all seasons, 20% summer, 40% spring and fall (hunting season) at Waterfowl Production Areas (10 respondents)

One (1) additional comment was mentioned, including;

- Spring for the bison calving season, elk bugling, and mule and white-tail breeding seasons.

Do you own land in the Flathead Valley?

Of the thirty-seven (37) respondents,

- 81% Yes
- 16% No

a. *If yes, does your land have a USFWS conservation easement?* Yes 7% No 90%

b. *If no, are you interested in a USFWS conservation easement?* Yes 41% No 41%

Did you attend one of the public meetings?

Of the thirty-seven (37) respondents,

- 49% Yes
- 43% No

In what town do you reside?

Of the thirty-seven (37) respondents,

- 27% Charlo
- 24% St. Ignatius
- 11% Polson
- 8% Out of State (Wa, Id, Co)
- 5% each in Arlee, Ronan, Kalispell, and Missoula
- 3% Stevensville
- 5% respondents left it blank

National Bison Range Complex Scoping Report

The Major Issues

The Issues Workbook listed previously identified issues for people to read through and jot down their thoughts. The short comment form provided a blank space for people to write their concerns. These two tools, comments made at the open houses and to staff, and issues derived from within the Service have all been compiled into general issue statements for the entire refuge Complex. The last portion of this section includes specific comments for issues associated with each particular unit.

Fish & Wildlife Service versus Tribal Management

This issue was raised by many respondents. However, the plan will only address how the refuge Complex, including the Bison Range, will be managed; not who will manage it. The assumption has been made that the Fish & Wildlife Service will continue to manage the refuge Complex, including the Bison Range.

Public Use

Public use of the refuge Complex, especially the Bison Range, has steadily increased. Public use is considered highly desirable but it should be managed in a way that does not degrade the wildlife habitat which the public comes to enjoy. Both visitor numbers and access to the refuge lands (increasing or decreasing roads, trails, guided tours, etc) were discussed in public comments. Some of the public were in favor of upgrading the tour road and adding an intermediate tour, while others insisted on it being maintained in its present state. Vehicle size restrictions for the Bison Range long tour and motorcycle access will need to be reviewed in the plan. Inadequate facilities (e.g., visitor center, toilets, parking) are a problem for the refuge Complex. Both expansion of the visitor center and leaving it as is were supported. Parking space may need to be expanded on the Bison Range and on some Waterfowl Production Areas. Many individuals asked about upgrading and increasing toilets on the Bison Range. The public asked for maintaining or increasing education workshops and historical perspective in programs. Some comments asked for increased ice fishing opportunities, hunting on Swan River and Lost Trail, but did not want it to interfere or have a negative impact on fish and wildlife resources. Others did not want trapping allowed on any of the units. Special uses such as photography, research, dog trials and training, collecting exotic plants or the horseback tour should be examined for their impacts on the Range and other users, and for the criteria by which the uses are allowed and administered.

Religious and Cultural Use

Native American religious use, such as medicinal plant gathering, must be accommodated by law, yet the integrity of the refuge Complex lands must be maintained. The plan should explain the Service's legal requirements, criteria for administering these types of uses, and provide for a quality public experience for all.

National Bison Range Complex Scoping Report

Security and Law Enforcement

The public seems concerned with the security and law enforcement for the wildlife as well as the public. There are issues of inadequate staff, clarity of rules and regulations, and enforcement of current regulations. There are some jurisdictional questions regarding enforcement authority among federal, tribal and state. The plan should determine how improvements can be made for safer refuge operations and to reduce trespass, poaching, and willful disobedience of the rules.

Habitat Management

There is much support for the maintenance and restoration of native vegetation and the control or eradication of invasive exotics (weeds). The plan should review native restoration techniques, costs, and benefits where possible (e.g., replace non-native reed canary grass on Swan River, or portions of non-natives on the Waterfowl Production Areas). The publics seem in favor of native plant restoration, but may not understand the costs associated with it. Many individuals put weeds as their primary concern for the refuge Complex, yet there is much disagreement on the most efficient and acceptable method. Comments included those for and against the application of pesticides, fire, grazing, or insects as control methods. The weed program should be evaluated for proper application protocol (e.g., when to graze or spray), criteria for placement or degree of effort (e.g., where to spray and how many acres), success, funding, and tools (e.g., spray, insects, burn).

There are concerns about certain habitat management tools, especially fire and cattle grazing, and how they are to be applied. Comments were against the present intensity of cattle grazing on Ninepipe and Pablo National Wildlife Refuge. Some individuals did not like the cows present and felt that they were interfering with other public uses. The comments about fire regarded smoke management, short-term concerns such as nest loss, and fire escape. The plan should outline the most efficient tool, why it was selected, and how it will be used to achieve a habitat condition. It will be necessary for the plan to explain the long-term benefits compared to the short-term costs of any management tool selected, and evaluate it for conflicts with other uses. Criteria and protocols for administering a management tool should be defined in the plan. The public did not understand the cooperative relationship required for management of Ninepipe and Pablo. The plan will need to address jurisdictional bounds of habitat management on Ninepipe and Pablo regarding weed control and livestock grazing.

Wetland and riparian management concerns centered on restoration of native vegetation and hydrology restoration and its impacts. The plan should define purposes for water management at any level (e.g., pumping, flooding, or reducing channelization) and examine the impacts. The plan will need to address jurisdictional bounds and cooperative benefits of water management on Ninepipe and Pablo. The public has some concerns on whether any pollution is occurring, impacts from cattle grazing, and irrigation return flows.

National Bison Range Complex Scoping Report

Encroachment of trees on the National Bison Range grasslands is a concern, as well as, what tool is used for management of trees (e.g., cutting or fire). The trees in some areas provide a fire hazard and disease problem that should be examined in the plan.

Wildlife Management

The foremost consideration of management should be the conservation of the wildlife species and their habitat on the Complex. The public advocates this mandate strongly, which is heartening and encouraging since it is the mission of the National Wildlife Refuge System. The plan should explain each unit's establishing purpose and how management for the wildlife comes first, even though wildlife-dependent uses are given a high priority among proposed uses.

The publics were supportive of Service management for wildlife in monitoring and research, as long as they were kept informed of the information and why management activities occurred. Most questions centered on why the Service did particular activities (e.g., what are the population targets, why do predator management, why have interior fences, etc.). The plan should outline monitoring methods for a variety of species, disease management, genetic augmentation, and criteria for predator management. Management of big-game must be defined for proper population targets that will prevent habitat deterioration and genetic inbreeding and for methods of population control. Many questions centered around the purpose of fencing on the Bison Range. Migratory bird management is an issue for understanding impacts from management techniques, gull control, water manipulation, hunting, disease, and exotic species (e.g., weeds and Russian Olive trees). Many individuals wanted the gulls controlled on Ninepipe National Wildlife Refuge.

Threatened and endangered species management should be reviewed for conflicts with other uses, jurisdiction, and effects on neighbors from movements. There were questions on the policy for threatened and endangered species effects on public use or on land acquisition efforts that should be clarified in the plan. The plan should examine restoration efforts for threatened and endangered species and any potential conflicts with other species the Service is required to manage as defined by the establishing purpose.

The introduction of exotic species for fishing at Ninepipe and Pablo, and access for pike fishing on Spring Creek from Swan River National Wildlife Refuge are concerns of the public. The plan should also review the possible restoration of redband rainbow trout on Lost Trail.

Federal Land Acquisition

With residential encroachment in the valley, there is substantial support for the Service's Conservation Easement Program and expansion all of the refuge units. There were jurisdictional concerns for management and fee title acquisition of lands on the Flathead Indian Reservation, and therefore, should be reviewed and considered in the plan. Questions were asked about the criteria for inclusion and administration of acquired tracts, these should be outlined in the plan.

National Bison Range Complex Scoping Report

Administrative

Some of the public do not understand the legislative and policy constraints within which the Service must operate, and therefore, these constraints should be addressed in the plan. Staffing and funding shortages should be addressed in the plan by reviewing projects, partnership coordination, and the volunteer program. Safety in the workplace for staff and visitors is a concern that must be reviewed in the plan. Inadequate and deteriorating office space, visitor facilities, maintenance facilities, government quarters, and volunteer/seasonal housing should be addressed in the plan.

The following are from the thirty-seven Issue Workbooks that had comments mentioned for a particular unit.

National Bison Range

Eleven (11) additional comments were mentioned, including;

- No hunting or trapping
- Do research in cooperation with the University of Montana; limit research; enough research already.
- Improve viewing area for schools and others for the bison roundup
- If increased use demands or justifies, add an intermediate distance auto tour; no road improvement and limit intermediate auto tour.
- Chemical control for weed management only on limited basis
- Coyote removal to increase pronghorn fawn and bighorn sheep lamb survival, but not all limited; coyote removal should be conditional, subjected to demonstrated need.
- Re-activate the photographer permits
- Keep gravel on auto tours
- Surplus animals should be donated to benefit all.
- Fair and equitable access for special-use activities.
- Leave religion out of this.

Ninepipe National Wildlife Refuge

Thirteen (13) additional comments were mentioned and summarized, including;

- The fishing that's allowed should be managed by FWS
- Gulls should be reduced to lower predation on pheasant and waterfowl eggs and chicks
- Limit cattle grazing, use as a periodic management tool, otherwise damages nesting areas
- Yes, manage wetlands to benefit shorebirds and other waterbirds, good-very good
- Limit chemical control for weed management
- Allow hunting and trapping on the refuge perhaps for skunks, only by range staff for management
- Limit expansion of interpretive displays
- Leave area natural for wildlife
- Limit research
- No boats

National Bison Range Complex Scoping Report

- No religious activities or tribal control
- Maintain grasslands with fire

Pablo National Wildlife Refuge

Six (6) additional comments were mentioned, including;

- No hunting
- Complete boundaries
- Irrigation needs come first
- Limit research
- Leave area natural for wildlife
- No religious activities or tribal control

Swan River National Wildlife Refuge

Eight (8) additional comments were mentioned and summarized, including;

- No big game hunting
- No logging!
- How to deal with amphibians and reptiles (which are currently not endangered). Are there opportunities to improve fish habitat?
- No trapping
- Leave natural for wildlife

Waterfowl Production Areas

Eight (8) additional comments were mentioned and summarized, including;

- Enhance food and cover for upland birds!
- Allow trapping for predator control; no trapping
- Limit access and public use of areas
- Limit research
- Leave natural for wildlife
- No religious activities or tribal control
- Limit chemical control

Conservation Easement Program

Seven (7) additional comments were mentioned, including;

- Money should be appropriated for conservation easements, before more land is divided for housing. Dogs and cats are hard on wildlife.
- Probably most palatable to government politicians
- With owner consent.
- If paid for and voluntary.
- I prefer to have private land controlled by owner.
- Keep a fairly low profile and coordinate with other agencies and governing bodies.
- Concern that some agricultural practices are not wildlife compatible.

National Bison Range Complex Scoping Report

Lost Trail National Wildlife Refuge Land Acquisition

Nine (9) additional comments were mentioned and summarized, including;

- Buy the whole thing will take a commitment of time and money to maximize potential for all uses.
- If acquired, manage just like all other NWRs.
- Use cattle to assure best management!
- Lost Trail has more value as big game and upland bird than waterfowl from what I see. State and federal managers should make the needed decisions.
- Should be used for wildlife habitat and open to hunting. No tribal control or interest.
- Not familiar

Overall Complex

Comments or other issues or suggestions you have that are not listed for the Complex:

Nine (9) additional comments were mentioned, including;

- Lack of a dedicated staff position to plan and implement an integrated fire management program for the Complex.
- Needs more money to operate.
- U.S. 1 Government
- Find security law enforcement in the private sector--job it out. Preserves excellent places for the handicapped--organize public groups to build access sites--donated time and materials. Have people adopt an animal--you get the money--they get a photograph and an updated report a few times a year.
- Government-to-government relations bad idea.
- The only government to government relationships should be limited to those government in which all us citizens are allowed to participate equally.
- Delete the government-to-government relations, there is but one government (state and federal).
- Exceeded capacity of all facilities not a concern, these areas for wildlife, not for people. Have enough staff now.
- I feel the staff there may be managed to do more.

Improvements and the Process

What improvements would you recommend for the Bison Range Complex (or any of the specific units)?

Seventy-nine percent (67/85) of the respondents suggested an improvement.

- Explore the possibility of using electronic eartags to control bison movement while letting the other species free range. Possible removal of fences for aesthetic and wildlife movement reasons. Expansion of Antelope range to include areas under Tribal jurisdiction (tied to fencing again). More genetic exchange between the Bison Range critters and the Tribal controlled big game, specifically deer, elk, antelope. Broader vision for the range to include assisting Tribe with native species recovery in areas outside fence boundaries, such as antelope in Ferry Basin, etc.
- None--maintain the status quo.
- More restrooms.
- Less grazing.
- More should be done on the WPAs to improve the habitat for other wildlife, especially pheasants and other birds, without detracting significantly from their primary purpose for waterfowl. FWS should aggressively seek solutions on Ninepipe and Pablo refuges that favor wildlife, particularly water management. The Range should continue to actively support research for biological control of noxious weeds.
- The viewing opportunities might be improved by an additional road being added for summer travel near areas frequented by the mt. goat and bighorn sheep. Outside educational opportunities might be expanded by offering limited guided trips by appointment and of course at an increase in fees for this service.
- Continue and expand easements and acquisition of adjacent properties; Manage water levels for wildlife, not agriculture; Make attempts to learn more about grizzly use of Ninepipes; More educational displays describing the importance of the Flathead Valley to our wintering raptors. Specifically how they feed primarily on voles, not pheasants; Remove cattle from the NWRs.
- Start a "friends of the National Bison Range" a dues paying group which would receive scientific papers on studies being done at Bison Range and perhaps special tours.
- Add as much public land as possible as soon as possible since land prices are skyrocketing.
- Addition to Visitor Center to better accommodate peak summer visitors. If visitor use increases much more, develop auto tour to East Bridge and along north boundary to spread out use, but no more than that.
- The weed control is losing the battle, we need to do a helicopter spraying because the terrain is too rough for ground spraying and water causes a problem to critical areas to be treated!
- The application of prescribed fire to grasslands, cattails, and forests of the Complex at appropriate intensities, seasons, and scale to sustain the productivity of fire-adapted ecosystems.

National Bison Range Complex Scoping Report

- Bison Range: maintenance and extension of existing roads many of which are “off limits” to the public to provide better viewing of wildlife. Upgrading of picnic area, hiking trails in that area, and improved toilet facilities. Improved management of the Flathead Irrigation Project towards the goal of the best possible watershed management and equitable distribution of irrigation water. Better management of dams, coulees, irrigation ditches and water diversion barriers.
- More weed control, upkeep on all interior fences.
- More family/group areas with picnic tables to take advantage of the area. Better boat access to areas that we can use boats on. It is impossible to launch anything if you are older.
- Entrance needs to be moved some north and a 4-lane or pull off lanes available. Traffic and visitation have increased since the current one was done.
- I would like to see prairie chickens re-introduced on the range if possible.
- I think that you should do spot spraying, and keep the animals off the area that you sprayed until it is safe. I also think you shouldn't restrict the amount of visitors to the Buffalo Range. You would be cutting business.
- What are the prospects of incorporating a walking/biking/horseback riding trail into the plan for the Complex property that's located between Ninepipe Rd. and Logan Rd.?
- Allow photographers to leave their vehicles and venture on the road near their vehicles.
- More employees with scientific expertise. The biologists shouldn't have to double up on other duties due to budget cuts.
- I would like to see improvements made on the Swan River unit to restore native flora and fauna. I wonder if a little better public access is possible in the Bison Range. Is there any opportunity to increase fishing access on Ninepipe or Pablo?
- More staff must be assigned and importance must be upgraded for the WPAs in Flathead County--especially with the two new additions. It's silly to think one staff person can do the work required on 7 WPAs in Flathead County. Volunteers could do much, but it takes time and staff to develop a plan.
- Would like to see the CCP place the Complex lands in perspective to adjacent lands - take a broad view of the system in which the Complex is located. How can the Complex contribute best to the conservation of wildlife and wildlife habitat in the context of the land ownership pattern in which it is imbedded? What are the most pressing needs for wildlife in the system surrounding the Complex? These may well be somewhat different than on the Complex itself.
- Fence the cows out of the Ninepipe Dike/Dam area. Locate it at pit 15 of state land and put a cattle guard. Public sees much cow dung. Talk to Tribes - put up a sign to give them credit. Pablo: same problem but 100% in favor of NBR Plan and support conservation easement.

National Bison Range Complex Scoping Report

- Where natural extermination of weeds is not feasible, we would like to see herbicides used that do not accumulate in the soil and endanger wildlife in the areas of herbicide use: cattle grazing on Ninepipe and Pablo National Wildlife Refuges-post area with some kind of sign to alert hikers on the dikes at Ninepipe and Pablo Refuges that cattle are freely grazing. Suddenly seeing cattle walking the dike when one turns back to return to a vehicle is a bit alarming.
- At the inlet of Pablo reservoir replace the sign pointing out the danger of the under current caused by the concrete headworks. This safety sign helped my kids understand the danger associated with getting too close to the banks. Replacing this sign would help avoid an unnecessary accident
- There are many legal interests with the leasing, ownership, and management of the lands associated with the Pablo National Wildlife Refuge. I know that wildlife, grazing, irrigation, hunters, etc. are competing interests for the land. Historically, we have been able to balance each interest with overlapping management. It has been a long road filled with tension to reach the current management agreement on the resource; therefore, my recommendation is to leave the current arrangement as it now stands.
- More parking areas and more educational and informational signs on them, particularly waterfowl areas.
- Enlarge and create a museum center with more history of the area, collection of plants, birds, and animals for visitors.
- One measure of non-toxic weed control that should be considered in management review is seed control. Two of the principle sources of invasive weed seeds on the Bison Range are private cars touring the range and the hundreds of horses which course the range during the spring range ride. We suggest that the range ride should be reviewed in light of these possible impacts, and that a goal of reducing private vehicle use on the range should be established. Possible alternatives to reduce private vehicle use could be park-and-ride systems or the imposition of a fee schedule that would fairly assess the actual costs to private vehicles
- The Fish and Wildlife Service and the Confederated Salish and Kootenai Tribes have a common interest in managing growth on the Flathead Reservation. We recommend that FWS make a more aggressive effort to coordinate and share resources in achieving resource and growth management. Further FWS should consult with Salish and Kootenai Culture Committees in preparing or updating historical and cultural exhibits.

What do you think about all of this?

- Thank you for the opportunities provided by way of the public meetings they give us more of an opportunity to get involved.
- Good idea!
- Public resource therefore should encourage schools to use for youth education. Education is key to future support.
- Not much need for major changes.

National Bison Range Complex Scoping Report

- Congratulations for embarking on this important planning effort based on public input.
- Keep the complex under jurisdiction of USF&G[sic].
- The control by one government agency with one plan and one goal would be best for all concerned animals, visitors and employees!
- Start Friends National Bison Range--pay dues or membership. Provide copies of wildlife studies done by biologists.
- Confusing system of x and checks in the workbook. Nice list but weird ranking system. Public meetings are awful! Yuck! I like the idea of the workbook, it is a neat way to get public comments.
- Enforcement of laws pertaining to the complex. You have very good tools for management, purposes, use them wisely and don't turn this into a circus--Thank You!
- A slow drive through the Bison Range is a most memorable experience for all my camp visitors. I point out your lovely day picnic area with nature trails to river, often overlooked.
- Tribe should not be allowed to take over management of the Range or any portion of what is now managed by the Fish & Wildlife Service.
- Some questions were confusing.
- The tribal government has shown an extreme bias against non-members. Federal lands in the Mission Valley are a refuge for non-members since it is the only wildlife areas we have a guarantee of access to.
- These areas are first and foremost for wildlife (including birds), should be left natural, do not over improve or turn into commercial use. Leave all religion and tribal issues and control out of these areas.
- Good beginning for the Planning Process.

This report has summarized the public input the Planning Project has received to date. The next steps of the Comprehensive Conservation Plan for the National Bison Range Complex include:

- ◆ Develop draft goal and objective statements
- ◆ Develop alternatives (may include public workshops)
- ◆ Assess impacts of alternatives
- ◆ Develop Environmental Assessment and Draft Plan
- ◆ Publish Environmental Assessment and Draft Plan
- ◆ Public Review and Develop Final Plan
- ◆ Implement and Monitor Plan
- ◆ Periodically Review and Update Plan
- ◆ Inform and Involve Public Throughout Plan Implementation

Feel free to call, write, or stop by the National Bison Range with further questions, comments, concerns or ideas. The Service would like to thank everyone for their interest in the management of the National Bison Range Complex.



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

NATIONAL BISON RANGE

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IN REPLY REFER TO:

6 July 1998

NOTE:

To: NBR Planning Working Group (Wiseman, West, Clark, Jamieson, King, Vaughan, Washtak, Rogers, Heath, Misztal)

From: Planning Facilitator *JMA*

Subject: Goals and Objective Meeting, July 21-23, 1998, Leon Community Center

Please review the attached packet of information to prepare for the goals and objective meeting (and bring it to the meeting). Be sure to read over the chapter about developing goals and objectives and the examples. There is a lot of work to get done at this meeting and requires your full participation. Any ideas you have prior to the meeting should be noted and brought to the meeting. It will make the work easier to accomplish.

We have invited other Service personnel (Wayne King, John Cornely, Dale Harms, Linda Drees), USGS Biological Resources Division (Joe Ball), MT Department of Fish, Wildlife & Parks (John Grant), and Confederated Salish & Kootenai Tribes personnel (Brian Lipscomb, Dale Becker,) to participate. They may come for particular sections of the agenda or not at all.

We will have coffee and pop available for the meetings. You should bring a lunch or be prepared to pay for some type of take out. Everyone is asked to stay at the clubhouse for lunch to facilitate staying on schedule.

cc: Ty Berry
Carol Taylor

7/14/98

Issues

- I **1. Fish and Wildlife Service Management versus Tribal Management**
Recognizing that Tribal management has been excluded as an option at this level of decision-making, how can we do the best job of meeting the Tribal interests.
- II **2. The Meaning of "Foremost Consideration"**
What alternative outcomes are there for differences in the way people interpret the meaning of the statutory mandate to give wildlife "foremost consideration"?
- III **3. Habitat Management**
- A. 1. What alternative outcomes are there for differences in the extent and cost of efforts to restore native vegetation on this refuge?
2. What alternative outcomes are there for maintenance or enhancement of a particular species composition and/or vegetation structure for this refuge? WPA
3. *What alternative outcomes are there for differences in tools (such as grazing or fire) used for habitat management?
4. *What alternative outcomes are there for differences in criteria for selecting and protocols for using, the tools used for habitat management?
- B. **Weeds**
1. What alternative outcomes are there for differences in extent, timing, and location of weed eradication measures?
2. *What alternative outcomes are there for differences in tools used for weed eradication, such as herbicides, fire, grazing, or biological controls?
- C. **Wetlands and Riparian Zone Management**
1. What alternative outcomes are there for differences in the extent and cost of efforts to restore hydrologic conditions on this refuge?
2. What alternative outcomes are there for differences in the extent and cost of efforts to restore native vegetation in wetlands and riparian zones?
3. What alternative outcomes are there for differences in management interventions such as pumping, flooding, or reducing channelization?
4. *What alternative outcomes, in terms of pollution, are there for differences in management of grazing and/or irrigation return flows on the Refuge Complex?
- D. **Tree Encroachment**
1. What alternative outcomes are there for differences in level and intensity of efforts to manage tree encroachment?
2. *What alternative outcomes could result from differences in the tools, such as cutting or fire, used to manage tree encroachment?

IV **4. Wildlife Management**

A General Management Issues

- 1 What alternative outcomes are there for, in terms of genetic inbreeding or habitat deterioration, differences in big-game population levels (here this includes bison, elk, deer, sheep, antelope; could be split or lumped)?
- 2 What alternative outcomes are there for differences in predator management?
- 3 What alternative outcomes could result, in terms of habitat deterioration, from differences in *the methods used to manage* big game population levels?
- 4 What alternative outcomes could result from differences in refuge fencing strategies?
- 5 *What alternative outcomes are there for differences in extent and intensity of efforts to keep the public informed of research activities and results, and of the reasons why different management activities are being done?

B Migratory Birds

- 1 What alternative outcomes are there for differences in the level and intensity of efforts to provide habitat for other species, in addition to waterfowl?
- 2 What alternative outcomes are there for differences in the level and intensity of efforts to control gulls, especially at Ninepipe Refuge?
- 3 What alternative outcomes are there for differences in approaches to managing migratory birds, such as water manipulation, hunting, or disease?

C Threatened and Endangered Species

- 1 What alternative T&E species scenarios could result from differences in jurisdictional boundaries within coordinated management is undertaken?
- 2 What alternative outcomes could result from differences in the level and intensity of T&E species management, in terms of:
 - Conflicts with other refuge uses?
 - Species movements to and from neighboring properties?
 - Effects on public use?
 - Effects on land acquisition efforts?
 - Conflicts with other species FWS has a statutory obligation to manage?

D Fisheries Issues

- 1 What alternative outcomes could result from differences in the level and intensity of efforts to provide pike fishing access at Swan River (Spring Creek)?
- 2 What alternative outcomes are there for differences in the level and intensity of efforts to manage for trout in the Jocko River and Mission Creek?
- 3 *What alternative outcomes could result from differences in the level and intensity of efforts to restore redband trout at Lost Trail?

V **5. Public Use**

A Visitor Numbers

What alternative outcomes are there for differences in the number of visitors allowed on this refuge?

B Access

- 1 What alternative outcomes are there for differences in the extent of roads and trails, and/or the use of guided tours in place of individual visitor access?
- 2 What alternative outcomes are there for differences in road standards or levels of road maintenance?

C Facilities

What alternative outcomes are there for differences in the capacity and quality of visitor use facilities (such as visitor center, toilets, and parking lots)?

D Education & Interpretation

What alternative outcomes are there for differences in the type and program level of visitor education and interpretation (including education workshops and historical perspective programs)?

E Wildlife-dependent Recreation

What alternative outcomes are there for differences in the degree to which recreational activities, such as ice fishing, hunting or trapping, are allowed?

Wildlife Observ.
Photography
Fishing

F *Special Uses

What alternative outcomes could result from differences in criteria for allowing and administering special uses, such as photography, dog trials, horseback tours or collecting of exotic plants?

VI **7. Religious and Cultural Use**

A What significantly different interpretations, if any, are there of the Service's legal requirements for allowing and administering religious and cultural uses of Refuge Complex lands?

B What alternative outcomes, with respect to the integrity of Refuge Complex lands, are there for differences in criteria for allowing and administering religious and cultural uses?

VII **8. Federal Land Acquisition**

A What alternative outcomes, with regard to fee title acquisition of lands (and conservation easements do separately) on the Flathead Reservation, are there for differences in the criteria used for making land acquisition decisions?

VII **9. *Security and Law Enforcement**

IX **A *Enforcement Administrative Factors**

What alternative outcomes; with regard to improving safety, and reducing trespass, poaching, and willful disobedience; could result from differences in the level of law enforcement staffing?

B *Enforcement

What alternative outcomes are there for differences in the intensity and level of law enforcement effort?

What alternative outcomes are there for differences in federal, tribal, and state jurisdictional arrangements?

IX **10. *Administrative Issues**

A What alternative outcomes are there for differences in the level and intensity of efforts to educate the public regarding legislative and policy constraints on refuge management?

B What alternative refuge management outcomes are there for differences in the combination of staffing and funding levels, partnership coordination, and the volunteer program?

C What alternative outcomes are there for differences in the level and intensity of staff and visitor safety enhancement efforts?

D What alternative outcomes, in terms of office space, visitor facilities, maintenance facilities, government quarters, and seasonal housing, are there for different approaches to dealing with inadequate and deteriorating facilities?

* These issues can be done if there is time, at a later date, may work into outcomes naturally, or will be dealt with in strategies.

7/16/98

Alternatives, Goals, Objectives Process Outline

Developing a Range of Possible Outcomes

1. Begin by expressing each issue in terms of sub-components phrased as problems, each of which could be resolved by several different management outcomes. [This has already been done. See handout titled "Issue Problems"].
2. Identify the way an issue problem is being handled now, under the current (no action) management regime.
3. Next, develop at least one additional possible outcome for responding to that issue sub-component.

Some Sample Outcomes:

Public Use (Access – extent of roads and trails)

- *Current (no action) desired outcome.*
- *Maximum possible access that does not diminish the level of wildlife protection mandated in the Refuge Statement of Purpose.*
- *Road access comparable to current levels but significantly expanded non-motorized off-road access.*
- *Decrease access from current levels in order to give higher priority to wildlife protection.*

OR...

- *High capacity road access throughout long and short loops. Extensive trail network with trails at all difficulty levels, to reach all major components of the refuge.*
 - *Road and trail network designed to limit capacity and encourage use of guided group tours.*
 - *Moderate capacity road and trail network except in designated "culturally sensitive" areas where there would be no through roads and trails would be limited to those directly associated with historic or contemporary cultural use.*
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4. Now, ask yourself whether there is any major interest group that could not live with one of the possible management outcomes already identified. If the answer is yes, continue developing additional outcomes until you have a sense that every major group could find at least one outcome among your array that they could accept.
5. Each time you a set of assumptions about what outcome(s) you think a particular interest group would want, put those assumptions in writing. These notes will be used later for helping refine draft alternatives.

Developing rudimentary Alternatives (Clustered Outcomes)

6. Select two or three dominant issue sub-components. Examples might be Tribal ceremonial rights, noxious weed management, and bison population management.

7. Next, survey the list of possible outcomes generated above and look for ceremonial rights, weed management and bison population outcomes that all seem to reflect a similar way of thinking about Bison Range management. List these as one cluster of outcomes. Repeat this scanning for clusters of like-kind outcomes until you are satisfied that further clustering of outcomes associated with these three major issue components would simply be repetitious and/or illogical.
8. Now, review the possible outcomes listed for every remaining issue component, and assign each outcome to one of the dominant issue clusters (lists) created above.
9. The following matrix illustrates what is happening in this clustering process.

Issue Component	Cluster Zeta	Cluster Eta	Cluster Theta	Cluster Iota	Cluster ?	Cluster ?
Ceremonia I Rights	Ceremonial Outcome Type aa	Ceremonial Outcome Type bx	Ceremonial Outcome Type qyz	Etc. ...	...	...
Noxious Weeds	Weeds outcome Type aa	Weeds outcome Type bx	Weeds outcome Type qyz	...	...	...
Bison Population	Population outcome Type aa	Population outcome Type bx	Population outcome Type qyz	...	...	...
Next Issue	Outcome type aa	Outcome type bx	Outcome type qyz			
Next Issue	aa	bx	qyz			
Next Issue	aa	bx	qyz			
Etc. ...						

10. ****¹**Once outcomes have been generated and assigned to clusters that seem to reflect unique management philosophies, screen each cluster for internal consistency, overlap, duplication, omissions, consistency with laws, regulations and policies, and overall common sense. This is also the time to apply outside-the-box thinking with respect to opportunities for innovative management. The clusters have now become emerging alternatives.

Identifying the Vision that is Implied by Each Set of Clustered Outcomes

11. Your refined clusters have now become the basis for writing a set of statements expressing the view of the future implicit in each one. That is, for each cluster complete the sentence, "People who would like to see this cluster of management outcomes must hold a vision that the future should be like". The result will be a vision statement for each of the emerging alternatives.

¹ Items marked with a double asterisk may be partly, or entirely, optional for this workshop. All or parts of these steps could be done separately, at another time.

Identifying Goals that would Support Each of the Alternative Visions

12. For each vision statement, develop a set of management goals that will support moving toward the vision with respect to each of the issue components. The reasoning here is that “if the people who tend to support a cluster really do have that vision, then they must also expect us to move toward the following goals for each issue area.” This step will produce a complete set of goals for each cluster, or emerging alternative.

Sample Goal

Public Use (Access, Visitor Numbers, Facilities)

- *Cluster Zeta: Current (no action) goal.*
- *Cluster Eta: To provide the highest level of visitor use, and the most modern and convenient facilities, possible without violating the refuge’s legal wildlife protection mandate.*
- *Cluster Theta: To provide a level of visitor use compatible with state-of-the art wildlife protection, with access and facilities designed for a high quality educational experience but minimum environmental impact.*
- *Cluster Iota: To maintain modest use levels, discouraging tourist-type use and favoring uses that also serve as management tools, such as hunting and fishing, and maintaining relatively limited and primitive roads, trails, and facilities.*

“Depolarizing” the Emerging Alternatives

13. **Now that goals have been added to each cluster, a next step toward transforming the clusters into viable alternatives is to “depolarize” them. Each emerging alternative has its own unique management philosophy and set of desired outcomes that would appeal to some interest groups more than others. However, it is still possible, and very desirable, for you to address the concerns and desires of different interest groups to the greatest extent possible. This will reduce the “either-or”, “black-and-white” distinctions between alternatives. This step involves studying each emerging alternative and looking for places where changes could make that alternative more palatable to one or more other interest groups, without substantially deviating from the philosophy that makes it attractive to those who like it the way it is.

Writing Objectives

14. Now the stage is set for writing objectives. Observe the program/issue goals identified for a particular cluster, refer to the outcomes associated with each goal, and proceed to write specific objectives that would achieve those desired outcomes and thereby, accomplish the goal. At this point, objectives could be appropriately specific for the comprehensive plan level.²

² It will take some experimenting to decide exactly how specific objectives should be. Hard targets and precise accomplishment dates might be too specific for this level of planning. Perhaps they should be expressed in terms of target ranges and broad time frames, such as “a ten to twenty percent reduction between 1999 and 2004”.

Some Sample Objectives

Who What Where When & Why?

Public Use (Access, Visitor Numbers, Facilities)

Cluster Zeta: (From current work plans).

Cluster Eta:

1. *Build and maintain a road network that will safely and conveniently accommodate visitor use at levels ___% to ___% higher than today, by 2005.*
2. *Build and maintain a visitor center sufficiently large and well equipped to provide a high quality experience for the ___% to ___% increased use level expected by 2005.*
3. *Develop and implement a trail plan for accessing all open-to-the-public areas of the refuge, by 2005.*

Cluster Theta:

1. *Develop and implement a road and trail plan designed to support wildlife management, with public access at the extent and quality consistent with minimizing adverse impacts on wildlife management.*
2. *Improve and maintain the existing loop roads to standards that will assure safe and convenient access for staff and visitors, but only at levels consistent with state-of-the-art wildlife management.*
3. *Remodel and maintain the visitor as necessary to provide adequate staff facilities and afford a comfortable and educational experience at visitation levels consistent with state-of-the-art wildlife management.*

Cluster Iota

- *Maintain existing roads and trails at a standard sufficient to protect the government's investment and provide access for wildlife management and primitive user experiences.*
- *Remodel and maintain the visitor as necessary to provide adequate staff facilities and to encourage and inform uses that support wildlife management (club meeting space, appropriate outdoor skills workshops, exhibits featuring the human role in wildlife management).*

Getting to Draft Alternatives

15. ******The last step will be a process of consolidating, writing, and editing, to arrive at a set of draft alternatives, each with its own unique set of goals and objectives. The array will include a no action alternative plus as many additional alternatives as you needed to create a "reasonable range" (NEPA requirement) adequate for responding to all significant issues raised by the public, other agencies, and FWS personnel. These draft alternatives could be circulated for internal review, revised as appropriate, then released for public comment before beginning the demanding and costly effects assessment process.

7/20/98

**NATIONAL BISON RANGE
COMPREHENSIVE CONSERVATION PLAN**

Agenda (7/21-7/23/98)

Purpose: To develop future management direction for each unit of the Bison Range Complex [Bison Range, Ninepipe, Pablo, and Swan River NWR, and the Wetland Management District (Waterfowl production areas plus conservation easement program)].

Desired Outcomes

1. Develop "preliminary draft alternatives" for managing each unit of the Complex.
2. Develop draft goals for each "preliminary draft alternative".
3. Develop management objects for meeting each draft goal.

Start-Up

Introductions

Purpose/Outcomes

Agenda/Process

Working Agreements

Participant Roles

Logistics

- We will take breaks and lunch approximately as follows:
Morning break: 10:00 to 10:15 a.m.
Lunch: Noon to 1:00 p.m.
Afternoon break: 2:30 to 3:00 p.m.
- Our tentative strategy is to go through the entire "process" for the Bison Range first, then continue with other refuge units. We may have to spill the Bison Range over to Wednesday and set aside Swan River for now. In this case, we would try to continue with Ninepipe and Pablo on Thursday, as planned.
- It is possible we will not get to all the issues. They will all get covered but, for this working group meeting, we may need to concentrate on a few of the major issues in order to get a good overall understanding of the process. We can work on the remaining issues later.

The Bison Range

- Develop Possible Outcomes
- Cluster Outcomes Into Rudimentary Alternatives
- Identify the Vision for Each Set of Clustered Outcomes
- Identify Goals to Support Each Alternative Vision
- Depolarize the Emerging Alternatives
- Write Objectives

Repeat Above Process for Each Unit in the Complex

**NATIONAL BISON RANGE
COMPREHENSIVE CONSERVATION PLAN**

**Agenda for Planning Working Group
(Tuesday - Thursday, July 21-23, 1998, Leon Community Center)**

Purpose: To develop future management direction for each unit of the Bison Range Complex

Desired Outcomes: *By the end of this meeting, we will have:*

- A program breakdown for organizing goals and objectives
- Draft Goals for Bison Range, Ninepipe, Pablo, Swan River NWR, and the Wetland Management District (waterfowl production areas + conservation easement program)
- Draft Objectives for Bison Range, Ninepipe, Pablo, and Swan River NWR, and the Wetland Management District (waterfowl production areas + conservation easement program)

Tuesday, July 21, 8:00am-5:00pm

Start-up: 8:00am - 8:30am

- Introductions
- Purpose/Outcomes
- Agenda/Process
- Ground Rules & Roles

Goals, Objectives & the Planning Process:

8:30am - 9:30am

- CCP Direction/Priorities
- Hierarchy
- What are they? & Why set them?

Break: 9:30am - 9:45am

Program Breakdown: 9:45am - 11:00am

National Bison Range Goals: 11:00am - 12:00pm

Lunch: 12:00 - 1:00pm

National Bison Range Objectives: 1:00pm - 5:00pm

Break: 2:30pm-3:00pm

Wednesday, July 22, 8:00am-5:00pm

Wetland Management District Goals & Objectives: 8:30 - 12:00

Break: 10:00am - 10:15am

Lunch: 12:00pm - 1:00pm

Swan River Goals & Objectives: 1:00pm - 5:00pm

Break: 2:30pm - 3:00pm

Thursday, July 23, 8:00am-5:00pm

Ninepipe Goals & Objectives: 8:00am - 12:00pm

Break: 10:00am - 10:15am

Lunch: 12:00pm - 1:00pm

Pablo Goals & Objectives: 1:00pm - 4:30pm

Break: 2:30pm - 3:00pm

Wrap-up & Action Plan: 4:30pm - 5:00pm

POSSIBLE OUTCOMES FOR ISSUES ON THE NATIONAL BISON RANGE

Notes from CCP Meeting July 21-23, 1998

⇒ Raw data is entered as it was on the flip sheets and from Lindy's initial notes ←
Additional notes for consideration and discussion that occurred to Lindy while transcribing raw data into computer.

* = Current management/no action alternative

III. B. 1. What alternative outcomes are there for differences in noxious weed management?

Weeds-noxious

a. Completely weed free (exotic invasives)

*b. Trying to control those out of control and for decline of those more benign. Hang on. Status quo. Species specific.

c. Level at which natural conditions can control, with minimal management in a healthy ecosystem

d. Accept whatever outcome comes from no human intervention

e. Sufficient control to prevent dispersal

Notes: We list what we define as weeds. Current management includes efforts to reduce spread, trying to get it to a point of self-controlled without management intervention

III. A. 1. What alternative outcomes are there for differences in the extent and cost of efforts to restore native vegetation on this refuge?

Native Vegetation (Palouse Prairie) → Grasslands

*a. Native vegetation (in proper proportions) to support the purpose of the refuge.

b. ~~Native~~ vegetation in proportions that will maximize bison carrying capacity.

c. Healthy native palouse prairie, with bison capacity secondary.

d. Accept native palouse prairie outcome that derives from bison and other wildlife/habitat management. (drop?)

e. Let natural processes rule

Notes: proper proportions in current management = healthy palouse prairie. Under c. not acceptable to the degree of no bison or so few

III. A. 2. What alternative outcomes are there for maintenance or enhancement of a particular species composition and/or vegetation structure for this refuge?

Species Composition Vegetative Structure [wetlands management unit only]

III. A. 3. What alternative outcomes are there for differences in tools (such as grazing or fire) used for habitat management?

Skip for nbr

III. A. 4. What alternative outcomes are there for differences in criteria for selecting and protocols for using, the tools used for habitat management?

Drop

III. B. 2. What alternative outcomes are there for differences in tools used for weed eradication, such as herbicides, fire, grazing, or biological controls.?

Weed Control Tools

- *a. Trying to control those out of control and for decline of those more benign. Hang on. Status quo. Species specific. Current management includes efforts to reduce spread, trying to get it to a point of self-controlled without management intervention
- b. Habitat outcomes possible without use of herbicides

II. The meaning of “foremost consideration” - What alternative outcomes are there for differences in the way people interpret the meaning of the statutory mandate to give wildlife “foremost consideration?”

*Which “wildlife”?

Who is asking? (NRA, FOE,...)

[A filter for any alternative]

I was trying to get us to basically describe some of the different ways people would interpret this, so the group was on the right track when they asked, “who is asking?”. What I wanted us to realize and deal with in our alternatives is that the different ‘groups’ do interpret it differently and that our alternatives should reflect those differences. This is what we basically were trying to do anyway with the different outcomes, we just didn’t address this concept itself. I think we still should at some point, and not get hung up on the detail of where does the language of “foremost consideration” come from, that is irrelevant. It is the concept of wildlife first on refuges that I think different groups interpret differently that we have to deal with, as well as explain our own interpretation of wildlife first..

→ how threat interacts w/public use

III. C. 1. What alternative outcomes are there for differences in the extent and cost of efforts to restore hydrologic conditions on this refuge?

Wetlands/Riparian - restore hydrologic conditions

- *a. Maintain existing status, consider “restoration” on ad hoc basis
- b. All riparian zones in natural morphologic condition.
- c. Let nature take its course from now on.
- d. Maintain current situation

Notes: check up on fens, what they are, what are their defining characteristics

III. C. 2. What alternative outcomes are there for differences in the extent and cost of efforts to restore native vegetation in wetlands and riparian zones?

Riparian native vegetation

- *a. No formal goals
- b. Historic native vegetation regime
- c. Pre-European (native) woody plant regime, control invasives, no formal policy on forbs and grasses.

Notes: native versus pre-European versus 'at establishment'

III. C. 3. What alternative outcomes are there for differences in management interventions such as pumping, flooding, or reducing channelization?

Tools (pumping, flooding, etc)

- *a. Maintain artificial pond levels along Mission Creek, to model representative riparian wetland.
- b. Allow nature to determine pond levels.

III. C. 4. What alternative outcomes, in terms of pollution, are there for differences in management of grazing and/or irrigation return flows on the Refuge Complex?

Irrigation return - pollution

- *a. Maintain water quality to comply with laws.
- b. Sustain pristine (pre-European) water quality.
- c. Sustain conditions suitable for target aquatic species.

III. D. 1. What alternative outcomes are there for differences in level and intensity of efforts to manage tree encroachment?

Tree Encroachment

- *a. Ponderosa parkland conditions and doug fir stands, as existed 90 years ago when refuge established.
- b. Tree succession at current rates.
- c. Remove all/most trees to create more grassland.
- d. Ponderosa parkland with no doug fir.

Notes: potentially there is argument for what was actually there 90 years ago, Tom McDonald did not think the doug fir should be maintained. Assumption is that it is a healthy stand, so would have to deal with disease in an objective

IV. A. 1. What alternative outcomes are there for, in terms of genetic inbreeding or habitat deterioration, differences in bison population levels?

Wildlife Management - Bison Populations

- *a. Bison as a wildlife species with a natural social structure, natural genetic diversity and age structure.
- b. Maximum bison productivity.
- c. Free ranging (within nbr), hands-off management (minimal).
- d. Secondary, as a tool for healthy palouse prairie

Notes: as a wildlife species = because not to say "wild" since not free-ranging, but say wildlife so not domestic

IV. B. 1. What alternative outcomes are there for differences in the level and intensity of efforts to provide habitat for other species, in addition to waterfowl?

Birds

- *a. Habitats for breeding birds, subject to constraints of bison program.
- b. Give birds equal consideration or higher priority with respect to bison.

Notes: goals would then define equal consideration, and objectives would define which species we were going to work with, and explain rationale.

VI. 1. What significantly different interpretations, if any, are there of the Service's legal requirements for allowing and administering religious and cultural uses of refuge Complex lands?

Religious and Cultural Uses

*a. Contact Tribes/SHPO when we plan disturbance, seek help in identifying sites and uses; appropriately protecting sites as per Tribes/SHPO, and respecting identified uses. Waive fees for cultural/religious use. (Coordinate with Tribes so that management and other uses do not conflict with native american and cultural resources, laws, regulations and policy; and allow cultural use by native americans in compliance wth laws, regulations and policy)

b. All of no action, plus waive entrance fees for CS&KT members (consult with tribal cultural comm) and explore ways of being pro-active about religious and cultural uses (e.g., restoration of plants with cultural uses)

Procedural suggestion: extend effort to spending time to get to know tribal elders, so as to learn their concerns

Notes: Tribal elders are another stakeholder, talk to them. Just recognize different ways people communicate and modify our method to gain their input. Talk to culture committees about how they view whether all tribes should get waiver for fees. Someone could present argument that all Tribes with connection to bison get waive (this would be hard to implement from who is native american and are they experiencing a religious and cultural purpose. Salish and Pend O'reille culture committee meet in Mission the first Monday of each month, except in the summer.

V. E. What alternative outcomes are there for differences in the degree to which recreational activities, such as ice fishing, hunting or trapping, are allowed?

Wildlife Dependent Recreation (fishing, photography, wildlife observation)

- *a. Uses subject only to "compatibility" test and wildlife protection and public safety limitations
- b. Maximize opportunities (subject to "compatibility") for novice wildlife viewers to observe/experience wildlife

- (1) ...without hunting
- (2) ...with hunting

Notes: recreational opportunity spectrum; need to develop limits of acceptable change (if too many use it, then change it); carrying capacity = how many cars can park, how many roads can handle...

V. A. 1. What alternative outcomes are there for differences in the number of visitors allowed on this refuge?

Visitor Numbers

- *a. Allow use to levels that are not incompatible with purposes of the refuge.
- b. Limit use to current (1998) levels to maintain current wildlife experience.
- c. Limit to levels that reduce wildlife disturbance and visitor interference.

Notes: reduce or minimize? In the no action, allow or limit? May need another outcome that allows the max within compatibility (even though that is sort of what we are doing right now in a.) Could *promote* use *up to* threshold of compatibility. With c., the assumption is that it is too high already and need to back off

NATIONAL BISON RANGE CLUSTERS

Slinky Cluster - No Action/current management

Native Veg: Native vegetation (in proper proportions) to support the purpose of the refuge.

Bison: Bison as a wildlife species with a natural social structure, natural genetic diversity and age structure.

Public Use: Allow use to levels that are not incompatible with purposes of the refuge.

Weed Control: Trying to control those out of control and for decline of those more benign. Hang on. Status quo. Species specific.

Weed Tools: as necessary to do weed control

Riparian morphology: Maintain existing status, consider "restoration" on ad hoc basis

Riparian native vegetation: no formal goals

Religious & Cultural Uses: Contact Tribes/SHPO when we plan disturbance, seek help in identifying sites and uses; appropriately protecting sites as per Tribes/SHPO, and respecting identified uses. Waive fees for cultural/religious use. (Coordinate with Tribes so that management and other uses do not conflict with native american and cultural resources, laws, regulations and policy; and allow cultural use by native americans in compliance with laws, regulations and policy)

Slinky Vision: To maintain the life requirements of bison in perpetuity, while complying with all other refuge purposes, while responding to changing needs identified by science and/or public policy

Frisbee Cluster

Native vegetation: Native vegetation in proportions that will maximize bison carrying capacity.

Bison: Maximum bison productivity

Public use: promote use to levels not incompatible with refuge purpose

Weed control: Completely weed free (exotic invasives), at least enough to prevent dispersal

Weed tools: yes to herbicides

Riparian morphology: maintain current situation

Riparian native vegetation: Pre-European (native) woody plant regime, control invasives, no formal policy on forbs and grasses.

Religious and cultural use: We're all Americans, treat us all the same, don't go beyond compliance with the law (Eliminate all fees?)

Frisbee Vision: Intensive management for maximum productivity and use (business orientation)

Yo-yo Cluster

Native vegetation: Manage actively for healthy native prairie

Bison: secondary, as tool for healthy prairie

Public use: Limit use to current (1998) levels to maintain current wildlife experience

Weed control: Level at which natural conditions can control, with minimal management in a healthy ecosystem

Weed tools: IPM with herbicides as one tool

Riparian hydrology: Restore all riparian zones to natural morphologic condition.

Riparian native vegetation: Historic native vegetation regime

Religious and cultural use: All of no action, plus waive entrance fees for CS&KT members (consult with tribal cultural comm) and explore ways of being pro-active about religious and cultural uses (e.g., restoration of plants with cultural uses)

Yo-yo Vision: Actively intervene to restore and sustain natural ecosystem conditions

POSSIBLE OUTCOMES FOR ISSUES ON NINEPIPE NWR

Notes from CCP Meeting July 21-23, 1998

Raw data is entered as it was on the flip sheets and from Lindy's initial notes

Additional notes for consideration and discussion that occurred to Lindy while transcribing raw data into computer

* = Current management/no action alternative

III.A.1. What alternative outcomes are there for differences in the extent and cost of efforts to restore native vegetation on this refuge?

Vegetation (native, non-native)

- *a. Vigorous stands of grass for ground nesting birds, preventing destruction of rookery habitat
- b. Vigorous stands of grass for ground nesting birds, identify & preserve native woody stands.
- c. Enhance native vegetation (to encourage diversity of bird species).
- d. Manage vegetation for maximum number of bird species.
- e. Accept outcome of natural (no intervention) processes.

Notes: Lynn asked what about managing for shorebirds on NNP, and Dave said that if we were to manage for max cattle grazing we would have to word it in terms of bird habitat (shorebirds may fit for this to some degree). Under d., talk also about examples such as woody vegetation for pheasants (*this must have been someone's comment that I wrote down*)

I think we still need to talk about what type of grass in more detail (e.g., species, density, height...) and be clear as to what our definition of vigorous means.

III.A.3. What alternative outcomes are there for differences in tools (such as grazing or fire) used for habitat management?

Habitat management tools

- *a. Use grazing to maintain vigorous stands of grass
- b. Eliminate grazing and allow natural processes to rule.
- c. Maximize forage productivity within compatibility limits

Notes: "Vigorous" would mean it didn't really have many weeds. "Natural" would mean not seeing cows out there and letting vegetation take care of itself. However some people may view natural as including grazing whether it be by cattle, bison or whatever.

III.B.1. What alternative outcomes are there for differences in extent, timing, and location of weed eradication measures?

Weed control

- *a. Use IPM program (biological, herbicides, grazing, mechanical) and seed prevention to keep weeds in check.
- b. Accept consequences of natural processes.
- c. Use IPM, without herbicides.
- d. Pursue eradication of all weeds, using all available methods.

Notes: "keep weeds in check" means reducing spread and knocking back some

III.C.3. What alternative outcomes are there for differences in management interventions such as pumping, flooding, or reducing channelization?

Wetlands/riparian tools - pumping, flooding

*a. Coordinate water level control with irrigation project (FIP), etc. to benefit nesting waterfowl and other water birds.

b. Accept water levels that result from maximizing irrigation efficiency.

c. Vigorously pursue water management opportunities/agreements to support enhanced waterfowl/water bird nesting habitat (e.g., sub-impoundments) *Soonover*

Notes: In this section it is more water manipulation (not pumping or flooding) *N 80*

In c. impoundments and formalized working coordination plan.

III.D.1. What alternative outcomes are there for differences in level and intensity of efforts to manage tree encroachment?

Tree encroachment (mechanical means of management)

*a. Reduce exotic tree invasion (elm, russian olive) to enhance ground nesting bird production.

b. Eliminate exotic trees as soon as possible.

c. Don't remove any trees.

d. Plant/encourage additional trees.

IV.A.2. What alternative outcomes are there for differences in predator management?

Predator management

*a. No active predator management

b. Control nest predators (skunks, fox feral cats) to protect ground nesting birds.

Notes: See WMD predator management outcomes***** *The following are from the WMD, but since the current is different than the one written for ninepipe, I need to check to see which is correct.*

*a. Accept duck nest success outcome of removing only skunks, only on WPAs.

b. Increased duck nest success resulting from removal of other predator species, in addition to skunks.

c. Accept nest success resulting from no FWS predator removal

d. Accept nest success possible with only non-lethal predator management

Notes: change accept to "increased" in a.

Problem=> In defining these outcomes/management philosophies, should the statements have been better at defining to what degree or how priorities are (i.e., status quo) versus what an alternative one would be?

IV.B.1. What alternative outcomes are there for differences in the level and intensity of efforts to provide habitat for other bird species, in addition to waterfowl?

Species other than waterfowl

*a. Some management of vegetation and water levels to benefit other species.

b. Manage for 'biodiversity'

c. Focus management on waterfowl.

d. Focus management on species other than waterfowl.

Notes: Other species is meant to reflect other bird species. Biodiversity in b., is meant from the ecological perspective, with what habitat is out there and how it "should be". Not meant to add unnatural or exotic habitat to increase diversity at all costs.

IV.B.2. What alternative outcomes are there for differences in the level and intensity of efforts to control gulls?

Gull Control

*a. Discourage gull production (netting, trees, water manipulation)

b. Actively control using all appropriate methods.

c. Active control using non-lethal methods.

d. Leave gulls alone - let nature take its course.

Notes: discourage gull production with water level manipulation, in the past put one skunk on islands, modify habitat. Dale asked whether there were data for reason to get rid of gulls? We have none. Are we on thin ice then with any control method?

In b., actively control, even if have no data could control at lower level? "...actively control using all appropriate methods", take out 'appropriate' and change 'all' to any.

Add an "e." with a disease reason for gull control.

IV.C.1. What alternative T&E species scenarios could result from differences in jurisdictional boundaries within coordinated management is undertaken?

T&E Species/listed "species of concern"

*a. For "listed" species, we monitor and make protection decisions on case-by-case basis.

b. Pro-actively manage for "listed" species, within refuge boundaries.

c. Consider only federally listed species in management decisions.

Notes: Grizzly bears, as assigned through grizzly bear recovery plan, are an administrative issue and we're just to educate the public. Bald eagle plan has signatory lines for Tribes and RD.

When jurisdiction for T&E falls under both refuge and tribes, how do we deal with a conflict.

For example, if bald eagle nesting close to an area of public use, how do we decide whether to close it? The nesting bird is refuge, but the public use is Tribe.

There are many lists other than just T&E list, there are also state lists, fws lists, tribal list.

With species movements, more intense in removal policy if hunting next door, than if not hunting next door or on the refuge. As the potential for conflict rises, the trapping effort would rise. *These notes must have been in response to grizzly discussion.*

*Close NRP when
bear around -
Should we be harassing
bears on the
Refuge?*

IV. D. Fisheries management coordination

Notes: Treat as administrative issue

Still an issue that must be worked out now

How decide type of fish that are there. Tribal unless conflict. Fishing - only put in plan if significant different ways it would be managed

Problem => jurisdiction problems, who decides "what's not inconsistent with the purpose of the easement"

Need to clarify the nature of the agreement/easement. Congress said refuge manager must

decide what's compatible. We are trying to get through this with coordination meetings. What should be done maybe is a meeting with Tribes and Service decision-makers and go through developing alternative outcomes for who and how the decision gets made AND interpret the law on both sides, and then discuss both sides for who decides compatibility and to what extent (on an easement refuge) different rights (uses not included with easement) even affect or potentially impinge on compatibility of easement rights.

IV.D. Fisheries Issues *(I had these few extra notes in my notes, but it doesn't look like we treated it as an outcome developing exercise)*

Fishing on NNP

Fishing - only put in plan if significant different ways it would be managed

- restricted fishing opportunities relying on coordination/compatibility
- explore additional fishing opportunities to the max through compatibility threshold
- no fishing opportunities

The issue is that people think fishing is affecting bird areas, access issues through nesting habitat to get out there for fishing.

V.D. What alternative outcomes are there for differences in the type and program level of interpretation?

Interpretive Program

- *a. To provide interpretative material about native birds and allowed public uses.
- b. An active interpretive program (e.g., guided walks, brochures, talks, etc) to enhance visitor experience.

Notes: We can propose, but have to tell the public that we don't have ultimate say. We can enhance visitor experience without increasing number of visitors.

NINEPIPE CLUSTERS

Slinky cluster - No action/current management

Native veg: Vigorous grass stands for ground nesting birds, prevent destruction of rookery habitat.

Habitat mgmt. tools: use grazing to maintain vigorous stands of grass

Water mgmt. tools: coordinate levels with FIP to benefit nesting waterfowl and water birds.

Weed control: use IPM to keep weeds in check

Tree encroachment: reduce exotics to enhance ground nesting bird production

Predator mgmt.: no active management

Mgmt. of other species: some management of water levels and vegetation to benefit other species

Slinky Vision: ecological orientation with waterfowl emphasis

Yo-Yo Cluster

Native Vegetation: Enhance native vegetation to encourage diversity of bird species

Habitat mgmt. tools: Use grazing and other tools to maintain vigorous stands of grass

Water mgmt. tools: Vigorously pursue water management opportunities to support/enhance waterfowl and other water birds

Weeds: IPM without herbicides

Tree encroachment: Remove exotic trees as soon as possible

Predator mgmt.: Non-lethal methods

Mgmt. of other species: Manage for “biodiversity”

Yo-yo Vision: ecological orientation toward functional ecosystem (systems approach vs single species approach)

Frisbee Cluster

Native vegetation: Manage vegetation for maximum number of birds

Habitat mgmt. tools: Maximize forage production

Water mgmt. tools: Accept consequences of maximizing irrigation efficiency

Weeds: Pursue eradication using all methods

Tree encroachment: Reduce exotics to enhance ground nesting bird production

Predator mgmt.: Use all appropriate methods

Mgmt. of other species: Focus management on waterfowl

Frisbee Vision: commodities/utilitarian view

Marbles Cluster

Native Vegetation: Accept outcome of natural processes (no intervention)

Habitat mgmt. tools: Allow natural processes to rule (no livestock grazing)

Water mgmt. tools: Vigorously pursue water management opportunities to support/enhance diversity of birds

Weeds: Accept consequence of natural processes

Tree encroachment: Don't remove any trees

Predator mgmt.: No predator management

Mgmt. of other species: no enhancement/management, accept species presence/absence as is

Marbles Vision: Hands off, no management

Questionable Cluster

Native vegetation: Vigorous grass (like no action); identify and preserve native woody species stands

Habitat mgmt. tools: grazing for grass (same as no action)

Water mgmt. tools: Coordinate for waterfowl and waterbirds (same as no action)

Weeds: IPM, no herbicides

Tree encroachment: Plant/encourage additional trees

Predator mgmt.: non-lethal methods

Mgmt. of other species: manage for biodiversity

POSSIBLE OUTCOMES FOR ISSUES ON THE WETLAND MANAGEMENT DISTRICT

Notes from CCP Meeting July 21-23, 1998

Raw data is entered as it was on the flip sheets and from Lindy's initial notes.

Additional notes for consideration and discussion that occurred to Lindy while transcribing raw data into computer.

* = Current management / no action alternative

III.A.1. What alternative outcomes are there for differences in the extent and cost of efforts to restore native vegetation on this refuge?

Native Vegetation

- *a. Maintain vigorous, healthy and diverse grasslands with a favorable mix of native and planted (non-native) grasses for migratory birds.
- b. Maximize native vegetation for sake of going native.
- c. At level that maximizes dense nesting cover for migratory birds.
- d. At whatever level maximizes economic benefit to local landowners
- e. Pheasants (?)

Notes: In a. Change planted grasses to tame grasses

III.A.2. What alternative outcomes are there for maintenance or enhancement of a particular species composition and/or vegetation structure for this refuge?

Species Composition, Vegetative Structure

[Adequately covered in III.A.1.]

III.B.1. What alternative outcomes are there for differences in extent, timing, and location of weed eradication measures?

Weeds

[same as Bison Range]

- a. Completely weed free (exotic invasives)
- *b. Trying to control those out of control and for decline of those more benign. Hang on. Status quo. Species specific
- c. Level at which natural conditions can control, with minimal management in a healthy ecosystem
- d. Accept whatever outcome comes from no human intervention
- e. Sufficient control to prevent dispersal

III.A.3. What alternative outcomes are there for differences in tools (such as grazing or fire) used for habitat management?

Habitat management - tools: grazing (haying, fire) <- later!

- *a. We use grazing as a habitat management tool
- b. Accept habitat outcomes possible without use of grazing

Farming

III.C.1. What alternative outcomes are there for differences in the extent and cost of efforts to restore hydrologic conditions on this refuge?

Restoring hydrologic conditions

- *a. Restore drained wetlands
- b. Restore and enhance drained wetlands
- c. No restoration of wetlands

III.C.3. What alternative outcomes are there for differences in management interventions such as pumping, flooding, or reducing channelization?

Pumping, flooding

- *a. Opportunistically flooding and pumping depression areas.
- b. Annual flooding program.
- c. Accept habitat outcomes resulting from unassisted natural flows.

IV.A.2. What alternative outcomes are there for differences in predator management?

Wildlife-Predator management

- *a. Accept duck nest success outcome of removing only skunks, only on WPAs.
 - b. Increased duck nest success resulting from removal of other predator species, in addition to skunks.
 - c. Accept nest success resulting from no FWS predator removal
 - d. Accept nest success possible with only non-lethal predator management
- Notes: change accept to "increased" in a.

VII. What alternative outcomes, with regard to fee title acquisition of lands (and conservation easements) on the Flathead Reservation, are there for differences in the criteria used for making land acquisition decisions?

Federal land acquisition on Reservation

- *a. Fee acquisition or conservation easement with minimum government interest needed to safeguard trust wildlife and their habitat. -- from willing sellers
- b. Acquire as much protection (interest and acres) as possible.
- c. No additional acquisitions.
- d. Protect only through easements on a large scale.

Notes: "acquire as much protection" needs to be explained whether we mean protection in terms of how much interest we own in the land, or protection in terms of more acreage. "On Reservation" just means that we need to remember we need to consult with them and may need to say within reservation we will try to do only easements
But only trying to do easements within the reservation should include public comment before we make that decision.

V.B. What alternative outcomes are there for differences in the extent of roads and trails, and/or the use of guided tours in place of individual visitor access?

Visitor Access

*a. Open year-long for compatible wildlife-dependent recreational uses, subject to seasonal closures.

b. Only allow minimum Duck Stamp Act uses (hunting, fishing, trapping).

c. Allow unrestricted access, subject only to public safety limitations, and refuge use "compatibility."

Notes: In a. "seasonal closures" to enhance wildlife habitat (wildlife habitat foremost).

In c. Promote or actively educate people to get on WPAs (without as much consideration for wildlife)

We did not really answer the bolded question. Rather, we went after a general concept of public access on the WPAs. We may still need to answer the more specific bolded question for WPAs.

FOR CIRCULATION

_____	REFUGE MANAGER
BO	ASST. MANAGER
Py	PUB. USE SPEC.
_____	BIO TECH
_____	PRIVATE LANDS
_____	LAW ENFORCEMENT
_____	FOREMAN
_____	MAINTENANCE MA
_____	OFFICE ASST.



**UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE**

NATIONAL BISON RANGE

132 BISON RANGE ROAD
MOIESE, MONTANA 59824
(406) 644-2211
FAX (406) 644-2661

IN REPLY REFER TO:

**UNITED STATES GOVERNMENT
MEMORANDUM**

U.S. FISH & WILDLIFE SERVICE

DISCUSS
REVIEW
ACTION

TO: MT/WY Refuge Supervisor, Mail Stop 60120 **DATE:** August 20, 1998
Chief, Land Acquisition & Refuge Planning, Mail Stop 60135

FROM: Project Leader, Mail Stop 61540, National Bison Range *JW*

SUBJECT: Comprehensive Conservation Planning Process

The following memo is a result of the planning team meeting July 21-23, 1998, where refuge staff, tribal biologists, one state biologist, regional planning coordinator, and a professional planning consultant wrestled with the Service planning policy and NEPA (see enclosed meeting summary). In preparing for the meeting, and during the meeting, there was much concern and discussion on our proposed planning process and its integration with the NEPA process. The initial procedure was to develop a set of goals and objectives, gain Service approval, and subsequently develop alternatives. Each alternative was going to have goals and objectives established, but the initial set would be "developed further" and labeled the draft CCP. The draft CCP would then be released as one of the alternatives of the EA.

Problematic Points

- Developing one set of goals and objectives (management details) prior to developing alternatives (management philosophy). The question that must be answered is which decision does the Service want the public to help in making?

Is it the decision as to which set of tools and strategies will be used for implementing a management philosophy that we already decided; or does the Service want public help in deciding which management philosophy will guide selection of particular implementation tools and strategies? Developing this one set of goals and objectives first, we give the impression of having already made up our mind on management philosophy.

- The Service creates the vision, as required by the manual.
Then it becomes our vision, but not necessarily the vision held by members of the public. However, if the vision, is created through an issue driven process, then both the Service and those members of the public (& governments, agencies...) that participated share it. This increases the likelihood of uncontested, successful implementation of ensuing goals, objectives & comprehensive management plan.

- Not developing or evaluating all the alternatives equally when we develop one further into the draft CCP at the same time as we do the EA.

If the Service invests extensive effort in fully developing its preferred alternative, while neglecting to put forth a comparable level of effort in developing other reasonable alternatives, it has effectively pre-selected its own alternative. The other alternatives could be considered “straw” alternatives, and argued that a “reasonable range” of alternatives was not considered. This approach not only reinforces the impression that the Service has already made up its mind and is only pretending to care what the public wants, but it is also very likely a violation of NEPA that could be successfully challenged in court (according to planning consultant).

A paperwork “fix” for part of this problem, as the original process was envisioned, would include developing goals and objectives for each alternative equally. Combine this with alternatives for each unit (5 units), and it creates a massive amount of work and paper that would in a sense be wasted, since only one alternative is selected. It is questioned also whether in reality an equivalent amount of effort can truly be put into each alternative’s goals and objectives when staff also “know” that only one will be selected.

Our answer

We feel the EA and draft CCP should be separated. That way we’ll comply with NEPA, have comparable alternatives with a reasonable range, gain input from the public on management philosophy, as well as ask the public to comment on particular tools and strategies. This provides the public more participation and better serves their interest, follows more closely the intent and spirit of NEPA, and creates a better plan that is easier to implement. It will also use time more efficiently, create less paper and work (by deleting the goals and objectives for every alternative for all 5 units), and demonstrate to the public that the Service truly is reevaluating management on refuges and wants their input.

Proposed procedural outline

- Develop possible outcomes. Take each “issue” and develop outcomes for how the issue could be resolved (we began this during the workshop of July 21-23, 1998). At least three alternative outcomes are developed and define how each issue is being handled now (i.e., current/no action alternative).
- Cluster outcomes into rudimentary alternatives. Each cluster reflects a similar way of thinking (i.e., management philosophy). These clusters become rough, draft alternatives that are issue driven.
- Identify the vision for each cluster (i.e., emerging alternative)
- In the EA, describe each alternative for its’ “way of thinking” and develop a matrix to illustrate the outcomes with each alternative for the major “issues”. It is our job to make sure each alternative is a real, viable alternative within our establishing purposes, laws, regulations and policy, and depolarize the emerging alternatives.

Optional: the draft alternatives could then be put to the public and asked for whether the public thinks a “reasonable range” of alternatives has been considered. This could be done just through the mail with specific individuals, offices, agencies, etc. They are not asked for which alternative, just whether a reasonable range has been considered. This could save time prior to the effects analysis if we somehow “missed the boat” on another possible alternative.

- Complete effects analysis and provide EA to the public. The Service would be providing the public a chance to be involved in deciding the overall management philosophy with the EA. We would gain buy-in and acceptance from the public with the driving philosophy prior to the timely effort of developing the details of the CCP (goals and objectives) and step-down plans (implementation tools and strategies).
- Review public comments and selects an alternative (or pieces of more than one alternative), issue a Record Of Decision, and explain the decision to the public
- Develop the selected alternative further into a draft CCP with goals, objectives, and strategies. This allows the necessary detail to be put into the CCP so that it is a truly working document that management can use. It removes the NEPA pitfall that we could fall into by releasing the draft CCP as an alternative of the EA that really is the only selectable one if developed more than the other alternatives.
- Provide draft CCP to the public for review. This would allow the public to provide comments on the particular tools and strategies (e.g., whether we should spray, or where a new trail is going to be constructed).

We feel this is the best of both worlds for the NEPA and CCP processes. All the parts of the planning process are still included, just rearranged a bit. We do not anticipate this design to delay the schedule or increase the time necessary for plan completion. Rather the complexity of trying to deal with five refuge units during the workshop illustrated more time may be necessary than scheduled, regardless of the process design. This process design is issue driven, fully reflects public participation at both the level of management philosophy and implementation strategy (i.e., goals, objectives and tools), and is consistent with the FWS Planning Policy and Handbook.

This memo is to request a formal concurrence for the process design. If this warrants more discussion we can schedule a conference call.

/s/ wiseman:transmitted electronically

cc: Chief of Realty, Harvey Wittmeir
MT/WY GARD, Skip Ladd
Regional Biologist, Wayne King

**NATIONAL BISON RANGE
COMPREHENSIVE CONSERVATION PLAN
SUMMARY FOR WORKING GROUP MEETING
(Tuesday-Thursday, July 21-23, 1998, Leon Community Center)**

Attendees

Dave Wiseman, Project Leader, National Bison Range
Bill West, Assistant Manager, National Bison Range
Ray Washtak, Assistant Manager, Creston (7/21-22)
Lindy Garner, Planning Facilitator, National Bison Range
Pat Jamieson, Outdoor Recreation Planner, National Bison Range
Lynn Clark, Biological Technician, National Bison Range
Shannon Heath, Outdoor Recreation Planner, Helena, MT
Adam Misztal, Planning Coordinator, Denver, CO
Joe Ball, Leader, USGS Cooperative Wildlife Research Unit, Univ. MT (7/21,23)
Dale Becker, Natural Resources Div., Confederated Salish & Kootenai Tribes
Tom McDonald, Wildlands & Rec. Div., Confederated Salish & Kootenai Tribes (7/21-22)
Dennis Clairmont, Range Div., Confederated Salish & Kootenai Tribes (7/23)
John Grant, Biologist, MT Fish, Wildlife, & Parks Dept. (7/23)
Charles Sperry, planning facilitator/consultant, private contractor

Overall

Initially this meeting was designed to develop a set of goals and objectives for each unit of the Complex. Developing only one set was questioned for compliance with NEPA, in that it gives the impression of being pre-decisional, having only one selectable alternative since only one is fully developed, and therefore, not providing a reasonable range of alternatives. In other words, if one alternative is developed further with goals and objectives than other alternatives, then there is only one selectable alternative and the others are "straw" alternatives. Therefore, the process design (see outline below that was developed prior to the meeting) was to take each issue and develop ideas for how it could be resolved (outcomes), cluster the outcomes into rough alternatives, develop a vision for each alternative and then step that down into goals and objectives. That way each alternative is developed equally and all are truly viable. This would be done for each unit.

Process Design

- Develop possible outcomes
- Cluster outcomes into rudimentary alternatives
- Identify the vision for each set of clustered outcomes
- Identify goals to support each alternative vision
- Depolarize the emerging alternatives
- Write objectives

We selected a few major issues to go through this process beginning with the Bison Range. It took the majority of Tuesday and Wednesday to list outcomes for a **few** of the issues, cluster the outcomes, and then develop a vision statement for each cluster/rough alternative. At least an hour on Wednesday morning was used to go back to discussing the process, explaining NEPA

again, why you must look at alternatives, predecisional and biases. This was extremely necessary for the group to understand the process, the necessity of doing it right, and to buy into the process. By 2 pm Wednesday, it was decided by the group to move on to the wetland management district and cover a few of its issues for the rest of Wednesday.

Thursday was slated to cover Ninepipe and Pablo, and three members of the group came explicitly for these refuges. The group decided to work on Ninepipe and a few major issues were covered for possible outcomes. Much discussion occurred regarding how to deal with issues we received in scoping that the public wants dealt with, but the Service does not have primary jurisdiction, rather the Tribes do.

By the end of Thursday it was also clear that trying to develop goals and objectives for every alternative for each of the units would create a paper mountain and require a massive amount of time and effort. The group felt that the details of goals and objectives for each alternative were overkill, but necessary to comply with NEPA if we still developed goals and objectives for the preferred alternative (i.e., draft CCP). Therefore, it was proposed to separate the draft CCP from the Environmental Assessment. The EA would cover management philosophy, get buy in from the public, and then develop a draft CCP with goals and objectives. The draft CCP would still be put out for public review and comments when it was completed.

Immediate Action Plan

Draft a memo to regional office with requested process changes and meeting summary.

Revise schedule and key process steps, after process change approved.

Refuge staff coordinate closely to complete issue outcomes for each unit. Many issues remain to be covered for the Bison Range, wetland management district, and Ninepipe. In addition, Pablo, Swan River, and Lost Trail were not even begun.

Transcribe notes, outcomes, and discussions into computer.

Miscellaneous Notes

Refuge staff have a much better appreciation and understanding of the NEPA process and of the work required to complete this project. The overwhelming nature of the project dealing with five units set in on them, but they have a better appreciation of the necessity and advantage of having a good, defensible CCP.

Tribal personnel provided many good points on tribal perspective, ideas for outcomes, and how to deal with the Tribes to gain input (e.g., suggested Dave go talk to the Tribal culture committees). They were very positive and willing to continue to work with us on the plan. Dale multiple times mentioned the need to continue coordination meetings regarding planning issues (hence probably took the message back) and getting the upper levels of our and their governments together to discuss consultation protocols. Their opening comments were that their directive was to make sure the planning effort reflected the fact that much of the Complex was within the exterior boundaries of the Flathead Reservation.

Meetings with these types of intense discussions should be kept to a maximum of two-days.

He also explained their concern that they did not want to spend time and resources providing input, if their input was going to be diluted by the time the decision was made on the plan, or that they were not consulted during the decision-making process.

- The Tribes view “consultation” as the “decision-makers” talking to each other. They may still not completely understand that the Project Leader sometimes is delegated the authority to make decisions. The Tribes see a two-level process; them providing technical expertise in working groups, as long as when a decision is made that the Service decision-makers discuss the issue (or document) with the Tribes decision-maker prior to making the decision: that would be consultation. Anything less, would not. In other words, if the Regional Director is signing the plan, then the Tribal Chairman should have a chance to discuss the plan with the Regional Director for consultation to have occurred.
- The Tribes view the CCP as being very important with its long-term implications, and that the Tribes should have an opportunity to participate. They view the CCP differently than day-to-day management. Day to day management did not require the higher authorities to decide, and so they did not have a problem of staff working with the Service on day to day issues. But, because of the far reaching nature of the plan, they view it entirely necessary to have the consultation protocol defined and committed to before they can risk long-term time and effort at the technical level for the plan.
- There is a great opportunity here to create a meaningful dialogue with the Tribes on consultation protocol. The Tribes need to feel like they have a commitment of recourse to discuss “higher level” or “red-button” issues between their decision-maker and ours. If we can get this outlined and committed to I think the Tribes will come on board to work with the refuge at the ground level to develop the plan. This will increase the chance of the plan’s political success, as well as have even that much more expertise involved in its development.
- We pointed out that even after working together at the ground level and consultation at the government-to-government level that outcomes may still not be what the Tribes favor (i.e., just because the Tribes want one thing, doesn’t mean that it will come out that way). They seem to understand that. They seem to just want the chance to discuss things with the final “decision-maker.” Brian even said that the Service and the Tribes do not need to agree on everything, as long as their trust responsibilities were protected. This hints that there may need to be discussion between the Regional Director and Tribal Chairman what trust responsibilities are; and how the Service views protection of them compared to how the Tribes view the Service protecting them.

MANAGEMENT HISTORIES AND DATA SUMMARIES

Ninepipe and Pablo Grazing - Already completed by Lindy

Bison Population - (Dave)

Bison Herd management - (Dave)

Should consider splitting this into two histories - the second one covering vegetation trends and monitoring in relation to # of animals and grazing patterns, weeds, weather, etc. (Lynn or Tracy) Also include seeding history - what seeded, where, when, why, results.

Sheep, antelope, goats, elk -(Lynn) Why not deer?

WPA's & Easement program - (Lynn 1st part, Bill- management, vegetation condition etc.)

Also should include types of vegetation management - farming, burning, grazing, and results of each. Also should do for bison range on when purchased, why, changes in focus, additions and removal of acres.

Bird management (each unit) - (Lindy)

Weed management (each unit)- (Bill)

Public Use - (Pat)

Other Histories -

Fire - control burns in past on all units - why and results.

Coordination/cooperation/ agreements/partnerships, MOU's - with tribes and state on entire complex. (Goose flights, banding, elk removal, fire control).- Successes, problems, results.

Research - History and summaries of research efforts and evaluation of usefulness.

Ninepipe history - When purchased, boundaries and changes, Scoonover work and DU work, Cormorants and egret nesting, duck nesting history, eagle nesting, when trees planted, by who, research on NNP, etc. Would include grazing history already completed.

Pablo history - same as above- include history of racetrack, gravel pit, MOUs and meetings over differences, and history of uses.

Lynn 1198.ccp

POSSIBLE OUTCOMES FOR NATIONAL BISON RANGE ISSUES

Brainstormed to rough draft	Need
Weed Mgmt (includes tools)	Elk, deer, sheep, antelope, lion, and goat Population Mgmt (do each separately)
2 separate things ← Bison Habitat Mgmt (grassland mgmt?) (needs tools)	Predator Mgmt (lions as well as coyote control)
Hydrologic Conditions	Grassland Mgmt (tame species versus native palouse prairie)
Ind. ← Springs Riparian Veg. Mgmt	Fencing
Water Level Mgmt (includes tools)	Research (limits and type/why)
Water Quality	T&E Mgmt (priorities for monitoring, habitat mgmt, prsence vs public access...)
Timber Mgmt (needs tools)	Fisheries Mgmt on Jocko and Mission
Bison Population Mgmt	Public Access (trails, roads, paved/gravel)
Bird Habitat Mgmt	Photography Opportunities
Religious & Cultural Uses	Road Standards (gravel, pave, railings, signs)
Wildlife-dependent Recreation (philosophy)	Wildlife-dependent Recreation (specific uses allowed?)
Visitor Numbers	Interpretation
	Education
	Other Special-Uses (horseback, plant collection; equitable distrib.)
	Land Acquisition
	Law Enforcement (intensity)
	Safety and Security (people and wildlife)
	Partnerships
	Visitor Use Facilities (toilets, parking, VC)
	Hunting & Trapping (do separately)

Histories -

Big Game Sps.
 Fire
 Weed Control & Weed Spread
 Grazing - Bison
 Vegetation Trends
 Sharp-tailed Grouse

Forest 1

11/3/98

POSSIBLE OUTCOMES FOR NINEPIPE ISSUES

Brainstormed to rough draft	Need
Grassland management	Fisheries management coordination
Grazing	Wildlife-dep recreation (coordination with Tribes)
Weed management (include tools)	Education
Water level management	Native vegetation
Tree encroachment (no tools)	Wetland vegetation
Predator management	Water quality ? Or (FIP coordination)
Bird habitat management (waterfowl vs other species)	Bird hunting
Gull control	Fisheries access vs bird areas (coordination with Tribes)
T & E (+) management	Ice fishing opportunities
Interpretation	Dog trials
	Trapping
	Boats
	Religious & cultural uses
	Law eforcement
	T & E species presence vs public use (coordination with Tribes)
	Research
	Swimming
	St. Spc of Concern: - Terns - roosting
	Shorebirds /

Fencing

Are the other management possibilities for the Scoonover unit, N of Hwy 212 & west of Dike 80's

3

Any more Du. projects possible
Island Management

11/3/98

POSSIBLE OUTCOMES FOR WETLAND MANAGEMENT DISTRICT ISSUES

Do any of the WPAs need to be singled out?

Brainstormed to rough draft	Need
Grassland vegetation management	Native Vegetation
Weed management with tools	Wetland vegetation
Grazing	Water quality?
Restore hydrologic conditions	Tree/shrub? Encroachment
Water level management	Farming (food plots?)
Predator management	Bird habitat management (waterfowl vs other species)
Land acquisition	Hunting? - Big Game too
Visitor Access (too general? What we did, think issue was more specific to when they could get on WPAs and activities allowed)	T & E
	Access (timing, where, roads, ...?)
	Education
	Interpretation
	Wildlife-dep Recreation
	Dog Trials (Dogs in general)
	Plant collecting
	Religious & Cultural Use
	Law enforcement (enforce regulations)
	Research
	Trapping
	Boats, Horses etc

Grizzly Bears vs Public Use
 Peregrines

Fencing

11/3/98

POSSIBLE OUTCOMES FOR PABLO ISSUES

Brainstormed to rough draft	Need
	Grassland management
	Grazing
	Water level management
	Weed management
	Tree encroachment (no tools)
	Bird habitat management (waterfowl vs other species)
	T & E (+) management <i>SWANS, LOONS</i>
	Interpretation
	Wildlife-dependent recreational uses allowed
	Fisheries management
	Education
	Wetland vegetation management
	Religious & cultural uses
	Law enforcement
	Hunting
	Land acquisition/boundaries
	Research
	<i>Waterfowl & Tern mgmt -</i>
	<i>Washing Platforms</i>

11/3/98

POSSIBLE OUTCOMES FOR SWAN RIVER ISSUES

Brainstormed to rough draft	Need
	Canary Grass
	Vegetation Management
	Wetland Management
	Fishing Access to Spring Creek for pike
	Riparian vegetation management
	Water quality?
	Riparian hydrology?
	Migratory bird management
	Other species management
	T& E (+) species management
	Waterfowl Hunting
	Logging
	Amphibian and reptile management
	Access (roads, road standards)
	Big game hunting
	Land acquisition
	Law enforcement
	Interpretation
	Education
	Facilities (parking)
	Religious & Cultural uses

11/3/98

POSSIBLE OUTCOMES FOR LOST TRAIL ISSUES

Brainstormed to rough draft	Need
	Big game Hunting
	Waterfowl hunting
	Grassland mgmt tools (grazing, haying, farming, burning)
	Grassland management
	Wetland management
	Wildlife Observation
	Education
	Interpretation
	Fishing/Fisheries Management
	Use of buildings? (arena, house for school kids?)
	Religious & cultural use
	T&E (+) management (introductions?)
	Access (areas, auto tours, hiking trails, season, length of season)
	Land acquisition
	Water rights
	Big Game mgmt.
	Waterfowl Management
	Sandhill cranes ? / shorebirds

LYNN

**NATIONAL BISON RANGE COMPLEX
COMPREHENSIVE CONSERVATION PLAN
Refuge Working Group Meeting
(Wednesday, November 4, 1998)**

Attendees

Dave, Lynn, Pat, and Lindy

Agenda

Open files for Tribal Historic Preservation Office staff

Weekly meetings

CCP Priority

Outcomes

Histories/Data summaries

NBR Land Acquisition Map

Other maps

Notes (Action items 'to do' are in bold)

Lindy will call Dave Schwab, THPO, and tell them they might find useful information from the narratives and archaeological/cultural files. Ask them to give a little lead time to make sure we notify front desk they are coming and to get the files out. Files such as personnel are off limits.

Weekly meetings are going to be held as much as possible to help keep everyone on track for reviewing, writing or summarizing information. **Lindy will be scheduling them and getting information to people** prior to the meetings to help remind them. **Everyone else has the responsibility to treat CCP as a priority**, i.e., be at the meetings first, rather than secondary, and take the time to get duties completed.

Lindy handed out a list of outcomes that have been brainstormed from the July meeting and the raw data outcomes transcribed. The transcribed outcomes are to be reviewed to get everyone back on track with what we are doing and to gear us up for starting to brainstorm outcomes for the remaining issues. **Everyone needs to look over the transcribed outcomes for comments and whether they have any alternative outcomes to add.** DO NOT waste time "editing" transcribed outcomes at this point. **The issues list should be reviewed to determine, or everyone to make comments on, whether there are other issues we need to cover, or notes about whether a particular issue needs to be split into separate components...**, i.e., whatever comes to mind while looking through them.

Lindy will be rewriting the transcribed outcomes into statements. Then they will be passed around for review and at that time people need to read them for content and to make sure the idea behind the outcome is accurately represented by the way she rewrote them.

Data summaries list that Lynn and Lindy made has pretty much been done by Lynn and Tracy, and Pat did her part. There are still a few things Bill needs to address, but some of that information works into the management histories that Lindy brought up. The management histories are data/information gathering exercises to help us understand the issues better, and provide information for a short summary in the plan, information for the effects analysis, and information for step-down plans possibly. Lindy did one for the grazing on NNP and Pablo and the research and initial summary took 5 days. She envisions doing these for the hot button issues and where information is needed for documentation in the plan. Lindy can't complete all the histories with the time needed rewriting all the outcomes, so refuge staff may have to do a couple. Lindy questioned whether any money was available through refuge or planning office to hire Tracy or Tana to complete a couple. **Administration constraints will be discussed with Joan and planning office approached for money by Lindy. Then a list of histories and their components will be developed by Lindy and given to everyone prior to the next meeting for discussion. So everyone must look over the histories and determine if there are any other histories or components we should add.**

Dave and Lynn (and Bill?) are going to work on boundary maps for NBR. **Dave will give Lindy, by November 24, a corrected boundary map (take off ravalli hill corners, and add Roark and 29-acre property) and a proposed boundary map (fee title wish list) that are marked correctly on the large maps developed by Jaymee and estimated acreage added to NBR. Lindy will get them to Jaymee for correction and reproduction, and forward to Gary.**

Pat and Dave requested Lindy to find out from Jaymee about developing a brochure/field guide map of the wetland management district, other FWS properties, and state protected lands. They envision a fold-out with regulations and two maps with the north half and south half separated. **Lindy will talk to Jaymee about the WMD brochure maps in Denver, Nov. 9.**

The next three working meetings were scheduled:

Thursday, Nov. 12, 9:00 am

Tuesday, Nov. 24, 1:30 pm

Monday, Dec. 7, 1:30 pm

Please make sure these dates and times are on your calendar.

These meetings will be held in the trailer.

MANAGEMENT HISTORIES AND DATA SUMMARIES

These are a few of the ones Lindy was thinking. If you think of any others or additional components, just add them to the list and bring them to the meeting on Nov. 12. Lynn you can just leave your comments on my desk.

Ninepipe and Pablo Grazing

Lindy -when started, year MOAs signed, when modified, why, condition of units, MOA requirements, compliance...

Bison population

Dave -numbers started with, where came from, additions of how many & when, how target numbers changed over years and why, brucellosis story...

Bison Herd management

Dave -when go to one herd or two and why change, when and why fences, results of change in herds, results of fences, condition of pastures through years with different grazing mgmt with bison herd...

* Sheep, antelope, goats, elk

Lynn -each one separately, year brought in, how many, why, where from, additions what years and why, results, age and sex ratios managed for, how have they changed over the years, why, results...

1/2 * WPAs & easement program

Lynn -year bought, why, how big, what it's been managed for, what has been done on it and why, results of management, vegetation condition when bought, what happened to veg over years, current veg.

Types of Veg. Management - Farming, burning, grazing
Results

* Bird management (each unit)

Lindy -what manage for, what type of trends have been seen, presence and absence of certain species changed over the years?, what is done for bird habitat, results...

Weed management (each unit)

Bill -when which species showed up, how spread, why, control efforts in the past were what, how much treated, how much cost, present condition, why, how control, where control, what it costs, results of different types of effort pertinent to specific places or units

Public use

Pat -what's been provided for visitors, numbers, when things changed and why, year specific events?, how public use has been managed in the past and present...

The initial 'summaries' should be information rich, with specific years and numbers checked in the narratives or files, or some other documentation. I'm trying to avoid the "I believe it was..." and get to documentation of correct information. Some of these have been done to some extent in past plans, but there may be gaps that need to be filled in or checked for accuracy and then updated to 98.

Other Histories - Fire (Control Burns in PAST on all units - why & Results)

Coordination / Cooperation / Agreements / partnerships w/ Tribes, State

lng/hstrlist.wpd

Etc. on Complex

ic. Goose flights

Banding

Elk Removal

Fire Control

→ Split this into two histories

- Vegetation - Trends & monitoring in Relation to # Animals Grazing
Patterns, Weeds, Weather, etc

FW-5000398

**NATIONAL BISON RANGE COMPLEX
COMPREHENSIVE CONSERVATION PLAN
Refuge Working Group Meeting
(Thursday, November 12, 1998, 9 - 11am)**

Attendees

Dave, Pat, Bill, and Lindy

Agenda

Outcomes and Issues

Histories/Data summaries

Maps

Notes (Action items 'to do' are in bold)

Lindy will call Dave Schwab today. She did and he was out of the office; left a message for him to phone back.

Lindy asked for everyone's notes or comments on the transcribed comments and issues lists. Dave and Pat had some comments. Discussed the potential problem of how to deal with wildlife-dependent recreational uses on Ninepipe and Pablo when we have no jurisdiction over whether to allow them. We have the authority to say they can be allowed if they are not inconsistent with the purpose of the easement, but that is all. We can't instigate a use without Tribal agreement. **Lindy will talk to Land Acquisition and Planning Branch staff about how to handle this in the plan.**

Adam - just call if proposed at the have to work w/ tr: LP

Dave pointed out that we want to make sure we address everything we might want to do on any of the units because of the new compatibility chapter coming out. The new compatibility policy will require compatibility determinations even on management actions with public comment. If an issue or management action is not covered in the plan it will have to have a determination done separately, hence more attention would be drawn to it.

Lindy brought up the issue of access for snowmobilers on Lost Trail. Dave was sure the legal document concerning the access to and from PlumCreek lands was non-motorized, except for administrative purposes or Plum Creek transporting wood products. **Lindy will ask John whether he has a copy of this legal document once FWS obtains title to the land.**

For brainstorming alternative outcomes, Dave and Lindy are concerned about whether we should not be spending so much time on alternative outcomes for every specific issue, or more on the bigger topics (e.g., habitat management) and actually brainstorm alternative desired future conditions. It was decided the **working group will try to brainstorm the bigger topics** and see how it goes. **Lindy will still rewrite the outcomes into statements.** Then an **outcome matrix will be drafted by Lindy** for the outcome of each specific issue among the alternatives. For example, we would brainstorm a few different ways we think the desired future condition should

be on Ninepipe for migratory bird management and habitat management. Then the matrix would demonstrate under which alternative (i.e., desired future condition) grazing would be used or not, and whether gull control would be done or not. **The working group will review and discuss the matrix.** Then **Lindy will draft an effects matrix and the working group will review and discuss.** Once it is decided how the effects should be in the matrix, with **comments and reasoning provided by the working group, Lindy will draft a text summary of the effects matrix for review and discussion by the working group.**

Bill and Dave had concerns about having enough 'data' to provide reasoning for actions. This centered on the draft compatibility chapter example saying that grazing during the nesting season where you are trying to produce ground-nesting birds is considered incompatible. The discussion centered around the importance of providing reasoning and logic behind management actions. Hopefully information on why management actions are being done would help inform the public to decrease their apprehension of why something is being done, regardless of whether we can say yet whether the management action is working.

This lead into discussion on management histories and data summaries. Lindy again pointed out that 'data' can mean information not just summarized numbers. It was discussed how these can provide information to improve future management, provide reasoning and data for the effects analysis, and provide historical information that may help in forming objectives. Now is the time to take the opportunity to review some management history, put it on paper, postulate why we think we see results and determine whether any changes need to be made in management. Lindy can use these summaries for text fodder throughout the plan. It was decided to try these first ones and see how they go. **The following assignments were made with summaries to Lindy by February 1.**

Bison Population and Bison Herd Management - **Dave**

Sheep, antelope, goats, elk, deer - **Lynn**

WPA's and easement program (include Flathead County WPAs) - **Bill** (Lynn help pull out narrative information)

Weed management - **Bill**

Public use (all units) - **Pat**

Fire (pull out information from narratives when looking at grazing, farming... on WPAs) - **Bill** (Lynn help)

Lindy reported back to Pat and Dave about discussion with Jaymee on the brochure map with WPA boundaries. Jaymee said Harvey would not allow a map published with WPA boundaries unless they were official boundaries. There is question whether official boundaries means we have to have them actually surveyed or whether someone could go out with a GPS unit and get the corners for a database, get HAPET to process, and give to Jaymee to put into GIS. These would still not be "official"? **Lindy suggested Dave talk to Harvey about "official" boundaries and whether someone with a GPS unit could just do it rather than a surveyor.** Dave wanted Jaymee to produce the map because she already has all the other GIS data layers that would be useful like roads and state lands denoted. **Pat will contact Melvie about maps.**

Lynn got a good draft of the NBR map showing the existing boundary and proposed acquisition boundary. Dave put the ok on it and **Lynn just needs to modify the road and take off the eastern Bailey section. Lynn needs to tell Lindy whether the map in the ccp should denote the tribal fee and allotments as a different color as they are on the big map.**

Discussion on the display pasture legislation for NBR. Dave and Bill wanted to know what year and whether it denoted a particular area of land. **Lindy will try to find it and review for content (72 Stat.561 Aug. 12, 1958)**

Next working meetings:

Tuesday, Nov. 24, 1:30pm

Monday, Dec. 7, 1:30pm

Please make sure these dates and times are on your calendar. These meetings will be held in the trailer.

**NATIONAL BISON RANGE COMPLEX
COMPREHENSIVE CONSERVATION PLAN
Refuge Working Group Meeting
(Tuesday, November 24, 1998, 1:30 - 3:30pm)**

Attendees

Dave, Bill, Lynn, Lindy

Agenda

Other comments on issues or transcribed outcomes?
Lost Trail - signature date and access legal document
Further discussion or questions on histories?
WPA boundaries with GPS unit?
Realty Specialist request to research Pablo and Swan?
Finalize acquisition map
Tribal working relationship update-Dave?
Workshops and meetings

Notes (action items are in bold)

Lost Trail - Dave also thinks the EA will be signed by the end of the year, so Lindy should be able to file the NOI for the CCP in January; Dave spoke with Bruce Bugbee and Bruce is supposed to get Dave a copy of the access legal document; **Lindy is going to talk to John about the need for a land survey and realty pay for it**

Lindy asked whether there was a need for another scoping meeting for Lost Trail CCP. The last scoping meeting was a year ago and dealt more with the acquisition. Yet, Dave feels that since the conceptual management plan is the basis for the ccp, and we don't anticipate a major change in direction that there may be no need for further scoping. **Lindy will send out an email note asking Maury, Carol, and Harvey whether they agree.**

Maps - **Dave and Bill are going to ask the Tribes again whether they have GIS data for our boundaries in Arc Info format during the next coordination meeting;** if not, Lindy will talk to Jaymee about talking to Diane Adams with NRCS to see if they have the data--Dean and Bill seem to think so; if these don't work, then Dave will email Harvey about the need for GPS data on our boundaries to put into GIS, Arc Info; **Lindy is supposed to ask Jaymee why doesn't the land legal description with the quadrangle not work.**

Pablo & Swan boundaries - **Lindy will draft a letter to Betty for Dave to sign requesting a realty specialist to research payment history and boundaries;** both have pieces that were potentially paid for and then resold

NBR acquisition map - Lynn, Dave and Bill have narrowed the proposed acquisition tracts. The trails and fences can be removed from this map. **Dave will arrange to discuss proposed acquisition boundary with the Tribes at a coordination meeting.** He will ask the Tribes for their input emphasizing the Service is not actively pursuing fee title, but procedure require drawing a line around tracts we're interested in. Then if a willing seller comes forth, the Service has the option to purchase. The proposed acquisition boundary was developed with the resource in mind first, ownership was not considered, therefore some tracts are tribal, hence the need for discussion with the Tribe.

NBR can go up to 20,400 acres from congressional appropriations. Dave is also interested in the possibility of the extra 10% (2400 ac) that can be acquired from willing sellers without a Preliminary Project Proposal. **Lindy will ask LARP whether we will have met the needs of a Decision Document to purchase the extra 10% without the PPP since we have a map, public involvement will occur with the EA, and the CCP is step further than a conceptual management plan.**

Tribal Relationship

Coordination meetings are still working out. **At the next coordination meeting Dave will bring up the possibility of a January workshop for Pablo alternative outcomes and see if the Tribe is interested in participating again.** Lindy urged to try to keep the Tribe involved with workshops and such rather than just giving them a draft for comment. They have been disgruntled with that method in the past.

Outcomes

Prior to the meeting Lindy condensed the issues that we had planned to write outcomes for from 32 to 19 (attached list). The plan for this meeting had been to have time to get into brainstorming some outcomes for NBR. By the time the above business items were done, there was no time left. We discussed the nature of alternatives again and what they should read like. It was decided by the group to have **each person work on one or two and see what they come up with. Lindy will provide an example, some guidelines (there are no right answers!) and assign the topics from the attached list. Lindy will try to work on more of them, as well as start formally putting together the background sections for the EAs.** Everyone was reminded that we were trying to get the EAs to RO by summer and that Lindy needed help in creating alternatives.

Next working meetings:

The December 7 meeting has been changed. The next two meetings will be used to work on alternatives. Please come with ideas already written or at last ready to CREATE!!

Thursday, December 3, 1:30pm

Tuesday, December 15, 1:30pm

Please make sure these dates and times are on your calendar.

NBR Alternatives to Desired Future Conditions (bullets are those worked on 7/21/98)

What different desired future condition could result from differences in

What different types of end results could we work toward with differences in...

- Grassland Management
- Riparian Vegetation Management
- Timber Management
- Weed Management (matrix would show which tools go with alternatives)
- Bison Population Management (matrix would show how target populations, number of herds, sex and age ratios would differ under the alternatives)
- Bison Habitat Management (matrix would show how fencing varies under the alternatives)
- Big Game Population Management (elk, deer, sheep, antelope, lion, goat, black bear)
- Bird Habitat Management
- Fisheries Management
- Predator Management
- T&E Management
- Water Management (matrix show differences in hydrologic actions taken)
- Research
- Religious and Cultural Use
- Wildlife-dependent Recreation (specific uses)
- Visitor Use/Experience (outcome matrix for this one would include how different road standards, types of trails allowed for access, what facilities different for the alternatives?)
- Interpretation
- Education
- Land Acquisition

Writing alternatives

We need to provide 3-5 viable alternatives for each topic listed on the previous page. For example, if working on grassland management, ask yourself what are some different results/outcomes of grassland management? Why would a particular interest group use grassland management, what would they be doing grassland management for? Think about the different interest groups in the area and why they would want us to do grassland management (e.g., rural, farming/ranching, tribe, conservationist, environmentalist, birders...).

Dave - bison population management, and bison habitat management (from a big picture these encompass population targets, age/sex ratios and allowing to roam or fences)

Bill - land acquisition and predator management (from a big picture these encompass fee title/easement, tribal/private and no predators versus keeping certain ones in check)

Lynn - bird habitat management and big game population management (from a big picture these encompass providing nesting habitat for particular species or differences in managing for different habitats and trying to maintain all herds versus just those "native" to this area/habitat)

Don't forget to define the no action alternative which is current management. This may require you to talk to Dave prior to the next meeting(?). Also if you notice that to understand a particular alternative you have to define some words or it only applies if you assume something, make sure you write these down also. Lindy will desparately need those in refining the alternative statements and summarizing the alternatives.

See what you come up with and then we'll work on them and other topics during the next meeting. Below is the grassland management one we came up with this summer. If you have comments or changes to the example go ahead and make them.

What alternative outcomes are there for differences in grassland management on the National Bison Range?

- *a. Native vegetation in proper proportions to support the purpose of the refuge
- b. Vegetation in proportions that will maximize bison carrying capacity.
- c. Healthy native palouse prairie , with bison capacity secondary.
- d. Accept native palouse prairie outcome that derives from bison and other wildlife/habitat management.
- e. Let natural processes rule

Notes: * means current management, 'proper proportions' in current management = healthy palouse prairie. For c. It is not acceptable to get to the degree of no bison or very few. Not sure what e means in terms of grassland management, maybe more of no management. We also need to define what grassland management is, don't we?, and then the alternatives need to provide the "why" or "end result" of our grassland management?

Private
Planning Consultant

Author: Chuck Sperry <csperry@marsweb.com> at ~internet
Date: 12/1/98 6:04 PM
Priority: Normal
TO: R6RW_NBR at 6DE-MAIN
Subject: Re: shoot for the moon alternatives

Dave
Bill
Lynn
Pat

Hi Lindy,

EIS - after
our discussion at
last cc working
mtg.

Nice to hear from you. I have thought of you a number of times and wondered how things were coming along. As for "moon" alternatives, I don't have a definitive answer but can offer a few thoughts.

First, I think the best way may be to trust that the effects assessment will reveal the relative practicality of any alternative. Presumably, the far-out alternatives will not even come close to meeting your decision maker's selection criteria. If the effects and the criteria are well documented, then you have probably done a good job.

Second, part of the idea of NEPA is to give a "reasonable range of alternatives" fair consideration, even if the agency does not think some of them are selectable. The EA/EIS gives members of the public a chance to see your reasoning and decide for themselves whether, in their view, it really is a "shoot-for-the-moon" alternative or one that they believe should be seriously considered. I like to think of effects assessment of the selected alternative as a kind of "contract" under which you agree to implement a particular management program providing you receive the funding and other resources indicated in the effects assessment. If you get only 50% of the resources, then you can only implement 50% of the program. I know the accounting isn't quite that simple but I do think that carefully specifying the requirements of an alternative may be your best defense against being asked to shoot for the moon when you have neither a rocket nor an astronaut to drive it.

So put forth the "moon" alternative but say in effects assessment that w/ "normal" or "current" budget we would only be able to implement at some lesser level.

Third, I suggest you try to keep the range of alternatives relatively small (3 to 6?) but be sure you have every major perspective fairly represented in at least one alternative. Keeping the number small makes it easier to do a good job of effects analysis.

Good luck. Let me know how you decide to handle this problem.

Chuck

At 08:59 AM 11/25/98 -0700, you wrote:

>
> Hi Chuck and happy thanksgiving
> I wanted to pick your brain for a minute. I don't know how to handle
> these "shoot for the moon" alternatives. What I mean is that, these
> are alternatives that would be possible if we could throw all and more
> of our resources towards them to get them done, so theoretically they
> are a viable alternative. However, in reality we know that we'll
> never be able, or never will do that, so it is not really a viable
> alternative. Do we still include them?? They do show a nice
> spectrum, but I would rather have "real world" alternatives even
> though they may be within a more narrow spectrum.
> Any words of wisdom, caution, or hints?
> No hurry on this, we're are still embroiled in trying to come up with
> a lot of the outcomes.
> Sincerely,
> Lindy Garner

MOLE EXAMPLE

TABLE SUM-1. Alternative responses to the issues.

ISSUES	ALT 1 (No action)	ALT 2	ALT 3	ALT 4	ALT 5
<p>1. What would be FWP's overall policy on managing access?</p>	<p>Focus access activities on obtaining desired individual big game species population levels and harvest distributions. Priorities would depend on hunting opportunities and landowner concerns.</p> <p>Encourage good landowner-sportsman relationships through a combination of enforcement, and access-related I&E efforts.</p> <p>Maintain roads on FWP land (WMAs) as budgets allow to sustain or improve existing access.</p>	<p>Focus access activities on obtaining desired individual big game species population levels and harvest distributions. Overall priority would be low and driven by game damage and/or landowner initiated agreements.</p> <p>Direct enforcement and I&E efforts at reducing adverse effects of existing access on habitats and wildlife such as concentrated recreational use.</p> <p>Maintain roads on WMAs as budgets allow, to maintain access--a low budget priority might require some road closures.</p>	<p>Focus access programs on maintaining habitat integrity with emphasis on sensitive species and habitats. Priority of the overall access program would be high.</p> <p>Increase reliance on cooperative agreements and MOUs with private and public landowners and other groups.</p> <p>Expand access-related enforcement and I&E programs to emphasize protection of land and wildlife resources.</p> <p>Focus on wildlife and habitat protection needs in maintaining and repairing roads on FWP land.</p> <p>Develop a funding source for nonhunting access.</p>	<p>Focus access management on reducing conflicts on public land that could result if market conditions further restrict public use of private land. Overall access would continue to carry a high priority.</p> <p>Direct access programs to increase hunter access on private land and reduce hunting pressure on public land.</p> <p>Encourage public access on private land through cooperative agreements and incentives but recognize that this effort alone will not meet all user needs.</p> <p>Increase enforcement of wildlife laws on public land and on private land under FWP cooperative agreements.</p> <p>Apply I&E effort to emphasize the role of access management in resource protection.</p> <p>Emphasize wildlife and habitat protection needs in determining the base level of road maintenance and repair on FWP land.</p> <p>Amend the law allocating nonresident big game combination (B-10) licenses to guarantee applicants wishing to hunt with a resident landowner sponsor a license sold on a market-based pricing system.</p>	<p>Focus access programs on expanded recreational opportunity to meet the needs of many user groups. Overall access program would carry a very high priority.</p> <p>Increase I&E emphasis on identifying the full range of opportunities, dispersing users and creating awareness of impacts of outdoor recreation on wildlife and habitats.</p> <p>Increase enforcement effort to address specialized regulations, such as those restricting weapon types and user groups, and reduce conflicts between user groups.</p> <p>Increase maintenance and repair on FWP land to improve accessibility for a variety of uses.</p>

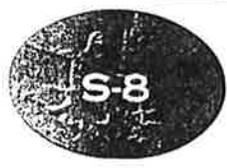


TABLE SUM-1. Alternative responses to the issues. (continued)

ISSUES	ALT 1 (No action)	ALT 2	ALT 3	ALT 4	ALT 5
RECREATION OPPORTUNITY					
11. How would FWP continue to provide resident hunter opportunity in the face of nonresident hunting pressures and antihunting sentiments?	<p>Continue to restrict numbers of combination licenses sold to nonresident hunters and charge nonresidents higher license fees than resident hunters pay.</p> <p>Expand I&E efforts and programs to emphasize Montana's hunting heritage, hunter ethics, and the role of hunting in wildlife management.</p>	<p>Continue to restrict numbers of combination licenses sold to nonresident hunters and charge nonresidents higher license fees than resident hunters pay.</p>	<p>Regulate distribution of nonresident hunters through quotas by administrative region, ecosystem, or other allocative scheme.</p>	<p>Ask legislature to lift limit on numbers of nonresident combination (B-10 and B-11) licenses and set market price to ensure numbers sold would approximate a number set by the Commission.</p> <p>Use cooperative agreements with other agencies, schools, conservation and sportsmen groups, and private sector contracts to support I&E efforts directed at expanding opportunities for resident hunters and explaining the role of hunting in wildlife management.</p>	<p>Continue to restrict numbers of combination licenses sold to nonresident hunters and charge nonresidents higher license fees than resident hunters pay.</p> <p>Expand I&E efforts and programs to emphasize Montana's hunting heritage, hunter ethics, and the role of hunting in wildlife management.</p> <p>Expand efforts to create awareness of nonresident nonhunting opportunities, and the role of nonresident hunters in wildlife conservation in Montana.</p>
SPECIES AND HABITAT MANAGEMENT					
12. What would be FWP's policy on wildlife introductions?	<p>Capture and release wild animals to establish new wild populations, or augment existing ones.</p> <p>Work through I&E to emphasize successes of past capture and release efforts (e.g., turkeys and bighorn sheep).</p>	<p>Rely solely on natural dispersal to augment or establish populations.</p> <p>Limit capture and translocation to nuisance animals.</p>	<p>Develop a consistent statewide policy for wildlife species introductions that emphasizes conservation of biodiversity. FWP would continue to consider the impacts of these actions including the potential for game damage.</p> <p>Expand the program to include reestablishing nongame and T&E species and develop a specific funding source.</p> <p>Expand I&E efforts to gain public acceptance of restoring wildlife to historically occupied ranges.</p>	<p>Develop a consistent statewide policy for wildlife species introductions to establish new populations or augment existing populations on public land. FWP would continue to consider the impacts of these actions including the potential for game damage.</p> <p>Limit introductions to big game or other harvestable species.</p> <p>Direct I&E efforts at protection and enjoyment of new or augmented populations.</p>	<p>Develop a consistent statewide policy for wildlife species introductions directed at expanding recreational opportunity. FWP would continue to consider the impacts of these actions including the potential for game damage.</p> <p>Expand the program to include reestablishing nongame and T&E species and develop a specific funding source.</p> <p>Direct I&E efforts at providing public information about expanded recreational opportunities resulting from new populations.</p>

TABLE SUM-1. Alternative responses to the issues. (continued)

ALT 5

ALT 4

ALT 3

ALT 2

ALT 1 (No action)

SPECIES AND HABITAT MANAGEMENT

ISSUES	ALT 1 (No action)	ALT 2	ALT 3	ALT 4	ALT 5
20. How would FWP address the spread of noxious weeds?	Control weeds on FWP land at a level consistent with state law (7-22-21-1, MCA). Provide landowner incentive payments through HEP to control weeds at the landowner's discretion.	Control weeds on FWP land at a level consistent with state law (7-22-21-1, MCA). Provide landowner incentive payments through HEP to control weeds at the landowner's discretion.	Control weeds on FWP land at a level consistent with state law (7-22-21-1, MCA). Increase emphasis on biological control and assistance to landowners that consider wildlife habitat. Provide landowner incentive payments through HEP to control weeds at the landowner's discretion. Incorporate weed control programs in easements and leases. Increase development and dissemination of information about weed control and habitat management through I&E programs. Enter into cooperative agreements with weed control districts to affect areas outside and adjacent to FWP land.	Control weeds on FWP land at a level consistent with state law (7-22-21-1, MCA). Provide landowner incentive payments through HEP to control weeds at the landowner's discretion. Increase reliance on cooperative agreements for weed control with public land managers. Increase cooperative agreements with extension service for research and dissemination of information about weed control.	Control weeds on FWP land at a level consistent with state law (7-22-21-1, MCA). Provide landowner incentive payments through HEP to control weeds at the landowner's discretion. Increase I&E efforts directed at recreationists under this alternative to prevent the spread of weeds.
21. How would FWP manage urban wildlife issues?	Comment on new subdivisions as required by law. Reduce human/wildlife conflicts on the "urban interface" through I&E efforts, such as handout brochures "Living with Grizzlies" and "Living with Lions". Rely on FWP personnel to manage urban wildlife problems as part of their routine workload with priority on human safety.	Provide comment on new subdivisions as required by law. Limit involvement in nuisance wildlife management to protecting public safety.	Expand FWP involvement in land use planning and take a more active role in influencing local, state and federal decisions. Expand I&E efforts to reduce human/wildlife conflicts on the "urban interface." Rely on its personnel to manage urban wildlife with emphasis on habitat quality, education, and public involvement.	Comment on new subdivisions as required by law. Expand reliance on other entitlements to reduce urban wildlife conflicts.	Expand involvement in land use planning to ensure opportunities for wildlife viewing. Expand I&E efforts to reduce human/wildlife conflicts on the "urban interface." Encourage the legislature to create urban wildlife control districts to provide funding for FWP involvement in urban wildlife services. Homeowners in rural subdivisions would be assessed a tax on their property to fund FWP services that currently are funded by general fishing and hunting license revenue.

**NATIONAL BISON RANGE COMPLEX
COMPREHENSIVE CONSERVATION PLAN
Refuge Working Group Meeting
(Thursday, December 3, 1998, 1:30 - 3:30pm)**

Attendees

Dave, Lynn, Lindy

Agenda

Update on past action items

Alternatives

Maps

Notes (action items are in bold)

Lost Trail - Dave spoke with John, and it may not all be surveyed. After Decision document is signed, and we know how much of boundary needs to be fenced then we'll send Harvey a map and request for a survey.

Tribe called John on 12/2/98 wanting to still comment even though the extended deadline was Nov. 30. They can comment as long as it gets in before the Regional Director signs the decision document.

NBR land acquisition - map with a proposed acquisition boundary is draft, and for internal use only. It is for working use just between now and EA/ccp. **Lynn will get Gary a copy.** Dave will try to work with Tribe to come up with alternative proposed acquisition boundaries.

Alternatives

We went over the examples each of us tried to come up with. They all sounded fine for something to work from. **Dave and Lynn will get Lindy computer copies of them before they leave for their trips.** They are to include any thoughts, definitions, or assumptions that are necessary for full understanding of the alternative and/or how the alternative might affect other issues. **Lindy will edit and organize them for the EA.**

Maps - We decided the 'wetlands' maps will be used for our 'base' maps in the EA/CCP. There will be a 'facilities map' and some type of 'habitat' map with the fences and grazing units on Pablo and Ninepipe. The habitat and facilities map could be put on what jaymee has called the 'base' map now, with only open water. Two boundaries will also be put on the base map; authorized boundary and existing boundary. **Have to fix Lost trail from project boundary to authorized boundary, for consistency.**

Ninepipe Facilities map - BOR camp, our trailer pad site, state trail and info site, our kiosk site on hwy, dam, water control structures, parking area on north side, west side trail(s)
Pablo Facilities map - DU units dikes (and on base map), other trails, water control structures, three gate/entrance areas, racetrack, riprap piles, and gravel pit
Swan Facilities - will include the different ownership rather than putting on base map since the wetlands designation is so extensive, wildlife viewing platform and parking area

Lost Trail map - Lindy needs to tell Jaymee that the southeast section 32, part has been surveyed and the boundary connects the two pieces that she has separate
Lindy needs to talk to Jaymee to find out if she has the facilities data or if we need to draw them in?

Next working meeting:

The December 15 meeting has been moved back one day and it will be used to work on alternatives. Please come with ideas already written and ready to CREATE!!

Wednesday, December 16, 1:30pm

Please make sure this date and time is on your calendar.

12/17/98

Dave, Bill, Pat, and Lynn

DRAFT

POSSIBLE OUTCOMES FOR NATIONAL BISON RANGE ISSUES

The following possible outcomes are rewritten statements from the brainstorming efforts of the Planning Team during the July 21-23, 1998 meeting and Lindy and Lynn recently. These are still in draft form and can be modified, deleted or added to any extent.

With each issue, first think of whether there is another way the issue could be dealt with that is reasonable and viable. If so, add it! Then ask the question, "Do we have at least one outcome yet that is palatable to each group that has an interest in this issue?"

We do not necessarily need the same number of outcomes for each issue at this point, because that can lead to a sort of scale where one alternative matches each major interest group. That would then lead to a battle between the private property alternative, the environment-lover alternative, the FWS alternative, and so forth.

Place a star beside the one which defines current management best, or provide alternate or additional language. If you disagree or do not like the wording on any of the alternatives, notes, or clarifications please provide alternate language or add points that you think I missed! If you think I have lumped two issues together when they should be separate, or vice versa, please provide alternate language.

Remember, we are now getting to wording and notes that will be used and discussed in the EA. If as you read these, you think of how to carry out an alternative or how specific things would be affected by an alternative, PLEASE jot down your thoughts and ideas.

Light reading
for holidays!

National Bison Range draft alternatives cont.

Weed Management

Weed is an invasive non-native species

Weeds present on NBR = dalmatian toadflax, goatweed/St. Johnswort, sulfur cinquefoil, spotted knapweed, Canada thistle, musk thistle, houndstongue, cheatgrass (ICBEMP), kentucky bluegrass *Bull thistle*

Most detrimental according to our criteria = dalmatian toadflax, goatweed, knapweed
detrimental because presently extensive and disperse rapidly, low to no forage value

More benign = thistles, houndstongue, cheatgrass, kentucky bluegrass

Noxious Weeds of Montana (County Noxious Weed Control Act, State of Montana, Dept. Ag., Helena, MT) State law requires ...

Category 1 Criteria = currently established and generally widespread; capable of rapid spread and render land unfit or greatly limit beneficial uses. Mgmt. = awareness, education, containment and suppression of existing infestations, prevention of new infestations

Canada thistle (*Cirsium arvense*), Russian knapweed (*Centaurea repens*), Spotted knapweed (*Centaurea maculosa*), Diffuse knapweed (*Centaurea diffusa*), Dalmatian toadflax (*Linaria dalmatica*), Field bindweed (*Convolvulus arvensis*), St. Johnswort (*Hypericum perforatum*), Sulfur cinquefoil (*Potentilla recta*), Whitetop or Hoary cress (*Cardaria draba*), Leafy spurge (*Euphorbia esula*)

Category 2 Criteria = recently introduced or are rapidly spreading from current infestation sites; capable of rapid spread and invasion, render land unfit for beneficial uses. Mgmt = awareness, education, monitoring and containment of known infestation, eradicate where possible.

Purple loosestrife (*Lythrum salicaria*), Dyers woad (*Isatis tinctoria*)

Category 3 Criteria = have not been detected or found only in small, scattered, localized infestations; capable of rapid spread, render land unfit for beneficial uses. Mgmt = awareness, education, early detection, immediate action to eradicate infestations

Yellow starthistle (*Centaurea solstitialis*), Common crupina (*Crupina vulgaris*), Rush skeletonweed (*Chondrilla juncea*)

1) What alternative outcomes could result from weed management on the Range?

Become weed-free at all costs.

Reduce spread and dispersal of those species most detrimental (*i.e.*, keep them in check) and produce a decline of those more benign.

Treat all species of weeds, with no priority.

Become weed-free a pasture at a time.

Reduce spread and dispersal in areas of greatest availability to disperse into neighboring lands (*based on prevailing winds, extent of weed invasion in boundary areas, extent of weeds on neighboring land*).

Control at a level consistent with state law

Ing/nbrotem1.rwr/1298

Tolerant of close
grazing & trampling

Kentucky Bluegrass - good for livestock & wildlife in early Spring when few other plants are growing. Undesirable in hay meadows because of low growth form, poor palatability & early maturity. Little forage during hot dry summers.

FWS-000413

National Bison Range draft alternatives cont.

Control at a level at which natural conditions can control without management intervention (*Is this really possible with exotic species, can we talk natural conditions with exotic species??, can native bunchgrasses outcompete exotics??*)

2) How will the Service implement weed management?

Use all available methods, including chemical, biological control, mowing, pulling, grazing, and fire.

Chemical and biocontrol still primary, yet reduce grazing pressure in areas of no/minimal weed problems to allow natives to persist, and intensify grazing pressure in areas of weeds (*Based on the assumption that grazing reduces cover of the native perennial grasses (idaho fescue and bluebunch wheatgrass) allowing invasion of exotics, bluegrass, and cheatgrass; and elimination or reduction of grazing will not restore the native perennial grasses[Grossman, et. al. 1994]*)

Increase emphasis on biological control, with chemical secondary to get weed to level at which biocontrol can maintain.

Increase emphasis, and resources, on chemical control, other methods secondary

No chemical, all other methods used.

National Bison Range draft alternatives cont.

T&E and Species of Special Concern Management

1) What alternative outcomes result from management of T&E and species of special concern on the Range?

Species of special concern = state listed species, species of FWS management concern, and species of PIF management concern

Habitat and protection increased and maintained as a priority for T&E, and species of special concern.

Activity limited to meeting requirements of the ESA (*no taking or affecting critical habitat?*)

Habitat maintained with minimal management for state and federally listed species.

Habitat restored and increased for selected species.

All T&E management deferred to Tribes. - on the BR?

Expanded efforts to prevent listing of additional species (*by providing habitat of species of special concern-this is a how*).

↳ Under Wetland Management district

Expanded efforts to help delist T&E species (*by emphasizing wildlife habitat programs on private land-this is a how*).

Aren't these
the same



Are we lumping - Plants + Animals together?

National Bison Range draft alternatives cont.

Grassland Management

1) What alternative outcomes result from the Range grassland management program?

A grassland composed primarily of native palouse prairie plant species, while allowing the presence of other native species, that are not components of palouse prairie, but provide forage value for bison. *(Assumes we have knowledge of grazing effects on palouse prairie and try to mitigate for them to some extent to conserve palouse prairie, while still providing for bison grazing; or we are assuming that grazing at current levels, for the most part, does not harm palouse prairie)*

✂ Vegetation in proportions that provides the maximum forage value for bison *(no concern with palouse prairie components unless they provide forage value).*

Restoration and maintenance of a healthy native palouse prairie plant community. *(Acknowledges that grazing may have an effect on palouse prairie species and that everything necessary will be done to improve and minimize harmful effect to prairie)*

✂ A grassland that occurs naturally (with exception of exotic weeds) from current bison grazing levels and other management activities. *(Assumes that whatever comes up after grazing or other mgmt activities is ok, with the exception of exotic weeds;)*

Reduce areas of non-native species and restore and maintain native perennial species *(doesn't have to be palouse, just native) (Assumes grazing or management activities are having an effect of increasing non-native species)*

~~National Bison Range draft alternatives cont.~~

OK

Foremost consideration of wildlife

From scoping, everyone that commented, wanted wildlife and wildlife habitat to stay priority, even when discussing additional access. However, there are people that request more public access or recreational use.

1) What alternative outcomes result from differences in interpretations of "provide for wildlife first."

Currently, top six wildlife-dependent recreational uses are generally considered compatible and allowed, while other uses are evaluated for compatibility and allowed following finding of general compliance, no egregious effects. *(Assumes most uses can be allowed without harming or disturbing wildlife to any great effect; makes an effort to provide for uses.)*

No recreational uses will be allowed unless they are one of the six priority, wildlife-dependent uses defined in the NWRSA. *(Feels there is no room for nonwildlife-dependent uses on refuges)*

Hold all requested uses, even the six priority, wildlife-dependent uses to a strict compatibility threshold. *(Acknowledges public use can occur, but prevail to minimize uses to any extent to provide for wildlife first and foremost, then if use can illustrate compatibility within strict interpretation it can be allowed; makes an effort to keep uses to a minimum)*

Refuges should be just that, a refuge for wildlife and anything that disturbs them should not be allowed. If any public use, it should be contained and minimized. *(Says regardless of compatibility policy, refuges are for the wildlife and use minimized)*

National Bison Range draft alternatives cont.

Tribal Cooperation and Uses

1) What alternative outcomes result from differences in how the Service supports government-to-government tribal consultation?

Low level of local, informal coordination and communication with resource staff, with a major component of formal consultation through Tribal council occurring for all levels of management activities and pre-decisional involvement.

Close working relationship with resource staff resulting from frequent coordination and communication about management activities and high level of predecisional involvement at the staff level. Formal consultation conducted only for sensitive issues and just prior to making decisions. *(Based on assumption that Tribal resource staff carry burden of maintaining communication to Tribal Council).*

Formal relationships with coordination and communication for all management activities occurring with Tribal council.

At the minimum, comply with NEPA and Service policy *(Problem with this one is our versus their interpretation of "minimum")*

2) What alternative outcomes result from differences for allowing and administering religious and cultural uses of the National Bison Range.

Provide for religious and cultural use in compliance with laws, regulation and policy without promoting additional rights or uses (e.g., if someone asks we give special-use permit with fee waived); make sure management and other uses minimize conflict with native american and cultural resource laws, regulation and policy by working closely with Tribal Historic Preservation Office (e.g., contact thpo when disturbance is planned and seek help in identifying sites and uses and appropriately protect sites as per thpo). *(Have to explain in alternative that this is pretty much the minimum we can do and comply with the law, even though some people want us to do less, i.e., treat everyone equal)*

Facilitate cultural and religious use that provides opportunities to the Tribal community and fosters a close working relationship with Tribal Culture Committees, while minimizing conflict with other public uses. *(E.g., provide special-use permits but waive fees; have culture committee oversee who gets permit)*

Explore and promote new opportunities for cultural and religious use *(e.g., talk to culture committees for new opportunities, waive entrance fees, establish a partnership for projects that benefit tribal members and educate general public)*

National Bison Range draft alternatives cont.

Native Vegetation

1) What alternative outcomes result from differences in efforts to restore and maintain native vegetation?

Restore and maintain a healthy, functioning palouse prairie ecosystem, ponderosa pine forest, and western riparian habitat. Determine invasive species in riparian and timber stands relative to time of establishment and remove them (e.g., doug fir and juniper?)
(Relies on understanding management activity effects on these communities)

Preserve areas (pasture?) on the range that have best chance of maintaining the palouse prairie plant community (i.e, don't graze assuming grazing destroys palouse prairie, minimize disturbance...), while establishing best management practices to maintain native riparian and timber communities. *(Actively pursue what plants should be in riparian and timber, and put forth effort to rid area of invasives or species not part of these communities)*

Use all areas as needed for management, while trying to minimize destruction of native vegetation or encroachment of invasives. *(Kind of try, but what happens, happens)*

National Bison Range draft alternatives cont.

Water Management

1) What alternative outcomes result from differences in efforts to restore hydrologic conditions on the Range?

Existing status of channelization and ? maintained, while restoration would be considered on an ad hoc basis.

Current situation maintained with no restoration (i.e., rechannelization) allowed.

All riparian zones restored to natural morphological condition. Is this possible?

Riparian zones left as is and let nature take its course from now on; no management control of water flow or direction.

Restore and enhance all riparian areas as funding allows. (Enhance some areas to take advantage of water and result in riparian or wetland vegetation to increase, such as cottonwoods, willows...)

2) What alternative outcomes could result from differences in management interventions?

Maintain artificial pond levels via pumping to model representative riparian wetlands and oxbows - what oxbows would we pump?

Reduce loss from springs (spring boxes?) (that result in ^{moist} mesic plant communities and watering sources for wildlife) what loss? How do we reduce? - the springs are natural - or does this mean improve bison
Reduce channelization to allow flooding (increase wetlands, oxbows, wetland watering tanks? vegetation) How? where are we talking about?
Mission Creek or/4 Jocko River

Let nature determine pond levels, whether springs dry up and riparian flows.

3) What alternative outcomes could result from differences in management of irrigation return and subsequent pollution in rivers?

Maintain minimum standards of water quality as prescribed by regulations (state, tribal?? What are they?)

Restore and maintain pristine water quality conditions

Sustain conditions suitable for target aquatic species, and comply with regulations.

- we have very little irrigation & few chemicals or soil erosion on areas we are irrigating.

Both of these would have to be as funding allows

On Bison Range or Wetland Management District?

National Bison Range draft alternatives cont.

Timber Management

1) What alternative outcomes could result from differences in managing tree encroachment?

(Two aspects: 1) within timbered areas that we want to keep are we going to allow for some second-growth and understory, or clear underneath for more grass and parkland condition; 2) remove second-growth areas that are on edge of timber areas encroaching grassland; i.e, thinning in areas we want to keep timbered versus clearing areas we don't want timbered)

Ponderosa parkland conditions with doug fir stands in even-aged stands, as existed 90 years ago when refuge established. *(Can you have parkland conditions with uneven-aged stands?)*

Tree succession at current rates without any curtailment by management; leave it alone and let nature progress. Timber acreage continues to increase.

Ponderosa pine without doug fir even-aged stands, as existed 90 years ago when refuge established *(have heard both doug fir did and did not exist at establishment--we need to find out)*

Maintain current timber coverage but remove all current second-growth and seedlings as possible in encroachment areas *(leaves second-growth in areas we want timbered?)*.

2) What alternative outcomes could result from differences in managing forest health?

Healthy, sustaining ponderosa parkland, with doug fir on present-day acreage levels. Disease management is reactive when large kills occur and dead trees create a fire hazard. Snags and understory are not actively managed, unless create a safety hazard.

Active management and monitoring to prevent disease outbreaks, maintain even-aged stand of mature trees with minimal encroachment on grassland, remove snags and reduce understory for open parkland of even-aged stands.

Uneven-aged stands with gaps created by blowdowns and fallen snags for mixture of canopy cover and understory *(anything other than ppine or doug fir trying to move in??)*.

Accept what ever stands occur with no management of disease *(let nature take its course)*

Restore conditions to where natural forces such as naturally occurring fires maintain succession. *(Not now because suppressed fire for so long - when conditions are to where natural fire won't be catastrophic)*.

National Bison Range draft alternatives cont.

Bird Habitat Management

1) What alternative outcomes could result from differences in bird habitat management?

Manage for diversity of habitats of native birds that naturally occur on the Range. (*Kind of all habitats equal*)

Management emphasis placed on restoring and maintaining habitats of T&E bird species and bird species of special concern.

Manage primarily for a palouse prairie ecosystem (with associated riparian and brushy vegetation), and include management effort for the higher elevation Ponderosa Pine parkland community. (*Here palouse takes priority*) (*shift from individ. species to ecosystem level habitat*)

Management focus placed on individual species or species groups other than birds, such that birds receive benefits from indirect or subsequent effects.

Allow natural ecological process to continue and the associated bird habitats to occur.

*Still prefer Bird management to bird habitat
Management.*

National Bison Range draft alternatives cont.

Big Game Population Management (big game includes only mule deer, white-tailed deer, elk, sheep, goats, and antelope)

1) What alternative outcomes could result from big game population management?

Maintain existing species diversity at current population levels with control and augmentation.

Maintain indigenous species population levels at natural carrying capacities that the Range can provide within constraints of forage and predators, while still providing for sheep, goats, and antelope minimally. *(Concentrate on indigenous and with them try to get away from control and augmentation; do what can to keep at least some sheep, goats and antelope)*

Maintain populations of only indigenous species (mule and white-tailed deer, and elk) at current population levels with management control and augmentation. *(Assumes that these population levels are higher for these species than in second one where competition for forage and predators keeps the population lower)*

Subsequent and indirect effects of other management are the only efforts provided for big game, unless they exceed carrying capacity then removal will occur. *(i.e., whoever can survive on here survives, and no money or effort put forth to maintaining them, with the exception of too many and then instigate control; let nature take its course for these big game species unless they do too well)*

National Bison Range draft alternatives cont.

We have to address the following aspects of the Public Use Program

- which uses to allow (can I hunt or just fish, do you have an ee program)
 - within that, how much allowed, i.e, how big of a fishing program
- access during those uses
 - where can I get-on south side
 - what can I do-hiking trail vs foot path vs auto tour
- number of visitors capable
- visitor facilities (vc, toilets, parking, picnic, road standards)

Wildlife-dependent Recreation (Hunting, fishing, photography, wildlife observation, education, and interpretation)

1) What alternative outcomes result from differences in which recreational activities are allowed?

Current uses of fishing, photography, wildlife observation, education and interpretation are allowed; subject only to compatibility test, wildlife protection and public safety limitations; hunting is not allowed. Uses are limited to tour roads, short foot paths, and EE area.

Provide additional opportunities by means of increasing open areas to the public for these same uses (subject to compatibility, not to conflict with refuge management, or approved research activities) to maximize wildlife viewing; no hunting. (*E.g., special-use permits for photography in closed areas, allow hikes down Trisky Road, establish an additional tour road, allow fishing further up the creek*)

Allow hunting on a closed refuge (hunt in areas closed to all other uses during the hunt) once a year to dispose of excess animals, for remainder of the year allow other uses in additional closed areas than presently allowed.

No consumptive uses of hunting or fishing, but allow other non-consumptive uses at current levels.

National Bison Range draft alternatives cont.

Visitor Numbers

1) What alternative outcomes result from differences in how many visitors are allowed on the Range?

Visitor numbers are allowed to increase until they are not compatible with purpose of the refuge. *(Can increase until number of cars and people modify bison grazing patterns or rutting behavior... or see a decline in number of native birds present or nesting?)*

Visitor numbers are restricted to current levels to maintain current wildlife experience for visitors. *(Would monitor for visitor experience? How do we restrict numbers? If this is a viable alternative I need real methods of restricting numbers, because we will have to talk about ideas in the EA.*

Visitor numbers are decreased to reduce interaction among humans and wildlife and minimize visitor interference. *(Assumes visitor numbers are too high currently)*

Visitor #'s are allowed to increase until the wildlife experience of the individual visitor is significantly reduced. (Visitor #'s at some predetermined level where a quality experience is still possible - greater than current #'s less than max. # under compatibility restraint.

National Bison Range draft alternatives cont.

Visitor Facilities

1) What alternative outcomes result from differences in visitor facilities?

Visitor facilities are maintained within available funding and minimum safety standards to provide a moderate level of amenities and visitor education (*=current vc size, toilets at bitterroot, picnic area and baseball kept, keep old toilets in picnic, gravel roads*)

Visitor facilities are enhanced to provide a high level of amenities and visitor education (*=increase vc size, replace picnic toilets with better ones, add toilet at antelope ridge turnaround, keep baseball, more turnouts with signs, pave roads, more parking here and up top at toilets*)

Visitor facilities that provide some amenities yet prioritized for a wildlife experience (*=increase vc to expand education, remove baseball, replace toilets in picnic area with fewer but better, keep picnic area, no antelope ridge toilet, gravel roads, few more turnouts with signs, more parking below but leave all trailers or larger campers more so than now*)

Dave had some notes on maintenance facility plan, road system/display pasture plan, and quarters plan (staff & volunteers). Not sure how these would work into visitor facilities alternatives--maybe an additional heading for these alternatives??

National Bison Range draft alternatives cont.

Land acquisition

1) What alternative outcomes result from differences in the land acquisition program for the Range?

Purchase tracts along boundary in fee title from willing seller for boundary buffer up to 10% above congressionally authorized boundary (22,440 ac).

Purchase tracts along boundary in fee title from willing seller up to congressionally authorized boundary (20,400ac).

Purchase tracts along boundary in non-development easements only, up to 10% above congressionally authorized boundary (22,440 ac).

No land acquisition program for the Range.

Combination of easements & purchase

National Bison Range draft alternatives cont.

Research

1) What alternative outcomes result from differences in how research programs are carried out on the Range?

Short-term = 1-3 years

Allow research requests from universities and wildlife cooperative units as long as a management-oriented component is included in the project. *(Passive research program by the range to let others come to them with ideas and us get others to carry out our needs mainly on a short term basis)*

Direct long-term research at management of ecological communities; allow short-term research that will provide new information for management of wildlife. *(Active research program by the Range to work with others on projects that provide adaptive resource management information, as well as doing short-term stuff)*

Research is encouraged and allowed that provides new information for management of wildlife or user opportunities. *(Passive program on our part but open to any research dealing with wildlife or public use)*

Research is limited to programs that are studying wildlife management issues with an emphasis on bison and big-game, other wildlife are secondary.

Ones I didn't get to. I'll take any help you can provide

Dave is doing bison stuff.

Bill is doing predator management and I gave a shot at his land acquisition one.

Predator management

This will include coyotes, mountain lions, and bears on the Range.

Fisheries

This may not have been a real issue on the Range so not sure whether we need to do it. I only remember fishing discussed relative to NNP, PBL, and SWN.

Interpretation

Education

Special-Use Permits

CCP Comments from Lynn

Weed Management -

Is Bull thistle a "weed" on the National Bison Range?

Take out Kentucky Bluegrass as a weed or add another outcome : Kentucky bluegrass may not be viewed as a weed by many people and just confuses the issue by including it. It is indirectly addressed in the native vegetation alternatives and will be affected by what-ever outcome is selected there. Could add a statement that we realize it is a weed under our definition but it will not be addressed here.

If kept in add another alternative:

Reduce those weeds that are unpalatable to bison. (Goatweed, knapweed, cinquefoil, etc.)

Maintain other weeds at current levels or do not manage them at all.

Reduce spread and dispersal of those species most detrimental (IE. keep them in check) and produce a decline of those more benign. - This seems backwards to me. Why reduce those more benign and not those most detrimental. In this scenario we keep hundreds of acres of toadflax, knapweed and cinquefoil but try to decrease kentucky bluegrass.

Control at a level consistent with state law. - I don't see kentucky bluegrass or cheat grass listed under the categories listed under state law. Where do they fit in?

Control at a level at which natural conditions can control without management intervention. I think history has proven that this is not a viable option.

2)

Use all available methods, including ... - Leave out the word "all" as we are not including farming on the Bison Range and it is an available method. Or include farming.

Chemical and biocontrol still primary, yet reduce grazing pressure in areas of no/minimal weed problems to allow natives to persist and intensify grazing pressure in areas of weeds. - Is this outcome viable?

No chemical, all other methods used. - I think there are groups out there that are still worried about biocontrol (bringing other exotic species in to control the exotic species we already have.) So we should have a separate outcome where we don't use biocontrol or add it to this one - No chemical or biological, ...

T&E and Species of Special Concern Management

Is there any reason to consider plant and animal species separately here?

Activity limited to meeting requirements of the ESA... and Habitat maintained with minimal management for state and federally listed species. What is the difference between these two?

All T&E management deferred to the Tribe. - How would this work on the Bison Range? I could see this as a viable outcome for Ninepipe, Pablo and the Wetland Management District but not on the bison range. They might be able to do monitoring but how would it work if habitat manipulation was desired?

Expanded efforts to help delist T&E species (by emphasizing wildlife habitat programs on private land - this is a how)- This outcome applies more to the wetland management district than the national bison range.

Grassland Management

Good job. The only thing I would change is in outcome # 1. I would change “while allowing presence of other native species, that are not components of palouse prairie” to “While allowing presence of other species, that are not components of palouse prairie.” In other words, I would leave out the word native. This would allow for Kentucky Bluegrass which is an ok forage but not a native. So you would have primarily palouse prairie natives but also some other forage plants like Kentucky Bluegrass.

When we talk about native palouse prairie, we have to acknowledge that percent species composition is an important component not just species presence. For instance, red threeawn is a native palouse prairie species but it is poor forage and an increaser. We have a lot higher percentage of it now than in a “healthy native palouse prairie”. In the third outcome you referred to a healthy native palouse prairie plant community. Should use the word healthy and community or ecosystem in outcomes 1 and 5. **A grassland composed primarily of a healthy native palouse prairie community** (this takes into account species composition not just presence or absence of a species), **while allowing ... and Reduce areas of non-native species and restore and maintain a healthy native perennial community.**

Foremost consideration of wildlife

Looks good to me.

Tribal Cooperation and Uses

Isn't this out of our hands, or out of the public's hands to decide as an agreement was just signed through the regional director and there are federal laws and policy that the tribes can use to support their position on how this should be done.

Uses - something should be added here that the uses must be compatible and in #2, I would change “**while minimizing conflict with other public uses.**” to “while minimizing conflict with wildlife and public use.”

Are you having fun yet, Lindy?

Native Vegetation

I think this is redundant of Grassland Management and Timber Management. Should be eliminated or changed to Riparian Habitat Management.

Water Management

1)

All riparian zones restored to natural morphological conditions. - Is this possible?

Restore and enhance all riparian areas as funding allows. - Take out "as funding allows" as this is assumed. You could say "Make restoration and enhancement of all riparian areas a priority of the refuge."

This makes the difference between the above outcomes that the first one is restoration only and the second adds enhancement to restoration.

2)

Maintain artificial pond levels via pumping to model representative riparian wetlands. - what oxbows would we pump?

Reduce loss from springs. - What losses are you referring to? The springs are natural so how do we reduce loss? Does this mean reduce run-off? Or reduce loss from bison watering tanks?

Reduce channelization to allow flooding. - Where are we talking about? Is Mission Creek channelized or just the Jocko. Was the channelization done to reduce flooding or for other reasons?

3)

We have very little irrigation return on the Bison Range and few chemicals are used in the irrigated areas. We also have little soil erosion in these areas. This seems that something that applies to the wetland management district but not really the Range.

Timber Management

The reference to even age stands with or without Douglas Fir is a little confusing to me. Why are we trying to get back to what was here 90 years ago? Why not try to get to what should be here with natural succession for this type of habitat? I don't know which of these outcomes would fit, but I personally would like to see naturally occurring successional stages leading up to a climax ponderosa pine forest to the same extent that existed pre fire suppression.. (Assuming that ponderosa pine is the climax vegetation for this these soils, precipitation, aspect, etc.)

1)

Another outcome :

Restore conditions to where natural forces such as naturally occurring fires maintain succession. (Realizing that we must continue to manipulate forests until they are in a condition where a natural fire won't be catastrophic. In other words until they are in the state they would have been in had we not controlled fire for 100 years.)

2)

Another outcome:

Accept what succession occurs with no management either preventive or reactive for disease. (Let nature take its course.)

Bird Habitat Management -

I still prefer "bird habitat and population management" to "bird habitat management".

Big Game Population Management

Does "current population levels" mean the number we have now or the target number we should have?

Visitor Numbers -

Another outcome:

Visitor numbers are allowed to increase until the wildlife experience of the individual visitor is significantly reduced. (Visitor numbers at some predetermined level where a quality experience is still possible. - Greater than current numbers but less than maximum number under compatibility restraint.

Land Acquisition -

There should be a combination of purchasing fee title and purchasing easements.

1-13-99
Change Map?
Copy to Gary?

DAVE a LYNN

Please read & comment, then let's
discuss Wed., Jan. 20 at 1:00 pm

Bison Management

The Service policy for its bison herds (National Bison Range, Wichita Mountains Wildlife Refuge, Fort Niobrara National Wildlife Refuge, Sullys Hill National Game Preserve, and Walnut Creek National Wildlife Refuge) is that they "... will maintain remnant herds of nationally and/or historically significant animals on those refuges established for that purpose, to ensure their continued existence in numbers sufficient to perpetuate the associated cultural, scientific, and aesthetic values." (701 FW 8)

The establishing purposes for the National Bison Range relative to bison are "...for a permanent national bison range for the herd of bison..." (Not to exceed 12,800 acres) 35 Stat. 267-8, dated May 23, 1908; provides for fencing, buildings, and "enlarging the limits heretofore established so as to make the total acreage not to exceed 20,000 acres..." 35 Stat. 1051, dated March 4, 1909; and "...to provide adequate pasture for the display of bison in their natural habitat at a location readily available to the public,..." 72 Stat. 561, dated August 12, 1958.

Alternatives have to meet the criteria of policy and establishing purposes which include: ensure continued existence in numbers sufficient to perpetuate cultural, scientific and aesthetic values, and provide adequate pasture for display of bison in natural habitat that is available to the public

Issues regarding bison that we heard were mainly questions about the fencing, roundup, why tribes get special treatment relative to surplus, and how bison are allowed to graze relative to range condition.

Components of bison management listed in the service policy chapter include; herd composition (sex ratios and age structure), herd breeding and selection, selection of surplus animals, disease prevention and control, surplus bison for native Americans and annual bison roundup. These components mirror the issues raised by the public, except for herd composition, and breeding and selection components. However, the genetic management of public herds is questioned among scientists and managers associated with public herds, therefore we may want to consider alternatives.

On the next few pages are 3 different ways to write alternatives. The first 2 sets tried to put most components of bison mgmt as together in each alt. The pages 4-8 are taking each component of bison mgmt and trying to develop alt. for each.

I need to know

- which alternatives you want to use
- if don't like language - provide alternate wording
- comments about other effects what need to be included or deleted
- if you have questions on any of this

1) What alternative outcomes result from differences in bison management?

The alternatives really are what are bracketed the remainder could be more of the outcomes for that alternative + material for effects discussion.

[Present a herd with all appearances of an unmanaged wild herd] no interior fences; herd size based on NRCS grazing allowance determined for open Range in balance with other herbivore populations while maintaining healthy native palouse prairie community ; (culling) surplus disposal emulate historic predation (just yearlings, calves and old) and provide to Tribes only, otherwise let natural processes prevail (supposedly as in wild herd); sex ratios equal; develop natural appearing herd with genetic diversity at present levels and maintain closed population; roundup periodically (policy is to ensure herds in good health and don't carry infectious diseases--would you HAVE to check every year necessarily??); safeguards to prevent introduction of disease--assuming this means vaccine as long as vaccine works, but if vaccine doesn't work do we have to do it)

Does this mean we don't bring in new genetics if so - aren't we mandated to keep healthy genetic pool.

We need to put in herd size numbers based in most recent NRCS survey or each alternative.

[Provide for as large a herd as possible] that maximizes public viewing opportunities and help prevent loss of genetic material through genetic drift or inbreeding; herd size based on requirements for genetic management and on NRCS grazing allowances for bison only; fences used to distribute foraging pressure and retain bison in certain areas of peak visitor use; surplus disposal based on maintaining a balanced age structure and sex ratio and surplus animals available to anyone; sex ratios equal; maximize herd genetic diversity through maintaining a large enough effective breeding population that minimizes inbreeding (closed population); roundup to monitor genetics and herd size, vaccinate and check health status of herd, and provide public viewing a larger herd could be working w/ Tribes neighboring land to effectively increase the working size of the range for bison to roam on?

Native Palouse Prairie maintained?

[Provide for a herd that is managed within a mixed ungulate community at a level consistent with maintaining a healthy palouse prairie and provides adequate viewing opportunities] herd size based on NRCS grazing allowances for bison, elk, deer, antelope, and bighorn sheep within the spatial constraints of the refuge; fences used to distribute foraging pressure of bison; surplus disposal based on maintaining a balanced age structure and sex ratio; maximize herd genetic diversity while minimizing loss of rare or unique traits of the NBR herd with introduction of individuals when genetic monitoring deems necessary; roundup to monitor genetics and herd size, vaccinate and check health status of herd.

[Provide for a large herd that provides high viewing opportunities and maximizes use of Range] herd size based on grazing allowances for bison only; fences to distribute foraging pressure but concentrate on vegetation response for high forage plants, no emphasis on palouse prairie maintenance; surplus disposal based on selection for certain genotypes whether it be disposition, size, productivity, or conformation and provide to anyone; sex ratio equal but age structure biased toward prime reproducing females (provides higher reproduction but higher rates of inbreeding if closed population); maximize genetic diversity; roundup to monitor genetics and herd size, vaccinate and check health status of herd.

Provide some specific outcomes for these alternatives such as actual herd size like Dave put in the alternatives themselves on the next page

~~What about genetics?~~

OR

It seems like
A few steps were
skipped here.

current?

Manage for a winter bison population of from 370 to 390 animals with approximately 45% males and a high proportion of adults. Remove excess numbers of animals via an annual roundup and disposal by transfer to other public and tribal herds and public sale. ^{on the} Maintain population in one herd to facilitate herd social structure characteristics and ^{next page} reduce maintenance inputs of fencing and habitat unit rotations. Rotate herd through ^{if says that} north side units during the growing season and public use season to facilitate habitat ^{herd structure} health and public opportunities for wildlife observation. Move herd to south side for ^{is mandated} winter range and visibility from public highways. ^{50/50}

These 2
deal mainly
w/ just
genetic
aspect

Manage for a bison population of less than 300 animals with regular transplant of animals into the herd to maintain the genetic diversity and prevent genetic suppression. Maintain as older age structure to minimize genetic suppression and lengthen the genetic turnover rate. Maintain population in one herd. (smaller herd w/intro)

Maintain herd population at 500 plus animals to insure genetic diversity without transplanting animals into the herd. Remove excess animals periodically by small groups, hunting or natural mortality. (Will result in grassland degradation in several areas of the refuge, increased weed invasion impacts, hunting by tribal members only, adverse impacts to other wildlife populations including several migratory bird species)
(large herd w/o intro)

OR

as I started to do on next couple of pages--you could split into the components of the policy chapter and develop alternatives for each component--see next couple of pages

I don't like this method - you could have 370-390 animals or 500 animals & still have 2 herds - why are we making the decision to have 1 herd here? Where's the biology to support this?

Bison Population Management

a. Herd Composition

This was not an issue

Service policy is that sex ratio should be equal and age structure should approximate naturally occurring conditions (701 FW 8). How are we going to define natural conditions for bison relative to age structure-- *Literature*

b. herd breeding and selection

According to Service policy, we are charged with maintaining the herd in numbers sufficient to perpetuate. If we want to do this by allowing the herd to maintain itself, we must be concerned with productivity. In addition, with pressures to provide numbers sufficient to perpetuate the associated cultural values (as stated in Service policy) it could be interpreted to produce more animals to provide animals to Tribes. Productivity and how that is managed would be the issue for alternatives.

breeding as pertains to productivity

Policy states "Breeding should occur under natural conditions without manipulation of bulls or cows." (701 FW 8) This is further discussed in regards to genetics so I don't believe it pertains to manipulating age or sex ratios relative to productivity???

Policy does mention maintaining equal sex ratios, so that is left alone. If you can argue different types of age structure are "natural" then could come up with alternatives for productivity.

Productivity result from no manipulation regardless of what happens in field; i.e. if goes down leave them alone, don't manipulate, just bring in more animals to maintain the herd -> effects, if low reproduction and get top heavy for old cows then productivity could decline, unless they are prime age cows; could also get more mortality for some reason on older cows and prime cows with young cows left, therefore higher production...? few males 7-12 years old may do majority of breeding (Berger and Cunningham 1994 study found this) effect on productivity?;

enhance productivity (husbandry practices); provide mineral supplement to cows; maintain young age structure to increase productivity, i.e., remove cows at 8-10 years old-> effect is shortened generation intervals and higher rates of inbreeding, therefore loss of genetic diversity because reproduction distributed over fewer younger cows; sex ratio skewed to favor females to increase productivity-> effect if mating is random by breeding males a skewed sex ratio will decrease the effective population size-therefore less productive?

manage for a particular 'natural' level of productivity to maintain a particular, 'healthy' herd size that can sustain itself

Probably
don't
need
any of
this?

100 cows
50 Bulls
Greater genetic variability
175 cows
75 Bulls
why?
where did this
come from?

selection-Bison genetics

Assumptions:

larger herd has greater genetic variability than small herd; natural age structure has higher genetic variability than young age structure (with shortened generation intervals get higher rates of inbreeding, therefore loss of genetic diversity because reproduction distributed over fewer, younger cows; low to even sex ratios have greater genetic variability than skewed sex ratios (a skewed sex ratio decreases the effective population size when mating is random

Text:

Genetic diversity of bison is important because bison were a large and highly outbred species that was reduced to a few remnant populations that did not expand rapidly for at least 25 years (Lott et.al. 1987). Combine this with only a few bulls conducting the breeding for each herd and much of their genetic diversity is lost already. Subsequently, little new genetic diversity is likely to be generated since the bison maintained, at least by the U.S. Fish and Wildlife Service, may be the progeny of as few as 72 animals (Shull and Tipton 1987, Chambers 1998).

Public herds are often viewed as "keepers of the gene pool." (Walker 1998), and it is important for the future of this species that the remaining diversity be preserved (Lott et.al. 1987). Discussions on management of public herds occurred during symposiums in Missoula, Mt (Lott et. al. 1987), LaCrosse, WI (Shaw et al. 1993) and Bozeman, MT (Chambers 1998, Schneider 1998) on whether to preserve genetic diversity within individual herds or genetic diversity for the entirety of the bison gene pool among public herds (since private herds are often limiting genetic diversity with selection practices for particular traits of size, conformation or productivity.)

The National Bison Range is charged with responsible maintenance of part of this captive gene pool and must have management practices that facilitate this. The Service policy is "If a bison herd is determined to be a separate strain, there should be no introduction of bison from different strains. However, if it is determined through research that two or more areas have similar strains or have strains that can be mixed without the loss of genetic material, or the modification of characteristics, then some interchange between herds would be appropriate to lessen the possibility of inbreeding." (701 FW 8)

I interpret this as each manager is to be concerned with preserving the genetic diversity of each herd, and can introduce individuals as long as introduced genetic material does not cause the loss of traits unique to that particular herd. Yet, to maintain unique or rare traits within a closed herd could result in loss of overall genetic diversity for the herd. Loss of genetic variability can reduce population fitness through reduced ability for the population to adapt to changing environmental conditions, reduced reproductive capabilities (infertility and inviability of young), reduced individual growth, and increased mortality risk (Allendorf and Leary 1986, Berger and Cunningham 1994). On the other hand, promoting genetic diversity within a herd by interchange with other herds, may result in the loss of rare or unique traits for that particular herd. Therefore, a strategy for a balance between preserving some unique or rare traits in some herds,

while promoting genetic diversity in other herds may be in the best interest for the public herds as a whole (Lott et al. 1987, Chambers 1998). Meffe and Carroll's (1994) concern is, at the population level, "maintain as much natural genetic variation as possible, in as near a natural geographic distribution as possible, so that evolutionary and ecological processes may be allowed to continue" (Meffe and Carroll 1994).

These alternatives are not well developed

maintain as much genetic diversity as can to prevent harmful effects of inbreeding; by introducing individuals to contribute new genetic material to herd [few males 7-12 years old may do majority of breeding (Berger and Cunningham 1994 study found this->Effect on herd diversity would be less genetic diversity and create a need for larger population size to have an effective breeding population large enough to maintain genetic diversity (Lott et al. 1987) or introduce individuals to maintain higher levels of genetic diversity]

Are these really outcomes or methods used later to adhere to policy?

may not comply w/ policy?

keep only good looking animals; select certain genotypes for size, conformation or productivity->effect is less herd genetic diversity

this is what private sector does - not viable for here

maximize herd genetic diversity while minimizing loss of rare traits within national bison range herd (Service policy can be interpreted to fall in line with Meffe and Carroll's (1994) statement if the herd is defined as the population, and that individuals can be introduced from strains that are within the same geographic distribution, and have been under similar evolutionary and ecological processes.)

Allendorf, F.W., and R.F. Leary. 1986. Heterozygosity and fitness in natural populations of animals. In: *Conservation Biology: the Science of Scarcity and Diversity*. ed. M. E. Soule, pp 57-75. Sinauer Associates, Sunderland, Massachusetts.

Berger, J. And C. Cunningham. 1994. *Bison: mating and conservation in small populations*. Columbia Univ. Press., New York.

Chambers, K.E. 1998. Using genetic data in the management of bison herds. In: *International Symposium on Bison Ecology and Management in North America*. eds. L. Irby and J. Knight, pp. 151-157. Montana State University, Bozeman, Montana.

Lott, F., J. H. Shaw, C. Stormont. 1987. Should public herds be trading bison to maintain diversity in the gene pool and/or prevent inbreeding depression. In: *North American Bison Workshop*. ed. J. Malcolm, pp. 59-60. U.S. Fish & Wildlife Service and Glacier Natural History Association. Missoula, Montana

Meffe, G. K. and C. R. Carroll. 1994. *Principles of Conservation Biology*. Sinauer Associates, Inc., Sunderland, MA.

Schneider, J. 1998. The genetic impacts of management practices on North American Bison. In: *International Symposium on Bison Ecology and Management in North America*. eds. L. Irby and J. Knight, pp. 175-179. Montana State University, Bozeman, Montana.

Shaw, J.C. Stormont, E. Lewin, c. Strobeck, C. Gates, V. Geist. 1993. Panel: Public herds genetics-"where do we go from here" in Walker, r. (Ed.) *Proceedings North American Public Bison Herds Symposium*. 444pp. Note: This citation available on audio tape only.

Shull, A. M. and A.R. Tipton. 1987. Effective population size of bison on the Wichita Mountains Wildlife Refuge. *Conservation Biology*, 1:35-41.

Walker, R.E. 1998. Management strategies for the Custer State Park Bison herd. In: *International Symposium on Bison Ecology and Management in North America*. eds. L. Irby and J. Knight, pp. 262-266. Montana State University, Bozeman, Montana.

701 FW 8. U.S. Fish & Wildlife Service Manual. 1996. Population Management at Field Stations: Fenced Animal Management Chapter. Division of Refuges.

c. Selection of surplus animals for disposal

Regardless of the alternatives, all of them require some control of herd size potentially.

Individuals would have to be removed from the herd. Care must be taken to not select individuals with particular traits such as size, confirmation, or disposition since this would compromise the genetic diversity of the herd. Service policy states that "selection of animals for retention and/or removal from herds will be accomplished with full consideration for the objective of a representative herd."

This is pretty wide open for interpretation of what a representative herd means, but responsible management would be for random selection of individuals, without knowing the full genetic makeup of the herd and all individuals.

Surplus individuals are then sold (701 FW 5) or donated (701 FW 8). A live animal, sealed-bid sale is conducted for surplus individuals. Revenue from the sale of animals is deposited in the National Wildlife Refuge Fund pursuant to the Refuge Revenue Sharing Act of 1935, as amended (Public Law 95-469). According to policy, "...prior to public sale, twenty-five percent of the surplus bison from refuges will be made available for donation to tribes or intertribal organizations (i.e., Inter-Tribal bison Cooperative). The purpose of the American Indian allotment is to assist in the restoration of self-sustaining bison herds on tribal lands." (701 FW 8) These guidelines are based on Public Law 95-341, American Indian Religious Freedom Act (P.L. 95-341), the Indian Self-Determination and Education Assistance Act (P.L. 93-638, as amended), and the Native American Policy of the U.S. Fish and Wildlife Service.

Due to herd management within spatial constraints and policy guidelines, there are no alternatives to having to remove animals, and to provide a portion of surplus individuals to Tribes.

The refuge manager may donate surplus animals for the following purposes: 1) scientific educational purposes, 2) propagation of new, free-ranging (freely occupying habitat adequate in size and quality to provide for all biological needs and allowed to reproduce freely) populations in cooperation with States, and other governments, 3) augmentation of existing populations to prevent genetic suppression in cooperation with States, and other governments, and 4) public display exhibition (e.g., zoos, municipalities) (701 FW 5). Bison are only donated as food when circumstances warrant, e.g., injured animals. (701 FW 8)

Text not bracketed. would explain the issue of donating bison to Tribes & having to even remove animals.

probably don't need this?

d. disease prevention and control

Service policy guides the refuge to develop a program to provide for periodic inspection and testing of the herd to ensure it is in good health and does not carry infectious diseases; and provide safeguards to prevent introduction of disease from outside sources. (701 FW 8)

I can think of no other alternatives to roundup, except potentially not having a roundup every year. A periodic roundup would only work if you didn't have a proven, working vaccine that had to be given every year.

Bison consumption demands with range condition

If you did the genetics component separately then this one would be done separately. The way I have the alternatives written at the beginning are that the goals or desired future condition of genetics and range condition are what would tell you the herd size; rather than just saying 500 is a large enough herd size to maintain genetics without introductions. If we looked at our effective population size it may be that 250 is large enough to maintain genetics without introductions; this could then lead to more room in management to provide additional benefits for range condition or native vegetation, or bird nesting habitat..., but it may also lead to costs we haven't thought about, such as less of a chance of seeing the herd...?

It seems like the material for alternatives for this topic of consumption demands with range condition would be things such as 1) to ensure a balance between rangeland productivity and the consumptive demands of the bison only, or prioritizing other wildlife along with the bison. I think the alternatives I established in the beginning start to get at that. So I don't think we need to try to develop these alternatives separately (?).

Points to discuss potentially in the effects analysis

- varying age structures of population
- varying base (post roundup) population numbers
- herd numbers versus effect on other wildlife population competition
- is roundup necessary to manage bison population
- varying sex ratio of population (policy says it must be equal) so doesn't ea. alt. have to have equal sex ratios
- effects of herd and parental social structure resulting from various age structure and sex ratios
 - of herd effect on social and genetic structure of herd
- emulating herd structure of historic bison populations???
- Effect of animal age at removal on genetic turnover (generation) within herd
- herd size effect on sustainability of available habitat
- herd grazing management effect on sustainability of habitat for bison
- herd grazing management effect on sustainability and quality of habitat for birds and other wildlife
- effect of grazing management on invasive weeds
- genetic effect of managing herd in one versus two herds
- continue having annual roundup to remove surplus animals



United States Department of the Interior

FISH AND WILDLIFE SERVICE

NATIONAL BISON RANGE

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1 February 1999

NOTE:

To: Brian Lipscomb, Dale Becker, Tom McDonald, and Doug Dupuis, CS&KT
Dave Wiseman, Bill West, Pat Jamieson, and Lynn Clark, FWS

From: Lindy Garner, FWS *LHG*

Subject: Pablo Comprehensive Conservation Plan (CCP) workshop

After speaking with a few of you at the CSKT/FWS Coordination Meeting on January 15 and on the phone, I scheduled **Wednesday, February 10** for this workshop. It will be held at the **National Bison Range Visitor Center Theater** from **1:00 - 4:30pm**. This workshop will be a chance to provide information or ideas for use in the development of alternatives for the Pablo CCP.

With respect to the purpose for which Pablo NWR was established, "...as a refuge and breeding ground for native birds," I would like to focus on the following questions:

What do you view as the key resources of Pablo NWR?

(i.e., what habitats or species would you like to see management target)

What type of vegetation or habitat should exist or be provided at Pablo NWR?

(i.e., what do you think the vegetation or habitat should look like)

What type of methods could be used to restore or maintain the vegetation or habitat?

What public uses are allowed presently?

Are there ways, or needs, to modify public use for compatibility?

(e.g., opening date of icefishing)

If you have any questions, please contact me at 644-2211. I look forward to us all working together again.

cc: Michael Pablo, CS&KT
Maury Wright, FWS
Carol Taylor, FWS

lng/pblwrksp.ltr

FWS-000442

Nov. 29-30 Meeting Summary cont.

Washtak is concerned for a Lost Trail hunt plan by fall 2000. It was decided to see how far the ccp was by August. If hunting regulations can not be put in place, then Wiseman will, at a minimum, draft a one-page memo/plan stating the conditions for fall hunting. Washtak will check to see what the requirements are for getting hunting established on a new refuge, e.g., whether it has to be published in the Federal Register, and if so, the deadline for fall hunting.

The meeting ended with the group establishing a template for goal statements that will be used for each unit's ccp. If a unit does not have anything to apply under a particular goal heading it will simply be left out, but the template assures each topic is considered and for consistency.

Seven goal headings were decided:

- 1) Public Use Goal
objectives for all visitor or wildlife-dependent recreation uses, tribal uses, research, etc...
- ✓ 2) Habitat Goal
objectives for grasslands, forest, water and wetland management...
- 3) Bison Goal
objectives for herd management, disposal...
- ✓ 4) T&E Goal
objectives dependent upon any t&e species present or potential use on a particular refuge
- ✓ 5) Resident Wildlife Goal
objectives for big-game, pheasants, amphibians...
- 6) Migratory Wildlife Goal
objectives for songbirds, waterfowl...
- 7) Ecosystem Approach Goal
objectives for habitat protection, partners for fish & wildlife, tribal cooperation...

Action Items

- 1) **Everyone:** Reserve the first three days of the week of January 10 for the Lost Trail goal- and objective-setting meeting; Pat please reserve the visitor center theater.
- 2) **Ray:** by Jan. 10 find out the requirements for getting hunting established on a new refuge, e.g., whether it has to be published in the Federal Register, and if so, the deadline for getting it published for fall hunting to be implemented.
- 3) **Ray:** by Jan. 5 have as many goals and objectives drafted as possible for Lost Trail
- *4) **Lynn & Lindy:** by Jan.5 have as many goals and objectives drafted as possible for Lost Trail
- 5) **Bill and Dave:** by Jan. 5 have at least habitat and resident wildlife goals and objectives drafted for Lost Trail.
- 6) **Pat:** by Jan. 5 have at least public use goals and objectives drafted for Lost Trail.

1 December 1999

NOTE:

To: Wiseman, West, Washtak, Jamieson, Clark, Misztal (RO)

From: Garner

Summary of November 29-30, 1999 Meeting (with Adam Misztal, Regional Planner)

Misztal visited the refuge to review work that had already been drafted to help coordinate further planning efforts, as well as meet with staff to discuss which units had priority for ccp completion and strategies for completion.

Misztal reviewed drafted language Garner put together for only the Bison Range CCP (none of the other units' ccp). Of the drafted material, the main things that need to be worked on (by Garner) include:

- add language to the wilderness review regarding how each refuge is or is not able to accomplish its objectives if it is/is not designated as a wilderness area
- rewrite the purpose and need statement to include from the refuge's establishing purpose what the refuge is trying to accomplish and why
- review the scoping report for issue statements and determine whether any new issues have arisen due to the fact that the report is 1.5 years old; issues will be used as touchstones for discussing the impacts of the alternatives
- need to think about including a custodial alternative for each refuge; one that basically has no management but LE.

After reviewing the amount of product that we had, Misztal felt it would be most appropriate to go ahead and have a goal and objective-setting workshop to further define current management. Misztal liked the management histories as part of the CCP, and to take that further into defining current management more explicitly. The goals and objectives are to define current management only. In other words, put down on paper a more definitive answer to what we do, why, and how.

In meeting with the rest of the refuge staff, it was discussed whether to continue on with priority work on the Bison Range CCP since a fair amount of work has been completed on it, or to get Lost Trail on the fast track due to commitments made in the Lost Trail EA. It was decided to concentrate on Lost Trail first, but try to keep working on the NBR also. The first workshop will be on Lost Trail, tentatively scheduled for the week of January 10 (two days). The workshop will be internal Service folks only, to help everyone get a good feel for the process of establishing explicit, measurable objectives. However, everyone is to try to establish some draft goals and objectives for Lost Trail to make the meeting more efficient, and if different ideas come up with the drafts we'll already have material for alternatives.

Validation of 15 microsatellites for parentage testing in North American bison, *Bison bison* and domestic cattle

R D Schnabel, T J Ward, J N Derr

Summary

Fifteen bovine microsatellites were evaluated for use in parentage testing in 725 bison from 14 public populations, 178 bison from two private ranches and 107 domestic cattle from five different breeds. The number of alleles per locus ranged from five to 16 in bison and from five to 13 in cattle. On average, expected heterozygosity, polymorphism information content (PIC) and probability of exclusion values were slightly lower in bison than in cattle. A core set of 12 loci was further refined to produce a set of multiplexed markers suitable for routine parentage testing. Assuming one known parent, the core set of markers provides exclusion probabilities in bison of 0.9955 and in cattle of 0.9995 averaged across all populations or breeds tested. Tests of Hardy-Weinberg and linkage equilibrium showed only minor deviations. This core set of 12 loci represent a powerful and efficient method for determining parentage in North American bison and domestic cattle.

Keywords: bison, cattle, likelihood, microsatellite, parentage

Introduction

Bison once numbered in the millions in North America but because of the population bottleneck experienced in the late 1800s, bison numbers were reduced to no more than 300 individuals by 1880 (Coder 1975; Dary 1989). Almost all of the bison alive today can be traced back to five populations that were used to repopulate most of the extant public and private herds (Coder 1975). Current semi-wild bison populations are fragmented among public parks and sanctuaries throughout the US and Canada. However, the vast majority of bison today reside

on private ranches where they are raised for meat production. Recently, Mommens *et al.* (1998) demonstrated that bovine microsatellites are better suited for parentage testing in bison than conventional blood typing because of a greater degree of variation. However, their sample was limited to a single herd located in Belgium, which probably does not represent the actual genetic variation found in bison in North America.

Currently, parentage testing in domestic animals is based on exclusionary techniques using genetic markers. An offspring is tested assuming one known parent and one or a limited number of candidate parents. If only one candidate parent is left non-excluded, that parent is assigned parentage to the offspring. Although one non-excluded parent may be the true parent, there exists the possibility that other non-excluded candidate parents exist in the population but were not considered. A likelihood-based testing procedure is more appropriate for situations in which there are many candidate parents and obtaining a known parent is difficult. Using likelihood-based procedures, all potential parents are considered as candidates and there is no need to identify a known parent prior to testing.

The purpose of this study was to characterize, standardize and provide validation for a set of highly polymorphic microsatellites for use in routine parentage testing in North American bison and domestic cattle.

Materials and methods

DNA source

Fourteen public bison herds, two private bison herds and five cattle breeds were sampled. Sample sizes and population locations are listed in Table 1. These herds represent most of the major public herds that have played a role in populating private bison herds around the world. Therefore, the majority of the genetic variation present in extant bison herds should be contained within these public herds.

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DNA extraction

Genomic DNA was isolated from white blood cells by proteinase K treatment followed by phenol:chloroform extraction (Sambrook *et al.* 1989) or by using the SUPER QUICK-GENE DNA Isolation kit (Analytical Genetic Testing Center, Inc. Denver, CO, USA). DNA was also extracted from hair follicles using the following procedure. Approximately eight to 12 hair follicles were cut from the switch of the tail using a razor blade and digested for 4 h at 55 °C in 200 µl lysis buffer (500 mM KCl, 100 mM Tris-HCl pH 8.0, 0.1 µg/ml gelatin, 0.45% Triton X-100, 0.45% Tween-20, 0.5 mg/ml proteinase K). After digestion, samples were centrifuged at 5000 g for 2 min. The clear aqueous layer was then transferred to a new tube and 0.5 µl of 10 mg/ml RNase A was added. The sample was then extracted once using phenol/chloroform/isoamyl alcohol (25:24:1) followed by a chloroform extraction. DNA was ethanol precipitated then resuspended in 50 µl TE buffer (10 mM Tris-HCl, 1 mM EDTA pH 8.0).

Loci

Bovine microsatellites were chosen from the USDA cattle mapping database (<http://sol.marc.usda.gov>) that fulfilled the following set of criteria in cattle:

1. High PIC values, high heterozygosity and a large number of alleles.
2. Lack of known null alleles.
3. Loci non-syntenic or separated by more than 40 cM.
4. Allele size range.
5. Suitability for multiplex PCR.

Primer sequences flanking 15 microsatellites that fulfilled these criteria were synthesized with a fluorescent label attached to the 5' end of each forward primer (Table 2).

Multiplex PCR

Based on the results of genotyping approximately 500 bison and 50 cattle for these 15 loci, a core set of 12 loci were selected. These could be amplified in two PCR reactions and co-

Table 1. Bison populations and domestic cattle breeds sampled

	Abbreviation	Location	Sample size
<i>Public herds</i>			
Antelope Island State Park	AI	Utah	67
Custer State Park	CSP	South Dakota	37
Elk Island National Park (woods)	EIW	Alberta	25
Elk Island National Park (plains)	EIP	Alberta	24
Fort Niobrara National Wildlife Refuge	FN	Nebraska	24
Finney Game Refuge	GC	Kansas	50
Henry Mountains	HM	Utah	21
Caprock Canyon State Park	CCSP	Texas	33
Mackenzie Bison Sanctuary (woods)	MBS	Canada	40
Maxwell Game Refuge	MX	Kansas	35
National Bison Range	NBR	Montana	38
Wind Cave National Park	WC	South Dakota	152
Wood Buffalo National Park (woods)	WBNP	Canada	21
Yellowstone National Park	YNP	Wyoming	158
Total			725
<i>Private herds</i>			
Arrowhead Buffalo Ranch, Ltd.	ABR	Ohio	135
Hidden Hollow Preserve	HHP	Kentucky	43
Total			178
<i>Cattle breeds</i>			
Angus	AN		54
Hereford	HE		16
Holstein	HO		12
Shorthorn	SH		12
Texas Longhorn	TLH		13
Total			107

Table 2. Chromosomal location and fluorescent dye used for each of the 15 loci selected from the USDA database

Locus	Chromosome*	Position*	Dye†
BM1225	20	8.0	TET
BM1706	16	80.6	6FAM
BM17132	19	58.6	6FAM
BM1905	23	64.3	TET
BM2113	2	106.2	6FAM
BM4440	2	55.0	TET
BM720	13	38.6	TET
BMS1117	21	9.9	HEX
BMS1172	4	27.3	6FAM
BMS1862	24	32.8	HEX
BMS2639	18	57.0	6FAM
BMS410	12	0.0	TET
BMS510	28	22.1	HEX
BMS527	1	55.9	6FAM
RM372	8	19.1	HEX

*Bovine chromosome and relative position (cM).

†ABI fluorescent label used with forward primer.

loaded in a single lane of an ABI Prism 377 sequencer or a single injection on an ABI Prism 310 capillary-based Genetic Analyzer (PE Biosystems, Foster City, CA, USA). Core multiplex A consists of *BMS510*, *BMS410*, *BM17132*, *RM372* and *BMS527*. Core multiplex B consists of *BM4440*, *BM2113*, *BMS1862*, *BM1905*, *BM720*, *BM1706* and *BM1225*. PCR conditions for core multiplexes A and B are as follows: 25–100 ng template DNA, 10 mM Tris–HCl (pH 9.0), 50 mM KCl, 1% Triton®-X, 3.0 mM MgCl₂, 500 µM dNTPs, 0.05–0.3 µM each primer, 1 × MasterAmp PCR enhancer (Epicentre Technologies, Madison, WI, USA), and 0.5 U *Taq* DNA polymerase (Promega, Madison, WI, USA) in a 5 µl reaction. Thermal cycle parameters for core multiplex A and B were 2 min 96 °C followed by 35 cycles of (15 s 96 °C, 15 s 54 °C, 5 s 72 °C) using a final extension step of 20 min at 72 °C using a GeneAmp® PCR 9700 thermocycler (PE Biosystems).

Genotyping

PCR products were separated on an ABI Prism 377 DNA Sequencer (ABI377) or an ABI Prism 310 Genetic Analyzer (ABI310) (PE Biosystems) and sized relative to an internal size standard (GS500, PE Biosystems or MAPMARKER LOW, Bioventures). Fluorescent signals from the dye labelled microsatellites were detected using GENESCAN 3.1 software (PE Biosystems). Genotypes were assigned using Genotyper 2.0 software (PE Biosystems) by assigning both an

integer value and the actual decimal value (called size) to each peak. After the allelic ladder was developed, the ladder was included on each gel (ABI377) or with each group of samples (ABI310) and genotypes were assigned relative to the actual sequence sizes of the allelic ladder. Previous samples that were genotyped without the allelic ladder were re-assigned genotypes based on the true sequence size of each allele.

Cloning and sequencing

Approximately one half of the bison alleles at each locus were cloned and sequenced. Samples were amplified individually and cloned using either the Original TA Cloning Kit or the Topo TA Cloning kit (Invitrogen, Carlsbad, CA, USA) as per the manufacturer's protocol. Approximately 10–20 positive clones from each ligation were picked and grown overnight in 3 ml Terrific Broth containing 50 µg/ml ampicillin. A standard alkali-lysis mini-prep procedure was used to recover plasmid DNA (Sambrook *et al.* 1989). Plasmid DNA was diluted 1:50 with TE buffer and used as a source of template DNA for PCR. Each positive clone was amplified via PCR and genotyped using the ABI310. Clones that sized identical to one of the original alleles of the animal were used to make glycerol stocks. Cloned alleles were sequenced using the Big-dye™ terminator cycle sequencing kit (PE Biosystems) and an ABI377 automated sequencer. Sequenced alleles were submitted to Genbank and have accession numbers AF213181 to AF213246. An allelic ladder was constructed by mixing equimolar amounts of DNA from the sequenced plasmids into a DNA mastermix. The combined plasmids were used as template DNA for the allelic ladder in each PCR multiplex.

Data analysis

Expected heterozygosity (Nei, 1987), exclusion probabilities and polymorphism information content (PIC) (Botstein *et al.* 1980) were calculated for each marker within each population. Two exclusion probabilities were calculated which correspond to different scenarios. Exclusion probability one (PE1) assumes genotypes are known for the offspring and a putative parent, but genotypes are not available for a known parent (one parent missing). Exclusion probability two (PE2) assumes genotypes are known for the offspring, one confirmed parent, and one putative parent (both parents genotyped). PE1 and PE2, as well as combined exclusion probabilities were calculated according to

Jamieson & Taylor (1997). Tests of Hardy–Weinberg equilibrium (HWE) were performed using the program GENEPOP version 3.1d (Raymond & Rousset, 1995). Exact *P*-values were calculated for loci that had four alleles or less in a population. For loci that had more than four alleles present in a population, an unbiased estimate of the exact HW probability was calculated using the Markov chain method of Guo & Thompson (1992). Unbiased estimates of genotypic disequilibrium were calculated with GENEPOP using the Markov chain method. Parameters used for all Markov chain procedures were: dememorization of 10000 steps, 125 batches and 40000 iterations per batch for a total Markov chain length of 5 million steps.

Parentage inference

Parentage testing was performed on the two pedigreed private bison herds to evaluate the actual effectiveness of the loci for determining parentage, verify Mendelian inheritance and check for the presence of null alleles. The accuracy of these pedigrees has previously been verified by genotyping over 200 microsatellites in these herds (unpublished data). The ABR sample contained 92 offspring and 44 potential parents. The HHP sample contained 29 offspring and 22 potential parents. Likelihood based parentage testing was performed using the program CERVUS 1.0 (Marshall *et al.* 1998) after the procedures outlined in the program. Analysis parameters used for simulations were as follows: 10000 cycles, 45 candidate parents for the ABR herd and 22 candidate parents for the HHP herd, 95% of the candidate parents sampled, 100% of the loci typed, 1% typing error, 80% relaxed confidence and 95% strict confidence.

Results

Unbiased expected heterozygosity, PIC, exclusion probabilities, allele frequencies, repeat length and the standard deviation in allele size calling are located in Appendix A which can be obtained via the internet at <http://www.cvm.tamu.edu/derlab/index.html>. A total of 138 and 151 alleles were found in bison and domestic cattle, respectively. The number of alleles per locus ranged from five to 16 in bison and from five to 13 in cattle. Of the 15 loci tested, five had a greater number of alleles in bison than in domestic cattle. For four of these loci, *BM2113*, *BM1706*, *BMS1172* and *BMS2639*, this result is probably a result of the limited number of cattle tested. According to published results, all four

of these loci have an equal number of alleles or more in cattle compared with that observed in bison (Stone *et al.* 1995; Bishop *et al.* 1994). The exception is *BM1225* in which 16 alleles were observed in bison but cattle are reported to only have 11 alleles. Excluding *BM4440* for the CCSP population, which was monomorphic, expected heterozygosities in bison ranged from 84.2 to 6.0% and from 85.4 to 39.8% for cattle. The overall mean heterozygosity across all populations and all markers was 62.17% for bison and 70.16% for cattle (Table 3). The only populations that failed to reach the 99% threshold for PE2 were Antelope Island and the CCSP population. This is most likely a result of the fact that both of these herds were founded by a small number of individuals and have remained genetically isolated for much of their history (Popov & Low 1950; Coder 1975).

Hardy–Weinberg and genotypic disequilibrium tests

Calculation of genotype frequencies and exclusion probabilities from allele frequencies depend on the underlying assumptions of HWE. However, the errors associated with using allele frequencies to calculate genotype frequencies and exclusion probabilities should be minimal as long as there is approximate agreement with HW expectations.

In order to test Hardy–Weinberg assumptions, three distinct tests of HWE were performed with the difference being the alternate hypothesis to equilibrium. Each locus within each population was checked for HWE for a total of 314 comparisons (CCSP was monomorphic at *BM4440*). Eight per cent (25/314) of the locus/population combinations showed significant departure from HWE at $P < 0.05$ for the probability test. In order to more precisely identify these deviations, score tests (*U*-tests) (Rousset & Raymond 1995) were performed with the alternative hypothesis of either heterozygote excess or deficiency. When the alternative hypothesis was heterozygote excess, 4.1% (13/314) of the locus/population combinations showed significant deviations from HWE at $P < 0.05$. When the alternative hypothesis was heterozygote deficiency 10.5% (33/314) of the locus/population combinations were significant at $P < 0.05$. There was no consistency between the three tests to indicate any specific locus/population was in disequilibrium.

Non-random association of gametes to form genotypes could also affect using allele frequencies to calculate genotype frequencies. In natu-

ral populations this is most likely a result of population sub-structuring. Tests of genotypic disequilibrium within populations resulted in 1876 comparisons. Three populations (AI, ABR and HHP) were not tested for genotypic disequilibrium as all three of these populations use a limited number of breeding bulls. When these populations were eliminated from consideration because of known breeding structure, 6.4% (120/1876) of the combinations were significant at $P < 0.05$. Tests of genotypic disequilibrium across populations resulted in 105 comparisons. No locus pairs showed significant disequilibrium across populations at $P < 0.05$ (Bonferoni corrected).

Parentage inference

Both the ABR and HHP pedigrees were used to check the inheritance of the markers and to evaluate the effectiveness of both the markers and the likelihood testing procedure in a production setting. A total of 121 offspring were used to evaluate the test's effectiveness. For each offspring, every reproductively capable animal in the population was considered as a potential parent, allowing for the possibility of missing parents. The first cycle of parentage

analysis resulted in eliminating all potential parents that showed incompatibilities at more than one locus. Parents that showed mismatches at one locus were considered as potential parents to allow for the possibility of either a mutation or a genotyping error. The potential parents that were left were then considered as known parents and this additional information was used to re-test the offspring against the original set of potential parents. After the second round of parentage analysis in the ABR herd, 87% (80/92) of the offspring were unambiguously assigned parentage to the correct sire and dam. A total of 12 offspring were not assigned parentage after the second cycle because these 12 cows were purchased as bred heifers; therefore, the sires were unavailable. After inspecting the results from the first cycle of parentage analysis, the correct dam was assigned with > 95% confidence in each case where the sire was unavailable. Parentage analysis results for the HHP population were much the same as for ABR. Every offspring was unambiguously assigned parentage except two offspring whose sire was not sampled, in which case, the correct dam was assigned with > 95% confidence.

Table 3. Mean expected heterozygosity across all 15 loci and combined average exclusion probabilities for all 15 loci and the core set of 12 loci

Population	Mean expected heterozygosity	All loci		Core set	
		PE1	PE2	PE1	PE2
AI	0.4496	0.8622	0.9858	0.8612	0.9820
CSP	0.6818	0.9953	0.9999	0.9901	0.9997
EIP	0.6666	0.9938	0.9999	0.9894	0.9997
EIW	0.5541	0.9663	0.9989	0.9506	0.9974
FN	0.6602	0.9943	0.9999	0.9860	0.9996
GC	0.6521	0.9923	0.9999	0.9828	0.9994
HM	0.5757	0.9777	0.9991	0.9599	0.9973
CCSP	0.4160	0.8457	0.9796	0.7768	0.9570
MBS	0.6334	0.9893	0.9998	0.9838	0.9996
MX	0.6729	0.9956	0.9999	0.9916	0.9998
NBR	0.6542	0.9902	0.9998	0.9714	0.9988
WBNP	0.6759	0.9950	0.9999	0.9886	0.9997
WC	0.6630	0.9943	0.9999	0.9859	0.9995
YNP	0.6340	0.9898	0.9998	0.9813	0.9993
ABR	0.6981	0.9972	1.0000	0.9920	0.9998
HHP	0.6591	0.9956	0.9999	0.9920	0.9995
AN	0.6907	0.9965	1.0000	0.9934	0.9999
HE	0.6359	0.9839	0.9995	0.9662	0.9981
HO	0.7279	0.9978	1.0000	0.9930	0.9999
SH	0.7029	0.9971	1.0000	0.9930	0.9999
TLH	0.7507	0.9993	1.0000	0.9984	1.0000
Mean bison	0.6217	0.9734	0.9976	0.9610	0.9955
Mean cattle	0.7016	0.9949	0.9999	0.9888	0.9995

Discussion

The goal of the present study was to characterize, standardize and provide validation for a set of polymorphic microsatellites for use in routine parentage testing in North American bison and domestic cattle. Table 3 demonstrates that the exclusion probabilities found in bison and cattle for these loci are comparable with other loci previously described (Glowatzki-Mullis *et al.* 1995; Heyen *et al.* 1997; Mommens *et al.* 1998; Peelman *et al.* 1998). Additionally, in cattle the core set of markers produces similar exclusion probabilities to the commercially available StockMarks™ kit (PE Biosystems). However, in bison the core set of markers offer higher exclusion probabilities than either the StockMarks™ kit or the ISAG approved set of markers (Mommens *et al.* 1998).

In order to validate the use of these markers for parentage testing in bison, the guidelines set forth for selecting loci for human parentage testing were followed (Parentage Testing Committee and American Association of Blood Banks, 1997). A total of 121 offspring were tested from two separate private populations. In every case the loci exhibited normal co-dominant Mendelian inheritance with no evidence of null alleles or mutations.

The development of an allelic ladder, which is used for each genotyping run, fulfills the requirement of a known DNA control and makes it possible to directly compare samples that are run at different points in time or even on different machines. In the case of parentage testing of domestic animals, this is a desirable feature as the offspring will be tested years apart and re-running parents each year would be inefficient and costly. An allelic ladder also increases consistency between laboratories as each genotype is assigned relative to a known standard. Locus *BMS510* exhibited single base pair differences in bison. Normally this would preclude this locus from being used as a marker for parentage testing because of the difficulty in allele assignment reproducibility. However, this problem was overcome by sizing alleles relative to the allelic ladder. The minimum and maximum standard deviation of allele sizes for this locus was 0.06 and 0.25 bp, respectively, with an average over all the alleles of 0.09 bp. These values represent between-gel deviations. The within-gel standard deviation, averaged across alleles, is reduced to only 0.06 bp. Smith (1995) demonstrated that values in this range were highly unlikely to produce incorrect allele assignment when an allelic ladder is used.

In order to use allele frequencies to calculate genotype frequencies and exclusion probabilities, allele frequencies from the populations tested must be consistent with HW expectations. Bison (903) from 14 public populations and two private populations represent an adequate sample with which to estimate allele frequencies. Tests of HWE, although showing minor deviations for some locus population combinations, did not yield consistent deviations for the testing methods employed. The number of HW deviations observed in this study is similar to other studies in humans. Hammond *et al.* (1994) found 11.5% (18/156), Edwards *et al.* (1992) found 11.6% (7/60) and Thomson *et al.* (1999) found 5.5% (2/36) of the possible locus-population-test combinations showed deviations, which is comparable to the 7.5% (71/942) found in the current study. The lack of consistency in the observed deviations leads us to conclude that these loci are in HWE for the populations tested.

Tests of genotypic disequilibrium showed no consistent deviations in the populations which were not expected *a priori* to show deviations. In a production setting such as with the HHP and ABR populations, genotypic disequilibrium is expected because a limited number of bulls are used for breeding. However, in these cases typically the entire population will be tested and departures from genotypic equilibrium will have little effect on the final parentage analysis. Therefore, we conclude that the observed deviations in HWE and genotypic equilibrium are small enough that they will not significantly affect the calculations of genotypic frequencies or multilocus probabilities from allele frequencies.

The advantages of likelihood-based parentage assignment over exclusionary methods have been demonstrated by Slate *et al.* (2000) for natural populations and extended to captive production populations in the current study. Indeed, even with highly developed sets of markers such as those presented here, genotyping errors occur. A likelihood-based system to assign parentage allows the laboratory to identify potential errors or mutations and make corrections before parentage is rejected.

PCR based methods in conjunction with highly variable microsatellite loci and fluorescent based genotyping provide the technologies needed to establish a new standard for parentage testing. The core set of 12 microsatellites presented here offers a powerful battery of markers for both parentage testing and individual identification. These markers combined with likelihood-based parentage testing will

help to refine breeding programmes and allow for improved genetic management by accurate determination of pedigrees in both bison and cattle.

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We would like to thank the managers of the public and private bison herds for providing samples. In addition, we would like to thank S. Davis, J. Caldwell and R. Brennenman for providing the domestic cattle samples and Natalie Halbert for genotyping the Wind Cave and Yellowstone Populations.

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United States Department of the Interior



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MEMORANDUM

November 13, 2002

TO: Regional Director, R6, Denver, CO

FROM: Project Leader, National Bison Range Complex
Moiese, Mt

RAC

D/W

SUBJECT: Implementing the use of prescribed fire and mechanical methods for forest management.

Enclosed are documents associated with the Environmental Assessment for the Management of the Mixed Conifer Forests at the National Bison Range. The EA analyzes the use of a variety of tools, including mechanical fuel reduction and prescribed fire to better manage the mixed-conifer forest areas of the Refuge. News releases were used to request public comment for scoping (May 10-June 10, 2002) and availability of the public draft (October 7-November 6, 2002). The public draft was also provided on the National Bison Range's website. Neither of the comment periods produced any public comments. The Confederated Salish and Kootenai Tribes and Forest Service provided comments to the Internal Draft post the deadline for comments. Only minor wording revisions were made.

Should there be any concerns or questions, please contact me at your earliest convenience. Please return a copy of all signed documents including the FONSI to this office.

1. Environmental Assessment
2. Compatibility Determination
3. Section 7 Evaluation

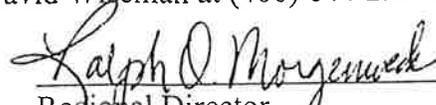
**Finding if No Significant Impact (FONSI)
for the
Management of Mixed Conifer Forests at the National Bison Range**

A programmatic Environmental Assessment (EA - U.S. Fish & Wildlife Service 2002) was prepared for the U.S. Fish & Wildlife Service's Forest Management Program on the National Bison Range. The purpose of the proposed action was to analyze the use of a variety of tools, including mechanical fuel reduction and prescribed fire, to improve management of the mixed-conifer forest areas of the Refuge in order to maintain a healthy stand of trees that will provide suitable habitat for bison and other wildlife species and halt the encroachment of trees into the grasslands. The National Wildlife Refuge System Administration Act of 1966 as amended by the National Wildlife Refuge System Improvement Act of 1997, states that "In administering the System, the Secretary shall...ensure that the biological integrity, diversity, and environmental health of the System are maintained for the benefit of present and future generations of Americans..." This policy applies to all units of the Refuge System

The Service considered three alternatives in analyzing the impacts to the human environment: (1) no action alternative--continue current management practices; (2) prescribed burning alternative--primary tool to manage forested areas would be prescribed fire; (3) enhanced habitat management alternative (preferred) prescribed fire, mechanical fuel reduction, and chemical applications alone or in combination to achieve desired resource management objectives. Social, economic, and environmental analyses showed that implementing mechanical fuel reduction and prescribed fire (preferred alternative) to improve management of the mixed-conifer forest areas would not result in significant impacts to the human environment on the National Bison Range.

The proposal was coordinated with all interested and/or affected parties. A scoping news release was published in local newspapers announcing the initiation of a thirty day scoping period from May 10-June 10, 2002. No comments were received. Internal Draft was provided to government agencies for comment August 13-23, 2002. Confederated Salish & Kootenai Tribes and Forest Service provided comments to the Internal Draft post the deadline for comments (Sept 11, and Oct. 8 respectively). Only minor wording revisions were made. The Public Draft was available for thirty day comment period October 7-November 6, 2002. No comments were received.

In summary, the Service has determined that a FONSI is warranted for the Mixed-Conifer Forest Management Program on the National Bison Range in northwestern Montana. The decision of the FONSI will be carried out upon final signatorial approval from the Service. The programmatic EA is available for review at the National Bison Range, 132 Bison Range Rd., Moiese, Montana 59824 and <http://BisonRange.fws.gov/ea>. Questions or comments about the programmatic EA or FONSI should be direct to David Wiseman at (406) 644-2211.



Regional Director
U.S. Fish & Wildlife Service, Region 6

Date: 12/4/02

**ENVIRONMENTAL ASSESSMENT FOR THE MANAGEMENT OF THE
MIXED-CONIFER FORESTS AT THE NATIONAL BISON RANGE**

November, 2002

Recommended by: David Wiseman Date: 11-14-02
U.S. FWS, Project Leader

Reviewed by: Steve Bender Date: 11/26/02
Refuge Supervisor, MT/WY/UT

Concurred by: Richard A. Coleman Date: 11/26/02
Region 6 Chief of Refuges

Approved by: John A. Blawie Date: 11/26/02
Deputy Regional Director, Region 6

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes the need for transparency and accountability in financial reporting.

2. Objectives

The primary objective of this study is to analyze the impact of various factors on the performance of the organization. The study aims to identify key areas for improvement and provide actionable recommendations.

The study is structured as follows: Chapter 1 provides an overview of the research, Chapter 2 discusses the methodology, Chapter 3 presents the data analysis, and Chapter 4 concludes with the findings and recommendations.

The data collected for this study was analyzed using statistical methods to determine the significance of the results. The findings indicate that there is a strong correlation between the variables studied.

The results of the study suggest that the organization should focus on improving its internal controls and enhancing the quality of its services. These measures are expected to lead to increased efficiency and better overall performance.

United States Fish and Wildlife Service

**ENVIRONMENTAL ASSESSMENT FOR
THE MANAGEMENT OF MIXED CONIFER FORESTS
AT THE NATIONAL BISON RANGE**

National Bison Range Complex
Moiese, Montana
September, 2002

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COVER SHEET

Proposed Action: Use prescribed fire and mechanical methods in the management of mixed-conifer forest on the National Bison Range

Type of Statement: Environmental Assessment

Lead Agency: U.S. Fish & Wildlife Service

Cooperators: Confederated Salish & Kootenai Tribes
U.S. Forest Service

Responsible Official: Ralph Morgenweck, Regional Director
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1.0 INTRODUCTION

The National Bison Range is a unit of the National Wildlife Refuge System, U.S. Fish and Wildlife Service, located near Moiese, Montana in Sanders and Lake Counties. It was established by Acts of Congress on May 23, 1908, and March 4, 1909, primarily for the preservation of the American Bison (*Bison bison*), and by Executive Order 3596, on December 22, 1921, to function as a refuge and breeding grounds for birds, and further directed on August 12, 1958, to provide adequate pasture for the display of bison in their natural habitat at a location readily accessible to the public. Since establishment, other big game animals that occur include Rocky Mountain elk, bighorn sheep, pronghorn antelope, mountain goats, mule deer, white-tailed deer, mountain lion, and black bear. The current management emphasis is to provide habitat for bison and bird diversity in grasslands and forest.

The 18,800 acre National Bison Range (Refuge) is within the exterior boundaries of the Flathead Indian Reservation (Figure 1). The portion of the Flathead Valley in which the Refuge is located has a microclimate usually characterized by relatively mild winter temperatures and little wind.

This environmental assessment (EA) was prepared in compliance with the National Environmental Policy Act of 1969 and its implementing regulations. Three alternatives, including a No Action Alternative, were developed and analyzed, and are included in the Alternatives Section. A preferred ecological alternative has been identified.

This EA establishes a direction for overall management of the mixed-conifer forested areas within the Refuge, additional site-specific surveys and assessments will be performed prior to any management action to further assess impacts to the resources, and site-specific surveys will be developed to provide guidance. Appropriate action would then be taken to avoid the unnecessary loss of any species or cultural resource.

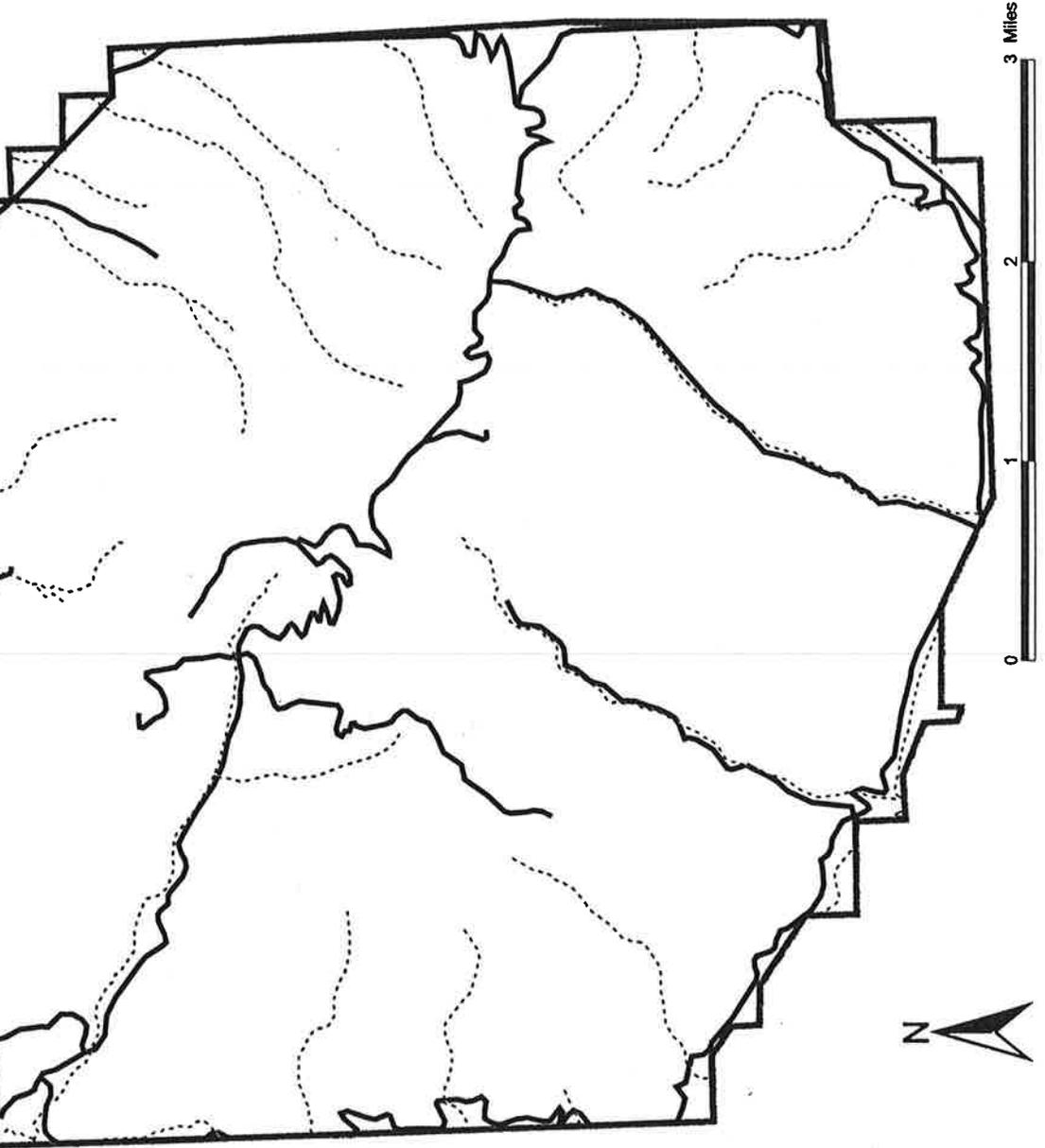
2.0 PURPOSE

The purpose of this proposed action is to analyze the use of a variety of tools, including mechanical fuel reduction and prescribed fire, to better manage the mixed-conifer forest areas of the Refuge in order to maintain a healthy stand of trees that will provide suitable habitat for bison and other wildlife species and halt the encroachment of trees into the grasslands.

The National Wildlife Refuge System Administration Act of 1966 as amended by the National Wildlife Refuge System Improvement Act of 1997, states that "In the administering the System, the Secretary shall...ensure that the biological integrity, diversity, and environmental health of the System are maintained for the benefit of present and future generations of Americans...". This policy applies to all units of the Refuge System.

The Refuge needs a forest management plan that will utilize a range of management strategies consistent with current knowledge to manage the mixed-conifer forest located on the upper elevations of the Refuge. This environmental assessment analyzes the use of a variety of tools,

**Figure 1. National Bison Range
Refuge Boundary and Vicinity Map**



Legend

-  Roads
-  Streams/Springs
-  Headquarters
-  Refuge Boundary

Vicinity Map

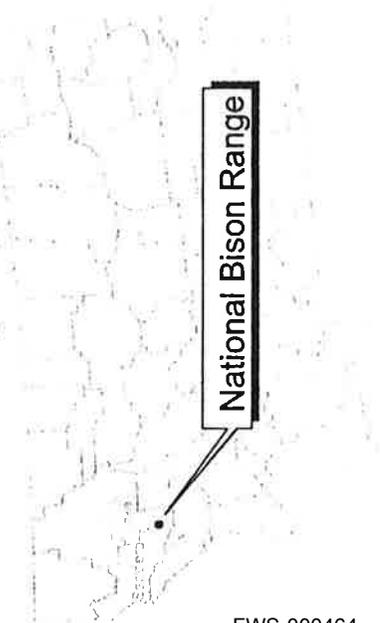


Figure 1: Map of the National Bison Range with inset vicinity map

including mechanical fuel reduction and prescribed fire, to better manage the mixed-conifer forest areas of the Refuge. The long-term objectives for this action is to limit the forested areas to 2,700 acres (14% of the Refuge); maintain a healthy stand of trees that will provide suitable habitat for bison and other wildlife species; halt the encroachment of trees into the grasslands; and reduce the likelihood of a catastrophic wildfire and epidemics of insects or disease. This assessment and resulting guidance will be used to manage the forested areas until the Comprehensive Conservation Plan (CCP) for the Refuge is completed, and will be included as an attachment to the current Fire Management Plan

3.0 NEED

Wildland fire has been excluded from the area for many decades. As a result, plant succession, fuel accumulations, structure and composition of vegetation, insect and disease populations, nutrient cycling, productivity, diversity, and habitats for wildlife are being affected.

The Refuge encompasses a low-rolling mountain connected to the Mission Mountain Range by a gradually descending spur with associated ridges and drainages situated at the south end of the Flathead Valley. Elevation varies from 2,585 feet at headquarters to 4,885 feet on Red Sleep Mountain, the highest point on the Refuge. Palouse prairie grasses and forbs cover the slopes and lower elevations, while a mixed-conifer forest covers approximately 3,000 acres of the upper elevations. Conifer species include ponderosa pine on open, southern exposures, with a gradual transition to a ponderosa pine/Douglas-fir mix on or near the ridge tops, and Douglas-fir on the northern aspects. Both the ponderosa pine and Douglas-fir are encroaching into the grasslands.

Western Montana forests composed of ponderosa pine were shaped by surface fires that swept through these stands at intervals of between three and 30 years (Arno 1976). Most of those fires were not hot enough to kill mature trees but they did thin out the forest understory. The result was an open forest with widely spaced old growth trees (Pyne 1982). It also was common to find trees mostly in rocky areas and other locations where little ground fuels were present (Wakimoto, as quoted in Second Growth Douglas Fir on the National Bison Range, Miwa 1992). The result was open forest dominated by widely spaced old growth ponderosa pine with predominantly grass undergrowth (Fisher and Bradley 1987, Pyne 1982).

Cool, dry forests of western Montana dominated by Douglas fir had fire intervals averaging 35-45 years (Fischer and Bradley 1987). Areas of more frequent ground fires created Douglas fir stands that were patchily distributed and restricted to moist microsites, rock outcrops, and talus slopes (Partners In Flight 2000). Longer fire intervals result in Douglas fir regeneration establishing as thickets of saplings and poles creating a fuel ladder that increases the chance of stand-replacement fire. This result can be seen currently on the Refuge. Some stands of Douglas fir are infested with mistletoe and insects and several stands have a thick understory composed primarily of young trees commonly described as "dog-hair".

The grasslands of the National Bison Range are native palouse prairie composed of grasses and forbs - generally wildflowers. The primary grasses of the palouse prairie are Idaho fescue (*Festuca idahoensis*), rough fescue (*Festuca scabrella*), and bluebunch wheatgrass (*Pseudoroegneria spicata*). These native bunch grasses grow in clumps with the crown shading their roots. The prairie grasses and forbs are specially adapted to tolerate a wide range of extremes in temperature, precipitation and soils (USDA 2002). On the whole, native prairie is rapidly disappearing and is becoming one of the most endangered ecosystems in the United States (USGS 2002).

Fire was a major force in shaping the palouse prairie. Historians recount lightning-ignited fires burning in the pine fringes bordering the prairies in late autumn (USGS 2002). For thousands of years, Native Americans set periodic, cool-burning fires that did not damage perennial grasses. Without frequent burning to reduce fuel levels, conditions were ideal for rare but intense fires that destroyed the native perennial species and allowed exotic grasses and annual forbs to invade (World Wildlife 2002). While there is some debate over how frequently the palouse prairie burned historically, there is a consensus that fires are generally less frequent today than in the past, primarily due to fire suppression, construction of roads (which serve as barriers to fire spread), and conversion of grass and forests to cropland (Morgan et al. 1996 as quoted in USGS 2002).

The role of fire, as a natural process, has been absent since the Refuge was created in 1908 (USFWS 2001). There have been 22 wildfires reported at the Refuge since 1980 (Figure 2). The majority have been caused by lightning (SACS 2002). With the exception of the one large wildfire that occurred in 1934 that burned approximately 5,300 acres, and a very persistent fire of 13 acres in timber that lasted three days in 1994, the majority of other fires have been relatively small (USFWS 2001, SACS 2002). This may be primarily the result of aggressive control measures by Refuge wildland fire suppression forces.

The exclusion of fire has dramatically altered the size and composition of the forested area at the Refuge (USFWS 2001). Recent aerial photographs, when compared to similar photos taken decades earlier, and historic accounts, indicate that the forested areas have changed from open stands of large ponderosa pine and Douglas fir to dense stands of saplings surrounding the larger trees and the encroachment of trees into open grasslands (Figure 3).

Douglas-fir dwarf mistletoe (*Arceuthobium douglasii*) is a common occurrence in many areas and has created dense brooms that increase likelihood of increased tree mortality or torching that could lead to a crown fire. In addition to the heavy stocking level (number of trees per acre), dead and down material is beginning to accumulate on the forest floor. The heavy stocking level is also leading to insect outbreaks with pockets of western hemlock looper (*Lambdena fiscellaria lugubrosa*) and Douglas fir tussock moth (*Orgyia pseudotsugata*). These insects kill trees from the top down and especially hit young trees. The increase in fuel loading in forested areas has greatly increased the likelihood that a wildfire occurring under adverse conditions has the potential to become a catastrophic, stand-replacing event. It is quite possible that an event of this type would result in the loss of the old growth ponderosa pine and Douglas-fir, disturb native grasslands creating increased noxious weeds or undesirable grasses (e.g., cheatgrass-*Bromus*

tectorum), and create conditions that would endanger the health and safety of horses and riders attempting to move bison out of the area of the fire for years to come.

The encroachment of the trees into the grasslands is impacting the management of the bison by reducing the amount of forage available for bison and other wildlife and making it increasingly difficult to move bison from pasture-to-pasture.

Over the past several years, the Refuge staff has actively managed, on a small scale, the forested areas. The primary means has been manually cutting and piling smaller Douglas-fir and burning the piles later, under favorable conditions. Mechanical means have also been used to pile the debris resulting from the thinning projects. Refuge Managers have also approved the use of prescribed fire, on a limited basis, to treat certain areas. Because of the size of the project and budgetary and other management considerations, the number of forested acres has actually increased. In addition, there has been little opportunity to follow up the treatment of the areas that have been thinned mechanically with additional treatments.

4.0 ALTERNATIVES

Alternative A - No Action: Continue current management practices.

Under this alternative no changes from current procedures would be implemented. All wildland fires would be managed using the appropriate management response concept. In most cases, wildfire suppression personnel would, in a cost-effective manner, seek to limit the spread of a fire quickly as possible, while ensuring public and firefighter safety and protecting the Refuge's natural, cultural and historic resources, and private and other property. In many cases, the appropriate management response would entail the deployment of firefighters with handtools and engines to control the fire as quickly as possible.

Members of the Refuge staff would continue to cut and pile smaller Douglas-fir and burn the piles under favorable conditions. There would be limited use of mechanical equipment to pile the debris from the thinning operation. Prescribed burning would be used on a limited basis to treat "dog-hair" thickets of ponderosa pine and Douglas-fir.

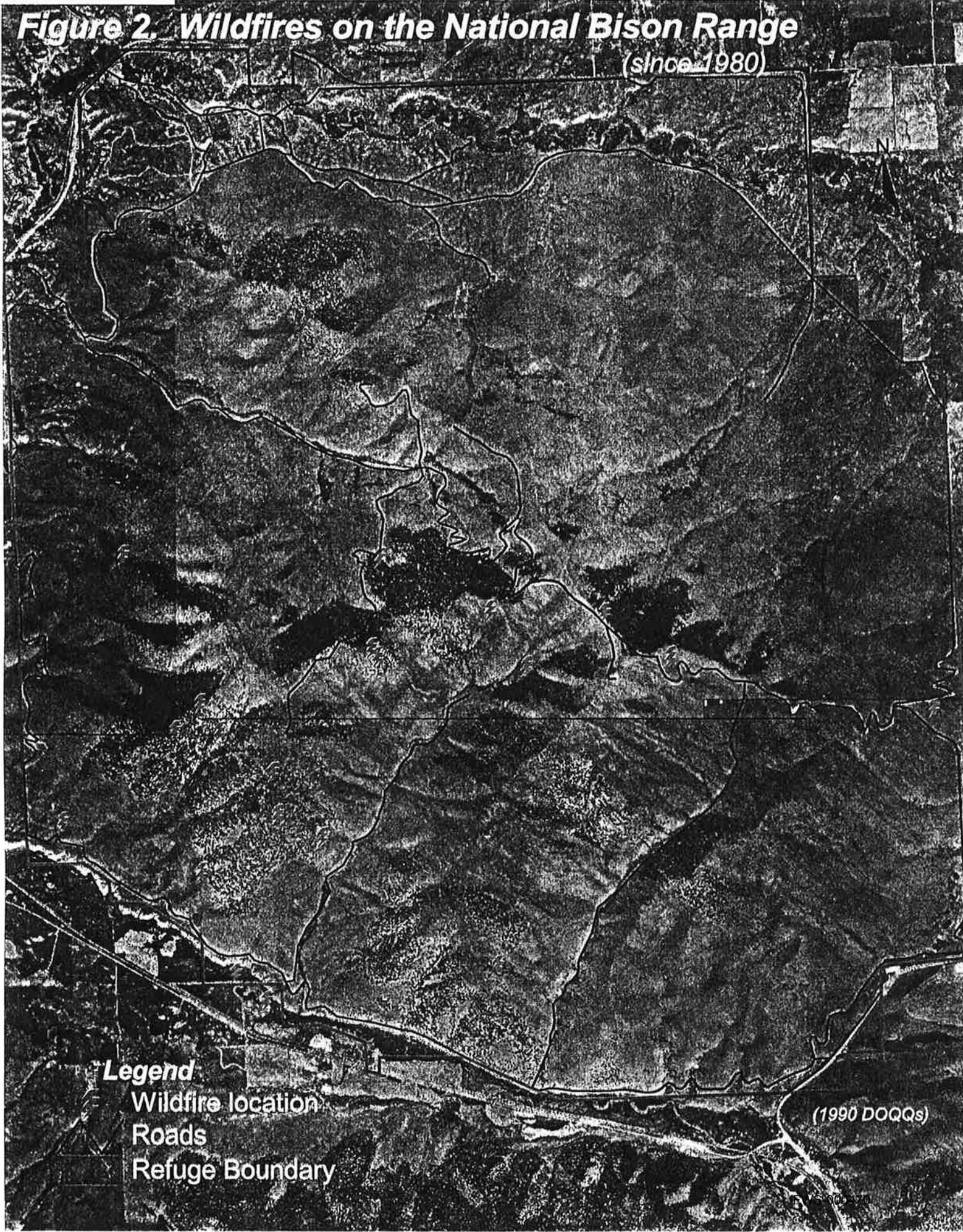
Chemical and biological controls in accordance with the Refuge's Integrated Pest Management Plan would also be used as appropriate to limit the spread of undesirable species.

Alternative B - Prescribed Burning: The primary tool to manage forested areas would be prescribed fire.

The key component of this alternative would be the use of prescribed fire to manage forested areas.

Wildland fires would be managed in much the same manner as Alternative A, however suppression strategies other than direct attack may be used more frequently. Examples include,

Figure 2. Wildfires on the National Bison Range
(since 1980)

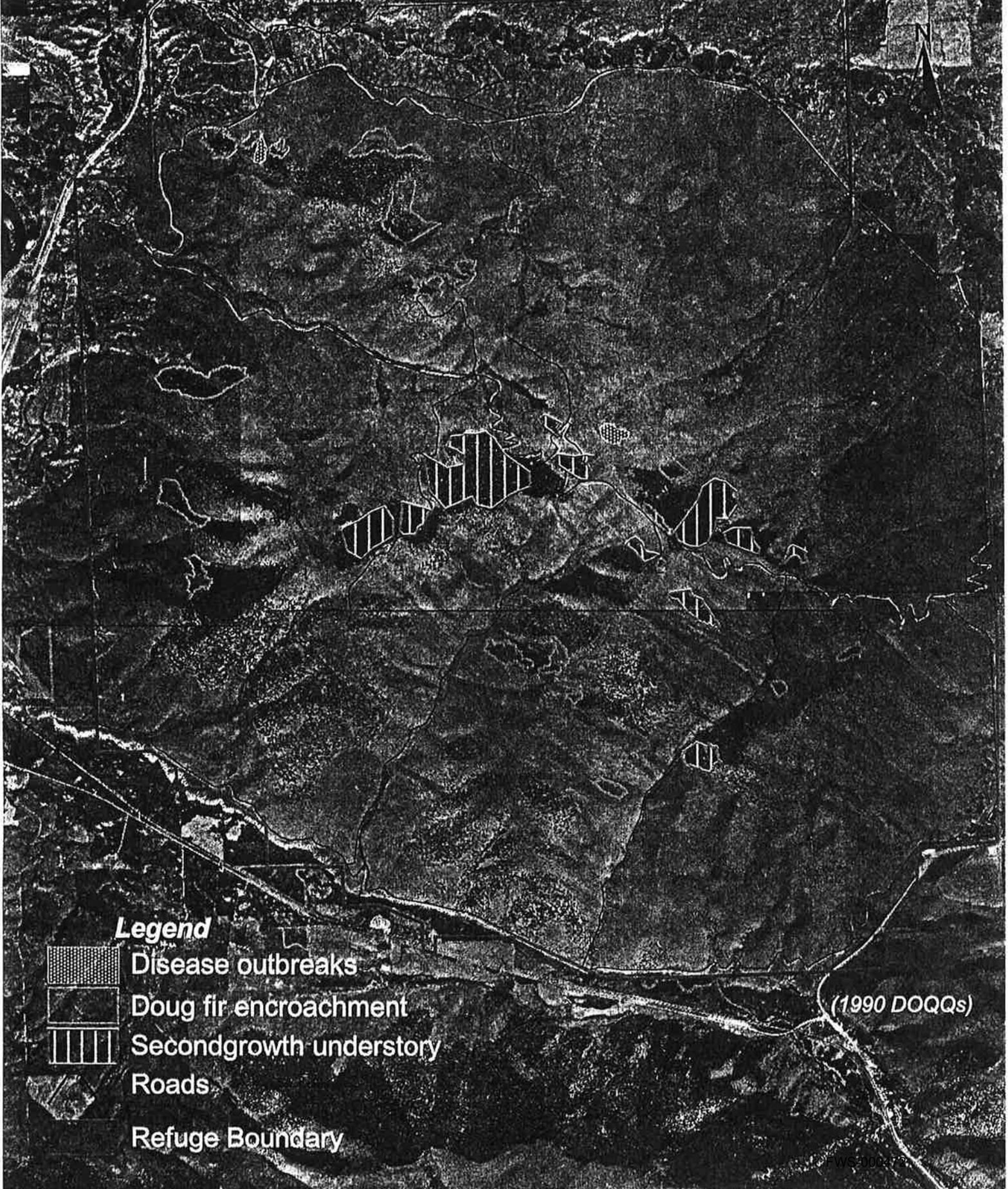


Legend
Wildfire location
Roads
Refuge Boundary

(1990 DOQQs)

Figure 3. National Bison Range Forested Areas

Examples of second growth, encroachment and disease areas (preliminary data)



Legend

-  Disease outbreaks
-  Doug fir encroachment
-  Second growth understory
-  Roads
-  Refuge Boundary

(1990 DOQQs)

confining the fire to a given area, under a predetermined set of environmental conditions as outlined in the current fire management plan, or burning out fuels in advance of the fire, using existing roads and trails and natural fuel breaks as control lines.

Refuge staff and others would evaluate the stands and institute a monitoring program to identify sites that require treatment and determine the desired results. Based on factors such as the training and experience level of the Refuge staff, the availability of fire management personnel from other Service areas and agencies, and other logistical concerns, the Refuge proposes to use prescribed fire to treat on average 300 acres annually over a 10-year period. This target would allow the Refuge to establish a 10-year treatment cycle, which is within the historic fire regime of 3 - 30 years. As part of the process, the Refuge would define treatment objectives and prescriptions, develop prescribed burn plans, conduct prescribed burns, and monitor vegetative response. A program would be implemented to monitor weather and fuel conditions for appropriate burn periods.

Prescribed fire would only be used when the prescriptive parameters were met. A prescription includes measurable criteria that define conditions under which a prescribed fire may be ignited. These criteria include fuel and duff moisture, weather parameters, holding and contingency forces, ignition sequence, desired fire behavior characteristics, air quality and public health considerations, and measures to be taken and techniques to be used to reduce the impacts of the operation. Pre and post-burn monitoring would be used to determine if treatment objectives were met.

Scheduling the various units for treatment would depend on environmental and habitat conditions, potential impacts and the availability of required staffing, rather than arbitrary dates. All factors associated with a particular prescribed burn would have to meet parameters indicated in the prescribed burn plan before the burn could be implemented. It is possible that prescribed fire would not be used in some years due to the lack of adequate staffing, habitat conditions, or unfavorable weather.

Monitoring results would be used to fine-tune prescriptions, as necessary, to ensure resource management objectives would be achieved.

Chemical and biological controls in accordance with the Refuge's Integrated Pest Management Plan would also be used as appropriate to limit the spread of undesirable species.

Alternative C - Enhanced Habitat Management: Use prescribed fire, mechanical means, and chemical applications alone or in combination to achieve the desired resource management objectives (Preferred Alternative).

Although the project area is only 3,000 acres, this alternative would be an ecosystem-based management treatment that would benefit the ecosystem as a whole. This alternative would also consider improvement in big game, bird and other wildlife habitat, forest and prairie health, watershed protection, and a reduction in the likelihood of a high intensity, stand-replacing wildfires, as well as addressing the issue of forest composition. It would also be a first step in

the process of restoring the ecological role of fire in perpetuating forest containing large ponderosa pine and Douglas-fir that are healthy and consistent with the conditions resulting from the historical fire occurrence in the area. Members of the Refuge staff would work with other resource managers, researchers, and fire practitioners to establish and refine the desired future conditions.

Wildfires would be managed using the appropriate management response concept. Every wildfire on or threatening Service lands would receive an appropriate level of response. The level of response would be consistent with firefighter and public safety, land use objectives, and would be executed to minimize suppression cost and resource damage. The appropriate action would include high intensity direct suppression efforts, lower intensity indirect efforts, or surveillance to ensure confinement of a wildfire within a designated area.

Refuge staff would evaluate the forested areas and institute a monitoring program to identify areas that require treatment. The results of the monitoring would be used in combination with current knowledge to determine the desired results. Based on factors such as the training and experience level of the Refuge staff, the availability of fire management personnel from other Service areas and agencies, and other logistical concerns, the Refuge proposes to use prescribed fire and other resource management tools to treat on average 300 acres annually over a 10-year period. This target would allow the Refuge to establish a 10-year treatment cycle, which is within the historic fire regime of 3 - 30 years. As part of the process, the Refuge would define treatment objectives and prescriptions, develop prescribed burn plans, conduct prescribed burns, and monitor vegetative response. A program would be implemented to monitor weather and fuel conditions for appropriate burn periods.

Under this alternative, a variety of resource management tools would be used to achieve desired future results. Low intensity prescribed fire and mechanical fuel reduction operations would be used to reduce the number of trees (stocking level) and the fuel loading. In some cases, the preferred treatment would only be prescribed fire, in others, only mechanical means would be used, or the two treatments would be used in combination to achieve the desired results. Chemical and biological controls in accordance with the Refuge's Integrated Pest Management Plan would also be used as appropriate to limit the spread of undesirable species.

A possible scenario would include the use of chainsaws and other similar equipment to thin trees. Prescribed fire would be used to reduce or eliminate the needles, limbs, and boles lying on the ground. It is entirely possible that an area would have to be burned more than once under a variety of conditions to achieve the desired results. Other management actions would include the use of the cut and pile method, followed up with pile burning or chippers to dispose of the residue. Options such as the use of wheeled and tracked machines to chip standing trees would be explored. In those cases where debris was chipped, the area would be treated with prescribed fire.

Scheduling the various units for treatment would depend on environmental and habitat conditions, potential impacts and the availability of required staffing, rather than arbitrary dates. All factors associated with prescribed fire would have to meet parameters indicated in a site

specific prescribed burn plan before a burn could be implemented. It is possible that prescribed fire would not be used in some years due to the lack of adequate staffing, habitat conditions, or favorable weather. Mechanical equipment would not be used when weather conditions produce conditions that would increase the likelihood of increased soil disturbance.

Monitoring results would be used to fine-tune prescriptions, as necessary, to ensure resource management objectives would be achieved.

Due to the relatively small size of the Refuge and the resulting close proximity to private lands, dwellings and other improvements, permitting lightning ignited fires to burn under prescriptive perimeters to achieve resource management objectives would be difficult. Therefore, all wildland fires would be suppressed using the appropriate management response as outlined in the current Fire Management Plan. The overall fuel arrangement and loading are such that prescribed fire alone would not achieve the desired results. The environmentally preferred would be one that allows mechanical hazard fuel reduction and prescribed fire in combination with other management options to manage fuels and achieve other resource management objectives (Alternative C).

Table 1: Summary of Alternatives

Alternative	Suppression	Prescribed Fire	Mechanical	Biological/Chemical	Monitoring
Alt. A No Action	Direct Attack	Very limited use. Burn piles	Labor intensive use of chainsaws and hand-piling. Some dozer piles	Use biological and chemicals to control undesired species	Limited
Alt. B RX Burning	Use a wider range of suppression responses	Aggressive use of prescribed fire to reduce fuel loading and open stands of mixed-conifer. Limited pile burning.	Limited use of mechanical thinning and piling.	Use biological and chemicals to control undesired species	Proactive monitoring
Alt C Preferred	Use a wider range of suppression responses	Use prescribed fire to reduce fuels after treatment and to control D-fir encroachment	Use of chainsaws and other mechanical means to pretreat fuels and to reduce stocking levels. Some hand and machine piling of residue.	Use biological and chemicals to control undesired species	Proactive monitoring

5.0 ALTERNATIVES CONSIDERED AND DISMISSED

The use of mechanical means alone was considered and dismissed due to the steep terrain and the high costs associated with equipment use and the labor intensive nature of the program. Without an efficient means of recycling nutrients and controlling Douglas-fir and ponderosa pine encroachment into the prairie, it is unlikely that the goal of achieving biological integrity, diversity, and environmental health would be achieved.

6.0 AFFECTED ENVIRONMENT

6.1 Soils

Specific effects of fire on soil may vary greatly (Wade and Lunsford 1989). Frequency, duration, and intensity of fire on soil must be considered. Typically, erosional responses to burning or other management actions are the function of several factors such as the degree of elimination of protective cover, steepness of the slope, the degree the affected soil sheds water, climatic characteristics, and how quickly the vegetation recovers (Tiedemann et al. 1979, Wade and Lunsford 1989). The impacts of management activities on soils are primarily determined by the amount of protective cover lost and how quickly the vegetation recovers.

Of special concern are the effects a high intensity fire (both wildfire and prescribed fire and pile burning) can have on soils. Soil productivity and stability are both adversely affected by excessive heat (Wells et al. 1979). For example, burning can volatilize nitrogen, an essential element of plant growth, destroy soil organic matter, and create conditions that make soil impervious to water (Wells et al. 1979). It is important to note, however, that most of the effects of fire on soils are relatively minor and can be mitigated by controlling fire intensity through proper planning and implementation (Wells et al. 1979). Soil disturbance from heavy equipment is also of concern. Wells et al. (1979) in their publication Effects of Fire on Soil - A State-of-Knowledge Review suggest that the proper use of prescribed fire can reduce the need for heavy equipment that can create soil disturbance and reduce impacts resulting from a particular management action.

The glacial aftermath in the region left a disturbed, bulldozed landscape and dunes of glacial out wash in the Flathead Valley. Glaciers, glacial lakes and mountain runoff have deposited unconsolidated valley fill sediments, lacustrine silts and assorted glacial debris up to and including large drop stones which originated far north in British Columbia.

Topsoils are generally shallow and mostly underlain with rock, which is exposed in many areas, forming ledges and talus slopes. Soils over the major portion of the Refuge were developed from materials weathered from pre-Cambrian quartzite and argillite bedrock. These soils are well drained and range from very shallow to moderately deep in parent material. They have a loamy surface horizon with near neutral pH (7.0), high organic content, and varying degrees of rock fragment. Except for surface soils, lower horizons have a loamy texture with rock fragment dispersals. Water percolation rates are high, thus soil erosion is minimal.

6.2 Air Quality

Air quality in the Refuge receives protection under several provisions of the Clean Air Act (CAA), including the National Ambient Air Quality Standards (NAAQS) and the Prevention of Significant Deterioration (PSD) Program. The Refuge is within the exterior boundaries of the Flathead Indian Reservation, which was designated in 1979 as a voluntary Class I Airshed under provisions of the Clean Air Act and receive the highest protection under the CAA. The area is considered to be in attainment of the NAAQS, the minimum standards for air quality throughout

the country (EPA 2002). The PSD Program provides additional protection from air pollution. One of the goals of the PSD Program is to preserve, protect, and enhance the air quality in areas of special natural, recreational, scenic, or historic, including the Refuge's values (Ross 1990). Only a limited amount of additional air pollution, due to moderate growth, can be allowed in the area over time.

Air quality is considered to be exceptionally good, with no nearby manufacturing sites or major air pollution sources. However, Polson and Ronan in Lake County and areas of Flathead County are designated as non-attainment areas and not in compliance for PM-10 (EPA 2002). Seasonal burning of logging slash in the mountains and burning of stubble fields on lower valley ranches causes some short-term, localized smoke derived from natural vegetative sources. Heavy smoke may occur in drought years from wildfires either nearby or carried into the area by the prevailing westerly winds. Smoke from wood burning stoves becomes trapped in the valley during temperature inversions that commonly occur in the winter.

6.3 Hydrology

Of all the ecosystem components, water is perhaps the most sensitive to the disturbance of vegetation and soils on the land surface (Tiedemann, et al. 1979). Water supplies are affected by fire through the loss of ground-surface cover, such as needles and small branches, and the chemical transformation of burned soils make watersheds more susceptible to erosion from rainstorms (USGS 2000). The impacts of high intensity wildfires can be present for several years (Tiedemann et al. 1979), while low-intensity fires have little effect on water quality.

Activities associated with logging reduce soil bulk density and increase the amount of water that can be absorbed by soil in a given time period (DeByle and Packer 1972). Soil disturbance by mechanical vehicles can also create conditions that are conducive to soil erosion.

When timbered areas that are thinned or a vegetation type is altered, the water balance of the site changes. Based on their research in the Northern Rocky Mountains, Farnes and Hartman (1989) believe a reduction in the timber canopy will result in reduced interception loss¹. In timbered alpine watersheds, snow pack accumulation and rates of snow melt also change (Farnes and Hartman (1989). Reduced interception loss enhances runoff by allowing for greater snow pack accumulation during the winter. Transpiration rates are also reduced. The increased accumulation of precipitation and the reduced loss due to transpiration would be expected to enhance stream flow and spring output.

The Flathead and Swan Rivers, along with other tributaries drain a watershed of 4.5 million acres. The North Fork of the Flathead arises in Canada and borders the west side of Glacier Park. The Middle and South Forks drain the Great Bear and Bob Marshall Wilderness Areas. The Swan flows through Swan Lake and joins the Flathead Valley as it widens to form Flathead Lake.

¹ Interception loss is the amount of snow or precipitation that is captured by tree branches and lost through evaporation and other similar processes, thereby not reach the forest floor.

Mission Creek drains the north side and the Jocko River drains the south side of the Refuge and both feed into the Flathead River.

There are more than 80 natural springs with about 40 developed into watering sites for bison and other wildlife. The abundance of springs was an important factor in the selection of this property as the site of a national refuge for conservation of bison.

6.4 Vegetation

The climate and repeated disturbances, including grazing, disease, and fire, have been a major force shaping landscapes and determining productivity throughout North America for thousands of years (Smith 2000). These factors have worked together in the southern reaches of the Flathead Valley to create two primary vegetative communities, prairie and mixed-conifer forest.

Prior to modern agriculture, fire suppression, and urbanization, vegetation patterns were shaped by fire regimes with characteristic severity, size and return interval (Frost 1998, Gill 1998, Heinselman 1981, Kilgore 1981 - as quoted in Smith 2000). Vegetation of the native palouse prairie is well suited for the climate and range of growing conditions, while the forested areas are expanding in the semi-arid environment that experiences a wide range of precipitation based on elevation and aspect. Both vegetative communities evolved through a regime of frequent, low intensity surface fires at intervals of between three and five and 30 years (Arno 1996, Arno 1976 as quoted in Smith and Arno, eds. 1999). Lightning was the principal cause of these fires (Smith and Arno 1999). The historic occurrence of lightning ignited wildland fires on the Refuge support this assumption. Since 1980, twenty-two lightning ignited fires have been suppressed on the Refuge (SACS 2002). It is reasonable to assume that some would have grown larger, were they not suppressed.

Before the area was settled by European man, the entire midrange, forested regions of what is now Western Montana were composed primarily of open stands of mixed-conifer with a grass understory. Ponderosa pine occupied the drier sites while Douglas-fir occupied the more moist sites on the northern facing aspects. In the interior of the Southern Flathead Valley, the forested areas were likely restricted to a few areas along the upper elevations and rocky areas. Periodic fires would have maintained the grasslands and killed the majority of the small tree seedlings before they could become established. Under favorable conditions, scattered Douglas-fir could survive long enough to become established, allowing these trees to develop characteristics such as thick bark that would protect them from low intensity fires.

While wildland fire may have helped shape the environment, it can also have an adverse impact on it. Certain plant communities and animal species occupy sites that seldom, if ever support wildland fire. In other cases, the long-term exclusion of wildland fire has resulted in plant communities that so altered a site that the area can only tolerate low intensity fire (Olson 1998, USDA 2002).

The elimination of the historic pattern of frequent low-intensity fires in ponderosa pine and pine-mixed conifer forest has resulted in major ecological disruption (Arno 1996). Arno (1996)

continued by stating that, prior to 1900, open stands of large, long-lived, fire-resistant ponderosa pine were typical. Today, as a result of fire exclusion, most stands have dense thickets of small trees and are experiencing insect and disease epidemics and severe wildfires. Gruell and others (1982, as quoted in Smith and Arno 1999) concluded that the successional trend resulting from the absence of fire was creating structural conditions that would increase susceptibility to severe wildfires, shifting composition toward the more shade-tolerant Douglas-fir and contribute to a loss of wildlife forage.

The absence of fire at the Refuge has led to conditions Arno and Gruell described. On the northern aspects that favor Douglas-fir over both the prairie and ponderosa pine, Douglas-fir are encroaching into the prairie and in many areas now dominate the forested sites. This has led to a net loss of prairie, an element essential to the perpetuation of the bison for which the Refuge was established, a high incident of dwarf mistletoe infestation, and has placed the forested areas and especially the old growth ponderosa pine and Douglas-fir at risk to the possibility of loss through a stand-replacing event.

During periods of drought or abnormal environmental conditions (low relative humidity, high winds, low fuel moisture), wildland fire can consume duff, kill vegetation and disrupt the mycorrhiza association in mesic sites that under normal conditions would be too moist to burn. Wildland fires under the previously described conditions and exacerbated by long periods of suppression can result in high levels of tree mortality and open areas to invasion by other species, thereby changing the entire plant and animal species composition (Olson 1998).

In the case of the Refuge, it would be advantageous to reintroduce fire alone and in combination with other management actions to halt the spread of ponderosa pine and Douglas-fir and reduce the basal area occupied by trees in the mixed-conifer areas. This would halt the encroachment into the prairie and create healthy, more sustainable forest areas.

See Section 3.0 and the following section for additional information regarding the role fire and other disturbance played in the ecology of the project area.

The palouse prairie is a combination of cool season bunch grasses (e.g., Idaho fescue, rough fescue and blue bunch wheatgrass) and forbes [e.g., balsamroot (*Balsamorhiza* spp.) and lupine (*Lupinus* spp.)].

Mixed-conifer forest, including both old growth and second growth stands dominated by ponderosa pine and Douglas-fir, inhabit the higher elevations of the Refuge. Several of the pines are greater than 400 years old. Lower slopes, riparian areas and moist areas support aspen (*Populus tremuloides*), willow (*Salix* spp.), cottonwood (*Populus* spp.), serviceberry (*Amelanchier* spp.), chokecherry (*Prunus virginiana*), snowberry (*Symphoricarpos albus*) and Wood's rose (*Rosa woodsii*).

Ponderosa pine (*Pinus ponderosa*) is rated "very resistant" to fire (USDA 2002). No other conifer within its range is better adapted to survive surface fires, which often char but usually do not kill mature trees. Adaptations to survive surface fires include open crowns; self-pruning

branches; thick, insulative, relatively nonflammable bark; and other adaptations (USDA 2002). Trees in widely spaced stands are typically better equipped to survive surface fire than trees in denser stands. Ponderosa pine cannot survive crown fire, but mature trees can survive a considerable amount of scorching (USDA 2002).

In the pole and sapling stages Douglas-fir (*Pseudotsuga menziesii*) is susceptible to fire damage, however trees develop fire-resistant bark in about 40 years on moist sites (USDA 2002). Mature Douglas-fir can survive moderately severe surface fires because the lower bole is covered by thick, corky bark that insulates the cambium from heat damage. The absence of fire allows Douglas-fir to become established and to invade adjacent grasslands (USDA 2002).

A listing of selected species and their response to wildland fire can be found in Appendix B.

6.5 Wildlife

Fire, logging, and other disturbance have an impact on animal species and their distribution. Fire regimes - that is, patterns of fire occurrence, size, uniformity, and severity - have been a major force shaping landscape patterns and influencing productivity throughout North America for thousands of years (Smith 2000). Fire regimes strongly influence animal response to fire and fire affects animals at every level. Fire has influenced composition, structure, and landscape patterns of animal habitat for millennia, so it is reasonable to assume that animals have coexisted and adapted to periodic disturbance from fire (Smith 2000).

Animals need food, shelter and hiding places in order to survive. Each animal has developed its own unique set of habitat requirements. Changes occurring over time as a result of the lack of disturbance has resulted in the loss of habitats, some critical to certain species. Understory fires occurring at short (three to 10-year) intervals usually cause minor changes to vegetation composition and structure and likewise to bird (and other animal) communities (Smith 2000).

In the Draft Bird Conservation Plan for Montana (2000), Partners in Flight identified nine general forest types considered to support a variety of priority species. Their highest priority forest type, classified as Dry Forest (Ponderosa Pine/Douglas-fir), is defined as open, parkland-type stands composed exclusively of ponderosa pine, with an understory of shrubs and/or herbaceous vegetation, which are found on the driest sites. On other dry sites, ponderosa pine occurs with a subdominant or co-dominant layer of Douglas-fir or grand fir. The Dry Forest type is represented in the project area.

The major change common to most dry forest types (especially ponderosa pine) in Montana and elsewhere in the American West is a profound alteration in age-class structure, physical structure, tree density, and tree species composition as a result of logging and fire suppression (Barrett 1979, Schubert 1974, Sheppard et al. 1983, as quoted in the Draft Bird Conservation Plan, Partners in Flight 2000). Stands that were largely dominated by mature and old growth trees in an open-parklike setting have changed to abnormally dense stands dominated by young trees (Partners in Flight 2000). This change has had an impact on bird species. Species closely associated with old growth forest stages and snags are believed to have decreased because of the

reduction of old growth. Some bird species commonly found in more moist coniferous habitats have likely increased in dry forests due to increases in tree density (Partners in Flight 2000).

Lyon and a coauthor concluded in Wildland Fire in Ecosystems - Effects of Fire on Fauna (Smith 2000) that, in many areas of North America, managers have successfully prevented or limited the occurrence of wildland fire for nearly 100 years, and that century of fire exclusion has probably caused many changes in habitat and wildlife populations of which we are not even aware. Guidance provided by documents such as the Bird Conservation Plan (2000) and research completed in the dry forest types can be used to provide guidance for the development of an overall management plan for this habitat type. An intensive and sustained effort can facilitate a return to historical ecological processes, patterns, and functions, and the bird and animal communities they support (Smith 2000).

Since the establishment of the Refuge for the preservation of the American bison, other big game animals have been introduced to the area and current management emphasis is directed toward species diversity. Other big game animals inhabiting the area include Rocky Mountain elk (*Cervus elaphus*), bighorn sheep (*Ovis canadensis*), mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), pronghorn (*Antilocapra americana*), mountain goat (*Oreamnos americanus*), mountain lion (*Felis concolor*), and black bear (*Ursus americanus*).

The Refuge is inherently diverse with a wide variety of habitats supporting numerous wildlife species other than big game. Some depend on specific vegetative types and other benefit from the ability to utilize multiple habitat types. Mammals include badgers (*Taxidea taxus*), bobcats (*Lynx rufus*), marmots (*Marmota* spp.), and ground squirrels (*Spermophilus* spp.).

Waterfowl use the Refuge, as well as variety of neotropical migratory birds from grassland species such as the grasshopper sparrow (*Ammodramus savannarum*) to timber and riparian associated species like the Townsend's solitaire (*Myadestes townsendi*), Lewis' woodpecker (*Melanerpes lewis*), and Yellow-breasted chat (*Icteria virens*). Mountain (*Sialia currucoides*) and Western bluebirds (*S. mexicana*) are abundant. Common raptors include Northern harrier (*Circus cyaneus*), Red-tailed hawk (*Buteo jamaicensis*), Short-eared owl (*Asio flammeus*), Great-horned owl (*Bubo virginianus*) and Long-eared owl (*Asio otus*).

Upland game bird species known to inhabit the area include Ring-necked pheasant (*Phasianus colchicus*), Gray partridge (*Alectoris chukar*), Blue grouse (*Dendragapus obscurus*), and Ruffed grouse (*Tympanuchus phasianellus*).

Research on the influence of fires on reptiles and amphibians is poorly documented. Data indicate because they generally inhabit moist or protected sites, very few individuals are killed during fires (Smith 2000, Means 1981). Reptiles such as painted turtles (*Chrysemys picta*), tree frogs (*Hyla regilla* spp.), and rattlesnakes (*Crotalus* spp.) are common.

A listing of wildlife species common to the Refuge is on file at Refuge Headquarters. A listing of selected species and their response to wildland fire can be found in Appendix B.

6.6 Threatened and Endangered Species and Special Status Species

Federally and state-listed endangered, threatened, and rare flora and fauna have been inventoried by the Montana Natural Heritage Program, and by law and Service policy require special consideration and protection. There is a wide range of federally and state-listed species that live year around or visit the Refuge during the year.

Federally listed threatened and endangered species include an occasional grizzly bear (*Ursus arctos*) that enters the Refuge despite the tall exterior boundary fence, and gray wolves (*Canis lupus*) have been noted on several occasions in the last decade just outside the Refuge boundary fence. Bald eagles (*Haliaeetus leucocephalus*) are year round visitors. The water howellia (*Howellia aquatilis*) is listed in Lake County, and possibly bull trout (*Salvelinus confluentus*) habitat is present in the tributaries (Mission Creek or the Jocko River) of the Flathead River that drain the Refuge. Spalding's catchfly (*Silene spaldingii*) is a recently listed threatened plant species found in palouse prairie, especially associated with fescue grasses. No occurrences of this plant have been located on the Refuge, however, an inventory has not yet been conducted.

Other species of special interest include Long-billed curlews (*Numenius americanus*), Virginia rail (*Rallus limicola*) and soras (*Parzana carolina*), Wilson's phalarope (*Steganopus tricolor*), and nesting Golden eagle (*Aquila Chrysaetos*). Peregrine falcons (*Falco peregrinus*) are noted during the late fall and winter and nest nine miles north of the Refuge and 20 miles west of the Refuge. The Refuge is also a historic nesting area of the Columbian sharp-tailed grouse (*Tympanuchus phasianellus columbianus*), a U.S. Forest Service listed "sensitive species".

6.7 Cultural Resources

Currently wildfires are suppressed. However, historical evidence demonstrates that natural and human-ignited fires were regular events where the majority of the cultural resources are known to exist. In recent years, fire suppression has contributed to a steady buildup of grassland and forest fuel loads and natural vegetative growth, increasing the chances of an uncontrolled wildfire that could potentially impact the Refuge's cultural resources as well as those on surrounding property.

Although more than 20 years of fire ecology research allows ecologists to predict impacts on biotic communities, the possible impacts of prescribed burning and wildfires on archeological resources are not well known. Research conducted in North Dakota indicates that fire-related impacts to buried artifacts are negligible, but effects on surface-exposed artifacts can be significant, depending on artifact type and size (Seabloom et al. 1991).

Impacts to archeological resources by fire resources vary. The four basic sources of damage are (1) fire intensity, (2) duration of heat, (3) heat penetration into soil, and (4) suppression actions. Of the four, the most significant threat is from equipment during line construction for prescribed fires or wildfire holding actions (Anderson 1983). By extension, a similar threat exists during the use of mechanized equipment when managing hazard fuels.

The Barrier Archaeological Survey was completed in 1969 and the findings were documented in an article in Archaeology in Montana. The survey identified few sites on the Refuge (Barnier, 1971). Identified sites include several circular rock structures interpreted to be probable vision quest areas or eagle catching pits. Certain old growth pines may have been culturally pealed and, when identified, need to be protected.

A comprehensive cultural resource overview entitled Cultural Resource Overview of Western Montana Management Properties was prepared for the Service by the Confederated Salish and Kootenai Tribal Preservation Office. This document references several cultural resource inventories that have been completed and their results. A copy of this document is on file at the National Bison Range Headquarters, the Denver Regional Office (Refuges/Cultural Resource) and the Tribal Preservation Office.

6.8 Sacred Sites and Indian Trust Resources

The National Bison Range is within the boundary of the Flathead Indian Reservation. The Service, as a federal agency, has a trust responsibility to Tribal governments that includes the identification and protection of tribal archeological resources. The Confederated Salish and Kootenai Tribes (CS&KT) and the National Bison Range Complex routinely coordinate on these issues and have established a good working relationship. The Service also works closely with the CS&KT to identify cultural resources associated with Service lands, as demonstrated by a recent cultural resource overview of the entire Refuge Complex completed by the CS&KT in 2000.

6.9 Social Issues

The economy of the area is lead by ranching and farming. Significant agricultural products include small grains, potatoes, sweet cherries, hay and mint. There are large areas of irrigated and dryland pasture, farmsteads, and other associated improvements in the vicinity of the Refuge. Some areas along the Jocko River, south of the Refuge, are either in tribal or private ownership. There is moderate industrial activity such as tool manufacturing, defense contract electronics manufacturing, and commercial electronics manufacturing in the region. Small business districts can be found in Ravalli, St. Ignatius, and Dixon. Tourism is also a significant part of the economy, and the Refuge receives 250,000 visits per year, creating economic benefits for the local economy. Significant government employment, including federal, State, county, Tribal and municipal, adds to the local economy.

7.0 ENVIRONMENTAL CONSEQUENCES

Environmental consequences will be addressed both in the short-term and long-term. Short-term is described as ten years or less. Long-term is considered to be those consequences eleven years and longer.

7.1 Soils

7.1.1 Short-Term Impacts

Under all three alternatives, a portion of the organic nitrogen on upland sites with organic soils would be volatilized as the result of wildland fire occurrence. However, larger amounts of mineralized nitrogen would become available on a short-term basis for plant uptake due to fire-caused mineralization of organic nitrogen and increased nitrogen fixation associated with microsite changes caused by fire (Wade and Lunsford 1989, EPA 1999). When fire changes a log or other woody material to ash, nutrients bound in chemical compounds are released and changed to a form that is more water-soluble. In this form, nutrients percolating into the soil are again usable in the growth of other vegetation. The result is a flush of available nitrogen which is utilized by the post-burn vegetation (Harrington, Arno and Harrington, in Smith and Arno 1999). Harrington (in Smith and Arno 1999) found available nitrogen levels were higher twenty-four months following a prescribed burn at a site in the Bitterroot National Forest south of Missoula, Montana. Due to the ability to pretreat fuels using mechanical means prior to the use of prescribed fire, it is assumed that Alternative C would make the greatest amount of nitrogen and potassium available for vegetative use because more acres would ultimately be treated using prescribed fire. Because there is limited research in this area and much is dependent on soil structure and composition, how these effects are manifested in soil productivity and the plant community are uncertain (Zouhar and DeLuca, in Smith and Arno 1999).

Normally, sufficient moisture would be present in the soil and duff on forested upland sites to prevent complete combustion of the duff and forest litter, providing a protective layer for the soil (Wade and Lunsford 1989). However, under Alternative A, there would be a greater likelihood of more intense wildfires due to the present fuel loading that would be more likely to consume a larger percentage of the duff and forest litter. Through incremental removal of litter under the right conditions as proposed in Alternatives B and C, this would be avoided.

Pile burning under Alternatives A and C could impact microbial responses due to fire intensities resulting from pile burning. This would contribute to short-term loss of productivity and open the area where the piles were burned to colonization by exotic and other undesirable species.

The use of mechanical equipment, as proposed under Alternatives A and C, would subject the treatment areas to the highest level of disturbance. It is possible that the equipment would produce ruts and create areas of mineral soil when mechanized equipment was used to pile the downed woody materials. It is expected the use of mechanical equipment would be limited under Alternative C and that the resulting conditions would be short-lived.

7.1.2 Long-Term Impacts

Under Alternative A, minerals and nutrients would continue to be bound up in living vegetation. Nutrients available in the dead-and-down and other materials on the forest floor would be slowly released through the process of decay. Overall the productivity of the site would decline. As a stand of trees matures, for example, as it would under a limited fire regime, an increasing portion

of the nutrients on the site would become locked up in the vegetation and would be unavailable for further use until the plants died and decomposed. Soils impacted by high intensity fires that burn to mineral soil could lead to the loss of native species and might become favorable colonization sites for exotic and other undesirable plant species.

Alternatives B and C would accelerate the natural decomposition process and increase nitrogen available to stimulate growth and restore surface herbaceous vegetation, perpetuate organic soil layers and increase site productivity.

Under Alternative B, very little of the material would be removed from the site and the greatest amount of nutrients would be released through the process of burning. Once the desired results were achieved, the impacts would be reduced as frequent, low-intensity burns similar to the natural fire regime used to maintain the ecosystem.

As in Alternative B, the management program described as Alternative C would be expected to transition to one where the site would be maintained through a series of frequent, low-intensity burns. As the disturbances resulting from pile burning were eliminated, there would be no disturbed sites to invade.

7.1.3 Cumulative Impacts

Due to the steep nature of the terrain, a heavy rain event could cause limited erosion in areas impacted by mechanical equipment.

A stand replacing wildfire followed by heavy rain would create a set of conditions that could produce flash flooding and severe erosion.

7.1.4 Methods to Reduce Impacts

Prescribed fire prescriptions designed to reduce fire severity during prescribed fire operations would be followed. Fuels would be pretreated to reduce burn severity. Existing roads, trails, and natural barriers would be used to the greatest extent possible as control lines for both wildland and prescribed fires. Hand piling or broadcast burning would greatly limit the opportunity for soil disturbance. The use of rubber-tired equipment, when appropriate, performing the work when the ground is frozen, or using unconventional methods such as horses or ATVs to move larger materials could reduce the amount of soil disturbance.

7.1.5 Conclusion

Alternative A could lead to soil degradation as the result of the increased likelihood of a large-scale, high intensity wildfire. Under the same alternative, valuable nutrients would remain locked up in biomass or be lost due to pile burning.

Alternative B could possibly produce the least disturbance, but the present fuel conditions would make it difficult to control a prescribed fire and increase the possibility of a high intensity fire

that would adversely impact the soil. Alternative C, on the other hand, would allow Refuge managers the opportunity to use the best available means and methods to reduce the fuel loading. By using a combination of methods in a predetermined manner, fuels could be thinned, if necessary, before they were treated using fire. Machine piling would be replaced by broad cast burning, which would reduce the possibility of soil disturbance and insure that nutrients were returned to the soil. Noxious weeds could be treated chemically or with other methods specified in the Integrated Pest Management Plan. Alternative C would lead to healthy sustainable forest and grassland that could be maintained through low-intensity fire.

7.2 Air Quality

7.2.1 Short-Term Impacts

Under Alternative A, wildland fires within the group would continue to have minor short-term impacts on air quality. Wildfires have tended to be relatively small and have been aggressively suppressed, and the use of prescribed fire would be limited primarily to burning a few piles annually.

The impact of smoke resulting from wildfires could be greater under Alternatives B and C as fires would be allowed to burn to control lines that were easily defended, however emissions from a fire occurring under normal conditions would primarily affect only the area in the immediate vicinity and would be expected to generally last only one to two days, depending on the size of the fire, the fuels, and the environmental conditions present. Human health standards (National Ambient Air Quality Standards for particulate matter size class of 10 microns in diameter and smaller) could be approached for short periods in the area immediately adjacent to the fire. Air quality on a regional scale would be affected only when many acres were burned on the same day.

The impacts of smoke would be the greatest under Alternative B, which relies almost entirely on prescribed fire to manage fuels. With the existing fuel loading, prescribed fires would be of longer duration and several applications on a particular site would be required to achieve the desired results.

Under Alternative C, the impacts of smoke could be mitigated by pretreating fuels to reduce fire intensity. Pre treating the fuels would provide management with a wider range of prescriptive parameters to conduct prescribed burns. It would be possible to burn under conditions that are more favorable to smoke dispersal. Techniques described by the EPA (1998) to accomplish this include pre treating fuels to reduce fuel loading or varying ignition patterns. Individual prescribed burn plans would include parameters that include favorable conditions that would limit smoke.

7.2.2 Long-Term Impacts

A common goal of all wildland owners/managers is to minimize the potential for catastrophic wildfires that result from heavy accumulations of vegetative fuels (EPA 1998). Partially

decomposed woody materials often can smolder for long periods of time, increasing the amount of particulate matter emitted. Fires that occur in areas with heavy accumulations of fuel can have the most adverse impact on air quality. The absence of fire and the limited use of other fuel management techniques due to cost, would result in increased accumulations of fuels and poor forest health that would contribute to larger fires of longer duration that would be more difficult to suppress. Fires of this type would be expected to impact air quality for extended periods of time. Both human health and visual standards would likely be exceeded for longer periods of time in the vicinity of the fire, and could contribute to regional haze during years like 2000 when other wildfires are occurring in the airshed.

Under both Alternatives B and C, the potential for long-duration air quality concerns would be reduced because the likelihood of large wildland fires occurring would be reduced through proactive fuels management. Because prescribed burns are scheduled, managers would take advantage of favorable conditions to coordinate with other regional smoke producers and avoid impacting sensitive areas. This would allow the distributions of emissions over time and space to avoid exceeding air quality standards. Alternative C would provide the best means of managing air quality concerns because the pretreatment of fuels would allow managers to treat acres under a wider range of conditions. Under this alternative, managers would be able to reach a point sooner whereby the fuels could be managed using low-intensity prescribed burns, which produce lower emissions.

7.2.3 Cumulative Impacts

Wildfires could be larger under a suppression strategy that uses natural and manmade barriers as control lines. Fires could produce more emissions than those that are suppressed using an aggressive direct attack strategy. This could be a factor in a year like 2000 when several fires were burning in the airshed. However, the relative size of the fires would be so small as to have little overall impact.

Regional air quality during prescribed fire operations can be affected by meteorology; existing air quality; the size, timing, and duration of the activity; and other fires occurring in the same airshed when several acres are burned on the same day. Alternative C would provide Refuge managers the greatest flexibility to schedule burns and to coordinate with other regional smoke producers to take advantage of favorable conditions that are required to disperse smoke and avoid impacting sensitive areas.

7.2.4 Methods to Reduce Impacts

The Environmental Protection Agency (EPA) recognizes that wildland fire of all kinds (wildfires, prescribed burns, etc.) contribute to regional haze, and there is a complex relationship between what is considered a natural source of fire versus a human-caused source of fire. For example, the increased use of prescribed fire in some areas may lead to particulate emission levels lower than those expected from a catastrophic wildfire. Given that in many instances the purpose of prescribed fire is to restore the natural fire cycles to the various ecosystems, the EPA will work with State and federal land managers to support development of enhanced smoke management

plans to minimize the effects of emissions on public health and welfare (EPA 1999). Montana and Northern Idaho have developed an air quality management program that is designed to accomplish this.

Air quality impacts can be reduced by several methods:

- Minimizing the area burned;
- Reducing the fuel loading in areas to be burned through mechanical treatment;
- Reducing the amount of fuel consumed by fire by regulating pile size, and the amount of smoke produced by pile arrangement;
- Minimizing emissions per ton of fuel consumed by burning under favorable conditions or using different firing techniques; and
- Rapid and complete mop-up of fuels known to contribute to poor air quality.

Prescriptive elements in prescribed burn plans would specify the proper conditions necessary to increase smoke dispersal and enhance burning, thereby reducing impacts from smoke.

7.2.5 Conclusion

The trade-off is between a much higher average level of smoke from prescribed fire and shorter-term but more severe wildfire smoke impacts (Sampson 1995). Under Alternative C, land, hazard fuel, and vegetation management practices would be promoted that are best for wildland ecosystems, yet protect public health and avoid visibility impairment. Several factors would be considered when selecting appropriate treatments, including the impact to air quality, and whether fire must be used to meet management objectives in a cost-effective manner. When fire is the chosen management tool, a combination of treatment methods would be the best approach to achieving the desired resource benefits with minimum air quality impacts. The combination of treatments proposed under Alternative C, would include mechanically pre treating an area to reduce the fuel load prior to the use of fire would meet this objective. As a result, excessive fuel accumulations would be reduced most rapidly under conditions that would protect air quality through scheduling and other mitigating factors. The best combination of treatments would be those that meet management goals with the least environmental impacts at the most reasonable cost.

Due to the proactive nature of Alternatives B and C, the potential for high intensity, long-duration wildland fire with the resulting potential for increased smoke production would be reduced. Alternative A would protect long-term air quality the least.

7.3 Hydrology

7.3.1 Short-Term Impacts

Given the location of the forested areas and the ability of prairie sod to hold soil, there is little likelihood that surface runoff would affect water quality after a wildfire or prescribed fire. Even with due care, contamination of ponds and other watercourses from fire retardant dropped from

an airtanker would be a possibility. Under Alternatives A and C, there would be a slight risk of equipment failure that could release hydrocarbons, such as lubricating oil, into the environment.

7.3.2 Long-Term Impacts

Although the hydrology of the project area has not been extensively studied, it is reasonable to assume that water production would increase under Alternatives B and C as thinning of the overstory permits more precipitation to reach the forest floor and percolate down to recharge aquifers, or increase surface runoff to refill stock ponds for bison and other wildlife.

7.3.3 Cumulative Impacts

No cumulative impacts would be expected from wildland fuel management activities or wildland fires under any of the alternatives.

7.3.4 Methods to Reduce Impacts

Site specific measures would be included in prescribed burn and mechanical fuel treatment plans when appropriate. Aerial retardants and foams would not be used within 300 feet of any waterway as described in the Guidelines for Aerial Delivery of Retardant or Foam near Waterways (USFWS 2001).

7.3.5 Conclusion

The risk of impact to a water feature would be slight under all three alternatives, and any impact would be short-lived. There is a possibility that the use of fire retardant or foam would be necessary under all four alternatives. Any action that increases the possibility that fire retardant would be used poses the greatest risk to the hydrological features. A proactive fuels treatment program as proposed under Alternatives B and C would reduce the possibility of a large wildland fire requiring the use of airtankers.

Proactive management of the area as proposed under Alternative C would not adversely impact water quality and may enhance water production.

7.4 Vegetation

7.4.1 Short-Term Impacts

Wildland fire may injure or kill part of a plant or the entire plant, depending on how intensely the fire burns and how long the plant is exposed to high temperatures (Wade and Lunsford 1989). Plants that are not fire adapted are more susceptible to fire. Small trees of any species suffer a higher rate of mortality. Under all alternatives, the top-killing of small trees and shrubs within a burn area would occur. Initially under alternatives B and C, accumulations of fuel could actually increase during the restoration phase, due to the top-killing of smaller trees and shrubs by prescribed fires and debris resulting from mechanical fuel reduction operations. Alternative A

would have the least impact in this regard. Alternative C would create the greatest amount of debris due to the use of mechanical fuel reduction methods. All alternatives may lead to the establishment of exotic plant species in highly disturbed areas, and fire scars may make certain tree species susceptible to disease or invasion by insects (Wade and Lunsford 1989). Alternative A would cause the least disturbance, while Alternative C would create the greatest amount of soil and vegetative disturbance, creating conditions most favorable to the establishment of exotic species.

7.4.2 Long-Term Impacts

Periodic forest, grassland and shrubland fires are part of the natural environment - as natural and vital as rain, snow, or wind (Heinselman 1978, as quoted by Mutch and Cook, *In* Hardy and Arno 1996). Wildland fire and other disturbances shape many terrestrial ecosystems, including the ponderosa pine dominated forests found in Western Montana (Smith and Arno 1999, Fisher and Bradley 1987). Ponderosa pine is the most endangered old growth forest type in Montana (Yanishevsky 1993). In forested areas, the absence of fire in the long run will favor more shade-tolerant, less fire-tolerant species, and succession will proceed toward a climax community rather than a fire-maintained sub-climax type (Smith and Arno 1999). This in turn would lead to ecosystem altering conditions (Ladd 1991). It is very likely that in the past 100 years, more than 10 percent of the prairie has been lost to Douglas-fir encroachment. It is entirely possible, without active management, that two to three times that amount could be lost in the next century.

Under Alternative A, the lack of fire in the ecosystem would continue the trend away from fire adapted species and toward a community of fire-intolerant species that would increase susceptibility to severe wildfires, shift composition toward the more shade-tolerant Douglas-fir, and contribute to the loss of wildlife forage (Gruell and others 1982, as quoted by Arno, *In* Smith and Arno 1999). Arno and others (Smith and Arno 1999) recommended reversing this trend by reintroducing low-intensity wildland fires through the use of prescribed burning in conjunction with partial cutting or thinning. The combination of treatments proposed in Alternative C would create and maintain a healthy ponderosa pine-dominated forest on south-facing slopes and Douglas fir-dominated forest on north-facing slopes containing large trees and desirable wildlife habitat, and would be at low risk to severe damage by wildfire or epidemics of insects or disease. The net loss of prairie to Douglas-fir encroachment would be halted and grasses and other forage favored by bison and other wildlife would be enhanced.

In the absence of wildland fire, as would be the case under Alternative A, the increase of shade tolerant Douglas-fir and maturing Douglas-fir that is heavily infested with dwarf mistletoe would create ladder fuels that would contribute to catastrophic (stand replacing) wildland fires. Under Alternative A, Douglas-fir would also continue to encroach into the prairie grasslands, contributing to the gradual loss of that ecosystem.

As forest stands grow older, they become more susceptible to infestation by insects and disease. Under Alternative A, overall forest health would continue to decline. Alternatives B and C would tend to promote a more natural forest composition and structure, increasing tree vigor and spacing to combat insect infestations.

7.4.3 Cumulative Impacts

Care must be taken with prescribed burning in areas of weeds. Prescribed burning could increase the weed coverage and reduce native rasses and forbs if judicious weed removal is not conducted at least two years prior to prescribed burning so that seed production and dispersal is prevented (Goodwin 2001). Prescribed burning may have to be prohibited in areas of fairly dense weed occurrence with low to absent desired plant cover so that fire-produced disturbances coupled with low desired plant cover does not result in rapid and expanded weed growth. In Alternatives B and C pre-treatment planning would be required to determine the extent of weed coverage and desired plant cover prior to prescribed burning.

On a landscape scale, because the forested areas are isolated from other forested areas managed by the Confederated Salish and Kootenai Tribes and other agencies, environmental impacts are not expected to be cumulative.

7.4.4 Methods to Reduce Impacts

Pretreating fuels using mechanical means would create conditions that lend themselves to the use of prescribed fire, which is less likely to create conditions favored by exotic plant species. Restoration projects of native grass seeding behind fires or mechanical means may be necessary to reduce noxious weeds and undesirable grasses moving into treated areas.

The proper use of prescribed fire, and evaluation of the benefits and cost of a burn require knowledge of how fire affects vegetation (Wade and Lunsford 1989). An active monitoring program, which is a key component of both Alternatives B and C would provide the guidance necessary to refine prescriptions to better achieve management goals. As in the previous section, well-written implementation plans containing valid prescriptions would meet the stated resource management objectives and reduce impacts.

7.4.5 Conclusion

Steven Arno and Michael Harrington (in Smith and Arno, 1999) perhaps summed things up best with this statement:

“It is a daunting challenge to restore the fire-dependent forest...after nearly a century of fire exclusion and having missed about a dozen natural fire cycles. Fuels have accumulated, trees may be experiencing growth stagnation related to overstocking and lack of nutrients...Invasive nonnative plants are established and likely to increased with any disturbance. The evidence..., however, suggests that even well-designed [management programs] not accompanied by fire are inadequate for sustaining wildland ponderosa pine/Douglas-fir ecosystems. Prescribed fire can control the excessive number of saplings and reduce surface fuels, recycling nutrients in a semblance of natural processes, and reduce the risk of severe wildfire...”

“‘Preservation’, protecting the stand from both cutting and fire, is another alternative, but this approach exacerbates problems of growth stagnation and vulnerability to severe

damage from wildfire and insect or disease epidemics...[This approach] fails to recognize that these ecosystems were historically dominated by plants and animals adapted to frequent low-intensity fires, not to fire exclusion. Moreover, [no action] will likely eventually result in an unusually severe wildfire, which may have damaging effects, for instances, in triggering accelerated erosion or mass invasion of nonnative vegetation.”

“Because of excessive stocking of mid-sized trees, returning fire without [preparation]...would either be ineffective (failing to thin the stand) or too destructive (mass mortality)... Once the initial restoration treatments have been completed, however, it should be easier to maintain the stand in some semblance of natural structure at low risk to severe wildfire or insect/disease by the continued use of prescribed fire, with or without [mechanical treatment]...[T]he most comprehensive appraisal of these treatments should look at responses collectively rather than individually.”

Alternative C would best accomplish the goal of restoring a healthy ecosystem and prevent the encroachment of Douglas-fir into the prairie.

7.5 Wildlife

7.5.1 Short-Term

Alternative A would benefit established species in the short-term because it would preserve the *status quo*, which is an environment that favors species that are not fire-dependent or species that prefer closed stands of forest over open forest stands or prairie. Under all three alternatives there would be short-term negative effects from wildland fire to a wide variety of wildlife such as limited mortality, loss of food sources, and the loss of protective cover (Lyon et al. 1978). The most significant effects on fauna as an outcome of Alternatives B and C would be the resulting changes in the habitat structure. The greatest and immediate changes would be to the availability of food and the loss of cover, as opposed to direct mortality resulting from prescribed burning activities (Smith 2000, Shortess 1986). Depending on the time of year, wildland fires may impact nesting birds.

7.5.2 Long-Term Impacts

The absence of wildland fire has altered vegetative communities. Stands that were largely dominated by mature and old growth trees in an open-parklike setting have changed to abnormally dense stands dominated by young trees (Partners in Flight 2000). Bird species closely associated with old forest stages and snags, such as the Lewis woodpecker, Pileated woodpecker, Olive-sided flycatcher, Flammulated owl, White-breasted nuthatch, and Williamson's sapsucker are believed to have decreased because of the reduction of old forest stages (Partners in Flight 2000). This decline would continue under Alternative A. Under Alternatives B and C, this trend would be reversed, and the forested area would be transformed to a more open environment, with mid- and lower-stage vegetative growth favored by many species.

Large mammals would be expected to benefit from an increase in wildland fire activity. The major effects are indirect and pertain primarily to changes in food and cover (Wade and Lunsford 1989). Small mammals are affected by the same changes. Studies have shown that following a wildland fire, populations of small mammals drop in number but recover quickly, and increase in the following two to three years (Lyon et al. 1978, Masters et al. 1989). An increase in small mammals would benefit those animal and bird species that rely on them for food. Little is known about the reptile and amphibian populations that inhabit the project area and the effect fire or the absence of fire would have on them on a long-term basis. Further study would be appropriate.

Although Alternative A would have limited impact in the short-term for a few wildlife species, generally, wildlife species would be expected to be more impacted over the long-term as a result of a policy that permits the Douglas-fir to encroach into the prairie and forest canopy closure to increase. Alternative A would result in a further decline in habitat quality and diversity and an increase in the probability of high-intensity, stand altering fire, which by extension, could further impact wildlife species.

Partners in Flight (2000) maintain that, when properly applied, ecosystem management, can demonstrate how an intensive and sustained effort like that outlined under Alternative C, would facilitate a return to historical ecological processes, patterns, and functions, and the bird and animal communities they support. Alternatives B and C would, over time, create the mosaic of vegetation in various successional stages that are necessary to provide habitats for the greatest variety of wildlife species.

7.5.3 Cumulative Impacts

In Montana, threatened species (e.g., Bald eagle, bull trout), sensitive species (e.g., fisher, Flammulated owl), as well as species with no formal status (e.g., Pileated woodpecker, Vaux's swift) all rely on old growth forest habitat. Many species, such as grizzly bears, gray wolf, and lynx, require the habitat security associated with undisturbed old growth forests (Noss and Cooperrider 1994, as quoted in MEIC 2001). These habitat requirements are often inflexible for some species (Bunnell and Kremsater, 1990 as quoted in MEIC 2001), making conservation of habitat containing those characteristics critical for conservation of the species. The loss of vegetative niches on the Refuge could result in the loss of habitat essential to certain species and force them to other public or private lands.

7.5.4 Methods to Reduce Impacts

Through proper planning and scheduling, due care would be taken to avoid impacts to nesting birds and to other wildlife during sensitive periods.

7.5.5 Conclusion

Alternative C would afford the greatest protection to old growth trees, and would have the potential to restore biotic communities to the desired conditions and create a diversity of habitats suitable to a wider range of wildlife. This alternative would also complement the efforts of the

Confederated Salish and Kootenai Tribes and other organizations and agencies working to improve habitats for birds and other wildlife. It does not appear that large and small mammals would be severely impacted, and would, in the long-run benefit from a healthier vegetative community. Alternative A would allow for continued degradation of the entire ecosystem and the resulting impact on wildlife.

7.6 Threatened and Endangered Species and Special Status Species

7.6.1 Short-Term Impacts

The majority of the listed species are associated with the prairie and riparian areas. Species such as the grizzly bear, gray wolf, and Bald eagle are transient in nature. If Spalding's catchfly is present, fire or mechanical means could remove individual plants. By adhering to existing Service policies and following established protocol, very little potential impacts to existing federally and state listed species would occur under all three alternatives. Measures (discussed below) would be taken to ensure protection of all known occurrences of these species.

7.6.2 Long-term Impacts

The activities outlined under Alternatives B and C would create healthy, sustainable, open stands of ponderosa pine and old growth Douglas-fir favored by the grizzly bear and gray wolf, with available snags for perches for eagles and potential homes for cavity nesting birds. Prescribed fire in the grasslands would benefit Spalding's catchfly by restoring a healthy palouse prairie. Care will need to be taken to not increase weed dispersal into areas of native grasses and forbs. Spalding's does not occur in areas of noxious weeds.

Based on current knowledge, Alternative C would best protect these species in the long-term because this alternative would reduce threats from large scale, high-intensity wildfires. Alternative A would least protect the ecosystem.

7.6.3 Cumulative Impacts

The U.S. Fish and Wildlife Service and the Confederated Salish and Kootenai Tribes, USDA Forest Service, and other land management agencies are actively working to restore habitats for federally and State listed species. Alternatives B and C would complement these activities. Alternative A could work counter to this initiative.

7.6.4 Methods to Reduce Impacts:

Refuge resource managers would complete surveys prior to conducting a prescribed burn or initiating a mechanical fuel reduction project to determine the presence or absence of listed species. In the event a listed species was present in the treatment area, the U.S. Fish and Wildlife Service would be consulted and a plan formulated to lessen or eliminate impacts to the protected species. A prescribed burn plan or other action plan would be developed that incorporated recommendations from the U.S. Fish and Wildlife Service. Methods to reduce or limit impacts

would be specified in prescribed burn plans. Management actions would also be planned to avoid sensitive areas needed by listed species.

7.6.5 Conclusion

Based on existing ecological data, Alternative C would provide the best means of restoring and protecting vegetative communities necessary for the survival of threatened and endangered species. The provision in this alternative that allows for the pretreatment of fuels, lessens the likelihood of impact to old growth trees that are so important to many of the listed species.

7.7 Cultural Resources and Sacred Sites and Indian Trust Resources

7.7.1 Short-Term Impacts

Under Alternatives B and C there would be no known short-term impacts to identified cultural sites that could not be resolved by protecting the site prior to initiating an operational plan. Examples of methods include mowing grass near cultural sites that would be impacted by fire, and by removing the duff and cutting and removing brush and other woody materials close to trees that may have cultural significance to protect them from fire. An ignition pattern would also be specified that would insure that the fire would be of low intensity in a sensitive area.

Any increase of exotic plants that would result from disturbance would replace native plants that have traditional uses by the Tribes.

Limited cultural resource inventories have been conducted on the Refuge. Protection as described would protect known sites. Unidentified sites would be subject to adverse impacts under all alternatives.

7.7.2 Long-Term Impacts

Under Alternative A, cultural sites located in heavily forested areas would be placed at greater risk from high intensity wildfires as heavy accumulations of wildland fuels continue to increase and encroach on a site. Fuel manipulation as described in Alternatives B and C would reduce the fuel load and provide protection if sites are identified and protected prior to the implementation of the treatment.

7.7.3 Cumulative Impacts

Repeated exposure to fire would damage culturally scarred trees.

7.7.4 Methods to Reduce Impacts

The following actions would be available to protect archeological and cultural resources (adapted from the Refuge's Fire Management Plan USFWS 2002):

- Files and records of cultural resources should be consulted by the staff when planning prescribed burns and mechanical fuel reduction projects, developing pre-attack plans, and

performing other fire preparedness activities. The potential for adverse impacts to cultural resources would be evaluated prior to prescribed burning and in the selection of fire suppression strategies during wildfires.

- The Regional Fire Archeologist would be contacted during the development phase of the burn plan writing process.
- Under agreement with the National Park Service, the Confederated Salish and Kootenai Tribes have assumed certain responsibilities for compliance with the National Historic Preservation Act (NHPA) for all lands within the exterior boundaries of the reservation. The Regional Fire Archeologist would consult with the Tribal Historic Preservation Officer as required under the NHPA.
- Low impact wildfire suppression tactics (cold-trailing, use of foam/wet-water/water, use of natural and manmade barriers, change in vegetation, mowing, etc.) should be used to the fullest extent possible. Line construction for prescribed fire activities would follow the same principle. Maps indicating the known location of significant cultural resources would be consulted prior to laying out burn units and designating other treatment units, and whenever possible, before constructing fireline to halt the spread of a wildfire.
- Prescriptions for management of ignited prescribed fires would take into account the presence of known cultural sites. Cooler fires with short residence time should be used in areas containing known cultural sites, whenever possible.
- Known surface sites would be marked, protected, and excluded from the burn, if possible. Foam should not be used in areas known to harbor surface artifacts.
- The use of mechanized equipment within the Refuge would be approved by the Project Leader on a fire by fire/project by project basis, and the use of these resources would be considered in the approval process for any planned management actions. When the use of heavy equipment is authorized, its use would be monitored.
- The location of sites discovered as the result of fire management activities would be reported by the Project Leader to the Regional Fire Archeologist.
- Rehabilitation plans would address cultural resources and would be reviewed by the Regional Fire Archeologist.

7.7.5 Conclusion

The greatest threat to cultural resources is a high-intensity wildland fire. Alternative B would reduce this threat through pretreating fuels prior to burning, while Alternative A would contribute to the problem.

7.8 Social Issues

7.8.1 Short-Term Issues

Under all three alternatives, residents and visitors would be impacted by low concentrations of smoke and certain areas of the Refuge would be temporarily closed to visitors for safety reasons.

Noise, increased traffic on tour routes, and small amount of dust would be produced during mechanical thinning operations as proposed under Alternative C.

7.8.2 Long-Term Issues

Alternative A places the Refuge at greater risk for a high-intensity wildfire. During these events, sections of the Refuge and roads may have to be closed for extended periods and values outside the Refuge could be placed at risk. As the fuels are treated, the forest becomes less vulnerable to a wildfire. However, certain parts of the Refuge may have to be closed to visitors for varying periods of time.

7.8.3 Cumulative Impacts

In the unlikely event the Confederated Salish and Kootenai Tribes and the Refuge were to conduct a prescribed burn in the vicinity of the Refuge on the same day, the smoke produced could adversely impact nearby residents and impair visitor enjoyment.

The Confederated Salish and Kootenai Tribes, USDA Forest Service, and other land management agencies are actively working to restore fire to the ecosystem in similar fuel types. Alternative A could work counter to this initiative.

In "bad" fire years, forested areas managed to withstand frequent low-intensity wildfires would reduce the dependence on national resources such as airtankers, heavy helicopters, and Type I crews to suppress wildfires. there would be less risk of catastrophic wildfire hence less resources needed.

7.8.4 Methods to Reduce Impacts

When it would be necessary to close an area or road during wildland fire suppression operations or prescribed fire operations in order to provide for visitor protection, all affected roads and areas would be signed so that closures would be easily recognized. Measures to be taken during mechanical projects or prescribed fire operations would be identified in the implementation plan.

7.8.5 Conclusion

Alternative C best protects visitors to the Refuge and enhances their quality of experience because the natural scene is enhanced to truly represent conditions that previously existed. There is a degree of risk to the safety of horse and rider during movement of bison in areas that have been burned and the stobs have been allowed to remain. The use of mechanical equipment to flush-cut the standing burnt stems would increase the safety of those involved in moving bison.

7.9 Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations, 59 FR 7629 (1994), directs federal agencies to incorporate environmental justice in their decision making process. Federal agencies are directed to identify and address as appropriate, any disproportionately high and adverse environmental effects of their programs, policies, and activities on minority or low-income populations.

None of the alternatives considered would have a disproportionately high or adverse environmental effects on minority or low-income populations.

Table 2: Impact Topics and Alternatives Summary Table

Topic	Alternative A	Alternative B	Alternative C
Soils	<p><u>Short-Term:</u> Increased nutrients available on a limited basis. Organic matter (duff) may be consumed and soil altered at sites where piles are burned resulting in a short-term loss of productivity. Soil disturbance resulting from mechanical piling of woody debris may increase the spread of undesirable plant species.</p> <p><u>Long-Term:</u> Soil productivity would decrease. Increased risk that organic matter may be consumed and soils altered as fuel loads increase.</p>	<p><u>Short-Term:</u> Increased nutrients would be available over a broader area. Slight increase in erosion due to the larger areas treated with fire. Incremental duff reduction. Incidental loss of standing trees due to the inability to fully control fire intensity during prescribed burn operations.</p> <p><u>Long-Term:</u> The potential for long duration fires would decrease as fuel loading is reduced. The forest could be maintained in a cost-effective manner using prescribed fire. Soils protected from the effects of a high intensity wild fire.</p>	<p><u>Short-Term:</u> Increased nutrients would be available over a broader area. Slight increase in erosion due to the larger areas treated with fire. Pile burning may result in short-term loss of site productivity. Soil disturbance resulting from mechanical piling or use of mechanized equipment to treat standing trees may increase the spread of undesirable plant species.</p> <p><u>Long-Term:</u> The potential for long duration fires would be decreased as fuel loading is reduced. Prescribed fire, which would have the least impact on soils, could be used under a wider range of prescriptions as a maintenance tool. Soils protected from the effects of a high intensity wildfire sooner than Alternative B.</p>
Air Quality	<p><u>Short-Term:</u> Very minor short-term impact on visibility. Impacts to health limited to fireline. Regional AQ only impacted if large fire.</p> <p><u>Long-Term:</u> A fuel loading increases, fires will tend to be larger. A large fire in a dense stand of D-fir would result in reduced visibility for longer periods of time and an increased health risk from smoke.</p>	<p><u>Short-Term:</u> Short-term impacts would be greater due to increased use of fire. Impacts to health and regional air quality would be better managed due to the ability to schedule a prescribed burn vs. an unplanned wildfire.</p> <p><u>Long-Term:</u> The potential for long-duration fires would decrease as fuel loading is reduced. Regional AQ standards would be safeguarded. Impacts would be lessened due to the reduced fuel loading and the ability to schedule prescribed burns.</p>	<p><u>Short-Term:</u> Same as alternative B.</p> <p><u>Long-Term:</u> Because more acres would be treated under a larger range of prescriptive values, the impacts would be reduced over the long-term, and the potential for long-duration fires would be reduced sooner.</p>

Table 2: Impact Topics and Alternatives Summary Table (Continued)

Topic	Alternative A	Alternative B	Alternative C
<p>Hydrology</p>	<p><u>Short-Term:</u> Possibility of short-term contamination from fire retardant.</p> <p><u>Long-Term:</u> Increased contamination by retardant as fires become larger and fire suppression forces are forced to use airtankers to control them.</p>	<p><u>Short-Term:</u> Same impacts as Alternative A.</p> <p><u>Long-Term:</u> Proactive use of fire under controlled conditions would reduce loss of ground cover and increase absorption. The possibility of impact to water features by retardant would be reduced. Ground water yields could be increased due to less absorption by trees and by an open canopy that would allow more snow and rain to reach forest floor.</p>	<p><u>Short-Term:</u> Same impacts as Alternative A.</p> <p><u>Long-Term:</u> Same impacts as Alternative B would be expected.</p>
<p>Vegetation</p>	<p><u>Short-Term:</u> Slight risk of vegetation being killed as a result of a wildfire. Possibility that exotic species could become established. D-fir could become more susceptible to mistletoe than under Alternatives B and C</p> <p><u>Long-Term:</u> The vegetation would become fire-intolerant. Ladder fuels would increase. Stands of trees would become more at risk from a catastrophic wildfire.</p>	<p><u>Short-Term:</u> Slight risk of vegetation being killed as a result of a wildfire. Manageable risk of bison over-grazing treated areas. Possibility that exotic species could become established. Accumulations of fuel may increase as a result of killing trees and shrubs.</p> <p><u>Long-Term:</u> The forests would become more open and the net loss of prairie would be reversed. Fire-adapted species would be favored. A healthy stand of D-fir would be less susceptible to mistletoe, insect infestation and diseases. The possibility of high intensity fires would be reduced. The landscape could be maintained at a lower cost with prescribed fire.</p>	<p><u>Short Term:</u> Similar impacts as those listed for Alternative B, except the accumulations of fuels would be reduced through pile burning and chipping.</p> <p><u>Long-Term:</u> Impacts similar to those identified under Alternative B are expected to be accomplished sooner.</p>

Table 2: Impact Topics and Alternatives Summary Table (Continued)

Topic	Alternative A	Alternative B	Alternative C
<p>Wildlife</p>	<p><u>Short-Term:</u> The absence of fire would benefit existing species. Limited mortality.</p> <p><u>Long-Term:</u> The decline in habitat diversity and the continued loss of open forest will limit the number and type of species. The numbers of animals and the variety of species would be greatly reduced as habitat and food sources are lost. Fire adapted species and species needing open stands of timber would be impacted the most.</p>	<p><u>Short-Term:</u> Limited mortality, loss of food sources and loss of protective cover a possibility.</p> <p><u>Long-Term:</u> Possibility of competition from new species as habitats change. The bison and other large ungulates would benefit as more areas are open to grazing. Birds and animals that prey on small mammals would have the possibility of increased food sources. The edge effect and the mosaic created would benefit a wider range of wildlife.</p>	<p><u>Short Term:</u> Similar impacts as those listed for Alternative B.</p> <p><u>Long-Term:</u> Impacts similar to those identified under Alternative B are expected to be accomplished sooner.</p>
<p>Threatened and Endangered Species</p>	<p><u>Short-Term:</u> Limited potential for impact to T&E species.</p> <p><u>Long-Term:</u> The absence of fire would continue the trend away from an ecosystem that was formed through low-intensity fire. This trend would further impact those species requiring open forests and grasslands.</p>	<p><u>Short-Term:</u> Limited potential for impact to T&E species.</p> <p><u>Long-Term:</u> The reintroduction of fire in the ecosystem would create open stands of pine and D-fir favored by many owls and other bird and mammal species. Habitats favored by species that like dense forests would be lost. Snags would be created for food sources, perches, and potential homes for cavity nesting birds.</p>	<p><u>Short Term:</u> Similar impacts as those listed for Alternatives A& B.</p> <p><u>Long-Term:</u> Impacts similar to those identified under Alternative B would be accomplished with less risk to the habitat because pretreatment of fuels would reduce the possibility of higher than expected tree mortality.</p>

Table 2: Impact Topics and Alternatives Summary Table (Continued)

Topic	Alternative A	Alternative B	Alternative C
<p>Cultural Resources and Sacred Sites and Indian Trust Resources</p>	<p><u>Short-Term:</u> Cultural sites could be impacted by a wildfire and fuel reduction activities.</p> <p><u>Long-Term:</u> Intense fires that could result from continued build-up of fuels could damage cultural resources</p>	<p><u>Short-Term:</u> Other than the impacts resulting from a wildfire, there are no known short-term impacts to cultural sites than cannot be mitigated.</p> <p><u>Long-Term:</u> Fire related impacts to cultural resources would be reduced as fuel loads are reduced.</p>	<p><u>Short-Term:</u> Impacts would be similar to those described in Alternative B, except inadvertent damage may occur to unrecorded cultural sites by wheeled or tracked equipment.</p> <p><u>Long-Term:</u> The effects are expected to be the same as those listed for Alternative B.</p>
<p>Social Issues</p>	<p><u>Short-Term:</u> Visitors may be impacted by smoke in the immediate vicinity of a wildfire. A wildfire may cause a portion of the Refuge or certain roads to be temporarily closed.</p> <p><u>Long-Term:</u> The extent of the closures may be longer and more widespread during a large wildfire. Areas outside the boundary could be placed at risk during a large wildfire. It would become increasingly more difficult to move bison from one pasture to the next.</p>	<p><u>Short-Term:</u> Visitors may be impacted by smoke in the immediate vicinity of a wildfire. A wildfire may cause a portion of the Refuge or certain roads to be temporarily closed. Prescribed fire operations may result in an increased number of closures.</p> <p><u>Long-Term:</u> The short-term closures would continue indefinitely. There would be increased opportunity to explain the role of fire in the ecosystem. Moving bison would be made easier as the forested areas are opened.</p>	<p><u>Short-Term:</u> Visitors may be impacted by smoke in the immediate vicinity of a wildfire. A wildfire may cause a portion of the Refuge or certain roads to be temporarily closed. Prescribed fire operations may result in an increased number of closures Dust and increased traffic may be present during periods of mechanical thinning.</p> <p><u>Long-Term:</u> The effects are expected to be the same as those listed for Alternative B, except that moving bison would also become safer when stobs are removed mechanically.</p>

8.0 CONSULTATION AND COORDINATION

The Environmental Assessment for the Cape Hatteras National Seashore Fire Management Plan was consulted to provide guidance.

Under the provision of the Endangered Species Act of 1973, as amended, the Service must work with other federal and State agencies to protect, conserve and enhance the continued existence of any endangered species or threatened species. Any actions that may impact these species are subject to review by the U.S. Fish and Wildlife Service. A copy of this document will be made available to the U.S. Fish and Wildlife Service's Ecological Field Services Office for Montana, for consultation under Section 7 of the Endangered Species Act.

The National Historic Preservation Act, as amended in 1992 (16 USC 470 *et seq.*) and the National Environmental Policy Act require the consideration of impacts on cultural resources listed, or eligible for listing, on the National Register of Historic Places. The actions described in this document are also subject to Section 106 of the National Historic Preservation Act. Impacts to cultural resources therefore have been analyzed and will be reviewed in accordance with applicable laws, policies and agreements.

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Glossary of Terms

Appropriate Management Response: Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

BI - Burning Index: A number related to the contribution that fire behavior makes to the amount or effort needed to contain a fire in a particular fuel type within a rating area. An Index for describing Fire Danger.

Catastrophic Wildfire: A large scale, high-intensity wildland fire that could result in high plant mortality, removal of the majority of ground cover over a large area, possibly damage or destroy structures and other property, and/or severely impact water and air quality.

Closed Area: An area in which specified activities or entry are temporarily restricted to provide for to public safety or to reduce risk of human-caused fires.

Closure: Legal restriction, but not necessarily elimination of specified activities such as smoking, camping, or entry that might cause fires in a given location.

Confine: Confinement is the strategy employed in appropriate management responses where a fire perimeter is managed by a combination of direct and indirect actions and use of natural topographic features, fuel, and weather factors.

Ecosystem: An interacting system of interdependent organisms.

Expected Weather Conditions: Weather conditions indicated as common, likely, or highly probable based on current and expected trends when compared to historical weather records.

Experienced Severe Weather Conditions: The most severe, though infrequent, weather conditions that have been observed on the fire site area during the period weather records have been kept. These conditions can be used in making fire behavior forecasts for different scenarios.

Fire Effects: The physical, biological, and ecological impacts of fire on the environment.

Fire Management: Activities required for the protection of burnable wildland values from fire and the use of prescribed fire to meet land management objectives.

Fire Management Plan (FMP): A strategic plan that defines a program to manage wildland and prescribed fires and documents the Fire Management Program in the approved land use plan. The plan is supplemented by operational plans such as preparedness plans, preplanned dispatch plans, prescribed fire plans, and prevention plans.

Fire Management Unit (FMU): Any land management area definable by objectives, topographic features, access, values-to-be-protected, political boundaries, fuel types, or major fire regimes, etc., that set it apart from management characteristics of an adjacent

unit. FMU's are delineated in FMP's. These units may have dominant management objectives and pre-selected strategies assigned to accomplish these objectives.

Fire Regime: A combination of fire frequency, fire timing and fire behavior characteristics operating in an ecological system.

Fire Retardant: Any substance except plain water that by chemical or physical action reduces flammability of fuels or slows their rate of combustion.

Fire Use: The combination of wildland fire use and prescribed fire applications to meet resource objectives.

Fuel Complex: Combinations of material that burn in a fire including organic soils, duff, litter, grass, dead branch wood, snags, logs, stumps, brush and to a limited degree, live tree foliage. Thirteen standard fuel models have been developed and are used to predict fire behavior within fuel complexes.

Fuel Loading: The amount of dead fuel present on a particular site at a given time; the percentage of fuel available for combustion changes with the season.

Hazard: A fuel complex defined by kind, arrangement, volume, condition, and location that forms a special threat of ignition and resistance to control.

Hazardous fuels: See Hazard.

Hazard Fuel Reduction: Any treatment of living and dead fuels that reduces the threat of ignition and spread of fire.

Heavy fuels: Fuels of large diameter such as snags, logs, large limbwood, which ignite and are consumed more slowly than flash fuels.

Initial Attack: An aggressive suppression action consistent with firefighter and public safety and values to be protected.

Mitigation Actions: Actions taken by Park officials to reduce the severity of a wildland fire.

National Wildfire Coordinating Group (NWCG): A group formed under the direction of the Secretaries of Interior and Agriculture to improve the coordination and effectiveness of wildland fire activities, and provide a forum to discuss, recommend appropriate action, or resolve issues and problems of substantive nature.

Natural Fires: Fires resulting from lightning or other forms of natural ignitions.

Preparedness: Activities that lead to a safe, efficient, and cost-effective fire management program in support of land and resource management objectives through appropriate planning and coordination.

Prescribed Fire: Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements must be met, prior to ignition.

Prescribed Fire Plan: A plan required for each fire application ignited by managers. It must be prepared by qualified personnel and approved by the appropriate agency administrator prior to implementation. Each plan will follow specific agency direction and must include critical elements described in agency manuals.

Prescription: Measurable criteria that define conditions under which a prescribed fire may be ignited, guide selection of appropriate management responses, and indicate other required actions. Prescription criteria may include safety, economical, public health, environmental, geographic, administrative, social, or legal considerations.

Wildfire: An unwanted wildland fire.

Wildland Fire: any nonstructural fire, other than prescribed fire, that occurs in the wildland. *This term encompasses fires previously called both wildfires and prescribed natural fires.*

Wildland Fire Management Program: The full range of activities and functions necessary for planning, preparedness, emergency suppression operations, and emergency rehabilitation of wildland fires, and prescribed fire operations, including fuels management to reduce risks to public safety and to restore and sustain ecosystem health.

Wildland Fire Situation Analysis (WFSA): A decision making process that evaluates alternative management strategies against selected safety, environmental, social, economic, political, and resource management objectives.

Wildland Fire Suppression: An appropriate management response to wildland fire that results in curtailment of fire spread and eliminates all identified threats from the particular fire.

Wildland Fire Use: The management of naturally ignited wildland fires to accomplish specific pre-stated resource management objectives in predefined geographic areas outlined in FMP's.

Wildland – Urban Interface: The location where homes and other structures are commingled with wildland fuel complexes.

APPENDIX B
FIRE EFFECTS FOR SELECTED SPECIES

FIRE EFFECTS FOR SELECTED SPECIES

Adapted from Fire Effects Information System

Table 1: Selected Plants Species

Species		Effect of Fire Fire Adaption
Common Name	Scientific Name	
Aspen	<i>Populus tremuloides</i>	<p>Quaking aspen is highly competitive on burned sites. Even where quaking aspen was a barely detectable component of the prefire vegetation, it often dominates a site after fire.</p> <p>Small-diameter quaking aspen is usually top-killed by low-severity surface fire. Quaking aspen 6 inches and over become increasingly resistant to fire mortality. Large quaking aspen may survive low-severity surface fire, but usually shows fire damage. Moderate-severity surface fire top-kills most quaking aspen, although large-stemmed trees may survive. Some charred stems that survived low- or moderate-severity fire initially have been observed to die within 3 or 4 postfire years. Severe fire top-kills quaking aspen of all size classes. Moderate-severity fire does not damage quaking aspen roots insulated by soil. Severe fire may kill roots near the soil surface or damage meristematic tissue on shallow roots so that they cannot sprout. Deeper roots are not damaged by severe fire and retain the ability to sucker</p>
Balsamroot	<i>Balsamorhiza</i> spp.	<p>Arrowleaf balsamroot (<i>B. sagittata</i>) is usually undamaged by fire and increases in frequency and density after fire. Regeneration is from regrowth of the thick caudex. Existing plants recover rapidly following fire, but an increase in the number of plants must await seed production.</p>

Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	Bluebunch wheatgrass usually survives fires because its buds are protected by soil and/or plant material. Fire frequencies for bluebunch wheatgrass-dominated habitats vary considerably, depending on the associated species. Most mean fire intervals (MFI's) are less than 30 years. In Montana, on several Douglas-fir/bluebunch wheatgrass sites, fire regimes were characterized as moderate severity, frequent surface fires, with an mean fire return interval of less than 1 to 23 years.
Chokecherry	<i>Prunus virginiana</i>	Chokecherry is well adapted to disturbance by fire. Although susceptible to top-killing by fire, it resprouts rapidly and prolifically from surviving root crowns and rhizomes. Seed germination improves with heat treatment, suggesting scarification by fire is an important adaptation. Postfire regeneration probably also involves the germination of off-site seed dispersed by mammals and birds.
Idaho fescue	<i>Festuca idahoensis</i>	<p>Native ranges and forests in which Idaho fescue occurs have historically been subjected to fires at varying intervals. Maintenance of grasslands in the Intermountain West is dependent, in part, on periodic fires to remove dry matter and invading shrubs and trees. A decrease in or loss of dominant seral species such as Idaho fescue due to fire exclusion has been noted in many areas.</p> <p>Idaho fescue is a small bunchgrass that can survive light-severity fires. It is usually harmed by more severe fire. Fires burning at 10- to 25- year intervals have neutral to negative effects on Idaho fescue. Rapid sprouting occurs when root crowns are not killed and soil moisture is favorable. Plants may re-establish from seed after fire if temperatures are low enough to allow for survival of seed</p>

Lupine	<i>Lupinus</i> spp.	Some lupines are fire survivors and are present in the initial stages of postfire plant succession. Silky lupine (<i>L. sericeus</i>) is generally enhanced or not affected by fire. Following fire, it germinates from buried seed. Silky lupine showed no significant change in cover after fire in fescue grasslands in western Montana.
Rough fescue	<i>Festuca altaica</i>	Rough fescue appears to be well adapted to periodic burning. The primary postfire survival strategy of rough fescue is through the resprouting of surviving residual plants and from off-site wind-dispersed seed. Although plants are initially top-killed, recovery of prefire coverages and herbage production is usually attained in 2 to 3 years. Susceptibility to fire is related to fire severity, frequency, and season. During burning, densely packed stubble accumulations insulate perennating buds located near the ground surface. Spring and fall prescribed burning in Montana on rough fescue (<i>Festuca scabrella</i>)-bluebunch wheatgrass (<i>Pseudoroegneria spicata</i>) winter range killed rough fescue. Mortality of rough fescue was attributed to too much litter, which caused prolonged burning near the stem base. Burning did not negatively affect Idaho fescue (<i>F. idahoensis</i>) or bluebunch wheatgrass. Reductions in plant vigor are more long lasting following growing-season burns than dormant-season burns. Postburn recovery rates decline the further into the growing season plants are burned. Fire frequencies in the range of 5 to 10 years may best maintain rough fescue.

Serviceberry	<i>Amelanchier</i> spp.	<p>Saskatoon serviceberry (<i>A. Alnifolia</i>) in forests is fire-dependent and declines with fire exclusion. It may persist in the understory for decades, but eventually dies out with canopy closure. Through time-series photographs, Gruell has documented decline of Saskatoon serviceberry in ponderosa pine habitat types in the Northern Rocky Mountains due to canopy closure with fire exclusion.</p> <p>Saskatoon serviceberry sprouts from the root crown and/or rhizomes after fire. Bradley concluded that because Saskatoon serviceberry sprouts from existing plants, fire is not likely to alter its frequency unless plants were in poor condition before fire. After light- to moderate-severity fire, it usually sprouts from the root crown or from shallowly buried rhizomes. However, deeply buried rhizomes enable Saskatoon serviceberry to sprout after even the most intense wildfire.</p>
Snowberry	<i>Symphoricarpos albus</i>	<p>Common snowberry is classified as a "survivor" and has high resistance to fire. After fire has killed the top of the plant, new growth sprouts from rhizomes. This rhizomatous growth response is highly variable and depends on conditions at specific sites. Regeneration from buried seed is favored by fires of low severity and short duration that remove little of the soil organic level.</p> <p>Variable response to fire has been reported, but in general, light- to moderate-severity fires increase stem density, and common snowberry survives even severe fires. To eliminate rhizomatous sprouting, fire intensity must be severe enough to kill the roots and rhizome system.</p>

Spotted knapweed	<i>Centaurea stoebe</i>	Spotted knapweed has a large, perennial taproot and survives after fire if the root crown is not killed. It also produces large quantities of seed that can survive fire.
Wood's rose	<i>Rosa woodsii</i>	Wood's rose is moderately fire tolerant and is usually favored by low-severity fire. It can persist after low- to moderate-severity fire because of its ability to sprout from undamaged or buried root crowns and rhizomes. It occasionally germinates from on-site or off-site seed sources after fire.
Willow	<i>Salix</i> spp.	<p>Bebb willow will sprout vigorously from the basal stem following fire . Quick hot fires will maximize sprouting. The light seeds readily colonize exposed mineral soil after hot fires.</p> <p>Prescribed burning is a common wildlife management tool used to rejuvenate decadent Bebb willow communities.</p> <p>Booth willow is a fire-tolerant shrub. It sprouts readily from the root and root crown following top-kill by fire, especially in wetter stands. It produces numerous, minute seeds that are dispersed by wind, and are important in colonizing recently burned areas. Slow-moving fires are more damaging to the roots and root crown of Booth willow than are quick, hot fires; therefore the latter result in more sprouts.</p>

Table 2: Selected Bird Species

Species		Effect of Fire Fire Adaption
Common Name	Scientific Name	
Bald eagle	<i>Haliaeetus leucocephalus</i>	<p>Bald eagles prefer to nest, perch, and roost primarily in old-growth and mature stands of conifers or hardwoods near open water.</p> <p>Fires create snags, which are important perching and nesting sites for Bald eagles. Bald eagles have continued nesting during wildfire and returned to the nest the following year.</p>
<p>Flammulated owl</p> <p>(Adapted from Partners in Flight 2000)</p>	<i>Otus flammeolus</i>	<p>Flammulated owls breed primarily in open, mature montane pine forests. Ponderosa pine is one of its preferred habitats though mixed coniferous stands are occasionally used as well. Flammulated owls are uniquely adapted to foraging in open forest conditions.</p> <p>Dry forest habitat at lower montane elevations in western Montana is common, widely distributed, and relatively continuous, providing many opportunities to manage habitat for this species.</p> <p>It appears the species is well adapted to the historic stand components and structure that existed prior to fire suppression.</p>

<p>Gray Partridge</p>	<p><i>Alectoris chukar</i></p>	<p>The chukar inhabits open, rocky, dry mountain slopes, hillsides, or canyon walls from below sea level to 12,000 feet (3,660 m) elevation. Steep slopes appear to be preferred. Slope grade is usually over 7 percent with a rise of at least 200 feet (60 m). Nesting habitat is similar to foraging habitat: dry, rocky slopes with open, brushy cover.</p> <p>It is conceivable that nest loss and loss of young chicks could result from a fire, however adults should easily escape fire.</p> <p>Other gallinaceous birds are attracted to fire and fresh burns due to the abundance of seeds and dead insects, and chukars probably behave in a similar manner</p>
<p>Great horned owl</p>	<p><i>Bubo virginianus</i></p>	<p>Great horned owls occupy more diverse habitats than any other owl; habitats harboring great horned owls include deep forests (both coniferous and deciduous) and open woodlands. Great horned owls prefer mature successional stages with openings. Great horned owl habitat usually includes fields and/or wetlands.</p> <p>Direct impacts of fire on great horned owls include loss of nestlings, nest trees, roost sites, and foraging areas; severe fire can result in local loss of preferred habitat. Great horned owl populations are probably minimally affected by even large fires, as this owl has nonspecific habitat requirements and moves to unaffected sites.</p>

<p>Lewis woodpecker</p> <p>(Adapted from Partners in Flight 2000)</p>	<p><i>Melanerpes lewis</i></p>	<p>The Lewis woodpecker prefers open ponderosa pine forest, burnt coniferous forests, and open riparian woodland. It is often associated with an open forest canopy that permits fly catching, a dense understory shrub coverage to generate an abundance of insects, and large snags for nesting. Burnt forests sites are rarely occupied until the development of a significant shrub layer. In coniferous forests, Lewis woodpeckers could benefit from stand-replacing fires or fires that would produce snags for nesting and open brush fields for foraging.</p>
<p>Ruffed Grouse</p>	<p><i>Tympanuchus phasianellus</i></p>	<p>Throughout most of their range, Ruffed grouse prefer pure stands of quaking aspen or quaking aspen mixed with other hardwoods or conifers. Ruffed grouse chicks find protection in dense, young quaking aspen suckers as early as 1 year after fire or other disturbance. Pole-size quaking aspen stands appear to offer the best breeding habitat and may support one breeding bird per 3 to 4 acres (1.2-1.6 ha). Breeding generally does not occur in quaking aspen stands exceeding 25 years of age or with a density less than approximately 2,000 stems per acre.</p> <p>Ruffed grouse nests and hatchlings may be consumed by early spring fires</p> <p>Prescribed burning can be used in a number of ways to improve ruffed grouse habitat. Most notably fire can remove forest debris, eliminating hiding cover for predators and provide clear paths for ruffed grouse; enhance the growth of important food species; release nutrients; and control plant diseases and ruffed grouse parasites.</p>

Short-eared owl	<i>Asio flammeus</i>	<p>Short-eared owls are ground nesters. Most adult birds escape fire. Fire in early spring, before fledging occurs, probably kills some juveniles. Fire destroys some nests, but because many grass fires burn in a patchy pattern, some nests are skipped.</p> <p>Fire was historically an important disturbance in many of the plant communities short-eared owl occupy. It created grass patches within shrublands, maintained the open structure of parklands, and prevented woody plant invasion of marshlands and grasslands. Although much of short-eared owl decline can be attributed to urbanization, at least some is probably due to succession of open plant communities to closed ones as a result of fire suppression. Expansion of tree species into prairie, for example, has reduced short-eared owl habitat.</p>
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Table 3: Selected Mammal Species

Species		Effect of Fire Fire Adaption
Common Name	Scientific Name	
Badger	<i>Taxidea taxus</i>	<p>The most important effect of fire on badger habitat is its effect on prey populations. Badgers probably leave a burned area if rodent populations decline; however, some rodents increase on fire-disturbed areas, making it likely that badger activity would also increase in those areas.</p> <p>Badgers are rarely threatened by fire even though they occur in fire-prone plant communities.</p>
Bighorn sheep	<i>Ovis canadensis</i>	<p>Many bighorn sheep populations originally occurred in areas with frequent fire intervals. Fire exclusion has allowed plant succession to alter many bighorn sheep habitats throughout North America. For example, fire exclusion has allowed conifers to establish on grasslands, which has decreased both the forage and security values on many bighorn sheep ranges.</p> <p>Fire is an important factor in creating habitats that are heavily used by bighorn sheep. Periodic burning keeps seral grasslands from becoming dominated by coniferous trees. Burning may regenerate rangelands and enhance the production, availability, and palatability of important bighorn sheep forage species.</p>
Bison	<i>Bison bison</i>	<p>Fire is important in creating and maintaining bison habitat. Fire regenerates grasslands and enhances production, availability, and palatability of many bison forage species.</p> <p>A combination of fire and bison grazing may increase the standing crop of rhizomatous grasses at the expense of bunchgrasses.</p>
Black bear	<i>Ursus americanus</i>	<p>Fires that favor early and mid-seral fruit-producing shrubs and plentiful grasses and forbs are beneficial to bears. Many bear foods are enhanced by fire.</p> <p>Fires have little direct effect on bears.</p>

Bob cat	<i>Lynx rufus</i>	Fire may improve the foraging habitat and prey base of bobcats. Fires that create a mosaic of burned and unburned areas including some open areas and some cover are probably most beneficial to bobcats. Fires that reduce vegetation height and create open areas probably increase hunting efficiency. Surface fires often open substrates for quieter stalking and easier capture of prey than can occur in closed forests.
Elk	<i>Cervis elaphus</i>	Following fire most preferred elk forage species are enhanced by an increase in nutrients. Many studies, however, conclude that an increase in quantity of forage is more significant than an increase in quality. Site preference studies show that elk usually prefer to graze on burned as opposed to unburned sites.
Gray wolf	<i>Canis lupus</i>	<p>The effect of fire on gray wolf habitat is best defined by how fire affects gray wolves' prey. Beaver, elk, moose, and deer are fire-dependent species, requiring the plant communities that persist following frequent fires.</p> <p>No direct fire effects on gray wolves have been noted.</p>
Grizzly bear	<i>Ursus arctos</i>	<p>Many authors have blamed fire suppression in some areas for the decline of grizzly bear. Fires can promote and maintain many important berry-producing shrubs and forbs, as well as provide a medium for insects and in some cases carrion.</p> <p>Direct fire-related mortality probably occurs but may not have a significant impact on the grizzly bear population as a whole.</p>

Mountain goat	<i>Oreamnos americanus</i>	<p>Fire suppression on mountain goat range, especially in kidding areas, in the spring and summer may increase stress levels on mountain goats due to human disturbance.</p> <p>The effects of fire on mountain goat habitat has not been well studied. A study done on large mammal population changes following fires in dense forests showed that mountain goats ranged mostly at higher elevations than the fires and were affected little. However, some grasslands used by mountain goats are the result of past fires, and effective fire suppression in recent years has resulted in the lack of new grassland development in some areas. Periodic burning keeps seral grasslands from becoming dominated by climax coniferous tree cover. Interior mountain goat winter ranges often support sparse stands of trees or shrubs that are used for forage. The steep slopes of these winter ranges are often used by mountain goats for their snow-shedding characteristics. Removing forage by fire in these areas may affect forage resources, shelter, or snow-shedding characteristics.</p>
Mountain lion	<i>Felis concolor</i>	<p>Mountain lion habitat can be enhanced or expanded by fires that improve habitat for prey species such as white tailed deer. Mountain lion seem to prefer areas that have burned, and may change their home range in response to fire.</p>
Mule deer	<i>Odocoileus hemionus</i>	<p>In general, fires that create mosaics of forage and cover are beneficial. Deer seem to prefer foraging in burned compared to unburned areas, although preference may vary seasonally.</p> <p>Fire can be used to stimulate browse, create openings in dense, inaccessible plant communities, and reduce slash, as well as increase nutrient content and palatability of forage.</p>
White-tailed deer	<i>Odocoileus virginianus</i>	<p>Patchy burns that create a mosaic of browse and cover are usually beneficial to whitetail populations. White-tailed deer prefer uneven aged stands of vegetation.</p> <p>Fast-moving fires can confuse, trap, and kill deer.</p>

**INTRA-SERVICE SECTION 7 EVALUATION FOR NATIONAL BISON RANGE
FOREST MANAGEMENT ENVIRONMENTAL ASSESSMENT**

Originating Person: Lindy Garner
Telephone: 406/644-2211 x209
Date: October 7, 2002

REGION: Region 6, Mountain-Prairie

SERVICE PROGRAM: Refuges

REFUGE ESTABLISHING PURPOSE:

National Bison Range

35 Stat. 267-8, dated May 23, 1908

"...for a permanent national bison range for the herd of bison..."

35 Stat. 1051, dated March 4, 1909

provides for fencing, buildings, and "enlarging the limits heretofore established so as to make the total acreage not to exceed twenty thousand acres..."

Executive Order 3596, dated December 22, 1921

"...as refuges and breeding grounds for birds."

72 Stat. 561, dated August 12, 1958

authorized the Secretary to procure title to lands "...to provide adequate pasture for the display of bison in their natural habitat at a location readily available to the public..."

LISTED SPECIES THAT MAY OCCUR IN THE AREA AND COULD BE AFFECTED:**Bald Eagle (*Haliaeetus leucephalus*)**

Bald eagles are numerous in the Flathead Valley, yet only a few have been recorded on the National Bison Range. No nesting records exist for the refuge. Foraging forays occur over Mission Creek and in transit from trips to the Flathead River which is on the west side of the Refuge. In the spring, during calving of bison and deer or elk fawning eagles are seen in the area.

Spalding's Catchfly (*Silene spaldingii*)

Spalding's occurs in mesic slopes, flats, or depressions of open grasslands with Idaho fescue, rough fescue or bluebunch wheatgrass with some occasional conifers. It is native to prairie habitats from 1500 to 5000 feet in elevation in northwestern Montana. Fire suppression has allowed an unnatural increase in woody plants, which overtake catchfly habitat, decreasing its numbers. Weed encroachment is also a large problem for sustaining catchfly populations; the

weeds themselves displace the plant and compete for pollinators, and herbicide spraying for weed control efforts kill the plant, even with minimal drift.

Eight populations of Spalding's exist in northwestern Montana with a two in Lake and six Sanders County. No spalding's has been found on the National Bison Range to this date. Walk-through surveys during flowering have been conducted in only a few areas slated for spray efforts. Survey efforts will be conducted in areas of potential spalding's habitat prior to any mechanical methods or prescribed fire efforts associated with this project.

OTHER LISTED OR PROPOSED SPECIES CONSIDERED:

Gray Wolf (*Canis lupus*)
Grizzly Bear (*Ursus arctos*)
Canada Lynx (*Lynx canadensis*)
Bull Trout (*Salvelinus confluentus*)

All of these species occur in the vicinity of the refuge, but are generally not found on site. There have only been a few miscellaneous reports of grizzly bear sightings and wolf sightings on the refuge. These individuals were probably only traveling through the area. Bull trout are found further upstream of the refuge in the Jocko River. Mission Creek and Jocko River have recently been designated as critical habitat, and both flow through the Refuge. Wildlife sightings are recorded and will be monitored for occurrence on the refuge prior to any mechanical methods or prescribed fire efforts associated with this project.

GEOGRAPHIC REGION: Columbia River

LOCATION:

The National Bison Range (18,806 ac; Fig. 1) is in a portion of the Flathead Valley, the Mission Valley, on the west slope of the Continental Divide near the headwaters of the Columbia Basin Ecosystem. It is a small, low-rolling mountain connected to the Mission Mountain Range to the east by a gradually descending spur. The Refuge is in Lake and Sanders County and within the exterior boundaries of the Flathead Indian Reservation of the Confederated Salish & Kootenai Tribes of northwestern Montana. It is located in northwestern Montana approximately 50 miles north of Missoula.

OBJECTIVES OF THE ACTION:

The long-term objectives for this action are to limit the forested areas to 2,700 acres; maintain a healthy stand of trees that will provide suitable habitat for bison and other wildlife species; halt the encroachment of trees into the grasslands; and reduce the likelihood of a catastrophic wildfire and epidemics of insects or disease.

DESCRIPTION OF PROPOSED ACTION:

The National Bison Range elevations range from 2,582' to 4,885' with a diverse ecosystem of grasslands, Douglas fir, ponderosa pine forests, riparian areas and springs. Mixed-conifer forest,

including both old growth and second growth stands dominated by ponderosa pine and Douglas fir, inhabit the higher elevations of the Refuge. In the absence of fire, most stands have dense thickets of small trees and are experiencing insect and disease epidemics and present a severe wildfire risk. Grasslands consist of one of the larger, remaining intact Palouse prairie (Idaho fescue, rough fescue, bluebunch wheatgrass) in the west and are being invaded with ponderosa pine and Doug fir encroachment with the current and historical practice of fire suppression.

The proposed action is to initiate a program of mechanical fuel reduction and prescribed fire to better manage the mixed-conifer forest areas of the National Bison Range. Wildfires would be managed for either high intensity direct suppression efforts, lower intensity indirect efforts, or surveillance to ensure confinement of a wildfire within a designated area. The Refuge proposes to use low intensity prescribed fire and mechanical fuel reduction operations to treat on average 300 acres annually over a 10-year period to thin dog-hair stands, reduce the number of trees (stocking level) to maintain a healthy stand, decrease the fuel loading to decrease the risk of catastrophic fire, and halt the encroachment of trees into the grasslands.

A possible scenario includes the use of chainsaws and other similar equipment to thin trees. Prescribed fire would be used to reduce or eliminate the needles, limbs, and boles lying on the ground. It is entirely possible that an area may have to be burned more than once under a variety of conditions to achieve the desired results. Other management actions include the use of the cut and pile method, followed up with pile burning or chippers to dispose of the residue. Options to chip standing trees would be explored. In those cases where debris was chipped, the area would be treated with prescribed fire.

This project is the first step in restoring the ecological role of fire in perpetuating forest containing large ponderosa pine and Douglas-fir that are healthy. Mechanical methods will halt the spread of ponderosa pine and Douglas-fir into the grasslands, and reduce the fuel loading so that prescribed fires can be carried out safely.

EXPLANATION OF IMPACTS OF ACTION ON LISTED SPECIES OR CRITICAL HABITAT:

Bald Eagle

The proposed action of mechanical methods and prescribed fire in forest management will have insignificant effects to the bald eagle. Efforts from this project will be carried out in the upper elevations of the National Bison Range. These areas are not close enough to the Jocko River and Mission Creek to interrupt or create disturbance to foraging bald eagles. If nests were to be found on the National Bison Range the Montana Bald Eagle Working Group Management Plan stipulations would be followed to minimize disturbance and though not expected, stands with nests would not be treated.

Spalding's Catchfly

The proposed action of prescribed fire and mechanical methods in forest management will only have discountable effects to the plant, Spalding's Catchfly. Though the National Bison Range

grasslands are composed of the habitat this plant is found in, grazing, weed encroachment, herbicide spraying and fire suppression impacts have probably already created the loss of this species, if it ever was here historically. Plant lists established in 1985 did not include *Silene spaldingii*, and it is unknown whether this plant occurred here historically. It is unlikely catchfly exists on the Range, however, walk-through surveys will be conducted in the late summer during flowering in the stand slated for treatment that fall/winter or the next spring to make sure it is not present. Though it has been suggested that it is difficult to restore this species once lost, returning fire to the palouse prairie would keep woody shrubs from further encroachment into catchfly habitat, and can enhance catchfly recruitment. The Range could potentially provide a protected fescue/bluebunch wheatgrass prairie site for potential restoration efforts.

If the plant does exist on the Range, there could be some adverse impacts. Impacts to the suitable habitat of catchfly could be disturbance or trampling resulting in take in areas of machinery, vehicles and people during cutting efforts of trees encroaching on the grasslands. Prescribed fire impacts would need to be monitored closely or followed up with seeding to keep weeds from increasing or encroaching an area they were nonexistent in before the burn. Weeds displace the catchfly and compete with them for water, nutrients, light, and pollinators. Herbicide spraying to control the weeds, and herbicide drift, kills the catchfly.

Other species considered

The grizzly, gray wolf, lynx, and bull trout should not be impacted to any significant extent since they infrequently pass through the refuge. Any effect would be discountable (i.e., extremely unlikely to occur.)

EFFECT DETERMINATION AND RESPONSE REQUESTED:

Listed Species

Determination

May affect-is not likely to adversely affect
 Bald Eagle, Spalding's Catchfly, Grizzly Bear
 Gray Wolf, Canada Lynx, and Bull Trout

Response Requested

_____ Concurrence

RECOMMENDATION:

Implement the use of prescribed fire and mechanical methods for forest management with monitoring and survey efforts as described in the Environmental Assessment.

SUBMITTED BY:

NATIONAL BISON RANGE COMPLEX,

PROJECT LEADER: David Wiseman
 David Wiseman

Date: 10-2-02

REVIEWING ESO EVALUATION:

Concurrence X Nonconcurrence _____

Formal consultation required _____

Conference required _____

Informal conference required _____

Remarks:

MONTANA ECOLOGICAL SERVICES

FIELD SUPERVISOR: _____

R. Mark Wilson

Date: 10/24/02

Mark Wilson

COMPATIBILITY DETERMINATION

Use: Implement activities described in the Environmental Assessment for Management of Mixed Conifer Forests at the National Bison Range.

Refuge Name: National Bison Range

Establishing and Acquisition authority(ies):

35 Stat. 267-8, dated May 23, 1908

“...for a permanent national bison range for the herd of bison...”

35 Stat. 1051, dated March 4, 1909

provides for fencing, buildings, and “enlarging the limits heretofore established so as to make the total acreage not to exceed twenty thousand acres...”

Executive Order 3596, dated December 22, 1921

“...as refuges and breeding grounds for birds.”

72 Stat. 561, dated August 12, 1958

authorized the Secretary to procure title to lands to provide for a display pasture for the bison herd; “...to provide adequate pasture for the display of bison in their natural habitat at a location readily available to the public...”

Refuge Purpose(s):

35 Stat. 267-8, dated May 23, 1908

“...for a permanent national bison range for the herd of bison...”

35 Stat. 1051, dated March 4, 1909

provides for fencing, buildings, and “enlarging the limits heretofore established so as to make the total acreage not to exceed twenty thousand acres...”

Executive Order 3596, dated December 22, 1921

“...as refuges and breeding grounds for birds.”

72 Stat. 561, dated August 12, 1958

authorized the Secretary to procure title to lands to provide for a display pasture for the bison herd; “...to provide adequate pasture for the display of bison in their natural habitat at a location readily available to the public...”

National Wildlife Refuge System Mission:

The mission of the System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Goals of the National Wildlife Refuge System

- a. To preserve, restore, and enhance in their natural ecosystems (when practicable) all species of animals and plants that are endangered or threatened with becoming endangered;
- b. To perpetuate the migratory bird resource;
- c. To preserve a natural diversity and abundance of fauna and flora on refuge lands; and
- d. To provide an understanding and appreciation of fish and wildlife ecology and man's role in his environment and to provide refuge visitors with high quality, safe, wholesome and enjoyable recreational experiences oriented toward wildlife to the extent these activities are compatible with the purposes for which the refuge was established.

Description of Use:

The preferred alternative is to use prescribed fire, mechanical means, and chemical applications alone or in combination to achieve the desired resource management objectives. This alternative would be the first step in the process of restoring the ecological role of fire in perpetuating forest containing large ponderosa pine and Douglas-fir that are healthy and consistent with the conditions resulting from the historical fire occurrence in the area.

Every wildfire on or threatening Service lands would receive an appropriate level of response. The level of response would be consistent with firefighter and public safety, land use objectives and would be executed to minimize suppression cost and resource damage. The appropriate action would include high intensity direct suppression efforts, lower intensity indirect efforts, or surveillance to ensure confinement of a wildfire within a designated area.

Refuge staff would evaluate the forested areas and institute a monitoring program to identify areas that require treatment. The results of the monitoring would be used in combination with current knowledge to determine the desired results. Based on factors such as the training and experience level of the Refuge staff, the availability of fire management personnel from other Service areas and agencies, and other logistical concerns, the Refuge proposes to use prescribed fire, and other resource management tools to treat on average 300 acres annually over a 10-year period. The target would allow the Refuge to establish a 10-year treatment cycle, which is within the historical fire regime of 3-30 years. As part of the process, the Refuge would define treatment objectives and prescriptions, develop prescribed burn plans, conduct prescribed burns, and monitor vegetative response. A program would be implemented to monitor weather and fuel conditions for appropriate burn periods.

Under this alternative, a variety of resource management tools would be used to achieve desired future results. Low intensity prescribed fire and mechanical fuel reduction operations such as

chainsaws and other similar equipment would be used to reduce the number of trees (thinning) and fuel loading. Prescribed fire and mechanical methods may be used alone or in combination with each other. Areas may be burned more than once to achieve desired results. Other methods would include the use of the cut and pile method, followed up with pile burning or chippers to dispose of the residue. Use of wheeled and tracked machines to chip standing trees would be explored. Monitoring results would be used to fine-tune prescriptions, as necessary, to ensure resource management objectives would be achieved.

Availability of Resources:

Sufficient resources are available to implement methods described in the Environmental Assessment preferred alternative with additional resources from collaboration with USFWS Fire Program and Confederated Salish and Kootenai Tribes Fire Division.

Anticipated Impacts of the Use:

A lengthy discussion of impacts from prescribed fire and mechanical methods for forest management can be reviewed in the Environmental Assessment pages 19-34 and Table 2, pages 35-38.

Public Review and Comment:

A copy of this draft determination was included as part of the Public Draft package of the Environmental Assessment for Management of Mixed-Conifer Forest on the National Bison Range initiated for a 30-day comment period, October 7, 2002. No comments were received.

Determination (check one below):

- Use is NOT Compatible
 Use IS Compatible with the following stipulations

Stipulations Necessary to ensure compatibility:

Justification for compatibility determination:

The forest must maintain a healthy stand of trees that will provide suitable habitat for bison and other wildlife species and not encroach upon the native palouse prairie. Wildland fire has been excluded from the area for many decades. As a result, plant succession, fuel accumulations, structure and composition of vegetation, insect and disease populations, nutrient cycling, productivity, diversity, and habitats for wildlife are being affected. Implementing prescribed fire and mechanical methods will provide a range of management strategies consistent with current knowledge to best manage the mixed-conifer forest on the National Bison Range.

Signature:

Refuge Manager:

David J. Wiseman 11-14-02
(Signature and Date)

Concurrence:

Refuge Supervisor: Steve Benz
(Signature and Date)

Regional Chief: Richard A. Coleman
(Signature and Date)

Mandatory 10-or 15-year reevaluation Date: 11/26/2012

Paul Hoffman@DOI
03/13/2003 03:15 PM

To: Ralph Morgenweck/R6/FWS/DOI@FWS, Steve
Berendzen/R6/FWS/DOI@FWS, csktchair@cskt.org, annas@cskt.org,
David Wiseman/R6/FWS/DOI@FWS

CC:
Subject: Draft Plans of Action and Joint Press Release [Watchdog:Virus
checked] [Watchdog: Virus checked]

Hi all

Attached is the Draft Preliminary Discussions Plan of Action, the Draft Public Input Plan of Action and a draft Joint Press Release.

I think we are all in agreement on the first document. It is labeled draft for the benefit of the public.

This is you all's first look at the Public Input Plan, so take a sharp pencil to it.

The draft Joint Press Release is open to comment as well. It need the contact info plugged into it as well.

Ralph, I need the name of the Public Affairs person in your shop that you want to handle this issue and their contact info. Also, do we have a web site URL I can plug into the release.

I am out of the country all next week, so if there is any way we can finalize this by tomorrow COB, it would be helpful. I have been corresponding by e-mail with a lady in the valley up there who seems to be tapped into some opposition group. I have clarified some of her misconceptions, but I also am sure she is sharing my responses widely, so the sooner we get our own message out there the better.



CSKT-FWS Plan of Action.d CSKT Public Input Plan of Action.d Bison Range PR1.doc

Thanks

Paul Hoffman, DAS/FWP
Room 3156
202-208-4416
Cell 202-365-4533
Fax 202-208-4684
E-mail: Paul_Hoffman@ios.doi.gov
LAN-Mail: Paul Hoffman/ASFWS/OS/DOI

FWS-000546

**Confederated Salish & Kootenai Tribes and U.S. Fish & Wildlife Service
National Bison Range and Affiliated Refuges Annual Funding Agreement
Preliminary Discussions and Draft Plan of Action
February 20, 2003**

The Confederated Salish & Kootenai Tribes (CSKT) and the U.S. Fish & Wildlife Service (FWS) met on February 20, 2003, to re-initiate discussions about the potential for the CSKT to enter into an agreement with the FWS to manage the National Bison Range and affiliated refuges¹ within the reservation (NBR). The following Draft Principles and Plan of Action were agreed upon.²

PRINCIPLES

- The Indian Self Determination and Education Assistance Act (ISDEA) provides for the Interior Secretary's discretionary authority to enter into Annual Funding Agreements with tribes for the management of other federal units (those not for Indians because of their status as Indians) when those units have a historical, cultural and geographic links to the tribes. The CSKT and the NBR clearly have those linkages.
- The National Wildlife Refuge System Administration Act (NWRSA) requires that the Secretary, through the Director of the FWS, manage all refuges. Accordingly, the NBR will require an FWS manager and FWS oversight of certain inherently federal functions of the refuges.
- The FWS will retain all ownership of NBR refuge lands and easements.
- The NBR refuges will continue to be managed for the wildlife purposes for which they were established and for public access and activities on the refuges so long as those are consistent with the conservation of the wildlife for which the refuges were established.

PLAN OF ACTION

- I. **Public Input Goal** – Develop a media plan and process to seek Congressional, Gubernatorial, and public input at key decision points in the negotiation processes
Responsible Parties: Fred Matt (CSKT)
Paul Hoffman (FWS)
Timeline: March 1, 2003

- II. **Compatibility Issues Goal** – Cooperatively develop actions, responsible parties and timelines to address all compatibility issues prior to executing an Annual Funding Agreement
Responsible Parties: Dave Wiseman (FWS)
Joe Dupuis & Fred Matt (CSKT)
Timeline: April 1, 2003

¹ The FWS manages a refuge complex in the Flathead Valley that includes the National Bison Range, Nine Pipes and Pablo National Wildlife Refuges within the reservation and the Wetlands Districts portions of which are within the reservation boundary.

² These Principles and the Plan of Action are draft and subject to approval by the CSKT Council and FWS. They will also be made available to the Congressional and Gubernatorial Offices and the public for comment.

**Confederated Salish & Kootenai Tribes and U.S. Fish & Wildlife Service
National Bison Range and Affiliated Refuges Annual Funding Agreement
Preliminary Discussions and Draft Plan of Action
February 20, 2003**

III. **Comprehensive Conservation Plan for the Bison Range Goal** – Negotiate a contract with the CSKT to develop the Comprehensive Conservation Plan (CCP) for the National Bison Range and at a later time the CCPs for the Pablo and Nine Pipes National Wildlife Refuges and the Wetlands Districts

Responsible Parties: Mike Spratt & Steve Berendzen (FWS)
Anna Sorrel & Clayton Matt (CSKT)

Timeline: January 31, 2004

IV. **Management Agreement Goal** – Negotiate the terms and conditions of a long term Management Agreement that addresses responsibilities, authorities and employment issues

Responsible Parties: Steve Berendzen (FWS)
Anna Sorrel (CSKT)

Timelines: Draft by June 30, 2003³
Final by November 30, 2003

V. **Annual Funding Agreement Goal**⁴ – Negotiate the terms, conditions and budget for an Annual Funding Agreement consistent with the Management Agreement

Responsible Parties: Steve Berendzen (FWS)
Anna Sorrel (CSKT)

Timelines: Draft by June 30, 2003
Final by November 30, 2003

³ The timelines for Goals IV & V may be extended by mutual agreement of the CSKT and the FWS

⁴ Goals IV & V may be combined. It will be necessary to further research the legal authority under which the CSKT and FWS can enter into anything other than an Annual Funding Agreement as provided for under the ISDEA.

Confederated Salish & Kootenai Tribes and U.S. Fish & Wildlife Service
Draft Public Input Plan of Action
March 4, 2003

- I. **Public Input Goal** – Develop a media plan and process to seek Congressional, Gubernatorial, and public input at key decision points in the negotiation processes

Responsible Parties: Fred Matt (CSKT)
Paul Hoffman (FWS)

Timeline: March 1, 2003

Public Input Plan of Action

The Confederated Salish & Kootenai Tribes (CSKT) and the U.S. Fish & Wildlife Service (FWS) recognize that the general public has a great interest in the National Bison Range and affiliated refuges (NBR). In addition, the Montana Congressional delegation and the Governor's office have also expressed interest in the NBR and any changes in the management of those refuges.

The CSKT and the FWS also recognize that certain parts of the negotiation process are not by definition open to the public, especially, when those negotiations will impact FWS personnel at the refuges.

1. **Public Input Action Step** – The National Bison Range and Affiliated Refuges Annual Funding Agreement Draft Plan of Action has 5 Goals: 1) Public Input, 2) Compatibility Issues, 3) Comprehensive Conservation Plan for the Bison Range, 4) Management Agreement and 5) Annual Funding Agreement. Each one of those goals has a timeline for completion. Once a draft agreement for each goal has been reached, that draft agreement will be made available to the public at the Bison Range Visitors Center, the CSKT business office, through the media and on the FWS website. For each Goal and draft agreement, an appropriate public comment period of not less than 30 days and not more than 90 days shall be established in accordance with legal and regulatory guidelines. Public input will require the name and address of the person making the comments and will be accepted via phone, e-mail, postal mail, or hand delivery. For the Comprehensive Conservation Plan for the Bison Range, Management Agreement and Annual Funding Agreement Goals, a public forum(s) for comment on each draft agreement will be held with the number of forums and locations to be determined in consultation with the CSKT, the FWS, the Congressional delegation staff and the Governor's office.
2. **Media Plan Action Step** – Whenever possible and practical, the CSKT and the FWS shall issue joint press releases to inform the public when certain actions have or are about to occur. If the media calls either the CSKT or the FWS to solicit independent comments regarding the negotiations, then the contacted party shall make reasonable and good faith efforts to contact the other party prior to granting any media interviews in order to discuss a joint response, or interview. The CSKT and the FWS shall appoint spokespersons for their respective organizations that shall be the primary points of contact for media inquiries.
3. **Intergovernmental Action Step** – The CSKT and the FWS shall make every effort to keep the Congressional delegation staff and the Governor's staff informed of any decisions or meetings.

Draft
JOINT PRESS RELEASE
Confederated Salish & Kootenai Tribes
U.S. Fish & Wildlife Service

For release on: March 17, 2003
Contact: Fred Matt, CSKT
FWS

**Tribes and Fish & Wildlife Service Announce Plans to
Negotiate Joint Management of Bison Range**

During a meeting held in Polson, MT, on February 20, 2003, the Confederated Salish & Kootenai Tribes and the U.S. Fish & Wildlife Service agreed on principles and timelines for negotiations on an Annual Funding Agreement that would allow the tribes to manage the National Bison Range and affiliated refuges on the Flathead Reservation.

“There is clear legal authority for federal units to be managed by tribes when they have a historic, geographic and cultural link to the unit,” said Interior Deputy Assistant Secretary Paul Hoffman, who leading the Interior Department negotiation team. Interior also has clear legal guidance that requires a Fish & Wildlife Service manager to remain and Fish & Wildlife Service concurrence on inherently federal responsibilities. “The refuges will remain federal assets, they will continue to be managed for the wildlife for which they were established and public access will continue as long as that is consistent with the refuge purposes,” Hoffman added.

“We are happy to begin the negotiation process and we are encouraged about the opportunities for tribal management of these refuges which lie within the Flathead Reservation and have clear cultural and historic ties to our tribes,” said tribal chair Fred Matt. Matt also recognized the importance of public input in the negotiation process. “We will make all negotiated agreements available for public comment and input,” Matt added.

Consistent with that commitment, Matt released the CSKT/FWS Preliminary Discussions and Draft Plan of Action which was developed during the February 20, 2003, meeting in Polson. He also released the Draft Public Input Plan of Action which represents the action articulated in Goal 1 of the original Plan of Action. These documents can also be accessed at <http://www.fws.gov>.

Comments should be directed to:
CSKT Phone:
CSKT Fax:
CSKT Mail:
CSKT E-Mail:
National Bison Range Phone:
National Bison Range Fax:
National Bison Range Mail:
National Bison Range E-mail:

Attachments:
CSKT/FWS Preliminary Discussions and Draft Plan of Action
Draft Public Input Plan of Action

COMPREHENSIVE CONSERVATION PLAN SCHEDULE
August 2003
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2003 (NOI Issued) (Month expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began indicated in parentheses)	CCPs Scheduled for Completion in FY 2003 (# stations represented in parentheses)
<i>Final CCPs</i> Crescent Lake NWR (FY02) Seedskadee NWR (FY02) Waubay NWR and WMD (FY02) North Platte NWR (FY01) Flint Hills NWR (FY00) Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) Ouray NWR (FY00) Browns Park NWR (FY99) Valentine NWR (FY99) Fort Niobrara NWR (FY99) Lostwood NWR (FY99) Marais des Cygnes NWR (FY98)	Kirwin NWR (03/03) Easement Refuges ??	Arapaho NWR (FY00) Arrowwood NWR (FY01) Des Lacs NWR (FY02) Fish Springs NWR (FY98) J. Clark Salyer NWR (FY02) Lost Trail NWR (National Bison Range) (FY00) Medicine Lake NWR and WMD (includes Lamesteer NWR) (FY98) Monte Vista/Alamosa NWRs(FY97) Rocky Flats NWR (FY02) Sand Lake NWR (FY01) Upper Souris NWR (FY02)	<i>Final CCPs</i> Monte Vista/Alamosa NWRs (2) <i>Draft CCPs</i> Arapaho NWR (1) Lost Trail NWR (National Bison Range) (1) Medicine Lake NWR and WMD (includes Lamesteer NWR) (3) Monte Vista/Alamosa NWRs (2)

PROPOSED CCP SCHEDULE
August 2003
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:				
FY2004	FY2005	FY2006	FY2007	FY2008
Devil's Lake, Arrowwood, and Valley City WMDs Lee Metcalf NWR Long Lake NWR (includes Long Lake, Florence Lake, and Slade NWRs) National Bison Range Lacreek NWR (includes Lacreek and Bear Butte NWRs)	Charles M. Russell NWR Rainwater Basin WMD Sully's Hill Game Preserve Red Rock Lakes NWR	National Elk Refuge Lake Andes and Madison WMDs Crosby, Lostwood, and Audubon WMDs	Nine Pipe and Pablo NWRs Bowdoin WMD (includes Bowdoin WMD and Black Coulee, Creedman Coulee, Lake Thibideau, and Hewitt Lake NWRs) Long Lake, Kulm, and Chase Lake WMDs	UL Bend NWR Arapaho NWR (WY Satellites: Bamforth, Hutton Lake, Mortenson Lake, and Pathfinder NWRs) Benton Lake WMD Sand Lake and Huron WMDs
FY2009	FY2010	FY2011	FY2012	FY2013
Boyer Chute NWR Northwest Montana WMD and Swan Lake NWR Quivira NWR ***** (these are the final CCPs under the Refuge Improvement Act to be completed by 2012)	Chase Lake and Hobart Lake NWRs Charles M. Russell WMD Stump, Lake Ardock, Lake Alice, and Kelly's Slough NWRs	Audubon NWR (includes Audubon, Lake Ilo, Lake Nettie, McLean, and White Lake NWRs) Lake Andes and Karl Mundt NWRs	Bear River Migratory Bird Refuge (CMP revision) Cokeville Meadows NWR J. Clark Salyer WMD Bowdoin NWR	Benton Lake NWR Halfbreed Lake, Lake Mason, and War Horse NWRs Rocky Mountain Arsenal NWR Two Ponds NWR

PROPOSED CCP SCHEDULE
 August 2003
 REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:				
FY2014	FY2015	FY 2016	FY 2017	FY 2018
<p style="text-align: center;">*****</p> <p>Last CCP will be completed by FY 2016</p> <p>Begin New CCP Program (the second 15 years!)</p>				



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Mountain-Prairie Region



IN REPLY REFER TO:

NWRS/NBR 1
Mail Stop 60130

MAILING ADDRESS:

Post Office Box 25486
Denver Federal Center
Denver, Colorado 80225-0486

STREET LOCATION:

134 Union Blvd.
Lakewood, Colorado 80228-1807

D. Fred Matt, Chairman
CSKT Tribal Council
P.O. Box 278
Pablo, Montana 59855

AUG 05 2003

Dear Chairman Matt:

Thank you for meeting with representatives of the U.S. Fish and Wildlife Service (Service) on June 9-10, 2003, in Washington, D.C., concerning the interest of the Confederated Salish and Kootenai Tribes (CSKT) in securing an Annual Funding Agreement (AFA) at the National Bison Range Complex (Bison Range) in Montana.

At the meeting, the Service identified programs, services, functions, and activities, and portions thereof (Activities), that could be made available to the CSKT under an AFA. The Service also identified a number of positions that currently are associated with performing those Activities.

You responded with a counterproposal, which the Service declined to accept because it would not meet Service obligations under the National Wildlife Administration Act and other laws and regulations to adequately provide for Service retention of sufficient onsite administration of inherently Federal functions. In a subsequent, June 25, 2003, letter to Paul Hoffman, Deputy Assistant Secretary for Fish, Wildlife and Parks, you made a second counterproposal. This letter responds to your second counterproposal.

Your second counterproposal is:

- 1 deputy manager (1 FTE)
- 1 administrative support assistant (1 FTE)
- 1 clerk (0.8 FTE)
- 1 outdoor recreation planner (1 FTE)
- 1 permanent, part-time visitor services position (0.75 FTE)
- 2 seasonal visitor services positions (0.5 FTE each)
- 1 seasonal fire technician (0.5 FTE)
- 1 maintenance foreman (1 FTE)
- 4 seasonal maintenance workers (0.5 FTE each)
- 2 wildlife biologists (1 FTE each)

Your second counterproposal requested one additional maintenance worker and one additional wildlife biologist whose positions serve refuge activities outside the reservation boundary. To date, all of our negotiations have focused on positions at the Bison Range that would be included under an AFA. However, the Service believes an AFA should not cover positions, but instead

FWS-000556

should cover the Activities the CSKT would perform at the Bison Range and the other Refuge System units within the Reservation. While an AFA would indeed have considerable impact on affected Service employees, which must remain an important consideration in our discussions, the Service feels it is necessary at this time to refocus our discussions on the Activities an AFA would cover, rather than on the number and types of positions affected.

Based on the Activities focus, the Service is offering to enter into an AFA with the CSKT and provide funding for the performance of certain fire, biological, visitor services, and maintenance Activities, and the management thereof, for National Wildlife Refuge System (NWRS) units within the Reservation. In this offer, the Service will continue to retain final management authority over all Activities at the Bison Range, all other Activities that involve an inherently Federal function, and those Activities which occur outside the reservation boundary. This offer is not comprehensive or complete and, should the CSKT want to move forward on this basis, there are many details to be worked out during the continued negotiation process in order to produce a draft AFA for public review.

The Department's annual notice in the Federal Register, Vol. 67, No. 66, dated Friday, April 5, 2002, Paragraph II. F. Eligible Programs of the U.S. Fish and Wildlife Service, states: "*Some* elements of the following programs *may be* eligible for inclusion in a self-governance annual funding agreement" (emphasis added). This language authorizes the Service to exercise its discretion to consider which programs, services, functions, and activities may be included.

The following opportunities for contracting under an AFA exist at the Bison Range: certain **Management Activities, Biological Activities, Fire Activities, Maintenance Activities, and Visitor Services Activities**. Appropriated funds and authorized budgets associated with each of these Activities would be transferred to the CSKT under an agreed upon AFA. The proposed Activities are outlined in greater detail below.

Management Activities

1. Management, oversight, compliance, planning, reporting, and supervision of employees associated with all the following proposed Activities to be conducted by the CSKT as part of an AFA
2. Working cooperatively with the Bison Range staff and Regional staff to insure that all Activities are carried out in accordance with published Service standards and consistent with Service laws, regulations, and policies
3. Performing human resources, personnel, and payroll activities for all tribal employees who are conducting Activities under an AFA
4. Serving as liaison between the Service and the CSKT

Biological Activities

1. Migratory non-game bird surveys
2. Wetland Management District (WMD) waterfowl pair counts
3. Duck banding
4. Bison Range big game count
5. WMD, Ninepipe National Wildlife Refuge (NWR), and Pablo NWR vegetation monitoring

6. Bison Range range-condition vegetation sampling
7. GIS mapping and monitoring
8. Beneficial insect and invasive plant control monitoring
9. Big game herds health monitoring
10. Big game surplus removal assistance
11. NWRS mitigation analyses and recommendations

Fire Activities

1. Draft fire prescriptions and supporting documents for resource and fuel reduction burns
2. Conduct wildfire suppression
3. Conduct prescribed burns
4. Maintain fire equipment and supplies
5. Assist collateral duty firefighters in maintaining qualifications
6. Provide fire program recommendations to refuge management
7. Research and report on Bison Range fire history
8. Conduct pre- and post-burn vegetation monitoring

Maintenance Activities

1. Repair and maintain all facilities (fences, buildings, water control structures, water delivery system, bison corrals, etc.)
2. Repair and maintain refuge roads
3. Operate heavy equipment, as needed, to repair and maintain facilities
4. Repair and maintain electrical systems
5. Apply pesticides for invasive plant control with application rate and location reporting
6. Ride horses to move bison periodically to manage native grassland and prevent overgrazing of palouse prairie
7. Ride horses to trap bison and move into corral system for biological monitoring, surplus program, and research activities
8. Assist with wildlife surveys, capture, and handling

Visitor Services Activities

1. Provide NWRS, Bison Range, and refuge specific information to refuge visitors
2. Provide telephone/receptionist responsibilities for the calling public
3. Provide radio dispatch in support of all refuge programs
4. Assist with teacher environmental education workshop programs
5. Draft informational materials for public information needs and requests
6. Draft informational materials for NWRS reports
7. Maintain Bison Range websites
8. Assist with annual bison roundup public activities including school educational groups, general visitors, accessibility needs, crowd management, and orientation video presentations
9. Monitor Bison Range day-use area activities
10. Schedule school groups and other environmental education programs for the visitor center and day-use area
11. Maintain the Bison Range environmental education library

12. Conduct fee collection for Bison Range user programs and cooperating association sales outlet
13. Draft grants to enhance public-use program activities
14. Maintain first aid and CPR training activities and supplies.
15. Conduct daily visitor center cleanup, as needed, between the extensive cleaning sessions performed by a contractor
16. Maintain organization of photo file (physical and electronic)
17. Maintain records for Natural History Association sales outlet partnership (the sales outlet is a cooperative association function and cannot be included in federal programs subject to an AFA)
18. Conduct environmental education workshops
19. Direct visitor center operations
20. Conduct public presentations on the NWRS and Bison Range

Comprehensive Conservation Plans

An opportunity also exists for the CSKT to participate in long-term planning of refuge operations and management through the Comprehensive Conservation Planning process. This planning process may be initiated in 2004 for the Bison Range and possibly for Pablo and Ninepipe NWRs at that time, as well. The CSKT could be included as a core planning team member in the development of these plans.

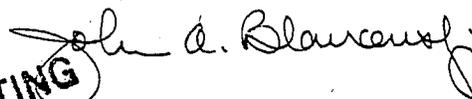
Student Career Experience Program

An additional opportunity for more tribal involvement in refuge management includes the recruitment of tribal members as refuge employees through the Student Career Experience Program (SCEP). Through this program, the Service hires students who are enrolled in a wildlife management related curricula at a college or university. Work and diversity of training experiences are provided to develop new refuge employees who can become career employees.

By selecting CSKT tribal members through the SCEP and providing employment opportunities at Bison Range, tribal involvement in management operations can be ensured with employees who have the training and experience to make policy decisions and implement Service procedures.

We look forward to receiving your written response and continued negotiations.

Sincerely,


ACTING Regional Director

cc:
Paul Hoffman, DAS, FWP
Steve Williams, Director, FWS
Bill Hartwig, ANRS, FWS

COMPREHENSIVE CONSERVATION PLAN SCHEDULE

(Draft - Subject to review by Project Leaders)

October 2003

REGION 6 - MOUNTAIN-PRAIRIE REGION

<p align="center">CCPs Completed Since Passage of the Refuge Improvement Act (1997)</p> <p align="center">(Fiscal year completed in parentheses)</p>	<p align="center">CCPs to Begin in FY 2004 (NOI Issued)</p> <p align="center">(Month expected to begin in parentheses)</p>	<p align="center">CCPs Currently Underway</p> <p align="center">(Fiscal year planning effort began indicated in parentheses)</p>	<p align="center">CCPs Scheduled for Completion in FY 2004</p> <p align="center">(# stations represented in parentheses)</p>
<p><i>Final CCPs:</i></p> <p>Monte Vista/Alamosa NWRs (FY 03)</p> <p>Crescent Lake NWR (FY02)</p> <p>Seedskaadee NWR (FY02)</p> <p>Waubay NWR and WMD (FY02)</p> <p>North Platte NWR (FY01)</p> <p>Flint Hills NWR (FY00)</p> <p>Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00)</p> <p>Ouray NWR (FY00)</p> <p>Browns Park NWR (FY99)</p> <p>Valentine NWR (FY99)</p> <p>Fort Niobrara NWR (FY99)</p> <p>Lostwood NWR (FY99)</p> <p>Marais des Cygnes NWR (FY98)</p>	<p>Long Lake NWR and WMD (includes Long Lake, Florence Lake, and Slade Lake NWRs)</p> <p>Lacreek NWR and WMD (includes Lacreek and Bear Butte NWRs and Lacreek WMD)</p> <p>North Dakota Easement Refuges</p> <p>National Bison Range</p>	<p>Arapaho NWR (FY00)</p> <p>Arrowwood NWR (FY01)</p> <p>Des Lacs NWR (FY02)</p> <p>Fish Springs NWR (FY98)</p> <p>J. Clark Salyer NWR (FY02)</p> <p>Lost Trail NWR (National Bison Range) (FY00)</p> <p>Medicine Lake NWR and WMD (includes Lamesteer NWR) (FY98)</p> <p>Rocky Flats NWR (FY02)</p> <p>Sand Lake NWR (FY01)</p> <p>Upper Souris NWR (FY02)</p> <p>Kirwin NWR (FY 03)</p>	<p><i>Final CCPs:</i></p> <p>Arapaho NWR (1)</p> <p>Fish Springs NWR (1)</p> <p>Lost Trail NWR (National Bison Range) (1)</p> <p>Medicine Lake NWR and WMD (includes Lamesteer NWR) (3)</p> <p><i>Public Review Draft CCPs:</i></p> <p>Fish Springs NWR (1)</p> <p>Lost Trail NWR (1)</p> <p>Medicine Lake NWR and WMD (3)</p> <p>Arrowwood NWR (1)</p> <p>Sand Lake NWR (1)</p> <p>Kirwin NWR (1)</p> <p>Rocky Flats NWR (1)</p>

PROPOSED CCP SCHEDULE
(Draft - Subject to Review by Project Leaders)
October 2003
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:				
FY2004	FY2005	FY2006	FY2007	FY2008
<ul style="list-style-type: none"> - Long Lake NWR and WMD (includes Long Lake, Florence Lake, and Slade NWRs) - Lacreek NWR (includes Lacreek and Bear Butte NWRs and Lacreek WMD)) - North Dakota Easement Refuges - National Bison Range 	<ul style="list-style-type: none"> -Rainwater Basin WMD -Sully's Hill Game Preserve -Red Rock Lakes NWR -Devil's Lake WMD -Arrowwood, and Valley City WMDs - Lee Metcalf NWR 	<ul style="list-style-type: none"> - National Elk Refuge - Lake Andes and Madison WMDs - Kulm, and Chase Lake WMDs and Chase Lake Refuge 	<ul style="list-style-type: none"> -NWMT WMD, (Nine Pipe and Pablo NWRs) -Bowdoin NWR and WMD (includes Bowdoin WMD Black Coulee and Creedman Coulee, Lake Thibideau, and Lake Hewitt NWRs) -Benton Lake WMD and Refuge -Cokeville Meadows NWR - Sand Lake and Huron WMDs 	<ul style="list-style-type: none"> -Bear River Migratory Bird Refuge (CMP revision) -Charles M. Russell NWR and UL Bend NWR -Arapaho NWR (WY Satellites: Bamforth, Hutton Lake, Mortenson Lake, and Pathfinder NWRs) -Blackfoot Valley NWR -Audubon Refuge (includes Audubon, Lake Nettie, and McLean NWRs)
FY2009	FY2010	FY2011	FY2012	FY2013
<ul style="list-style-type: none"> - Lake Andes and Karl Mundt NWRs <p style="text-align: center;">***** (these are the final CCPs under the Refuge Improvement Act to be completed by 2012)</p>	<ul style="list-style-type: none"> - Crosby, Lostwood, and Audubon WMDs - Boyer Chute NWR - Stump, Lake Ardock, Lake Alice, and Kelly's Slough NWRs 	<ul style="list-style-type: none"> - White Lake, Lake Illo, Stewart Lake NWRs - Swan River NWR - J. Clark Salyer WMD - Charles M. Russell WMD Halfbreed Lake, Lake Mason, and War Horse NWRs - Quivira NWR 	<ul style="list-style-type: none"> - Two Ponds NWR - Rocky Mountain Arsenal NWR 	<p style="text-align: center;">***** Last CCP will be completed by FY 2015</p> <p style="text-align: center;">Begin New CCP Program (the second 15 years!)</p>

COMPREHENSIVE CONSERVATION PLAN STATUS
July - September 2004
REGION 1 - PACIFIC REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year planning effort began in parentheses)	CCPs to Begin in FY 2004 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway in Pacific Northwest (Fiscal year planning effort began in parentheses)	CCPs Currently Underway in California/Nevada (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2004 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> · Nisqually NWR (FY04) · Salinas River NWR (FY03) · Antioch Dunes NWR (FY02) · Stillwater NWR Complex (includes Stillwater, Fallon, and Anaho Island NWRs) (FY02) · Alameda NWR (FY00) (<i>not yet in NWRs</i>) · Little Pend Oreille NWR (FY00) · Tijuana Slough NWR (FY99) <p><i>Draft CCPs (Published)</i></p> <ul style="list-style-type: none"> · Kern NWR Complex (includes Kern and Pixley NWRs) (FY04) · Ridgefield NWR Complex (includes Franz Lake, Pierce, and Steigerwald Lake NWRs) (FY04) · Sacramento River NWR (FY04) 	<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> · McNary and Umatilla NWRs (05/04) · Washington Maritime Complex (includes Protection Island and San Juan Islands NWRs) (08/04) <p><i>California/Nevada</i></p> <ul style="list-style-type: none"> · Marin Islands NWR (09/04) · Sacramento NWR Complex (includes Colusa, Delevan, Sacramento, and Sutter NWRs, and Butte Sink, North Central Valley, and Willow Creek-Lurline WMAs) (09/04) · Sheldon NWR (09/04) 	<ul style="list-style-type: none"> · Hanford Reach National Monument (includes Hanford Reach National Monument and Saddle Mountain NWR) (FY02) · McNary and Umatilla NWRs (FY04) · Ridgefield NWR Complex (includes Franz Lake, Pierce, and Steigerwald Lake NWRs) (FY00) · Turnbull NWR (FY00) · Washington Maritime Complex (includes Copalis, Flattery Rocks, and Quillayute Needles NWRs) (FY00) 	<ul style="list-style-type: none"> · Desert NWR Complex (includes Ash Meadows, Desert National Wildlife Range, Moapa Valley, and Pahrnagat NWRs) (FY02) · Kern NWR Complex (includes Kern and Pixley NWRs) (FY99) · Sacramento River NWR (FY01) · San Diego NWR Complex (includes only South San Diego Bay Unit and Sweetwater Marsh NWR) (FY00) · San Joaquin River NWR (FY99) · Stone Lakes NWR (FY02) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> · Kern NWR Complex (2) · Nisqually NWR (1) · Ridgefield NWR Complex (3) · Sacramento River NWR (1) · San Joaquin River NWR (1) · Washington Maritime NWR Complex (3) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> · Kern NWR Complex (2) · Ridgefield NWR Complex (3) · Sacramento River NWR (1) · San Diego NWR Complex (2) · San Joaquin River NWR (1) · Stone Lakes NWR (1) · Turnbull NWR (1) · Washington Maritime NWR Complex (3)

last updated 08/24/04

Regional Contact: Chuck Houghten,
503/231-6207

PROPOSED CCP SCHEDULE
July - September 2004
REGION 1 - PACIFIC REGION

CCPs SCHEDULED TO BEGIN:				
FY2005	FY2006	FY2007	FY2008	FY2009
<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> · Willapa NWR Complex (includes Willapa, Julia Butler Hansen, and Lewis and Clark NWRs) 	<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> · Oregon Coast NWR Complex (includes Bandon Marsh, Cape Meares, Nestucca Bay, Oregon Islands, Siletz Bay, and Three Arch Rocks NWRs) · Ridgefield NWR 	<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> · Malheur NWR · Willamette Valley NWR Complex (includes Ankeny, Baskett Slough, and William L. Finley NWRs) 	<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> · Columbia NWR · Deer Flat NWR · Dungeness NWR · Kootenai NWR 	<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> · Mid-Columbia River Complex (includes Cold Springs and McKay Creek NWRs) · Toppenish NWR
<p><i>California/Nevada</i></p> <ul style="list-style-type: none"> · Farallon NWR · San Diego NWR Complex (includes Otay and Vernal Pool Units) · Sonny Bono Salton Sea NWR (includes Sonny Bono Salton Sea and Coachella Valley NWRs) 	<p><i>California/Nevada</i></p> <ul style="list-style-type: none"> · Klamath Marsh NWR · San Luis NWR (includes Grasslands WMA, and Merced and San Luis NWRs) · San Pablo Bay NWR 	<p><i>California/Nevada</i></p>	<p><i>California/Nevada</i></p> <ul style="list-style-type: none"> · Ellicott Slough NWR · Klamath Basin NWR Complex (includes Bear Valley, Clear Lake, Lower Klamath, Tule Lake, and Upper Klamath NWRs) 	<p><i>California/Nevada</i></p> <ul style="list-style-type: none"> · Humboldt Bay NWR (includes Castle Rock and Humboldt Bay NWRs) · Seal Beach NWR
<p><i>Pacific Islands</i></p> <ul style="list-style-type: none"> · Pacific/Remote Islands NWR Complex (includes Baker Is., Howland Is., Jarvis Is., and Kingman Reef NWRs) · Palmyra NWR · Rose Atoll NWR 	<p><i>Pacific Islands</i></p> <ul style="list-style-type: none"> · Maui NWR Complex (includes Kakahaia and Kealia Pond NWRs) 	<p><i>Pacific Islands</i></p> <ul style="list-style-type: none"> · Oahu NWR Complex (includes James Campbell and Pearl Harbor NWRs) 	<p><i>Pacific Islands</i></p> <ul style="list-style-type: none"> · Kauai NWR Complex (includes Hanalei, Huleia, and Kilauea Point NWRs) · Johnston Island NWR 	<p><i>Pacific Islands</i></p> <ul style="list-style-type: none"> · Hakalau Forest NWR · Northwest Hawaiian Islands and Midway Atoll NWRs

PROPOSED CCP SCHEDULE
July - September 2004
REGION 1 - PACIFIC REGION

CCPs SCHEDULED TO BEGIN:				
FY2010	FY2011	FY2012		
<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> · Conboy Lake NWR · Southeast Idaho Complex (includes Bear Lake, Camas, Grays Lake, and Minidoka NWRs and Oxford Slough WPA) · Tualatin River NWR 	<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> · Grays Harbor NWR · Black River (Unit of Nisqually NWR) · Hart Mountain National Antelope Refuge 	<p><i>Pacific Northwest</i></p> <p><i>The following plan was completed prior to passage of the NWRs Improvement Act of 1997. The original plan, a Comprehensive Management Plan, will be revised as a CCP during the next planning cycle (≥2012).</i></p> <ul style="list-style-type: none"> · Hart Mountain National Antelope Refuge (FY94) 		
<p><i>California/Nevada</i></p> <ul style="list-style-type: none"> · Don Edwards San Francisco Bay NWR · Hopper Mountain Complex (includes Hopper Mountain, Bitter Creek, and Blue Ridge NWRs) · Modoc NWR 	<p><i>California/Nevada</i></p> <ul style="list-style-type: none"> · Ruby Lake NWR 	<p><i>California/Nevada</i></p> <ul style="list-style-type: none"> · Guadalupe-Nipomo Dunes NWR 		
<p><i>Pacific Islands</i></p> <ul style="list-style-type: none"> · Guam NWR 	<p><i>Pacific Islands</i></p> <ul style="list-style-type: none"> · Oahu Forest NWR 	<p><i>Pacific Islands</i></p>		

COMPREHENSIVE CONSERVATION PLAN STATUS
July - September 2004
 REGION 2 - SOUTHWEST REGION

<p style="text-align: center;">CCPs Completed Since Passage of the Refuge Improvement Act (1997)</p> <p style="text-align: center;">(Fiscal year plan completed in parentheses)</p>	<p style="text-align: center;">CCPs to Begin in FY 2004 (NOI Issued)</p> <p style="text-align: center;">(Month/year expected to begin in parentheses)</p>	<p style="text-align: center;">CCPs Currently Underway</p> <p style="text-align: center;">(Fiscal year planning effort began in parentheses)</p>	<p style="text-align: center;">CCPs Scheduled for Completion in FY 2004</p> <p style="text-align: center;">(# stations represented in parentheses)</p>
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> · Las Vegas NWR (FY04) · Muleshoe and Grulla NWRs (FY04) · Buenos Aires NWR (FY03) · Balcones Canyonlands NWR (FY01) · Sevilleta NWR (FY01) · Deep Fork NWR (FY00) · Bitter Lake NWR (FY98) · Little River NWR (FY98) · San Andres NWR (FY98) <p><i>Draft CCPs (Published)</i></p>	<ul style="list-style-type: none"> · Laguna Atascosa NWR (07/04) · Bosque del Apache NWR (09/04) 	<ul style="list-style-type: none"> · Anahuac NWR Complex (includes Anahuac, McFaddin, Moody, and Texas Point NWRs, and Chenier Plains additions) (FY00) · Aransas NWR (includes Aransas and Matagorda Island NWRs) (FY02) · Buffalo Lake NWR (FY98) · Cabeza Prieta NWR (FY94) · Hagerman NWR (FY99) · Laguna Atascosa NWR (FY04) · Maxwell NWR (FY98) · Salt Plains NWR (FY98) · Sequoyah NWR (includes Sequoyah and Ozark Plateau NWRs) (FY98) · Tishomingo NWR (FY01) · Washita NWR (includes Washita and Optima NWRs) (FY99) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> · Hagerman NWR (1) · Las Vegas NWR (1) · Maxwell NWR (1) · Muleshoe and Grulla NWRs (2) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> · Anahuac NWR Complex (4) · Buffalo Lake NWR (1) · Cabeza Prieta NWR (1) · Hagerman NWR (1) · Maxwell NWR (1) · Salt Plains NWR (1) · Sequoyah NWR (2)

Regional Contact: Tom Baca, 505/248-6631

PROPOSED CCP SCHEDULE
July - September 2004
 REGION 2 - SOUTHWEST REGION

CCPs SCHEDULED TO BEGIN:				
FY2005	FY2006	FY2007-2008	FY2009	FY2010
<ul style="list-style-type: none"> · Attwater Prairie Chicken NWR · Brazoria NWR Complex (includes Big Boggy, Brazoria, and San Bernard NWRs) · Little Sandy NWR 	<ul style="list-style-type: none"> · Caddo Lake NWR · Wichita Mountains NWR 	<ul style="list-style-type: none"> · Trinity River NWR · Ozark Plateau NWR 	<ul style="list-style-type: none"> · Bill Williams River NWR · Cibola NWR · Havasu NWR · Imperial NWR <p><i>(Revisions of CMPs done in 1994)</i></p>	<ul style="list-style-type: none"> · Leslie Canyon NWR · San Bernardino NWR <p><i>(Revisions of CMPs done in 1995)</i></p>
FY2011	<p><i>The following plans were completed prior to passage of the NWRS Improvement Act of 1997. The original plans, which were completed as Comprehensive Management Plans, will be revised as CCPs prior to the next planning cycle (≥FY2012).</i></p>			
<ul style="list-style-type: none"> · Kofa NWR · Lower Rio Grande Valley / Santa Ana NWRs <p><i>(Revisions of CMPs done in 1996 & 1997)</i></p>	<ul style="list-style-type: none"> · Bill Williams River NWR (FY94) · Cibola NWR (FY94) · Havasu NWR (FY94) · Imperial NWR (FY94) · Kofa NWR (FY96) · Leslie Canyon NWR (FY95) · Lower Rio Grande Valley NWR (FY97) · San Bernardino NWR (FY95) · Santa Ana NWR (FY97) 			

COMPREHENSIVE CONSERVATION PLAN STATUS
July - September 2004
REGION 3 - GREAT LAKES - BIG RIVERS REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year plan completed in parentheses)	CCPs to Begin in FY 2004 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY2004 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> · Illinois River NW&FR (includes Cameron-Billsbach Unit, Chautauqua, Emiquon, and Meredosia NWRs) (FY04) · Mark Twain Complex (includes Port Louisa, Great River, Two Rivers, Middle Mississippi River, and Clarence Cannon NWRs) (FY04) · Big Stone WMD (FY03) · Detroit Lakes WMD (FY03) · Fergus Falls WMD (FY03) · Litchfield WMD (FY03) · Morris WMD (FY03) · Windom WMD (FY03) · Necedah NWR (FY02) · DeSoto NWR (FY01) · Rydell NWR (FY01) · Shiawassee NWR (includes Shiawassee NWR and Michigan WMD) (FY01) · Wyandotte NWR (FY01) · Ottawa/Cedar Point/West Sister Island NWRs (FY00) <p><i>Draft CCPs (Published)</i></p> <ul style="list-style-type: none"> · Squaw Creek NWR (FY04) · Detroit River International NWR (FY04) · Minnesota Valley NWR (FY03) 	<ul style="list-style-type: none"> · Patoka River NWR (11/03) 	<ul style="list-style-type: none"> · Agassiz NWR (FY03) · Crab Orchard NWR (FY01) · Detroit River International NWR (FY02) · Driftless Area NWR (FY02) · Mingo NWR (includes Mingo, Ozark Cavefish, and Pilot Knob NWRs) (FY03) · Minnesota Valley NWR (includes Minnesota Valley NWR and Minnesota Valley WMD) (FY99) · Patoka River NWR (FY04) · Sherburne NWR (FY01) · Squaw Creek NWR (FY99) · Trempealeau NWR (FY02) · Upper Mississippi River NW&FR (FY02) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> · Illinois River NW&FR (4) · Mark Twain Complex (5) · Minnesota Valley NWR (2) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> · Squaw Creek NWR (1) · Detroit River International NWR(1)

Regional Contact: Tom Larson, 612/713-5430

PROPOSED CCP SCHEDULE
July - September 2004
REGION 3 - GREAT LAKES - BIG RIVERS REGION

CCPs SCHEDULED TO BEGIN:				
FY2004	FY2005	FY2006	FY2007	FY2008
	<ul style="list-style-type: none"> · Rice Lake NWR (includes Rice Lake and Mille Lacs NWRs) · Horicon NWR (includes Horicon and Fox River NWRs) 	<ul style="list-style-type: none"> · Seney NWR · Kirtland's Warbler WMA · Swan Lake NWR · Muscatatuck NWR 	<ul style="list-style-type: none"> · Wisconsin Wetland Management Districts (Leopold and St. Croix WMDs) 	<ul style="list-style-type: none"> · Big Muddy NF&WR
FY2009	FY2010	FY2011	FY2012	FY2013
<ul style="list-style-type: none"> · Iowa WMD 	<ul style="list-style-type: none"> · Big Stone NWR · Tamarac NWR (includes Tamarac NWR and Tamarac WMD) 	<ul style="list-style-type: none"> · Crane Meadows NWR · Neal Smith NWR 	<ul style="list-style-type: none"> · Hamden Slough NWR <p><i>The following plans were completed prior to passage of the NWRS Improvement Act of 1997. The original plans, which were completed as Comprehensive Management Plans, will be revised as CCPs during the next planning cycle (≥2012).</i></p> <ul style="list-style-type: none"> · Cypress Creek NWR (FY96) · Union Slough NWR (FY96) 	<ul style="list-style-type: none"> · Great Lakes Islands (includes Michigan Islands, Harbor Island, Huron, Gravel Island, and Green Bay NWRs) · Iowa River Corridor NR&WR
				FY2014
				<ul style="list-style-type: none"> · Big Oaks NWR · Northern Tallgrass Prairie NWR · Whittlesey Creek NWR · Grand Kankakee Marsh NWR

COMPREHENSIVE CONSERVATION PLAN STATUS
July - September 2004/ REGION 4 - SOUTHEAST REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year plan completed in parentheses)	CCPs to Begin in FY 2004 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY2004 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> · Noxubee NWR (FY04) · Ten Thousand Islands NWR (FY02) · Lower Suwannee/Cedar Keys NWRs (FY01) · Arthur R. Marshall Loxahatchee NWR (FY00) · Florida Panther NWR (FY00) · Pond Creek NWR (FY00) <p><i>Draft CCPs (Published)</i></p> <ul style="list-style-type: none"> · Hobe Sound NWR (FY04) 	<ul style="list-style-type: none"> · Big Branch Marsh NWR (01/04) · Catahoula NWR · Choctaw NWR (07/04) · Coldwater River NWR · Dahomey NWR · D'Arbonne NWR (03/04) · Egmont Key NWR · Grand Cote NWR (02/04) · Great White Heron NWR · Key West NWR · National Key Deer NWR · Passage Key NWR · Pinellas NWRs · Tallahatchie NWR · Wheeler NWR 	<ul style="list-style-type: none"> · Big Branch Marsh NWR (FY04) · Bayou Cocodrie NWR (FY97) · Bon Secour NWR (FY03) · Cameron Prairie NWR (FY03) · Cedar Island NWR (FY00) · Central Mississippi Refuges (includes Yazoo, Hillside, Mathews Brake, Morgan Brake and Panther Swamp NWRs) (FY00) · Choctaw NWR (FY04) · Crocodile Lake NWR (FY03) · D'Arbonne NWR (FY04) · Grand Cote NWR (FY04) · Hobe Sound NWR (FY98) · Lacassine NWR (FY03) · Lake Ophelia NWR (FY97) · Mackay Island/Currituck NWRs (FY00) · Merritt Island NWR (FY01) · Northeast North Carolina Refuges (includes Alligator River, Mattamuskeet, Pocosin Lakes, and Swanquarter NWRs) (FY00) · Okefenokee NWR (FY01) · Pea Island NWR (FY99) · Pelican Island NWR (FY00) · Roanoke River NWR (FY00) · Sabine NWR (FY03) · St. Catherine Creek (FY03) · St. Marks NWR (FY00) · West Tennessee NWR Complex (includes Reelfoot, Chickasaw, Lake Isom, Hatchie and Lower Hatchie NWRs) (FY99) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> · Bayou Cocodrie NWR (1) · Noxubee NWR (1) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> · Hobe Sound NWR (1)

**July - September 2004
REGION 4 - SOUTHEAST REGION**

CCPs SCHEDULED TO BEGIN:				
FY2005	FY2006	FY2007	FY2008	FY2009
<ul style="list-style-type: none"> · Bayou Sauvage NWR · Cross Creeks NWR · Ding Darling NWR · Felsenthal NWR · Fern Cave NWR · Grand Bay NWR · Key Cave NWR · Mississippi Sandhill Crane NWR · Overflow NWR · Santee NWR · Sauta Cave NWR · St. John's NWR · Tennessee NWR · Upper Ouachita NWR · Waccamaw NWR · Watercress Darter NWR 	<ul style="list-style-type: none"> · ACE Basin NWR · Cabo Rojo NWR · Cape Romain NWR · Cat Island NWR · Chassahowitzka NWR · Choctaw NWR · Crystal River NWR · Lake Wales Ridge NWR · Mandalay NWR 	<ul style="list-style-type: none"> · Black Bayou Lake NWR · Breton NWR · Caloosahatchee NWR · Carolina Sandhills NWR · Delta NWR · Eufaula NWR · Island Bay NWR · Laguna Cartagena NWR · Lake Woodruff NWR · Matlacha Pass NWR · Pee Dee NWR · Pine Island NWR · Shell Keys NWR · St. Vincent NWR · Tensas River NWR · White River NWR 	<ul style="list-style-type: none"> · Archie Carr NWR · Blackbeard Island NWR · Cache River NWR · Culebra NWR · Harris Neck NWR · Savannah NWR · Tybee NWR · Wassaw NWR · Wolf Island NWR 	<ul style="list-style-type: none"> · Big Lake NWR · Buck Island NWR · Green Cay NWR · Handy Brake NWR · Sandy Point NWR · Wapanocca NWR

Regional Contact: Harold Gibbs, 404/679-7061

PROPOSED CCP SCHEDULE
July - September 2004
REGION 4 - SOUTHEAST REGION

CCPs SCHEDULED TO BEGIN:				
FY2010	FY2011	FY2012	FY2013	FY2014
<ul style="list-style-type: none"> · Bogue Chitto NWR · Pinckney Island NWR · Red River NWR 	<ul style="list-style-type: none"> · Atchafalaya NWR · Holla Bend NWR 	<ul style="list-style-type: none"> · Bond Swamp NWR · Clarks River NWR · Desecheo NWR · Logan Cave NWR · Piedmont NWR 	<ul style="list-style-type: none"> · Bald Knob NWR · Bayou Teche NWR · Cahaba River NWR · Mountain Longleaf NWR · Navassa Island NWR 	<ul style="list-style-type: none"> · Banks Lake NWR

COMPREHENSIVE CONSERVATION PLAN STATUS
July - September 2004
REGION 5 - NORTHEAST REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2004 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2004 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> · Eastern Shore of Virginia (includes Eastern Shore of Virginia and Fisherman Island NWRs) (FY04) · Jersey Coast Refuges (includes Edwin B. Forsythe and Cape May NWRs) (FY02) · Rhode Island Complex (includes Block Island, John H. Chafee, Ninigret, Sachuest Point, and Truston Pond NWRs) (FY02) · Ohio River Islands NWR (FY02) · Occoquan Bay NWR (FY98) <p><i>Draft CCPs (Published)</i></p> <ul style="list-style-type: none"> · Petit Manan NWR (includes Petit Manan, Cross Island, Franklin Island, Pond Island, and Seal Island NWRs) (FY04) · Eastern Massachusetts Complex (FY03) 	<ul style="list-style-type: none"> · Eastern Massachusetts Complex (Monomoy and Noman's Land Island NWRs) <p><i>(NOI previously issued as part of Eastern Mass. Complex [Assabet, Great Meadows, and Oxbow] CCP)</i></p>	<ul style="list-style-type: none"> · Back Bay NWR (FY01) · Chesapeake Marshlands Complex (includes Blackwater, Martin, and Susquehanna NWRs) (FY98) · Eastern Massachusetts Complex (includes Assabet, Great Meadows, and Oxbow NWRs) (FY99) · Eastern Neck NWR (FY01) · Great Dismal Swamp NWR (includes Great Dismal Swamp and Nansemond NWRs) (FY01) · Lake Umbagog NWR (FY01) · Long Island Complex (includes Amagansett, Conscience Point, Elizabeth A. Morton, Oyster Bay, Seatuck, Target Rock, and Wertheim NWRs) (FY00) · Missisquoi NWR (FY00) · Petit Manan NWR (includes Petit Manan, Cross Island, Franklin Island, Pond Island, and Seal Island NWRs) (FY00) · Rachel Carson NWR (FY97) · Shawangunk Grasslands NWR (FY99) · Wallkill River NWR (FY99) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> · Eastern Massachusetts Complex (3) · Eastern Shore of Virginia NWR (2) · Petit Manan NWR (5) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> · Petit Manan NWR (5) · Shawangunk Grasslands NWR (1)

COMPREHENSIVE CONSERVATION PLAN STATUS
July - September 2004
REGION 5 - NORTHEAST REGION

CCPs SCHEDULED TO BEGIN:				
FY2005	FY2006	FY2007	FY2008	FY2009
<ul style="list-style-type: none"> · Mashpee NWR · Nantucket NWR · Prime Hook NWR · Rappahannock NWR 	<ul style="list-style-type: none"> · Canaan Valley NWR · Massasoit NWR · Moosehorn/Aroostook NWRs · Silvio O. Conte NF&WR · Stewart B. McKinney NWR 	<ul style="list-style-type: none"> · Erie NWR · Iroquois NWR · James River and Presquile NWRs · Montezuma NWR 	<ul style="list-style-type: none"> · Bombay Hook NWR · Great Swamp NWR · Patuxent Research Refuge 	<ul style="list-style-type: none"> · John Heinz NWR at Tinicum · Parker River NWR (includes Parker River and Thacher Island NWRs) · Plum Tree Island NWR
FY2010	FY2011	FY2012		
<ul style="list-style-type: none"> · Chincoteague NWR (includes Chincoteague and Wallops Island NWRs) · Potomac River Complex (includes Featherstone, Mason Neck, and Occoquan Bay NWRs) · Sunkhaze Meadows NWR (includes Sunkhaze Meadows NWR and Carlton Pond WPA) 	<ul style="list-style-type: none"> · Great Bay NWR (includes Great Bay, John Hay, and Wapack NWRs) · Supawna Meadows NWR 			

COMPREHENSIVE CONSERVATION PLAN STATUS
July - September 2004
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2004 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2004 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> · Monte Vista/Alamosa NWRs (FY03) · Crescent Lake NWR (FY02) · Seedskadee NWR (FY02) · Waubay NWR and WMD (FY02) · North Platte NWR (FY01) · Flint Hills NWR (FY00) · Ouray NWR (FY00) · Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) · Browns Park NWR (FY99) · Valentine NWR (FY99) · Fort Niobrara NWR (FY99) · Lostwood NWR (FY99) · Marais des Cygnes NWR (FY98) <p><i>Draft CCPs (Published)</i></p> <ul style="list-style-type: none"> · Fish Springs NWR (FY04) · Rocky Flats NWR (FY04) 	<ul style="list-style-type: none"> · Lacreek NWR and WMD (includes Lacreek and Bear Butte NWRs and Lacreek WMD) (08/04) · Long Lake NWR and WMD (includes Long Lake, Florence Lake and Slade Lake NWRs and Long Lake WMD) (05/04) · North Dakota Easement Refuges (07/04) 	<ul style="list-style-type: none"> · Arapaho NWR (FY00) · Arrowwood NWR (FY01) · Des Lacs NWR (FY03) · Fish Springs NWR (FY98) · J. Clark Salyer NWR (FY03) · Kirwin NWR (FY03) · Long Lake NWR and WMD (includes Long Lake, Florence Lake and Slade Lake NWRs and Long Lake WMD) (FY04) · Lost Trail NWR (FY00) · Medicine Lake NWR and WMD (includes Lamesteer NWR) (FY98) · North Dakota Easement Refuges (FY04) · Rocky Flats NWR (FY02) · Sand Lake NWR (FY01) · Upper Souris NWR (FY03) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> · Arapaho NWR (1) · Fish Springs NWR (1) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> · Arrowwood NWR (1) · Fish Springs NWR (1) · Kirwin NWR (1) · Rocky Flats NWR (1) · Sand Lake NWR (1)

Regional Contact: Mike Spratt, 303/236-4366

PROPOSED CCP SCHEDULE
July - September 2004
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:				
FY2005	FY2006	FY2007	FY2008	FY2009
<ul style="list-style-type: none"> · Arapaho NWR (WY Satellites: Bamforth, Hutton Lake, Mortenson Lake, and Pathfinder NWRs) · Rainwater Basin WMD · Red Rock Lakes NWR · Sully's Hill National Game Preserve · National Bison Range 	<ul style="list-style-type: none"> · Arrowwood and Valley City WMDs · Devil's Lake WMD · Kulm and Chase Lake WMDs, and Chase Lake NWR · Lake Andes NWR and WMD · National Elk Refuge · Lee Metcalf NWR 	<ul style="list-style-type: none"> · Benton Lake NWR and WMD · Bowdoin NWR and WMD (includes Bowdoin WMD, and Black Coulee, Creedman Coulee, Hewitt Lake, and Lake Thibadeau NWRs) · Northwest Montana WMD (includes Nine Pipe and Pablo NWRs) · Sand Lake, Huron, and Madison WMDs 	<ul style="list-style-type: none"> · Audubon NWR (includes Audubon, Lake Nettie, and McLean NWRs) · Bear River Migratory Bird Refuge (CMP revision) · Blackfoot Valley NWR · Charles M. Russell and UL Bend NWRs 	<ul style="list-style-type: none"> · Cokeville Meadows NWR · Karl E. Mundt NWR <p style="text-align: center;">*****</p> <p style="text-align: center;"><i>(These are the final CCPs under the NWRS Improvement Act to be completed by 2012.)</i></p>
FY2010	FY2011	FY2012	FY2013	
<ul style="list-style-type: none"> · Boyer Chute NWR · Crosby (includes Lake Zahl NWR), Lostwood (includes Shell Lake NWR and Audubon WMD) · Stump Lake, Ardoch, Lake Alice, and Kelly's Slough NWRs 	<ul style="list-style-type: none"> · Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) · J. Clark Salyer WMD · Swan River NWR · White Lake, Lake Ilo, and Stewart Lake NWRs · Quivira NWR 	<ul style="list-style-type: none"> · Baca NWR · John and Louise Seier NWR · Rocky Mountain Arsenal NWR · Two Ponds NWR 	<p style="text-align: center;"><i>Last CCP will be completed by FY2015</i></p> <p style="text-align: center;">*****</p> <p style="text-align: center;"><i>Begin new CCP program (the second 15 years!)</i></p>	

COMPREHENSIVE CONSERVATION PLAN STATUS
July - September 2004
REGION 7 - ALASKA REGION

<p style="text-align: center;">CCPs Completed Since Passage of the Refuge Improvement Act (1997)</p> <p style="text-align: center;">(Fiscal year completed in parentheses)</p>	<p style="text-align: center;">CCPs to Begin in FY 2004 (NOI Issued)</p> <p style="text-align: center;">(Month/year expected to begin in parentheses)</p>	<p style="text-align: center;">CCPs Currently Underway</p> <p style="text-align: center;">(Fiscal year planning effort began in parentheses)</p>	<p style="text-align: center;">CCPs Scheduled for Completion in FY 2004</p> <p style="text-align: center;">(# stations represented in parentheses)</p>
<p><i>Completed Prior to the National Wildlife Refuge System Improvement Act of 1997:</i></p> <p>Between 1985 and 1988, CCPs were initially completed for the 16 refuges in Alaska under provisions of the Alaska National Interest Lands Conservation Act. These plans will be revised over the next 12 years.</p> <p><i>Draft CCPs (Published)</i></p> <ul style="list-style-type: none"> · Alaska Peninsula/Becharof NWRs (FY04) 	<ul style="list-style-type: none"> · Izembek NWR (11/03) · Kanuti NWR (11/03) · Kenai NWR (11/03) 	<ul style="list-style-type: none"> · Alaska Peninsula NWR (includes Alaska Peninsula and Becharof NWRs) (FY98) · Kodiak NWR (FY99) · Togiak NWR (FY99) 	<p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> · Alaska Peninsula/Becharof NWRs (2)

Regional Contact: George Constantino, 907/786-3353

PROPOSED CCP SCHEDULE
July - September 2004
 REGION 7 - ALASKA REGION

CCPs SCHEDULED TO BEGIN:				
FY2004	FY2005	FY2006	FY2007	FY2008
<i>No New Starts</i>	<ul style="list-style-type: none"> · Selawik NWR 	<ul style="list-style-type: none"> · Innoko NWR · Yukon Delta NWR 	<i>No New Starts</i>	<ul style="list-style-type: none"> · Koyukuk/Nowitna NWRs · Tetlin NWR · Yukon Flats NWR
FY2009	FY2010	FY2011	FY2012	FY2013
<i>No New Starts</i>	<ul style="list-style-type: none"> · Alaska Maritime NWR · Arctic NWR 			

COMPREHENSIVE CONSERVATION PLAN STATUS
October – December 2005
REGION 1 - PACIFIC REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year planning effort began in parentheses)	CCPs to Begin in FY 2005 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway in Pacific Northwest (Fiscal year planning effort began in parentheses)	CCPs Currently Underway in California/Nevada (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2005 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Kern NWR Complex (includes Kern and Pixley NWRs) (FY04) ■ Nisqually NWR (FY04) ■ Salinas River NWR (FY03) ■ Antioch Dunes NWR (FY02) ■ Stillwater NWR Complex (includes Stillwater, Fallon, and Anaho Island NWRs) (FY02) ■ Alameda NWR (FY00) (<i>not yet in NWRs</i>) ■ Little Pend Oreille NWR (FY00) ■ Tijuana Slough NWR (FY99) <p><i>Draft CCPs (Published)</i></p> <ul style="list-style-type: none"> ■ Ridgefield NWR Complex (includes Franz Lake, Pierce, and Steigerwald Lake NWRs) (FY04) ■ Sacramento River NWR (FY04) 	<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> ■ Washington Maritime Complex (includes Protection Island and San Juan Islands NWRs) <p><i>California/Nevada</i></p> <ul style="list-style-type: none"> ■ Marin Islands NWR (09/04) ■ Sacramento NWR Complex (includes Colusa, Delevan, Sacramento, and Sutter NWRs, and Butte Sink, North Central Valley, and Willow Creek-Lurline WMAs) ■ Sheldon NWR 	<ul style="list-style-type: none"> ■ Hanford Reach National Monument (includes Hanford Reach National Monument and Saddle Mountain NWR) (FY02) ■ McNary and Umatilla NWRs (FY04) ■ Ridgefield NWR Complex (includes Franz Lake, Pierce, and Steigerwald Lake NWRs) (FY00) ■ Turnbull NWR (FY00) ■ Washington Maritime Complex (includes Copalis, Flattery Rocks, and Quillayute Needles NWRs) (FY00) 	<ul style="list-style-type: none"> ■ Desert NWR Complex (includes Ash Meadows, Desert National Wildlife Range, Moapa Valley, and Pahrangat NWRs) (FY02) ■ Marin Islands NWR (FY04) ■ Sacramento River NWR (FY01) ■ San Diego NWR Complex (includes only South San Diego Bay Unit and Sweetwater Marsh NWR) (FY00) ■ San Joaquin River NWR (FY99) ■ Stone Lakes NWR (FY02) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> • Ridgefield NWR Complex (3) • Sacramento River NWR (1) • San Joaquin River NWR (1) • Turnbull NWR (1) • Washington Maritime NWR Complex (3) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> • Desert NWR Complex (4) • Hanford Reach National Monument (2) • San Diego NWR Complex (2) • Stone Lakes NWR (1)

last updated 12/03/2004

Regional Contact: Chuck Houghten, 503/231-6207

PROPOSED CCP SCHEDULE
October – December 2005
REGION 1 - PACIFIC REGION

CCPs SCHEDULED TO BEGIN:				
FY2005	FY2006	FY2007	FY2008	FY2009
<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> ■ Willapa NWR Complex (includes Willapa, Julia Butler Hansen, and Lewis and Clark NWRs) 	<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> ■ Oregon Coast NWR Complex (includes Bandon Marsh, Cape Meares, Nestucca Bay, Oregon Islands, Siletz Bay, and Three Arch Rocks NWRs) ■ Ridgefield NWR 	<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> ■ Malheur NWR ■ Willamette Valley NWR Complex (includes Ankeny, Baskett Slough, and William L. Finley NWRs) 	<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> ■ Columbia NWR ■ Deer Flat NWR ■ Dungeness NWR ■ Kootenai NWR 	<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> ■ Mid-Columbia River Complex (includes Cold Springs and McKay Creek NWRs) ■ Toppenish NWR
<p><i>California/Nevada</i></p> <ul style="list-style-type: none"> ■ Farallon NWR ■ San Diego NWR Complex (includes Otay and Vernal Pool Units) ■ Sonny Bono Salton Sea NWR (includes Sonny Bono Salton Sea and Coachella Valley NWRs) 	<p><i>California/Nevada</i></p> <ul style="list-style-type: none"> ■ Klamath Marsh NWR ■ San Luis NWR (includes Grasslands WMA, and Merced and San Luis NWRs) ■ San Pablo Bay NWR 	<p><i>California/Nevada</i></p>	<p><i>California/Nevada</i></p> <ul style="list-style-type: none"> ■ Ellicott Slough NWR ■ Klamath Basin NWR Complex (includes Bear Valley, Clear Lake, Lower Klamath, Tule Lake, and Upper Klamath NWRs) 	<p><i>California/Nevada</i></p> <ul style="list-style-type: none"> ■ Humboldt Bay NWR (includes Castle Rock and Humboldt Bay NWRs) ■ Seal Beach NWR
<p><i>Pacific Islands</i></p> <ul style="list-style-type: none"> ■ Pacific/Remote Islands NWR Complex (includes Baker Is., Howland Is., Jarvis Is., and Kingman Reef NWRs) ■ Palmyra NWR ■ Rose Atoll NWR 	<p><i>Pacific Islands</i></p> <ul style="list-style-type: none"> ■ Maui NWR Complex (includes Kakahaia and Kealia Pond NWRs) 	<p><i>Pacific Islands</i></p> <ul style="list-style-type: none"> ■ Oahu NWR Complex (includes James Campbell and Pearl Harbor NWRs) 	<p><i>Pacific Islands</i></p> <ul style="list-style-type: none"> ■ Kauai NWR Complex (includes Hanalei, Huleia, and Kilauea Point NWRs) ■ Johnston Island NWR 	<p><i>Pacific Islands</i></p> <ul style="list-style-type: none"> ■ Hakalau Forest NWR ■ Northwest Hawaiian Islands and Midway Atoll NWRs

PROPOSED CCP SCHEDULE
October – December 2005
REGION 1 - PACIFIC REGION

CCPs SCHEDULED TO BEGIN:				
FY2010	FY2011	FY2012		
<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> ■ Conboy Lake NWR ■ Southeast Idaho Complex (includes Bear Lake, Camas, Grays Lake, and Minidoka NWRs and Oxford Slough WPA) ■ Tualatin River NWR 	<p><i>Pacific Northwest</i></p> <ul style="list-style-type: none"> ■ Grays Harbor NWR ■ Black River (Unit of Nisqually NWR) ■ Hart Mountain National Antelope Refuge 	<p><i>Pacific Northwest</i></p> <p><i>The following plan was completed prior to passage of the NWRS Improvement Act of 1997. The original plan, a Comprehensive Management Plan, will be revised as a CCP during the next planning cycle (2012).</i></p> <ul style="list-style-type: none"> ■ Hart Mountain National Antelope Refuge (FY94) 		
<p><i>California/Nevada</i></p> <ul style="list-style-type: none"> ■ Don Edwards San Francisco Bay NWR ■ Hopper Mountain Complex (includes Hopper Mountain, Bitter Creek, and Blue Ridge NWRs) ■ Modoc NWR 	<p><i>California/Nevada</i></p> <ul style="list-style-type: none"> ■ Ruby Lake NWR 	<p><i>California/Nevada</i></p> <ul style="list-style-type: none"> ■ Guadalupe-Nipomo Dunes NWR 		
<p><i>Pacific Islands</i></p> <ul style="list-style-type: none"> ■ Guam NWR 	<p><i>Pacific Islands</i></p> <ul style="list-style-type: none"> ■ Oahu Forest NWR 	<p><i>Pacific Islands</i></p>		

COMPREHENSIVE CONSERVATION PLAN STATUS
October – December 2005
REGION 2 - SOUTHWEST REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year plan completed in parentheses)	CCPs to Begin in FY 2005 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2005 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Las Vegas NWR (FY04) ■ Muleshoe and Grulla NWRs (FY04) ■ Buenos Aires NWR (FY03) ■ Balcones Canyonlands NWR (FY01) ■ Sevilleta NWR (FY01) ■ Deep Fork NWR (FY00) ■ Bitter Lake NWR (FY98) ■ Little River NWR (FY98) ■ San Andres NWR (FY98) 	<ul style="list-style-type: none"> ■ Bosque del Apache NWR 	<ul style="list-style-type: none"> ■ Anahuac NWR Complex (includes Anahuac, McFaddin, Moody, and Texas Point NWRs, and Chenier Plains additions) (FY00) ■ Aransas NWR (includes Aransas and Matagorda Island NWRs) (FY02) ■ Buffalo Lake NWR (FY98) ■ Cabeza Prieta NWR (FY94) ■ Hagerman NWR (FY99) ■ Laguna Atascosa NWR (FY04) ■ Maxwell NWR (FY98) ■ Salt Plains NWR (FY98) ■ Sequoyah NWR (includes Sequoyah and Ozark Plateau NWRs) (FY98) ■ Tishomingo NWR (FY01) ■ Washita NWR (includes Washita and Optima NWRs) (FY99) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Anahuac NWR Complex (4) ■ Cabeza Prieta NWR (1) ■ Hagerman NWR (1) ■ Maxwell NWR (1) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Aransas NWR (2) ■ Buffalo Lake NWR (1) ■ Salt Plains NWR (1) ■ Sequoyah NWR (2) ■ Tishomingo NWR (1) ■ Washita NWR (2)

RegionalContact: Tom Baca, 505/248-6631

PROPOSED CCP SCHEDULE
October – December 2005
REGION 2 - SOUTHWEST REGION

CCPs SCHEDULED TO BEGIN:				
FY2005	FY2006	FY2007-2008	FY2009	FY2010
<ul style="list-style-type: none"> ■ Attwater Prairie Chicken NWR ■ Brazoria NWR Complex (includes Big Boggy, Brazoria, and San Bernard NWRs) ■ Little Sandy NWR 	<ul style="list-style-type: none"> ■ Caddo Lake NWR ■ Wichita Mountains NWR 	<ul style="list-style-type: none"> ■ Trinity River NWR ■ Ozark Plateau NWR 	<ul style="list-style-type: none"> ■ Bill Williams River NWR ■ Cibola NWR ■ Havasu NWR ■ Imperial NWR <p><i>(Revisions of CMPs done in 1994)</i></p>	<ul style="list-style-type: none"> ■ Leslie Canyon NWR ■ San Bernardino NWR <p><i>(Revisions of CMPs done in 1995)</i></p>
FY2011	<p><i>The following plans were completed prior to passage of the NWRS Improvement Act of 1997. The original plans, which were completed as Comprehensive Management Plans, will be revised as CCPs prior to the next planning cycle (≍FY2012).</i></p>			
<ul style="list-style-type: none"> ■ Kofa NWR ■ Lower Rio Grande Valley / Santa Ana NWRs <p><i>(Revisions of CMPs done in 1996 & 1997)</i></p>	<ul style="list-style-type: none"> ■ Bill Williams River NWR (FY94) ■ Cibola NWR (FY94) ■ Havasu NWR (FY94) ■ Imperial NWR (FY94) ■ Kofa NWR (FY96) ■ Leslie Canyon NWR (FY95) ■ Lower Rio Grande Valley NWR (FY97) ■ San Bernardino NWR (FY95) ■ Santa Ana NWR (FY97) 			

COMPREHENSIVE CONSERVATION PLAN STATUS
October – December 2005
REGION 3 - GREAT LAKES - BIG RIVERS REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year plan completed in parentheses)	CCPs to Begin in FY 2005 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY2005 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Minnesota Valley NWR (includes Minnesota Valley NWR and Minnesota Valley WMD) (FY04) ■ Illinois River NW&FR (includes Cameron-Billsbach Unit, Chautauqua, Emiquon, and Meredosia NWRs) (FY04) ■ Mark Twain Complex (includes Port Louisa, Great River, Two Rivers, Middle Mississippi River, and Clarence Cannon NWRs) (FY04) ■ Big Stone WMD (FY03) ■ Detroit Lakes WMD (FY03) ■ Fergus Falls WMD (FY03) ■ Litchfield WMD (FY03) ■ Morris WMD (FY03) ■ Windom WMD (FY03) ■ Necedah NWR (FY02)¹ ■ DeSoto NWR (FY01) ■ Rydell NWR (FY01) ■ Shiawassee NWR (includes Shiawassee NWR and Michigan WMD) (FY01) ■ Wyandotte NWR (FY01) ■ Ottawa/Cedar Point/West Sister Island NWRs (FY00) <p><i>Draft CCPs (Published)</i></p> <ul style="list-style-type: none"> ■ Squaw Creek NWR (FY04) • Detroit River International NWR (FY04) 		<ul style="list-style-type: none"> ■ Agassiz NWR (FY03) ■ Crab Orchard NWR (FY01) ■ Detroit River International NWR (FY02) ■ Driftless Area NWR (FY02) ■ Mingo NWR (includes Mingo, Ozark Cavefish, and Pilot Knob NWRs) (FY03) ■ Patoka River NWR (FY04) ■ Sherburne NWR (FY01) ■ Squaw Creek NWR (FY99) ■ Trempealeau NWR (FY02) ■ Upper Mississippi River NW&FR (FY02) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Detroit River International NWR (1) ■ Sherburne NWR (1) ■ Squaw Creek NWR (1) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Agassiz NWR (1) ■ Crab Orchard NWR (1) ■ Grand Kankakee Marsh NWR (1)

¹Necedah CCP revised/reapproved in FY05 following approval of LPP in FY04.

Regional Contact: Tom Larson, 612/713-5430

PROPOSED CCP SCHEDULE
October – December 2005
REGION 3 - GREAT LAKES - BIG RIVERS REGION

CCPs SCHEDULED TO BEGIN:				
FY2005	FY2006	FY2007	FY2008	FY2009
<ul style="list-style-type: none"> ■ Rice Lake NWR (includes Rice Lake and Mille Lacs NWRs) ■ Horicon NWR (includes Horicon and Fox River NWRs) 	<ul style="list-style-type: none"> ■ Seney NWR ■ Kirtland's Warbler WMA ■ Swan Lake NWR ■ Muscatatuck NWR 	<ul style="list-style-type: none"> ■ Wisconsin Wetland Management Districts (Leopold and St. Croix WMDs) 	<ul style="list-style-type: none"> ■ Big Muddy NF&WR 	<ul style="list-style-type: none"> ■ Iowa WMD
FY2010	FY2011	FY2012	FY2013	FY2014
<ul style="list-style-type: none"> ■ Big Stone NWR ■ Tamarac NWR (includes Tamarac NWR and Tamarac WMD) 	<ul style="list-style-type: none"> ■ Crane Meadows NWR ■ Neal Smith NWR 	<ul style="list-style-type: none"> ■ Hamden Slough NWR <p><i>The following plans were completed prior to passage of the NWRS Improvement Act of 1997. The original plans, which were completed as Comprehensive Management Plans, will be revised as CCPs during the next planning cycle (2012).</i></p> <ul style="list-style-type: none"> ■ Cypress Creek NWR (FY96) ■ Union Slough NWR (FY96) 	<ul style="list-style-type: none"> ■ Great Lakes Islands (includes Michigan Islands, Harbor Island, Huron, Gravel Island, and Green Bay NWRs) ■ Iowa River Corridor NR&WR 	<ul style="list-style-type: none"> ■ Big Oaks NWR ■ Northern Tallgrass Prairie NWR ■ Whittlesey Creek NWR ■ Grand Kankakee Marsh NWR

COMPREHENSIVE CONSERVATION PLAN STATUS
October – December 2005
REGION 4 - SOUTHEAST REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year plan completed in parentheses)	CCPs to Begin in FY 2005 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY2005 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Bayou Cocodrie NWR (FY04) ■ Noxubee NWR (FY04) ■ Ten Thousand Islands NWR (FY02) ■ Lower Suwannee/Cedar Keys NWRs (FY01) ■ Arthur R. Marshall Loxahatchee NWR (FY00) ■ Florida Panther NWR (FY00) ■ Pond Creek NWR (FY00) <p><i>Draft CCPs (Published)</i></p> <ul style="list-style-type: none"> ■ Hobe Sound NWR (FY04) 	<ul style="list-style-type: none"> ■ Catahoula NWR ■ Egmont Key NWR (12/04) ■ Pinellas NWR (12/04) ■ Passage Key NWR (12/04) ■ Wheeler NWR <p>(Will each of these CCPs be separate plans?)</p>	<ul style="list-style-type: none"> ■ Big Branch Marsh NWR (FY04) ■ Bon Secour NWR (FY03) ■ Cameron Prairie NWR (FY03) ■ Cedar Island NWR (FY00) ■ Theodore Roosevelt NWR Complex (includes Yazoo, Hillside, Mathews Brake, Morgan Brake and Panther Swamp NWRs) (FY00) ■ Chickasaw NWR (FY99) ■ Choctaw NWR (FY04) ■ Coldwater River NWR (FY04) ■ Crocodile Lake NWR (FY03) ■ Dahomey NWR (FY04) ■ D•Arbonne NWR (FY04) ■ Egmont Key NWR (FY05) ■ Grand Cote NWR (FY04) ■ Great White Heron NWR (FY03) ■ Hatchie NWR (FY99) ■ Hobe Sound NWR (FY98) ■ Key West NWR (FY04) ■ Lacassine NWR (FY03) ■ Lake Ophelia NWR (FY97) ■ Lower Hatchie NWR (FY99) ■ Mackay Island/Currituck NWRs (FY00) ■ Merritt Island NWR (FY01) ■ National Key Deer NWR (FY04) ■ Northeast North Carolina Refuges (includes Alligator River, Mattamuskeet, Pocosin Lakes, and Swanquarter NWRs) (FY00) ■ Okefenokee NWR (FY01) ■ Passage Key NWR (FY05) ■ Pea Island NWR (FY99) ■ Pelican Island NWR (FY00) ■ Pinellas NWR (FY05) ■ Reelfoot/Lake Isom NWRs (FY99) ■ Roanoke River NWR (FY00) ■ Sabine NWR (FY03) ■ St. Catherine Creek (FY03) ■ St. Marks NWR (FY00) ■ Tallahatchie NWR (FY04) ■ Vieques NWR (FY03) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Bon Secour NWR (1) ■ Cameron Prairie NWR (1) ■ Cedar Island NWR (1) ■ Theodore Roosevelt NWR Complex (5) ■ Chickasaw NWR (1) ■ Crocodile Lake NWR (1) ■ Currituck NWR (1) ■ Hatchie NWR (1) ■ Hobe Sound NWR (1) ■ Lacassine NWR (1) ■ Lake Ophelia NWR (1) ■ Lower Hatchie NWR (1) ■ Pelican Island NWR (1) ■ Mackay Island NWR (1) ■ Okefenokee NWR (1) ■ Pea Island NWR (1) ■ Reelfoot/Lake Isom NWR (2) ■ Roanoke River NWR (1) ■ Sabine NWR (1) ■ St. Marks NWR (1) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Alligator River NWR (1) ■ Big Branch Marsh NWR (1) ■ Catahoula NWR (1) ■ D•Arbonne NWR (1) ■ Grand Cote NWR (1) ■ Mattamuskeet NWR (1) ■ Merritt Island NWR (1) ■ Pocosin Lakes NWR (1) ■ St. Catherine Creek NWR (1) ■ Swanquarter NWR (1) ■ Vieques NWR (1)

PROPOSED CCP SCHEDULE
October – December 2005
REGION 4 - SOUTHEAST REGION

CCPs SCHEDULED TO BEGIN:				
FY2005	FY2006	FY2007	FY2008	FY2009
<ul style="list-style-type: none"> ■ Bayou Sauvage NWR ■ Cross Creeks NWR ■ Ding Darling NWR ■ Felsenthal NWR ■ Fern Cave NWR ■ Grand Bay NWR ■ Key Cave NWR ■ Mississippi Sandhill Crane NWR ■ Overflow NWR ■ Santee NWR ■ Sauta Cave NWR ■ St. Johns NWR ■ Tennessee NWR ■ Upper Ouachita NWR ■ Waccamaw NWR ■ Watercress Darter NWR 	<ul style="list-style-type: none"> ■ ACE Basin NWR ■ Cabo Rojo NWR ■ Cape Romain NWR ■ Cat Island NWR ■ Chassahowitzka NWR ■ Crystal River NWR ■ Lake Wales Ridge NWR ■ Mandalay NWR 	<ul style="list-style-type: none"> ■ Black Bayou Lake NWR ■ Breton NWR ■ Caloosahatchee NWR ■ Carolina Sandhills NWR ■ Delta NWR ■ Eufaula NWR ■ Island Bay NWR ■ Laguna Cartagena NWR ■ Lake Woodruff NWR ■ Matlacha Pass NWR ■ Pee Dee NWR ■ Pine Island NWR ■ Shell Keys NWR ■ St. Vincent NWR ■ Tensas River NWR ■ White River NWR 	<ul style="list-style-type: none"> ■ Archie Carr NWR ■ Blackbeard Island NWR ■ Cache River NWR ■ Culebra NWR ■ Harris Neck NWR ■ Savannah NWR ■ Tybee NWR ■ Wassaw NWR ■ Wolf Island NWR 	<ul style="list-style-type: none"> ■ Big Lake NWR ■ Buck Island NWR ■ Green Cay NWR ■ Handy Brake NWR ■ Sandy Point NWR ■ Wapanocca NWR

Regional Contact: Harold Gibbs, 404/679-7061

PROPOSED CCP SCHEDULE
October – December 2005
REGION 4 - SOUTHEAST REGION

CCPs SCHEDULED TO BEGIN:				
FY2010	FY2011	FY2012	FY2013	FY2014
<ul style="list-style-type: none"> ■ Bogue Chitto NWR ■ Pinckney Island NWR ■ Red River NWR 	<ul style="list-style-type: none"> ■ Atchafalaya NWR ■ Holla Bend NWR 	<ul style="list-style-type: none"> ■ Bond Swamp NWR ■ Clarks River NWR ■ Desecheo NWR ■ Logan Cave NWR ■ Piedmont NWR 	<ul style="list-style-type: none"> ■ Bald Knob NWR ■ Bayou Teche NWR ■ Cahaba River NWR ■ Mountain Longleaf NWR ■ Navassa Island NWR 	<ul style="list-style-type: none"> ■ Banks Lake NWR

COMPREHENSIVE CONSERVATION PLAN STATUS
October – December 2005
REGION 5 - NORTHEAST REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2005 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2005 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Eastern Shore of Virginia (includes Eastern Shore of Virginia and Fisherman Island NWRs) (FY04) ■ Jersey Coast Refuges (includes Edwin B. Forsythe and Cape May NWRs) (FY02) ■ Rhode Island Complex (includes Block Island, John H. Chafee, Ninigret, Sachuest Point, and Trustom Pond NWRs) (FY02) ■ Ohio River Islands NWR (FY02) ■ Occoquan Bay NWR (FY98) <p><i>Draft CCPs (Published)</i></p> <ul style="list-style-type: none"> ■ Petit Manan NWR (includes Petit Manan, Cross Island, Franklin Island, Pond Island, and Seal Island NWRs) (FY04) ■ Eastern Massachusetts Complex (FY03) 	<ul style="list-style-type: none"> ■ Monomoy and Nomans Land Island NWRs (part of Eastern Massachusetts NWR Complex) (12/04) 	<ul style="list-style-type: none"> ■ Back Bay NWR (FY01) ■ Chesapeake Marshlands Complex (includes Blackwater, Martin, and Susquehanna NWRs) (FY98) ■ Eastern Massachusetts Complex (includes Assabet, Great Meadows, and Oxbow NWRs) (FY99) ■ Eastern Neck NWR (FY01) ■ Great Dismal Swamp NWR (includes Great Dismal Swamp and Nansemond NWRs) (FY01) ■ Lake Umbagog NWR (FY01) ■ Long Island Complex (includes Amagansett, Conscience Point, Elizabeth A. Morton, Oyster Bay, Seatuck, Target Rock, and Wertheim NWRs) (FY00) ■ Missisquoi NWR (FY00) ■ Monomoy and Nomans Land Island (part of Eastern Massachusetts Complex) (FY05) ■ Petit Manan NWR (includes Petit Manan, Cross Island, Franklin Island, Pond Island, and Seal Island NWRs) (FY00) ■ Rachel Carson NWR (FY97) ■ Shawangunk Grasslands NWR (FY99) ■ Wallkill River NWR (FY99) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Chesapeake Marshlands Complex (3) ■ Eastern Massachusetts Complex (3) ■ Great Dismal Swamp NWR (2) ■ Lake Umbagog NWR (1) ■ Long Island Complex (7) ■ Petit Manan NWR (5) ■ Rachel Carson NWR (1) ■ Shawangunk Grasslands NWR (1) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Back Bay NWR (1) ■ Missisquoi NWR (1) ■ Wallkill River NWR (1)

Regional Contact: Steve Funderburk, 413/253-8579

COMPREHENSIVE CONSERVATION PLAN STATUS
October – December 2005
REGION 5 - NORTHEAST REGION

CCPs SCHEDULED TO BEGIN:				
FY2005	FY2006	FY2007	FY2008	FY2009
<ul style="list-style-type: none"> ■ Mashpee NWR ■ Nantucket NWR ■ Prime Hook NWR ■ Rappahannock NWR 	<ul style="list-style-type: none"> ■ Canaan Valley NWR ■ Massasoit NWR ■ Moosehorn/Aroostook NWRs ■ Silvio O. Conte NF&WR ■ Stewart B. McKinney NWR 	<ul style="list-style-type: none"> ■ Erie NWR ■ Iroquois NWR ■ James River and Presquile NWRs ■ Montezuma NWR 	<ul style="list-style-type: none"> ■ Bombay Hook NWR ■ Great Swamp NWR ■ Patuxent Research Refuge 	<ul style="list-style-type: none"> ■ John Heinz NWR at Tinicum ■ Parker River NWR (includes Parker River and Thacher Island NWRs) ■ Plum Tree Island NWR
FY2010	FY2011	FY2012		
<ul style="list-style-type: none"> ■ Chincoteague NWR (includes Chincoteague and Wallops Island NWRs) ■ Potomac River Complex (includes Featherstone, Mason Neck, and Occoquan Bay NWRs) ■ Sunkhaze Meadows NWR (includes Sunkhaze Meadows NWR and Carlton Pond WPA) 	<ul style="list-style-type: none"> ■ Great Bay NWR (includes Great Bay, John Hay, and Wapack NWRs) ■ Supawna Meadows NWR 			

COMPREHENSIVE CONSERVATION PLAN STATUS
October – December 2005
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2005 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2005 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Fish Springs NWR (FY04) ■ Arapaho NWR (FY04) ■ Monte Vista/Alamosa NWRs (FY03) ■ Crescent Lake NWR (FY02) ■ Seedskadee NWR (FY02) ■ Waubay NWR and WMD (FY02) ■ North Platte NWR (FY01) ■ Flint Hills NWR (FY00) ■ Ouray NWR (FY00) ■ Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) ■ Browns Park NWR (FY99) ■ Valentine NWR (FY99) ■ Fort Niobrara NWR (FY99) ■ Lostwood NWR (FY99) ■ Marais des Cygnes NWR (FY98) <p><i>Draft CCPs (Published)</i></p> <ul style="list-style-type: none"> ■ Fish Springs NWR (FY04) ■ Rocky Flats NWR (FY04) 	<ul style="list-style-type: none"> ■ Lacreek NWR Complex (12/04) 	<ul style="list-style-type: none"> ■ Arapaho NWR (FY00) ■ Arrowwood NWR (FY01) ■ Des Lacs NWR (FY03) ■ J. Clark Salyer NWR (FY03) ■ Kirwin NWR (FY03) ■ Lacreek NWR Complex (FY05) ■ Long Lake NWR and WMD (includes Long Lake, Florence Lake and Slade Lake NWRs and Long Lake WMD) (FY04) ■ Lost Trail NWR (FY00) ■ Medicine Lake NWR and WMD (includes Lamesteer NWR) (FY98) ■ North Dakota Easement Refuges (includes Arrowwood NWR Complex, Audubon NWR and WMD, Devils Lake WMD, J. Clark Salyer NWR and WMD, Kulm WMD, and Long Lake NWR and WMD) (FY04) ■ Rocky Flats NWR (FY02) ■ Sand Lake NWR (FY01) ■ Upper Souris NWR (FY03) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Arrowwood NWR (1) ■ Kirwin NWR (1) ■ Lost Trail NWR (1) ■ North Dakota Easement Refuges (39) ■ Rocky Flats NWR (1) ■ Sand Lake NWR (1) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Des Lacs NWR (1) ■ J. Clark Salyer NWR (1) ■ Lacreek NWR and WMD (3) ■ Upper Souris NWR (1)

PROPOSED CCP SCHEDULE
October – December 2005
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:				
FY2005	FY2006	FY2007	FY2008	FY2009
<ul style="list-style-type: none"> ■ Arapaho NWR (WY Satellites: Bamforth, Hutton Lake, Mortenson Lake, and Pathfinder NWRs) ■ Rainwater Basin WMD ■ Red Rock Lakes NWR ■ Sully's Hill National Game Preserve 	<ul style="list-style-type: none"> ■ Arrowwood and Valley City WMDs ■ Devil's Lake WMD ■ Kulm and Chase Lake WMDs, and Chase Lake NWR ■ Lake Andes NWR and WMD ■ National Elk Refuge ■ Lee Metcalf NWR 	<ul style="list-style-type: none"> ■ Benton Lake NWR and WMD ■ Bowdoin NWR and WMD (includes Bowdoin WMD, and Black Coulee, Creedman Coulee, Hewitt Lake, and Lake Thibadeau NWRs) ■ Northwest Montana WMD (includes Nine Pipe and Pablo NWRs) ■ Sand Lake, Huron, and Madison WMDs 	<ul style="list-style-type: none"> ■ Audubon NWR (includes Audubon, Lake Nettie, and McLean NWRs) ■ Bear River Migratory Bird Refuge (CMP revision) ■ Blackfoot Valley NWR ■ Charles M. Russell and UL Bend NWRs 	<ul style="list-style-type: none"> ■ Cokeville Meadows NWR ■ Karl E. Mundt NWR ■ National Bison Range <p align="center">*****</p> <p align="center"><i>(These are the final CCPs under the NWRs Improvement Act to be completed by 2012.)</i></p>
FY2010	FY2011	FY2012	FY2013	
<ul style="list-style-type: none"> ■ Boyer Chute NWR ■ Crosby (includes Lake Zahl NWR), Lostwood (includes Shell Lake NWR and Audubon WMD) ■ Stump Lake, Ardoch, Lake Alice, and Kelly's Slough NWRs 	<ul style="list-style-type: none"> ■ Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) ■ J. Clark Salyer WMD ■ Swan River NWR ■ White Lake, Lake Ilo, and Stewart Lake NWRs ■ Quivira NWR 	<ul style="list-style-type: none"> ■ Baca NWR ■ John and Louise Seier NWR ■ Rocky Mountain Arsenal NWR ■ Two Ponds NWR 	<p align="center"><i>Last CCP will be completed by FY2015</i></p> <p align="center">*****</p> <p align="center"><i>Begin new CCP program (the second 15 years!)</i></p>	

Regional Contact: Mike Spratt, 303/236-4366

FWS-000591

COMPREHENSIVE CONSERVATION PLAN STATUS
October – December 2005
REGION 7 - ALASKA REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2005 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2005 (# stations represented in parentheses)
<p><i>Completed Prior to the National Wildlife Refuge System Improvement Act of 1997:</i></p> <p>Between 1985 and 1988, CCPs were initially completed for the 16 refuges in Alaska under provisions of the Alaska National Interest Lands Conservation Act. These plans will be revised over the next 12 years.</p> <p><i>Draft CCPs (Published)</i></p> <ul style="list-style-type: none"> ■ Alaska Peninsula/Becharof NWRs (FY04) ■ Kodiak NWR (FY04) 	<ul style="list-style-type: none"> ■ Tetlin NWR (12/04) 	<ul style="list-style-type: none"> ■ Alaska Peninsula NWR (includes Alaska Peninsula and Becharof NWRs) (FY98) ■ Kanuti NWR (FY04) ■ Kenai NWR (FY04) ■ Kodiak NWR (FY99) ■ Izembek NWR (FY04) ■ Tetlin NWR (FY05) ■ Togiak NWR (FY99) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> • Alaska Peninsula NWRs (2) • Kodiak NWR (1) • Togiak NWR (1) <p><i>Draft CCPs</i></p>

Regional Contact: George Constantino, 907/786-3353

PROPOSED CCP SCHEDULE
October – December 2004
REGION 7 - ALASKA REGION

CCPs SCHEDULED TO BEGIN:				
FY2004	FY2005	FY2006	FY2007	FY2008
<i>No New Starts</i>	<ul style="list-style-type: none"> ■ Selawik NWR ■ Tetlin NWR 	<ul style="list-style-type: none"> ■ Innoko NWR ■ Yukon Delta NWR 	<i>No New Starts</i>	<ul style="list-style-type: none"> ■ Koyukuk/Nowitna NWRs ■ Yukon Flats NWR
FY2009	FY2010	FY2011	FY2012	
<i>No New Starts</i>	<ul style="list-style-type: none"> ■ Alaska Maritime NWR ■ Arctic NWR 			

COMPREHENSIVE CONSERVATION PLAN STATUS
January - March 2005
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2005 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2005 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Rocky Flats NWR (FY05) ■ Fish Springs NWR (FY04) ■ Arapaho NWR (FY04) ■ Monte Vista/Alamosa NWRs (FY03) ■ Crescent Lake NWR (FY02) ■ Seedskadee NWR (FY02) ■ Waubay NWR and WMD (FY02) ■ North Platte NWR (FY01) ■ Flint Hills NWR (FY00) ■ Ouray NWR (FY00) ■ Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) ■ Browns Park NWR (FY99) ■ Valentine NWR (FY99) ■ Fort Niobrara NWR (FY99) ■ Lostwood NWR (FY99) ■ Marais des Cygnes NWR (FY98) 	<ul style="list-style-type: none"> ■ Lacreek NWR Complex (includes Lacreek and Bear Butte NWRs and Lacreek WMD) (12/04) ■ Arapaho NWR (WY Satellites: Bamforth, Hutton Lake, Mortenson Lake, and Pathfinder NWRs) ■ Rainwater Basin WMD ■ Red Rock Lakes NWR ■ Sully Hill National Game Preserve 	<ul style="list-style-type: none"> ■ Arrowwood NWR (FY01) ■ Des Lacs NWR (FY03) ■ J. Clark Salyer NWR (FY03) ■ Kirwin NWR (FY03) ■ Lacreek NWR Complex (includes Lacreek and Bear Butte NWRs and Lacreek WMD) (FY05) ■ Long Lake NWR and WMD (includes Long Lake, Florence Lake and Slade Lake NWRs and Long Lake WMD) (FY04) ■ Lost Trail NWR (FY00) ■ Medicine Lake NWR and WMD (includes Lamesteer NWR) (FY98) ■ North Dakota Easement Refuges (includes Arrowwood NWR Complex, Audubon NWR and WMD, Devils Lake WMD, J. Clark Salyer NWR and WMD, Kulm WMD, and Long Lake NWR and WMD) (FY04) ■ Sand Lake NWR (FY01) ■ Upper Souris NWR (FY03) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Arrowwood NWR (1) ■ Kirwin NWR (1) ■ Lost Trail NWR (1) ■ North Dakota Easement Refuges (39) ■ Rocky Flats NWR (1) ■ Sand Lake NWR (1) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Arrowwood NWR (1) ■ Kirwin NWR (1) ■ Lacreek NWR and WMD (3) ■ Lost Trail NWR (1) ■ North Dakota Easement Refuges (39) ■ Sand Lake NWR (1)

Last updated 03/14/05

Regional Contact: Mike Spratt, 303/236-4366

PROPOSED CCP SCHEDULE
January - March 2005
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:				
FY2006	FY2007	FY2008	FY2009	FY2010
<ul style="list-style-type: none"> ■ Arrowwood and Valley City WMDs ■ Devils Lake WMD ■ Kulm and Chase Lake WMDs, and Chase Lake NWR ■ Lake Andes NWR and WMD ■ National Elk Refuge ■ Lee Metcalf NWR 	<ul style="list-style-type: none"> ■ Benton Lake NWR and WMD ■ Bowdoin NWR and WMD (includes Bowdoin WMD, and Black Coulee, Creedman Coulee, Hewitt Lake, and Lake Thibadeau NWRs) ■ Northwest Montana WMD (includes Nine Pipe and Pablo NWRs) ■ Sand Lake, Huron, and Madison WMDs 	<ul style="list-style-type: none"> ■ Audubon NWR (includes Audubon, Lake Nettie, and McLean NWRs) ■ Baca NWR ■ Bear River Migratory Bird Refuge (CMP revision) ■ Blackfoot Valley NWR ■ Charles M. Russell and UL Bend NWRs 	<ul style="list-style-type: none"> ■ Cokeville Meadows NWR ■ Karl E. Mundt NWR <p align="center">*****</p> <p><i>(These are the final CCPs under the NWRS Improvement Act to be completed by 2012.)</i></p>	<ul style="list-style-type: none"> ■ Boyer Chute NWR ■ Crosby (includes Lake Zahl NWR), Lostwood (includes Shell Lake NWR and Audubon WMD) ■ Stump Lake, Ardoch, Lake Alice, and Kelly's Slough NWRs
FY2011	FY2012			
<ul style="list-style-type: none"> ■ Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) ■ J. Clark Salyer WMD ■ Swan River NWR ■ White Lake, Lake Ilo, and Stewart Lake NWRs ■ Quivira NWR 	<ul style="list-style-type: none"> ■ John and Louise Seier NWR ■ National Bison Range ■ Rocky Mountain Arsenal NWR ■ Two Ponds NWR 			

COMPREHENSIVE CONSERVATION PLAN STATUS
April – June 2005
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2005 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2005 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Rocky Flats NWR (FY05) ■ Fish Springs NWR (FY04) ■ Arapaho NWR (FY04) ■ Monte Vista/Alamosa NWRs (FY03) ■ Crescent Lake NWR (FY02) ■ Seedskadee NWR (FY02) ■ Waubay NWR and WMD (FY02) ■ North Platte NWR (FY01) ■ Flint Hills NWR (FY00) ■ Ouray NWR (FY00) ■ Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) ■ Browns Park NWR (FY99) ■ Valentine NWR (FY99) ■ Fort Niobrara NWR (FY99) ■ Lostwood NWR (FY99) ■ Marais des Cygnes NWR (FY98) 	<ul style="list-style-type: none"> ■ Lacreek NWR Complex (includes Lacreek and Bear Butte NWRs and Lacreek WMD) (12/04) ■ Arapaho NWR (WY Satellites: Bamforth, Hutton Lake, Mortenson Lake, and Pathfinder NWRs) ■ Rainwater Basin WMD ■ Red Rock Lakes NWR ■ Sully Hill National Game Preserve 	<ul style="list-style-type: none"> ■ Arrowwood NWR (FY01) ■ Des Lacs NWR (FY03) ■ J. Clark Salyer NWR (FY03) ■ Kirwin NWR (FY03) ■ Lacreek NWR Complex (includes Lacreek and Bear Butte NWRs and Lacreek WMD) (FY05) ■ Long Lake NWR and WMD (includes Long Lake, Florence Lake and Slade Lake NWRs and Long Lake WMD) (FY04) ■ Lost Trail NWR (FY00) ■ Medicine Lake NWR and WMD (includes Lamesteer NWR) (FY98) ■ North Dakota Easement Refuges (includes Arrowwood NWR Complex, Audubon NWR and WMD, Devils Lake WMD, J. Clark Salyer NWR and WMD, Kulm WMD, and Long Lake NWR and WMD) (FY04) ■ Sand Lake NWR (FY01) ■ Upper Souris NWR (FY03) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Kirwin NWR (1) ■ Lost Trail NWR (1) ■ North Dakota Easement Refuges (39) ■ Rocky Flats NWR (1) ■ Sand Lake NWR (1) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Arrowwood NWR (1) ■ Kirwin NWR (1) ■ Lacreek NWR and WMD (3) ■ Lost Trail NWR (1) ■ North Dakota Easement Refuges (39) ■ Sand Lake NWR (1)

Last updated 03/14/05

Regional Contact: Mike Spratt, 303/236-4366

PROPOSED CCP SCHEDULE
April – June 2005
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:				
FY2006	FY2007	FY2008	FY2009	FY2010
<ul style="list-style-type: none"> ■ Arrowwood and Valley City WMDs ■ Devils Lake WMD ■ Kulm and Chase Lake WMDs, and Chase Lake NWR ■ Lake Andes NWR and WMD ■ National Elk Refuge ■ Lee Metcalf NWR 	<ul style="list-style-type: none"> ■ Benton Lake NWR and WMD ■ Bowdoin NWR and WMD (includes Bowdoin WMD, and Black Coulee, Creedman Coulee, Hewitt Lake, and Lake Thibadeau NWRs) ■ Northwest Montana WMD (includes Nine Pipe and Pablo NWRs) ■ Sand Lake, Huron, and Madison WMDs 	<ul style="list-style-type: none"> ■ Audubon NWR (includes Audubon, Lake Nettie, and McLean NWRs) ■ Baca NWR ■ Bear River Migratory Bird Refuge (CMP revision) ■ Blackfoot Valley NWR ■ Charles M. Russell and UL Bend NWRs 	<ul style="list-style-type: none"> ■ Cokeville Meadows NWR ■ Karl E. Mundt NWR <p style="text-align: center;">*****</p> <p><i>(These are the final CCPs under the NWRS Improvement Act to be completed by 2012.)</i></p>	<ul style="list-style-type: none"> ■ Boyer Chute NWR ■ Crosby (includes Lake Zahl NWR), Lostwood (includes Shell Lake NWR and Audubon WMD) ■ Stump Lake, Ardoch, Lake Alice, and Kelly's Slough NWRs
FY2011	FY2012			
<ul style="list-style-type: none"> ■ Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) ■ J. Clark Salyer WMD ■ Swan River NWR ■ White Lake, Lake Ilo, and Stewart Lake NWRs ■ Quivira NWR 	<ul style="list-style-type: none"> ■ John and Louise Seier NWR ■ National Bison Range ■ Rocky Mountain Arsenal NWR ■ Two Ponds NWR 			

COMPREHENSIVE CONSERVATION PLAN STATUS
January - March 2005
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2005 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2005 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Rocky Flats NWR (FY05) ■ Fish Springs NWR (FY04) ■ Arapaho NWR (FY04) ■ Monte Vista/Alamosa NWRs (FY03) ■ Crescent Lake NWR (FY02) ■ Seedskadee NWR (FY02) ■ Waubay NWR and WMD (FY02) ■ North Platte NWR (FY01) ■ Flint Hills NWR (FY00) ■ Ouray NWR (FY00) ■ Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) ■ Browns Park NWR (FY99) ■ Valentine NWR (FY99) ■ Fort Niobrara NWR (FY99) ■ Lostwood NWR (FY99) ■ Marais des Cygnes NWR (FY98) 	<ul style="list-style-type: none"> ■ Lacreek NWR Complex (includes Lacreek and Bear Butte NWRs and Lacreek WMD) (12/04) ■ Arapaho NWR (WY Satellites: Bamforth, Hutton Lake, Mortenson Lake, and Pathfinder NWRs) ■ Rainwater Basin WMD ■ Red Rock Lakes NWR ■ Sully Hill National Game Preserve 	<ul style="list-style-type: none"> ■ Arrowwood NWR (FY01) ■ Des Lacs NWR (FY03) ■ J. Clark Salyer NWR (FY03) ■ Kirwin NWR (FY03) ■ Lacreek NWR Complex (includes Lacreek and Bear Butte NWRs and Lacreek WMD) (FY05) ■ Long Lake NWR and WMD (includes Long Lake, Florence Lake and Slade Lake NWRs and Long Lake WMD) (FY04) ■ Lost Trail NWR (FY00) ■ Medicine Lake NWR and WMD (includes Lamesteer NWR) (FY98) ■ North Dakota Easement Refuges (includes Arrowwood NWR Complex, Audubon NWR and WMD, Devils Lake WMD, J. Clark Salyer NWR and WMD, Kulm WMD, and Long Lake NWR and WMD) (FY04) ■ Sand Lake NWR (FY01) ■ Upper Souris NWR (FY03) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Arrowwood NWR (1) ■ Kirwin NWR (1) ■ Lost Trail NWR (1) ■ North Dakota Easement Refuges (39) ■ Rocky Flats NWR (1) ■ Sand Lake NWR (1) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Arrowwood NWR (1) ■ Kirwin NWR (1) ■ Lacreek NWR and WMD (3) ■ Lost Trail NWR (1) ■ North Dakota Easement Refuges (39) ■ Sand Lake NWR (1)

Last updated 03/14/05

Regional Contact: Mike Spratt, 303/236-4366

PROPOSED CCP SCHEDULE
January - March 2005
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:				
FY2006	FY2007	FY2008	FY2009	FY2010
<ul style="list-style-type: none"> ■ Arrowwood and Valley City WMDs ■ Devils Lake WMD ■ Kulm and Chase Lake WMDs, and Chase Lake NWR ■ Lake Andes NWR and WMD ■ National Elk Refuge ■ Lee Metcalf NWR 	<ul style="list-style-type: none"> ■ Benton Lake NWR and WMD ■ Bowdoin NWR and WMD (includes Bowdoin WMD, and Black Coulee, Creedman Coulee, Hewitt Lake, and Lake Thibadeau NWRs) ■ Northwest Montana WMD (includes Nine Pipe and Pablo NWRs) ■ Sand Lake, Huron, and Madison WMDs 	<ul style="list-style-type: none"> ■ Audubon NWR (includes Audubon, Lake Nettie, and McLean NWRs) ■ Baca NWR ■ Bear River Migratory Bird Refuge (CMP revision) ■ Blackfoot Valley NWR ■ Charles M. Russell and UL Bend NWRs 	<ul style="list-style-type: none"> ■ Cokeville Meadows NWR ■ Karl E. Mundt NWR <p align="center">*****</p> <p><i>(These are the final CCPs under the NWRs Improvement Act to be completed by 2012.)</i></p>	<ul style="list-style-type: none"> ■ Boyer Chute NWR ■ Crosby (includes Lake Zahl NWR), Lostwood (includes Shell Lake NWR and Audubon WMD) ■ Stump Lake, Ardoch, Lake Alice, and Kelly's Slough NWRs
FY2011	FY2012			
<ul style="list-style-type: none"> ■ Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) ■ J. Clark Salyer WMD ■ Swan River NWR ■ White Lake, Lake Ilo, and Stewart Lake NWRs ■ Quivira NWR 	<ul style="list-style-type: none"> ■ John and Louise Seier NWR ■ National Bison Range ■ Rocky Mountain Arsenal NWR ■ Two Ponds NWR 			

COMPREHENSIVE CONSERVATION PLAN STATUS
October – December 2005
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2006 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2006 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> • Sand Lake NWR (FY05) • Lost Trail NWR (FY05) ■ Rocky Flats NWR (FY05) ■ Fish Springs NWR (FY04) ■ Arapaho NWR (FY04) ■ Monte Vista/Alamosa NWRs (FY03) ■ Crescent Lake NWR (FY02) ■ Seedskadee NWR (FY02) ■ Waubay NWR and WMD (FY02) ■ North Platte NWR (FY01) ■ Flint Hills NWR (FY00) ■ Ouray NWR (FY00) ■ Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) ■ Browns Park NWR (FY99) ■ Valentine NWR (FY99) ■ Fort Niobrara NWR (FY99) ■ Lostwood NWR (FY99) ■ Marais des Cygnes NWR (FY98) <p>Total: 23</p>	<ul style="list-style-type: none"> ■ Arapaho NWR (WY Satellites: Bamforth, Hutton Lake, Mortenson Lake, and Pathfinder NWRs) ■ Rainwater Basin WMD (12/05) ■ Red Rock Lakes NWR ■ Sully's Hill National Game Preserve ■ Devil's Lake WMD ■ Lake Andes NWR WMD and Karl Mundt NWR ■ Lee Metcalf NWR <p>Total: 12</p>	<ul style="list-style-type: none"> ■ Arrowwood NWR (FY01) ■ Des Lacs NWR (FY03) ■ J. Clark Salyer NWR (FY03) ■ Kirwin NWR (FY03) ■ Lacreek NWR Complex (includes Lacreek and Bear Butte NWRs and Lacreek WMD) (FY05) ■ Long Lake NWR and WMD (includes Long Lake, Florence Lake and Slade Lake NWRs and Long Lake WMD) (FY04) ■ Medicine Lake NWR and WMD (includes Lamesteer NWR) (FY98) ■ North Dakota Easement Refuges (includes Arrowwood NWR Complex, Audubon NWR and WMD, Devils Lake WMD, J. Clark Salyer NWR and WMD, Kulm WMD, and Long Lake NWR and WMD) (FY04) ■ Upper Souris NWR (FY03) <p>Total: 54</p>	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Kirwin NWR (1) • Lacreek NWR Complex (includes Lacreek and Bear Butte NWRs and Lacreek WMD) (3) • Long Lake NWR and WMD (includes Long Lake, Florence Lake and Slade Lake NWRs and Long Lake WMD) (4) ■ North Dakota Easement Refuges (39) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Arrowwood NWR (1) ■ Kirwin NWR (1) ■ Lacreek NWR and WMD (3) ■ Lost Trail NWR (1) ■ North Dakota Easement Refuges (39) ■ Sand Lake NWR (1) ■ Des Lacs NWR (1) ■ J. Clark Salyer NWR (1) ■ Upper Souris NWR (1) <p>Total: 47</p>

PROPOSED CCP SCHEDULE
October-December 2006
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:				
FY2007*	FY2008	FY2009	FY2010	FY2011
<ul style="list-style-type: none"> ■ Arrowwood and Valley City WMDs ■ Kulm and Chase Lake WMDs, and Chase Lake NWR ■ National Elk Refuge <p>* Reflects reduced funding levels for CCP Program</p>	<ul style="list-style-type: none"> ■ Benton Lake NWR and WMD ■ Bowdoin NWR and WMD (includes Bowdoin WMD, and Black Coulee, Creedman Coulee, Hewitt Lake, and Lake Thibadeau NWRs) ■ Sand Lake, Huron, and Madison WMDs 	<ul style="list-style-type: none"> ■ Audubon NWR (includes Audubon, Lake Nettie, and McLean NWRs) ■ Baca NWR ■ Blackfoot Valley NWR ■ Northwest Montana WMD (includes Nine Pipe and Pablo NWRs) 	<ul style="list-style-type: none"> ■ Cokeville Meadows NWR ■ Karl E. Mundt NWR ■ Charles M. Russell and UL Bend NWRs ■ Bear River Migratory Bird Refuge (CMP revision) 	<ul style="list-style-type: none"> ■ Boyer Chute NWR ■ Crosby (includes Lake Zahl NWR), Lostwood (includes Shell Lake NWR and Audubon WMD) ■ Stump Lake, Lake Alice, and Kelly's Slough NWRs
FY2012	FY2013			
<ul style="list-style-type: none"> ■ Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) ■ J. Clark Salyer WMD ■ Swan River NWR ■ White Lake, Lake Ilo, and Stewart Lake NWRs ● Quivira NWR 	<ul style="list-style-type: none"> ■ John and Louise Seier NWR ■ National Bison Range ■ Rocky Mountain Arsenal NWR ■ Two Ponds NWR 		<p>Total Refuges for Region 6 = 139</p>	

Last updated 12/12/05

Regional Contact: Mike Spratt, 303/236-4366

Comprehensive Conservation Plan Status

May 2006

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2006 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2006 (# stations represented in parentheses)
<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> • Lacreek NWR and WMD (FY 06) • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY05) • Lost Trail NWR (FY05) • Rocky Flats NWR (FY05) • Fish Springs NWR (FY04) • Arapaho NWR (FY04) • Monte Vista/Alamosa NWRs (FY03) • Crescent Lake NWR (FY02) • Seedskaadee NWR (FY02) • Waubay NWR and WMD (FY02) • North Platte NWR (FY01) • Flint Hills NWR (FY00) • Ouray NWR (FY00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) • Browns Park NWR (FY99) • Valentine NWR (FY99) • Fort Niobrara NWR (FY99) • Lostwood NWR (FY99) • Marais des Cygnes NWR (FY98) • Bear River Migratory Bird Refuge (FY97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) 	<ul style="list-style-type: none"> ■ Arapaho NWR (WY Satellites: Bamforth, Hutton Lake, Mortenson Lake, and Pathfinder NWRs) ■ Red Rock Lakes NWR ■ Sully's Hill National Game Preserve ■ Lake Andes NWR WMD and Karl Mundt NWR 	<ul style="list-style-type: none"> ■ Arrowwood NWR (FY01) ■ Des Lacs NWR (FY03) ■ J. Clark Salyer NWR (FY03) ■ Kirwin NWR (FY03) ■ Bear Butte NWR (FY05) ■ Long Lake NWR and WMD (also includes Florence and Slade Lakes) (FY04) ■ Medicine Lake NWR and WMD (also includes Lamesteer NWR) (FY98) ■ Upper Souris NWR (FY03) ■ Rainwater Basin WMD (FY 06) 	<p><i>Final CCPs</i></p> <ul style="list-style-type: none"> ■ Kirwin NWR (1) • Lacreek NWR Complex (includes Lacreek and Bear Butte NWRs and Lacreek WMD) (3) • Long Lake NWR and WMD (includes Long Lake, Florence Lake and Slade Lake NWRs and Long Lake WMD) (4) ■ North Dakota Limited-interest Refuges (39) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Arrowwood NWR (1) ■ Kirwin NWR (1) ■ Lacreek NWR and WMD (3) ■ North Dakota Limited-interest Refuges (39) • Long Lake NWR and WMD (4) ■ Des Lacs NWR (1) ■ J. Clark Salyer NWR (1) ■ Upper Souris NWR (1)

**PROPOSED CCP SCHEDULE
REGION 6 - MOUNTAIN-PRAIRIE REGION**

CCPs SCHEDULED TO BEGIN:				
FY2007*	FY2008	FY2009	FY2010	FY2011
<ul style="list-style-type: none"> • North Dakota WMDs – Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby (9) • North Dakota Refuges – Stump Lake, Lake Alice, Kelly* Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo and Stewart Lake (12) • Bowdoin NWR and WMD (also includes Black Coulee, Creedman Coulee, Hewitt Lake, and Lake Thibadeau NWRs) (6) 	<ul style="list-style-type: none"> • Benton Lake NWR, WMD and Blackfoot Valley (3) • Sand Lake, Huron, and Madison WMDs (3) • National Elk Refuge (1) 	<ul style="list-style-type: none"> ■ Northwest Montana WMD (also includes Nine Pipe, Swan River and Pablo NWRs) (4) • Quivira NWR (1) • Cokeville Meadows NWR (1) • Lee Metcalf (1) 	<ul style="list-style-type: none"> ■ Charles M. Russell and UL Bend NWRs (2) ■ Charles M. Russell WMD (also include Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (5) • National Bison Range (1) 	
FY2012				
			Total Refuges for Region 6 = 139	

Last updated: 5/2/2006

Regional Contact: Mike Spratt, 303/236-4366



THE DEPUTY SECRETARY OF THE INTERIOR
WASHINGTON

DEC 29 2006

MEMORANDUM

TO: Assistant Secretary, Indian Affairs
Director, Bureau of Indian Affairs

Assistant Secretary, Fish, Wildlife & Parks
Director, Fish & Wildlife Service

FROM: Deputy Secretary *J. G. Gans*

SUBJECT: National Bison Range

Background

We have been discussing the options for managing the National Bison Range (NBR) for several months. At the center of our discussion are two separate statutory mandates that must be considered.

On the one hand, employees of the Fish and Wildlife Service (FWS) have ably managed the NBR for many years under their statutory mandates. On the other hand, Title II of the Indian Self-Determination Act Amendments of 1994 (P.L. 103-413, the "Tribal Self-Governance Act") instituted a permanent self-governance program at the Department. Under the self-governance program, certain programs, functions, services, and activities, or portions thereof, in Interior bureaus (other than the Bureau of Indian Affairs) are eligible to be planned, conducted, consolidated, and administered by a self-governance tribal government. In particular, under the Act the Secretary may include programs of "special geographic, historical, or cultural significance" to a self-governance tribe.

The National Bison Range is completely encompassed within the Flathead Tribal reservation, and the cultural nexus between historic Tribal life and bison is clear. Pursuant to the requirements of the Indian Self-Determination Act, the Fish and Wildlife Service entered into an Annual Funding Agreement (AFA) with the Confederated Salish and Kootenai Tribes (CSKT) of the Flathead Reservation to undertake certain functions on the NBR.

Under the AFA, the Fish and Wildlife Service continued as refuge manager and retained all significant management positions and functions. The Tribe performed field work, site patrols, daily animal care functions, and maintenance work. Under the agreement, the

Tribal employees, as contractors, did not exercise management controls or oversight. Those responsibilities remained with the Fish and Wildlife Service.

According to a September 15, 2006 note from a FWS management official, "I have worked directly with the CSKT's Wildlife Program and I rank them among the best in Tribal Programs and as good as many State Fish and Wildlife agencies. I have no doubt that the CSKT Wildlife Program can do a good job in managing the National Bison Range.... I am confident that the CSKT management activities at the Bison Range will continue to improve and that this partnership will be a success."

Despite this assessment of the Tribe's capacities, the AFA partnership was described by FWS employees and the Tribe as creating some tensions. In light of these tensions, and given the stated abilities of the Tribe, senior FWS and BIA managers considered the management alternative of placing greater responsibility for NBR operations with the Tribe. This alternative would, it was believed, create clearer management responsibilities and lessen the relationship challenges associated with the AFA partnership.

Hence, senior officials representing Indian Affairs and the Fish and Wildlife Service agreed to undertake a phased transition of the management responsibilities for the NBR. The plan envisioned a gradual transition of the remaining FWS positions at the NBR, such that by the beginning of FY 2010 the NBR would be managed exclusively by the Tribe. The phased transition was to provide broad opportunities to manage staff transitions, ensure management objectives and tasks were clearly understood, provide time for training, and ensure that communications and decision-making mechanisms could be developed and tested. It was also underscored and understood that the NBR would remain a FWS refuge managed consistent with FWS policies and procedures.

Recent Developments

After communication of this policy objective, the relationship between FWS employees and the Tribe deteriorated. The FWS staff at the NBR filed EEO complaints against FWS management for creating a "hostile work environment" by authorizing the AFA. FWS undertook an investigation of these complaints, interviewing FWS, but not Tribal, employees and contractors. Apprised of these complaints, the Department asked that the departmental EEO office conduct a full investigation. That investigation is still underway.

FWS also opined that the Tribe was not feeding the penned bison properly and took action to terminate that portion of the AFA.

From the Tribal perspective, the bison were well cared for. They brought in Dr. Leroy Hoversland, DVM, Veterinary Services, to assess the bison. He found the "animals are in good condition" shortly thereafter. The tribal chairman complained about FWS assertions against the Tribe, resulting in a verbal altercation.

Subsequently, FWS signed an authorization on Sunday, December 10, 2006 to immediately terminate the entire AFA. FWS law enforcement officials were dispatched to the NBR to evict the Tribal employees. The FWS Director believes the termination was the appropriate action in response to FWS employee concerns about a perceived hostile work environment and the nature of allegations against the Tribe.

Next Steps

On December 12, 2006, I met with FWS Director Dale Hall and Acting Assistant Secretary Jim Cason to discuss developments at the National Bison Range and how to address them.

I expressed my grave disappointment with the situation. It appears that our team did not take all of the steps necessary to manage this situation properly. I underscored that the department does not tolerate discrimination, sexual harassment, or other hostile workplace actions. I noted that I await the outcome of the EEO investigation and offered no opinion on the complaints expressed both by FWS employees and the Tribe regarding the work environment, while the investigation is underway. However, I expressed disappointment that the partners to the AFA agreement were unable to manage and resolve tensions. I particularly expressed disappointment that problem resolution mechanisms set forth in the AFA may not have been properly utilized.

I noted that the authorization to terminate the AFA (or portions thereof) did not follow expected procedures – those that require the identification of problems and afford a reasonable opportunity to correct them. The termination decision did not consider the competing statutory requirements in the above-mentioned Act and did not include any opportunity for government-to-government consultation that is a routine part of our Indian Affairs programs. While acknowledging these circumstances, the FWS Director believes the termination was the appropriate action.

Notwithstanding the circumstances at the NBR, I expect Interior agencies to work together and to follow the law and regulatory requirements when meeting our commitments. It is imperative that we assure a professional work environment, one free of harassment or other hostile actions. At the same time, it is imperative that we follow proper procedures in assessing workplace situations and pursuing management actions.

The Department has responsibilities in this instance that encompass two agencies and extend to our Indian trust responsibilities. In terminating the AFA, the FWS Director addressed issues of concern to his agency and staff. However, the Department has additional Indian trust obligations to consider, as well as a responsibility to seek to overcome workplace tensions and to build the foundations for constructive and effective management. Termination of the AFA ends a previous management arrangement. We must now seek to build the foundations for future management in a way that fulfills all of the Department's obligations—to the refuge, to Tribes, and to the American public.

We discussed the course of action that needed to be followed to address the issues that have arisen in this situation. I set forth several criteria essential to any resolution of this issue going forward. Any proposed resolution must: 1) reflect a consensus of the FWS Director and the Acting Assistant Secretary of Indian Affairs; 2) provide for effective management of the refuge to assure the well-being of wildlife, including the bison, and the refuge lands consistent with refuge statutes and regulations; and 3) establish a productive, safe, professional work environment for employees and contractors.

We discussed various options. Jim Cason and Dale Hall agreed upon the following actions:

The AFA termination by the FWS Director will remain in place. However, we will immediately reestablish a working relationship with CSKT to include authorization of a new FY 2007 AFA with substantially the same provisions contained in the FY 2006 AFA. These provisions maintain FWS as the refuge manager, while directing that the Tribe will undertake field and maintenance work, animal care, and related duties.

- We will suspend current efforts to transfer further NBR responsibilities from FWS to CSKT.
- We will immediately task CSKT and FWS employees at the NBR to draft an NBR operations plan that would clearly spell out the mission, goals, objectives, and tasks envisioned for the NBR for the next 5 years. The NBR plan should also include any required standard operating procedures, performance standards and metrics, and any other guidance relevant to managing the NBR properly. A high quality of the draft is due on June 29, 2007. It should be clear and comprehensive. Managers of the NBR will be expected to adhere to the plan.
- Senior management team officials (including at least Jim Cason and Dale Hall) will travel to the NBR, at the earliest opportunity, to discuss issues and concerns with the FWS employees and with CSKT employees.

We will immediately seek to retain an ombudsman/facilitator/mediator to work at the NBR for the next few months to assist the team to identify and resolve problems and conflicts effectively. The ombudsman would be responsible for identifying and cataloging problems/issues/complaints, to gather CSKT and FWS perspectives, and to assist the NBR team to develop and implement meaningful actions to resolve concerns.

We will continue to act on the EEO complaints that have been filed and seek appropriate personal relief for legitimate grievances.

For the longer term, we will undertake a joint FWS/BIA task to write a decision document that would critically examine the following options:

1. The FWS manages the NBR exclusively.
2. The Tribe manages the NBR exclusively.
3. The FWS and Tribe manage the NBR together in a manner that is substantially similar to the division of labor in the FY 2006 AFA.
4. Other options to be proposed and evaluated.

A draft decision paper would be made available to the Secretary's office no later than June 29, 2007. The document would also evaluate what procedures, if any, would be necessary to complete a final decision, including the role of a refuge comprehensive conservation plan.

As we discussed, this situation is complicated by competing public policy objectives. We can and will manage those competing objectives in a straightforward, positive way. We will also take all appropriate steps to establish a professional work environment free of harassment, discrimination, and other hostile behavior or practices. Please keep me informed about the progress you are making to implement the steps noted above and regarding any additional steps that you would recommend to bring this matter to a mutually acceptable conclusion.

Comprehensive Conservation Plan Schedule

January 2007

REGION 6 - MOUNTAIN-PRAIRIE REGION

<p>CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)</p>	<p>CCPs to Begin in FY 2007 (NOI Issued) (Month/year expected to begin in parentheses)</p>	<p>CCPs Currently Underway (Fiscal year planning effort began in parentheses)</p>	<p>CCPs Scheduled for Completion in FY 2007 (# stations represented in parentheses)</p>
<p>Final CCPs</p> <ul style="list-style-type: none"> • Kirwin NWR (FY 07) • Lacreek NWR and WMD (FY 06) • Long Lake NWR Complex (includes Long Lake, Florence Lake, Slade Lake NWRs, and Long Lake WMD) (FY 06) • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY05) • Lost Trail NWR (FY05) • Rocky Flats NWR (FY05) • Fish Springs NWR (FY04) • Arapaho NWR (FY04) • Monte Vista/Alamosa NWRs (FY03) • Crescent Lake NWR (FY02) • Seedskadee NWR (FY02) • Waubay NWR and WMD (FY02) • North Platte NWR (FY01) • Flint Hills NWR (FY00) • Ouray NWR (FY00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) • Browns Park NWR (FY99) • Valentine NWR (FY99) • Fort Niobrara NWR (FY99) • Lostwood NWR (FY99) • Marais des Cygnes NWR (FY98) • Bear River Migratory Bird Refuge (FY97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) • 	<ul style="list-style-type: none"> ■ North Dakota WMDs – Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby ■ North Dakota Refuges – Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo and Stewart Lake ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) 	<ul style="list-style-type: none"> ■ Medicine Lake NWR Complex (includes Medicine Lake and Lamesteer NWRs, Northeast Montana WMD) (FY98) ■ Arrowwood NWR (FY01) ■ Des Lacs NWR (FY03) ■ Upper Souris NWR (FY03) ■ J. Clark Salyer NWR (FY03) ■ Kirwin NWR (FY03) ■ Bear Butte NWR (FY05) ■ Red Rock Lakes NWR (FY 05) ■ Rainwater Basin WMD (FY 06) ■ Arapaho NWR Complex – Laramie Plains (Bamforth, Hutton Lake, and Mortenson Lake NWRs). Pathfinder NWR (FY 06) ■ Sully’s Hill National Game Preserve (FY 06) ■ Lake Andes NWR and WMD, and Karl Mundt NWR (FY 07) 	<p>Final CCPs</p> <ul style="list-style-type: none"> ■ Kirwin NWR (1) • Bear Butte NW (1) ■ Arrowwood NWR (1) ■ Des Lacs NWR (1) ■ J. Clark Salyer NWR (1) ■ Upper Souris NWR (1) ■ Medicine Lake NWR Complex (3) ■ Rainwater Basin WMD (1) ■ Arapaho NWR Complex – Laramie Plains NWRs (3) <p>Draft CCPs</p> <ul style="list-style-type: none"> • Bear Butte NW (1) ■ Arrowwood NWR (1) ■ Des Lacs NWR (1) ■ J. Clark Salyer NWR (1) ■ Upper Souris NWR (1) ■ Medicine Lake NWR Complex (3) ■ Rainwater Basin WMD (1) ■ Arapaho NWR Complex – Laramie Plains NWRs (3) ■ Arapaho NWR Complex – Pathfinder NWR (1) ■ Sully’s Hill National Game Preserve (1) ■ Lake Andes NWR/WMD and Karl Mundt NWR (3)

CCP Schedule

January 2007

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:				
FY2008	FY2009	FY2010	FY2011*	FY2012
<ul style="list-style-type: none"> • Benton Lake NWR and WMD, Swan River, and Blackfoot Valley (4) • Sand Lake, Huron, and Madison WMDs (3) • Charles M. Russell and UL Bend NWRs (2) 	<ul style="list-style-type: none"> • Quivira NWR (1) • Cokeville Meadows NWR (1) • Lee Metcalf (1) 	<ul style="list-style-type: none"> • National Bison Range Complex (also includes Northwest Montana WMD and Nine Pipe and Pablo NWRs (4) • National Elk Refuge (1) • Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (5) 	<ul style="list-style-type: none"> ■ John and Louise Seier NWR (1) ■ Rocky Mountain Arsenal NWR (1) ■ Baca NWR (1) 	<ul style="list-style-type: none"> ■ Two Ponds NWR (1) ■ Bear River Migratory Bird Refuge (1)
FY2013	FY 2014			
<ul style="list-style-type: none"> ■ Marais des Cygnes NWR (1) ■ Lostwood NWR (1) ■ Browns Park NWR (1) 	<ul style="list-style-type: none"> ■ Fort Niobrara NWR (1) ■ Valentine NWR (1) 		<p>*Represents beginning of new 15-year planning cycle</p>	

**ANNUAL FIRE MANAGEMENT OPERATING PLAN
between the**

**US FISH and WILDLIFE SERVICE, National Bison Range
BUREAU OF INDIAN AFFAIRS, Flathead Agency
and the
CONFEDERATED SALISH & KOOTENAI TRIBES, Flathead Nation**

2007

INTRODUCTION

This Annual Operating Plan (AOP) between the US Fish and Wildlife Service/National Bison Range(Service), Bureau of Indian Affairs/Flathead Agency(BIA), and the Confederated Salish & Kootenai Tribes/Flathead Nation(Tribes) is a supplement to the Montana Cooperative Fire Protection Agreement (BIA Agreement #AGP000731/FWS Agreement #1448-60139-05-K208) and the Statewide Annual Operating Plan between the aforementioned parties. This AOP is prepared annually.

The purpose of this AOP is to:

1. Outline an annual plan for the detection, initial attack, and suppression of wildfires on the National Bison Range, including outlining method(s) of financial processing between the Service, BIA, and Tribe.
2. Establish an annual plan of operation for other fire management matters and mutual concerns.

AGREEMENT

Interagency master agreements are available at the National Bison Range, Flathead Agency, and Tribes providing authority, purpose, and objectives for cooperation in fire and/or disaster relief.

ACTION PLAN

1. All fires on Service lands that are detected by the Tribes or reported to the agency office by other sources will be reported to the Service as soon as possible. The Service will report any unidentified smoke outside the Service lands to the Tribes.
2. The Tribes will take suppression action on all lands on the National Bison Range, the nine Waterfowl Production Areas, Ninepipe, and Pablo Refuges fires unilaterally if not contacted otherwise by the FWS. If independent action is taken, the number and kind of resources assigned are expected to be reasonable for the

values at risk and in accordance with NWCG 310-1 guidance. The Tribes and Service will stay with fires until out or until relieved by qualified personnel.

3. Each agency will ordinarily take initial action on all fires occurring within their jurisdiction. However, either agency may take initial action on any fire which threatens to spread to its own lands. The agency taking initial action will retain command until the responsible agency arrives, at which time responsibility for the fire will pass to the responsible agency.
4. When suppression assistance is provided by the Tribes, the Service will be contacted as soon as possible to establish a Firecode cost account. The Service will then allow the Tribes to expend funds against the Service cost account utilizing the BIA and Tribes cooperative agreement (Agreement # GTP13T20313 or appropriate agreement that is in place). The BIA will then process payment to the Tribes for the suppression services rendered. Reasonable and necessary support costs as described in "Exhibit D" of the Montana Cooperative Fire Protection Agreement may be charged against the Service Firecode account.
5. Each agency will assign its own fire numbers for fires occurring on lands under its management jurisdiction. There will be no inter-bureau billing.
6. Any assistance rendered by either party to this agreement shall be limited to that which can be made available without jeopardizing the protection of the property for which it is primarily responsible (see attachment # 3, land status map within Flathead reservation boundaries).
7. Requests from the Service for assistance will be made to the BIA Superintendent or Tribes, Tribal Forestry, through the Division of Fire Office located near the Ronan airport (see attachment # 1).
8. Requests from the Tribes for assistance will be made to the National Bison Range Manager located in Moiese, Montana or the zone FMO (see attachment # 1).
9. The Tribes will provide sufficient information to the Service to enable submission of the incident in the Fire Management Information System (FMIS) within five working days of control. The Service will provide the same information to the Tribes when necessary. The information needed is given in Attachment # 4.
10. The Tribes and Service staff may assist with prescribed burning and fuels management projects within Agency policy, as requested.
11. Prior to each fire season, the responsible officers will meet to review this agreement. Lists of manpower and equipment will be provided to each other and dispatch procedures are discussed.

12. Severity and emergency pre-suppression staffing will be requested and approved on a case by case basis. These must have prior approval.
13. The minimum information necessary to establish a Firecode cost account will need to be provided by the requesting agency. See attachment # 5 for an example of the minimum information.

APPROVAL

This operating plan becomes effective upon approval by all parties, and will continue in effect unless terminated in writing by any party after 30 days notice. It supersedes and cancels all former agreements. The MOU can be terminated any time after 30 days notice.



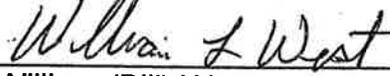
James H. Steele Jr.
CS&KT Tribal Chairman

6/21/07
Date



Ernest T. Moran
BIA Superintendent, Flathead Agency, MT

6-21-07
Date



William (Bill) West
Manager, National Bison Range

6-21-07
Date

ATTACHMENT # 1
NATIONAL BISON RANGE
2007 DIRECTORY

<p>UNIT</p> <p>USFWS-National Bison Range 132 Bison Range Road Moiese, MT 59824</p> <p>Summer Hours 8:00 a.m. to 7:00 p.m.</p>	<p>TELEPHONE NUMBERS</p> <p>(406) 644-2211 Ext. 0 (406) 745-3028 Night or 24 Hour (406) 745-0083 Night or 24 Hour (406) 644-2661 Fax R6RW-NBR@mail.fws.gov (E-mail)</p>
<p>DATE</p> <p>May 2007</p>	<p>RADIO FREQUENCY</p> <p>Radio Call Code KOC-630 *New* Tx 171.7500 Tone 114.8 Rx 170.050 Tone 114.8</p>

IF NO ANSWER ON ABOVE FIRE NUMBERS, CALL IN ORDER LISTED BELOW

EMPLOYEE NAME/TITLE	WORK PHONE NUMBER	HOME PHONE NUMBER
William (Bill) West Project Leader	(406) 644-2211, Ext 203 (406) 544-0939 (Cell)	(406) 745-3028 St. Ignatius, MT
Delbert (Skip) Palmer Maintenance Worker	(406) 644-2228 shop	(406) 644-2356 Charlo, MT
Rich Johnston	(406) 644-2211 Ext 210 (406) 366-4031 (Cell)	(406) 644-0010
Bob Rebarchik Zone FMO	(406) 329-4749 (406) 370-0157	(406) 626-4654 Frenchtown, MT

BIA/CS&KT FLATHEAD AGENCY, DIVISION OF FIRE

2007 DIRECTORY

<p>UNIT</p> <p>Confederated Salish and Kootenai Tribes Division of Fire 44592 Old HWY 93 Ronan, MT 59864-2803</p>	<p>TELEPHONE NUMBERS</p> <p>(406) 676-2550 (406) 675-4700 (24 Hours) Tribal L&O (406) 676-2554 (Fax) tonyh@cstk.org (E-Mail)</p>								
<p>DATE</p> <p>May 2007</p>	<p align="center">RADIO FREQUENCY</p> <table border="1"> <tr> <td>Pistol Crk</td> <td>Oliver Pt</td> <td>Simplex</td> </tr> <tr> <td>166.925 Rx 166.325 Tx Tone 127.3</td> <td>166.925 Rx 166.325 Tx Tone 114.8</td> <td>166.925 Rx 166.925 Tx No Tone</td> </tr> </table>			Pistol Crk	Oliver Pt	Simplex	166.925 Rx 166.325 Tx Tone 127.3	166.925 Rx 166.325 Tx Tone 114.8	166.925 Rx 166.925 Tx No Tone
Pistol Crk	Oliver Pt	Simplex							
166.925 Rx 166.325 Tx Tone 127.3	166.925 Rx 166.325 Tx Tone 114.8	166.925 Rx 166.925 Tx No Tone							

IF NO ANSWER ON ABOVE FIRE NUMBERS, CALL IN ORDERS LISTED BELOW

EMPLOYEE NAME/TITLE	WORK PHONE NUMBER	HOME PHONE NUMBER
Bob McCrea Operations Specialist	(406) 676-2550 (406) 531-0143 (Cell)	(406) 531-0143 Pablo, MT.
Jack Currie Dispatcher	(406) 676-2550 (406) 270-3940 (Cell)	(406) 745-4480 St. Ignatius, MT.
Joe Couture Asst. Dispatcher	(406) 676-2550 (406) 270-3941	(406) 675-8013 Pablo, MT.
Tony Harwood Fire Management Officer	(406) 676-2550 (406) 270-3924 (Cell)	(406) 883-5758 Polson, MT.
Jim Clairmont Support Dispatcher	(406) 676-2550 (406) 270-3940 (Cell)	(406) 676-0593 Ronan, MT.

ATTACHMENT # 2

2007 RESOURCES

NATIONAL BISON RANGE:

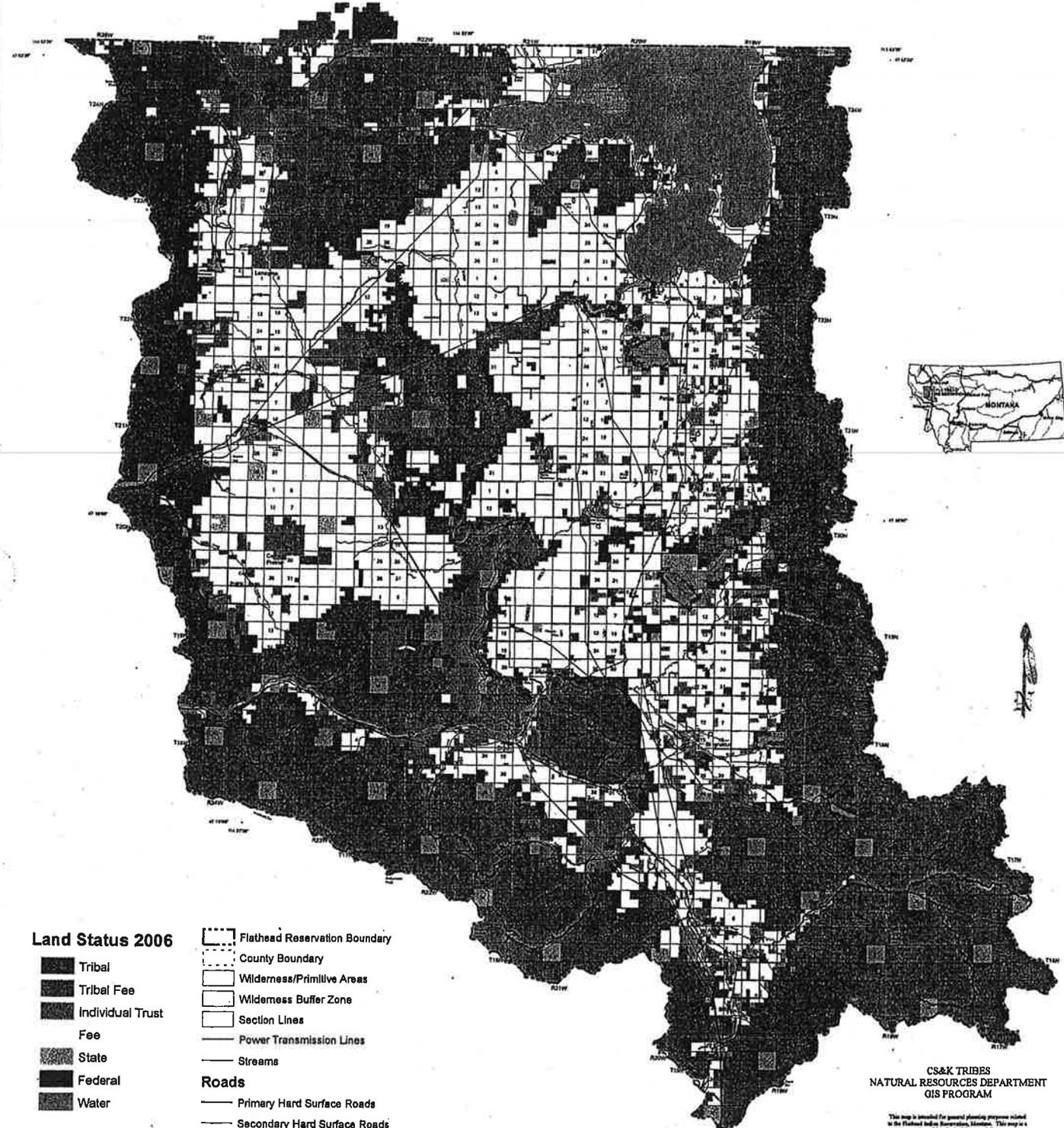
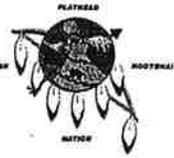
- 2 Person Initial Attack Crew
- 1 Type 6 200 Gallon Wildland Engine
- 1 Road Grader
- 1 D-4 Dozer

BIA/CS&KT FLATHEAD AGENCY, DIVISION OF FIRE

- 1 Type 3, 3500 Gallon Water Tenders
- 3 Type 4, 750 Gallon Wildland Engines
- Type 6, 200 Gallon Wildland Engines
- 1 Type 2 Dozer with Lowboy
- 1 Type 3 Dozer with Lowboy
- 1 Light Helicopter (Available from June 28 through August 31)
- 6-10 Type II Crews
- 20 Person Initial Attack Crew
- Other Miscellaneous Equipment on Emergency Rental Agreements (Buses, Cats, Lowboys, and Engines)

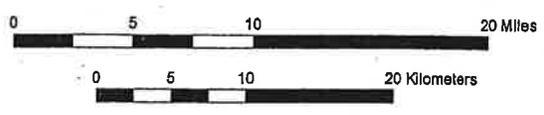
** See Attachment # 3 is a PDF. file Map of the Flathead Reservation Land Status

THE CONFEDERATED SALISH AND KOOTENAI TRIBES OF THE FLATHEAD NATION



- Land Status 2006**
- Tribal
 - Tribal Fee
 - Individual Trust
 - Fee
 - State
 - Federal
 - Water

- Flathead Reservation Boundary
 - County Boundary
 - Wilderness/Primitive Areas
 - Wilderness Buffer Zone
 - Section Lines
 - Power Transmission Lines
 - Streams
- Roads**
- Primary Hard Surface Roads
 - Secondary Hard Surface Roads
 - Light Duty Roads
 - Railroads
- Airports
 - Land Features
 - Marinas
 - Lookout Towers



CS&K TRIBES
NATURAL RESOURCES DEPARTMENT
GIS PROGRAM

This map is intended for general planning purposes related to the Flathead Indian Reservation, Montana. This map is a representation of the physical features, land resources, and land ownership boundaries. This map should not be relied upon to establish legal title, boundary lines or locations of improvements.

Most of the land portrayed on this map is already owned and is shown as fee owned land only and trust lands. Please always check local, state, and federal regulations before purchase.

This map was created from existing and existing map sources, not from field surveys. Actual land status is maintained by the Confederated Salish & Kootenai Tribes, Tribes and Kootenai Parks, Montana.

This map status is current as of February 2006
Copyright (c) 1995, 2004 CS&K Tribes Natural Resources Department. All rights reserved.
Software: ESRI ARC/INFO (ARC/INFO) Version 9.1
Hardware: DELL Pentium III
Plotter: Hewlett-Packard DesignJet 1555c

y:\arc_ckpt\arcplate_rms\p06v_jarc\tribal.mxd

Attachment 4, DI 1202

UNITED STATES DEPARTMENT OF THE INTERIOR DI-1202 INDIVIDUAL FIRE REPORT	3.a. UNIT	B. SUB-UNIT	C. YEAR	D. FIRE NUMBER	4. TYPE	5. CAUSE	6. PEOPLE	7. NRVC
	1. STATUS CODE 1				2. REPORTING AGENCY 4			

8. STATISTICAL DATA

a. STATE	b. OWNER 4	c. VEGETATION 3	d. ACRES BURNED _____.0
----------	---------------	--------------------	----------------------------

9. AGENCY DATA

a. FIRE NAME	b. AREA NAME __ 01	c. LATITUDE : : :	LONGITUDE ° : ' : "	d. TWNSHP T N	RANGE R W	SECTION	MERIDIAN
e. COST CODE	f. OWNER 4	g. FY 2003	h. FISCAL DATA _	i. UTM Z _ E _ N _			

10. FIRE MANAGEMENT DATA

	DATE	TIME	TYPE	AMT XXXXXXXXXXXX XXXXXXXXXXXX	ACRES
a. DISCOVERY/START	04 2003				_____.0
b. INITIAL ATTACK			1 2 3	1 2 3	_____.
c. CONTROLLED					_____.
d. DECLARED OUT					

11. SITE DATA

a. TOPOGRAPHY	b. ASPECT 0	c. SLOPE 1	d. ELEVATION	e. STATION	f. MSGC	g. BEHAVIOR	h. B. I.	i. ADJ CLASS
---------------	----------------	---------------	--------------	------------	---------	-------------	----------	--------------

12. PREVENTION DATA

k. DAY OF WEEK	l. WAS FIRE INVESTIGATED (Y/N)	m. FIRE CAUSE SUSPECT, KNOWN OR UNKNOWN (K/U)	n. SUSPECT = RESIDENT, TRANSIENT OR UNKNOWN (R/T/U)
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13. PRESCRIBED FIRE DATA

c. PLOT/ BURN OBJECTIVE	d. FIRING TYPE	e. COST/ACRE	f. FBPS FUEL MODEL	i. PROJECT #
-------------------------	----------------	--------------	--------------------	--------------

m. COMPLEXITY / FIRE MANAGEMENT AREA	n. FUEL LOADING FOR EMISSIONS			o. BENEFITTING PROGRAM
	SIZE CLASS CONSUMPTION OF FUELS	PRE-BURN LOADING		
		TONS PER ACRE	PERCENT	
	Shrub/Herb			
	0 - 1	-----		
	1.1 - 3.0	-----		
	3.1 - 9.0	-----		
	9+	-----		
	LITTER & DUFF (INCHES)	-----	-----	

NARRATIVE -

TITLE INFORMATION - (Mandatory)

Submitted by:
Submitted Title:
Submitted Date:
Entered by:
Entered Title:
Entered Date:

The following employees performed under Management Type: RXB3
(Employee) (Job Code)

RXB3 (T)

Holding Boss

ENGB

FFT2

FFT2

RX12 (T)

Dispatcher

Attachment 5, Required Firecode information

FireCode: DD16
*** Discover Date:** April 27 2007
*** Discover Time:** 08:00 MT
Incident Name: GRAND ISLAND
*** Host Unit Id:** MT- NBR
Host Unit Name: National Bison Range National Wildlife Refuge - *Fish & Wildlife Service*
*** Latitude:** 47 : 41 : 59
*** Longitude:** 10 : 48 : 06
Incident Order #: MT - NBR - 001

Complex: Yes No
FS Assisted: (check if FS provided assistance)
 MULTI - JURISDICTIONAL
Special Requirements: REIMBURSABLE / BILLABLE
 WILDLAND FIRE USE
 SEVERITY

Comments:

	<input type="checkbox"/>
	<input type="checkbox"/>

DRAFT—NOT FOR DISTRIBUTION

June 11, 2007

DECISION MEMORANDUM FOR THE SECRETARY

FROM:

TELEPHONE:

SUBJECT: The Management of the National Bison Range Complex, Moiese, Montana

STATEMENT OF THE ISSUE

Implementation of a staffing structure at the National Bison Range in Montana that meets the requirements of both self-governance laws and the National Wildlife Refuge System Administration Act to carry out the mission of the U.S. Fish and Wildlife Service.

The National Wildlife Refuge System Administration Act (16 U.S.C. § 668dd) states the Wildlife Refuge System “shall be administered by the Secretary through the United States Fish and Wildlife Service.” This Act authorizes the U.S. Fish and Wildlife Service to carry out its mission to conserve, protect, and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people. (*Attachment A, 16 U.S.C. § 742a, 16 U.S.C. § 668dd-ee; Executive Order 12996.*)

In 1975 the passage of Public Law 93-638, the Indian Self Determination and Education Act, allowed qualified Indian tribes to perform tribal activities administered by the Federal Government. In 1994, amendments to the Act expanded the definition of programs eligible for tribal contracting and compacting to include “other programs, services, functions or activities, or portions thereof, administered by the Secretary of the Interior which are of special geographic, historical or cultural significance the participating Indian tribe requesting a compact.” (*Attachment B, Tribal Self-Governance Act of 1994, Title IV amendments, 25 U.S.C. § 458 cc*)

To help clarify the intersection of these laws, Interior publishes a list in the Federal Register every year of programs, services, functions or activities eligible for inclusion in self-governance agreements with approved Indian tribes. The National Bison Range in Western Montana is on this list. (*Attachment C, Federal Register lists of available self-governance programs.*)

The National Bison Range is located wholly within the boundaries of the Flathead Reservation of the Confederated Salish and Kootenai Tribes (CSKT), on tribal ancestral lands. Since the passage in 1994 of the Self-Governance Act, CSKT has sought to enter into an annual funding agreement (AFA) with the U.S. Fish and Wildlife Service (FWS) for activities at the Bison Range.

This decision paper is the result of a progression of events that have transpired concerning the National Bison Range. These include the establishment of an Annual

Funding Agreement between the tribe and the Fish and Wildlife Service, and the subsequent unilateral termination of negotiations by FWS for renewing that agreement. That FWS decision has been appealed to the Interior Board of Indian Appeals. A decision must now be made whether to enter into a new AFA for the Bison Range, and if so, which programs or activities will be included, and at what staffing levels, for performance by CSKT.

BACKGROUND

In 1855, the United States entered into the Hell Gate Treaty with the Salish and Kootenai Tribes of Western Montana to establish the Flathead Indian Reservation. Just over 50 years later, in 1908, the Federal Government allowed a substantial amount of land within the reservation to be sold out of trust to non-Indians (today two thirds of the people living within the boundaries are not members of the tribe); it also used eminent domain power to establish one of the nation's first wildlife refuges, the National Bison Range within the boundaries of the reservation. The tribe was paid the then appraised value of \$28,955 for the land. More than half a century later, the tribe received a judicial award of an additional \$6,066,668 plus interest for lands taken from the reservation—including the refuge land. The bison at the National Bison Range today are the descendants of bison owned and preserved by CSKT tribal members over a century ago. The Bison Range unquestionably meets all three criteria under the Self-Governance Act: historical, geographical and a cultural nexus to the tribe.

CSKT was one of the tribes included in the original self-governance demonstration program. Today, the tribe has established compacts with the Bureau of Indian Affairs to self-manage the Mission Valley Power plant, appraisal programs, individual Indian money accounting programs, and land, title and records programs. The tribe has an extensive Natural Resources Department; it was one of the first tribes to designate a wilderness area on its reservation, and aid in the preservation of a number of species.

- In December 2004, an annual funding agreement (AFA) between CSKT and FWS organizations was signed authorizing CSKT to fill a portion of subordinate staff positions. CSKT staff began work at the Bison Range in March of 2005. All management positions were left to FWS staff.
- CSKT staff worked at the Bison Range for over a year under this AFA. The agreement was extended to cover part of 2006 while the two organizations negotiated a new agreement. It was during this period when, in a letter to CSKT, FWS stated that the National Bison Range Complex was no longer available to the tribe for including in an AFA and terminated further negotiations.
 - According to FWS, the AFA expired, and negotiations were terminated, because “The CSKT’s performance under the expired FY 2006 AFA has prevented the Service from meeting its responsibilities at the NBRC under the National Wildlife Refuge Administration Act and other applicable laws and regulations.” Complaints included failing to comply with bison management standards, wildlife monitoring problems, and creating an unsafe and hostile workplace.

- CSKT denies the accusations, and senior CSKT staff at the tribal Natural Resources Department produced a report to refute performance complaints. A number of tribal employees repeatedly raised issues about what they felt was a hostile workplace created by FWS, and that communications and cooperation were lacking. For example, in response to FWS allegations that the tribe had not fed penned buffalo properly, the tribe hired an independent veterinarian who produced a report stating the “animals are in good condition.” CSKT was refused access to information on personnel complaints.
 - Senior management at Interior in Washington D.C. stated that “problem resolution mechanisms set forth in the AFA may not have been properly utilized.” They also stated intentions to reestablish a working relationship between the Service and tribe. As well CSKT filed an appeal with the Board of Indian Appeals that is currently seeking a review of the termination of AFA negotiations.
 - Interior solicitors have developed and distributed an interim AFA, as requested by Interior senior management, to reestablish a working agreement between FWS and CSKT at the Bison Range. The agreement is similar in structure to the original AFA, an approach that has been agreed to by CSKT. (*Attachment D: Chronology of Events and letter canceling AFA.*)
- FWS senior management state that because they lack confidence in CSKT, they are unsure how to perform oversight at the National Bison Range to ensure that work is performed to FWS standards. This also raises the issue of what staff roles at the National Bison Range are inherently Federal positions, and therefore not available to tribal contracting. In a preliminary review of positions at the Bison Range, Interior solicitors have identified three positions as implicating some inherently Federal functions: *Refuge Manager, Deputy Project Leader and Supervisory Outdoor Recreation Planner*. Solicitors state “These identified positions appear to involve a certain amount of functions that are inherently Federal. It is our opinion that it may be possible to restructure some of these positions to remove some of the functions that appear to be inherently Federal or to put additional supervision in place to remove the discretionary component of the function. Alternatively, changing the status of personnel from Federal to Tribal would remove the concern about supervision of Federal employees. In any event, additional research and analysis will need to be performed in order to determine how this may be done, including particularly with respect to a law enforcement component.” (*Attachment E, Solicitor’s memorandum about inherently federal functions at National Bison Range*).
- The FWS has executed a successful Self-Governance funding agreement in Region 7 with the Council of Athabascan Tribal Governments for certain duties at the Yukon Flats National Wildlife Refuge. According to FWS, this AFA was established on a smaller scale than at the National Bison Range. The location is remote, and close to native land. Oversight to ensure performance meets Federal standards is handled offsite (through various visits to the refuge) from the FWS offices in Fairbanks.
- In April 2007, without adequate Departmental coordination the Fish and Wildlife Service announced staffing and budget cuts at the National Bison Range to 6.3 full time employees. They also announced plans to move ¾ of the bison off the range to other refuges. FWS states the cuts were included in a long-term regional plan for a

number of years. This assertion is inconsistent with the FWS Region 6 Workforce Plan. As of the end of June, all FWS staff at the National Bison Range who had filed complaints about their working situations were either compensated, given letters of commendation that stated they endured a difficult situation, or transferred to other refuges as requested (*Attachment F: Historic staffing and funding chart; Analysis of FWS National Bison Range Workforce Plan and FWS Region 6 Workforce Plan Fiscal Years 2004-2009.*)

OPTIONS

Programs, services, functions and activities at the National Bison Range—whether by FWS or tribal members under an AFA—must be performed in a manner that supports and otherwise is compatible with the National Wildlife Refuge System Administration Act, 16, U.S.C 668dd and 668ee, as amended, and with the purposes of the National Bison Range Complex which includes; the protection and enhancement of fish and wildlife resources, the natural environment, public health and safety, and positive visitor experience; and the public images and missions of the National Bison Range Complex, the National Wildlife Refuge System, and the FWS.

Each of the following options will likely have affects outside of Interior. The situation has raised concerns with members of Congress; non-government environmental organizations and individuals. The Chairman and Ranking Member of the House Committee on Resources recently signed a letter in support of CSKT's involvement at the Bison Range; and many other native organizations have also expressed support for CSKT. On the other hand, a nationwide group of FWS managers expressed concern about the "lack of specificity" in the funding agreement. Organizations such as the National Wildlife Refuge Federation requested Interior develop guidelines and state a national policy on P.L. 93-638 funding agreements at refuges before entering into any AFAs with tribes. A long list of organizations and individuals stated various opinions that only federal employees should staff wildlife refuges. And, recently, Senators Max Baucus and Jon Tester of Montana sent a letter expressing concern about planned FWS budget and staff cuts at the Bison Range. (*Attachment G; National Bison Range Public support; list of organizations and individuals opposed, and supportive of AFA.*)

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Description: FWS would implement their current plan to have 6.3 full time employees at the National Bison Range, with ¾ of the bison moved to other refuges. FWS would work to establish non-AFA cooperative conservation partnerships (allowed through other authorities) with CSKT for ancillary responsibilities such as fire management (currently in place at 0.5 FTE). Senior FWS management state, "Our best solution is to retain management and work together to leverage each others' resources."

Pro:

- Resolves FWS employee complaints and concerns about the working conditions that previously arose at the Bison Range. These would likely not recur.
- Resolves federal oversight confusion as FWS would retain control of all functions.

Con:

- Contrary to list published yearly in federal register that identifies the National Bison Range as eligible for inclusion in an AFA.
- Contrary to Interior senior management policy of establishing annual funding agreements with tribes in appropriate situations.
- Raises budgetary questions such as if the Bison Range budget is being cut, would funding still be available for non AFA contracting with CSKT?
- Perceived in Indian Country as an erosion of support for Self-Governance.
- Decision could spur further legal or Congressional action.
- Under the FWS plan for cooperative conservation and non-AFA contracts, the two parties would have to find a way to work together which could prove difficult after a rejection of CSKT's ability to be party to an AFA.

OPTION 2) CSKT provides primary staffing at the National Bison Range for ongoing activities.

Description: With staffing and funding levels of similar to those of last five years (before current FWS cuts) CSKT would fill all roles at the National Bison Range that are not deemed inherently Federal to meet requirements of the National Wildlife Refuge System Administration Act. Oversight would be performed by FWS Region 6 management and those in inherently Federal roles, as determined by Interior solicitors.

Pro:

- Consistent with legal requirements of and purposes of the Tribal Self-Governance Act.
- Recognizes government-to-government relationships and statement of national support for relationships between Indian Country and Interior in areas of self-governance.
- Supports organizations and individuals that have expressed confidence in CSKT management of the Bison Range, including the Chairman and Ranking Member of the House Committee on Resources.
- Connects visitors in search of Indian cultural heritage information and experience with tribe.
- CSKT states that in either a full or shared-management capacity, they can bring more resources—such as tribal volunteers and other supporters, expertise from their Natural Resources Department, and cultural connections for visitors—to the National Bison Range, and therefore increase visitation.
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- FWS senior management would prefer non-legislative divestiture from the Bison Range; they pose exchanging refuge lands from other FWS lands designated in their acquisition plans or if it is possible for the tribe to fund a land trade. FWS senior staff members have expressed that, considering recent events and the strained relationship, “getting us out wouldn’t hurt us at this point.” (Divestiture can only be executed by Congress or through existing land exchange authorities—which require NEPA compliance, Congressional review, are time consuming and difficult to actually implement.)

OPTION 3) FWS and CSKT manage the NBR under an AFA substantially similar to the 2005 AFA.

Description: With staffing and funding levels of similar to those of last five years (prior to current FWS cuts), CSKT and FWS staff would work together with a division of responsibility similar to those established in the recent AFA. The two organizations would work to adapt a more effective management model that aligns staffs and managers. In light of recently announced FWS staffing transfers and budget cuts, this option requires establishing an appropriate National Bison Range budget and staffing baseline, as do the provisions in the interim AFA currently in process.

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- Consistent with legal requirements of and purposes of the Tribal Self-Governance Act.
- Requires FWS to work with CSKT as stated in regulatory and statutory authorities.
- Shows support for relationships between Indian Country and Interior in areas of self-governance.
- CSKT is supportive of re-entering an AFA similar to the one that was enacted in 2005.
- CSKT states they can bring more resources—such as tribal volunteers and other supporters, expertise from their Natural Resources Department, and cultural connections for visitors—to the bison range.
- Connects visitors in search of cultural heritage information and experience with tribe.
- AFA could include explicit direction to train tribal employees to adopt more responsibility at the National Bison Range over a specified long term period.

Con:

- FWS senior staff is strongly opposed.
- FWS have implemented many staff transfers for National Bison Range employees who expressed dissatisfaction with the situation at the National Bison Range over the last two years. Only a small number of FWS employees remain. To establish a new AFA may require development of a new baseline structure.
- Relations between the FWS and CSKT employees in Western Montana are stressed. Having the same staff work at the Bison Range in close proximity to carry out the mission may require mediation/training, or other involvement.
- May require expanded directives or a restructuring to clarify which roles constitute inherently Federal functions at the Bison Range. (*Attachment E, Solicitor’s Memo on Inherently Federal Functions at the National Bison Range*).

OPTION 4: Develop a legislative solution to clarify CSKT's role in management of Bison Range.

Work with Congress, e.g. the House Committee on Resources, on a new legislative mechanism to implement an appropriate role for CSKT at the National Bison Range

Pro:

- Resolves all pending issues.
- May return to the tribe more control of their traditional lands, and associated cultural resources.
- Can give direction on inherently Federal positions, and clarify for the public and Interior the overlap of the Self-Governance Act and the Refuge Administration Act.
- Congress could attach appropriation language to clarify a budget for CKST to establish a Self-Governance compact with FWS, thereby ensuring tribal involvement.
- The Department has utilized legislation to resolve roles of tribes and bureaus before, such as with the Miccosukee in the Everglades National Park, and Timbisha Shoshone at Death Valley, for example.

Con:

- Sets precedent that Congress must fix Interior's management issues.
- Interior has taken a position opposing legislative changes suggested by tribes to establish a presumption that a facility is available for P.L. 93-638 compacting and contracting. Interior has stated legislative changes are unnecessary, and changes erode the Secretary's discretion. This option may counter that stance.
- May give tribe reason to show that Interior is not able to successfully apply P.L. 638 amendments, as Interior has claimed.
- CSKT and the FWS may need to take an adversarial stance in this option; tribe is reluctant to do so.
- Other options are available as noted that effectively solve the problem internally.

I. RECOMMENDATION

There is no mutually agreed upon recommendation within the involved parties. The FWS supports Option 1; the Assistant Secretary-Indian Affairs supports Option 2. Given the behavior at the National Bison Range, it is difficult to imagine a successful implementation of Option 3 without a significant change in the FWS leadership that is opposed to tribal involvement through an AFA at the Bison Range.

II. SECRETARIAL DECISION

Option 1 _____ Option 2 _____ Option 3 _____ Option 4 _____

Further Discussion _____

PREPARED BY: _____ **DATE:** _____

Attachments:

- A. The National Wildlife Refuge System Administration Act (16 U.S.C. § 668dd-ee) 1956 Fish and Wildlife Act, (16, U.S.C. § 742a). Executive Order 12996,
- B. Tribal Self Governance Act of 1994, Title IV amendments (25 U.S.C. § 458 cc)
- C. Federal Register lists of programs available for self-governance, 2001, 2002, 2003, 2004, 2006, and 2007.
- D. Chronology of events of AFA and National Bison Range, and letter of cancellation from FWS.
- E. Solicitor's memo about inherently federal functions at the National Bison Range.
- F. Historic staffing and funding chart; Analysis of FWS National Bison Range Workforce Plan and FWS Region 6 Workforce Plan Fiscal Years 2004-2009.
- G. National Bison Range Public support: list of organizations and individuals opposed and supportive of AFA; letter from Committee on Resources from Chairman Nick J. Rahall and Don Young; letter from FWS managers; letter from Montana Senators Max Baucus and Senator Jon Tester.

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Effective: October 30, 1998

United States Code Annotated Currentness
Title 16. Conservation↳ Chapter 5A. Protection and Conservation of Wildlife↳ Subchapter III. Endangered Species of Fish and Wildlife

→ § 668dd. National Wildlife Refuge System

(a) Designation; administration; continuance of resources-management-programs for refuge lands in Alaska; disposal of acquired lands; proceeds

(1) For the purpose of consolidating the authorities relating to the various categories of areas that are administered by the Secretary for the conservation of fish and wildlife, including species that are threatened with extinction, all lands, waters, and interests therein administered by the Secretary as wildlife refuges, areas for the protection and conservation of fish and wildlife that are threatened with extinction, wildlife ranges, game ranges, wildlife management areas, or waterfowl production areas are hereby designated as the "National Wildlife Refuge System" (referred to herein as the "System"), which shall be subject to the provisions of this section, and shall be administered by the Secretary through the United States Fish and Wildlife Service. With respect to refuge lands in the State of Alaska, those programs relating to the management of resources for which any other agency of the Federal Government exercises administrative responsibility through cooperative agreement shall remain in effect, subject to the direct supervision of the United States Fish and Wildlife Service, as long as such agency agrees to exercise such responsibility.

(2) The mission of the System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

(3) With respect to the System, it is the policy of the United States that--

(A) each refuge shall be managed to fulfill the mission of the System, as well as the specific purposes for which that refuge was established;

(B) compatible wildlife-dependent recreation is a legitimate and appropriate general public use of the System, directly related to the mission of the System and the purposes of many refuges, and which generally fosters refuge management and through which the American public can develop an appreciation for fish and wildlife;

(C) compatible wildlife-dependent recreational uses are the priority general public uses of the System and shall receive priority consideration in refuge planning and management; and

(D) when the Secretary determines that a proposed wildlife-dependent recreational use is a compatible use within a refuge, that activity should be facilitated, subject to such restrictions or regulations as may be necessary, reasonable, and appropriate.

(4) In administering the System, the Secretary shall--

(A) provide for the conservation of fish, wildlife, and plants, and their habitats within the System;

(B) ensure that the biological integrity, diversity, and environmental health of the System are maintained for the benefit of present and future generations of Americans;

- (C) plan and direct the continued growth of the System in a manner that is best designed to accomplish the mission of the System, to contribute to the conservation of the ecosystems of the United States, to complement efforts of States and other Federal agencies to conserve fish and wildlife and their habitats, and to increase support for the System and participation from conservation partners and the public;
 - (D) ensure that the mission of the System described in paragraph (2) and the purposes of each refuge are carried out, except that if a conflict exists between the purposes of a refuge and the mission of the System, the conflict shall be resolved in a manner that first protects the purposes of the refuge, and, to the extent practicable, that also achieves the mission of the System;
 - (E) ensure effective coordination, interaction, and cooperation with owners of land adjoining refuges and the fish and wildlife agency of the States in which the units of the System are located;
 - (F) assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the System and the purposes of each refuge;
 - (G) acquire, under State law, water rights that are needed for refuge purposes;
 - (H) recognize compatible wildlife-dependent recreational uses as the priority general public uses of the System through which the American public can develop an appreciation for fish and wildlife;
 - (I) ensure that opportunities are provided within the System for compatible wildlife-dependent recreational uses;
 - (J) ensure that priority general public uses of the System receive enhanced consideration over other general public uses in planning and management within the System;
 - (K) provide increased opportunities for families to experience compatible wildlife-dependent recreation, particularly opportunities for parents and their children to safely engage in traditional outdoor activities, such as fishing and hunting;
 - (L) continue, consistent with existing laws and interagency agreements, authorized or permitted uses of units of the System by other Federal agencies, including those necessary to facilitate military preparedness;
 - (M) ensure timely and effective cooperation and collaboration with Federal agencies and State fish and wildlife agencies during the course of acquiring and managing refuges; and
 - (N) monitor the status and trends of fish, wildlife, and plants in each refuge.
- (5) No acquired lands which are or become a part of the System may be transferred or otherwise disposed of under any provision of law (except by exchange pursuant to subsection (b)(3) of this section) unless--
- (A) the Secretary determines with the approval of the Migratory Bird Conservation Commission that such lands are no longer needed for the purposes for which the System was established; and
 - (B) such lands are transferred or otherwise disposed of for an amount not less than--
 - (i) the acquisition costs of such lands, in the case of lands of the System which were purchased by the United States with funds from the migratory bird conservation fund, or fair market value, whichever is greater; or
 - (ii) the fair market value of such lands (as determined by the Secretary as of the date of the transfer or disposal), in the case of lands of the System which were donated to the System.

The Secretary shall pay into the migratory bird conservation fund the aggregate amount of the proceeds of any transfer or disposal referred to in the preceding sentence.

- (6) Each area which is included within the System on January 1, 1975, or thereafter, and which was or is--

(A) designated as an area within such System by law, Executive order, or secretarial order; or

(B) so included by public land withdrawal, donation, purchase, exchange, or pursuant to a cooperative agreement with any State or local government, any Federal department or agency, or any other governmental entity,

shall continue to be a part of the System until otherwise specified by Act of Congress, except that nothing in this paragraph shall be construed as precluding--

(i) the transfer or disposal of acquired lands within any such area pursuant to paragraph (5) of this subsection;

(ii) the exchange of lands within any such area pursuant to subsection (b)(3) of this section; or

(iii) the disposal of any lands within any such area pursuant to the terms of any cooperative agreement referred to in subparagraph (B) of this paragraph.

(b) Administration; public accommodations contracts; acceptance and use of funds; exchange of properties; cash equalization payments

In administering the System, the Secretary is authorized to take the following actions:

(1) Enter into contracts with any person or public or private agency through negotiation for the provision of public accommodations when, and in such locations, and to the extent that the Secretary determines will not be inconsistent with the primary purpose for which the affected area was established.

(2) Accept donations of funds and to use such funds to acquire or manage lands or interests therein.

(3) Acquire lands or interests therein by exchange (A) for acquired lands or public lands, or for interests in acquired or public lands, under his jurisdiction which he finds to be suitable for disposition, or (B) for the right to remove, in accordance with such terms and conditions as he may prescribe, products from the acquired or public lands within the System. The values of the properties so exchanged either shall be approximately equal, or if they are not approximately equal the values shall be equalized by the payment of cash to the grantor or to the Secretary as the circumstances require.

(4) Subject to standards established by and the overall management oversight of the Director, and consistent with standards established by this Act, to enter into cooperative agreements with State fish and wildlife agencies for the management of programs on a refuge.

(5) Issue regulations to carry out this Act.

(c) Prohibited and permitted activities; application of mining and mineral leasing laws, hunting or fishing regulations, and State laws or regulations

No person shall disturb, injure, cut, burn, remove, destroy, or possess any real or personal property of the United States, including natural growth, in any area of the System; or take or possess any fish, bird, mammal, or other wild vertebrate or invertebrate animals or part or nest or egg thereof within any such area; or enter, use, or otherwise occupy any such area for any purpose; unless such activities are performed by persons authorized to manage such area, or unless such activities are permitted either under subsection (d) of this section or by express provision of the law, proclamation, Executive order, or public land order establishing the area, or amendment thereof. *Provided*, That the United States mining and mineral leasing laws shall continue to apply to any lands within the System to the same extent they apply prior to October 15, 1966, unless subsequently withdrawn under other authority of law. With the exception of endangered species and threatened species listed by the Secretary pursuant to section 1533 of this title in States wherein a cooperative agreement does not exist pursuant to section 1535(c) of this title, nothing in this Act shall be construed to authorize the Secretary to control or regulate hunting or fishing of resident fish and wildlife on lands not within the system. The regulations permitting hunting and fishing of resident fish and wildlife within the System shall be, to the extent practicable, consistent with State fish and wildlife laws and regulations.

DRAFT—NOT FOR DISTRIBUTION

June 11, 2007

DECISION MEMORANDUM FOR THE SECRETARY

FROM:

TELEPHONE:

SUBJECT: The Management of the National Bison Range Complex, Moiese, Montana

STATEMENT OF THE ISSUE

Implementation of a staffing structure at the National Bison Range in Montana that meets the requirements of both self-governance laws and the National Wildlife Refuge System Administration Act to carry out the mission of the U.S. Fish and Wildlife Service.

The National Wildlife Refuge System Administration Act (16 U.S.C. § 668dd) states the Wildlife Refuge System “shall be administered by the Secretary through the United States Fish and Wildlife Service.” This Act authorizes the U.S. Fish and Wildlife Service to carry out its mission to conserve, protect, and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people. (*Attachment A, 16 U.S.C. § 742a, 16 U.S.C. § 668dd-ee; Executive Order 12996.*)

In 1975 the passage of Public Law 93-638, the Indian Self Determination and Education Act, allowed qualified Indian tribes to perform tribal activities administered by the Federal Government. In 1994, amendments to the Act expanded the definition of programs eligible for tribal contracting and compacting to include “other programs, services, functions or activities, or portions thereof, administered by the Secretary of the Interior which are of special geographic, historical or cultural significance the participating Indian tribe requesting a compact.” (*Attachment B, Tribal Self-Governance Act of 1994, Title IV amendments, 25 U.S.C. § 458 cc*)

To help clarify the intersection of these laws, Interior publishes a list in the Federal Register every year of programs, services, functions or activities eligible for inclusion in self-governance agreements with approved Indian tribes. The National Bison Range in Western Montana is on this list. (*Attachment C, Federal Register lists of available self-governance programs.*)

The National Bison Range is located wholly within the boundaries of the Flathead Reservation of the Confederated Salish and Kootenai Tribes (CSKT), on tribal ancestral lands. Since the passage in 1994 of the Self-Governance Act, CSKT has sought to enter into an annual funding agreement (AFA) with the U.S. Fish and Wildlife Service (FWS) for activities at the Bison Range.

This decision paper is the result of a progression of events that have transpired concerning the National Bison Range. These include the establishment of an Annual

Funding Agreement between the tribe and the Fish and Wildlife Service, and the subsequent unilateral termination of negotiations by FWS for renewing that agreement. That FWS decision has been appealed to the Interior Board of Indian Appeals. A decision must now be made whether to enter into a new AFA for the Bison Range, and if so, which programs or activities will be included, and at what staffing levels, for performance by CSKT.

BACKGROUND

In 1855, the United States entered into the Hell Gate Treaty with the Salish and Kootenai Tribes of Western Montana to establish the Flathead Indian Reservation. Just over 50 years later, in 1908, the Federal Government allowed a substantial amount of land within the reservation to be sold out of trust to non-Indians (today two thirds of the people living within the boundaries are not members of the tribe); it also used eminent domain power to establish one of the nation's first wildlife refuges, the National Bison Range within the boundaries of the reservation. The tribe was paid the then appraised value of \$28,955 for the land. More than half a century later, the tribe received a judicial award of an additional \$6,066,668 plus interest for lands taken from the reservation—including the refuge land. The bison at the National Bison Range today are the descendants of bison owned and preserved by CSKT tribal members over a century ago. The Bison Range unquestionably meets all three criteria under the Self-Governance Act: historical, geographical and a cultural nexus to the tribe.

CSKT was one of the tribes included in the original self-governance demonstration program. Today, the tribe has established compacts with the Bureau of Indian Affairs to self-manage the Mission Valley Power plant, appraisal programs, individual Indian money accounting programs, and land, title and records programs. The tribe has an extensive Natural Resources Department; it was one of the first tribes to designate a wilderness area on its reservation, and aid in the preservation of a number of species.

- In December 2004, an annual funding agreement (AFA) between CSKT and FWS organizations was signed authorizing CSKT to fill a portion of subordinate staff positions. CSKT staff began work at the Bison Range in March of 2005. All management positions were left to FWS staff.
- CSKT staff worked at the Bison Range for over a year under this AFA. The agreement was extended to cover part of 2006 while the two organizations negotiated a new agreement. It was during this period when, in a letter to CSKT, FWS stated that the National Bison Range Complex was no longer available to the tribe for including in an AFA and terminated further negotiations.
 - According to FWS, the AFA expired, and negotiations were terminated, because "The CSKT's performance under the expired FY 2006 AFA has prevented the Service from meeting its responsibilities at the NBRC under the National Wildlife Refuge Administration Act and other applicable laws and regulations." Complaints included failing to comply with bison management standards, wildlife monitoring problems, and creating an unsafe and hostile workplace.

- CSKT denies the accusations, and senior CSKT staff at the tribal Natural Resources Department produced a report to refute performance complaints. A number of tribal employees repeatedly raised issues about what they felt was a hostile workplace created by FWS, and that communications and cooperation were lacking. For example, in response to FWS allegations that the tribe had not fed penned buffalo properly, the tribe hired an independent veterinarian who produced a report stating the “animals are in good condition.” CSKT was refused access to information on personnel complaints.
 - Senior management at Interior in Washington D.C. stated that “problem resolution mechanisms set forth in the AFA may not have been properly utilized.” They also stated intentions to reestablish a working relationship between the Service and tribe. As well CSKT filed an appeal with the Board of Indian Appeals that is currently seeking a review of the termination of AFA negotiations.
 - Interior solicitors have developed and distributed an interim AFA, as requested by Interior senior management, to reestablish a working agreement between FWS and CSKT at the Bison Range. The agreement is similar in structure to the original AFA, an approach that has been agreed to by CSKT. (*Attachment D: Chronology of Events and letter canceling AFA.*)
- FWS senior management state that because they lack confidence in CSKT, they are unsure how to perform oversight at the National Bison Range to ensure that work is performed to FWS standards. This also raises the issue of what staff roles at the National Bison Range are inherently Federal positions, and therefore not available to tribal contracting. In a preliminary review of positions at the Bison Range, Interior solicitors have identified three positions as implicating some inherently Federal functions: *Refuge Manager, Deputy Project Leader and Supervisory Outdoor Recreation Planner*. Solicitors state “These identified positions appear to involve a certain amount of functions that are inherently Federal. It is our opinion that it may be possible to restructure some of these positions to remove some of the functions that appear to be inherently Federal or to put additional supervision in place to remove the discretionary component of the function. Alternatively, changing the status of personnel from Federal to Tribal would remove the concern about supervision of Federal employees. In any event, additional research and analysis will need to be performed in order to determine how this may be done, including particularly with respect to a law enforcement component.” (*Attachment E, Solicitor’s memorandum about inherently federal functions at National Bison Range*).
- The FWS has executed a successful Self-Governance funding agreement in Region 7 with the Council of Athabascan Tribal Governments for certain duties at the Yukon Flats National Wildlife Refuge. According to FWS, this AFA was established on a smaller scale than at the National Bison Range. The location is remote, and close to native land. Oversight to ensure performance meets Federal standards is handled offsite (through various visits to the refuge) from the FWS offices in Fairbanks.
- In April 2007, without adequate Departmental coordination the Fish and Wildlife Service announced staffing and budget cuts at the National Bison Range to 6.3 full time employees. They also announced plans to move ¾ of the bison off the range to other refuges. FWS states the cuts were included in a long-term regional plan for a

number of years. This assertion is inconsistent with the FWS Region 6 Workforce Plan. As of the end of June, all FWS staff at the National Bison Range who had filed complaints about their working situations were either compensated, given letters of commendation that stated they endured a difficult situation, or transferred to other refuges as requested (*Attachment F: Historic staffing and funding chart; Analysis of FWS National Bison Range Workforce Plan and FWS Region 6 Workforce Plan Fiscal Years 2004-2009.*)

OPTIONS

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- FWS senior staff is strongly opposed.
- FWS have implemented many staff transfers for National Bison Range employees who expressed dissatisfaction with the situation at the National Bison Range over the last two years. Only a small number of FWS employees remain. To establish a new AFA may require development of a new baseline structure.
- Relations between the FWS and CSKT employees in Western Montana are stressed. Having the same staff work at the Bison Range in close proximity to carry out the mission may require mediation/training, or other involvement.
- May require expanded directives or a restructuring to clarify which roles constitute inherently Federal functions at the Bison Range. (*Attachment E, Solicitor’s Memo on Inherently Federal Functions at the National Bison Range*).

OPTION 4: Develop a legislative solution to clarify CSKT's role in management of Bison Range.

Work with Congress, e.g. the House Committee on Resources, on a new legislative mechanism to implement an appropriate role for CSKT at the National Bison Range

Pro:

- Resolves all pending issues.
- May return to the tribe more control of their traditional lands, and associated cultural resources.
- Can give direction on inherently Federal positions, and clarify for the public and Interior the overlap of the Self-Governance Act and the Refuge Administration Act.
- Congress could attach appropriation language to clarify a budget for CKST to establish a Self-Governance compact with FWS, thereby ensuring tribal involvement.
- The Department has utilized legislation to resolve roles of tribes and bureaus before, such as with the Miccosukee in the Everglades National Park, and Timbisha Shoshone at Death Valley, for example.

Con:

- Sets precedent that Congress must fix Interior's management issues.
- Interior has taken a position opposing legislative changes suggested by tribes to establish a presumption that a facility is available for P.L. 93-638 compacting and contracting. Interior has stated legislative changes are unnecessary, and changes erode the Secretary's discretion. This option may counter that stance.
- May give tribe reason to show that Interior is not able to successfully apply P.L. 638 amendments, as Interior has claimed.
- CSKT and the FWS may need to take an adversarial stance in this option; tribe is reluctant to do so.
- Other options are available as noted that effectively solve the problem internally.

I. RECOMMENDATION

There is no mutually agreed upon recommendation within the involved parties. The FWS supports Option 1; the Assistant Secretary-Indian Affairs supports Option 2. Given the behavior at the National Bison Range, it is difficult to imagine a successful implementation of Option 3 without a significant change in the FWS leadership that is opposed to tribal involvement through an AFA at the Bison Range.

II. SECRETARIAL DECISION

Option 1 _____ Option 2 _____ Option 3 _____ Option 4 _____

Further Discussion _____

PREPARED BY: _____ **DATE:** _____

Attachments:

- A. The National Wildlife Refuge System Administration Act (16 U.S.C. § 668dd-ee) 1956 Fish and Wildlife Act, (16, U.S.C. § 742a). Executive Order 12996,
- B. Tribal Self Governance Act of 1994, Title IV amendments (25 U.S.C. § 458 cc)
- C. Federal Register lists of programs available for self-governance, 2001, 2002, 2003, 2004, 2006, and 2007.
- D. Chronology of events of AFA and National Bison Range, and letter of cancellation from FWS.
- E. Solicitor's memo about inherently federal functions at the National Bison Range.
- F. Historic staffing and funding chart; Analysis of FWS National Bison Range Workforce Plan and FWS Region 6 Workforce Plan Fiscal Years 2004-2009.
- G. National Bison Range Public support: list of organizations and individuals opposed and supportive of AFA; letter from Committee on Resources from Chairman Nick J. Rahall and Don Young; letter from FWS managers; letter from Montana Senators Max Baucus and Senator Jon Tester.

A

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Effective: October 30, 1998

United States Code Annotated Currentness
Title 16. Conservation↳ Chapter 5A. Protection and Conservation of Wildlife↳ Subchapter III. Endangered Species of Fish and Wildlife

→ § 668dd. National Wildlife Refuge System

(a) Designation; administration; continuance of resources-management-programs for refuge lands in Alaska; disposal of acquired lands; proceeds

(1) For the purpose of consolidating the authorities relating to the various categories of areas that are administered by the Secretary for the conservation of fish and wildlife, including species that are threatened with extinction, all lands, waters, and interests therein administered by the Secretary as wildlife refuges, areas for the protection and conservation of fish and wildlife that are threatened with extinction, wildlife ranges, game ranges, wildlife management areas, or waterfowl production areas are hereby designated as the "National Wildlife Refuge System" (referred to herein as the "System"), which shall be subject to the provisions of this section, and shall be administered by the Secretary through the United States Fish and Wildlife Service. With respect to refuge lands in the State of Alaska, those programs relating to the management of resources for which any other agency of the Federal Government exercises administrative responsibility through cooperative agreement shall remain in effect, subject to the direct supervision of the United States Fish and Wildlife Service, as long as such agency agrees to exercise such responsibility.

(2) The mission of the System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

(3) With respect to the System, it is the policy of the United States that--

(A) each refuge shall be managed to fulfill the mission of the System, as well as the specific purposes for which that refuge was established;

(B) compatible wildlife-dependent recreation is a legitimate and appropriate general public use of the System, directly related to the mission of the System and the purposes of many refuges, and which generally fosters refuge management and through which the American public can develop an appreciation for fish and wildlife;

(C) compatible wildlife-dependent recreational uses are the priority general public uses of the System and shall receive priority consideration in refuge planning and management; and

(D) when the Secretary determines that a proposed wildlife-dependent recreational use is a compatible use within a refuge, that activity should be facilitated, subject to such restrictions or regulations as may be necessary, reasonable, and appropriate.

(4) In administering the System, the Secretary shall--

(A) provide for the conservation of fish, wildlife, and plants, and their habitats within the System;

(B) ensure that the biological integrity, diversity, and environmental health of the System are maintained for the benefit of present and future generations of Americans;

- (C) plan and direct the continued growth of the System in a manner that is best designed to accomplish the mission of the System, to contribute to the conservation of the ecosystems of the United States, to complement efforts of States and other Federal agencies to conserve fish and wildlife and their habitats, and to increase support for the System and participation from conservation partners and the public;
 - (D) ensure that the mission of the System described in paragraph (2) and the purposes of each refuge are carried out, except that if a conflict exists between the purposes of a refuge and the mission of the System, the conflict shall be resolved in a manner that first protects the purposes of the refuge, and, to the extent practicable, that also achieves the mission of the System;
 - (E) ensure effective coordination, interaction, and cooperation with owners of land adjoining refuges and the fish and wildlife agency of the States in which the units of the System are located;
 - (F) assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the System and the purposes of each refuge;
 - (G) acquire, under State law, water rights that are needed for refuge purposes;
 - (H) recognize compatible wildlife-dependent recreational uses as the priority general public uses of the System through which the American public can develop an appreciation for fish and wildlife;
 - (I) ensure that opportunities are provided within the System for compatible wildlife-dependent recreational uses;
 - (J) ensure that priority general public uses of the System receive enhanced consideration over other general public uses in planning and management within the System;
 - (K) provide increased opportunities for families to experience compatible wildlife-dependent recreation, particularly opportunities for parents and their children to safely engage in traditional outdoor activities, such as fishing and hunting;
 - (L) continue, consistent with existing laws and interagency agreements, authorized or permitted uses of units of the System by other Federal agencies, including those necessary to facilitate military preparedness;
 - (M) ensure timely and effective cooperation and collaboration with Federal agencies and State fish and wildlife agencies during the course of acquiring and managing refuges; and
 - (N) monitor the status and trends of fish, wildlife, and plants in each refuge.
- (5) No acquired lands which are or become a part of the System may be transferred or otherwise disposed of under any provision of law (except by exchange pursuant to subsection (b)(3) of this section) unless--
- (A) the Secretary determines with the approval of the Migratory Bird Conservation Commission that such lands are no longer needed for the purposes for which the System was established; and
 - (B) such lands are transferred or otherwise disposed of for an amount not less than--
 - (i) the acquisition costs of such lands, in the case of lands of the System which were purchased by the United States with funds from the migratory bird conservation fund, or fair market value, whichever is greater; or
 - (ii) the fair market value of such lands (as determined by the Secretary as of the date of the transfer or disposal), in the case of lands of the System which were donated to the System.

The Secretary shall pay into the migratory bird conservation fund the aggregate amount of the proceeds of any transfer or disposal referred to in the preceding sentence.

- (6) Each area which is included within the System on January 1, 1975, or thereafter, and which was or is--

(A) designated as an area within such System by law, Executive order, or secretarial order; or

(B) so included by public land withdrawal, donation, purchase, exchange, or pursuant to a cooperative agreement with any State or local government, any Federal department or agency, or any other governmental entity,

shall continue to be a part of the System until otherwise specified by Act of Congress, except that nothing in this paragraph shall be construed as precluding--

(i) the transfer or disposal of acquired lands within any such area pursuant to paragraph (5) of this subsection;

(ii) the exchange of lands within any such area pursuant to subsection (b)(3) of this section; or

(iii) the disposal of any lands within any such area pursuant to the terms of any cooperative agreement referred to in subparagraph (B) of this paragraph.

(b) Administration; public accommodations contracts; acceptance and use of funds; exchange of properties; cash equalization payments

In administering the System, the Secretary is authorized to take the following actions:

(1) Enter into contracts with any person or public or private agency through negotiation for the provision of public accommodations when, and in such locations, and to the extent that the Secretary determines will not be inconsistent with the primary purpose for which the affected area was established.

(2) Accept donations of funds and to use such funds to acquire or manage lands or interests therein.

(3) Acquire lands or interests therein by exchange (A) for acquired lands or public lands, or for interests in acquired or public lands, under his jurisdiction which he finds to be suitable for disposition, or (B) for the right to remove, in accordance with such terms and conditions as he may prescribe, products from the acquired or public lands within the System. The values of the properties so exchanged either shall be approximately equal, or if they are not approximately equal the values shall be equalized by the payment of cash to the grantor or to the Secretary as the circumstances require.

(4) Subject to standards established by and the overall management oversight of the Director, and consistent with standards established by this Act, to enter into cooperative agreements with State fish and wildlife agencies for the management of programs on a refuge.

(5) Issue regulations to carry out this Act.

(c) Prohibited and permitted activities; application of mining and mineral leasing laws, hunting or fishing regulations, and State laws or regulations

No person shall disturb, injure, cut, burn, remove, destroy, or possess any real or personal property of the United States, including natural growth, in any area of the System; or take or possess any fish, bird, mammal, or other wild vertebrate or invertebrate animals or part or nest or egg thereof within any such area; or enter, use, or otherwise occupy any such area for any purpose; unless such activities are performed by persons authorized to manage such area, or unless such activities are permitted either under subsection (d) of this section or by express provision of the law, proclamation, Executive order, or public land order establishing the area, or amendment thereof. *Provided*, That the United States mining and mineral leasing laws shall continue to apply to any lands within the System to the same extent they apply prior to October 15, 1966, unless subsequently withdrawn under other authority of law. With the exception of endangered species and threatened species listed by the Secretary pursuant to section 1533 of this title in States wherein a cooperative agreement does not exist pursuant to section 1535(c) of this title, nothing in this Act shall be construed to authorize the Secretary to control or regulate hunting or fishing of resident fish and wildlife on lands not within the system. The regulations permitting hunting and fishing of resident fish and wildlife within the System shall be, to the extent practicable, consistent with State fish and wildlife laws and regulations.

(d) Use of areas; administration of migratory bird sanctuaries as game taking areas; rights of way, easements, and reservations; payment of fair market value

(1) The Secretary is authorized, under such regulations as he may prescribe, to--

(A) permit the use of any area within the System for any purpose, including but not limited to hunting, fishing, public recreation and accommodations, and access whenever he determines that such uses are compatible with the major purposes for which such areas were established: *Provided*, That not to exceed 40 per centum at any one time of any area that has been, or hereafter may be acquired, reserved, or set apart as an inviolate sanctuary for migratory birds, under any law, proclamation, Executive order, or public land order may be administered by the Secretary as an area within which the taking of migratory game birds may be permitted under such regulations as he may prescribe unless the Secretary finds that the taking of any species of migratory game birds in more than 40 percent of such area would be beneficial to the species; and

(B) permit the use of, or grant easements in, over, across, upon, through, or under any areas within the System for purposes such as but not necessarily limited to, powerlines, telephone lines, canals, ditches, pipelines, and roads, including the construction, operation, and maintenance thereof, whenever he determines that such uses are compatible with the purposes for which these areas are established.

(2) Notwithstanding any other provision of law, the Secretary may not grant to any Federal, State, or local agency or to any private individual or organization any right-of-way, easement, or reservation in, over, across, through, or under any area within the system in connection with any use permitted by him under paragraph (1) (B) of this subsection unless the grantee pays to the Secretary, at the option of the Secretary, either (A) in lump sum the fair market value (determined by the Secretary as of the date of conveyance to the grantee) of the right-of-way, easement, or reservation; or (B) annually in advance the fair market rental value (determined by the Secretary) of the right-of-way, easement, or reservation. If any Federal, State, or local agency is exempted from such payment by any other provision of Federal law, such agency shall otherwise compensate the Secretary by any other means agreeable to the Secretary, including, but not limited to, making other land available or the loan of equipment or personnel; except that (A) any such compensation shall relate to, and be consistent with, the objectives of the National Wildlife Refuge System, and (B) the Secretary may waive such requirement for compensation if he finds such requirement impracticable or unnecessary. All sums received by the Secretary of the Interior pursuant to this paragraph shall, after payment of any necessary expenses incurred by him in administering this paragraph, be deposited into the Migratory Bird Conservation Fund and shall be available to carry out the provisions for land acquisition of the Migratory Bird Conservation Act (16 U.S.C. 715 et seq.) and the Migratory Bird Hunting Stamp Act (16 U.S.C. 718 et seq.).

(3)(A)(i) Except as provided in clause (iv), the Secretary shall not initiate or permit a new use of a refuge or expand, renew, or extend an existing use of a refuge, unless the Secretary has determined that the use is a compatible use and that the use is not inconsistent with public safety. The Secretary may make the determinations referred to in this paragraph for a refuge concurrently with development of a conservation plan under subsection (e).

(ii) On lands added to the System after March 25, 1996, the Secretary shall identify, prior to acquisition, withdrawal, transfer, reclassification, or donation of any such lands, existing compatible wildlife-dependent recreational uses that the Secretary determines shall be permitted to continue on an interim basis pending completion of the comprehensive conservation plan for the refuge.

(iii) Wildlife-dependent recreational uses may be authorized on a refuge when they are compatible and not inconsistent with public safety. Except for consideration of consistency with State laws and regulations as provided for in subsection (m), no other determinations or findings are required to be made by the refuge official under this Act or the Refuge Recreation Act for wildlife-dependent recreation to occur.

(iv) Compatibility determinations in existence on October 9, 1997 shall remain in effect until and unless modified.

(B) Not later than 24 months after October 9, 1997, the Secretary shall issue final regulations establishing the process for determining under subparagraph (A) whether a use of a refuge is a compatible use. These regulations

shall--

- (i) designate the refuge official responsible for making initial compatibility determinations;
- (ii) require an estimate of the timeframe, location, manner, and purpose of each use;
- (iii) identify the effects of each use on refuge resources and purposes of each refuge;
- (iv) require that compatibility determinations be made in writing;
- (v) provide for the expedited consideration of uses that will likely have no detrimental effect on the fulfillment of the purposes of a refuge or the mission of the System;
- (vi) provide for the elimination or modification of any use as expeditiously as practicable after a determination is made that the use is not a compatible use;
- (vii) require, after an opportunity for public comment, reevaluation of each existing use, other than those uses specified in clause (viii), if conditions under which the use is permitted change significantly or if there is significant new information regarding the effects of the use, but not less frequently than once every 10 years, to ensure that the use remains a compatible use, except that, in the case of any use authorized for a period longer than 10 years (such as an electric utility right-of-way), the reevaluation required by this clause shall examine compliance with the terms and conditions of the authorization, not examine the authorization itself;
- (viii) require, after an opportunity for public comment, reevaluation of each compatible wildlife-dependent recreational use when conditions under which the use is permitted change significantly or if there is significant new information regarding the effects of the use, but not less frequently than in conjunction with each preparation or revision of a conservation plan under subsection (e) of this section or at least every 15 years, whichever is earlier; and
- (ix) provide an opportunity for public review and comment on each evaluation of a use, unless an opportunity for public review and comment on the evaluation of the use has already been provided during the development or revision of a conservation plan for the refuge under subsection (e) of this section or has otherwise been provided during routine, periodic determinations of compatibility for wildlife-dependent recreational uses.

(4) The provisions of this Act relating to determinations of the compatibility of a use shall not apply to--

(A) overflights above a refuge; and

(B) activities authorized, funded, or conducted by a Federal agency (other than the United States Fish and Wildlife Service) which has primary jurisdiction over a refuge or a portion of a refuge, if the management of those activities is in accordance with a memorandum of understanding between the Secretary or the Director and the head of the Federal agency with primary jurisdiction over the refuge governing the use of the refuge.

(e) Refuge conservation planning program for non-Alaskan refuge lands

(1)(A) Except with respect to refuge lands in Alaska (which shall be governed by the refuge planning provisions of the Alaska National Interest Lands Conservation Act (16 U.S.C. 3101 et seq.)), the Secretary shall--

- (i) propose a comprehensive conservation plan for each refuge or related complex of refuges (referred to in this subsection as a "planning unit") in the System;
- (ii) publish a notice of opportunity for public comment in the Federal Register on each proposed conservation plan;
- (iii) issue a final conservation plan for each planning unit consistent with the provisions of this Act and, to the extent practicable, consistent with fish and wildlife conservation plans of the State in which the refuge is located;

and

(iv) not less frequently than 15 years after the date of issuance of a conservation plan under clause (iii) and every 15 years thereafter, revise the conservation plan as may be necessary.

(B) The Secretary shall prepare a comprehensive conservation plan under this subsection for each refuge within 15 years after October 9, 1997.

(C) The Secretary shall manage each refuge or planning unit under plans in effect on October 9, 1997, to the extent such plans are consistent with this Act, until such plans are revised or superseded by new comprehensive conservation plans issued under this subsection.

(D) Uses or activities consistent with this Act may occur on any refuge or planning unit before existing plans are revised or new comprehensive conservation plans are issued under this subsection.

(E) Upon completion of a comprehensive conservation plan under this subsection for a refuge or planning unit, the Secretary shall manage the refuge or planning unit in a manner consistent with the plan and shall revise the plan at any time if the Secretary determines that conditions that affect the refuge or planning unit have changed significantly.

(2) In developing each comprehensive conservation plan under this subsection for a planning unit, the Secretary, acting through the Director, shall identify and describe--

(A) the purposes of each refuge comprising the planning unit;

(B) the distribution, migration patterns, and abundance of fish, wildlife, and plant populations and related habitats within the planning unit;

(C) the archaeological and cultural values of the planning unit;

(D) such areas within the planning unit that are suitable for use as administrative sites or visitor facilities;

(E) significant problems that may adversely affect the populations and habitats of fish, wildlife, and plants within the planning unit and the actions necessary to correct or mitigate such problems; and

(F) opportunities for compatible wildlife-dependent recreational uses.

(3) In preparing each comprehensive conservation plan under this subsection, and any revision to such a plan, the Secretary, acting through the Director, shall, to the maximum extent practicable and consistent with this Act--

(A) consult with adjoining Federal, State, local, and private landowners and affected State conservation agencies; and

(B) coordinate the development of the conservation plan or revision with relevant State conservation plans for fish and wildlife and their habitats.

(4)(A) In accordance with subparagraph (B), the Secretary shall develop and implement a process to ensure an opportunity for active public involvement in the preparation and revision of comprehensive conservation plans under this subsection. At a minimum, the Secretary shall require that publication of any final plan shall include a summary of the comments made by States, owners of adjacent or potentially affected land, local governments, and any other affected persons, and a statement of the disposition of concerns expressed in those comments.

(B) Prior to the adoption of each comprehensive conservation plan under this subsection, the Secretary shall issue public notice of the draft proposed plan, make copies of the plan available at the affected field and regional offices of the United States Fish and Wildlife Service, and provide opportunity for public comment.

(f) Penalties

(1) Knowing violations

Any person who knowingly violates or fails to comply with any of the provisions of this Act or any regulations issued thereunder shall be fined under Title 18 or imprisoned for not more than 1 year, or both.

(2) Other violations

Any person who otherwise violates or fails to comply with any of the provisions of this Act (including a regulation issued under this Act) shall be fined under Title 18 or imprisoned not more than 180 days, or both.

(g) Enforcement provisions; arrests, searches, and seizures; custody of property; forfeiture; disposition

Any person authorized by the Secretary to enforce the provisions of this Act or any regulations issued thereunder, may, without a warrant, arrest any person violating this Act or regulations in his presence or view, and may execute any warrant or other process issued by an officer or court of competent jurisdiction to enforce the provisions of this Act or regulations, and may with a search warrant search for and seize any property, fish, bird, mammal, or other wild vertebrate or invertebrate animals or part or nest or egg thereof, taken or possessed in violation of this Act or the regulations issued thereunder. Any property, fish, bird, mammal, or other wild vertebrate or invertebrate animals or part or egg thereof seized with or without a search warrant shall be held by such person or by a United States marshal, and upon conviction, shall be forfeited to the United States and disposed of by the Secretary, in accordance with law. The Director of the United States Fish and Wildlife Service is authorized to utilize by agreement, with or without reimbursement, the personnel and services of any other Federal or State agency for purposes of enhancing the enforcement of this Act.

(h) Regulations; continuation, modification, or rescission

Regulations applicable to areas of the System that are in effect on October 15, 1966, shall continue in effect until modified or rescinded.

(i) National conservation recreational area provisions; amendment, repeal, or modification

Nothing in this section shall be construed to amend, repeal, or otherwise modify the provision of the Act of September 28, 1962 (76 Stat. 653; 16 U.S.C. 460k to 460k-4) which authorizes the Secretary to administer the areas within the System for public recreation. The provisions of this section relating to recreation shall be administered in accordance with the provisions of said sections.

(j) Exemption from State water laws

Nothing in this Act shall constitute an express or implied claim or denial on the part of the Federal Government as to exemption from State water laws.

(k) Emergency power

Notwithstanding any other provision of this Act, the Secretary may temporarily suspend, allow, or initiate any activity in a refuge in the System if the Secretary determines it is necessary to protect the health and safety of the public or any fish or wildlife population.

(l) Hunting and fishing on lands and waters not within the System

Nothing in this Act shall be construed to authorize the Secretary to control or regulate hunting or fishing of fish and resident wildlife on lands or waters that are not within the System.

(m) State authority

Nothing in this Act shall be construed as affecting the authority, jurisdiction, or responsibility of the several States to manage, control, or regulate fish and resident wildlife under State law or regulations in any area within the System. Regulations permitting hunting or fishing of fish and resident wildlife within the System shall be, to the extent practicable, consistent with State fish and wildlife laws, regulations, and management plans.

(n) Water rights

(1) Nothing in this Act shall--

(A) create a reserved water right, express or implied, in the United States for any purpose;

(B) affect any water right in existence on October 9, 1997; or

(C) affect any Federal or State law in existence on October 9, 1997, regarding water quality or water quantity.

(2) Nothing in this Act shall diminish or affect the ability to join the United States in the adjudication of rights to the use of water pursuant to section 666 of Title 43.

(o) Coordination with State agencies

Coordination with State fish and wildlife agency personnel or with personnel of other affected State agencies pursuant to this Act shall not be subject to the Federal Advisory Committee Act (5 U.S.C. App.).

CREDIT(S)

(Pub.L. 89-669, § 4, Oct. 15, 1966, 80 Stat. 927; Pub.L. 90-404, § 1, July 18, 1968, 82 Stat. 359; Pub.L. 93-205, § 13(a), Dec. 28, 1973, 87 Stat. 902; Pub.L. 93-509, § 2, Dec. 3, 1974, 88 Stat. 1603; Pub.L. 94-215, § 5, Feb. 17, 1976, 90 Stat. 190; Pub.L. 94-223, Feb. 27, 1976, 90 Stat. 199; Pub.L. 95-616, § 3(f), 6, Nov. 8, 1978, 92 Stat. 3111, 3114; Pub.L. 100-226, § 4, Dec. 31, 1987, 101 Stat. 1551; Pub.L. 100-653, Title IX, § 904, Nov. 14, 1988, 102 Stat. 3834; Pub.L. 105-57, § 3(b) to 8, Oct. 9, 1997, 111 Stat. 1254; Pub.L. 105-312, Title II, § 206, Oct. 30, 1998, 112 Stat. 2958.)

HISTORICAL AND STATUTORY NOTES

Revision Notes and Legislative Reports

1966 Acts. Senate Report No. 1453 and Conference Report No. 2205, see 1966 U.S. Code Cong. and Adm. News, p. 3342.

1968 Acts. House Report No. 1424, see 1968 U.S. Code Cong. and Adm. News, p. 2638.

1973 Acts. Senate Report No. 93-307 and Conference Report No. 93-740, see 1973 U.S. Code Cong. and Adm. News, p. 2989.

1976 Acts. Senate Report No. 94-594, see 1976 U.S. Code Cong. and Adm. News, p. 271.

Senate Report No. 94-593, see 1976 U.S. Code Cong. and Adm. News, p. 288.

1978 Acts. Senate Report No. 95-1175 and House Conference Report No. 95-1730, see 1978 U.S. Code Cong. and Adm. News, p. 7641.

1988 Acts. Senate Report No. 100-563, see 1988 U.S. Code Cong. and Adm. News, p. 5366.

1997 Acts. House Report No. 105-106 and Statement by President, see 1997 U.S. Code Cong. and Adm. News, p. 1798-5.

References in Text

This Act, referred to in text, means Pub.L. 89-669, Oct. 15, 1966, 80 Stat. 927, as amended, which enacted sections 668aa to 668ee, amended sections 460k, 696, 696b, 715c, 715i to 715k, 718d, and repealed sections 715d-1, 715d-2, 715l, and 715m of this title. For complete classification of this Act to the Code, see Tables.

The United States mining and mineral leasing laws, referred to in subsec. (c), are classified generally to Title 30, Mineral Lands and Mining.

The Migratory Bird Conservation Act, referred to in subsec. (d)(2), is Act Feb. 18, 1929, c. 257, 45 Stat. 1222, as amended, which is classified generally to subchapter III (section 715 et seq.) of chapter 7 of this title. For complete classification of this Act to the Code, see section 715 of this title and Tables.

The Migratory Bird Hunting Stamp Act, referred to in subsec. (d)(2), is Act Mar. 16, 1934, c. 71, 48 Stat. 451, as amended, which is classified generally to subchapter IV (section 718 et seq.) of chapter 7 of this title. For complete classification of this Act to the Code, see Short Title note set out under section 718 of this title and Tables.

The Refuge Recreation Act, referred to in subsec. (d)(3)(A)(iii), is Pub.L. 87-714, Sept. 28, 1962, 76 Stat. 653, and is classified to section 460k et seq. of this title.

The Alaska National Interest Lands Conservation Act, referred to in subsec. (e)(1)(A) of the text, is Pub.L. 96-487, Dec. 2, 1980, 94 Stat. 2371, as amended, which is classified generally to section 3101 et seq. of this title. For complete classification of this Act to the Code, see Short Title note set out under section 3101 of this title and Tables.

The Act of September 28, 1962, referred to in subsec. (i), popularly known as the Refuge Recreation Act, is classified to section 460k et seq. of this title.

The Federal Advisory Committee Act, referred to in subsec. (o), is Pub.L. 92-463, Oct. 6, 1972, 86 Stat. 770, as amended, which is set out in Appendix 2 to Title 5, Government Organization and Employees.

Amendments

1998 Amendments. Subsec. (c). Pub.L. 105-312, § 206(1), in the first sentence, struck "knowingly" following "No person shall".

Subsec. (f). Pub.L. 105-312, § 206(2), rewrote subsec. (f) which read as follows: "Any person who violates or fails to comply with any of the provisions of this Act or any regulations issued thereunder shall be fined under Title 18, or imprisoned for not more than 1 year, or both."

1997 Amendments. Pub.L. 105-57, § 3(b), substituted "Secretary" for "Secretary of the Interior" wherever appearing.

Subsec. (a)(2). Pub.L. 105-57, § 4(1), (3), added par. (2) and redesignated former par. (2) as (5).

Subsec. (a)(3). Pub.L. 105-57, § 4(1), 5(a), added par. (3) and redesignated former par. (3) as (6).

Subsec. (a)(4). Pub.L. 105-57, § 5(a), added par. (4).

Subsec. (a)(5). Pub.L. 105-57, § 4(1), redesignated former par. (2) as (5).

Subsec. (a)(6). Pub.L. 105-57, § 4(1), redesignated former par. (3) as (6).

Subsec. (a)(6)(i). Pub.L. 105-57, § 4(2), substituted "paragraph (5)" for "paragraph (2)".

Subsec. (b). Pub.L. 105-57, § 5(b)(1), in the language preceding par. (1), substituted "authorized to take the

following actions:" for "authorized--".

Subsec. (b)(1). Pub.L. 105-57, § 5(b)(2), substituted "Enter" for "to enter".

Subsec. (b)(2). Pub.L. 105-57, § 5(b)(3), substituted "Accept" for "to accept" and substituted a period for ", and".

Subsec. (b)(3). Pub.L. 105-57, § 5(b)(4), substituted "Acquire" for "to acquire".

Subsec. (b)(4), (5). Pub.L. 105-57, § 5(b)(5), added pars. (4) and (5).

Subsec. (c). Pub.L. 105-57, § 8(b), struck out the last sentence which read: "The provisions of this Act shall not be construed as affecting the authority, jurisdiction, or responsibility of the several States to manage, control, or regulate fish and resident wildlife under State law or regulations in any area within the System."

Subsec. (d)(3), (4). Pub.L. 105-57, § 6, added pars. (3) and (4).

Subsecs. (e) to (j). Pub.L. 105-57, § 7(a), added subsec. (e) and redesignated former subsecs. (e) to (i) as (f) to (j), respectively.

Subsecs. (k) to (o). Pub.L. 105-57, § 8(a), added subsecs. (k) to (o).

1988 Amendments. Subsec. (e). Pub.L. 100-653 substituted "thereunder shall be fined under Title 18, or imprisoned for not more than 1 year, or both" for "thereunder shall be fined not more than \$500 or be imprisoned not more than six months, or both".

1987 Amendments. Subsec. (f). Pub.L. 100-226 provided that the Director of the United States Fish and Wildlife Service is authorized to utilize by agreement, with or without reimbursement, the personnel and services of any other Federal or State agency for purposes of enhancing enforcement of this Act.

1978 Amendments. Subsec. (d)(1)(A). Pub.L. 95-616, § 6, authorized the Secretary to find that the taking of any species of migratory birds in more than 40 percent of the area would be beneficial to the species.

Subsec. (f). Pub.L. 95-616, § 3(f), substituted "disposed of by the Secretary, in accordance with law" for "disposed of by the court".

1976 Amendments. Subsec. (a). Pub.L. 94-223 designated existing first sentence as par. (1), provided for administration of the System by the Secretary of the Interior through the United States Fish and Wildlife Service and added provision respecting continuance of programs relating to management of resources in refuge lands in Alaska, subject to direct supervision of the United States Fish and Wildlife Service; deleted second sentence providing that "Nothing in this Act shall restrict the authority of the Secretary to modify or revoke public land withdrawals affecting lands in the System as presently constituted, or as it may be constituted, whenever he determines that such action is consistent with the public interest."; designated existing third sentence as par. (2) redesignated as subpars. (A) and (B) former clauses (1) and (2), redesignated as subpar. (B)(i) and (ii) former cl. (2)(A) and (B), substituted in subpar. (A) "with the approval of" for "after consultation with", inserted in subpar. (B)(i) "or fair market value, whichever is greater;" and reenacted as second sentence of par. (2) former last sentence of subsec. (a); and added par. (3).

Subsec. (b)(3). Pub.L. 94-215 substituted designations "(A)" and "(B)" for "(a)" and "(b)", inserted in cl. (A) ", or for interests in acquired or public lands," preceding "under his jurisdiction" and substituted in cl. (B) "he may prescribe" for "the Secretary may prescribe".

1974 Amendments. Subsec. (d). Pub.L. 93-509 redesignated existing provisions as par. (1)(A) and (B), and added par. (2).

1973 Amendments. Subsec. (c). Pub.L. 93-205 inserted "With the exception of endangered species and threatened species listed by the Secretary pursuant to section 1533 of this title in States wherein a cooperative agreement does

not exist pursuant to section 1535(c) of this title" preceding "nothing in this Act shall be construed" and struck out ", including endangered species thereof," preceding "on lands not within the System" in the second sentence.

1968 Amendments. Subsec. (a). Pub.L. 90-404 added provisions that no acquired lands which are or become a part of the National Wildlife Refuge System may be transferred or otherwise disposed of except under the specified conditions, and provisions that the Secretary pay into the migratory bird conservation fund the proceeds of any such transfer or disposal.

Effective and Applicability Provisions

1974 Acts. Pub.L. 93-509, § 3, Dec. 3, 1974, 88 Stat. 1603, provided that: "Section 4(d)(2) of the Act of October 15, 1966 (as added by this Act) [subsec. (d)(2) of this section], shall apply with respect to any right-of-way, easement, or reservation granted by the Secretary of the Interior on or after the date of the enactment of this Act [Dec. 3, 1974], including any right-of-way, easement, or reservation granted on or after such date in connection with any use permitted by him pursuant to section 4(d)(2) of the Act of October 15, 1966 [now subsec. (d)(1)(B) of this section] (as in effect before the date of the enactment of this Act)."

1973 Acts. Amendment by Pub.L. 93-205 effective Dec. 28, 1973, see section 16 of Pub.L. 93-205, set out as a note under section 1531 of this title.

1968 Acts. Pub.L. 90-404, § 2, July 18, 1968, 82 Stat. 359, provided that: "The amendments made by the first section of this Act [amending subsec. (a) of this section] shall apply only with respect to transfers and disposals of land initiated and completed after the date of their enactment [July 18, 1968]."

Short Title

1998 Amendments. Pub.L. 105-312, Title II, § 201, Oct. 30, 1998, 112 Stat. 2957, provided that: "This title [Title II of Pub.L. 105-312, Oct. 30, 1998, 112 Stat. 2957, amending this section, and sections 721 and 722 of this title, amending section 564w-1 of Title 25, and enacting provisions set out as a note under section 722 of this title] may be cited as the 'National Wildlife Refuge System Improvement Act of 1998'."

1997 Amendments. Pub.L. 105-57, § 1(a), Oct. 9, 1997, 111 Stat. 1252, provided that: "This Act [amending this section and section 668ee of this title and enacting provisions set out as a note under this section] may be cited as the 'National Wildlife Refuge System Improvement Act of 1997'."

1974 Amendments. Pub.L. 93-509, § 1, Dec. 3, 1974, 88 Stat. 1603, provided: "That this Act [amending this section and section 715s of this title, and enacting provisions set out as notes under this section] may be cited as the 'National Wildlife Refuge System Administration Act Amendments of 1974'."

1969 Acts. Pub.L. 91-135, § 12(f), Dec. 5, 1969, 83 Stat. 283, provided that: "The provisions of sections 4 and 5 of the Act of October 15, 1966 (80 Stat. 929; 16 U.S.C. 668dd to 668ee) [this section and section 668ee of this title], as amended, shall hereinafter be cited as the 'National Wildlife Refuge System Administration Act of 1966'."

Transfer of Functions

The enforcement functions of the Secretary of the Interior or other appropriate official or entity in the Department of the Interior related to compliance with approval to cross national wildlife refuges as they relate to pre-construction, construction, and initial operation of an approved transportation system for the transport of Canadian natural gas and Alaskan natural gas as such terms are defined in the Alaskan Natural Gas Transportation Act of 1976, section 719 et seq. of Title 15, Commerce and Trade, were transferred to the Federal Inspector for the Alaska Natural Gas Transportation System, effective July 1, 1979, until the first anniversary of the date of initial operation of the Alaska Natural Gas Transportation System, pursuant to sections 102(e) and 203(a) of 1979 Reorg. Plan No. 1, June 12, 1979, 44 F.R. 33664, 33666, 93 Stat. 1373, set out in Appendix 1 to Title 5, Government Organization and Employees.

National Wildlife Refuge System Centennial

C

Effective: October 09, 1997

United States Code Annotated Currentness

Title 16. Conservation

▣ Chapter 5A. Protection and Conservation of Wildlife

▣ Subchapter III. Endangered Species of Fish and Wildlife

→ § 668ee. Definitions

For purposes of this Act:

- (1) The term "compatible use" means a wildlife-dependent recreational use or any other use of a refuge that, in the sound professional judgment of the Director, will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the refuge.
- (2) The terms "wildlife-dependent recreation" and "wildlife-dependent recreational use" mean a use of a refuge involving hunting, fishing, wildlife observation and photography, or environmental education and interpretation.
- (3) The term "sound professional judgment" means a finding, determination, or decision that is consistent with principles of sound fish and wildlife management and administration, available science and resources, and adherence to the requirements of this Act and other applicable laws.
- (4) The terms "conserving", "conservation", "manage", "managing", and "management", mean to sustain and, where appropriate, restore and enhance, healthy populations of fish, wildlife, and plants utilizing, in accordance with applicable Federal and State laws, methods and procedures associated with modern scientific resource programs. Such methods and procedures include, consistent with the provisions of this Act, protection, research, census, law enforcement, habitat management, propagation, live trapping and transplantation, and regulated taking.
- (5) The term "Coordination Area" means a wildlife management area that is made available to a State--
 - (A) by cooperative agreement between the United States Fish and Wildlife Service and a State agency having control over wildlife resources pursuant to section 664 of this title; or
 - (B) by long-term leases or agreements pursuant to title III of the Bankhead-Jones Farm Tenant Act (50 Stat. 525; 7 U.S.C. 1010 et seq.).
- (6) The term "Director" means the Director of the United States Fish and Wildlife Service or a designee of that Director.
- (7) The terms "fish", "wildlife", and "fish and wildlife" mean any wild member of the animal kingdom whether alive or dead, and regardless of whether the member was bred, hatched, or born in captivity, including a part, product, egg, or offspring of the member.
- (8) The term "person" means any individual, partnership, corporation, or association.
- (9) The term "plant" means any member of the plant kingdom in a wild, unconfined state, including any plant community, seed, root, or other part of a plant.
- (10) The terms "purposes of the refuge" and "purposes of each refuge" mean the purposes specified in or derived from the law, proclamation, executive order, agreement, public land order, donation document, or administrative

memorandum establishing, authorizing, or expanding a refuge, refuge unit, or refuge subunit.

(11) The term "refuge" means a designated area of land, water, or an interest in land or water within the System, but does not include Coordination Areas.

(12) The term "Secretary" means the Secretary of the Interior.

(13) The terms "State" and "United States" mean the several States of the United States, Puerto Rico, American Samoa, the Virgin Islands, Guam, and the territories and possessions of the United States.

(14) The term "System" means the National Wildlife Refuge System designated under section 668dd(a)(1) of this title.

(15) The terms "take", "taking", and "taken" mean to pursue, hunt, shoot, capture, collect, or kill, or to attempt to pursue, hunt, shoot, capture, collect, or kill.

CREDIT(S)

(Pub.L. 89-669, § 5, Oct. 15, 1966, 80 Stat. 929; Pub.L. 105-57, § 3(a), Oct. 9, 1997, 111 Stat. 1253.)

HISTORICAL AND STATUTORY NOTES

Revision Notes and Legislative Reports

1966 Acts. Senate Report No. 1453 and Conference Report No. 2205, see 1966 U.S. Code Cong. and Adm. News, p. 3342.

1997 Acts. House Report No. 105-106 and Statement by President, see 1997 U.S. Code Cong. and Adm. News, p. 1798-5.

References in Text

This Act, referred to in text, means Pub.L. 89-669, Oct. 15, 1966, 80 Stat. 927, as amended, known as the National Wildlife Refuge System Administration Act of 1966, which enacted sections 668aa to 668ee, amended sections 460k, 696, 696b, 715c, 715i to 715k, 718d, and repealed sections 715d-1, 715d-2, 715l, 715m of this title. For complete classification of this Act to the Code, see Tables.

Title III of the Bankhead-Jones Farm Tenant Act, referred to in par. (5)(B) of the text is Act July 22, 1937, c. 517, Title III, 50 Stat. 525, as amended, and is classified generally to subchapter III (section 1010 et seq.) of chapter 33 of Title 7, Agriculture. For complete classification of this Act to the Code, see Short Title note set out under section 1000 of Title 7 and Tables.

Amendments

1997 Amendments. Pub.L. 105-57, § 3(a), amended this section which formerly read:

"(a) The term 'person' as used in this Act means any individual, partnership, corporation, or association.

"(b) The terms 'take' or 'taking' or 'taken' as used in this Act mean to pursue, hunt, shoot, capture, collect, kill, or attempt to pursue, hunt, shoot, capture, collect, or kill.

"(c) The terms 'State' and the 'United States' as used in this Act mean the several States of the United States, the Commonwealth of Puerto Rico, American Samoa, the Virgin Islands, and Guam."

LIBRARY REFERENCES

American Digest System

Fish  8.

Key Number System Topic No. 176.

Game k3.5.

Key Number System Topic No. 187.

16 U.S.C.A. § 668ee, 16 USCA § 668ee

Current through P.L. 110-19 approved 04-23-07

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C

Effective: [See Text Amendments]

United States Code Annotated Currentness

Title 16. Conservation

Chapter 9. Fish and Wildlife Service

→ § 742a. Declaration of policy

The Congress declares that the fish, shellfish, and wildlife resources of the Nation make a material contribution to our national economy and food supply, as well as a material contribution to the health, recreation, and well-being of our citizens; that such resources are a living, renewable form of national wealth that is capable of being maintained and greatly increased with proper management, but equally capable of destruction if neglected or unwisely exploited; that such resources afford outdoor recreation throughout the Nation and provide employment, directly or indirectly, to a substantial number of citizens; that the fishing industries strengthen the defense of the United States through the provision of a trained seafaring citizenry and action-ready fleets of seaworthy vessels; that the training and sport afforded by fish and wildlife resources strengthen the national defense by contributing to the general health and physical fitness of millions of citizens; and that properly developed, such fish and wildlife resources are capable of steadily increasing these valuable contributions to the life of the Nation.

The Congress further declares that the fishing industry, in its several branches, can prosper and thus fulfill its proper function in national life only if certain fundamental needs are satisfied by means that are consistent with the public interest and in accord with constitutional functions of governments. Among these needs are:

- (1) Freedom of enterprise--freedom to develop new areas, methods, products, and markets in accordance with sound economic principles, as well as freedom from unnecessary administrative or legal restrictions that unreasonably conflict with or ignore economic needs;
- (2) Protection of opportunity--maintenance of an economic atmosphere in which domestic production and processing can prosper; protection from subsidized competing products; protection of opportunity to fish on the high seas in accordance with international law;
- (3) Assistance--assistance consistent with that provided by the Government for industry generally, such as is involved in promoting good industrial relations, fair trade standards, harmonious labor relations, better health standards and sanitation; and including, but not limited to--
 - (a) services to provide current information on production and trade, market promotion and development, and an extension service,
 - (b) research services for economic and technologic development and resource conservation, and
 - (c) resource management to assure the maximum sustainable production for the fisheries.

The Congress further declares that the provisions of this Act are necessary in order to accomplish the objective of proper resource development, and that this Act shall be administered with due regard to the inherent right of every citizen and resident of the United States to engage in fishing for his own pleasure, enjoyment, and betterment, and with the intent of maintaining and increasing the public opportunities for recreational use of our fish and wildlife resources, and stimulating the development of a strong, prosperous, and thriving fishery and fish processing industry.

CREDIT(S)

(Aug. 8, 1956, c. 1036, § 2, 70 Stat. 1119.)

HISTORICAL AND STATUTORY NOTES

Revision Notes and Legislative Reports

1956 Acts. House Report No. 2519 and Conference Report No. 2942, see 1956 U.S. Code Cong. and Adm. News, p. 4590.

References in Text

This Act, referred to in text, is Act Aug. 8, 1956, c. 1036, 70 Stat. 1119, as amended, known as the Fish and Wildlife Act of 1956, which is classified generally to sections 742a to 742d and 742e to 742j-2 of this title. For complete classification of this Act to the Code, see Short Title note set out under this section and Tables.

Short Title

2004 Amendments. Pub.L. 108-327, § 1, Oct. 16, 2004, 118 Stat. 1271, provided that: "This Act [amending 16 U.S.C.A. § 742f, redesignating provisions set out as a note under 16 U.S.C.A. § 742f as new section 16 U.S.C.A. § 742f-1, and amending that section, 16 U.S.C.A. § 742f-1] may be cited as the 'National Wildlife Refuge Volunteer Act of 2004'."

1998 Amendments. Pub.L. 105-328, § 1, Oct. 30, 1998, 112 Stat. 3057, provided that: "This Act [enacting this note and provisions set out as a note under section 742l of this title and amending section 742l of this title] may be cited as the 'Fish and Wildlife Revenue Enhancement Act of 1998'."

Pub.L. 105-242, § 1, Oct. 5, 1998, 112 Stat. 1574, provided that: "This Act [amending section 742f of this title and enacting provisions set out as notes under section 742f of this title] may be cited as the 'National Wildlife Refuge System Volunteer and Community Partnership Enhancement Act of 1998'."

1978 Amendments. Pub.L. 95-616, § 1, Nov. 8, 1978, 92 Stat. 3110, provided: "That this Act [which enacted sections 695j-1, 712, 742l of this title and amended sections 460k-3, 666g, 668a, 668dd, 690e, 695i, 706, 715d, 715i, 715j, 718b, 718c, 718f, 753a of this title and sections 1114, 3112 of Title 18, Crimes and Criminal Procedure] may be cited as the 'Fish and Wildlife Improvement Act of 1978'."

1956 Acts. Act Aug. 8, 1956, c. 1036, § 1, 70 Stat. 1119, provided: "That this Act [enacting sections 742a to 742d and 742e to 742j of this title, and amending section 713c-3(e) of Title 15] may be cited as the 'Fish and Wildlife Act of 1956'."

LIBRARY REFERENCES

American Digest System

Fish 9.

Key Number System Topic No. 176.

Game 4.

Key Number System Topic No. 187.

Woods and Forests 6.

Key Number System Topic No. 411.

16 U.S.C.A. § 742a, 16 USCA § 742a

Current through P.L. 110-19 approved 04-23-07

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Presidential Documents

Executive Order 12996 of March 25, 1996

Management and General Public Use of the National Wildlife Refuge System

By the authority vested in me as President by the Constitution and the laws of the United States of America, and in furtherance of the purposes of the Fish and Wildlife Act of 1956 (16 U.S.C. 742a), the Fish and Wildlife Coordination Act (16 U.S.C. 661), the National Wildlife Refuge System Administration Act (16 U.S.C. 668dd), the Refuge Recreation Act (16 U.S.C. 460k), the Endangered Species Act of 1973 (16 U.S.C. 1531), the Emergency Wetlands Resources Act (16 U.S.C. 3901), the North American Wetlands Conservation Act (16 U.S.C. 4401), the National Environmental Policy Act (42 U.S.C. 4321), and other pertinent statutes, and in order to conserve fish and wildlife and their habitat, it is ordered as follows:

Section 1. *The Mission of the National Wildlife Refuge System.* The mission of the National Wildlife Refuge System ("Refuge System") is to preserve a national network of lands and waters for the conservation and management of fish, wildlife, and plant resources of the United States for the benefit of present and future generations.

Sec. 2. *Guiding Principles.* To help ensure a bright future for its treasured national heritage, I hereby affirm the following four guiding principles for the management and general public use of the Refuge System:

(a) *Public Use.* The Refuge System provides important opportunities for compatible wildlife-dependent recreational activities involving hunting, fishing, wildlife observation and photography, and environmental education and interpretation.

(b) *Habitat.* Fish and wildlife will not prosper without high-quality habitat, and without fish and wildlife, traditional uses of refuges cannot be sustained. The Refuge System will continue to conserve and enhance the quality and diversity of fish and wildlife habitat within refuges.

(c) *Partnerships.* America's sportsmen and women were the first partners who insisted on protecting valuable wildlife habitat within wildlife refuges. Conservation partnerships with other Federal agencies, State agencies, Tribes, organizations, industry, and the general public can make significant contributions to the growth and management of the Refuge System.

(d) *Public Involvement.* The public should be given a full and open opportunity to participate in decisions regarding acquisition and management of our National Wildlife Refuges.

Sec. 3. *Directives to the Secretary of the Interior.* To the extent consistent with existing laws and interagency agreements, the Secretary of the Interior, in carrying out his trustee and stewardship responsibilities for the Refuge System, is directed to:

(a) recognize compatible wildlife-dependent recreational activities involving hunting, fishing, wildlife observation and photography, and environmental education and interpretation as priority general public uses of the Refuge System through which the American public can develop an appreciation for fish and wildlife;

(b) provide expanded opportunities for these priority public uses within the Refuge System when they are compatible and consistent with sound principles of fish and wildlife management, and are otherwise in the public interest;

(c) ensure that such priority public uses receive enhanced attention in planning and management within the Refuge System;

(d) provide increased opportunities for families to experience wildlife-dependent recreation, particularly opportunities for parents and their children to safely engage in traditional outdoor activities, such as fishing and hunting;

(e) ensure that the biological integrity and environmental health of the Refuge System is maintained for the benefit of present and future generations of Americans;

(f) continue, consistent with existing laws and interagency agreements, authorized or permitted uses of units of the Refuge System by other Federal agencies, including those necessary to facilitate military preparedness;

(g) plan and direct the continued growth of the Refuge System in a manner that is best designed to accomplish the mission of the Refuge System, to contribute to the conservation of the ecosystems of the United States, and to increase support for the Refuge System and participation from conservation partners and the public;

(h) ensure timely and effective cooperation and collaboration with Federal agencies and State fish and wildlife agencies during the course of acquiring and managing National Wildlife Refuges;

(i) ensure appropriate public involvement opportunities will be provided in conjunction with refuge planning and management activities; and

(j) identify, prior to acquisition, existing compatible wildlife-dependent uses of new refuge lands that shall be permitted to continue on an interim basis pending completion of comprehensive planning.

Sec. 4. *Judicial Review.* This order does not create any right or benefit, substantive or procedural, enforceable at law or equity by a party against the United States, its agencies, its officers, or any person.

William Clinton

THE WHITE HOUSE,
March 25, 1996.

[FR Doc. 96-7774
Filed 3-27-96; 8:45 am]
Billing code 3195-01-P

B

25 U.S.C.A. § 458cc

C

Effective: December 27, 2000

United States Code Annotated Currentness

Title 25. Indians

Chapter 14. Miscellaneous

Subchapter II. Indian Self-Determination and Education Assistance (Refs & Annos)Part D. Tribal Self-Governance--Department of Interior

→ § 458cc. Funding agreements

(a) Authorization

The Secretary shall negotiate and enter into an annual written funding agreement with the governing body of each participating tribal government in a manner consistent with the Federal Government's laws and trust relationship to and responsibility for the Indian people.

(b) Contents

Each funding agreement shall--

(1) authorize the tribe to plan, conduct, consolidate, and administer programs, services, functions, and activities, or portions thereof, administered by the Department of the Interior through the Bureau of Indian Affairs, without regard to the agency or office of the Bureau of Indian Affairs within which the program, service, function, and activity, or portion thereof, is performed, including funding for agency, area, and central office functions in accordance with subsection (g)(3) of this section, and including any program, service, function, and activity, or portion thereof, administered under the authority of--

(A) the Act of April 16, 1934 (25 U.S.C. 452 et seq.);

(B) section 13 of this title; and

(C) programs, services, functions, and activities or portions thereof administered by the Secretary of the Interior that are otherwise available to Indian tribes or Indians for which appropriations are made to agencies other than the Department of the Interior;

(2) subject to such terms as may be negotiated, authorize the tribe to plan, conduct, consolidate, and administer programs, services, functions, and activities, or portions thereof, administered by the Department of the Interior, other than through the Bureau of Indian Affairs, that are otherwise available to Indian tribes or Indians, as identified in section 458ee(c) of this title, except that nothing in this subsection may be construed to provide any tribe with a preference with respect to the opportunity of the tribe to administer programs, services, functions, and activities, or portions thereof, unless such preference is otherwise provided for by law;

(3) subject to the terms of the agreement, authorize the tribe to redesign or consolidate programs, services, functions, and activities, or portions thereof, and reallocate funds for such programs, services, functions, and activities, or portions thereof, except that, with respect to the reallocation, consolidation, and redesign of programs described in paragraph (2), a joint agreement between the Secretary and the tribe shall be required;

(4) prohibit the inclusion of funds provided--

(A) pursuant to the Tribally Controlled College or University Assistance Act of 1978 (25 U.S.C. 1801 et seq.);

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(B) for elementary and secondary schools under the formula developed pursuant to section 2008 of this title; and

(C) the Flathead Agency Irrigation Division or the Flathead Agency Power Division, except that nothing in this section shall affect the contract authority of such divisions under section 450f of this title;

(5) specify the services to be provided, the functions to be performed, and the responsibilities of the tribe and the Secretary pursuant to the agreement;

(6) authorize the tribe and the Secretary to reallocate funds or modify budget allocations within any year, and specify the procedures to be used;

(7) allow for retrocession of programs or portions of programs pursuant to section 450j(e) of this title;

(8) provide that, for the year for which, and to the extent to which, funding is provided to a tribe under this section, the tribe--

(A) shall not be entitled to contract with the Secretary for such funds under section 450f of this title, except that such tribe shall be eligible for new programs on the same basis as other tribes; and

(B) shall be responsible for the administration of programs, services, functions, and activities pursuant to agreements entered into under this section; and

(9) prohibit the Secretary from waiving, modifying, or diminishing in any way the trust responsibility of the United States with respect to Indian tribes and individual Indians that exists under treaties, Executive orders, and other laws.

(c) Additional activities

Each funding agreement negotiated pursuant to subsections (a) and (b) of this section may, in accordance to such additional terms as the parties deem appropriate, also include other programs, services, functions, and activities, or portions thereof, administered by the Secretary of the Interior which are of special geographic, historical, or cultural significance to the participating Indian tribe requesting a compact.

(d) Provisions relating to Secretary

Funding agreements negotiated between the Secretary and an Indian tribe shall include provisions--

(1) to monitor the performance of trust functions by the tribe through the annual trust evaluation, and

(2) for the Secretary to reassume a program, service, function, or activity, or portions thereof, if there is a finding of imminent jeopardy to a physical trust asset, natural resources, or public health and safety.

(e) Construction projects

(1) Regarding construction programs or projects, the Secretary and Indian tribes may negotiate for the inclusion of specific provisions of the Office of Federal Procurement and Policy Act [41 U.S.C.A. § 401 et seq.] and Federal acquisition regulations in any funding agreement entered into under this subchapter. Absent a negotiated agreement, such provisions and regulatory requirements shall not apply.

(2) In all construction projects performed pursuant to this part, the Secretary shall ensure that proper health and safety standards are provided for in the funding agreements.

(f) Submission for review

Not later than 90 days before the proposed effective date of an agreement entered into under this section, the Secretary shall submit a copy of such agreement to--

- (1) each Indian tribe that is served by the Agency that is serving the tribe that is a party to the funding agreement;
- (2) the Committee on Indian Affairs of the Senate; and
- (3) the Subcommittee on Native American Affairs of the Committee on Natural Resources of the House of Representatives.

(g) Payment

- (1) At the request of the governing body of the tribe and under the terms of an agreement entered into under this section, the Secretary shall provide funding to the tribe to carry out the agreement.
- (2) The funding agreements authorized by this part and title III of this Act shall provide for advance payments to the tribes in the form of annual or semi-annual installments at the discretion of the tribes.
- (3) Subject to paragraph (4) of this subsection and paragraphs (1) through (3) of subsection (b) of this section, the Secretary shall provide funds to the tribe under an agreement under this part for programs, services, functions, and activities, or portions thereof, in an amount equal to the amount that the tribe would have been eligible to receive under contracts and grants under this subchapter, including amounts for direct program and contract support costs and, in addition, any funds that are specifically or functionally related to the provision by the Secretary of services and benefits to the tribe or its members, without regard to the organization level within the Department where such functions are carried out.
- (4) Funds for trust services to individual Indians shall be available under an agreement entered into under this section only to the extent that the same services that would have been provided by the Secretary are provided to individual Indians by the tribe.

(h) Civil actions

- (1) Except as provided in paragraph (2), for the purposes of section 450m-1 of this title, the term "contract" shall include agreements entered into under this part.
- (2) For the period that an agreement entered into under this part is in effect, the provisions of section 81 of this title, section 476 of this title, and the Act of July 3, 1952. (25 U.S.C. 82a), shall not apply to attorney and other professional contracts by Indian tribal governments participating in Self-Governance under this part.

(i) Facilitation

- (1) Except as otherwise provided by law, the Secretary shall interpret each Federal law and regulation in a manner that will facilitate--
 - (A) the inclusion of programs, services, functions, and activities in the agreements entered into under this section; and
 - (B) the implementation of agreements entered into under this section.
- (2)(A) A tribe may submit a written request for a waiver to the Secretary identifying the regulation sought to be waived and the basis for the request.
- (B) Not later than 60 days after receipt by the Secretary of a written request by a tribe to waive application of a Federal regulation for an agreement entered into under this section, the Secretary shall either approve or deny the

25 U.S.C.A. § 458cc

requested waiver in writing to the tribe. A denial may be made only upon a specific finding by the Secretary that identified language in the regulation may not be waived because such waiver is prohibited by Federal law. The Secretary's decision shall be final for the Department.

(j) Funds

All funds provided under funding agreements entered into pursuant to this subchapter, and all funds provided under contracts or grants made pursuant to this subchapter, shall be treated as non-Federal funds for purposes of meeting matching requirements under any other Federal law.

(k) Disclaimer

Nothing in this section is intended or shall be construed to expand or alter existing statutory authorities in the Secretary so as to authorize the Secretary to enter into any agreement under subsection (b)(2) of this section and section 458ee(c)(1) of this title with respect to functions that are inherently Federal or where the statute establishing the existing program does not authorize the type of participation sought by the tribe: *Provided*, however an Indian tribe or tribes need not be identified in the authorizing statute in order for a program or element of a program to be included in a compact under subsection (b)(2) of this section.

(l) Incorporate self-determination provisions

At the option of a participating tribe or tribes, any or all provisions of part A of this subchapter shall be made part of an agreement entered into under title III of this Act or this part. The Secretary is obligated to include such provisions at the option of the participating tribe or tribes. If such provision is incorporated it shall have the same force and effect as if set out in full in title III or this part.

CREDIT(S)

(Pub.L. 93-638, Title IV, § 403, as added Pub.L. 103-413, Title II, § 204, Oct. 25, 1994, 108 Stat. 4272, and amended Pub.L. 104-109, § 19, Feb. 12, 1996, 110 Stat. 766; Pub.L. 105-244, Title IX, § 901(d), Oct. 7, 1998, 112 Stat. 1828; Pub.L. 106-568, Title VIII, § 812(b), Dec. 27, 2000, 114 Stat. 2917.)

HISTORICAL AND STATUTORY NOTES

Revision Notes and Legislative Reports

1994 Acts. Related House Report No. 103-653, see 1994 U.S. Code Cong. and Adm. News, p. 3488.

1996 Acts. House Report No. 104-444, see 1996 U.S. Code Cong. and Adm. News, p. 469.

2000 Acts. Statement by President, see 2000 U.S. Code Cong. and Adm. News, p. 2717.

References in Text

The Act of April 16, 1934, referred to in subsec. (b)(1)(A), is Act Apr. 16, 1934, c. 147, 48 Stat. 596, as amended, known as the Johnson-O'Malley Act, which is classified generally to section 252 et seq. of this title. For complete classification of this Act to the Code, see Short Title note set out under section 452 of this title and Tables.

The Tribally Controlled Community College Assistance Act of 1978, referred to in subsec. (b)(4)(A), is Pub.L. 95-471, Oct. 17, 1978, 92 Stat. 1325, as amended, which is classified principally to chapter 20 (section 1801 et seq.) of this title. For complete classification of this Act to the Code, see Short Title note set out under section 1801 of this title and Tables.

The Office of Federal Procurement Policy Act, referred to in subsec. (e)(1), is Pub.L. 93-400, Aug. 30, 1974, 88 Stat. 796, as amended, which is classified principally to chapter 7 (section 401 et seq.) of Title 41, Public Contracts.

25 U.S.C.A. § 458cc

For complete classification of this Act to the Code, see Short Title note set out under section 401 of Title 41 and Tables.

This subchapter, referred to in subsecs. (e)(1), (g)(3) and (j), was in the original "this Act", meaning Pub.L. 93-638, Jan. 4, 1975, 88 Stat. 2203, as amended, known as the Indian Self-Determination and Education Assistance Act, which is classified principally to this subchapter (section 450 et seq.). For complete classification of this Act to the Code, see Short Title note set out under section 450 of this title and Tables.

Title III of this Act, referred to in subsecs. (g)(2) and (l), is Title III of Pub.L. 93-638, as added Pub.L. 100-472, Title II, § 209, Oct. 5, 1988, 102 Stat. 2296, which is set out as a note under section 450f of this title.

The Act of July 3, 1952, referred to in subsec. (h)(2), is Act July 3, 1952, c. 549, 66 Stat. 323, which enacted 25 U.S.C.A. § 82a and provisions set out as a note under 25 U.S.C.A. § 82a.

Part A of this subchapter, referred to in subsec. (l), in the original read "title I of this Act", meaning Title I of Pub.L. 93-638, which enacted part A (§ 450f et seq.) of this subchapter and section 2004b of Title 42, amended section 3371 of Title 5, section 4762 of Title 42, and section 456 of the Appendix to Title 50, and enacted provisions set out as a note under section 450 of this title. For complete classification of such Title I to the Code, see Short Title note set out under section 450 of this title and Tables.

Amendments

2000 Amendments. Subsec. (h)(2). Pub.L. 106-568, § 812(b), substituted "section 476 of this title, and section 82a of this title, shall not apply" for "and section 476 of this title, shall not apply".

1998 Amendments. Subsec. (b)(4)(A). Pub.L. 105-244, § 901(d), substituted "Tribally Controlled College or University Assistance Act of 1978" for "Tribally Controlled Community College Assistance Act of 1978".

1996 Amendments. Subsec. (l). Pub.L. 104-109, § 19, added subsec. (l).

Change of Name

Any reference in any provision of law enacted before Jan. 4, 1995, to the Committee on Natural Resources of the House of Representatives treated as referring to the Committee on Resources of the House of Representatives, see section 1(a)(8) of Pub.L. 104-14, set out as a note preceding section 21 of Title 2, The Congress.

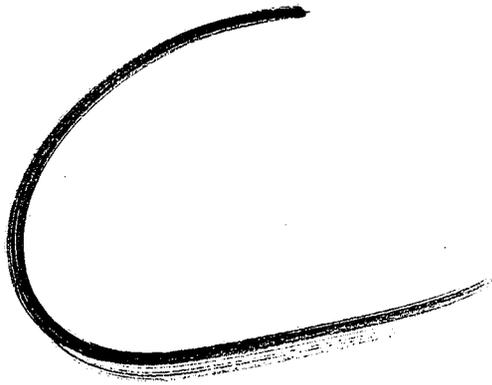
25 U.S.C.A. § 458cc, 25 USCA § 458cc

Current through P.L. 110-19 approved 04-23-07

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practical utility; (2) Evaluate the accuracy of the agency's estimate of the burden of the proposed collection of information; (3) Enhance the quality, utility, and clarity of the information to be collected, and (4) Minimize the burden of the collection of information on those who are to respond, including through the use of appropriate automated collection, techniques or other forms of information technology; e.g., permitting electronic submission of responses.

This Notice also lists the following information:

Title of Proposed: Application and Recertification Packages for Approval of Nonprofit Organizations for FHA Activities; Notice.

OMB Control Number, if applicable: 2502-XXXX.

Agency Form Number, if applicable: None.

Members of affected public: Nonprofit organizations wishing to participate in FHA activities.

Description of the Need for the Information and its Proposed use: The National Housing Act permits nonprofit organizations to act as mortgagors, to use FHA insured mortgages to finance the purchase and rehabilitation of housing for subsequent resale.

Approved nonprofits may also purchase HUD's Real Estate Owned Properties at a discount, and provide downpayment assistance to homebuyers in the form of secondary financing. It is vital that the Department periodically and uniformly assess the management and financial ability of participating nonprofit agencies to ensure they are not overextending their capabilities and increasing HUD's risk of loss as a mortgage insurance provider.

Estimation of the total numbers of hours needed to prepare the information collection including number of respondents, frequency of response, and hours of response: The estimated number of respondents are estimated to be 2,500, an average of 81,000 annual burden hours are estimated, and the frequency of responses is estimated to be once every two years.

Status of the proposed information collection: Pending OMB approval.

Authority: The Paperwork Reduction Act of 1995, 44 U.S.C. 35, as amended.

Dated: February 17, 2000.

Wayne Eddins,

Department Reports Management Officer,
Office of the Chief Information Officer.

[FR Doc. 00-4315 Filed 2-23-00; 8:45 am]

BILLING CODE 4210-27-M

DEPARTMENT OF THE INTERIOR

Office of the Secretary

List of Programs Eligible for Inclusion in Fiscal Year 2001 Annual Funding Agreements To Be Negotiated With Self-Governance Tribes by Interior Bureaus Other Than the Bureau of Indian Affairs

AGENCY: Office of the Secretary, Interior.

ACTION: Notice.

SUMMARY: This notice lists programs or portions of programs that are eligible for inclusion in Fiscal Year 2001 annual funding agreements with self-governance tribes and lists programmatic targets for each of the non-BIA bureaus, pursuant to section 405(c)(4) of the Tribal Self-Governance Act.

DATES: This notice expires on September 30, 2001.

ADDRESSES: Inquiries or comments regarding this notice may be directed to the Office of Self-Governance (MS-2542, MIB), 1849 C Street NW, Washington, DC 20240-0001. Telephone (202) 219-0240 or to the bureau points of contact listed below.

SUPPLEMENTARY INFORMATION:

I. Background

Title II of the Indian Self-Determination and Education Assistance Act Amendments of 1994 (Pub. L. 103-413, the "Self-Governance Act" or the "Act") instituted a permanent tribal self-governance program at the Department of the Interior (DOI). Under the self-governance program certain programs, services, functions, and activities, or portions thereof, in Interior bureaus other than BIA are eligible to be planned, conducted, consolidated, and administered by a self-governance tribal government.

Under section 405(c) of the Self-Governance Act, the Secretary of the Interior is required to publish annually: (1) A list of non-BIA programs, services, functions, and activities, or portions thereof, that are eligible for inclusion in agreements negotiated under the self-governance program; and (2) programmatic targets for these bureaus.

Under the Self-Governance Act, two categories of non-BIA programs are eligible for self-governance funding agreements:

(1) Under section 403(b)(2) of the Act, any non-BIA program, service, function or activity that is administered by Interior that is "otherwise available to Indian tribes or Indians," can be administered by a tribal government

through a self-governance agreement. The Department interprets this provision to authorize the inclusion of programs eligible for self-determination contracting under Title I of the Indian Self-Determination and Education Assistance Act (P.L. 93-638). Section 403(b)(2) also specifies that "nothing in this subsection may be construed to provide any tribe with a preference with respect to the opportunity of the tribe to administer programs, services, functions and activities, or portions thereof, unless such preference is otherwise provided for by law."

(2) Under section 403(c) of the Act, the Secretary may include other programs, services, functions, and activities, or portions thereof, that are of "special geographic, historical, or cultural significance" to a self-governance tribe.

Under section 403(k) of the Self-Governance Act, annual agreements cannot include programs, services, functions, or activities that are inherently Federal or where the statute establishing the existing program does not authorize the type of participation sought by the tribe. However, a tribe (or tribes) need not be identified in the authorizing statutes in order for a program or element to be included in a self-governance agreement. While general legal and policy guidance regarding what constitutes an inherently Federal function exists, we will determine whether a specific function is inherently Federal on a case-by-case basis considering the totality of circumstances.

Response to Comments

The Department received one letter from a self-governance tribe on the proposed list which commented as follows:

(1) Add to Section I-Background the fact that the program is administered by the Office of Self-Governance. This suggestion has not been adopted. Although the Office of Self-Governance administers the BIA portion of the program, it does not administer the non-BIA portion, which is the subject of this notice.

(2) Retain the reference to the Secretary's January 1995 Report to Congress in Section III, because it provides an expanded list of possible programs which may help tribes to see further options. Although it was inserted in last year's list, the Department has decided not to continue referencing the 1995 report, because it is out of date. Section 405(c) of the Act required this report to present an initial list of non-BIA programs eligible for inclusion in Self-Governance annual

1. *Ongoing Programs and Activities.* Components of the following programs are potentially eligible for inclusion in self-governance annual funding agreement.

- a. Archeological surveys
- b. Comprehensive management planning
- c. Cultural resource management projects
- d. Ethnographic studies
- e. Erosion control
- f. Fire protection
- g. Hazardous fuel reduction
- h. Housing construction and rehabilitation
- I. Gathering baseline subsistence data—AK
- j. Janitorial services
- k. Maintenance
- l. Natural resource management projects
- m. Range assessment—AK n. Reindeer grazing—AK
- o. Road repair
- p. Solid waste collection and disposal
- q. Trail rehabilitation

2. *Special Programs.* Aspects of these programs may be available if a self-governance tribe demonstrates a geographical, cultural, or historical connection.

- a. Beringia Research
- b. Elwha River Restoration

3. *Locations of National Park System Units in Close Proximity to Self-Governance Tribes.* Aspects of ongoing programs and activities may be available at park units with known geographic, cultural, or historical connections with a self-governance tribe.

- a. Lake Clark National Park and Preserve—AK
- b. Katmai National Park and Preserve—AK
- c. Glacier Bay National Park and Preserve—AK
- d. Sitka National Historical Park—AK
- e. Kenai Fjords National Park—AK
- f. Wrangell-St. Elias National Park & Preserve—AK
- g. Bering Land Bridge National Park—AK
- h. Northwest Alaska Areas—AK
- i. Gates of the Arctic National Park & Preserve—AK
- j. Yukon Charlie Rivers National Preserve—AK
- k. Casa Grande Ruins National Monument—AZ
- l. Joshua Tree National Park—CA
- m. Redwoods National Park—CA
- n. Whiskeytown National Recreation Area—CA
- o. Hagerman Fossil Beds National Monument—ID
- p. Sleeping Bear Dunes National Lakeshore—MI
- q. Voyageurs National Park—MI

- r. Grand Portage National Monument—MN
- s. Bear Paw Battlefield, Nez Perce National Historical Park—MT
- t. Glacier National Park—MT
- u. Great Basin National Park—NV
- v. Bandelier National Monument—NM
- w. Hopewell Culture National Historical Park—OK
- x. Chickasaw National Recreation Area—OK
- y. Effigy Mounds National Monument—IA
- z. Olympic National Park—WA
- a-1. San Juan Islands National Historic Park—WA
- b-1. Mt. Rainier National Park—WA
- c-1. Ebey's Landing National Historical Reserve—WA

For questions regarding self-governance contact Dr. Patricia Parker, Chief, American Indian Liaison Office, National Park Service (MS-3410), 1849 C Street NW, Washington, DC 20240-0001; telephone: (202) 208-5475, fax: (202) 273-0870.

E. Eligible Programs of the Office of Surface Mining and Reclamation Enforcement (OSM)

OSM regulates surface coal mining and reclamation operations, and reclaims abandoned coal mines, in cooperation with States and Indian tribes.

1. *Abandoned Mine Land Reclamation Program.* This program which restores eligible lands mined and abandoned or left inadequately restored is available to Indian tribes.

2. *Control of the Environmental Impacts of Surface Coal Mining.* This program includes analyses, NEPA documentation, technical reviews, and studies. Where surface coal mining exists on Indian land, certain regulatory activities that are not inherently Federal, including, for example, designation of areas unsuitable for mining, are available to Indian tribes.

For questions regarding self-governance contact Maria Mitchell, Office of Surface Mining Reclamation and Enforcement (MS-210-SIB), 1951 Constitution Ave. NW, Washington, DC 20240, telephone: (202) 208-2865, fax: (202) 291-3111.

F. Eligible Programs of the U.S. Fish and Wildlife Service (FWS)

The mission of FWS is to conserve, protect, and enhance fish, wildlife, and their habitats for the continuing benefit of the American people. Primary responsibilities are for migratory birds, endangered species, freshwater and anadromous fisheries, and certain marine mammals. FWS also has a continuing cooperative relationship

with a number of Indian tribes throughout the National Wildlife Refuge System and the Service's fish hatcheries. Any self-governance tribe may contact a National Wildlife Refuge or National Fish Hatchery directly concerning participation in Service programs under the Self-Governance Act.

Some elements of the following programs may be eligible for inclusion in a self-governance annual funding agreement. The listing below was developed considering the proximity of an identified self-governance tribe to a National Wildlife Refuge or National Fish Hatchery, and the types of programs that have components that may be suitable for contracting through a self-governance annual funding agreement. This listing is not all-inclusive but is representative of the types of programs which may be eligible for tribal participation through an annual funding agreement.

1. Subsistence Programs Within Alaska
2. Fish & Wildlife Technical Assistance, Restoration & Conservation
 - a. Fish & wildlife population surveys
 - b. Habitat surveys
 - c. Sport fish restoration
 - d. Capture of depredating migratory birds
 - e. Fish & wildlife program planning
 - f. Habitat restoration activities
3. Endangered Species Program
 - a. Cooperative management of conservation programs
 - b. Development and implementation of recovery plans
 - c. Conducting status surveys for high priority candidate species
 - d. Participation in the development of habitat conservation plans, as appropriate
4. Education Programs
 - a. Interpretation
 - b. Outdoor classrooms
 - c. Visitor center operations
 - d. Volunteer coordination efforts on-and off-refuge
5. Environmental Contaminants Program
 - a. Analytical devices
 - b. Removal of underground storage tanks
 - c. Specific cleanup activities
 - d. Natural resource economic analysis
 - e. Specific field data gathering efforts
6. Hatchery Operations
 - a. Egg taking
 - b. Rearing/feeding
 - c. Disease treatment
 - d. Tagging

- e. Clerical/facility maintenance
- 7. Wetland & Habitat Conservation and Restoration
 - a. Construction
 - b. Planning activities
 - c. Habitat monitoring and management
- 8. Conservation Law Enforcement
 - a. All law enforcement efforts under cross-deputization
- 9. National Wildlife Refuge Operations & Maintenance
 - a. Construction
 - b. Farming
 - c. Concessions
 - d. Maintenance
 - e. Comprehensive management planning
 - f. Biological program efforts
 - g. Habitat management
 - h. Fire Management
- Locations of Refuges and Hatcheries with close proximity to Indian Tribes
 - 1. Alaska National Wildlife Refuges—AK
 - 2. Alchesay National Fish Hatchery—AZ
 - 3. Humboldt Bay National Wildlife Refuge—CA
 - 4. Kootenai National Wildlife Refuge—ID
 - 5. Agassiz National Wildlife Refuge—MN
 - 6. Mille Lacs National Wildlife Refuge—MN
 - 7. Rice Lake National Wildlife Refuge—MN
 - 8. National Bison Range—MT
 - 9. Ninepipe National Wildlife Refuge—MT
 - 10. Pablo National Wildlife Refuge—MT
 - 11. Mescalero National Fish Hatchery—NM
 - 12. Sequoyah National Wildlife Refuge—OK
 - 13. Tishomingo National Wildlife Refuge—OK
 - 14. Bandon Marsh National Wildlife Refuge—OR
 - 15. Dungeness National Wildlife Refuge—WA
 - 16. Makah National Fish Hatchery—WA
 - 17. Nisqually National Wildlife Refuge—WA
 - 18. Quinault National Fish Hatchery—WA
 - 19. San Juan Islands National Wildlife Refuge—WA

For questions regarding self-governance contact Michael Smith, Deputy Assistant Director—External Affairs, Fish and Wildlife Service (MS3012), 1849 C Street NW, Washington, DC 20240-0001, telephone: (202) 208-4131, fax: (202) 208-7407.

G. Eligible Programs of the U.S. Geological Survey (USGS)

The mission of the U.S. Geological Survey is to provide information on biology, geology, hydrology, and cartography that contributes to the wise management of the nation's natural resources and to the health, safety, and well-being of the American people. Information includes maps, data bases, and descriptions and analyses of the water, plants, animals, energy, and mineral resources, land surface, underlying geologic structure and dynamic processes of the earth. Information on these scientific issues is developed through extensive research, field studies, and comprehensive data collection to: Evaluate natural hazards such as earthquakes, volcanoes, landslides, floods, droughts, subsidence and other ground failures; assess energy, mineral, and water resources in terms of their quality, quantity, and availability; evaluate the habitats of animals and plants; and produce geographic, cartographic, and remotely-sensed information in digital and non-digital formats. No USGS programs are specifically available to American Indians or Alaska Natives. Components of programs may have a special geographic, cultural, or historical connection with a self-governance tribe.

1. *Mineral, Environmental, and Energy Assessments.* Components of this program that involve geologic research, data acquisition, and predictive modeling may be available for inclusion in an annual funding agreement.

2. *USGS Earthquake Hazards Reduction Program.* Components of this program that involves research, data acquisition, and modeling related to earthquakes and seismically active areas may be available for inclusion in an annual funding agreement.

3. *Water Resources Data Collection and Investigations.* Components of this program may be available for inclusion in an annual funding agreement if a self-governance tribe demonstrates a special geographic, cultural, or historical connection.

4. *Biological Resources Inventory, Monitoring, Research and Information Transfer Activities.* Components of this program may be available for inclusion in an annual funding agreement if a self-governance tribe demonstrates a special geographic, cultural or historical connection.

For questions regarding self-governance contact Sue Marcus, American Indian/Alaska Native Liaison, U.S. Geological Survey, 107 National

Center, Reston, VA 20192, telephone: (703) 648-4437, fax: (703) 648-5470.

IV. Programmatic Targets

During Fiscal Year 2001, upon request of a self-governance tribe each non-BIA bureau will negotiate annual funding agreements for its eligible programs beyond those already negotiated.

Dated: February 17, 2000.

William A. Sinclair,

Director, Office of Self-Governance.

[FR Doc. 00-4326 Filed 2-23-00; 8:45 am]

BILLING CODE 4310-10-P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

Notice of Intent To Prepare a Comprehensive Plan for Crab Orchard National Wildlife Refuge in Williamson, Jackson and Union Counties, IL

ACTION: Notice of intent.

SUMMARY: This notice advises the public that the U.S. Fish and Wildlife Service (Service) intends to gather information necessary to prepare a comprehensive conservation plan and an environmental assessment for the Crab Orchard National Wildlife Refuge in Williamson, Jackson and Union counties, Illinois. The Service is furnishing this notice in compliance with Service comprehensive conservation plan policy and the National Environmental Policy Act, and implementing regulations to achieve the following:

(1) Advise other agencies and the public of our intentions, and

(2) Obtain suggestions and information on the scope of issues, opportunities, and concerns for inclusion in the environmental documents.

DATES: The Service will hold public scoping meetings in Spring 2000, and additional public meetings will be held to review the draft comprehensive conservation plan. It is anticipated that the draft plan will be available for public review by November 2000. An announcement of availability of the draft plan will appear in the Federal Register and on the Crab Orchard Refuge Comprehensive Conservation Plan web page (www.fws.gov/r3pao/planning/cotop.htm).

ADDRESSES: Address comments and requests for more information to: Refuge Manager, Crab Orchard National Wildlife Refuge, 8588 Route 148, Marion, Illinois 62959; or E-mail: conwr-ccp@fws.gov

SUPPLEMENTARY INFORMATION: It is the policy of the Service to have all lands

A summary of the meeting and a roster of Council members may be obtained from: Ms. Eileen Pensinger, M.Ed., Executive Secretary, CMHS National Advisory Council, 5600 Fishers Lane, Room 17C-27, Rockville, Maryland 20857, Telephone: (301) 443-4823.

Substantive program information may be obtained from the contact whose name and telephone number is listed below.

Committee Name: Center for Mental Health Services, National Advisory Council.

Meeting Date: January 25 and 26, 2001.

Place: Parklawn Building, 5600 Fishers Lane, Conference Room D, 3rd Floor, Rockville, Maryland 20857.

Closed: January 25, 2001, 9 a.m. to 10 a.m.

Open: January 25, 2001, 10:15 a.m. to 5 p.m.; January 26, 2001, 8:30 a.m. to 1 p.m.

Contact: Eileen Pensinger, M.Ed., Parklawn Building, 5600 Fishers Lane, Room 17C-27, Telephone: (301) 443-4823 and FAX: (301) 443-4864.

Dated: January 16, 2001.

Toian Vaughn,

Committee Management Officer, SAMHSA.

[FR Doc. 01-1871 Filed 1-22-01; 8:45 am]

BILLING CODE 4162-20-U

DEPARTMENT OF THE INTERIOR

Office of the Secretary; Glen Canyon Dam Adaptive Management Work Group; Notice of Renewal

This notice is published in accordance with section 9(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463). Following consultation with the General Services Administration, notice is hereby given that the Secretary of the Interior (Secretary) is renewing the Glen Canyon Dam Adaptive Management Work Group. The purpose of the Adaptive Management Work Group is to advise and provide recommendations to the Secretary with respect to his responsibility to comply with the Grand Canyon Protection Act of October 30, 1992, embodied in Public Law 102-575.

Further information regarding the advisory council may be obtained from the Bureau of Reclamation, Department of the Interior, 1849 C Street, NW, Washington, DC 20240.

The certification of renewal is published below.

Certification

I hereby certify that establishment of the Glen Canyon Dam Adaptive Management Work Group is in the public interest in connection with the purpose of duties imposed on the

Department of the Interior by 30 U.S.C. 1-8.

Dated: January 16, 2001.

Bruce Babbitt,

Secretary of the Interior.

[FR Doc. 01-1872 Filed 1-22-01; 8:45 am]

BILLING CODE 4310-MN-M

DEPARTMENT OF THE INTERIOR

Office of the Secretary

List of Programs Eligible for Inclusion in Fiscal Year 2002 Annual Funding Agreements To Be Negotiated With Self-Governance Tribes by Interior Bureaus Other Than the Bureau of Indian Affairs

AGENCY: Office of the Secretary, Interior.

ACTION: Notice.

SUMMARY: This notice lists programs or portions of programs that are eligible for inclusion in Fiscal Year 2002 annual funding agreements with self-governance tribes and lists programmatic targets for each of the non-BIA bureaus, pursuant to section 405(c)(4) of the Tribal Self-Governance Act.

DATES: This notice expires on September 30, 2002.

ADDRESSES: Inquiries or comments regarding this notice may be directed to the Office of Self-Governance (MS-2542, MIB), 1849 C Street NW., Washington, DC 20240-0001.

Telephone (202) 219-0240 or to the bureau points of contact listed below.

SUPPLEMENTARY INFORMATION:

I. Background

Title II of the Indian Self-Determination and Education Assistance Act Amendments of 1994 (Pub. L. 103-413, the "Self-Governance Act" or the "Act") instituted a permanent tribal self-governance program at the Department of the Interior (DOI). Under the self-governance program certain programs, services, functions, and activities, or portions thereof, in Interior bureaus other than BIA are eligible to be planned, conducted, consolidated, and administered by a self-governance tribal government.

Under section 405(c) of the Self-Governance Act, the Secretary of the Interior is required to publish annually: (1) A list of non-BIA programs, services, functions, and activities, or portions thereof, that are eligible for inclusion in agreements negotiated under the self-governance program; and (2) programmatic targets for these bureaus.

Under the Self-Governance Act, two categories of non-BIA programs are eligible for self-governance funding agreements:

(1) Under section 403(b)(2) of the Act, any non-BIA program, service, function or activity that is administered by Interior that is "otherwise available to Indian tribes or Indians," can be administered by a tribal government through a self-governance agreement. The Department interprets this provision to authorize the inclusion of programs eligible for self-determination contracting under Title I of the Indian Self-Determination and Education Assistance Act (Pub. L. 93-638). Section 403(b)(2) also specifies that "nothing in this subsection may be construed to provide any tribe with a preference with respect to the opportunity of the tribe to administer programs, services, functions and activities, or portions thereof, unless such preference is otherwise provided for by law."

(2) Under section 403(c) of the Act, the Secretary may include other programs, services, functions, and activities, or portions thereof, that are of "special geographic, historical, or cultural significance" to a self-governance tribe.

Under section 403(k) of the Self-Governance Act, annual agreements cannot include programs, services, functions, or activities that are inherently Federal or where the statute establishing the existing program does not authorize the type of participation sought by the tribe. However, a tribe (or tribes) need not be identified in the authorizing statutes in order for a program or element to be included in a self-governance agreement. While general legal and policy guidance regarding what constitutes an inherently Federal function exists, we will determine whether a specific function is inherently Federal on a case-by-case basis considering the totality of circumstances.

Response to Comments

The Department provided the proposed list to the Self-Governance Tribes at the semi-annual Tribal Self-Governance Fall Conference held in Nashville, Tennessee on October 10-12, 2000. No comments were received. Several minor editorial and technical change provided by Interior's bureaus were incorporated.

II. Annual Funding Agreements Between Self-Governance Tribes and Non-BIA Bureaus of the Department of the Interior

A. Bureau of Land Management (none)
B. Bureau of Reclamation (3)

which restores eligible lands mined and abandoned or left inadequately restored is available to Indian tribes.

2. *Control of the Environmental Impacts of Surface Coal Mining.* This program includes analyses, NEPA documentation, technical reviews, and studies. Where surface coal mining exists on Indian land, certain regulatory activities that are not inherently Federal are available to Indian tribes.

For questions regarding self-governance contact Maria Mitchell, Office of Surface Mining Reclamation and Enforcement (MS-210-SIB), 1951 Constitution Ave. NW., Washington, DC 20240, telephone: (202) 208-2865, fax: (202) 291-3111.

F. Eligible Programs of the U.S. Fish and Wildlife Service (FWS)

The mission of FWS is to conserve, protect, and enhance fish, wildlife, and their habitats for the continuing benefit of the American people. Primary responsibilities are for migratory birds, endangered species, freshwater and anadromous fisheries, and certain marine mammals. FWS also has a continuing cooperative relationship with a number of Indian tribes throughout the National Wildlife Refuge System and the Service's fish hatcheries. Any self-governance tribe may contact a National Wildlife Refuge or National Fish Hatchery directly concerning participation in Service programs under the Self-Governance Act.

Some elements of the following programs may be eligible for inclusion in a self-governance annual funding agreement. The listing below was developed considering the proximity of an identified self-governance tribe to a National Wildlife Refuge or National Fish Hatchery, and the types of programs that have components that may be suitable for contracting through a self-governance annual funding agreement. This listing is not all-inclusive but is representative of the types of programs which may be eligible for tribal participation through an annual funding agreement.

1. Subsistence Programs Within Alaska
2. Fish & Wildlife Technical Assistance, Restoration & Conservation
 - a. Fish & wildlife population surveys
 - b. Habitat surveys
 - c. Sport fish restoration
 1. Capture of depredating migratory birds
 - e. Fish & wildlife program planning
 - f. Habitat restoration activities

3. Endangered Species Program
 - a. Cooperative management of conservation programs
 - b. Development and implementation of recovery plans
 - c. Conducting status surveys for high priority candidate species
 - d. Participation in the development of habitat conservation plans, as appropriate

Education Programs

- a. Interpretation
- b. Outdoor classrooms
- c. Visitor center operations
- d. Volunteer coordination efforts on- and off-refuge

Environmental Contaminants Program

- a. Analytical devices
- b. Removal of underground storage tanks
- c. Specific cleanup activities
- d. Natural resource economic analysis
- e. Specific field data gathering efforts

Hatchery Operations

- a. Egg taking
- b. Rearing/feeding
- c. Disease treatment
- d. Tagging
- e. Clerical/facility maintenance

7. Wetland & Habitat Conservation and Restoration

- a. Construction
- b. Planning activities
- c. Habitat monitoring and management

8. Conservation Law Enforcement

All law enforcement efforts under cross-deputization

9. National Wildlife Refuge Operations & Maintenance

- a. Construction
- b. Farming
- c. Concessions
- d. Maintenance
- e. Comprehensive management planning
- f. Biological program efforts
- g. Habitat management
- h. Fire Management

Locations of Refuges and Hatcheries With Close Proximity to Indian Tribes

1. Alaska National Wildlife Refuges—AK
2. Alchey National Fish Hatchery—AZ
3. Humboldt Bay National Wildlife Refuge—CA
4. Kootenai National Wildlife Refuge—ID
5. Agassiz National Wildlife Refuge—MN
6. Mille Lacs National Wildlife Refuge—MN

7. Rice Lake National Wildlife Refuge—MN
8. National Bison Range—MT
9. Ninemipe National Wildlife Refuge—MT
10. Pablo National Wildlife Refuge—MT
11. Mescalero National Fish Hatchery—NM
12. Sequoyah National Wildlife Refuge—OK
13. Tishomingo National Wildlife Refuge—OK
14. Bandon Marsh National Wildlife Refuge—OR
15. Dungeness National Wildlife Refuge—WA
16. Makah National Fish Hatchery—WA
17. Nisqually National Wildlife Refuge—WA
18. Quinalt National Fish Hatchery—WA
19. San Juan Islands National Wildlife Refuge—WA

For questions regarding self-governance contact Patrick Durham, Fish and Wildlife Service (MS3012), 1849 C Street NW., Washington, DC 20240-0001, telephone: (202) 208-4133, fax: (202) 208-7407.

G. Eligible Programs of the U.S. Geological Survey (USGS)

The mission of the U.S. Geological Survey is to provide information on biology, geology, hydrology, and cartography that contributes to the wise management of the nation's natural resources and to the health, safety, and well-being of the American people. Information includes maps, data bases, and descriptions and analyses of the water, plants, animals, energy, and mineral resources, land surface, underlying geologic structure and dynamic processes of the earth. Information on these scientific issues is developed through extensive research, field studies, and comprehensive data collection to: evaluate natural hazards such as earthquakes, volcanoes, landslides, floods, droughts, subsidence and other ground failures; assess energy, mineral, and water resources in terms of their quality, quantity, and availability; evaluate the habitats of animals and plants; and produce geographic, cartographic, and remotely-sensed information in digital and non-digital formats. No USGS programs are specifically available to American Indians or Alaska Natives because of their status as Indians/Natives. Components of programs may have a special geographic, cultural, or historical connection with a self-governance tribe.

1. *Mineral, Environmental, and Energy Assessments.* Components of this program that involve geologic

Fort Campbell
Ft. Campbell Co: Christian KY 42223-
Location: 02715, 02717, 02719, 02721, 02723,
02725, 02727
Landholding Agency: Army
Property Number: 21200210079
Status: Unutilized
Reason: Extensive deterioration
Bldgs. 02736, 05326
Fort Campbell
Ft. Campbell Co: Christian KY 42223-
Landholding Agency: Army
Property Number: 21200210080
Status: Unutilized
Reason: Extensive deterioration
Bldg. 02738
Fort Campbell
Ft. Campbell Co: Christian KY 42223-
Landholding Agency: Army
Property Number: 21200210081
Status: Unutilized
Reason: Extensive deterioration

New York
Bldg. OK1
Coast Guard Station
Alexandria Bay Co. Jefferson NY 13640-
Landholding Agency: DOT
Property Number: 87200210017
Status: Unutilized
Reason: Secured Area
Bldg. OK2
Coast Guard Station
Alexandria Bay Co. Jefferson NY 13640-
Landholding Agency: DOT
Property Number: 87200210018
Status: Unutilized
Reason: Secured Area
Bldg. OK3
Coast Guard Station
Alexandria Bay Co. Jefferson NY 13640-
Landholding Agency: DOT
Property Number: 87200210019
Status: Unutilized
Reason: Secured Area
Bldg. OG1
Coast Guard Station
Alexandria Bay Co. Jefferson NY 13640-
Landholding Agency: DOT
Property Number: 87200210020
Status: Unutilized
Reason: Secured Area
Bldg. OG2
Coast Guard Station
Alexandria Bay Co. Jefferson NY 13640-
Landholding Agency: DOT
Property Number: 87200210021
Status: Unutilized
Reason: Secured Area

Virginia
Bldg. WB-61
Naval Station
Norfolk Co: VA 23511-
Landholding Agency: Navy
Property Number: 77200210125
Status: Unutilized
Reason: Extensive deterioration
Bldg. WB-63
Naval Station
Norfolk Co: VA 23511-
Landholding Agency: Navy
Property Number: 77200210126
Status: Unutilized
Reason: Extensive deterioration

Bldg. WB-64
Naval Station
Norfolk Co: VA 23511-
Landholding Agency: Navy
Property Number: 77200210127
Status: Unutilized
Reason: Extensive deterioration
Bldg. WB-66
Naval Station
Norfolk Co: VA 23511-
Landholding Agency: Navy
Property Number: 77200210128
Status: Unutilized
Reason: Extensive deterioration
Bldg. WB-67
Naval Station
Norfolk Co: VA 23511-
Landholding Agency: Navy
Property Number: 77200210129
Status: Unutilized
Reason: Extensive deterioration

Land (by State)

Puerto Rico
Parcel 2E
Naval Security Group
Sabana Seca Co: Toa Baja PR
Landholding Agency: GSA
Property Number: 54200210024
Status: Excess
Reason: Within 2000 ft. of flammable or
explosive material
GSA Number: 1-N-PR-496
Parcel 2R
Naval Security Group
Sabana Seca Co: Toa Baja PR
Landholding Agency: GSA
Property Number: 54200210025
Status: Excess
Reason: Within 2000 ft. of flammable or
explosive material
GSA Number: 1-N-PR-494
Parcel 2W
Naval Security Group
Sabana Seca Co: Toa Baja PR
Landholding Agency: GSA
Property Number: 54200210026
Status: Excess
Reason: Within 2000 ft. of flammable or
explosive material
GSA Number: 1-N-PR-495

[FR Doc. 02-7950 Filed 4-4-02; 8:45 am]

BILLING CODE 4210-29-M

DEPARTMENT OF THE INTERIOR**Office of the Secretary****List of Programs Eligible for Inclusion in Fiscal Year 2003 Annual Funding Agreements To Be Negotiated With Self-Governance Tribes by Interior Bureaus Other Than the Bureau of Indian Affairs**

AGENCY: Office of the Secretary, Interior.
ACTION: Notice.

SUMMARY: This notice lists programs or portions of programs that are eligible for inclusion in Fiscal Year 2003 annual funding agreements with self-

governance tribes and lists programmatic targets for each of the non-BIA bureaus, pursuant to section 405(c)(4) of the Tribal Self-Governance Act.

DATES: This notice expires on September 30, 2003.

ADDRESSES: Inquiries or comments regarding this notice may be directed to the Office of Self-Governance (MS-2548, MIB), 1849 C Street NW., Washington, DC 20240-0001. Telephone (202) 219-0240 or to the bureau points of contact listed below.

SUPPLEMENTARY INFORMATION:**I. Background**

Title II of the Indian Self-Determination and Education Assistance Act Amendments of 1994 (Public Law 103-413, the "Self-Governance Act" or the "Act") instituted a permanent tribal self-governance program at the Department of the Interior (DOI). Under the self-governance program certain programs, services, functions, and activities, or portions thereof, in Interior bureaus other than BIA are eligible to be planned, conducted, consolidated, and administered by a self-governance tribal government.

Under section 405(c) of the Self-Governance Act, the Secretary of the Interior is required to publish annually: (1) A list of non-BIA programs, services, functions, and activities, or portions thereof, that are eligible for inclusion in agreements negotiated under the self-governance program; and (2) programmatic targets for these bureaus.

Under the Self-Governance Act, two categories of non-BIA programs are eligible for self-governance funding agreements:

(1) Under section 403(b)(2) of the Act, any non-BIA program, service, function or activity that is administered by Interior that is "otherwise available to Indian tribes or Indians," can be administered by a tribal government through a self-governance agreement. The Department interprets this provision to authorize the inclusion of programs eligible for self-determination contracting under Title I of the Indian Self-Determination and Education Assistance Act (Public Law 93-638). Section 403(b)(2) also specifies that "nothing in this subsection may be construed to provide any tribe with a preference with respect to the opportunity of the tribe to administer programs, services, functions and activities, or portions thereof, unless such preference is otherwise provided for by law."

10. Yukon Charlie Rivers National Preserve—AK
11. Casa Grande Ruins National Monument—AZ
 2. Joshua Tree National Park—CA
13. Redwood National Park—CA
14. Whiskeytown National Recreation Area—CA
15. Hagerman Fossil Beds National Monument—ID
16. Bear Paw Battlefield, Nez Perce National Historical Park—ID
17. Boston Harbor Islands, a National Park Area—MA
18. Cape Cod National Seashore—MA
19. New Bedford Whaling National Historical Park—MA
20. Sleeping Bear Dunes National Lakeshore—MI
21. Voyageurs National Park—MN
22. Grand Portage National Monument—MN
23. Glacier National Park—MT
24. Great Basin National Park—NV
25. Bandelier National Monument—NM
26. Fort Stanwix National Monument—NY
27. Cuyahoga Valley National Recreation Area—OH
28. Hopewell Culture National Historical Park—OH
29. Chickasaw National Recreation Area—OK
30. Effigy Mounds National Monument—IA
 1. Olympic National Park—WA
 2. San Juan Islands National Historic Park—WA
33. Mt. Rainier National Park—WA
34. Ebey's Landing National Historical Reserve—WA

For questions regarding self-governance contact Dr. Patricia Parker, Chief, American Indian Liaison Office, National Park Service (MS-3410), 1849 C Street NW, Washington, DC 20240-0001; telephone: (202) 208-5475, fax: (202) 273-0870.

E. Eligible Programs of the Office of Surface Mining and Reclamation Enforcement (OSM)

OSM regulates surface coal mining and reclamation operations, and reclaims abandoned coal mines, in cooperation with States and Indian tribes.

1. *Abandoned Mine Land Reclamation Program.* This program which restores eligible lands mined and abandoned or left inadequately restored is available to Indian tribes.

2. *Control of the Environmental Impacts of Surface Coal Mining.* This program includes analyses, NEPA documentation, technical reviews, and studies. Where surface coal mining exists on Indian land, certain regulatory activities that are not inherently Federal are available to Indian tribes.

For questions regarding self-governance contact Maria Mitchell, Office of Surface Mining Reclamation and Enforcement (MS-210-SIB), 1951 Constitution Ave. NW, Washington, DC 20240, telephone: (202) 208-2865, fax: (202) 291-3111.

F. Eligible Programs of the U.S. Fish and Wildlife Service (FWS)

The mission of FWS is to conserve, protect, and enhance fish, wildlife, and their habitats for the continuing benefit of the American people. Primary responsibilities are for migratory birds, endangered species, freshwater and anadromous fisheries, and certain marine mammals. FWS also has a continuing cooperative relationship with a number of Indian tribes throughout the National Wildlife Refuge System and the Service's fish hatcheries. Any self-governance tribe may contact a National Wildlife Refuge or National Fish Hatchery directly concerning participation in Service programs under the Self-Governance Act.

Some elements of the following programs may be eligible for inclusion in a self-governance annual funding agreement. The listing below was developed considering the proximity of an identified self-governance tribe to a National Wildlife Refuge or National Fish Hatchery, and the types of programs that have components that may be suitable for contracting through a self-governance annual funding agreement. This listing is not all-inclusive but is representative of the types of programs which may be eligible for tribal participation through an annual funding agreement.

1. *Subsistence Programs within Alaska.*

2. *Fish & Wildlife Technical Assistance, Restoration & Conservation:*

- a. Fish & wildlife population surveys
- b. Habitat surveys
- c. Sport fish restoration
- d. Capture of depredating migratory birds
- e. Fish & wildlife program planning
- f. Habitat restoration activities

3. *Endangered Species Program:*

- a. Cooperative management of conservation programs
- b. Development and implementation of recovery plans
- c. Conducting status surveys for high priority candidate species
- d. Participation in the development of habitat conservation plans, as appropriate

4. *Education Programs:*

- a. Interpretation
- b. Outdoor classrooms

- c. Visitor center operations
- d. Volunteer coordination efforts on- and off-refuge

5. *Environmental Contaminants Program:*

- a. Analytical devices
- b. Removal of underground storage tanks
- c. Specific cleanup activities
- d. Natural resource economic analysis
- e. Specific field data gathering efforts

6. *Hatchery Operations:*

- a. Egg taking
- b. Rearing/feeding
- c. Disease treatment
- d. Tagging
- e. Clerical/facility maintenance

7. *Wetland & Habitat Conservation and Restoration:*

- a. Construction
- b. Planning activities
- c. Habitat monitoring and management

8. *Conservation Law Enforcement.* All law enforcement efforts under cross-deputization

9. *National Wildlife Refuge Operations & Maintenance:*

- a. Construction
- b. Farming
- c. Concessions
- d. Maintenance
- e. Comprehensive management planning
- f. Biological program efforts
- g. Habitat management
- h. Fire Management

Locations of Refuges and Hatcheries with close proximity to Indian Tribes:

1. Alaska National Wildlife Refuges—AK
2. Alchesay National Fish Hatchery—AZ
3. Humboldt Bay National Wildlife Refuge—CA
4. Kootenai National Wildlife Refuge—ID
5. Agassiz National Wildlife Refuge—MN
6. Mille Lacs National Wildlife Refuge—MN
7. Rice Lake National Wildlife Refuge—MN
8. National Bison Range—MT
9. Ninepipe National Wildlife Refuge—MT
10. Pablo National Wildlife Refuge—MT
11. Mescalero National Fish Hatchery—NM
12. Sequoyah National Wildlife Refuge—OK
13. Tishomingo National Wildlife Refuge—OK
14. Bandon Marsh National Wildlife Refuge—OR
15. Dungeness National Wildlife Refuge—WA
16. Makah National Fish Hatchery—WA

information and its proposed use; (5) the agency form number, if applicable; (6) what members of the public will be affected by the proposal; (7) how frequently information submissions will be required; (8) an estimate of the total number of hours needed to prepare the information submission including number of respondents, frequency of response, and hours of response; (9) whether the proposal is new, an extension, reinstatement, or revision of an information collection requirement;

and (10) the name and telephone number of an agency official familiar with the proposal and of the OMB Desk Officer for the Department.

This Notice also lists the following information:

Title of Proposal: Rural Housing and Economic Development Grant Application.

OMB Approval Number: 2506-0169.

Form Numbers: SF 424, HUD.

Description of the Need for the Information and Its Proposed Use: The

proposed information collection is to be used for selection of applicants for Rural Housing and Economic Development program grant funds to develop the capacity for housing and economic development activities in rural areas and for innovative grants for housing and economic development.

Respondents: Not-for-profit institutions, State, Local or Tribal Government.

	Number of respondents	Annual responses	×	Hours per response	=	Burden hours
Reporting Burden	627	1,047	....	42	....	43,590

Status: Reinstatement, without change, of previously approved collection for which approval has expired.

Authority: Sec. 3507 of the Paperwork Reduction Act of 1995, 44 U.S.C. 35, as amended.

Dated: December 15, 2003.

Wayne Eddins,

Departmental Reports Management Officer, Office of the Chief Information Officer.

[FR Doc. 03-31401 Filed 12-19-03; 8:45 am]

BILLING CODE 4210-72-P

associated with jurisdictions that have undertaken successful efforts in removing barriers. HUD also solicited comment on the November 25, 2003, notice. The purpose of this notice is to announce that the public comment due date has been extended to January 12, 2004.

DATES: Comment Due Date: January 12, 2004.

ADDRESSES: Interested persons are invited to submit comments regarding this rule to the Regulations Division, Office of General Counsel, Room 10276, Department of Housing and Urban Development, 451 Seventh Street, SW., Washington, DC 20410-0500.

Comments should refer to the above docket number and title. A copy of each communication submitted will be available for public inspection and copying during regular business hours (weekdays 8 a.m. to 5 p.m. Eastern time) at the above address. Facsimile (FAX) comments are not acceptable.

FOR FURTHER INFORMATION CONTACT:

Camille E. Acevedo, Associate General Counsel for Legislation and Regulations, Office of General Counsel, Room 10282, Department of Housing and Urban Development, 451 Seventh Street, SW., Washington, DC 20410-0500, telephone (202) 708-1793 (this is not a toll-free number). Persons with hearing or speech impairments may access this number through TTY by calling the toll-free Federal Information Relay Service at (800) 877-8339.

SUPPLEMENTARY INFORMATION: As noted in the Summary portion of this notice, on November 25, 2003 (68 FR 66294), HUD announced its intention to establish in the majority of its FY2004 Notices of Funding Availability (NOFAs), including HUD's SuperNOFA, a policy priority for increasing the supply of affordable housing through the removal of regulatory barriers. The

November 25, 2003, notice describes in detail the proposal and also solicited public comment, and provided a public comment through December 29, 2003.

The purpose of this notice published in today's Federal Register is to announce that the public comment due date has been extended to January 12, 2004.

Dated: December 16, 2003.

A. Bryant Applegate,

Senior Counsel and Director of America's Affordable Communities Initiative.

[FR Doc. 03-31399 Filed 12-19-03; 8:45 am]

BILLING CODE 4210-67-P

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

[Docket No. FR-4882-N-02]

America's Affordable Communities Initiative, HUD's Initiative on Removal of Regulatory Barriers: Proposals for Incentive Criteria on Barrier Removal in HUD's Funding Allocations; Extension of Public Comment Deadline

AGENCY: Office of the General Counsel, HUD.

ACTION: Notice.

SUMMARY: On November 25, 2003, HUD published a notice that announced HUD's intention to establish in the majority of its FY2004 Notices of Funding Availability (NOFAs), including HUD's SuperNOFA, a policy priority for increasing the supply of affordable housing through the removal of regulatory barriers. This new policy priority will be added to the list of policy priorities that HUD traditionally includes in its NOFAs. As a policy priority (and like the other policy priorities), higher rating points will be available to governmental applicants that are able to demonstrate successful efforts in removing regulatory barriers to affordable housing, and to nongovernmental applicants that are

DEPARTMENT OF THE INTERIOR

Office of the Secretary

List of Programs Eligible for Inclusion in Fiscal Year 2004 Annual Funding Agreements To Be Negotiated With Self-Governance Tribes by Interior Bureaus Other Than the Bureau of Indian Affairs

AGENCY: Office of the Secretary, Interior.
ACTION: Notice.

SUMMARY: This notice lists programs or portions of programs that are eligible for inclusion in Fiscal Year 2004 annual funding agreements with self-governance tribes and lists programmatic targets for each of the non-BIA bureaus, pursuant to section 405(c)(4) of the Tribal Self-Governance Act.

DATES: This notice expires on September 30, 2004.

ADDRESSES: Inquiries or comments regarding this notice may be directed to the Office of Self-Governance (MS-2548, MIB), 1849 C Street, NW., Washington, DC 20240-0001. Telephone (202) 219-0240 or to the bureau points of contact listed below.

SUPPLEMENTARY INFORMATION:

1. Ongoing Programs and Activities.

Components of the following programs are potentially eligible for inclusion in self-governance annual funding agreement.

- a. Archeological surveys
- b. Comprehensive management planning
- c. Cultural resource management projects
- d. Ethnographic studies
- e. Erosion control
- f. Fire protection
- g. Gathering baseline subsistence data—AK
- h. Hazardous fuel reduction
- i. Housing construction and rehabilitation
- j. Interpretation
- k. Janitorial services
- l. Maintenance
- m. Natural resource management projects
- n. Operation of campgrounds
- o. Range assessment—AK
- p. Reindeer grazing—AK
- q. Road repair
- r. Solid waste collection and disposal
- s. Trail rehabilitation
- t. Watershed restoration and maintenance

2. Special Programs. Aspects of these programs may be available if a self-governance tribe demonstrates a geographical, cultural, or historical connection.

- a. Beringia Research
- b. Elwha River Restoration

Locations of National Park System Units in Close Proximity to Self-Governance Tribes. Aspects of ongoing programs and activities may be available at park units with known geographic, cultural, or historical connections with a self-governance tribe.

1. Lake Clark National Park and Preserve—AK
2. Katmai National Park and Preserve—AK
3. Glacier Bay National Park and Preserve—AK
4. Klondike Gold Rush National Historical Park—AK
5. Sitka National Historical Park—AK
6. Kenai Fjords National Park—AK
7. Wrangell-St. Elias National Park & Preserve—AK
8. Western Arctic Parklands—AK
9. Gates of the Arctic National Park & Preserve—AK
10. Yukon-Charley Rivers National Preserve—AK
11. Casa Grande Ruins National Monument—AZ
2. Joshua Tree National Park—CA
3. Redwood National Park—CA
14. Whiskeytown National Recreation Area—CA

15. Hagerman Fossil Beds National Monument—ID
16. Bear Paw Battlefield, Nez Perce National Historical Park—ID
17. Boston Harbor Islands, a National Park Area—MA
18. Cape Cod National Seashore—MA
19. New Bedford Whaling National Historical Park—MA
20. Sleeping Bear Dunes National Lakeshore—MI
21. Voyageurs National Park—MN
22. Grand Portage National Monument—MN
23. Glacier National Park—MT
24. Great Basin National Park—NV
25. Bandelier National Monument—NM
26. Fort Stanwix National Monument—NY
27. Cuyahoga Valley National Park—OH
28. Hopewell Culture National Historical Park—OH
29. Chickasaw National Recreation Area—OK
30. Effigy Mounds National Monument—IA
31. Olympic National Park—WA
32. San Juan Islands National Historic Park—WA
33. Mt. Rainier National Park—WA
34. Ebey's Landing National Historical Reserve—WA

For questions regarding self-governance contact Dr. Patricia Parker, Chief, American Indian Liaison Office, National Park Service (Org. 2560), 1849 C Street, NW., Washington, DC 20240-0001; telephone: (202) 354-6965, fax: (202) 371-6609.

E. Eligible Programs of the Office of Surface Mining and Reclamation Enforcement (OSM)

OSM regulates surface coal mining and reclamation operations, and reclaims abandoned coal mines, in cooperation with States and Indian tribes.

1. Abandoned Mine Land Reclamation Program. This program which restores eligible lands mined and abandoned or left inadequately restored is available to Indian tribes.

2. Control of the Environmental Impacts of Surface Coal Mining. This program includes analyses, NEPA documentation, technical reviews, and studies. Where surface coal mining exists on Indian land, certain regulatory activities that are not inherently Federal are available to Indian tribes.

For questions regarding self-governance contact Maria Mitchell, Office of Surface Mining Reclamation and Enforcement (MS-210-SIB), 1951 Constitution Ave., NW., Washington, D.C. 20240, telephone: (202) 208-2865, fax: (202) 291-3111.

F. Eligible Programs of the U.S. Fish and Wildlife Service (FWS)

The mission of FWS is to conserve, protect, and enhance fish, wildlife, and their habitats for the continuing benefit of the American people. Primary responsibilities are for migratory birds; endangered species, freshwater and anadromous fisheries, and certain marine mammals. FWS also has a continuing cooperative relationship with a number of Indian tribes throughout the National Wildlife Refuge System and the Service's fish hatcheries. Any self-governance tribe may contact a National Wildlife Refuge or National Fish Hatchery directly concerning participation in Service programs under the Self-Governance Act.

Some elements of the following programs may be eligible for inclusion in a self-governance annual funding agreement. The listing below was developed considering the proximity of an identified self-governance tribe to a National Wildlife Refuge or National Fish Hatchery, and the types of programs that have components that may be suitable for contracting through a self-governance annual funding agreement. This listing is not all-inclusive but is representative of the types of programs which may be eligible for tribal participation through an annual funding agreement.

1. *Subsistence Programs within Alaska*
2. *Fish & Wildlife Technical Assistance, Restoration & Conservation*
 - a. Fish & wildlife population surveys
 - b. Habitat surveys
 - c. Sport fish restoration
 - d. Capture of depredating migratory birds
 - e. Fish & wildlife program planning
 - f. Habitat restoration activities
3. *Endangered Species Program*
 - a. Cooperative management of conservation programs
 - b. Development and implementation of recovery plans
 - c. Conducting status surveys for high priority candidate species
 - d. Participation in the development of habitat conservation plans, as appropriate
4. *Education Programs*
 - a. Interpretation
 - b. Outdoor classrooms
 - c. Visitor center operations
 - d. Volunteer coordination efforts on- and off-refuge
5. *Environmental Contaminants Program*
 - a. Analytical devices
 - b. Removal of underground storage tanks
 - c. Specific cleanup activities

- d. Natural resource economic analysis
 - e. Specific field data gathering efforts
 - 6. *Hatchery Operations*
 - a. Egg taking
 - b. Rearing/feeding
 - c. Disease treatment
 - d. Tagging
 - e. Clerical/facility maintenance
 - 7. *Wetland & Habitat Conservation and Restoration*
 - a. Construction
 - b. Planning activities
 - c. Habitat monitoring and management
 - 8. *Conservation Law Enforcement*
 - a. All law enforcement efforts under cross-deputization
 - 9. *National Wildlife Refuge Operations & Maintenance*
 - a. Construction
 - b. Farming
 - c. Concessions
 - d. Maintenance
 - e. Comprehensive management planning
 - f. Biological program efforts
 - g. Habitat management
 - h. Fire Management
 - Locations of Refuges and Hatcheries with close proximity to Self-Governance Tribes*
 - 1. Alaska National Wildlife Refuges—AK
 - 2. Alchesay National Fish Hatchery—AZ
 - 3. Humboldt Bay National Wildlife Refuge—CA
 - 4. Kootenai National Wildlife Refuge—ID
 - 5. Agassiz National Wildlife Refuge—MN
 - 6. Mille Lacs National Wildlife Refuge—MN
 - 7. Rice Lake National Wildlife Refuge—MN
 - 8. National Bison Range—MT
 - 9. Ninepipe National Wildlife Refuge—MT
 - 10. Pablo National Wildlife Refuge—MT
 - 11. Mescalero National Fish Hatchery—NM
 - 12. Sequoyah National Wildlife Refuge—OK
 - 13. Tishomingo National Wildlife Refuge—OK
 - 14. Bandon Marsh National Wildlife Refuge—OR
 - 15. Dungeness National Wildlife Refuge—WA
 - 16. Makah National Fish Hatchery—WA
 - 17. Nisqually National Wildlife Refuge—WA
 - 18. Quinault National Fish Hatchery—WA
 - 19. San Juan Islands National Wildlife Refuge—WA
- For questions regarding self-governance contact Patrick Durham,

Fish and Wildlife Service (MS3012),
1849 C Street NW., Washington, DC
20240-0001, telephone: (202) 208-4133,
fax: (202) 501-3524.

G. Eligible Programs of the U.S. Geological Survey (USGS)

The mission of the U.S. Geological Survey is to provide information on biology, geology, hydrology, and cartography that contributes to the wise management of the Nation's natural resources and to the health, safety, and well-being of the American people. Information includes maps, data bases, and descriptions and analyses of the water, plants, animals, energy, and mineral resources, land surface, underlying geologic structure and dynamic processes of the earth. Information on these scientific issues is developed through extensive research, field studies, and comprehensive data collection to: evaluate natural hazards such as earthquakes, volcanoes, landslides, floods, droughts, subsidence and other ground failures; assess energy, mineral, and water resources in terms of their quality, quantity, and availability; evaluate the habitats of animals and plants; and produce geographic, cartographic, and remotely-sensed information in digital and non-digital formats. No USGS programs are specifically available to American Indians or Alaska Natives. Components of the following programs may have a special geographic, cultural, or historical connection with a self-governance tribe:

1. *Mineral, Environmental, and Energy Assessments.*
2. *USGS Earthquake Hazards Reduction Program.*
3. *Water Resources Data Collection and Investigations.*
4. *Biological Resources Inventory, Monitoring, Research and Information Transfer Activities.*

For questions regarding self-governance contact Sue Marcus, American Indian/Alaska Native Liaison, U.S. Geological Survey, 104 National Center, Reston, VA 20192, telephone: (703) 648-4437, fax: (703) 648-5470., e-mail address: smarcus@usgs.gov.

IV. Programmatic Targets

During Fiscal Year 2004, upon request of a self-governance tribe each non-BIA bureau will negotiate annual funding agreements for its eligible programs beyond those already negotiated.

Dated: December 5, 2003.

William A. Sinclair,
Director, Office of Self-Governance.
[FR Doc. 03-31162 Filed 12-19-03; 8:45 am]
BILLING CODE 4310-W8-P

DEPARTMENT OF THE INTERIOR

Office of the Secretary

Blackstone River Valley National Heritage Corridor Commission; Notice of Meeting

Notice is hereby given in accordance with Section 552b of Title 5, United States Code, that a meeting of the John H. Chafee Blackstone River Valley National Heritage Corridor Commission will be held on Thursday, February 05, 2004.

The Commission was established pursuant to Pub. L. 99-647. The purpose of the Commission is to assist Federal, State and local authorities in the development and implementation of an integrated resource management plan for those lands and waters within the Corridor.

The meeting will convene on February 5, 2004 at 4:30 p.m. at Mendon Town Hall located at 20 Main Street, Mendon, MA for the following reasons:

1. Approval of Minutes
2. Chairman's Report
3. Executive Director's Report
4. Financial Budget
5. Public Input

It is anticipated that about twenty-five people will be able to attend the session in addition to the Commission members.

Interested persons may make oral or written presentations to the Commission or file written statements. Such requests should be made prior to the meeting to: Michael Creasey, Executive Director, John H. Chafee, Blackstone River Valley National Heritage Corridor Commission, One Depot Square, Woonsocket, RI 02895, Tel.: (401) 762-0250.

Further information concerning this meeting may be obtained from Michael Creasey, Executive Director of the Commission at the aforementioned address.

Michael Creasey,

Executive Director, BRVNHCC.

[FR Doc. 03-31435 Filed 12-19-03; 8:45 am]

BILLING CODE 4310-RK-P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

Notice of Availability of the Final Comprehensive Conservation Plan and Summary for the Alamosa-Monte Vista National Wildlife Refuges Complex, Alamosa, CO

AGENCY: Fish and Wildlife Service, Department of the Interior.

ACTION: Notice of availability.

SUMMARY: The U.S. Fish and Wildlife Service announces that the final Comprehensive Conservation Plan (CCP) and Summary are available for the Alamosa-Monte Vista National Wildlife Refuges Complex. This CCP, prepared

DEPARTMENT OF THE INTERIOR

Office of the Secretary

List of Programs Eligible for Inclusion in Fiscal Year 2006 Funding Agreements To Be Negotiated With Self-Governance Tribes by Interior Bureaus Other Than the Bureau of Indian Affairs

AGENCY: Office of the Secretary, Interior.

ACTION: Notice.

SUMMARY: This notice lists programs or portions of programs that are eligible for inclusion in Fiscal Year 2006 funding agreements with self-governance tribes and lists programmatic targets for each of the non-BIA bureaus, pursuant to section 405(c)(4) of the Tribal Self-Governance Act.

DATES: This notice expires on September 30, 2006.

ADDRESSES: Inquiries or comments regarding this notice may be directed to Dr. Ken Reinfeld, Office of Self-Governance and Self-Determination (MS-4618, MIB), 1849 C Street NW., Washington, DC 20240-0001, telephone: (202) 208-5734, fax: (202) 219-1404, or to the bureau points of contact listed below.

SUPPLEMENTARY INFORMATION:

Background

Title II of the Indian Self-Determination Act Amendments of 1994 (Pub. L. 103-413, the "Tribal Self-Governance Act", or the "Act") instituted a permanent self-governance program at the Department of the Interior (DOI). Under the self-governance program certain programs, services, functions, and activities, or portions thereof, in Interior bureaus other than BIA are eligible to be planned, conducted, consolidated, and administered by a self-governance tribal government.

Under section 405(c) of the Tribal Self-Governance Act, the Secretary of the Interior is required to publish annually: (1) A list of non-BIA programs, services, functions, and activities, or portions thereof, that are eligible for inclusion in agreements negotiated under the self-governance program; and (2) programmatic targets for these bureaus.

Under the Tribal Self-Governance Act, two categories of non-BIA programs are eligible for self-governance funding agreements:

(1) Under section 403(b)(2) of the Act, any non-BIA program, service, function or activity that is administered by Interior that is "otherwise available to Indian tribes or Indians," can be

administered by a tribal government through a self-governance funding agreement. The Department interprets this provision to authorize the inclusion of programs eligible for self-determination contracts under Title I of the Indian Self-Determination and Education Assistance Act (P.L. 93-638, as amended). Section 403(b)(2) also specifies "nothing in this subsection may be construed to provide any tribe with a preference with respect to the opportunity of the tribe to administer programs, services, functions and activities, or portions thereof, unless such preference is otherwise provided for by law."

(2) Under section 403(c) of the Act, the Secretary may include other programs, services, functions, and activities or portions thereof that are of "special geographic, historical, or cultural significance" to a self-governance tribe.

Under section 403(k) of the Tribal Self-Governance Act, funding agreements cannot include programs, services, functions, or activities that are inherently Federal or where the statute establishing the existing program does not authorize the type of participation sought by the tribe. However, a tribe (or tribes) need not be identified in the authorizing statutes in order for a program or element to be included in a self-governance funding agreement. While general legal and policy guidance regarding what constitutes an inherently Federal function exists, we will determine whether a specific function is inherently Federal on a case-by-case basis considering the totality of circumstances.

Response to Comments

The Department provided the proposed list to the self-governance tribes on April 18, 2005 for their review and comment. No comments were received. Several minor editorial and technical changes provided by Interior's bureaus were incorporated.

II. Funding Agreements Between Self-Governance Tribes and Non-BIA Bureaus of the Department of the Interior

- A. Bureau of Land Management (none)
- B. Bureau of Reclamation (4)
 - Gila River Indian Community
 - Karuk Tribe of California
 - Duckwater Shoshone Tribe of Nevada
 - Yurok Tribe
- C. Minerals Management Service (none)
- D. National Park Service (4)
 - Grand Portage Band of Lake Superior
 - Chippewa Indians
 - Lower Elwha S'Klallam Tribe
 - Tanana Chiefs Conference, Inc.

- Yurok Tribe
- E. Office of Surface Mining and Reclamation Enforcement (none)
- F. U.S. Fish and Wildlife Service (2)
 - Council of Athabascan Tribal Governments
 - Confederated Salish and Kootenai Tribes of the Flathead Reservation
- G. U.S. Geological Survey (none)
- H. Office of the Special Trustee for American Indians (three)
 - Cherokee Nation of Oklahoma
 - Confederated Salish and Kootenai Tribes of the Flathead Reservation
 - Wyandotte Tribe of Oklahoma

III. Eligible Programs of the Department of the Interior Non-BIA Bureaus

Below is a listing by bureau of the types of non-BIA programs, or portions thereof, that may be eligible for self-governance funding agreements because they are either "otherwise available to Indians" under Title I and not precluded by any other law, or may have "special geographic, historical, or cultural significance" to a participating tribe. The lists represent the most current information on programs potentially available to tribes under a self-governance funding agreement.

The Department will also consider for inclusion in funding agreements other programs or activities not included below, but which, upon request of a self-governance tribe, the Department determines to be eligible under either sections 403(b)(2) or 403(c) of the Act. Tribes with an interest in such potential agreements are encouraged to begin discussions with the appropriate non-BIA bureau.

A. Eligible Programs of the Bureau of Land Management (BLM)

BLM management responsibilities cover a wide range of areas, such as recreational activities, timber, range and minerals management, wildlife habitat management and watershed restoration. In addition, BLM is responsible for the survey of certain Federal and tribal lands. Two programs provide tribal services: (1) Tribal and allottee minerals management; and (2) Survey of tribal and allottee lands.

BLM carries out some of its activities in the management of public lands through contracts and cooperative agreements. These and other activities, dependent upon availability of funds, the need for specific services, and the self-governance tribe demonstrating a special geographic, cultural, or historical connection, may also be available for inclusion in self-governance funding agreements. Once a tribe has made initial contact with BLM, more specific information will be

studies. Where surface coal mining exists on Indian land, certain regulatory activities that are not inherently Federal are available to Indian tribes.

For questions regarding self-governance, contact Maria Mitchell, Office of Surface Mining Reclamation and Enforcement (MS-210 SIB), 1951 Constitution Ave. NW., Washington, DC 20240, telephone: (202) 208-2865, fax: (202) 219-3111.

F. Eligible Programs of the U.S. Fish and Wildlife Service (FWS)

The mission of FWS is to conserve, protect, and enhance fish, wildlife, and their habitats for the continuing benefit of the American people. Primary responsibilities are for migratory birds, endangered species, freshwater and anadromous fisheries, and certain marine mammals. FWS also has a continuing cooperative relationship with a number of Indian tribes throughout the National Wildlife Refuge System and the Service's fish hatcheries. Any self-governance tribe may contact a National Wildlife Refuge or National Fish Hatchery directly concerning participation in Service programs under the Tribal Self-Governance Act.

Some elements of the following programs may be eligible for inclusion in a self-governance funding agreement. The listing below was developed considering the proximity of an identified self-governance tribe to a National Wildlife Refuge or National Fish Hatchery, and the types of programs that have components that may be suitable for contracting through a self-governance funding agreement. This listing is not all-inclusive but is representative of the types of programs which may be eligible for tribal participation through a funding agreement.

1. *Subsistence Programs Within Alaska*
2. *Fish and Wildlife Technical Assistance, Restoration and Conservation*
 - a. Fish and Wildlife Population Surveys
 - b. Habitat Surveys
 - c. Sport Fish Restoration
 - d. Capture of Depredating Migratory Birds
 - e. Fish and Wildlife Program Planning
 - f. Habitat Restoration Activities
3. *Endangered Species Program*
 - a. Cooperative Management of Conservation Programs
 - b. Development and Implementation of Recovery Plans
 - c. Conducting Status Surveys for High Priority Candidate Species
 - d. Participation in the Development of Habitat Conservation Plans, as

- appropriate
4. *Education Programs*
 - a. Interpretation
 - b. Outdoor Classrooms
 - c. Visitor Center Operations
 - d. Volunteer Coordination Efforts On- and Off-Refuge
5. *Environmental Contaminants Program*
 - a. Analytical Devices
 - b. Removal of Underground Storage Tanks
 - c. Specific Cleanup Activities
 - d. Natural Resource Economic Analysis
 - e. Specific Field Data Gathering Efforts
6. *Hatchery Operations*
 - a. Egg Taking
 - b. Rearing/Feeding
 - c. Disease Treatment
 - d. Tagging
 - e. Clerical/Facility Maintenance
7. *Wetland and Habitat Conservation and Restoration*
 - a. Construction
 - b. Planning Activities
 - c. Habitat Monitoring and Management
8. *Conservation Law Enforcement*
All Law Enforcement under Cross-Deputization
9. *National Wildlife Refuge Operations and Maintenance*
 - a. Construction
 - b. Farming
 - c. Concessions
 - d. Maintenance
 - e. Comprehensive Management Planning
 - f. Biological Program Efforts
 - g. Habitat Management
 - h. Fire Management

Locations of Refuges and Hatcheries With Close Proximity to Self-Governance Tribes

1. Alaska National Wildlife Refuges—AK
2. Alchesay National Fish Hatchery—AZ
3. Humboldt Bay National Wildlife Refuge—ID
4. Kootenai National Wildlife Refuge—ID
5. Agassiz National Wildlife Refuge—MN
6. Mille Lacs National Wildlife Refuge—MN
7. Rice Lake National Wildlife Refuge—MN
8. National Bison Range—MT
9. Ninepipe National Wildlife Refuge—MT
10. Pablo National Wildlife Refuge—MT
11. Mescalero National Fish Hatchery—NM
12. Sequoyah National Wildlife Refuge—OK

13. Tishomingo National Wildlife Refuge—OK
14. Bandon Marsh National Wildlife Refuge—OR
15. Dungeness National Wildlife Refuge—WA
16. Makah National Fish Hatchery—WA
17. Nisqually National Wildlife Refuge—WA
18. Quinalt National Fish Hatchery—WA
19. San Juan Islands National Wildlife Refuge—WA

For questions regarding self-governance, contact Patrick Durham, Fish and Wildlife Service (MS-3012 MIB), 1849 C Street NW., Washington, DC 20240-0001, telephone: (202) 208-4133, fax: (202) 501-3524.

G. Eligible Programs of the U.S. Geological Survey (USGS)

The mission of the U.S. Geological Survey is to provide information on biology, geology, hydrology, and cartography that contributes to the wise management of the Nation's natural resources and to the health, safety, and well-being of the American people. Information includes maps, data bases, and descriptions and analyses of the water, plants, animals, energy, and mineral resources, land surface, underlying geologic structure and dynamic processes of the Earth. Information on these scientific issues is developed through extensive research, field studies, and comprehensive data collection to: evaluate natural hazards such as earthquakes, volcanoes, landslides, floods, droughts, subsidence and other ground failures; assess energy, mineral, and water resources in terms of their quality, quantity, and availability; evaluate the habitats of animals and plants; and produce geographic, cartographic, and remotely-sensed information in digital and non-digital formats. No USGS programs are specifically available to American Indians or Alaska Natives. Components of the following programs may have a special geographic, cultural, or historical connection with a self-governance tribe:

1. Mineral Environmental, and Energy Assessments
2. USGS Earthquake Hazards Reduction Program
3. Water Resources Data Collection and Investigations
4. Biological Resources Inventory, Monitoring, Research and Information Transfer Activities

For questions regarding self-governance, contact Sue Marcus, American Indian/Alaska Native Liaison, U.S. Geological Survey, 104 National

The three alternatives are described below.

Alternative 1 (Plan with Reduced Take) would require a more comprehensive implementation of avoidance and minimization measures than the proposed Plan. Specifically, under Alternative 1, avoidance and minimization measures would be implemented for all activities, including all small disturbance activities. These additional requirements would reduce take below the level anticipated under the proposed Plan. Compensation ratios for habitat loss or disturbance would be the same as those for the proposed Plan.

Alternative 2 (Plan with Enhanced Compensation) would provide enhanced compensation for impacts that cannot be avoided. Under Alternative 2, both permanent and temporary losses of suitable habitat would be compensated at a 3:1 ratio. Loss of wetlands, including vernal pools, would be compensated at a 3:1 ratio if compensation is accomplished through an existing mitigation bank, and at a 6:1 ratio if compensation takes place outside existing banks. Avoidance, minimization measures, and thresholds for implementation of avoidance and minimization measures would be the same as those for the proposed Plan.

Alternative 3 (Plan with Reduced Number of Covered Species) would cover fewer species than the proposed Plan. The following species covered under the proposed Plan would not be covered under Alternative 3: the vernal pool crustaceans, limestone salamander, California red-legged frog, giant garter snake, bank swallow, tricolored blackbird, Buena Vista Lake shrew, riparian brush rabbit, riparian woodrat, Tipton kangaroo rat, and 11 plant species. This alternative would focus on those species that are currently Federal or State listed and have been identified as having more than 2 acres of habitat likely to be disturbed by operations or maintenance activities each year. Avoidance and minimization measures, thresholds for implementation of avoidance and minimization measures, and habitat compensation would be the same as the proposed Plan.

Under the No-Action/No-Project alternative, the proposed Plan would not be adopted, and a permit pursuant to Section 10(a)(1)(B) of the ESA would not be issued by the Service. Compliance with the ESA would continue to be addressed on a case-by-case basis.

The final EIS/EIR is intended to accomplish the following: inform the public of the proposed Plan and the alternatives, address public comments received on the draft EIS/EIR; disclose

the direct, indirect, and cumulative environmental effects of the proposed action and each of the alternatives; and indicate any irreversible commitment of resources that would result from the implementation of the proposed Plan.

Public Review

The Service and PG&E invite the public to review the final EIS/EIR, proposed Plan, and the IA during a 30-day review period beginning on the date of this notice. Written comments from interested parties are welcome to ensure that the issues of public concern related to the proposed action are identified. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the office listed in the ADDRESSES section of this notice. All comments and materials received, including names and addresses, will become part of the administrative record and may be released to the public. Our practice is to make comments, including names, home addresses, home phone numbers, and email addresses of respondents, available for public review. Individual respondents may request that we withhold their names and/or homes addresses, etc., but if you wish us to consider withholding this information you must state this prominently at the beginning of your comments. In addition, you must present a rationale for withholding this information. This rationale must demonstrate that disclosure would constitute a clearly unwarranted invasion of privacy. Unsupported assertions will not meet this burden. In the absence of exceptional, documentable circumstances, this information will be released. We will always make submissions from organization or businesses, and from individuals identifying themselves as representatives of or officials of organizations or businesses, available for public inspection in their entirety.

We provide this notice in order to allow the public, agencies, or other organizations to review and comment on these final documents prior to our decision, pursuant to section 10(a) of the ESA and NEPA implementing regulations (40 CFR 1506.6 and 1506.10). The Service will evaluate the permit application, the associated final documents, and public comments submitted thereon to prepare a public Record of Decision (40 CFR 1505.2). No Federal decision on the permit will be made until at least 30 days after publication of this notice and subsequent issuance of the Record of Decision.

Dated: March 13, 2007.

Ken McDermond,
Deputy Manager, California/Nevada
Operations Office, Sacramento, California.
[FR Doc. E7-5334 Filed 3-22-07; 8:45 am]
BILLING CODE 4310-55-P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

List of Programs Eligible for Inclusion in Fiscal Year 2007 Funding Agreements With Self-Governance Tribes

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice.

SUMMARY: We, the Fish and Wildlife Service (Service), publish this notice to list programs or portions of our programs that are eligible for inclusion in Fiscal Year 2007 funding agreements with self-governance tribes, and to list programmatic targets pursuant to section 405(c)(4) of the Tribal Self-Governance Act.

DATES: This notice expires on September 30, 2007.

ADDRESSES: Direct any inquiries or comments about this notice to the American Indian Liaison Office, U.S. Fish and Wildlife Service, 1849 C Street, NW., Washington, DC 20240.

FOR FURTHER INFORMATION: For questions regarding self-governance, contact Patrick Durham, Native American Liaison, U.S. Fish and Wildlife Service, 1849 C Street, NW., Washington, DC 20240; telephone, 202-208-4133; fax 202-208-3524.

SUPPLEMENTARY INFORMATION:

I. Background

Title II of the Indian Self-Determination Act Amendments of 1994 (Pub. L. 103-413, the "Tribal Self-Governance Act" or the "Act") instituted a permanent self-governance program at the Department of the Interior (DOI). Under the self-governance program, certain programs, services, functions, and activities, or portions thereof, in DOI bureaus other than the Bureau of Indian Affairs (BIA) are eligible to be planned, conducted, consolidated, and administered by a self-governance tribal government.

Under section 405(c) of the Act, the Secretary of the Interior is required to publish annually: (1) A list of non-BIA programs, services, functions, and activities, or portions thereof, that are eligible for inclusion in agreements negotiated under the self-governance

program; and (2) programmatic targets for these bureaus.

Under the Act, two categories of non-BIA programs are eligible for self-governance annual funding agreements (AFAs):

(1) Under section 403(b)(2) of the Act, any non-BIA program, service, function or activity that is administered by DOI that is "otherwise available to Indian tribes or Indians" can be administered by a tribal government through a self-governance AFA. The Department interprets this provision to authorize the inclusion of programs eligible for self-determination contracts under Title I of the Indian Self-Determination and Education Assistance Act (Pub. L. 93-638, as amended). Section 403(b)(2) also specifies: "nothing in this subsection may be construed to provide any tribe with a preference with respect to the opportunity of the tribe to administer programs, services, functions and activities, or portions thereof, unless such preference is otherwise provided by law."

(2) Under section 403(c) of the Act, the Secretary may include other programs, services, functions, and activities or portions thereof that are of "special geographic, historical, or cultural significance" to a self-governance tribe.

Under section 403(k) of the Act, AFAs cannot include programs, services, functions, or activities that are inherently Federal or where the statute establishing the existing program does not authorize the type of participation sought by the tribe. However, a tribe (or tribes) need not be identified in the authorizing statutes in order for a program or element to be included in a self-governance AFA. While general legal and policy guidance regarding what constitutes an inherently Federal function exists, we will determine whether a specific function is inherently Federal on a case-by-case basis considering the totality of circumstances.

The Office of Self-Governance requested comments on the proposed list for all bureaus on June 14, 2006. A number of editorial and technical changes were provided by Interior's bureaus and incorporated into separate bureau-specific notices. While the notice of June 14, 2006, illustrated all eligible non-BIA programs for DOI, this notice is particular to the Fish and Wildlife Service.

II. Existing AFAs between Self-Governance Tribes and the Fish and Wildlife Service

1. Council of Athabascan Tribal Governments.

2. Confederated Salish and Kootenai Tribes of the Flathead Reservation.

III. Eligible Non-BIA Programs of the Service

Below is a listing of the types of non-BIA Service programs, or portions thereof, that may be eligible for self-governance funding agreements because they either are "otherwise available to Indians" under Title I and not precluded by any other law, or may have "special geographic, historical, or cultural significance" to a participating tribe. The list represents the most current information on programs potentially available to tribes under a self-governance AFA.

We will also consider for inclusion in funding agreements other programs or activities not included below, but which, upon request of a self-governance tribe, we determine to be eligible under either sections 403(b)(2) or 403(c) of the Act. Tribes with an interest in such potential agreements are encouraged to begin such discussions.

Our mission is to conserve, protect, and enhance fish, wildlife, and their habitats for the continuing benefit of the American people. Our primary responsibilities are for migratory birds, endangered species, freshwater and anadromous fisheries, and certain marine mammals. We also have a continuing cooperative relationship with a number of Indian tribes throughout the National Wildlife Refuge System and the Service's fish hatcheries. Any self-governance tribe may contact a national wildlife refuge or national fish hatchery directly concerning participation in our programs under the Act.

Some elements of the following programs may be eligible for inclusion in a self-governance AFA. We developed the list below based on the proximity of an identified self-governance tribe to a national park, monument, preserve, or recreation area and the types of programs that have components that may be suitable for contracting through a self-governance AFA. This list is not all-inclusive, but is representative of the types of Service programs which may be eligible for tribal participation through an AFA.

1. *Subsistence Programs in the State of Alaska.*

2. *Technical Assistance:*
 b. Habitat Surveys.
 c. Sport Fish Restoration.
 d. Capture of Depredating Migratory Birds.

e. Program Planning.
 f. Habitat Restoration Activities.
 3. *Endangered Species Programs:*

- a. Cooperative Management of Conservation Programs.
 b. Development and Implementation of Recovery Plans.
 c. Conducting Status Surveys for High Priority Candidate Species.
 d. Participation in the Development of Habitat Conservation Plans.
 4. *Education Programs:*
 a. Interpretation.
 b. Outdoor Classrooms.
 c. Visitor Center Operations.
 d. Volunteer Coordination Efforts on- and off-Refuge.
 5. *Environmental Contaminants Program:*
 a. Analytical Devices.
 b. Removal of Underground Storage Tanks.
 c. Specific Cleanup Activities.
 d. Natural Resource Economic Analysis.
 e. Specific Field Data Gathering Efforts.
 6. *Fish Hatchery Operations:*
 a. Egg Taking.
 b. Rearing/Feeding.
 c. Disease Treatment.
 d. Tagging.
 e. Clerical/Facility Maintenance.
 7. *Wetland and Habitat Conservation and Restoration:*
 a. Construction.
 b. Planning Activities.
 c. Habitat Monitoring and Management.
 8. *National Wildlife Refuge Operations and Maintenance:*
 a. Construction.
 b. Farming.
 c. Concessions.
 d. Maintenance.
 e. Comprehensive Management Planning.
 f. Biological Program Efforts.
 g. Habitat Management.

IV. Locations of Refuges and Hatcheries With Close Proximity to Self-Governance Tribes

- Alaska National Wildlife Refuges, Alaska.
- Alchesay National Fish Hatchery, Arizona.
- Humboldt Bay National Wildlife Refuge, Idaho.
- Kootenai National Wildlife Refuge, Idaho.
- Agassiz National Wildlife Refuge, Minnesota.
- Mille Lacs National Wildlife Refuge, Minnesota.
- Rice Lake National Wildlife Refuge, Minnesota.
- National Bison Range, Montana.
- Ninepipe National Wildlife Refuge, Montana.
- Pablo National Wildlife Refuge, Montana.

- 11. Mescalero National Fish Hatchery, New Mexico.
- 12. Sequoyah National Wildlife Refuge, Oklahoma.
- 3. Tishomingo National Wildlife Refuge, Oklahoma.
- 14. Bandon Marsh National Wildlife Refuge, Washington.
- 15. Dungeness National Wildlife Refuge, Washington.
- 16. Makah National Fish Hatchery, Washington.
- 17. Nisqually National Wildlife Refuge, Washington.
- 18. Quinalt National Fish Hatchery, Washington.
- 19. San Juan Islands National Wildlife Refuge, Washington.

V. Programmatic Targets

During Fiscal Year 2007, upon request of a self-governance tribe, the Fish and Wildlife Service will negotiate funding agreements for its eligible programs beyond those already negotiated.

Dated: March 6, 2007.

David Verhey,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. E7-5343 Filed 3-22-07; 8:45 am]

BILLING CODE 4310-55-P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

NV-912-07-1220PA-006F]

Cancellation of the BLM Nevada Resource Advisory Council Recreation Subcommittee Meeting

AGENCY: Bureau of Land Management, Interior.

ACTION: Cancellation of the BLM Nevada Resource Advisory Council Recreation Subcommittee Meeting.

SUMMARY: The March 29, 2007, meeting of the Bureau of Land Management's (BLM) Resource Advisory Councils Recreation Subcommittee has been cancelled.

DATE AND TIME: The Recreation Subcommittee was scheduled to meet Thursday, March 29, 2007, from 9 a.m. to 4:30 p.m. at the Bureau of Land Management, Nevada State Office, located at 1340 Financial Boulevard in Reno, Nevada.

FOR FURTHER INFORMATION CONTACT: Doran Sanchez, Chief, Office of Communications (775) 861-6586, or Barbara Keleher, Outdoor Recreation Planner (775) 861-6628, at the BLM Nevada State Office, 1340 Financial vd., Reno, Nevada.

JPPLEMENTARY INFORMATION: The meeting announced by a notice at 72 FR

9580 Mar. 2, 2007 is cancelled. The public will be notified via Federal Register Notice and news release when the meeting is rescheduled.

Dated: March 12, 2007.

Ron Wenker,

Bureau of Land Management, Nevada State Director.

[FR Doc. 07-1288 Filed 3-22-07; 8:45 am]

BILLING CODE 4310-HC-M

DEPARTMENT OF JUSTICE

Notice of Lodging of United States v. MFS, INC., (A/K/A Mineral Fiber Specialists), Civil Action No. 05-6656, (E.D. PA.) Under the Clean Air Act

Notice is hereby given that on March 9, 2007 a proposed Consent Decree *United States v. MFS, Inc., (a/k/a Mineral Fiber Specialists)*, Civil Action No. 05-6656, (E.D. Pa.) was lodged with the United States District Court for the Eastern District of Pennsylvania.

In this action the United States sought injunctive relief and civil penalties pursuant to Section 113(b) of the Clean Air Act, as amended ("CAA") 42 U.S.C. 7413(b), for alleged violations by Defendant MFS, Inc. of Section 112 of the CAA, 42 U.S.C. 7412, and the applicable requirements of 40 CFR part 63, subpart DDD. Defendant MFS, Inc. owns and operates a mineral wool production plant in the City of Bethlehem, Northampton County, Pennsylvania and is therefore subject to National Emission Standards for Hazardous Air Pollutants ("NESHAP") for mineral wool manufacturers codified at 40 CFR part 63, subpart DDD ("Mineral Wool or MW NESHAP"), specifically §§ 63.1175-63.1196. The Consent Decree requires the performance of injunctive relief including initial performance testing of the MFS facility, stipulated penalties for violations of Decree requirements and the payment of a civil penalty to the United States in the amount of \$109,000. The Decree authorizes MFS to use an alternative test protocol set forth in Appendix A to the Decree to determine compliance with the particulate matter ("PM") emission limits set forth in the Mineral Wool NESHAP, set forth in 40 CFR subpart DDD. If EPA determines that MFS has not complied with the NESHAP, the Decree requires MFS to further submit a plan to achieve compliance with the NESHAP subject to EPA review and approval. The Decree provides for stipulated penalties for noncompliance with the Decree requirements.

The Department of Justice will receive for a period of thirty (30) days from the

date of this publication comments relating to the lodged Consent Decree. Comments should be addressed to the Assistant Attorney General, Environment and Natural Resources Division, and either e-mailed to pubcomment-ees.enrd@usdoj.gov or mailed to P.O. Box 7611, and should refer to *United States v. MFS, Inc. (a/k/a Mineral Fiber Specialists)*, Civil Action No. 05-6656 (E.D. Pa).

The Consent Decree may be examined at the Office of the United States Attorney for the Eastern District of Pennsylvania in Philadelphia, Pennsylvania, and at U.S. EPA Region III in Philadelphia, Pennsylvania. During the public comment period, the Decree may also be examined on the following Department of Justice Web site, http://www.usdoj.gov/enrd/Consent_Decrees.html. A copy of the Decree may also be obtained by mail from the Consent Decree Library, P.O. Box 7611, U.S. Department of Justice, Washington, DC 20044-7611 or by faxing or e-mailing a request to Tonia Fleetwood (tonia.fleetwood@usdoj.gov), fax no. (202) 514-0097, phone confirmation number (202) 514-1547. In requesting a copy from the Consent Decree Library, please enclose a check in the amount of \$9 (5 cents per page reproduction cost) payable to the U.S. Treasury or, if by e-mail or fax, forward a check in that amount to the Consent Decree Library at the stated address.

Virginia Gibson,

Chief, Civil Division, United States Attorney's Office, Eastern District of Pennsylvania.

[FR Doc. 07-1429 Filed 3-22-07; 8:45 am]

BILLING CODE 4410-15-M

DEPARTMENT OF JUSTICE

Drug Enforcement Administration

Manufacturer of Controlled Substances; Notice of Registration

By Notice dated November 28, 2006, and published in the *Federal Register* on December 7, 2006, (71 FR 70985), Cayman Chemical Company, 1180 East Ellsworth Road, Ann Arbor, Michigan 48108, made application by renewal to the Drug Enforcement Administration (DEA) to be registered as a bulk manufacturer of the basic classes of controlled substances listed in schedule I:

Drug	Schedule
Marihuana (7360)	I
Tetrahydrocannabinols (7370)	I

D

Chronology of Events for CSKT National Bison Range AFA

- **December 1994:** CSKT announces intent to negotiate an agreement with FWS to contract activities at the National Bison Range.
- **June 2003:** CSKT and FWS hold first negotiation in Washington, D.C. for contracting activities at National Bison Range.
- **December 2004:** Annual Funding Agreement (AFA) was signed between the CSKT and the U.S. Fish and Wildlife Service. The signed AFA between the FWS and CSKT gave authority to the FWS National Bison Range manager to oversee CSKT's work, and allowed CSKT a staff manager for oversight of CSKT employees. CSKT was required to employ each affected federal employee who wanted to continue to work at the Bison Range. Two employees transferred to work for CSKT.
- **March 2005:** AFA between CSKT and FWS becomes effective.
- **February 2006:** FWS provides CSKT with FWS draft calendar year 2005 evaluation report of CSKT's performance. CSKT and FWS meet to discuss concerns. CSKT provides FWS with extensive written comments disputing FWS evaluation report.
- **June 2006:** Negotiations on FY 2007 AFA come to a standstill at FWS regional office level.
- **July 2006:** FWS evaluation of CSKT FY 2005 performance is released; states CSKT performance is mediocre. Some job responsibilities are rated well; others rated poorly.
- **September 2006:** CSKT meets with FWS and Interior officials in Washington, D.C. to discuss proposal for phasing in a full local tribal contracting of National Bison Range activities over a three year period.
- **September 2006:** FWS employees began to express concerns about difficulties at the workplace. Seven employees filed informal grievances with similar language stating that the AFA between the CSKT and the FWS has established a hostile workplace. The accusations include complaints of the use of foul language, safety concerns, intimidation, and lack of support. Employees send letter to Deputy Director Jay Slack.
- **October 2006:** CSKT requests copy of the grievance in order to address the allegations, and problems that may exist. Request is denied by Interior because of privacy. CSKT files administrative appeal, pursuant to Freedom of Information Act, of FWS denial. In November, CSKT is informed that due to FOIA backlog, Interior cannot respond to administrative appeal.
- **November 2006:** CSKT's head of tribal natural resources department files report stating that he asked FWS for copies of the complaints so he could address them, but was told the information was personal and private.
- **November 2006:** A number of bison were divided from the rest of the herd to prepare them for transfer to other facilities around the country. In a detailed report FWS National Bison Refuge manager Steve Kallin stated that the tribe was not following established protocol. Upon learning of the report, CKST employee Dale

Becker inspected and wrote his own report detailing bison feeding conditions, and countering accusations.

- **December 7, 2006:** Citing Kallin's report, FWS Regional Director James Slack sent a letter to tribal Chairman James Steele rescinding the responsibility of feeding the bison from the AFA.
- **December 11, 2006:** Regional director J. Mitch King sent a letter canceling the AFA, and had CSKT employees escorted off the premises. The letter also terminates negotiations for an FY 2007 AFA. FWS senior management later stated that they felt the personnel situation had become so bad it was in violation of federal law.
- **December 2006:** CSKT hired a veterinarian to examine the bison. Veterinarian's report stated the bison appeared healthy. CSKT representatives have been in continual correspondence with senior management at Interior. CSKT stated they were not allowed the proper procedural opportunity, as provided by Section 10 of the AFA, to rectify the problem.
- **December 2006:** Senior Interior management in Washington, D.C. requires FWS to work to restore AFA with CSKT. Deputy Secretary Lynn Scarlett states that "the authorization to terminate the AFA (or portions thereof) did not follow expected procedures—those that require the identification of problems and afford a reasonable opportunity to correct them."
- **January 2007:** CSKT filed a complaint with the Interior Board of Indian Appeals. Stayed complaint pending outcome of June decision by the Secretary of the Interior.
- **January 2007:** Senior Interior management travels to National Bison Range to meet with both CSKT and FWS staff. Direction at the end of these meetings is for CSKT and FWS to work on a new FY 2007 AFA. No work on new AFA is done to date.
- **February 2007:** Senior management in Washington D.C. requires FWS to work with CSKT to develop a new AFA for the end of FY 2007; involves dispute resolution professionals, hires mediators; sets deadline for Secretarial decision for June 29.
- **April 2007:** FWS announce staffing and budget cuts for the National Bison Range, stating that the cuts were in long-term regional plans for a number of years. Staff was cut to 6 positions; plans include moving a large percentage of the bison to various other refuges around the West for management.
- **May, 2007:** New AFA for remainder of fiscal year is distributed for comment to BIA and FWS. BIA returns comments by deadline. FWS is given extension to return comments.
- **May 7, 2007:** CSKT petitioned the Board of Indian Appeals to lift the stay. Board agrees and requests briefs.

FISH AND WILDLIFE SERVICE
Mountain-Prairie Region

IN REPLY REFER TO:

NWRS/NBR 1
Mail Stop 60130MAILING ADDRESS:
Post Office Box 25486
Denver Federal Center
Denver, Colorado 80225-0486STREET LOCATION:
134 Union Blvd.
Lakewood, Colorado 80228-1807

Exhibit

A

December 11, 2006

VIA FACSIMILIE AND FEDERAL EXPRESS

James H. Steele, Jr.
Chairman
CSKT Tribal Council
P.O. Box 278
Pablo, Montana 59855

Re: National Bison Range Complex; Unavailability for Negotiations; Termination of Negotiations for FY 2007AFA; Termination of Authority to Extend Performance Under Expired FY 2006 AFA

Dear Chairman Steele:

The U.S. Fish and Wildlife Service (Service or FWS) hereby notifies the Confederated Salish and Kootenai Tribes of the Flathead Reservation (CSKT) that, effective on the date of this letter:

1. The National Bison Range Complex (NBRC) is unavailable to the CSKT for negotiations concerning an annual funding agreement (AFA) under the Tribal Self-Governance Act; and
2. The Service is terminating negotiations with the CSKT for a Fiscal Year (FY) 2007 AFA between the Service and the CSKT for activities at the NBRC.

Also effective on the date of this letter, the Service is withdrawing the CSKT's authority to extend performance under the expired FY 2006 AFA between the Service and the CSKT for activities at the NBRC (FY 2006 AFA). The Service hereby reassumes all responsibility for performing all activities covered by the expired FY 2006 AFA.

Upon receipt of a facsimile copy of this letter, the CSKT must:

1. Immediately cease performing all activities at the NBRC under the expired FY 2006 AFA.

2. Initiate the return to the Service of all available property provided to the CSKT by the Service under the expired FY 2006 AFA, to be completed not later than 4:00 P.M., Mountain Standard Time, on December 12, 2006.
3. Initiate the withdrawal from the NBRC of all CSKT employees, contractors, and volunteers acting on behalf of the CSKT under the expired FY 2006 AFA, to be completed not later than 4:00 P.M., Mountain Standard Time, on December 12, 2006.

1. *Background*

On December 15, 2004, the Service and the CSKT entered into a FY 2006 AFA for activities at the NBRC. In April 2006, the Service and the CSKT began negotiations for a FY 2007 AFA for activities at the NBRC.

In the negotiations, the Service's position generally was that a FY 2007 AFA should be essentially the same as the FY 2006 AFA, with only those minor revisions needed to reflect what the Service and the CSKT learned in operating under the FY 2006 AFA. The CSKT's position generally was that the scope of work for a FY 2007 AFA should be significantly greater than for the FY 2006 AFA, and that under a FY 2007 AFA the CSKT should have significantly more management control of operations at the NBRC than it had under the FY 2006 AFA. While the Service and the CSKT reached agreement in principle on a number of relatively minor issues concerning a FY 2007 AFA, they remained at an impasse on the above two issues.

When it was evident that the negotiations for a FY 2007 AFA would not be completed prior to expiration of the FY 2006 AFA, the Service, on September 5, 2006, authorized the CSKT to extend performance of the FY 2006 AFA into FY 2007, beginning on October 1, 2006. The FY 2006 AFA expired on September 30, 2006. Since October 1, 2006, the CSKT has been performing at the NBRC under the expired FY 2006 AFA.

On October 4, 2006, the CSKT sent the Service a proposed FY 2007 AFA that substantially revised the FY 2006 AFA. Among other things, the revisions included a phased-in schedule for the CSKT to take over operation of the entire NBRC. The Service rejected the CSKT's proposed revisions as contrary to the Service's statutory mission and responsibilities at the NBRC, and the Service's consistent negotiating position.

The Service and the CSKT last met for formal negotiations concerning a FY 2007 AFA on May 31 to June 1, 2006. The negotiations reached a standstill when Service employees alleged mistreatment by the CSKT in connection with the CSKT's performance under the expired FY 2006 AFA. Those and other issues concerning the CSKT's initial and extended performance under the expired FY 2006 AFA have lead the Service to conclude that continuing to make the NBRC available for negotiations with the CSKT would be contrary to the Service's statutory mission and responsibilities at the NBRC.

2. Procedures

The Secretary of the Interior has promulgated regulations governing annual funding agreements under the Tribal Self-Governance Act amendments to the Indian Self-Determination Act (Tribal Self-Governance Regulations). 25 C.F.R. Part 1000.

Under the Tribal Self-Governance Regulations at 25 C.F.R. § 1000.173(d)(2), "If [a] program is unavailable for negotiation, the bureau will give to the Tribe/Consortium a written explanation of why the program is unavailable for negotiation." This letter provides that written explanation of why the NBRC is unavailable to the CSKT for negotiation.

The Tribal Self-governance Regulations also provide for last and best offers in the event a bureau and a tribe do not reach agreement in negotiations for an available program. 25 C.F.R. § 1000.179. That regulation follows § 100.173, and therefore is premised on the availability of a program for negotiation. Since the NBRC is not available for negotiation, the provision of § 1000.179 for a last and best offer is not relevant to this notice. There is no available program as to which the Service or the CSKT could make a last and best offer. Nevertheless, this letter provides a written explanation equivalent to that required by § 1000.179(b).

The Service is not aware of any provision in the Tribal Self-Governance Regulations governing a bureau's termination of a tribe's authority to extend performance under an expired AFA.

Since October 1, 2006, the Service and the CSKT have been operating under the expired FY 2006 AFA. Section 16.D of the expired FY 2006 AFA provides:

To the extent the CSKT and the FWS are *not* negotiating a Subsequent AFA covering an Activity:

.....

2. *Available Property.* On the last day of the term of this AFA, the CSKT will return to the FWS all Available Property provided by the FWS to the CSKT, and not needed by the CSKT to perform an Activity for which the FWS and the CSKT are negotiating or have executed a Subsequent AFA for the next fiscal year.

(Emphasis in original.) By this letter, the Service has made the NBRC unavailable for negotiation for a subsequent AFA, has terminated negotiations for a subsequent AFA, and has withdrawn the CSKT's authority to extend performance under the expired FY 2006 AFA. Accordingly, section 16.D of the AFA requires the CSKT to return to the Service all available property provided to the CSKT by the Service under the expired FY 2006 AFA, and to do so on the date of this letter. The CSKT must comply with that requirement by returning all available property to the Service not later than 4:00 P.M., Mountain Standard Time, on December 12, 2006.

3. *Statement of Reasons*

The Service's actions in this letter are based on the following deficiencies in the CSKT's initial and extended performance under the expired FY 2006 AFA:

A. *Statutory Mission and Responsibilities*

The CSKT's performance under the expired FY 2006 AFA has prevented the Service from meeting its responsibilities at the NBRC under the National Wildlife Refuge Administration Act and other applicable laws and regulations. That included CSKT employees and volunteers:

- Failing to comply with Service bison management standards, including herding bison into units with unsatisfactory fence conditions; herding bison while cows were giving birth during the calving season; feeding insufficient quantities of hay to bison being held for transport, notwithstanding service protocol and repeated reminders; not maintaining fences to standard, resulting in a serious loss of grazing management control, significant damage to interior fences, and the conditioning of bison to find and utilize weak locations for escape through fences.
- Failing to meet Service wildlife monitoring and reporting standards and protocols, including altering survey protocols without consulting with or approval from the Service.
- Failing to complete two calendar-year 2006 biological study plans, and submitting biological reports with subjective conclusions not supported by data or literature review.
- Failing to timely and properly maintain vehicles, equipment, and property, and process related documentation, including not following the pit toilet chemical protocol in the public use area; not filling root holes of downed and removed trees in the public use area; leaving buildings, vehicles, and fuel pumps unlocked, keys in unlocked vehicles, and tools unsecured in the backs of trucks; and unsatisfactorily maintaining the public auto tour route during the peak visitor season.
- Displaying commercial literature in the visitor center without prior approval from the Service.
- Repeatedly, inappropriately, and untruthfully telling the public that Service employees were the cause of delays during the annual bison roundup.
- Not following Service protocol for radio dispatch.

B. *Workplace Environment*

Under the expired FY 2006 AFA, the CSKT created an unacceptable workplace environment at the NBRC. That included CSKT employees and volunteers:

- Creating a work environment characterized by harassing, offensive, intimidating, and oppressive behavior on the part of employees of the CSKT, including obscenity, fighting words, and threats of violence and retaliation directed at employees of the Service.
- Creating unsafe conditions for employees of the Service and the CSKT, and for the public, by improperly using and operating equipment and vehicles, including failure to use personal protective equipment and allowing poorly trained, unlicensed, and otherwise unqualified employees to operate equipment and motor vehicles.
- Creating an unsafe environment for employees of the Service and the CSKT, and the public, by failing to properly maintain equipment and property, including not maintaining vehicles in safe operating condition, and not maintaining buildings in compliance with safety and health standards and to minimize property damage and loss.

4. Appeal

The Tribal Self-Governance Regulations at 25 C.F.R. Part 1000, Subpart R, prescribe the process a tribe may use to resolve disputes with the U.S. Department of the Interior arising before or after the execution of an AFA.

Sincerely,



J. Mitch King
Regional Director

cc: Director, USWFS
Brian Upton, Tribal Attorney

CERTIFICATE OF SERVICE

I certify that the attached Document (Re: National Bison Range Complex; Unavailability for Negotiations; Termination of Negotiations for FY 2007 AFA; Termination of Authority to Extend Performance under Expired FY 2006 AFA) was sent by Federal Express and by facsimile, unless otherwise indicated below, this day to the following:

James H. Steele, Jr.
Tribal Council Chairman
Confederated Salish and Kootenai Tribes
51383 Hwy. 93 North
Pablo, Montana 59855

Original
Faxed to 406-275-2806

Brian Upton
Tribal Attorney
Confederated Salish and Kootenai Tribes
51383 Hwy. 93 North
Pablo, Montana 59855

Copy
Faxed to 406-675-4665

H. Dale Hall
Director
U.S. Fish and Wildlife Service
1849 C. Street NW
Mailstop 3256 MIB
Washington, D.C. 20240

Copy
Faxed to 202-208-6965

Clayton Matt
Department Head, Natural Resources Department
Confederated Salish and Kootenai Tribes
51383 Hwy. 93 North
Pablo, Montana 59855

Faxed copy only 406-883-2896

12-11-06
Date

Jolinda Miller
Jolinda Miller
Region 6 Refuge Secretary

E

Solicitors' Memo
Inherently Federal Functions at the National Bison Range
May 21, 2007

You have indicated that a possible resolution of the current dispute at the Bison range could involve modifying the current hierarchy of positions at the Bison Range from one in which the contracted Tribal positions comprise the lowest part of the hierarchy, with FWS employees all at the top. You envisioned an arrangement that would more evenly distribute the Tribal positions in the authority chain, so that rather than a pyramidal structure with all the Tribe's positions on the bottom, there would be a more even distribution from top to bottom—essentially dividing the pyramid into two sides, with one being Tribal and one being FWS.

As an initial matter, we note the Tribe's proposed new AFA does not contemplate such a significant reorganization of the positions at the AFA. Nor is the Tribe generally disputing the variety of instances in which the former AFA imposed requirements of approval by or coordination with the Refuge Manager, including the retention of final authority by the Refuge Manager in directing and controlling the Refuge and the Tribe's performance under the AFA. In other words, the Tribe is not at this point requesting a restructuring of the positions at the Bison Range along the lines that you suggest, so that it is possible that a new AFA may be negotiated without such action.

We nonetheless have performed an initial analysis of the legal implications of such a reorganization of positions at the Range. This analysis involved a review of the position descriptions for employees of the Range, and an evaluation of whether the Department might be prevented from entering into a 638 contract to perform the duties of those positions. Our review considered whether the duties of the positions entailed performance of "inherently Federal functions," because the Department may not enter into a 638 contract "with respect to any functions that are inherently Federal . . ."¹

The Solicitor's Office considered the meaning of "functions that are inherently Federal" in the 638 contracting context in a 1996 memorandum ("1996 Memorandum").² The 1996 Memorandum analyzed relevant caselaw and the legislative history of the restriction on contracting out inherently Federal functions, concluding that this restriction can only be applied on a case-by-case basis after consideration of the specific function at issue, the applicable Federal law, and the amount of authority to be retained by the Department. It nonetheless recognized that the definition given the term "Inherently Governmental Activities" in OMB Circular No. A-76³ provides an appropriate tool for determining what constitutes an inherently Federal/Governmental activity.

¹ 25 U.S.C. § 458cc(k).

² Memorandum, "Inherently Federal Functions under the Tribal Self-Governance Act," signed by Solicitor John Leshy, dated May 17, 1996. We also note that the Brian Upton, Attorney for the CSKT adopted much of the analysis of the 1996 Memorandum in a memorandum dated April 12, 2007, entitled, "Tribal Self-Governance Act and the Term 'Inherently Federal Function'," though he maintains—a bit too broadly—that none of the positions at the Range implicate inherently Federal functions.

³ Office of Management and Budget Circular No. A-76, "Performance of Commercial Activities???", May 29, 2003. The 1996 Memorandum considered an earlier version of A-76, but the relevant provisions remain similar, though the 2003 version of A-76 clarifies that inherently Federal functions involve the exercise of "substantial discretion," and does not cover every exercise of discretion.

OMB Circular No. A-76 explains that inherently Government (Federal) functions are those activities that are “so intimately related to the public interest as to mandate performance by government personnel.”⁴ It specifically identifies certain types of activities as being inherently Federal, including the following actions relevant to the Bison Range:

(1) Binding the United States to take or not to take some action by contract, policy, regulation, authorization, order or otherwise;

.....

(3) Significantly affecting the life, liberty, or property of private persons; or

(4) Exerting ultimate control over the acquisition, use, or disposition of United States property (real or personal, tangible or intangible), including establishing policies or procedures for the collection, control, or disbursement of appropriated and other Federal funds.⁵

These criteria are sufficiently broad to require a close analysis of the positions at the Bison Range to determine which are available for contracting and which positions involve functions that may not be contracted because they are inherently Federal.

We reviewed the organizational chart and position descriptions provided by the FWS with these criteria in mind. As an initial matter, we point out that several of the positions at the range clearly do not involve inherently Federal functions, including the positions of Maintenance Worker, Engineering Equipment Operator, and Park Rangers—“Visitor Services Specialist.” All of these may be contracted under an AFA.

Several positions, however, do implicate what appear to be inherently Federal functions. Some positions appear to involve the authority to contract and/or obligate Federal funds, as well as apparently involving the authority to supervise Federal personnel (an inherently Federal function as it involves interpreting and applying personnel laws and discretionary employment-related decisions). We identified the following positions as implicating some inherently Federal functions (with language from the position description that raises the concern):

Refuge Manager: Responsible for “administration and supervision of NWRS management, staff, and activities; . . . planning and budgeting for both short-term and long-term operations and acquisition . . . coordination of refuge activities with Congress, Department of Interior [sic] and Agriculture agency staff . . . [d]evelops guidelines, policies and agreements for region wide, and in some cases, nationwide use. . . Regional representative and team member on Indian self governance negotiations, issues, and education. . . [d]rafts negotiation documents, cooperative agreements, and Annual Funding Agreements. . . [r]esponsible for

⁴ OMB Cir. A-76, at A-2.

⁵ *Id.*

evaluating performance, approving leave, resolving or recommending resolution of complaints or grievances, effecting minor disciplinary actions. . .”

Deputy Project Leader: Incumbent “acts as project leader [refuge manager] in the absence of the project leader.” Supervises “Refuge Complex maintenance, visitor services, and biological staff including permanent, term, and temporary employees and volunteers.” Serves “as a fully trained and commissioned Law Enforcement Officer of the National Wildlife Refuge System, conducts investigations, apprehends and arrests violators. . .”⁶

Supervisory Outdoor Recreation Planner: Incumbent primarily performs environmental education, interpretation and visitor assistance; however, duties also include, “procurement, inventory, storage, maintenance, distribution, and tracking of outreach materials . . . [s]upervises up to four seasonal park ranger positions and all public use volunteers . . . [s]erves as fund manager for the Recreation Fee Program. . .”

These identified positions appear to involve a certain amount of functions that are inherently Federal.

It is our opinion that it may be possible to restructure some of these positions to remove some of the functions that appear to be inherently Federal or to put additional supervision in place to remove the discretionary component of the function. Alternatively, changing the status of personnel from Federal to Tribal would remove the concern about supervision of Federal employees. In any event, additional research and analysis will need to be performed in order to determine how this may be done, including particularly with respect to the law enforcement component. At this point, such efforts do not seem to be warranted, given that the tribe is not seeking such a restructuring.

⁶ We understand that Tribes often contract for law enforcement functions, clearly inherently Federal as they “[s]ignificantly affect[] the life, liberty, or property of private persons,” on their own reservations; we are not aware, however, of such a function being contracted for a National Wildlife Refuge.

F

Discuss
with Matt E.



UNITED STATES
DEPARTMENT OF THE INTERIOR
Director, Office of Budget

May 31, 2007

Lynn -
Interesting
background
on NBR
staffing plans
JEC

NOTE

To: Jim Cason

Attached is my analysis of FWS workforce planning, which provides a basis for setting expected staffing and funding for the National Bison Range. Also attached is the regional workforce plan that is the basis for this analysis. FWS issued these workforce plans for public comment and posted them on websites. Each was approved by the Director.

Attachments

Pam. Hare

NATIONAL BISON RANGE ANALYSIS OF FWS WORKFORCE PLAN

Each of the FWS regions developed a workforce plan for how to restructure, manage and deploy resources given constrained funding and staffing. Region 6, where National Bison Range is located, issued their plan in January 2007.

The plan provides the framework for funding and staffing at each refuge. The staffing decisions in the plan were made and put in place late in FY 2006 and reflected the consultation process conducted in the region to evaluate staffing decisions to date, incorporating consultation with project leaders and regional staff, and regional goals. The underlying strategy for the workforce plan argues against what they have done to move staffing and funding from the Bison Range.

Refuge Priority:

The Region 6 plan establishes a hierarchy of priority for the 148 refuges in the eight states in this region. The hierarchy includes:

- o 27 focus refuges where the Service will strive to maintain or enhance existing field operations. These refuges are identified because of the significance of the natural resources, important opportunities for priority wildlife dependent recreation, or other highly significant values that make their operations top priorities for the Service. **National Bison Range is listed as one of the 27 focus refuges.**
- o 42 refuges that are targeted for reduction. These refuges are identified as places where reductions in operations will occur. They may have significant natural resources, opportunities for priority wildlife dependent recreation, or other significant values, but their priority is less than the focus refuges.
- o 79 refuges are unstaffed. These are satellite refuges that have never been staffed and those that will be destaffed by action taken through FY 2009.

Refuge Staffing:

The Region 6 plan tracks staffing reductions in the region, measuring staffing reductions taken to date and those planned through 2009. For staffing reductions that have already taken place, the plan reports on the reduction of 56.5 positions. These reductions took place in 2004 and 2006. **For National Bison Range this resulted in a net reduction of one-half an FTE, including freezing one FTE for a refuge operations specialist, one-half an FTE for a park ranger, and the addition of one FTE for a maintenance worker.**

The plan provides the details for where the Region will reduce positions during the period 2007 through 2009. This would include 29.5 FTE reductions beyond those already achieved and described above. The refuges shown for reduction are mostly the refuges on the listing of refuges targeted for reduction. Only four of these positions are

at refuges on the focus refuge list. There is one position listed for the National Bison Range - the Refuge Manager.

The plan reports on the total change in workforce over the years 2004 through 2009.

- Staffing declines in the regional office in Denver by 12 FTE or 32 percent.
- Staffing in the refuges (excluding regional office staffing) declines by 74 or 24.9 percent.
- For refuges in the State of Montana (where National Bison Range is located), staffing declines by 10.5 or 15.9 percent. By comparison staffing in Wyoming declines by 9 or 56.3 percent.

Funding and Staffing at National Bison Range:

With this as the basis for the Service's plan for staffing the 2007 staffing level for the National Bison Range would be as follows:

- 2004: This is the baseline year based on the workforce plan with 14 FTE and a budget of 1.7 million.
- 2005-2006: There was a reduction of 0.5 FTE resulting in a revised staffing level of 13 FTE and \$1.5 million
- 2007: The only other staffing change identified for 2007 through 2009 is the elimination of the refuge manager position. Elimination of this position would result in a staffing level of 12 FTE and a budget of \$1.4 million.

Keep in mind that this plan and the plans of other regions assumed a static funding level in 2007. The 2007 appropriation provided an increase of \$12.8 million for refuge operations, which would have slowed the implementation of these projected staffing reductions. Attached is a copy of the Region 6 plan.

NWRS Workforce Plan
Fiscal Years 2004 – 2009
Rocky Mountain/Prairie Region

January 2007

In accordance with National Wildlife Refuge System (NWRS) standards established in July 2006, Region 6 determined Focus, Targeted Reduction, and Unstaffed Satellite units of the NWRS (see Tables 1-3).

Region 6 began “workforce planning” in FY 04, as appropriations and subsequent budget allocations fell short of maintaining our payroll. We developed a strategy of a “rolling freeze,” not filling newly vacant positions for the remainder of the year, to save sufficient funds to be able to make payroll at the onset of the next fiscal year. By mid-FY 04, we developed budget projections for FY 05, based on Congressional action and other factors and determined what funds would be needed to make our projected payroll in FY 05. We determined how many positions (total \$ savings) would be needed to make up the shortfall, and froze those positions for the remainder of FY 04. As additional vacancies occurred in FY 04, we substituted some of these vacancies for previously “frozen” vacancies, hence the term “rolling freeze.” This allowed us to maintain sufficient salary savings to make payroll, while allowing flexibility to address staffing priorities.

In some cases, reassignments of refuge personnel from lower priority positions to higher priority vacant positions were made, leaving the former position vacant. We solicited interest from all refuge personnel for these reassignment opportunities. We required a mobility agreement for all newly filled refuge manager positions to ensure career experience flexibility and opportunity. In some cases, we created new positions to better meet the new and changing workload expectations of the region.

The "rolling freeze" process proved useful in Region 6 throughout FY 04 and FY 05. By late FY 05 it appeared that we would be facing budget challenges for several more years. We made the then current list of frozen positions permanently vacant and developed a long-term list of additional positions that would not be filled if and when they became vacant. We also developed a list of priority new positions that we will seek to fill if funds became available. We consulted personnel records on retirement projections, requested voluntary information from refuge employees on their career plans and interests in other positions, and other information useful in projecting the most likely vacancy/opportunity scenario throughout the region.

By the start of FY 06, Region 6 had already "frozen"/permanently eliminated 40 permanent positions (Table 4). Our permanent salary and benefits constituted 80% of our allocated budget, achieving the "80/20" goal subsequently established by the regional refuge chiefs. In FY 06, 16 additional permanent positions were vacated and not filled. Since FY 04, the Region 6 Refuge program has frozen 56 positions. Twelve new positions were created and filled during this period, resulting in a net loss of 44 permanent positions by the end of FY 06.

In late FY 2006, Region 6 reviewed previous workforce plans, consulted with all affected project leaders or regional division chiefs and established 29.5 additional targeted refuge positions for FY 07-09 (Table 5). These additional reductions in permanent staffing included the Director's goal of a 10% reduction in the regional office staffing (based on the FY 06 starting date staffing level). If these additional cuts to the regional office are enacted, an overall 32% cut to regional office refuge staff (FY 04-08) will be the net result (Tables 6 & 7). Additional analysis of the overall workforce reductions (Tables 6 & 7) indicate an overall reduction of nearly 23% in the permanent workforce (FY 04 - 09) with the greatest reductions in the bio-tech series (44%) and refuge manager series (25%).

Following our workforce procedures established in FY 04-05, Region 6 also cut sufficient permanent positions in FY 06 enabling us to meet permanent payroll in FY 07. It appears that a Continuing Resolution for all of FY 07 will be our allocation method, yet many details still remain, especially the fate of Uncontrollables to assist with the 1.7-2.2% COLA for CY 07. Nevertheless, Region 6 is able to make payroll and maintain its goal of 80% of allocation for permanent salary/benefits.

Additional staffing cuts (from Table 5) enacted in FY 07 will be based on projected FY 08 allocations, to be determined later in FY 07. The same follows for cuts made in FY 08 for FY 09. We remain hopeful that allocations will improve in the future.

Table 1: Focus Refuges for Region 6

Focus Refuges

These are the refuges where the Service will strive to maintain or enhance existing field operations. These refuges are identified because of the significance of the natural resources, important opportunities for priority wildlife dependent recreation, or other highly significant values that make their operations top priorities for the Service.

- Arrowwood NWR (ND)
- Arrowwood WMD (ND)
- Audubon WMD (ND)
- Baca NWR (CO)
- Benton Lake WMD (MT)
- Charles M. Russell WMD (MT)
- Chase Lake Prairie Project WMD (ND)
- Cokeville Meadows NWR (WY)
- Crescent Lake NWR (NE)
- Crosby WMD (ND)
- Devils Lake WMD (ND)
- Fort Niobrara NWR (NE)
- Huron WMD (SD)
- Kellys Slough NWR (ND)
- Kulm WMD (ND)
- Lacreek WMD (SD)
- Lake Andes NWR (SD)
- Long Lake WMD (ND)
- Lostwood NWR (ND)
- Lostwood WMD (ND)
- Marais Des Cygnes NWR (KS)
- Monte Vista NWR (CO)
- National Bison Range (MT) ←
- Red Rock Lakes NWR (MT)
- Sand Lake WMD (SD)
- Tewaukon WMD (ND)
- Valentine NWR (NE)

Table 2: Targeted Reduction Refuges in Region 6

Targeted Reduction Refuges

These refuges are identified as places where reduction in operations will occur. They may have significant natural resources, opportunities for priority wildlife dependent recreation, or other significant values, but their priority is less than focus refuges.

Alamosa NWR (CO)	Lake Ilo NWR (ND)
Arapaho NWR (CO)	Lee Metcalf NWR (MT)
Audubon NWR (ND)	Long Lake NWR (ND)
Bear River Migratory Bird Refuge (UT)	Lost Trail NWR (MT)
Benton Lake NWR (MT)	Madison WMD (SD)
Bismarck Wetland Habitat Office (ND)	Medicine Lake NWR (MT)
Blackfoot Valley WMA (MT)	National Elk Refuge (WY)
Bowdoin NWR -- reduce by 5 FTE (MT)	North Dakota HAPET (ND)
Boyer Chute NWR (NE)	North Platte NWR (NE)
Browns Park NWR (CO)	Quivira NWR (KS)
Charles M. Russell NWR (MT)	Ouray NWR (UT)
Chase Lake NWR (ND)	Rainwater Basin WMD (NE)
Dakota Tallgrass Prairie WMA (SD)	Rocky Mountain Arsenal NWR (CO)
Des Lacs NWR (ND)	Sand Lake NWR (SD)
Fish Springs NWR (UT)	Seedskadee NWR (WY)
Flint Hills NWR (KS)	Sully's Hill National Game Preserve (ND)
J. Clark Salyer NWR (ND)	Tewaukon NWR (ND)
J. Clark Salyer WMD (ND)	Upper Souris NWR (ND)
Kirwin NWR (KS)	Valley City WMD (ND)
Lacreek NWR (SD)	Waubay NWR (SD)
Lake Andes WMD (SD)	Waubay WMD (SD)

Table 3: Unstaffed Satellite Refuges in Region 6

Unstaffed Satellite Refuges

This includes both refuges that have never been staffed and those that will be destaffed because of budget shortfalls.

Appert Lake NWR (ND)	Little Goose NWR (ND)
Ardoch NWR (ND)	Lords Lake NWR (ND)
Barnforth NWR (WY)	Lost Lake NWR (ND)
Bear Butte NWR (SD)	Maple River NWR (ND)
Black Coulee NWR (MT)	McLean NWR (ND)
Bone Hill NWR (ND)	Mortenson Lake NWR (WY)
Bowdoin WMD (MT)	Nine-Pipe NWR (MT)
Brumba NWR (ND)	Northeast Montana WMD (MT)
Buffalo Lake NWR (ND)	Northwest Montana WMD (MT)
Camp Lake NWR (ND)	Pablo NWR (MT)
Canfield Lake NWR (ND)	Pathfinder NWR (WY)
Colorado River WMA (UT)	Pleasant Lake NWR (ND)
Cottonwood NWR (ND)	Pretty Rock NWR (ND)
Creedman Coulee NWR (MT)	Rabb Lake NWR (ND)
Dakota Lake NWR (ND)	Rock Lake NWR (ND)
Flickertail NWR (ND)	Rocky Flats NWR (CO)
Florence Lake NWR (ND)	Rose Lake NWR (ND)
Hailstone NWR (MT)	School Section Lake NWR (ND)
Halfbreed Lake NWR (MT)	Shell Lake NWR (ND)
Halfway Lake NWR (ND)	Sheyenne Lake NWR (ND)
Hewitt Lake NWR (MT)	Sibley Lake NWR (ND)
Hiddenwood NWR (ND)	Silver Lake NWR (ND)
Hobart Lake NWR (ND)	Slade NWR (ND)
Hutchinson Lake NWR (ND)	Snyder Lake NWR (ND)
Hutton Lake NWR (WY)	Springwater NWR (ND)
John W. & Louise Seier NWR (NE)	Stewart Lake NWR (ND)
Johnson Lake NWR (ND)	Stoney Slough NWR (ND)
Karl E. Mundt NWR (SD)	Storm Lake NWR (ND)
Lake Alice NWR (ND)	Stump Lake NWR (ND)
Lake Elsie NWR (ND)	Sunburst Lake NWR (ND)
Lake George NWR (ND)	Swan River NWR (MT)
Lake Mason NWR (MT)	Tomahawk NWR (ND)
Lake Nettie NWR (ND)	Two Ponds NWR (CO)
Lake Otis NWR (ND)	UL Bend NWR (MT)
Lake Patricia NWR (ND)	War Horse NWR (MT)
Lake Thibadeau NWR (MT)	White Lake NWR (ND)
Lake Zahl NWR (ND)	Wild Rice Lake NWR (ND)
Lambs Lake NWR (ND)	Willow Lake NWR (ND)
Lamesteer NWR (MT)	Wintering River NWR (ND)
	Wood Lake NWR (ND)

Table 4: FY04 / FY06 Staffing Reduction Exercise, Region 6

This table was requested by the Regional Chief as a tool to track the status of position management. The process of reducing \$2.750M in salary during FY-2004 and FY-2006. The reduction required the elimination of 56.5 position. New positions totaled 11.8 for a net loss of 44.7 FTE in Refuge System, Mountain-Prairie Region. These positions are listed below.

FROZEN POSITIONS					NEW POSITIONS		
Fiscal Year	Location	Title	Series	FTE	Location	Title	Series
04	ARD-NWRS-Regional Office	Asst. Refuge Supv.	GS-0485-12	1.0			
05	ARD-NWRS-Regional Office - ND	Student Trainee	GS-0485-9	1.0			
05	ARD-NWRS-Regional Office - SD	Student Trainee	GS-0485-9	1.0			
05	ARD-NWRS-RO - Division of PBD	Office Auto. Clerk	GS-0326-6	1.0			
05	ARD-NWRS-RO - Division of PBD	Program Analyst	GS-0301-11	1.0	ARD-NWRS-	AO Trainer	GS-0301-
05	ARD-NWRS-RO-Div. of Planning	Biologist	GS-0401-12	1.0	ARD -HAPET	RLGIS Coordinator	GS-0401-
05	ARD-NWRS-Division of Planning	Biologist	GS-0401-12	1.0			
06	ARD-NWRS-Division of Planning	Branch Chief-CCP	GS-0401-13	1.0			
05	Alamosa NWR	Outdoor Rec. Planner	GS-0023-9	1.0	Baca NWR	Refuge Ops Spec.	GS-0485-
04	Arapaho NWR	Bio-Tech	GS-0404-5	0.5			
06	Arrowwood NWR	Refuge Ops. Spec.	GS-0485-9	1.0			
04	Audubon NWR	Bio-Tech	GS-0404-6	1.0			
04	Audubon NWR	Refuge Ops. Spec.	GS-0485-11	1.0	Audubon - Lake Ilo	Refuge Ops Spec.	GS-0485-
06	Bismarck WHO	Administrative Officer	GS-0341-9	0.5			
05	Bismarck WHO	Project Leader	GS-0485-13	1.0			
06	Boyer Chute	Project Leader	GS-0485-12	1.0			
06	Boyer Chute	Administrative Officer	GS-0303-7	1.0			
05	Browns Park NWR	Asst. Project Ldr.	GS-0485-11	1.0	Browns Park	Biologist	GS-0485-
05	CMR NWR	Bio-Tech	GS-0404-6	0.5			
04	CMR NWR	Refuge Ops. Spec.	GS-0485-9	1.0	CMR NWR	Refuge Ops Spec.	GS-0485-
04	CMR NWR	Office Auto. Clerk	GS-0326-5	1.0			
04	CMR - Bio-Tech	Bio-Tech	GS-0404-6	0.5			
05	CMR NWR	Ecologist	GS-0408-11	1.0	ARD - HAPET	RLGIS Coordinator	GS-0401-
04	Crescent Lake NWR	Bio-Tech	GS-0404-5	0.5			
06	Des Lacs NWR	Refuge Ops. Spec.	GS-0485-11	1.0	Lostwood WMD	Project Leader	GS-0485-1
06	Des Lacs NWR	Project Leader	GS-0485-14	1.0			
06	Devils Lake WMD	Park Ranger	GS-0025-11	1.0	Sully's Hill	Park Ranger	GS-0025-6
06	Fish Springs NWR	Asst. Project Ldr.	GS-0485-11	1.0			
05	Huron WMD	VCA-ORP	GS-0023-9	1.0	National Elk	VCA ORP	GS-0023-9
06	J. Clark Saylor NWR	Maintenance Worker	WG-4749-10	1.0			
04	Kirwin NWR	Outdoor Rec. Planner	GS-0023-9	0.5			
04	Kirwin NWR	Asst. Project Ldr.	GS-0485-11	1.0			
06	Lacreek NWR	Refuge Ops. Spec.	GS-0485-11	1.0			
04	Lake Andes WMD	Deputy Project Ldr.	GS-0485-12	1.0			
04	Lee Melcail NWR	Refuge Ops. Spec.	GS-0485-9	0.5			
04	Lee Melcail NWR	Asst. Project Ldr.	GS-0485-11	1.0			
04	Long Lake NWR	Office Auto. Clerk	GS-0326-4	0.5			
05	Long Lake NWR	Deputy Project Ldr.	GS-0485-12	1.0			
05	Madison WMD	Refuge Ops. Spec.	GS-0485-9	1.0			
04	Medicine Lake NWR	Bio-Tech	GS-0404-6	1.0			
04	Nat'l Bison-Lost Trail	Park Ranger	GS-0025-9	0.5	Nat'l Bison Lost Trail	Maintenance Worker	WG-4749-10
04	Nat'l Bison Lost Trail	Refuge Ops. Spec.	GS-0485-12	1.0			
04	National Elk	Biologist	GS-0485-13	1.0			
05	National Elk	Bio-Tech	GS-0404-9	1.0			
05	National Elk	Outdoor Rec. Planner	GS-0023-11	1.0			
05	National Elk	Administrative Officer	GS-0341-9	1.0	National Elk	Administrative Asst.	GS-0303-7

06	Duray NWR	Administrative Officer	GS-0303-7	1.0			
04	Quivira NWR	Biologist	GS-0486-11	1.0			
06	Quivira NWR	Maintenance Worker	WG-4749-8	1.0			
05	Rainwater Basin WMD	Refuge Ops. Spec.	GS-0485-11	1.0			
04	Rocky Mountain Arsenal	Outdoor Rec. Planner	GS-0023-9	1.0			
04	Rocky Mountain Arsenal	Park Ranger	GS-0025-5	0.5			
04	Rocky Mountain Arsenal	Outdoor Rec. Planner	GS-0023-11	1.0			
06	Rocky Mountain Arsenal	Wildlife Biologist	GS-0486-9	0.5			
05	Sand Lake NWR	Refuge Ops. Spec.	GS-0485-9	1.0			
04	Sand Lake NWR	Refuge Ops. Spec.	GS-0485-9	1.0			
06	Seedskae NWR	Bio-Tech	GS-0404-7	1.0			
06	Seedskae NWR	Refuge Manager	GS-0485-12	1.0			
06	Upper Sours	Refuge Manager	GS-0485-13	1.0			
04	Upper Sours	Biologist	GS-0486-11	1.0			
					Lost Trail	Biologist	GS-0486
		Total Frozen Positions		56.5		Total New Positions	
		Net Loss of FTE/Positions		44.7			

**Table 5: Positions Identified for Abolishment through FY09
Region 6**

<u>Station</u>	<u>Position</u>	<u>Station</u>	<u>Position</u>
ARD-NWRS-Regional Off.	Outdoor Rec Planner	J. Clark Salyer NWR	Maintenance
ARD-NWRS-Regional Off.	Biologists (2)	Kirwin NWR	Project Leader
ARD-NWRS-Regional Off.	Admin/Budget (3)	Lacreek NWR	Maintenance
Arapaho NWR	Biologist	Long Lake NWR	Project Leader
Arrowwood NWR (Valley City)	Refuge Manager	Madison	Maintenance (.5 FTE)
Audubon NWR	Refuge Ops Spec	Nat'l. Bison Range	Refuge Manager
Bear River Migratory Bird	Refuge Ops Spec	ND HAPET	Biologist
Benton Lake NWR	Deputy Project Leader	Quivira NWR	Outdoor Rec Planner
Bismarck WHO	Writer/Editor (.5 FTE)	Rocky Mountain Arsenal	Refuge Manager (.5 FTE)
Bowdoin NWR	Bio Tech (.5 FTE)	Seedskadee NWR	Biologist
Browns Park NWR	Maintenance	Seedskadee NWR	Project Leader
Crescent Lake/N. Platte	Project Leader	Tewaukon NWR	Project Leader
Devils Lake (Sully's Hill)	Park Ranger (.5 FTE)	Waubay NWR	Refuge Manager
Flint Hills NWR	Maintenance	Waubay NWR	Maintenance (.5 FTE)
J. Clark Salyer NWR	Bio Tech (.5 FTE)	Dakota Tallgrass Prairie	Refuge Manager

Table 6: Change in NWRs Workforce, Mountain-Prairie Region (FY 2004-FY 2009); Region 6

	Refuge Manager	Biology 0486	Biology 0401/0404	Public Use	LE	Adm	WG	Other	Total
Total, existing (FY04):	138.5	48.5	31	23.5	23	67	85	16.0	432.5
Denver Regional Office	10	3	6	4	1	12		7	43
Total, abolished:	-24.5	-3.5	-10.0	-5.5	-2.0	-8.0	-3.0	0.0	-56.5
Denver Regional Office	-1.0		-3.0			-2.0			-6.0
Total, existing (FY06):	114	45	21	18	21	59	82	16	376
Denver Regional Office	9	3	3	4	1	10		7	37
Total, additions:	2.5	2	0	1	0.5	2	1.8	2	11.8
Denver Regional Office	0	0	0	0	0	1	0	0	1
Total, reductions:	-12.5	-3	-3.5	-2	-0.5	-3	-4.5	-0.5	-29.5
Denver Regional Office	0	0	-2	-1	0	-3	0	0	-6
Total, Workforce Plan	104.0	44.0	17.5	17.0	21.0	58.0	79.3	17.5	358.3
Denver Regional Office	9.0	3.0	1.0	3.0	1.0	8.0	0.0	7.0	32.0
% Change (FY04-FY09)	-25%	-9%	-44%	-28%	-9%	-13%	-7%	9%	-17%

Table 7: Change in NWRs Workforce, Mountain-Prairie Region (by State), Region 6

Location	Number of Positions Abolished (FY04-FY06)	Current Number of Positions (FY06)	Number of Positions Abolished (FY07-FY09)	Percent Lost Proposed (FY07-FY09)	Percent Lost Total (FY04-FY09)
Regional Office	6	37	6	16.2%	32.4%
Colorado	5.5	40	2.5	6.3%	20.0%
Kansas	3.5	22	3	13.6%	29.5%
Montana	8	66	2.5	3.8%	15.9%
Nebraska	3.5	33	1	3.0%	13.6%
North Dakota	13	95	7.5	7.9%	21.6%
South Dakota	7	46	4	8.7%	23.9%
Utah	3	21	1	4.8%	19.0%
Wyoming	7	16	2	12.5%	56.3%
Totals	56.5	376	29.5	7.8%	22.9%

Historic Staffing and Funding for National Bison Range

Year	Funding	Staffing
2001 actual	\$1,288,000	14
2002 actual	\$1,393,000	27
2003 actual	\$1,628,000	15
2004 actual	\$1,698,000	14
2005 actual	\$1,466,000	13
2006 actual	\$1,482,000	12
2007 planned	\$1,585,000	16
2008 planned	\$1,448,000	12

Source: PMB, April 27, 2007

NATIONAL BISON RANGE ANALYSIS OF FWS WORKFORCE PLAN

Each of the FWS regions developed a workforce plan for how to restructure, manage and deploy resources given constrained funding and staffing. Region 6, where National Bison Range is located, issued their plan in January 2007.

The plan provides the framework for funding and staffing at each refuge. The staffing decisions in the plan were made and put in place late in FY 2006 and reflected the consultation process conducted in the region to evaluate staffing decisions to date, incorporating consultation with project leaders and regional staff, and regional goals. The underlying strategy for the workforce plan argues against what they have done to move staffing and funding from the Bison Range.

Refuge Priority:

The Region 6 plan establishes a hierarchy of priority for the 148 refuges in the eight states in this region. The hierarchy includes:

- 27 focus refuges where the Service will strive to maintain or enhance existing field operations. These refuges are identified because of the significance of the natural resources, important opportunities for priority wildlife dependent recreation, or other highly significant values that make their operations top priorities for the Service. **National Bison Range is listed as one of the 27 focus refuges.**
- 42 refuges that are targeted for reduction. These refuges are identified as places where reductions in operations will occur. They may have significant natural resources, opportunities for priority wildlife dependent recreation, or other significant values, but their priority is less than the focus refuges.
- 79 refuges are unstaffed. These are satellite refuges that have never been staffed and those that will be destaffed by action taken through FY 2009.

Refuge Staffing:

The Region 6 plan tracks staffing reductions in the region, measuring staffing reductions taken to date and those planned through 2009. For staffing reductions that have already taken place, the plan reports on the reduction of 56.5 positions. These reductions took place in 2004 and 2006. **For National Bison Range this resulted in a net reduction of one-half an FTE, including freezing one FTE for a refuge operations specialist, one-half an FTE for a park ranger, and the addition of one FTE for a maintenance worker.**

The plan provides the details for where the Region will reduce positions during the period 2007 through 2009. This would include 29.5 FTE reductions beyond those already achieved and described above. The refuges shown for reduction are mostly the refuges on the listing of refuges targeted for reduction. Only four of these positions are

at refuges on the focus refuge list. **There is one position listed for the National Bison Range - the Refuge Manager.**

The plan reports on the total change in workforce over the years 2004 through 2009.

- Staffing declines in the regional office in Denver by 12 FTE or 32 percent.
- Staffing in the refuges (excluding regional office staffing) declines by 74 or 24.9 percent.
- For refuges in the State of Montana (**where National Bison Range is located**), staffing declines by 10.5 or 15.9 percent. By comparison staffing in Wyoming declines by 9 or 56.3 percent.

Funding and Staffing at National Bison Range:

With this as the basis for the Service's plan for staffing the 2007 staffing level for the National Bison Range would be as follows:

- 2004: This is the baseline year based on the workforce plan with 14 FTE and a budget of 1.7 million.
- 2005-2006: There was a reduction of 0.5 FTE resulting in a revised staffing level of 13 FTE and \$1.5 million
- 2007: The only other staffing change identified for 2007 through 2009 is the elimination of the refuge manager position. Elimination of this position would result in a staffing level of 12 FTE and a budget of \$1.4 million.

Keep in mind that this plan and the plans of other regions assumed a static funding level in 2007. The 2007 appropriation provided an increase of \$12.8 million for refuge operations, which would have slowed the implementation of these projected staffing reductions. Attached is a copy of the Region 6 plan.

NWRS Workforce Plan
Fiscal Years 2004 – 2009
Rocky Mountain/Prairie Region

January 2007

In accordance with National Wildlife Refuge System (NWRS) standards established in July 2006, Region 6 determined Focus, Targeted Reduction, and Unstaffed Satellite units of the NWRS (see Tables 1-3).

Region 6 began “workforce planning” in FY 04, as appropriations and subsequent budget allocations fell short of maintaining our payroll. We developed a strategy of a “rolling freeze,” not filling newly vacant positions for the remainder of the year, to save sufficient funds to be able to make payroll at the onset of the next fiscal year. By mid-FY 04, we developed budget projections for FY 05, based on Congressional action and other factors and determined what funds would be needed to make our projected payroll in FY 05. We determined how many positions (total \$ savings) would be needed to make up the shortfall, and froze those positions for the remainder of FY 04. As additional vacancies occurred in FY 04, we substituted some of these vacancies for previously “frozen” vacancies, hence the term “rolling freeze.” This allowed us to maintain sufficient salary savings to make payroll, while allowing flexibility to address staffing priorities.

In some cases, reassignments of refuge personnel from lower priority positions to higher priority vacant positions were made, leaving the former position vacant. We solicited interest from all refuge personnel for these reassignment opportunities. We required a mobility agreement for all newly filled refuge manager positions to ensure career experience flexibility and opportunity. In some cases, we created new positions to better meet the new and changing workload expectations of the region.

The "rolling freeze" process proved useful in Region 6 throughout FY 04 and FY 05. By late FY 05 it appeared that we would be facing budget challenges for several more years. We made the then current list of frozen positions permanently vacant and developed a long-term list of additional positions that would not be filled if and when they became vacant. We also developed a list of priority new positions that we will seek to fill if funds became available. We consulted personnel records on retirement projections, requested voluntary information from refuge employees on their career plans and interests in other positions, and other information useful in projecting the most likely vacancy/opportunity scenario throughout the region.

By the start of FY 06, Region 6 had already "frozen"/permanently eliminated 40 permanent positions (Table 4). Our permanent salary and benefits constituted 80% of our allocated budget, achieving the "80/20" goal subsequently established by the regional refuge chiefs. In FY 06, 16 additional permanent positions were vacated and not filled. Since FY 04, the Region 6 Refuge program has frozen 56 positions. Twelve new positions were created and filled during this period, resulting in a net loss of 44 permanent positions by the end of FY 06.

In late FY 2006, Region 6 reviewed previous workforce plans, consulted with all affected project leaders or regional division chiefs and established 29.5 additional targeted refuge positions for FY 07-09 (Table 5). These additional reductions in permanent staffing included the Director's goal of a 10% reduction in the regional office staffing (based on the FY 06 starting date staffing level). If these additional cuts to the regional office are enacted, an overall 32% cut to regional office refuge staff (FY 04-08) will be the net result (Tables 6 & 7). Additional analysis of the overall workforce reductions (Tables 6 & 7) indicate an overall reduction of nearly 23% in the permanent workforce (FY 04 - 09) with the greatest reductions in the bio-tech series (44%) and refuge manager series (25%).

Following our workforce procedures established in FY 04-05, Region 6 also cut sufficient permanent positions in FY 06 enabling us to meet permanent payroll in FY 07. It appears that a Continuing Resolution for all of FY 07 will be our allocation method, yet many details still remain, especially the fate of Uncontrollables to assist with the 1.7-2.2% COLA for CY 07. Nevertheless, Region 6 is able to make payroll and maintain its goal of 80% of allocation for permanent salary/benefits.

Additional staffing cuts (from Table 5) enacted in FY 07 will be based on projected FY 08 allocations, to be determined later in FY 07. The same follows for cuts made in FY 08 for FY 09. We remain hopeful that allocations will improve in the future.

Table 1: Focus Refuges for Region 6

Focus Refuges

These are the refuges where the Service will strive to maintain or enhance existing field operations. These refuges are identified because of the significance of the natural resources, important opportunities for priority wildlife dependent recreation, or other highly significant values that make their operations top priorities for the Service.

- Arrowwood NWR (ND)
- Arrowwood WMD (ND)
- Audubon WMD (ND)
- Baca NWR (CO)
- Benton Lake WMD (MT)
- Charles M. Russell WMD (MT)
- Chase Lake Prairie Project WMD (ND)
- Cokeville Meadows NWR (WY)
- Crescent Lake NWR (NE)
- Crosby WMD (ND)
- Devils Lake WMD (ND)
- Fort Niobrara NWR (NE)
- Huron WMD (SD)
- Kellys Slough NWR (ND)
- Kulm WMD (ND)
- Lacreek WMD (SD)
- Lake Andes NWR (SD)
- Long Lake WMD (ND)
- Lostwood NWR (ND)
- Lostwood WMD (ND)
- Marais Des Cygnes NWR (KS)
- Monte Vista NWR (CO)
- National Bison Range (MT) ←
- Red Rock Lakes NWR (MT)
- Sand Lake WMD (SD)
- Tewaukon WMD (ND)
- Valentine NWR (NE)

Table 2: Targeted Reduction Refuges in Region 6

Targeted Reduction Refuges

These refuges are identified as places where reduction in operations will occur. They may have significant natural resources, opportunities for priority wildlife dependent recreation, or other significant values, but their priority is less than focus refuges.

Alamosa NWR (CO)	Lake Ilo NWR (ND)
Arapaho NWR (CO)	Lee Metcalf NWR (MT)
Audubon NWR (ND)	Long Lake NWR (ND)
Bear River Migratory Bird Refuge (UT)	Lost Trail NWR (MT)
Benton Lake NWR (MT)	Madison WMD (SD)
Bismarck Wetland Habitat Office (ND)	Medicine Lake NWR (MT)
Blackfoot Valley WMA (MT)	National Elk Refuge (WY)
Bowdoin NWR – reduce by .5 FTE (MT)	North Dakota HAPET (ND)
Boyer Chute NWR (NE)	North Platte NWR (NE)
Browns Park NWR (CO)	Quivira NWR (KS)
Charles M. Russell NWR (MT)	Ouray NWR (UT)
Chase Lake NWR (ND)	Rainwater Basin WMD (NE)
Dakota Tallgrass Prairie WMA (SD)	Rocky Mountain Arsenal NWR (CO)
Des Lacs NWR (ND)	Sand Lake NWR (SD)
Fish Springs NWR (UT)	Seedskaadee NWR (WY)
Flint Hills NWR (KS)	Sully's Hill National Game Preserve (ND)
J. Clark Salyer NWR (ND)	Tewaukon NWR (ND)
J. Clark Salyer WMD (ND)	Upper Souris NWR (ND)
Kirwin NWR (KS)	Valley City WMD (ND)
Lacreek NWR (SD)	Waubay NWR (SD)
Lake Andes WMD (SD)	Waubay WMD (SD)

Table 3: Unstaffed Satellite Refuges in Region 6

Unstaffed Satellite Refuges

This includes both refuges that have never been staffed and those that will be destaffed because of budget shortfalls.

Appert Lake NWR (ND)	Little Goose NWR (ND)
Ardoch NWR (ND)	Lords Lake NWR (ND)
Bamforth NWR (WY)	Lost Lake NWR (ND)
Bear Butte NWR (SD)	Maple River NWR (ND)
Black Coulee NWR (MT)	McLean NWR (ND)
Bone Hill NWR (ND)	Mortenson Lake NWR (WY)
Bowdoin WMD (MT)	Nine-Pipe NWR (MT)
Brumba NWR (ND)	Northeast Montana WMD (MT)
Buffalo Lake NWR (ND)	Northwest Montana WMD (MT)
Camp Lake NWR (ND)	Pablo NWR (MT)
Canfield Lake NWR (ND)	Pathfinder NWR (WY)
Colorado River WMA (UT)	Pleasant Lake NWR (ND)
Cottonwood NWR (ND)	Pretty Rock NWR (ND)
Creedman Coulee NWR (MT)	Rabb Lake NWR (ND)
Dakota Lake NWR (ND)	Rock Lake NWR (ND)
Flickertail NWR (ND)	Rocky Flats NWR (CO)
Florence Lake NWR (ND)	Rose Lake NWR (ND)
Hailstone NWR (MT)	School Section Lake NWR (ND)
Halfbreed Lake NWR (MT)	Shell Lake NWR (ND)
Halfway Lake NWR (ND)	Sheyenne Lake NWR (ND)
Hewitt Lake NWR (MT)	Sibley Lake NWR (ND)
Hiddenwood NWR (ND)	Silver Lake NWR (ND)
Hobart Lake NWR (ND)	Slade NWR (ND)
Hutchinson Lake NWR (ND)	Snyder Lake NWR (ND)
Hutton Lake NWR (WY)	Springwater NWR (ND)
John W. & Louise Seier NWR (NE)	Stewart Lake NWR (ND)
Johnson Lake NWR (ND)	Stoney Slough NWR (ND)
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Lake Elsie NWR (ND)	Sunburst Lake NWR (ND)
Lake George NWR (ND)	Swan River NWR (MT)
Lake Mason NWR (MT)	Tomahawk NWR (ND)
Lake Nettie NWR (ND)	Two Ponds NWR (CO)
Lake Otis NWR (ND)	UL Bend NWR (MT)
Lake Patricia NWR (ND)	War Horse NWR (MT)
Lake Thibadeau NWR (MT)	White Lake NWR (ND)
Lake Zahl NWR (ND)	Wild Rice Lake NWR (ND)
Lambs Lake NWR (ND)	Willow Lake NWR (ND)
Lamestee NWR (MT)	Wintering River NWR (ND)
	Wood Lake NWR (ND)

Table 4: FY04 / FY06 Staffing Reduction Exercise, Region 6

This table was requested by the Regional Chief as a tool to track the status of position management. The process of reducing \$2.750M in salaries during FY-2004 and FY-2006. The reduction required the elimination of 56.5 position. New positions totaled 11.8 for a net loss of 44.7 FTE in the Refuge System, Mountain-Prairie Region. These positions are listed below.

FROZEN POSITIONS					NEW POSITIONS		
Fiscal Year	Location	Title	Series	FTE	Location	Title	Series
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05	ARD-NWRS-Regional Office - ND	Student Trainee	GS-0485-9	1.0			
05	ARD-NWRS-Regional Office - SD	Student Trainee	GS-0485-9	1.0			
05	ARD-NWRS-RO - Division of PBD	Office Auto. Clerk	GS-0326-6	1.0			
05	ARD-NWRS-RO - Division of PBD	Program Analyst	GS-0301-11	1.0	ARD-NWRS-	AO Trainer	GS-0301-11
05	ARD-NWRS-RO-Div. of Planning	Biologist	GS-0401-12	1.0	ARD -HAPET	RLGIS Coordinator	GS-0401-12
05	ARD-NWRS-Division of Planning	Biologist	GS-0401-12	1.0			
06	ARD-NWRS-Division of Planning	Branch Chief-CCP	GS-0401-13	1.0			
05	Alamosa NWR	Outdoor Rec. Planner	GS-0023-9	1.0	Baca NWR	Refuge Ops Spec.	GS-0485-12
04	Arapaho NWR	Bio-Tech	GS-0404-5	0.5			
06	Arrowwood NWR	Refuge Ops. Spec.	GS-0485-9	1.0			
04	Audubon NWR	Bio-Tech	GS-0404-6	1.0			
04	Audubon NWR	Refuge Ops. Spec.	GS-0485-11	1.0	Audubon - Lake Ilo	Refuge Ops Spec.	GS-0485-11
06	Bismarck WHO	Administrative Officer	GS-0341-9	0.5			
05	Bismarck WHO	Project Leader	GS-0485-13	1.0			
06	Boyer Chute	Project Leader	GS-0485-12	1.0			
06	Boyer Chute	Administrative Officer	GS-0303-7	1.0			
05	Browns Park NWR	Asst. Project Ldr.	GS-0485-11	1.0	Browns Park	Biologist	GS-0486-12
05	CMR NWR	Bio-Tech	GS-0404-6	0.5			
04	CMR NWR	Refuge Ops. Spec.	GS-0485-9	1.0	CMR NWR	Refuge Ops Spec.	GS-0485-11
04	CMR NWR	Office Auto. Clerk	GS-0326-5	1.0			
04	CMR - Bio-Tech	Bio-Tech	GS-0404-6	0.5			
05	CMR NWR	Ecologist	GS-0408-11	1.0	ARD - HAPET	RLGIS Coordinator	GS-0401-12
04	Crescent Lake NWR	Bio-Tech	GS-0404-5	0.5			
06	Des Lacs NWR	Refuge Ops. Spec.	GS-0485-11	1.0	Lostwood WMD	Project Leader	GS-0485-13
06	Des Lacs NWR	Project Leader	GS-0485-14	1.0			
06	Devils Lake WMD	Park Ranger	GS-0025-11	1.0	Sully's Hill	Park Ranger	GS-0025-6/7
06	Fish Springs NWR	Asst. Project Ldr.	GS-0485-11	1.0			
05	Huron WMD	VCA-ORP	GS-0023-9	1.0	National Elk	VCA ORP	GS-0023-9
06	J. Clark Saylor NWR	Maintenance Worker	WG-4749-10	1.0			
04	Kirwin NWR	Outdoor Rec. Planner	GS-0023-9	0.5			
04	Kirwin NWR	Asst. Project Ldr.	GS-0485-11	1.0			
06	Lacreek NWR	Refuge Ops. Spec.	GS-0485-11	1.0			
04	Lake Andes WMD	Deputy Project Ldr.	GS-0485-12	1.0			
04	Lee Metcalf NWR	Refuge Ops. Spec.	GS-0485-9	0.5			
04	Lee Metcalf NWR	Asst. Project Ldr.	GS-0485-11	1.0			
04	Long Lake NWR	Office Auto. Clerk	GS-0326-4	0.5			
05	Long Lake NWR	Deputy Project Ldr.	GS-0485-12	1.0			
05	Madison WMD	Refuge Ops. Spec.	GS-0485-9	1.0			
04	Medicine Lake NWR	Bio-Tech	GS-0404-6	1.0			
04	Nat'l Bison Lost Trail	Park Ranger	GS-0025-9	0.5	Nat'l Bison Lost Trail	Maintenance Worker	WG-4749-7
04	Nat'l Bison Lost Trail	Refuge Ops. Spec.	GS-0485-12	1.0			
04	National Elk	Biologist	GS-0486-13	1.0			
05	National Elk	Bio-Tech	GS-0404-9	1.0			
05	National Elk	Outdoor Rec. Planner	GS-0023-11	1.0			
05	National Elk	Administrative Officer	GS-0341-9	1.0	National Elk	Administrative Asst.	GS-0303-7

06	Ouray NWR	Administrative Officer	GS-0303-7	1.0				
04	Quivira NWR	Biologist	GS-0486-11	1.0				
06	Quivira NWR	Maintenance Worker	WG-4749-8	1.0				
05	Rainwater Basin WMD	Refuge Ops. Spec.	GS-0485-11	1.0				
04	Rocky Mountain Arsenal	Outdoor Rec. Planner	GS-0023-9	1.0				
04	Rocky Mountain Arsenal	Park Ranger	GS-0025-5	0.5				
04	Rocky Mountain Arsenal	Outdoor Rec. Planner	GS-0023-11	1.0				
06	Rocky Mountain Arsenal	Wildlife Biologist	GS-0486-9	0.5				
05	Sand Lake NWR	Refuge Ops. Spec.	GS-0485-9	1.0				
04	Sand Lake NWR	Refuge Ops. Spec.	GS-0485-9	1.0				
06	Seedskadee NWR	Bio-Tech	GS-0404-7	1.0				
06	Seedskadee NWR	Refuge Manager	GS-0485-12	1.0				
06	Upper Souris	Refuge Manager	GS-0485-13	1.0				
04	Upper Souris	Biologist	GS-0486-11	1.0				
						Lost Trail	Biologist	GS-0486-11
		Total Frozen Positions		56.5			Total New Positions	
		Net Loss of FTE/Positions		44.7				

**Table 5: Positions Identified for Abolishment through FY09
Region 6**

Station	Position	Station	Position
ARD-NWRS-Regional Off.	Outdoor Rec Planner	J. Clark Salyer NWR	Maintenance
ARD-NWRS-Regional Off.	Biologists (2)	Kirwin NWR	Project Leader
ARD-NWRS-Regional Off.	Admin/Budget (3)	Lacreek NWR	Maintenance
Arapaho NWR	Biologist	Long Lake NWR	Project Leader
Arrowwood NWR (Valley City)	Refuge Manager	Madison	Maintenance (.5 FTE)
Audubon NWR	Refuge Ops Spec	Nat'l. Bison Range	Refuge Manager
Bear River Migratory Bird	Refuge Ops Spec	ND HAPET	Biologist
Benton Lake NWR	Deputy Project Leader	Quivira NWR	Outdoor Rec Planner
Bismarck WHO	Writer/Editor (.5 FTE)	Rocky Mountain Arsenal	Refuge Manager (.5 FTE)
Bowdoin NWR	Bio Tech (.5 FTE)	Seedskadee NWR	Biologist
Browns Park NWR	Maintenance	Seedskadee NWR	Project Leader
Crescent Lake/N. Platte	Project Leader	Tewaukon NWR	Project Leader
Devils Lake (Sully's Hill)	Park Ranger (.5 FTE)	Waubay NWR	Refuge Manager
Flint Hills NWR	Maintenance	Waubay NWR	Maintenance (.5 FTE)
J. Clark Salyer NWR	Bio Tech (.5 FTE)	Dakota Tallgrass Prairie	Refuge Manager

Table 6: Change in NWRS Workforce, Mountain-Prairie Region (FY 2004-FY 2009), Region 6

	Refuge Manager	Biology 0486	Biology 0401/0404	Public Use	LE	Adm	WG	Other	Total
Total, existing (FY04):	138.5	48.5	31	23.5	23	67	85	16.0	432.5
Denver Regional Office	10	3	6	4	1	12		7	43
Total, abolished:	-24.5	-3.5	-10.0	-5.5	-2.0	-8.0	-3.0	0.0	-56.5
Denver Regional Office	-1.0		-3.0			-2.0			-6.0
Total, existing (FY06):	114	45	21	18	21	59	82	16	376
Denver Regional Office	9	3	3	4	1	10		7	37
Total, additions:	2.5	2	0	1	0.5	2	1.8	2	11.8
Denver Regional Office	0	0	0	0	0	1	0	0	1
Total, reductions:	-12.5	-3	-3.5	-2	-0.5	-3	-4.5	-0.5	-29.5
Denver Regional Office	0	0	-2	-1	0	-3	0	0	-6
Total, Workforce Plan	104.0	44.0	17.5	17.0	21.0	58.0	79.3	17.5	358.3
Denver Regional Office	9.0	3.0	1.0	3.0	1.0	8.0	0.0	7.0	32.0
% Change (FY04-FY09)	-25%	-9%	-44%	-28%	-9%	-13%	-7%	9%	-17%

Table 7: Change in NWRS Workforce, Mountain-Prairie Region (by State), Region 6

Location	Number of Positions Abolished (FY04-FY06)	Current Number of Positions (FY06)	Number of Positions Abolished (FY07-FY09)	Percent Lost Proposed (FY07-FY09)	Percent Lost Total (FY04-FY09)
Regional Office	6	37	6	16.2%	32.4%
Colorado	5.5	40	2.5	6.3%	20.0%
Kansas	3.5	22	3	13.6%	29.5%
Montana	8	66	2.5	3.8%	15.9%
Nebraska	3.5	33	1	3.0%	13.6%
North Dakota	13	95	7.5	7.9%	21.6%
South Dakota	7	46	4	8.7%	23.9%
Utah	3	21	1	4.8%	19.0%
Wyoming	7	16	2	12.5%	56.3%
Totals	56.5	376	29.5	7.8%	22.9%



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U.S. House of Representatives
Committee on Natural Resources
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May 15, 2007

LOUIE JOHNS
REPUBLICAN CHIEF OF STAFF

JAMES H. ZUMA
CHIEF OF STAFF

Honorable Dirk Kempthorne
Secretary
Department of the Interior
1849 C Street, NW
Washington, DC 20240

Dear Mr. Secretary,

As Chairman and Ranking Member of the Committee with jurisdiction over Indian legislation and the National Wildlife Refuge System, we wish to convey our support for the proposal by the Confederated Salish and Kootenai Tribes (CSKT) of the Flathead Reservation to manage and operate the National Bison Range Complex (NBRC) via an Annual Funding Agreement (AFA) with the U.S. Fish & Wildlife Service (FWS) under the Tribal Self-Governance Act. We also are concerned that the lack of support of this agreement by some individuals within the FWS may have resulted in a distorted record concerning NBR activities under the AFA.

The Indian Self-Determination Act and the Tribal Self-Governance Act allow qualified tribes to contract to perform the activities of the Federal government for local program management. As part of the Tribal Self-Governance Act (Act), Congress specifically authorized tribes to manage certain types of non-Bureau of Indian Affairs programs within the Department of the Interior (Department). The Committee Report accompanying the Act (H. Rpt. 103-653) makes it clear that the Act applies to FWS programs and, in particular, to circumstances such as those found at the NBRC. We specifically stated in the Committee Report: *"The Committee intends this provision in conjunction with the rest of the Act, to ensure that any federal activity carried out by the Secretary within the exterior boundaries of the reservation shall be presumptively eligible for inclusion in the Self-Governance funding agreement."* As you know, the entire National Bison Range, along with its ancillary Ninepipe and Pablo Refuges, are located within the exterior boundaries of the Flathead Indian Reservation.

CSKT's connections to the NBRC, and its bison, make for unique circumstances. Also in this instance, CSKT owns the land on which two of the NBRC's ancillary refuges are located. In fact, the Ninepipe and Pablo National Wildlife Refuges are operated by FWS pursuant to easements obtained from CSKT. Another compelling fact is that the bison at the NBRC consist of descendants of a bison herd that was owned by CSKT Tribal members over a century ago. That herd was started and managed by Tribal members at a time when the bison were on the verge of extinction due to non-Indian activities.

<http://resourcescommittee.house.gov>

Dirk Kempthorne
May 15, 2007
Page 2

Under the Act, the Department is required to publish annually a list of non-BIA Interior programs that are eligible for compacting under Self-Governance. Currently, of the 546 refuges that exist in this country, the FWS list identifies only 18 in the lower 48 states and 16 in Alaska as eligible. Three of the 18 are wholly located within the Flathead Indian Reservation and are part of the NRBC. Since enactment of the Act, 13 years ago, there have been only two AFAs with the FWS: the first involving the Council of Athabascan Tribal Governments exclusively for project work at the Yukon Flats National Wildlife Refuge in Alaska; and the second being the CSKT-FWS AFA for the NBRC. In short, a very small percent of the Refuge System is listed as even being eligible for contracting, and of those 34 refuges, only two have tribal contracts associated with them.

The National Wildlife Refuge Administration Act (the Administration Act) does not prohibit the delegation of management activities to non-federal entities. To the contrary, the Administration Act makes multiple references to working with State governments on refuge programs; mandates that the Interior Secretary ensure coordination, interaction, and cooperation with adjacent landowners and State fish and wildlife agencies; requires the Interior Secretary to cooperate and collaborate with Federal agencies and State fish and wildlife agencies when managing refuges; and specifically authorizes FWS to "enter into cooperative agreements with State fish and wildlife agencies for the management of programs on a refuge." (16 U.S.C. § 668dd (b)(4)) (*emphasis added*). Working with Tribal governments in the same manner under the authorization of the Tribal Self-Governance Act should not be viewed any differently than partnering with State governments especially in this instance where the tribe owns the land on which the ancillary facilities of the NRBC National Bison Range Complex are located.

Some critics of the AFA have said that the principle of the 1976 amendments to the Administration Act was that there should never be any attempt to establish a second National Wildlife Refuge System by delegating FWS authorities to non-federal entities. We do not believe allowing CSKT to help manage the NBRC is creating a second refuge system. To the contrary, we see it as a logical partnership under both the Administration Act and the Tribal Self-Governance Act. Although the Refuge System's organic Act was significantly amended by the 1997 National Wildlife Refuge System Improvement Act, this law did not prohibit Tribal Self-Governance agreements.

This type of partnership is even encouraged by Executive Order 12996, entitled "Management and General Public Use of the National Wildlife Refuge System." Section 2(c) says:

"Partnerships. America's sportsmen and women were the first partners who insisted on protecting valuable wildlife habitat within wildlife refuges. Conservation partnerships with other Federal agencies, State agencies, Tribes, organizations, industry, and the general public can make significant contributions to the growth and management of the Refuge System."

As we are both strong supporters of the Refuge System, we would be concerned if the NBRC AFA could serve as a precursor to privatization of refuges. Yet we are convinced that this is not the

case. Agreements with other governments — be they State or Tribal — are not comparable to privatization schemes where for-profit entities take over federal programs. A Tribal government is not a corporate entity any more than a federal, state or local government is a corporate entity. Under the AFA and the Tribal Self-Governance Act, the NBRC remains a federally-owned Refuge and all applicable federal statutes and regulations that apply to the Refuge System continue to apply under the AFA. In the absence of compliance with this requirement, we would not support the NBRC AFA.

The CSKT have demonstrated a high level of performance in contracting a wide variety of other federal programs. Under their AFA, CSKT has stated repeatedly its commitment to operate the NBRC pursuant to the laws and regulations applicable to all refuges. In fact, the Act contains safeguards that protect against any jeopardy to natural resources or other federal assets. We understand that CSKT is the first tribe to designate an official wilderness: the Mission Mountain Tribal Wilderness Area. Their efforts have led to that area being one of the few places in Montana where there are grizzly bears. The CSKT also manage a large herd of Bighorn sheep, and they worked with the FWS to reintroduce the Trumpeter Swan to the Flathead Valley. In short, CSKT has excellent credentials to manage wildlife-related programs at the NBRC.

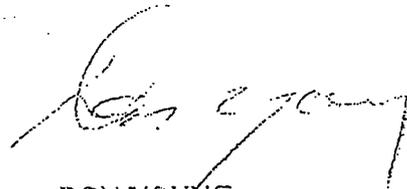
We also understand that, beyond the scope of work required of it through the AFA, the CSKT has devoted extensive tribal resources to the NBRC. At a time when the overall National Wildlife Refuge System budget has suffered, CSKT employees and volunteers literally worked thousands of hours at the NBRC. If a new AFA, with broader tribal management, might result in a continuation of that degree of tribal supplementation at a federal refuge, we would think the Department would do everything in its power to make it happen.

Finally, we are concerned to hear of the recent development wherein the FWS is proposing to radically downsize the number of staff and bison at the NBRC. The proposed reduction from 20 full time staff down to 6 staff is no way for the FWS to treat the refuge it recently referred to as the Refuge System's "Crown Jewel" nor does it make sense to reduce the number of bison from over 300 animals down to 100. Such cuts are not merely the NBRC's proportionate share of agency wide reductions, rather, they have every appearance of being proposals intended to make the CSKT disinterested in future management of the NBRC. We hope you will immediately reverse these proposed reductions.

We hope you agree that promoting a fair implementation of a Tribal Self-Governance AFA at the National Bison Range furthers important congressional and federal objectives as identified in both the Administration Act and the Tribal Self-Governance Act.

Sincerely,


NICK J. RAHALL, II
Chairman


DON YOUNG
Ranking Member

JON TESTER
MONTANA

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United States Senate

010475

June 5, 2007

The Honorable Patricia Lynn Scarlett
Deputy Secretary
Department of the Interior
Washington, DC 20240

Dear Deputy Secretary Scarlett:

We are greatly concerned with the recent announcement of the United States Fish & Wildlife Service (FWS or the Service) that there will be severe reductions in the number of bison and the level of staff located at the National Bison Range (NBR) in Montana.

For many years, approximately 325 bison, a herd considered the best collection of purebred American Bison anywhere in the United States, have roamed the NBR and 20 staff positions have been needed to manage the NBR, one of the oldest and most beloved refuges in the National Wildlife Refuge System. The proposal by the FWS to reduce the number of employees to approximately six (6) and to reduce the number of bison to approximately 100 raises our strong concern about the NBR, its unique herd, the thousands of tourists who visit the NBR every year, and the surrounding communities who benefit from the tourism. The Service has rightfully referred to the NBR as the "Crown Jewel" of wildlife refuges. Located in a beautiful area with the snow-capped Mission Mountains as a backdrop, this 18,500 acre refuge will be 100 years old next year and the proposed cuts are not the way we should be celebrating this milestone.

We strongly support increased funding for wildlife refuges in general and the NBR in particular and we will fight for that funding. But, in the interim, we ask that the herd not be reduced and the proposed cuts in staff not be carried out. We look forward to working with you to resolve the many issues facing the NBR and would appreciate a response at your earliest convenience.

Sincerely,


United States Senator Max Baucus


United States Senator Jon Tester

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United States Department of the Interior

FISH AND WILDLIFE SERVICE



October 8, 2004

IN REPLY REFER TO

Memorandum

To: Refuge Manager, National Bison Range Complex

From: Managers, National Wildlife Refuge System and National Fish Hatcheries (See Attached List)

Subject: Draft Fiscal Year 2005 Annual Funding Agreement Between FWS and CSKT

Our respective offices are included in the Department of the Interior's 2004 annual list of programs that may be eligible for inclusion in annual funding agreements to be negotiated with self-governance Tribes. Since future negotiations for these types of agreements could be affected by an agreement reached between the Department of the Interior and the Confederated Salish and Kootenai Tribes of the Flathead Reservation (CSKT), we believe it is appropriate for us to provide our input on the draft annual funding agreement for the National Bison Range Complex. We offer these observations not as part of the public comment process, but in the spirit of maintaining effective communication, coordination, and system-wide consistency in the management of America's National Wildlife Refuge System and National Fish Hatcheries, as provided for by law.

We found the current draft agreement to be very vague. No dollar amount is identified; Attachment B does not provide adequate information for review and/or comment. The number of National Wildlife Refuge System employees impacted by the use of IPAs and RIFs is not identified. The agreement makes certain government equipment, materials, and supplies (including Real Property) available to CSKT for performing the work, but nothing specific is identified. (Except that, any horse owned by the United States is apparently part of that available property.) Attachments C and D are not available for review or comment. CSKT liaisons are not identified. Some of the activity descriptions (Attachment A) are so imprecise that it is difficult to understand exactly what CSKT will be doing for the Service. If these descriptions remain unclear it will be problematic to monitor and evaluate CSKT's performance. For example, one of the activities listed under the biological program is, "*In August and September, coordinate and conduct waterfowl banding in the physical area covered by this AFA.*" There is no discussion of species to be targeted, numbers of birds to be banded, techniques to be used, State and Federal permit requirements, salvage of banding casualties, acceptable mortality rates, etc.

For the most part, timelines are not identified for completion of the activities. There is just a general statement under each activity, "*As specified in this AFA and discussed by the Refuge*

Manager and the Coordinator at weekly meetings, or as otherwise agreed upon by the Refuge Manager and the Coordinator." We found that this draft agreement is so indistinct, it is not possible to determine: 1) exactly what CSKT will be doing for the Refuges; 2) how much CSKT will be paid to do it; 3) how CSKT's performance will be measured; 4) how many National Wildlife Refuge System employees will be impacted; or 5) how to provide meaningful and constructive comments. We suggest postponing the review period until a more complete and comprehensible draft is developed.

One of the five activities covered under the draft AFA is "Management." Although this section is mostly about CSKT's management of their employees and volunteers, the use of the term management is misleading and could be confused with our inherently Federal responsibility to manage this Nation's National Wildlife Refuges for the benefit of present and future generations of Americans. (As a sidebar, we do not believe the Service should be paying contractors to manage their own employees.) In fact, we believe the draft agreement needs to be thoroughly evaluated from the perspective of ensuring that the U.S. Fish and Wildlife Service is not contracting any functions which are inherently Federal [as prohibited by section 403(k) of the Tribal Self-Governance Act, 25 U.S.C. § 458cc (k)].

We believe certain functions outlined in the draft represent inherently Federal functions. For example, it appears that CSKT will have ultimate control over Federal records and databases (Section 13. C. and Attachment A, B.); will be collecting, controlling, and accounting for Federal monies (Attachment A, E.); and will be directing and controlling Federal employees [see Section 5 (B) of the Federal Activities Inventory Reform Act of 1998]. Certainly the management recommendations that CSKT employees will be providing to the Refuge Manager (and the small Federal staff) on environmental education, fire management, grazing, habitat management, and the use of herbicides and pesticides are extensive.

Managers necessarily rely heavily on the recommendations of their staffs when making discretionary management decisions. So even though the draft states repeatedly that the Refuge Manager will have "*final responsibility and authority*," CSKT will have a great deal of influence over management decisions that affect Federal public lands within the National Wildlife Refuge System -- without the input of other interested parties. We do not believe that this was the Congressional intent of extending the Indian Self-Determination and Education Assistance Act to non-BIA Department of the Interior agencies. The cumulative effect of the activities that are to be performed by CSKT goes far beyond providing routine services. Some of the activities that will be provided by CSKT require a thorough knowledge of the laws and policies of the National Wildlife Refuge System. The extensive recommendations and value judgments made by CSKT will in effect bind the U.S. Fish and Wildlife Service to a course of action. We believe, at a minimum, National Wildlife Refuge System employees with expertise in each of the major program fields need to be retained by the Service to validate or refute recommendations made by CSKT (or any other outside source).

There is a striking lack of information on budgets, costs, and personnel actions associated with this annual funding agreement. There are also other management issues that need to be addressed more clearly in the draft. For example, the safety and liability aspects of using a sovereign Tribe to accomplish hazardous work (fire management, bison round-ups, use of

herbicides and pesticides, etc.) are not clear. It is also unclear how the Refuge's extensive use of volunteers will be affected by this agreement. And finally, it is not apparent to us how this agreement will benefit the National Bison Range Complex and/or the National Wildlife Refuge System.

Although the draft AFA states that, "*The FWS will not provide the CSKT any funds or other consideration to pay for indirect costs . . .*" there is a provision in the draft for subsequent AFA's to include indirect or contract support costs. To ensure consistency within the National Wildlife Refuge System, we believe the issue of "allowable indirect costs" (25 CFR 1000.137) the Service will include in annual funding agreements for 403(c) programs needs to be reviewed, discussed, and resolved by Service leaders at the national level. The U.S. Fish and Wildlife Service, and all government programs, has been placed under increasing financial scrutiny (KPMG audits, OMB reviews, GAO and OIG reports, etc.) to ensure that public monies are spent wisely. We as an agency should ensure that annual funding agreements with Tribal Governments are held to the same level of accountability that we apply to all of our other programs. [We also note, the draft agreement indicates CSKT will be paid for the "*management, oversight, planning, reporting, and the supervision of CSKT Employees, CSKT Contractors, and CSKT Volunteers*" (Attachment A. Section 2). Are these not "indirect costs associated with performing the Activities covered by this FY 2005 AFA"?)]

As a minor point, "Operational Standards" are defined in the draft as, "*a requirement of a law, regulation, written policy, approved written plan, or published FWS standard, whether or not existing on the date of execution of this AFA, that governs the performance of an Activity, and which the FWS would have to meet if the FWS itself performed the Activity.*" Under Section 8, CSKT is required to perform each Activity in compliance with all applicable Operational Standards. Although we fully support this concept, as written, the draft would require CSKT employees to take safety and administrative training FWS employees are required to take by policy (e.g., Basic Watercraft and Aircraft Safety, EEO/Diversity, Ethics, First Aid/CPR, Information Technology Security, Hazard Communication, numerous National Wildland Fire Training Courses, New Employee Orientation, Sexual Harassment, Supervisory Training . . .). This would certainly complicate implementation of the agreement. We doubt that the intent of this provision was to require this level of compliance with our operational standards, but whatever the case, the requirement needs to be clarified.

From our years of experience and perspectives as managers of National Wildlife Refuges and National Fish Hatcheries, the agreement as written is too broad and comprehensive and lacks the specificity needed to make it work, or to even support a meaningful review. Throughout the agreement, the Refuge Manager clearly remains responsible and accountable for all Refuge operations. However, the agreement does not ensure that the Manager has the authority to accomplish the Refuge mission. If the responsibility is there, which it clearly is, the authority must also be ensured. No Refuge Manager, no matter how skilled, could successfully implement this agreement as it is written.

The National Wildlife Refuge System has had many successes in establishing and maintaining government-to-government relationships with Native American organizations and tribes, and we fully endorse Region 6's efforts to work more closely with Tribal Governments in the

management of America's National Wildlife Refuges. Many of us are working on Refuges that have strong positive partnerships with local Tribes. However, we firmly believe that any annual funding agreements under the Tribal Self-Governance Act with Native American tribes for work on National Wildlife Refuges or National Fish Hatcheries should: 1) add value to the program, 2) have specific performance standards and ensure fiscal accountability, 3) be accomplished in a sound and competent manner, 4) be cost effective to the U.S. Fish and Wildlife Service and the American public, and 5) exclude inherently Federal functions and "programs where the statute establishing the program does not authorize the participation sought by the Tribe." As currently written, it is not clear that the draft annual funding agreement with CSKT meets any of these five criteria.

cc: Assistant Secretary for Fish and Wildlife and Parks
Deputy Assistant Secretary for Fish and Wildlife and Parks
Director, U.S. Fish and Wildlife Service
Chief, National Wildlife Refuge System
Regional Director, Region 6

(List of managers who developed and endorsed this memorandum)

Margaret Anderson, Refuge Manager, Agassiz NWR
Greg Siekaniec, Refuge Manager, Alaska Maritime NWR
Daryle Lons, Refuge Manager, Alaska Peninsula and Becharof NWR Complex
Richard Voss, Refuge Manager, Arctic NWR
Eric T. Nelson, Refuge Manager, Humboldt Bay NWR Complex
Bill Schaff, Refuge Manager, Innoko NWR
Rick Poetter, Refuge Manager, Izembek NWR
Merry Maxwell, Acting Refuge Manager, Kanuti NWR
Robin West, Refuge Manager, Kenai NWR
Leslie Kerr, Refuge Manager, Kodiak NWR
Dianna Ellis, Refuge Manager, Kootenai NWR
Mike Spindler, Refuge Manager/Pilot, Koyukuk and Nowitna NWR Complex
Mary Stefanski, Refuge Manager, Mille Lacs and Rice Lake NWRs
Jean Takekawa, Refuge Manager, Nisqually NWR Complex
Roy Lowe, Project Leader, Oregon Coast National Wildlife Refuge Complex
Paul Hayduk, Project Leader, Quinault National Fish Hatchery
Lee Anne Ayres, Refuge Manager, Selawik NWR
Craig Heflebower, Acting Refuge Manager, Sequoyah and Ozark Plateau NWR Complex
Edward Merritt, Refuge Manager, Tetlin NWR
Paul Liedberg, Refuge Manager, Togiak NWR
Kevin Ryan, Refuge Manager, Washington Maritime NWR Complex
Mike Rearden, Refuge Manager, Yukon Delta NWR
Ted Heuer, Refuge Manager, Yukon Flats NWR

Public Commentary: National Bison Range Staffing

In support of postponement of AFA with CSKT, and national policies' being stated on AFAs and FWS facilities:

- National Wildlife Refuge Association:
Sent letter stating concerns about "poorly designed AFAs," and suggested a set of guiding principles. Also "encourages the FWS to adopt these principles when developing annual funding agreements." Believes FWS should develop specific guidelines governing the creation of AFAs and, within those guidelines, recommends that reasonable. Asks for a "national AFA policy for refuges (to) provide clear, consistent guidelines, standards and associated measurable evaluation criteria for refuges to follow when negotiating with tribes."
- 22 Managers, National Wildlife Refuge System and National Fish Hatcheries (see attached letter)

Against CSKT involvement in National Bison Range:

- Alaska Outdoor Council, Richard H. Bishop
- All Citizens Equal, Del Palmer, Board of Directors
- American Bird Conservancy, Perry Plumart, Director, Conservation Advocacy,
- Blue Goose Alliance, Don Redfearn, President,
- Boone and Crockett Club, Missoula, Montana, Robert Model and Stephen P. Mealey, conservation policy committee co-chairs,
- Camp Fire Club of America, Leonard J. Vallender, Chairman, Conservation Committee of Forest and Wildlife
- Chicago Zoological Society, Stuart D. Strahl
- National Wildlife Refuge Association, Evan M. Hirsche,
- PEER, Public Employees for Environmental Responsibility
- Safari Club International, Ralph Cunningham, President
- Wildlife Stewards, Alviso, CA, Eileen McLaughlin, Project Director,
- Wildlife Management Institute, Steven Williams, President
- Private citizen Linda LaBonty-Snyder, St. Ignatious, Montana
- Private citizen Robert C. Larsson
- Private citizen Larry Calvert, Charlo, Montana
- Private citizen Joe Mazzoni, via email
- Private citizen Andy Larson
- Private citizen Ervin Davis, 2005 National Wildlife Refuge Volunteer of the Year
- Private citizen Bruce Wiseman, former Fish and Wildlife Service employee, Ridgefield, WA
- Private citizen John W. Hanes Jr., Bozeman, MT
- Private citizen Susan Reneau, Montana
- Private citizen Don Redfearn, Tucson, AZ
- Letter from 22 regional zoological and Audubon society organizations.
- List of calls from a number of citizens in support of cancellation of funding agreement attached

In support of CSKT role in National Bison Range:

- National Congress of American Indians (passed resolution #FTL-04-124 in support of CSKT)
- Amerind Risk Management Corporation
- Council of Large Land Based Tribes
- Council of Energy Resource Tribes
- National American Indian Housing Council
- National Indian Gaming Association
- Native American Fish and Wildlife Society
- Montana-Wyoming Tribal Leaders Council
- Trumpeter Swan Association (Dale Beeker, CSKT Natural Resources employee, is president)
- Private Citizen Paul Bishop, long time National Bison Range volunteer at annual roundup

Dean Rundle/R6/FWS/DOI
07/05/2007 05:21 PM

To Bill West/R6/FWS/DOI@FWS
cc
bcc
Subject Re: Fw: Request for Information 

Good response.

dean

Bill West/R6/FWS/DOI

Bill West/R6/FWS/DOI
07/05/2007 01:50 PM

To Dean Rundle/R6/FWS/DOI@FWS
cc
Subject Fw: Request for Information

Dean;

This is what I sent to Dale Becker & cced to Clayton Matt /Brian Upton. I wanted to get it out before other stuff hits the street.

Bill

----- Forwarded by Bill West/R6/FWS/DOI on 07/05/2007 01:48 PM -----

Bill West/R6/FWS/DOI
07/05/2007 10:08 AM

To <daleb@cskt.org>
cc brianu@cskt.org, claytonm@cskt.org
Subject Re: FW: Fw: Request for Information 

Dale;

I will do my best to find documents you are looking for. Some of the plans listed in your first email are outdated and don't guide day to day refuge operations. Please call me at your convenience and we can schedule a day to meet. I suggest next week (July 9th).

Yours,

Bill

Bill West
Project Leader
National Bison Range Complex
58355 Bison Range Rd.
Moiese, MT 59824
406-644-2211 x 203
Fax 406-644-2661
"Dale Becker" <daleb@cskt.org>



"Dale Becker"
<daleb@cskt.org>

06/28/2007 09:56 AM

Please respond to
<daleb@cskt.org>

To <Bill_West@fws.gov>

cc <claytonm@cskt.org>, <brianu@cskt.org>

Subject FW: Fw: Request for Information

Bill,

I have been directed to follow up on the request below and Dean Rundle's response. Since it may not be an easy task to locate all of the dated materials that I requested, I am requesting a meeting with you to obtain copies of appropriate and applicable management plans, directives and other related guidance documents that are currently in use at the Bison Range and other properties in the National Bison Range Complex properties here within the Flathead Indian Reservation. I would appreciate a response to this request at your earliest convenience. Thank you for your consideration and assistance.

Regards,
Dale

From: Dean_Rundle@fws.gov [mailto:Dean_Rundle@fws.gov]
Sent: Monday, May 21, 2007 11:02 AM
To: daleb@cskt.org
Cc: Rick_Coleman@fws.gov; Steve_Kallin@fws.gov; Bill_West@fws.gov
Subject: Re: Fw: Request for Information

Dale: Hi, this is Dean Rundle, the Refuge Supervisor for CO/MT/UT/WY refuges, responding for Steve Kallin and Bill West at NBR. Your request is a pretty tall order, given the antiquity of some of the documents requested. Frankly, with the current staffing at NBR and here in the Regional Office, we are not going to be able to locate all of these documents and make copies for you in the next couple weeks. No doubt, many of these documents are obsolete, out-of-date, and of little (other than historical) value. I'm pretty new at this, but if these are these are the most current documents we have, then the need to complete a Comprehensive Conservation Plan (CCP) for NBR is great. As you are probably aware, we have until 2012 to complete the CCP for all refuges, including the NBR. That CCP, when written, will obviously need to consider whatever partnership/relationship develops between FWS and CSKT, and your office will need to be very involved in that public planning process. At this time we are planning to begin the CCP process for NBR in FY 2010.

As you are probably aware, the management situation at the National Bison Range is uncertain. We do not know how we are going to work together, whether under a new AFA, or possibly some other agreement. Bill and Steve are both out of the office the next couple days. I think Steve will be back in on the 23d. What I'd ask you to do is give Steve a call and set up a meeting with him and Bill West to go over the current planning documents that he has in his files at the refuge HQ. You can decide which ones you want and we'll be happy to provide you with copies of those. If there are then additional historical documents that you want/need, we can do a search and see what we come up with. I suspect that some of these documents from the 60's and 70's are going to be hard to locate.

If you want to give me a call, my office no. is 303/236-4306. I'll be in today until about 2:00 p.m., then travelling until Thursday. My cell is 303/884-9283 if you want to try that.

Hope this helps.

Dean Rundle
Refuge Supervisor

Bill West/R6/FWS/DOI

05/19/2007 08:55 AM

To Rick Coleman/R6/FWS/DOI@FWS, Dean Rundle/R6/FWS/DOI@FWS
cc Steve Kallin/R6/FWS/DOI@FWS
Subject Fw: Request for Information

Rick and Dean;

We have not the staff or time to answer this request. How do we proceed?

Both Steve and I are on Annual Leave.

Bill

Bill West
Deputy Project Leader
National Bison Range Complex
58355 Bison Range Rd.
Moiese, MT 59824
406-644-2211 x 203
Fax 406-644-2661

-----Forwarded by Bill West/R6/FWS/DOI on 05/19/2007 08:52AM -----

To: <Steve_Kallin@fws.gov>, <Bill_West@fws.gov>
From: "Dale Becker" <daleb@cskt.org>
Date: 05/18/2007 08:01AM
cc: <claytonm@cskt.org>, <tomm@cskt.org>, <brianu@cskt.org>, <rhondas@cskt.org>
Subject: Request for Information

I am writing to request paper copies of the documents listed below. I have copies of some of the documents, but none contain final signatures or other indications that they are finalized and approved. Would you please clarify, in writing, on each document whether it is an approved and also whether is still in valid and in use at the present time? In addition, please consider this request to include other pertinent approved management plans for USFWS-administered lands within the National Bison Range Complex and/or

currently used management plans. I appreciate your prompt attention to this request.

NBR management plans that I currently have:

- 1) National Bison Range Habitat Management Plan (unsigned, undated copy, missing p. 9, has "1980" handwritten on front);
- 2) Public Use Management Plan - National Bison Range (signed 3/27/81 by NBR staff; signed 7/17/81 by Area Manager in Billings; no signature on line for Regional Director); and
- 3) National Bison Range Fenced Animal Management Plan (signed 6/25/90; missing p. 2)

Plans/documents I do not currently have:

- 4) "NNP-PBL Master Plan" (1967) - referenced on p. 20 of the Public Use Mgmt Plan;
- 5) NBR Master Plan (PPBE) (1967?) - referenced on pp. 18-19 of Public Use Mgmt Plan;
- 6) "I & R Program Management Document" - referenced on p. 18 of Public Use Mgmt Plan;
- 7) Bison Range Wildlife Inventory Plan - referenced on p. 13 of Habitat Mgmt Plan;
- 8) NNP Hunt. & Fish. Plan - referenced on pp. 9-10 of Public Use Mgmt Plan; dated as 1960 on p. 61 of Public Use Mgmt. Plan;
- 9) PBL Hunt. & Fish. Plan - referenced on pp. 11-12 of Public Use Mgmt Plan; dated as 1960 on p. 61 of Public Use Mgmt. Plan;
- 10) "NBR objective statement" (from 1977) - referenced on p. 40 of Public Use Mgmt Plan;
- 11) Master Plan for Physical and Biological Development of Ninepipe and Pablo National Wildlife Refuges - referenced on p. 60 of Public Use Mgmt Plan;
- 12) Water Plans? (Annual Water Plan Reports for NBR, Ninepipe and Pablo - 1970-1980, referenced on p. 60 of Public Use Mgmt. Plan);
- 13) Master Plan for the Physical and Biological Development of the NBR (1963) - referenced on p. 61 of the Public Use Mgmt Plan;
- 14) Land Use Plan - Ninepipe (1964) - referenced on p. 61 of Public Use Mgmt Plan; and
- 15) Land Use Plan - Pablo (1964) - referenced on p. 61 of Public Use Mgmt Plan.

I am also requesting paper copies of any annual reports reported to USEWS activities during the period of 1996-2006 at the National Bison Range, Ninepipe National Wildlife Refuge, Pablo National Wildlife Refuge and Waterfowl Production Areas located within the exterior boundaries of the Flathead Indian Reservation. Again, I appreciate your prompt attention to this request. I also request acknowledgment of receipt of this correspondence.

Dean Rundle/R6/FWS/DOI
08/16/2007 10:56 PM

To Rick Coleman/R6/FWS/DOI@FWS, Bill
West/R6/FWS/DOI@FWS

cc

bcc

Subject Draft Response

Attached is my first cut, based on guidance from Rick and Mitch, at a response to Chairman Steele's letter to Bill, of August 15.

Rick: I know you are out tomorrow and probably won't get this until Monday. I did not copy Jay or Mitch with this first draft, in case it's way off base and you want to discard major elements.

Bill: Sharing with you 'cause it will be over your signature, and so that you and Rick can confer on Monday, after I'm off to the Supervisor's meeting in Twin Cities.
Please don't share with others until you have talked to Rick. How do you like having the RO do your staff work!?!

I think I covered all of the issues raised in the Chairman's letter, pretty much para. by para, and does not stray from ARD/RD guidance. I assume that the RD wants a response a little more diplomatic than just No, No, No.

Dean



Response to CSKT.8.16.07.doc

DRAFT

Mr. James Steele, Jr., Chairman
Tribal Council
The Confederated Salish and Kootenai Tribes of the Flathead Nation
P. O. Box 278
Pablo, MT 59855

Dear Chairman Steele:

Thank you for your letter of August 15, 2007, responding to the United States' July 2007 proposal for a Cooperative Agreement at the National Bison Range Complex (NBRC). We are pleased that the Confederated Salish and Kootenai Tribes (CSKT) remain interested in negotiations for a partnership agreement for the NBRC. You raised several issues as important to any future negotiations and the effective implementation of any resultant agreement. The response of the United States follows.

We will not conduct negotiations through a third party. It is our preference to conduct good faith and direct government to government between the CSKT and the United States. Our preference is to conduct negotiations between decision-makers of both parties. While the Deputy Secretary of the Interior expressed a desire for Mr. Dale Becker to represent your government in those negotiations, we realize that is your prerogative, not ours. Myself, and/or Refuge Supervisor Dean Rundle, will represent the United States. We agree legal counsel of both parties may be present for advice during our negotiations. We are confident that good faith negotiations, directly between decision-makers, is the best way to reach agreement. We are not opposed to third-party participation in a dispute resolution process, but see no value in negotiating through facilitators or attorneys.

Regarding your paragraph 1) Scope of contracting:

First, we are not offering or proposing a contract for services with the CSKT. We are proposing a Cooperative Agreement – a voluntary partnership wherein very significant core work at NBRC would be performed under my direct supervision by CSKT Department of Fish, Wildlife, Recreation and Conservation (DRWRC) employees.

You are correct in your understanding that we propose to fill all vacant positions on the NBRC organizational chart provided on July 20, 2007, through Intergovernmental Personal Act (IPA) agreements wherein CSKT would assign staff to work for the U. S. Fish and Wildlife Service (FWS) at NBRC.

As we discussed with your staff and legal counsel on July 30, 2007, the vacant positions include all of the positions in the biological and fire programs, as well as some positions in the visitor services and maintenance programs. Hence, we proposed that two of the four core programs at NBRC would be staffed completely by CSKT DRWRC IPA employees. However, our bottom line is that there are no “discrete functions” in the

Cooperative Agreement, we propose a joint combined staff, all working for the undersigned.

Regarding your paragraph 2) Due process and dispute resolution:

We agree that any agreement must clearly establish dispute resolution procedures. The dispute resolution process must emphasize a desire by both parties to resolve disputes, informally if possible, at the lowest level. If that is not successful, the process must provide for rapid elevation and resolution of disputes to higher management levels if that is not successful. The lack of provisions for field level dispute resolution and reliance on bureaucratic and arcane legal processes for “fixing problems” was a major flaw in the FY 2005-06 Annual Funding Agreement. We are not opposed to involvement of third party facilitators, or an ombudsman, and regret any mixed messages we may have sent you about that particular issue in prior discussions. Any dispute resolution process will end with a final decision by the FWS Regional Director, in consultation with the Tribal Council Chair, or other CSKT official you may designate. We remain ready to begin direct negotiations between our governments that would include a negotiated agreement on dispute resolution.

We are not proposing a contract, but rather a partnership through a Cooperative Agreement, wherein all employees, of both parties, will work under supervision of the FWS Refuge Manager/Project Leader. Hence the need for extensive due process procedures will be limited. A successful Cooperative Agreement will, among other things, include:

1. Statements of what each party will do to effect the partnership (Scopes of Work).
2. Terms for termination, and extension of the agreement.
3. Provisions for payment.
4. Dispute resolution.

Since this would be a Cooperative Agreement, entered voluntarily by both governments, either party will be able to terminate the agreement by a simple written notification to the other party. The length of notice for voluntary withdrawal from the agreement is negotiable. A notice of 30 to 60 days is typical in other Cooperative Agreements. Our experience is that this type of termination provision works well in our many cooperative agreements with States, local units of government, and other partner entities. Such terminations are rare and unanticipated in a Cooperative Agreement.

Payment provisions of the Cooperative Agreement would detail how payments are made or pro-rated in the event the agreement is terminated prior to the agreed term. Those details are negotiable and we are ready to negotiate.

Regarding your paragraph 3) Additional Issues: Our response to your issues is presented in sequence to you items A – J:

- A) We do not believe FTCA tort liability will be an issue because CSKT DFWRC-provided employees would be working under IPA agreements, for FWS. We will however research with issue further with our Solicitor and address the issue, if there is one.
- B) As explained above, a Cooperative Agreement will need no provisions regarding reassumption or retrocession of activities/positions. The agreement can be terminated, without prejudice, by either party if that party no longer desires to participate.
- C) We do not anticipate a need for the Cooperative Agreement to include provisions FWS to conduct overall evaluation of CSKT performance. Such and evaluation is an appropriate part of a contract – but not of a Cooperative Agreement. The Cooperative Agreement should provide for a mutually developed and joint evaluation of the effectiveness of the agreement in meeting the mutual goals of the parties. This should be conducted annually, prior to the extension on the agreement for additional fiscal years. The evaluation would not be of one party evaluating the other, but rather both parties mutually evaluating the success of their combined efforts, identifying lessons learned, and improvements for the future of the partnership. We are ready to negotiate the specifics of an agreement, including provisions for periodic joint review of the program.

Formal performance evaluation would be appropriately at the individual employee level. All employees would work for the NBRC Refuge Manager/Project Leader. FWS employees will be evaluated by their FWS Supervisor, in accordance with the FWS performance evaluation system. We would anticipate that the Refuge Manager/Project Leader would provide input to the CSKT DFWRC and that CSKT DFWRC would conduct the formal evaluation of their individual employees in accordance with CSKT policy. We will, however, require a provision that the CSKT remove from NBRC any individual employee whose performance or conduct would result in suspension or termination if that person was a FWS employee.

- D) The role of third party monitors is negotiable. As stated previously, we choose not to negotiate through third parties, but will accept a third party role in dispute resolution.
- E) We are not sure what tribal and federal laws you are referring to in this issue. I am certain that our respective legal counsels can resolve this issue when it is specifically identified in future negotiations.
- F) The funding mechanism is the Cooperative Agreement itself, which is an obligating document and will be signed by a federal Contracting Officer. The procedures for payment are incorporated into the Cooperative Agreement, including invoicing instructions, etc. The frequency of payments is negotiable, but we would prefer not more often than quarterly.

As stated in our meeting with your staff on July 30, 2007, in Pablo, we will pay salaries and benefits for IPA employees up to, and not to exceed the full performance level of the position if it was filled by a FWS employee. For multi-grade/career ladder positions, this would be based on the qualifications, including education and experience of the CSKT DFWRC/IPA employee. We will pay salaries for all employees, and benefits dependent on the type of appointment identified on the organizational chart. We will pay salary and benefits for employees filling positions identified as PFT, CS or Term on the organizational chart, and salaries only for employees filling positions identified as Temp. If both parties are satisfied with the initial year of a Cooperative Agreement, it is possible that we might desire to include funding for the CSKT DFWRC to conduct specific projects for NBRC (e.g. a research study) for mutually agreeable amounts of money, in subsequent annual scopes of work.

- G) As stated at our meeting with your staff and legal counsel on July 30, 2007, the FWS would not try to impose federal hiring procedures on CSKT in selection of personnel to fill IPA appointments. Hiring should be consistent with federal and/or CSKT tribal law, as appropriate. If CSKT tribal law includes provisions for Indian preference, that is not an issue for us. We will insist that CSKT provides employees with basic qualifications for the incumbent position. We will not require that, for example, IPA employees meet the same definitive education requirements as the federal system mandates. For example, we would expect that a CSKT-provided biologist would have a four-year college degree, with a major in some field related to biology or natural resource management. We would not require, as we would for a federal employee, that the biologist would have to have had specific college course-work.
- H) As discussed with your staff on July 30, we agree that improvements can be made to the organizational chart for NBRC that we had provided earlier in the month. We would propose that the CSKT DFWRC "Assistant Refuge Manager", could also be titled "Supervisory Wildlife Biologist", and would supervise personnel and work in the biological program and fire management program. Both of those programs would be completely staffed by CSKT DFWRC employees. The "Assistant Refuge Manager", FWS would supervise the maintenance and visitor services staff and programs that would include both FWS and CSKT DFWRC employees. All employees would be supervised ultimately by the FWS Refuge Manager/Project Leader.
- I) We will not provide payments for any indirect/overhead costs in the Cooperative Agreement.

- J) As stated previously, a Cooperative Agreement is subject to termination by either party when that party no longer wishes to participate. The length of prior notice of termination is negotiable and must be agreed on by both parties.

We regret any confusion that resulted from an inadequate level of communications within our government this past spring. As we explained to your staff and legal counsel on July 30, we did not respond to your letter of May 7, 2007 due to uncertainty in our position. I believe the information provided above very clearly explains our Cooperative Agreement proposal.

The United States wishes to negotiate a Cooperative Agreement for our partnership in operating NBRC, as explained at our meeting on July 30, and in this letter. Regardless of any prior communication between various officials of our governments, the United States is not offering to use the CSKT's proposed 2007 AFA as a basis for negotiation. We disagree with your assertion that negotiating another AFA is the most efficient way to proceed in developing a new partnership agreement at NBRC. Rather we believe that an AFA is the antithesis of partnership. The reason we will not consider a Tribal Self-Governance agreement is that we are absolutely convinced such an agreement is unworkable and doomed to failure. We do not propose "reinventing the wheel", but rather the mutual invention of a wheel that actually rolls into a partnership.

There are numerous authorities for the FWS to partner, through Cooperative Agreements, with States, Tribes, local units of government and non-governmental organizations. We do need to research the issue, but we believe clearly that the Fish and Wildlife Coordination Act of 1956, as amended, the Intergovernmental Personnel Act, and Executive Order 12996 provide adequate authority for the agreement we propose.

Regarding your paragraph titled Baseline Data Survey:

Your proposal is not clear to us. While we are always willing to discuss biological data needs with the CSKT DFWCR, we do not agree to conduct of any "Baseline Data Survey" by any independent party. We are confident that between the talented personnel of the DFWCR and FWS working together at NBRC we are jointly capable of identifying the biological data gaps at the refuges and working cooperatively to fill those gaps.

We agree that completion of a Comprehensive Conservation Plan for NBRC refuges is badly needed, and it is our intent to comply with the requirement to complete that plan by the end of FY 2012. It is our intent to initiate that planning effort in FY 2010, and we look forward to the participation of the CSKT in that process, regardless of any other agreements we may reach before then.

Regarding your paragraph titled Reimbursement for FY 07 Work Performed Under Prior AFA:

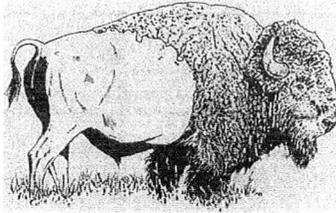
It is my understanding that the FWS Regional Office is currently processing this payment and you should be receiving those funds in the very near future.

In closing, and as part of the negotiation process, it would also be a show of good faith on the part of the CSKT to withdraw the two lawsuits you have filed against the FWS in response to disputes regarding termination of the prior AFA. I don't see how continuing legal battles provide any benefit to either the CSKT or the United States. Indeed the lawsuits are a barrier to partnership negotiations.

I hope this response is timely and helpful to your understanding of the United States' proposal. We look forward to continuing dialog and negotiations. Please call me at 406/644-2211 if you have questions, need further information, or desire to meet.

Sincerely,

Bill West
Refuge Manager



Wildlife Health Office
U.S. Fish and Wildlife Service
1400 S. 19th Ave., FWP Bldg.
Bozeman, MT 59718
T: 406-994-5789
F: 406-994-4090

Memorandum

Date: September 6, 2007

To: FWS bison herd managers and biologists

From: R6 Wildlife Health Office (WHO)

Cc: Rick Coleman, Dean Rundle, Bud Olivera, Paul Cornes, Nita Fuller, Chris Pease

Subject: R6 WHO recommendations for FWS bison metapopulation management 2007

Per our agreement at the FWS bison management meeting held May 8, 2007, the R6 Wildlife Health Office is providing herd management recommendations for bison culling based on information provided by each refuge. Our recommendations are based on the proposal we put forth, and accepted by all, that bison within the National Wildlife Refuge System be managed as one metapopulation for the purposes of genetic conservation. We invite any comments, concerns or other discussion on these recommendations.

Abbreviations used:

SUL: The former Sully's Hill National Game Preserve bison relocated to Ft. Niobrara NWR. This is the only known FWS herd lacking evidence of cattle gene introgression.

FTN: The historic and current herd at Ft. Niobrara NWR.

SH: The current small herd at Sully's Hill NGP populated from National Bison Range.

RMA: The current Rocky Mountain Arsenal herd populated from NBR.

NBR: The historic and current herd at National Bison Range.

WM: The historic and current herd at Wichita Mountain NWR

NSM: The current Neal Smith NWR herd populated from NBR.

CMR: The current triad of bison at Charles M. Russell NWR populated from NBR.

JBH: The historic and current Jackson bison herd occupying Grand Teton National Park during the summer and National Elk Refuge during the winter.

.....

SUL

Status: currently estimated at 47 animals including 9 calves. Sex ratio is 1 male per 1.35 females. Age structure is not known above "4+" for females and "5+" for males.

Recommendation: no cull, maintain current management. Year 2007 calves (08 yearlings) and year 2008 calves should be handled in 2008 for microchip insertion and genetics/disease assessment.

FTN

Status: currently estimated at 402 - 410 animals, including approximately 90 calves. Sex ratio is 1 male per 1.16 females. No carrying capacity data were provided, but FTN plans to begin herd reduction to accommodate growing SUL herd. The goal for this herd is long-term reduction while conserving genetic diversity. However, the proposed cull (80) is less than the estimated 2007 calf crop (90). In addition, the proposed cull would skew the sex ratio to 1 male per 1.21 females further exacerbating potential herd growth. The proposed cull would take about approximately 34% from ages greater than 5. From a genetic conservation perspective, in a herd that is downsized the conservation objective is best met by increasing the generation (age) span. Because parental generations pass only a portion of their genes to the next generation, older animals in the herd contain a larger proportion of the herd genetic diversity.

Recommendation: We recommend a decreased cull on older age classes and cull more heavily from the 1- 5 year class. Specifically, we recommend cull no males over age 5 and cull 39 males age 5 and under; cull 3 females if found ages 20-22 and 39 females age 5 and under. This reduction would help maintain a sex ratio closer to 1:1, better conserve genetic diversity and still remove 81 animals to meet Refuge needs. Although this approach will not immediately reduce the FTN herd size, an increased reduction in the number of animals aged 1 - 5 will eventually result in smaller calf crops in future years and will lead to slower but achievable herd reduction. A separate spreadsheet is provided to FTN NWR for specific recommendations by age/sex class. In addition, WHO will provide ID of specific animals we would recommended not culling because they contain genes found in low frequency in the herd, as well as those bison known to have cattle genes with bison genetic backgrounds common in the herd. These latter are appropriate candidates for culling. We are waiting on the final individual animal genetic data from the laboratory before providing FTN NWR these individual genetic data.

SH

Status: NBR shipped 7 animals, 5 females and 2 males to Sully's Hill spring 2007. 2 male calves were born in 2007. Total herd number currently estimated at 9.

Recommendation: Transfer (export) the 2 male calves from SH to RMA to maintain the herd at 7.

RMA

Status: currently estimated at 19 animals, including 3 calves from this year. Carrying capacity estimated at 35. The Refuge reports no visible impact on vegetation in the pilot project study area. Sex ratio is currently 1 male per 2.8 females.

Recommendation: transfer (import) 2 male calves from SH to RMA to conserve same-source genetic diversity (NBR origin). We recommend capturing year 2007 calves (08

yearlings) and year 2008 calves during the summer of 2008 for microchip insertion and genetics/disease assessment. We also recommend the Refuge follow through with their quantitative impact assessment for bison so that an accurate long term carrying capacity can be determined.

NBR

Status: currently estimated at 337 animals, including 44 calves. Carrying capacity estimated at 370. Sex ratio is 1 male per 0.959 females.

Recommendation: NBR is currently below carrying capacity for bison and is experiencing poor productivity; therefore, no cull is recommended unless significant opportunity to conserve unique NBR genetics at an alternate location should arise. Our modeling of reproduction over 8 years shows a marked trend of reduced productivity. We recommend a study be initiated to ascertain the cause of poor productivity at the Refuge. Because of the reproductive issues, culling known hybrids, even if lacking low prevalence alleles, is not recommended at this time.

WM

Status: currently estimated at 804 animals, including 192 calves, 72 yearling males, 44 yearling females, 224 bulls and 272 cows. WM NWR has historically culled an average of 140 head per year. Current sex ratio is 1 male per 1.04 females. Age/sex of majority of the herd is currently unknown, but WM historically culled an average of 55 male calves and 42 female calves, plus 20 cows and 20 bulls. WM has identified 575 bison as the 2007 post roundup target population.

Recommendation: Based on current estimated population size, the 2007 cull would have to increase from an average of 140 to 200 - 225 to approach the 575 population objective. Given that the age structure within the herd is currently unknown, we recommend an effort during roundup 2007 to accomplish a herd classification count by calves, yearlings, 2-5 year old, and greater than 5. Having these data will improve population estimates and culling strategies in the future. Over time, individual animal identification will help fill this information.

We recommend that WM surplus 52 male yearlings (keeping approx 20) and 24 female yearlings (keeping approx 20). Culling an additional 65 cows and 65 bulls, prioritizing the 2-5 year and greater than 16 age classes, would put the surplus at 206, leaving the herd at an estimated 598. Although the population would be slightly over objective, the surplus for 2007 would still be 65 animals greater than past averaged surplus efforts. Once FWS obtains the genetic information for 2007 calves, WM could achieve additional population reduction in 2008 by culling largely out of the 2008 yearling age class, plus additional animals from the 2-5 age group, depending on how many remain. With information gathered during 2007, culling strategy recommendations for 2008 can be more specific.

NSM

Status: currently estimated at 48 animals, including 8 calves and one non-breeding male. Sex ratio is currently 1 male per 1.3 females. Carrying capacity is estimated at 48.

Recommendation: no cull needed until next year. Handle 2007 calves at roundup this year to microchip and assess genetic and disease status.

CMR

Status: Currently has a display herd of 3 animals, including 1 male calf, one 12 year old female and one 21 year old male. (CMR is proof positive that breeding age may be older than 12 or 14, depending on the competition). No genetics data has been collected on these NBR-source animals relocated to CMR years ago.

Recommendation: CMR can remove the single calf this year as usual. Recommend collecting biopsy darts on the 2 adults for genetic testing for future decisions regarding annual calf disposal outside of FWS. We have no data on these two breeding age animals and may wish to retain future calves within the FWS bison metapopulation.

JBH

Status: Currently estimated at about 1200 animals. A recently completed EIS has a management goal of 500 bison and the herd will be subject to significant reduction (estimated 300 removed by hunting this year). This herd is highly infected with brucellosis, a disease subject to national eradication programs and movement from the herd is forbidden by regulation. Thus the JBH are not currently part of the FWS bison metapopulation. Specific age/sex structure of the herd is unknown though historical research suggest a near 1:1 sex ratio.

Recommendation: Samples from culled animals should be collected to complete the genetic assessment of the JBH. Currently only a handful of animals have been analyzed. Those preliminary data suggest no evidence of cattle gene introgression and adequate herd diversity. Infrequent, but documented interbreeding with the Yellowstone National Park herd is known for the JBH.

Comprehensive Conservation Plan Schedule

October 2007

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2008 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2008 (# stations represented in parentheses)
<p>Final CCPs – Total completed 83*</p> <ul style="list-style-type: none"> • Arrowwood NWR (FY 07) • Bear Butte NWR (FY07) • Des Lacs NWR (FY 07) • J. Clark Salyer NWR (FY 07) • Upper Souris NWR (FY 07) • Rainwater Basin WMD (FY 07) • Arapahoe NWR Complex (includes Bamforth, Hutton Lake, and Mortenson Lake NWRs) FY 07) • Medicine Lake Complex (includes Medicine Lake, Lamesteer NWRs, and NE Montana WMD (FY 07) • Kirwin NWR (FY 07) • Lacreek NWR and WMD (FY 06) • Long Lake NWR Complex (includes Long Lake, Florence Lake, Slade Lake NWRs, and Long Lake WMD) (FY 06) • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY05) • Lost Trail NWR (FY05) • Rocky Flats NWR (FY05) • Fish Springs NWR (FY04) • Arapaho NWR (FY04) • Monte Vista and Alamosa NWRs (FY03) • Crescent Lake NWR (FY02) • Seedskadee NWR (FY02) • Waubay NWR and WMD (FY02) • North Platte NWR (FY01) • Flint Hills NWR (FY00) • Ouray NWR (FY00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) • Browns Park NWR (FY99) 	<ul style="list-style-type: none"> ■ Charles M. Russell and U.L. Bend NWRs (11/07) ■ Benton Lake NWR and WMD, Swan River, and Blackfoot Valley (06/08) ■ Sand Lake, Huron, and Madison WMDs (02/08) 	<ul style="list-style-type: none"> ■ Red Rock Lakes NWR (FY 05) ■ Arapaho NWR Complex Pathfinder NWR (FY 06) ■ Sully’s Hill National Game Preserve (FY 06) ■ Lake Andes NWR and WMD, and Karl Mundt NWR (FY 07) ■ North Dakota WMDs – Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby (FY 07) ■ North Dakota Refuges – Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo and Stewart Lake (FY07) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (FY 07) 	<p>Final CCPs – Anticipated completion 24</p> <ul style="list-style-type: none"> ■ Arapaho NWR Complex – Pathfinder NWR (1) ■ Sully’s Hill National Game Preserve (1) ■ Red Rock Lakes NWR (1) ■ North Dakota WMDs – Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby (9) ■ North Dakota Refuges – Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo and Stewart Lake (12) <p>Draft CCPs</p> <ul style="list-style-type: none"> ■ Arapaho NWR Complex – Pathfinder NWR (1) ■ Sully’s Hill National Game Preserve (1) ■ Lake Andes NWR/WMD and Karl Mundt NWR (3) ■ Red Rock Lakes NWR (1) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (6) ■ North Dakota WMDs – Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby (9) ■ North Dakota Refuges – Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo and Stewart Lake (12)

<ul style="list-style-type: none"> • Valentine NWR (FY99) • Fort Niobrara NWR (FY99) • Lostwood NWR (FY99) • Marais des Cygnes NWR (FY98) • Bear River Migratory Bird Refuge (FY97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) <p>*Rocky Flats was also completed but does not count towards total</p>			
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CCP Schedule

October 2007

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:				
FY2009	FY2010	FY2011*	FY2012	FY2013
<ul style="list-style-type: none"> • Quivira NWR (1) • Cokeville Meadows NWR (1) • Lee Metcalf (1) 	<ul style="list-style-type: none"> • National Bison Range Complex (also includes Northwest Montana WMD and Nine Pipe and Pablo NWRs) (4) • National Elk Refuge (1) • Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (5) 	<ul style="list-style-type: none"> ■ John and Louise Seier NWR (1) ■ Rocky Mountain Arsenal NWR (1) ■ Baca NWR (1) <p>*Represents beginning of new 15-year planning cycle</p>	<ul style="list-style-type: none"> ■ Two Ponds NWR (1) ■ Bear River Migratory Bird Refuge (1) 	<ul style="list-style-type: none"> ■ Marais des Cygnes NWR (1) ■ Lostwood NWR (1) ■ Browns Park NWR (1)



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240



JAN 9 2008

Mr. Don E. Redfearn, President
Blue Goose Alliance
907 Parkview Drive
Tallahassee, FL 32311

Dear Mr. Redfearn:

Thank you for your letter of December 17, 2007, and the Blue Goose Alliance's continuing support of the U.S. Fish and Wildlife Service (Service) National Wildlife Refuge System (NWRS).

My November 26, 2007, memorandum to the Service's Region 6 Regional Director concerning the National Bison Range Complex (NBRC) in no way undermines the Department of the Interior's (DOI) commitment to the National Wildlife System Administration Act (NWRSA), as amended. I firmly agree that the NWRS is one of "our premier Federal conservation land systems", and I am resolute in protecting and enhancing that system.

I was clear that the NBRC is a unit of NWRS and it shall remain so; policy and management direction for the NBR will be provided by the Service; the NBRC will be managed in compliance with Federal laws, regulations, and policies; guidance will be provided by the Service Director; and, that on-site management decisions for the NBRC will continue to be made by the Service.

The Congress has also provided DOI with various requirements and responsibilities under both the NWRSA and the Tribal Self-Governance provisions of the Indian Self-Determination and Education Assistance Act (ISDEAA). These obligations are not mutually exclusive. The legislative history of the Tribal Self-Governance provisions leaves no doubt that it was the intention of Congress that programs and activities administered by the Service and the National Park Service were to be eligible for inclusion in Annual Funding Agreements (AFAs) with qualified tribal governments. Congress, in the ISDEAA, clearly did not exempt the NWRS, or the National Parks System from consideration for negotiating Annual Funding Agreements (AFA) with qualifying Indian tribes.

The lack of resolution concerning the AFA at NBRC is distracting us from fulfilling our mission at the NBRC and its satellite refuges, including the completion of Comprehensive Conservation Plan (CCP) for the NBR, Pablo and Ninepipes NWRS. That is why I believe we need to bring this issue to closure and move on to achieve our conservation mission.

Mr. Don E. Redfearn

2

As I outlined in my memorandum, the DOI objective is to establish a positive working relationship between the Service and the Confederated Salish and Kootenai Tribes (CSKT) that includes material involvement of Tribal members in the day-to-day operations at the NBR. Service Director Hall and I concur that to meet existing expectations and foster positive negotiations, the form of the agreement shall be an AFA. If properly negotiated, the AFA can appropriately serve as a framework for that relationship at the NBRC. There is no reason why an agreement in the form of an AFA can not work here. The Service and the Council of Athabascan Tribal Governments in Alaska have successfully worked together under the terms of an AFA for the past several years and the National Park Service has also successfully operated several programs or activities with self-governance tribes under various AFAs.

Some of the confusion surrounding any AFA concerns the issue of inherently federal functions. Congress did not define this term in the Tribal Self-Governance Act. We will use a common sense approach in determining what work at NBRC is "inherently federal," as they enter negotiations with the CSKT. There are certain refuge functions that are "inherently federal," including making Appropriate Use and Compatibility Determinations; decisions on the content of CCPs and other refuge management plans; other decisions about what wildlife population and habitat management activities shall be conducted, and other decisions on work priorities necessary to administer/manage refuges. This responsibility does not preclude a collaborative decision environment, but it remains clearly the responsibility of the Refuge Manager.

However, it is incorrect to assert that the National Wildlife Refuge System and National Parks are entirely inherently federal responsibilities. It is quite clear that many operational and maintenance functions at refuges do not have to be, and are not now, performed only by federal employees. The Service routinely contracts and cooperates with private and public entities to perform a variety maintenance, construction, biological, planning, and other work at refuges. Such functions are eligible and available through government-to-government negotiations for inclusion in AFAs with qualifying tribes.

I trust that this letter clarifies the DOI position on these issues and I look forward to working with you and the Blue Goose Alliance in the future to support our National Wildlife Refuge System. I would be honored to meet with you in March and discuss other opportunities we have in this fiscal year's funding support for the Refuge System.

Sincerely,



Lyle Laverty

Assistant Secretary for Fish and Wildlife and Parks

Dean Rundle/R6/FWS/DOI
01/10/2008 04:45 PM

To brianu@cskt.org
cc
bcc

Subject

Brian: Hi, I just received your letter of December 21, 2007. It hit my "in" box about 4:00 p.m. yesterday - in an uncanceled envelope from the DOI Regional Solicitor's Office in Lakewood??? I don't know how that happened - the letter is on CSKT letterhead and addressed to me here at the FWS Regional Office, but did not come through the US Mail in a CSKT stationery envelope. Anyway, that's why you haven't heard a response before now.

I am looking forward to productive negotiations for a new AFA and federal-tribal partnership at the NBRC as well, and look forward to our initial meeting next week and the substantive negotiations to follow.

I can understand why you have requested some, but not all, of the materials you've asked for. In any case, I am unable to provide all of that information before next week because:

1. Your letter wasn't mailed to me or received timely, and I just don't have time to dig up all of this information before leaving for Missoula next Tuesday.
2. Some of the information you requested (e.g. how Rec. Fee "gate receipts" were spent between FY 03 - 07, amounts of volunteer stipends) simply can't be recovered from past years from our records. We don't reconcile station budgets at that level of detail.
3. In some cases, I believe it will be counter-productive to successful, good-faith negotiations to simply send you papers without being able to explain how the numbers are derived. Fortunately for both of us, David Lucas, our Regional Chief of Budget and Finance is on our negotiating team. David is very upbeat about these negotiations and I think it will be important for him to help explain to you and your team, face-to-face, how our budgets are developed and allocated.
4. Some of the information you've asked for isn't relevant to the impending negotiations. I really don't see how the FY 2003 allocations to NBRC are any more relevant than the FY 1953 allocations. Many things have changed, NBRC has been reorganized - and indeed we haven't even negotiated a common definition of what units of the Refuge System constitute the NBRC. They are not the same now as they were in FY 03.

I also have some concerns about getting ahead of ourselves. I do not want to put the "cart before the horse". I know that the way we'll negotiate is subject to the ground rules we'll agree on next week, but I think we need to begin our negotiations by designating the refuge work that is inherently federal, negotiating what non-inherently federal work functions are going to be performed by CSKT included in the AFA, and how we are going to operate together in partnership. I think it's important to work out those big picture issues first, and then get down to how we fund the work. Again, this should be an issue of discussion in our "ground rules" meeting on Jan. 17. We also need to discuss in the "pre-negotiations" how we are going to process these kinds of information requests between our governments. Is there a role for the facilitators in this or not?

That said, here's the answers to your questions that I do have readily available, off the top of my head:

Question No. 4 - There have been no funds allocated or spent on preparation of a CCP for the NBRC over the last 10 years. Under provisions of the National Wildlife Refuge System Improvement Act of 1997 amendments to the NWRS Administration Act, we are mandated to complete a CCP for all refuges by the end of FY 2012. We plan to initiate the CCP for NBRC in FY 2010 and look forward to working with the CSKT in that effort.

Question No. 5 - There is no way to compute the amount of money spent on volunteer stipends in these past years. We can tell you how much was targeted to NBRC specifically for volunteers - but the station may have spent additional discretionary funds to support the volunteer program and that amount cannot

be determined precisely from any financial records.

Question No. 6. - The current staffing plan for NBRC is the same one I gave you when we visited to propose a Cooperative Agreement in late July. Although that is not signed here in the RO, it was approved by the Director and that is what we'll be negotiating from. I can add names of current employees to that when we meet next week.

Questions 7 and 8 - There are no current advertised vacancies at NBRC. We do not plan to advertise or fill any permanent or term vacant positions at NBRC between now and the time that the AFA becomes effective and the work of those positions begins to be conducted by CSKT employees. I have authorized the Refuge Manager to hire a limited number of temporary employees, if that is necessary to maintain operations at NBRC, before the AFA can become effective following Congressional review this summer. Temporary employees can be terminated at any time for lack of funds or lack of work. My instructions to Bill West are "if you do need to hire some temporary workers to get by until the AFA is effective - make sure to advise applicants that the AFA is coming, and their employment with FWS may be terminated at any time". We are keeping all positions not currently filled by permanent federal employees vacant (except for such temp hires as mentioned above) in anticipation that they will be filled by CSKT employees under a new AFA. None of the current vacancies are inherently federal.

Question No. 9. At the risk of "getting ahead of ourselves", I will share with you my thoughts on this issue. First, we do not have Interior/FWS "direction" that the NBRC budget will "return to \$1.5 million" in FY08; it was never exactly \$1.5M. I don't know where that number came from, but it's not accurate. We have already discussed that error with AS Laverty and explained to him why it is not a good number. He did not direct us to change our draft 08 allocation numbers. At any rate - the instructions we received state "for planning purposes.....Any negotiated decisions involving resource commitments will require AS/FWP and Director/FWS approval". So we view these numbers as negotiable. The FTE number of 13.0 FTE is pretty close to the org chart.

What we will propose is that we will provide the CSKT, with the same amount of money - each year - that the Refuge Manager would get to perform the same work - no less, and no more. From our standpoint the number of FTE isn't very important either. If, for example, the entire biological program is compacted to the CSKT in the AFA, we know how much we'd provide the Refuge Manager to do that work and how many federal FTE would be authorized - but I don't think we should tell the CSKT how many people they have to hire. We'll provide the same amount of money we'd provide if the work was done by federal workers - if CSKT wants to hire more or fewer employees than we would, have the work done by existing staff in Dale Becker's shop and keep the salary savings - or contract it out to a college - that'd be fine with us - as long as the biology work gets done by qualified people.

I look forward to a new beginning next week.

Dean Rundle
Refuge Supervisor

Department of the Interior
Bison Conservation Initiative



October 28, 2008
Assistant Secretary for Fish and Wildlife and Parks
U. S. Department of the Interior
Washington, DC

PRINCIPLES OF THE DOI BISON CONSERVATION INITIATIVE

- I. DOI will base management of its bison herds on the best science available, seeking to restore them to their ecological and cultural role on appropriate landscapes.
- II. DOI will apply adaptive management principals to our bison conservation efforts
- III. DOI will seek to develop genetic tests to identify and develop bison herds with high levels of bison genetic diversity.
- IV. DOI will seek to develop new tests and techniques to diagnose, prevent, and control diseases in bison that may impact domestic livestock or other bison herds.
- V. DOI will work with interested parties, including States, Tribes, landowners, and conservationists, to discuss advantages and concerns associated with specific actions, guided by Executive Order #13352 - Facilitation of Cooperative Conservation.

PRIORITIES FOR THE DOI BISON CONSERVATION INITIATIVE

1. Charter the DOI Bison Conservation and Management Working Group to guide management of DOI bison herds.
2. In FY 08, the Working Group will organize and convene a Genetic Conservation Workshop to develop bison genetic management guidelines, including the appropriate role of bison with cattle allele introgression in future conservation actions.
3. In FY 09 the Working Group should organize and convene a bison disease and health workshop to guide bison health management.
4. The working group will actively consult with BIA and Tribal partners to determine the best way to coordinate and assist with Tribal bison initiatives.
5. The Working Group will actively seek to coordinate opportunities to increase existing DOI herds to 1,000 or more bison, or establish new herds or metapopulations that can reach that size, without impacts from non-native diseases and with little or no cattle allele introgression.
6. The Working Group will seek to support the efforts of the Greater Yellowstone Interagency Brucellosis Committee (GYIBC), coordinate with them and offer advice and support as requested.
7. The Working Group will actively support the development of tests to identify cattle gene introgression in individual bison.
8. The Working group will coordinate development of guidance for disease surveillance and herd health monitoring programs for DOI herds where not already in place.

INTRODUCTION

Bison have been revered, used, and incorporated into many Native American cultures over many millennia. The bison is the icon of the Department of the Interior and the National Park Service. Following the near extinction of bison during the 19th century, substantial numbers of bison currently exist as a result of the combined management efforts of State, tribal and Federal governments, conservation groups, and private ranchers and landowners.

This framework for managing bison by the Department of the Interior (DOI) bureaus articulates a basis for improved management of the species and provides a foundation to strengthen existing and build new partnerships with States, Native American tribes, landowners, agricultural interests, conservationists and others interested in bison.

The framework establishes steps to address the health and genetic composition of DOI bison herds, and acknowledges the ecological and cultural role of bison on the American landscape. It proposes specific actions to better manage and integrate bison populations on select Interior lands in 2008 and future years.

One of the iconic symbols of American frontier expansion is the image of vast herds of North American bison (*Bison bison*) grazing on the western plains. While the days of millions of free-roaming bison are gone, it may be possible to develop partnership arrangements that will permit bison herds to recreate their natural role in areas where biologically suitable and socially acceptable.

In appropriate areas, the presence of bison in adequate numbers may help support the restoration or maintenance of other native species and habitats. This in turn would provide inspiration or enjoyment to diverse elements of our society. As demonstrated convincingly at Yellowstone National Park, observing bison ranging freely over the landscape holds a major attraction for the American public.

Any bison conservation initiative will only be realized by working integrally with States, which have management responsibility for most of the bison within their boundaries; with agricultural interests, both landowners and those with public land leases; with Native Americans, whose culture in many instances is tied to bison; with conservation groups dedicated to bison and other wildlife conservation; with the Governments of Canada and Mexico and with other interested parties.

The following sets out intended short-term actions to inaugurate the DOI Bison Conservation Initiative, and provides background information on the status of DOI bison herds, current issues of concern and existing external and internal bison conservation efforts.

Background

The North American Bison Population

North American plains bison, which in the 17th century numbered over 25 million and occurred over much of the continental United States, southern Canada and northern Mexico, were by the end of the 19th century limited to less than 30 animals in Yellowstone National Park and isolated individuals in zoos or private captivity. In the early years of the 20th Century, private landowners played an integral role in stabilizing plains bison populations. In 1905 the American Bison Society was formed, playing a key role in subsequent rebuilding of bison populations on public lands.

As of the early 21st century, a variety of efforts have succeeded in bringing plains bison back to relative abundance, with over 500,000 animals now present in North America, mostly in private ownership. The current plains bison population in North America reflects its disparate roots. Most of the herds number fewer than 1000, are contained by fences, and show evidence of cross-breeding with domestic cattle at some point in their ancestry. Conservation efforts to date have essentially developed two lines of the same species: the domestic bison, subjected to the selection and breeding schemes common in livestock management; and a wild bison, subject to natural breeding and selection to the degree that space and management constraints allow. It appears only a small percentage of existing bison are managed for species conservation purposes, and as recently noted by Sanderson et al (Conservation Biology, Vol. 22, No 2 2008), bison “in no place express the full range of ecological and social values of previous times.”

Wood bison are larger than plains bison and are well adapted to northern meadow and forest habitats. Originally ranging over large portions of Alaska and northwest Canada, wood bison declined to approximately 300 by the end of the 19th century. These few remnants were preserved by the efforts of the Government of Canada.

There are now about 4,000 wood bison in healthy, free-ranging herds in Canada, with a National Recovery Plan for the Wood Bison.

Population, Genetic and Disease Status of Plains Bison Populations Managed by DOI

Currently there are bison populations in seven National Wildlife Refuges and five National Parks, as discussed below. Of the approximately 4,700 bison managed in five National Parks, about 3,000 are infected with or exposed to brucellosis. FWS manages about 1100 bison free of such diseases across six National Wildlife Refuges, and there are about 950 brucellosis-infected or exposed bison based in Grand Teton NP (included in Parks total above) that winter on the National Elk Refuge.

A large-scale genetics study, conducted from 1999 – 2002, found no cattle gene introgression in bison at Yellowstone or Wind Cave national parks, nor at the FWS herd

previously at Sully's Hill, and low levels in the other herds. However, the Yellowstone bison herd is exposed and individual bison may be infected with brucellosis.

There are currently approximately 2,100 bison Yellowstone National Park; about 950 that migrate between Grand Teton NP and the National Elk Refuge; 650 at Badlands National Park, 610 at Theodore Roosevelt NP, and 400 at Wind Cave NP.

In addition to these managed herds, bison are known to range onto other NPS lands: bison-cattle hybrids occur at Grand Canyon National Park, plains bison occur in wood bison range at Wrangell-St. Elias National Park and Preserve, and plains bison from the Henry Mountain herd cross onto Capitol Reef National Park.

Aside from the National Elk Refuge herd mentioned above, the Fish and Wildlife Service maintains bison herds at Fort Niobrara NWR, the National Bison Range, Wichita Mountains NWR, Neal Smith NWR, Rocky Mountain Arsenal NWR and Sully's Hill National Game Preserve. The bison kept at Ft. Niobrara NWR are two separately maintained herds – the long-term herd, which has low levels of cattle allele introgression, and the herd previously at Sully's Hill National Game Preserve, which was transported to Ft Niobrara NWR in December 2006.

This transported herd lacks detectable cattle allele introgression and therefore is maintained separately from the prior Ft. Niobrara herd. To ensure maintenance of diversity, the original Sully's Hill herd is permitted unlimited expansion to provide an additional source of non-introgressed bison. The original Ft. Niobrara herd numbers 325, has a small amount of cattle gene introgression, and is managed to maintain unique bison allele diversity but not to increase in size.

The Wichita Mountains herd has a relatively stable population of 660 bison. Rocky Mountain Arsenal has an increasing herd that currently numbers 21. The original Sully's Hill herd now at Ft. Niobrara numbers 47 and is increasing. Neil Smith NWR has 48 bison. Sully's Hill in North Dakota has 9 bison (transferred there after the previous herd was relocated). The Neil Smith, RMA, and current Sully's Hill herds are satellites of the National Bison Range herd, which consists of 320 bison.

On lands administered by the Bureau of Land Management, the Henry Mountains of central Utah cover 2 million acres of remote land and support a bison herd. This free-ranging herd shares the area with cattle during the summer when livestock grazing is permitted. The population is managed as wildlife by the Utah Department of Wildlife Resources. In 2007, eighty-one public once-in-a-lifetime bison hunting permits were issued in Utah.

Current Bison Disease Issues

Brucellosis is a globally significant human and livestock disease. Since the 1930s, the United States has been committed to the eradication of brucellosis from livestock, and in 2008 all 50 states were, for the first time, certified brucellosis-free in livestock.

GYA elk and bison are the last reservoir of *B. abortus* in the United States. Preliminary estimates indicate that the GYA herds may hold nearly 12,500 brucellosis-positive elk (out of a total population of 125,000) and 1,500 *brucellosis-positive bison* (out of a total population of 2,100-YELL and 950 GRTE). These statistics are informed estimates because of the difficulty of diagnosis. Brucellosis management programs are based on blood tests that identify bison and elk with antibodies to *B. abortus*. Some with positive tests may be falsely positive because antibody from other pathogens can cross-react on brucellosis tests. There are no efficient or effective surveillance diagnostics on live animals to separate those only exposed to *B. abortus* from those that are currently infected.

While brucellosis has been a significant challenge for bison management, the risk of introduction of novel diseases may pose even greater threat to bison conservation. Endemic livestock disease (e.g. malignant catarrhal fever), foreign animal diseases (e.g. foot and mouth disease), and emerging infectious diseases have the potential to devastate the DOI herds through direct mortality, culling to protect livestock, and instituting a moratorium on movement.

In addition to brucellosis management efforts, other disease prevention measures, e.g., livestock-bison separation and disease surveillance, are occurring; however, these activities are now informally coordinated. Management actions for potential disease threats must be tailored to the disease of concern but may include spatial-temporal separation of bison and livestock, baseline disease surveillance, pre-movement disease testing and/or quarantine, and preventive treatments.

Current Actions by Bison Conservation Organizations and DOI Agencies

Recently, conservation organizations have focused on regional and landscape-level short and long-term bison conservation strategies. These initiatives include:

- A nearly completed Status and Action Plan for North American Bison prepared by the IUCN;

- The American Prairie Foundation has proposed restoring bison to key areas of the central Montana prairies, including lands in southern Saskatchewan;

- Proposals by The Nature Conservancy to establish free-ranging bison on multi-jurisdictional landscapes in Colorado (Great Sand Dunes NP and adjoining San Luis Valley Fish and Wildlife Refuge Complex);

- Substantial bison conservation efforts on privately held lands in Oklahoma, New Mexico and elsewhere; and

The Wind River Indian Reservation, Wyoming, is preparing a bison reintroduction plan for a portion of the reservation. Implementation of the plan may result in a request to DOI for source stock.

These initiatives have often looked at Department of the Interior bison herds as potential foundation stock.

Wood bison conservation initiatives are guided by Canada's Wood Bison Recovery Plan and Recovery team (WBRT) which includes the Canadian Wildlife Service, Parks Canada Agency, University of Calgary, Yukon Department of Renewable Resources and the Alaska Department of Fish and Game (ADF&G). ADF&G has led an effort to restore wood bison with the cooperation of the Council of Athabaskan Tribal Governments, FWS, NPS and other private partners.

Existing Initiatives within the Department of the Interior

In 1998, FWS and NPS formed a Bison Conservation and Management Working Group that has met annually to share information concerning wildlife health, culling practices, and related conservation issues. The Group sponsored the bison genetic studies of DOI bison herds by James Derr and Natalie Halbert from Texas A&M University. The Working Group's efforts informed several of the proposals in this paper.

FWS has established bison herd genetic profiles including prevalence and site of introgressed loci, allelic diversity, and frequency of private alleles for all its herds. FWS bison are individually identified animals, permitting much greater latitude in genetic management. FWS has established a goal to conserve unique and rarely occurring bison alleles through metapopulation management, and to this end has established the three satellite herds of the National Bison Range herd noted above for genetic conservation.

Site-Specific Actions:

- Fort Niobrara National Wildlife Refuge has worked with the State of Nebraska to expand bison grazing habitat on the refuge;
- Charles M. Russell National Wildlife Refuge is in the early stages of considering devoting part of the refuge to bison habitat with adjoining land owners, including the Bureau of Land Management;
- NPS is continuing population genetics studies at several parks with bison herds. For example, recent studies have shown that the Badlands population is divided into 2 subpopulations corresponding to the 2 origins of the herd;
- Tallgrass Prairie National Preserve has a plan to establish a new herd which may serve as a satellite population for Wind Cave; and

- Yellowstone National Park is cooperating with the State of Montana and APHIS in quarantine and testing trials that may result in Yellowstone bison being available in the future to start new herds or augment existing herds

New DOI Actions for the Initiative:

Action Item 1: Immediately Launch the Bison Conservation Initiative.

DOI will create a Bison Conservation and Management Working Group, based upon the existing informal group referenced above, with expanded representation and scope of action, to review, provide oversight, foster interagency cooperation and recommend actions that would further the goals of coordinated bison conservation. The group will consist of officials of the DOI, agency leads, representatives from the refuges and parks that manage bison, state wildlife management representation, appropriate representation from BLM and USGS, and the Animal and Plant Health Inspection Service (APHIS) of USDA in the future. Consideration will be given broadening the group to include other Federal land managing agencies, such as the Forest Service and DOD.

As a key part of the Initiative, DOI should actively seek partners to showcase Interior lands with small bison herds to expand and enhance interpretive and educational opportunities, and seek to work with zoos to accomplish these objectives in areas where there are no DOI bison herds.

There are already several groups that are discussing bison issues with the Department. They include the IUCN, American Bison Society, State and tribal governments. The Working Group will evaluate the costs and benefits of creating a Federal Advisory Committee to formalize the partnership efforts. In any event, significant outreach efforts must be undertaken to bring those most likely to be affected by decisions, as well as bison advocates, into this process before proceeding with any significant planning or decision-making.

DOI and partners will give active consideration to the draft conservation action plan being developed by the World Conservation Union.

The Working Group will give priority to establishing a mechanism for involving Tribal bison experts in DOI's activities, and assisting with Tribal bison initiatives.

Action Item 2: Prevent, Control, or Eliminate Non-native Diseases Impacting Bison Conservation

There is one existing disease, bovine brucellosis (*Brucella abortus*), that severely impacts bison conservation. However, other non-native diseases have potential to affect bison health and restoration efforts. These are discussed in the Background section below. The challenges are to: 1) Control or eliminate brucellosis from the Greater Yellowstone Area (GYA); 2) Prevent spread of brucellosis or other diseases between DOI bison and other

bison or domestic livestock; and 3) Prevent introduction or establishment of other non-native diseases in all DOI herds.

To more effectively combat brucellosis, the Secretaries of Agriculture and Interior and the Governors of Montana, Wyoming, and Idaho established the Greater Yellowstone Interagency Bison Committee (GYIBC) in 1994. Since then, the committee has recommended actions and facilitated cooperation and coordination among the signatories. The new Working Group will coordinate with the GYIBC, but not seek to supplant its efforts.

Specific DOI actions for 2008-2009

- 1) Direct the Bison Conservation and Management Working Group to organize and convene a bison disease workshop in FY 09 to develop guidelines and protocols for addressing diseases impacting bison and bison conservation efforts.
- 2) Support activities of GYIBC as appropriate.
- 3) Work directly with the US Animal Health Association (USAHA) Committee on Brucellosis, including urging the Department of State to host Russian vaccine scientists at the 2008 USAHA Meeting where results on the Russian brucellosis vaccine would be discussed.
- 4) Seek resources to initiate baseline disease surveillance monitoring in all DOI bison herds where it is not currently undertaken.

Action Item 3: Actively pursue and expand as needed the current NPS and FWS efforts to create bison metapopulations of herds with high levels of bison genetic integrity and not impacted by non-native diseases

Maintaining or creating herds or metapopulations in excess of 1,000 animals is considered as likely essential to the long-term genetic viability of individual bison within the herds. Where range will not support populations of 1,000 or more animals, the creation of satellite herds will be considered to increase the viable population size. This should be pursued using animals of appropriate status from available sources.

Both the NPS herd at Wind Cave and the FWS herd originally at Sullys Hill (relocated to Ft. Niobrara NWR in 2006) are free of cattle genes and regulated livestock diseases; these bison will be an essential element of this effort. However, we should not limit ourselves to these bison, but consider any that can be similarly shown to be both free of cattle genes and of diseases that may impact livestock or other bison herds. The objective will be to create 1,000+ bison populations or metapopulations without impacts from non-native diseases and with little or no cattle allele introgression wherever appropriate, given available land and other resources.

The first steps for this effort will be to determine exactly what is needed to reach the goal and whether bison from other DOI or non-DOI herds should be included in the effort. Subsequent steps will be to prioritize and carry out actions needed to reach the goal.

Action Item 4: Manage DOI Herds Through Conservation of Genetic Variation and Natural Selection.

The challenge is to manage the Department's current plains bison herds to preserve their genetic diversity and to conserve or simulate natural selection pressures to the best of our abilities. To implement the goals of the framework, the Department must also ensure an adequate supply of acceptable animals for populating restored habitats or for augmenting existing herds when found to be appropriate.

DOI plains bison herds have until relatively recently existed in isolation from each other with little or no opportunity for exchange of animals between them, although that is now changing. Of all plains bison herds managed by DOI, only the Yellowstone herd now meets the criteria for independent long-term genetic conservation (large population size and natural selection). This herd is infected with brucellosis.

The DOI herds are a unique resource, having low levels of domestic cattle introgression and a relatively high degree of genetic diversity. If the brucellosis issue were resolved, Yellowstone bison could potentially be used to increase genetic diversity in public and privately managed plains bison herds throughout the country. And if cattle allele introgression issues were resolved, bison from many other DOI herds could be used for that purpose as well.

Our genetic goals in managing the Department's bison herds are retaining the genetic integrity of the bison and maximizing their genetic diversity so that they can adapt to changing environmental conditions. With genetic information on so many of the DOI herds, there is a great opportunity to apply adaptive management principles in developing management options for each herd.

The genetics workshop later this year, and the subsequent American Bison Society conference should provide a great deal of valuable information on how best to proceed. The Working Group will address these issues as part of its basic function.

Actions for 2008-2009

The genetic management options outlined above should be informed by interactions between experts in wildlife genetics, animal breeding, and wildlife management. To this end, the Department of the Interior, coordinating with potential partners, will host a summit focusing on bison genetics in the summer of 2008.

We will ensure that managers of DOI bison herds are well represented, although all conservation herds should be considered. Managers of State herds and private

conservation herds (such as the Castle Rock herd) are also critically interested in these results and should be invited to participate. Further, experts in the zoo community with animal breeding and population management expertise could make an important contribution to discussions at the summit.

The results of this summit will then be provided to the Fall American Bison Society conference to ensure exposure of the results to and recommendations from a wide group of bison experts from various backgrounds.

Once the genetics workshop has been held and the outcomes fully reviewed by the agencies and stakeholders, the appropriate role of bison herds with cattle genetic material in bison conservation will be under continuing review.

Action Item 5: Pursue Collaborative Bison Conservation projects

The DOI Bison Working Group should actively seek bison conservation projects consistent with this framework that involve partnership efforts, for both plains and wood bison. While several projects have been suggested, none are presently in a state to be offered for action.

The Bison Conservation Initiative intends to build upon and coordinate existing efforts, as appropriate, in order to sustain a strong foundation for bison conservation throughout this country, throughout this century.

Comprehensive Conservation Plan Schedule

December 2008

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2009 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2009 (# stations represented in parentheses)
<p><i>Final CCPs – Total completed 106*</i></p> <ul style="list-style-type: none"> • North Dakota WMDs (FY 08) Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby • North Dakota Refuges (FY 08) Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo and Stewart Lake • Pathfinder NWR (FY 08) • Sully’s Hill National Game Preserve (FY 08) • Arrowwood NWR (FY 07) • Bear Butte NWR (FY07) • Des Lacs NWR (FY 07) • J. Clark Salyer NWR (FY 07) • Upper Souris NWR (FY 07) • Rainwater Basin WMD (FY 07) • Arapahoe NWR Complex (includes Bamforth, Hutton Lake, and Mortenson Lake NWRs) FY 07) • Medicine Lake Complex (includes Medicine Lake, Lamesteer NWRs, and NE Montana WMD (FY 07) • Kirwin NWR (FY 07) • Lacreek NWR and WMD (FY 06) • Long Lake NWR Complex (includes Long Lake, Florence Lake, Slade Lake NWRs, and Long Lake WMD) (FY 06) • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY05) • Lost Trail NWR (FY05) • Rocky Flats NWR (FY05) • Fish Springs NWR (FY04) • Arapaho NWR (FY04) 	<ul style="list-style-type: none"> • Quivira NWR (2009) • Cokeville Meadows NWR (2009) • Lee Metcalf (2009) 	<ul style="list-style-type: none"> ■ Red Rock Lakes NWR (FY 05) ■ Lake Andes NWR and WMD, and Karl Mundt NWR (FY 07) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (FY 07) ■ Charles M. Russell and U.L. Bend NWRs (FY 07) ■ Benton Lake NWR and WMD, Swan River, and Blackfoot Valley (FY 08) ■ Sand Lake, Huron, and Madison WMDs (FY 08) 	<p><i>Final CCPs – Anticipated completion 7</i></p> <ul style="list-style-type: none"> ■ Red Rock Lakes NWR (1) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (6) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Lake Andes NWR/WMD and Karl Mundt NWR (3) ■ Red Rock Lakes NWR (1) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (6) ■ Sand Lake, Huron, and Madison WMDs (3)

<ul style="list-style-type: none"> • Monte Vista and Alamosa NWRs (FY03) • Crescent Lake NWR (FY02) • Seedskaadee NWR (FY02) • Waubay NWR and WMD (FY02) • North Platte NWR (FY01) • Flint Hills NWR (FY00) • Ouray NWR (FY00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) • Browns Park NWR (FY99) • Valentine NWR (FY99) • Fort Niobrara NWR (FY99) • Lostwood NWR (FY99) • Marais des Cygnes NWR (FY98) • Bear River Migratory Bird Refuge (FY97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) <p>*Rocky Flats was also completed but does not count towards total</p>			
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December 2008

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:

FY2010	FY2011*	FY2012	FY2013
<ul style="list-style-type: none"> • National Bison Range Complex (also includes Northwest Montana WMD and Nine Pipe and Pablo NWRs) (4) • National Elk Refuge (1) • Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (5) 	<ul style="list-style-type: none"> ■ John and Louise Seier NWR (1) ■ Rocky Mountain Arsenal NWR (1) ■ Baca NWR (1) <p>*Represents beginning of new 15-year planning cycle</p>	<ul style="list-style-type: none"> ■ Two Ponds NWR (1) ■ Bear River Migratory Bird Refuge (1) 	<ul style="list-style-type: none"> ■ Marais des Cygnes NWR (1) ■ Lostwood NWR (1) ■ Browns Park NWR (1)

Comprehensive Conservation Plan Schedule

April 2009

REGION 6 - MOUNTAIN-PRAIRIE REGION

<p>CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)</p>	<p>CCPs to Begin in FY 2009 (NOI Issued) (Month/year expected to begin in parentheses)</p>	<p>CCPs Currently Underway (Fiscal year planning effort began in parentheses)</p>	<p>CCPs Scheduled for Completion in FY 2009 (# stations represented in parentheses)</p>
<p><i>Final CCPs – Total completed 106*</i></p> <ul style="list-style-type: none"> • North Dakota WMDs (FY 08) Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby • North Dakota Refuges (FY 08) Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo and Stewart Lake • Pathfinder NWR (FY 08) • Sully’s Hill National Game Preserve (FY 08) • Arrowwood NWR (FY 07) • Bear Butte NWR (FY07) • Des Lacs NWR (FY 07) • J. Clark Salyer NWR (FY 07) • Upper Souris NWR (FY 07) • Rainwater Basin WMD (FY 07) • Arapahoe NWR Complex (includes Bamforth, Hutton Lake, and Mortenson Lake NWRs) FY 07) • Medicine Lake Complex (includes Medicine Lake, Lamesteer NWRs, and NE Montana WMD (FY 07) • Kirwin NWR (FY 07) • Lacreek NWR and WMD (FY 06) • Long Lake NWR Complex (includes Long Lake, Florence Lake, Slade Lake NWRs, and Long Lake WMD) (FY 06) • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY05) • Lost Trail NWR (FY05) • Rocky Flats NWR (FY05) • Fish Springs NWR (FY04) 	<ul style="list-style-type: none"> • Quivira NWR (2009) • Cokeville Meadows NWR (2009) • Lee Metcalf (2009) 	<ul style="list-style-type: none"> ■ Red Rock Lakes NWR (FY 05) ■ Lake Andes NWR and WMD, and Karl Mundt NWR (FY 07) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (FY 07) ■ Charles M. Russell and U.L. Bend NWRs (FY 07) ■ Benton Lake NWR and WMD, Swan River, and Blackfoot Valley (FY 08) ■ Sand Lake, Huron, and Madison WMDs (FY 08) 	<p><i>Final CCPs – Anticipated completion 1</i></p> <ul style="list-style-type: none"> ■ Red Rock Lakes NWR (1) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Lake Andes NWR/WMD and Karl Mundt NWR (3) ■ Red Rock Lakes NWR (1) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (6) ■ Sand Lake, Huron, and Madison WMDs (3)

<ul style="list-style-type: none"> • Arapaho NWR (FY04) • Monte Vista and Alamosa NWRs (FY03) • Crescent Lake NWR (FY02) • Seedskadee NWR (FY02) • Waubay NWR and WMD (FY02) • North Platte NWR (FY01) • Flint Hills NWR (FY00) • Ouray NWR (FY00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) • Browns Park NWR (FY99) • Valentine NWR (FY99) • Fort Niobrara NWR (FY99) • Lostwood NWR (FY99) • Marais des Cygnes NWR (FY98) • Bear River Migratory Bird Refuge (FY97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) <p>*Rocky Flats was also completed but does not count towards total</p>			
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April 2009

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:

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Last updated: 04/21/2009

Regional Contact: Mike Spratt, 303/236-4366

Attachment A – National Bison Range Baseline Data

I. Background and Process

At the request of the CSKT, the Service agreed to establish baseline conditions as part of the transfer of Activities to the CSKT under this AFA. Baseline conditions are being established for management, reporting and evaluation purposes, as well as for the Comprehensive Conservation Plan (CCP). The Service is required to conduct a CCP for the National Bison Range Complex. This Attachment describes the process for establishing the baseline conditions and what the Service has been able to provide so far.

The CSKT has requested, and the Service has, significant information that comprises NBRC Baseline Data. In some cases, the CSKT request matches up clearly with a specific report or data set identified by the Service, and in other cases it does not. In some cases, multiple CSKT requests may be served by a single Service document/report, and in other instances, several pieces of Service data may be required to satisfy one CSKT information need. CSKT has also requested some data that the Service does not have, or has not identified.

The Parties both recognize that the development of a mutually agreed-upon set of NBRC Baseline Data will be a process. This process has already begun, and will continue through the months prior to full implementation of the AFA. The process will include transmission of hard-copy reports and electronic data from the Service to the CSKT, and meetings between the Service and the CSKT's Natural Resources Department personnel to explain and discuss the various data. Prior to implementation of this AFA, the Parties will mutually agree upon the existing NBRC Baseline Data and critical data gaps that will need to be filled in the initial year(s) of the Service/CSKT partnership at the NBRC.

Both Parties are aware of the importance of identifying any data gaps that may exist. Identifying the necessary data collection efforts will be a key to development of the NBRC Comprehensive Conservation Plan, beginning in FY 2010. The Parties will work to identify critical data gaps through the remainder of FY 2008, and will identify high priority data collection efforts in the NBRC Annual Work Plan for FY 2009.

The Parties agree on the following process for completing the NBRC Baseline Data collection. The Parties will review this process and make changes as necessary. Any changes must be agreed-upon by the Parties and in writing.

1. The Parties will establish a scope of NBRC Baseline Data. Establishment of scope will be completed within six months of the last date of signature on the AFA.
2. The Parties will compare the information available with the above scope of baseline information and identify gaps that need to be filled.

3. The Parties will agree on a process for identification and/or collection of unavailable NBRC Baseline Data and if that process includes CSKT work under the AFA, the Parties will modify the Annual Work Plan to accommodate this work.
4. The Parties will jointly conduct condition assessments of major equipment or facilities that will be transferred to the CSKT in accordance with Section 14.D of the AFA.
5. To the greatest extent possible, the Parties agree to complete the process for collection of NBRC Baseline Data by the end of calendar year 2009.
6. The Parties will review the NBRC Baseline Data at the end of 2009 and, if any information or data still needs to be completed, the CSKT and Service will agree on the scope of the remaining information and data to be completed and a time frame and process for completing it.

II. CSKT Request For Baseline Data

The CSKT has requested the following information from available files of the Service:

Biology Program:

Migratory Non-game Bird Surveys

- All data since inception of monitoring.
- Listing of all equipment/materials to be used by CSKT staff, including types and working condition.

Waterfowl Pair Counts and Brood Counts

- All data since inception of monitoring programs beginning.
- Listing of all equipment/materials to be used by CSKT staff, including types and working condition.
- Results of past Service certification of all personnel conducting surveys for any bird identification survey.

Waterfowl Banding

- Listing of all equipment/materials used in the banding project.
- Copies of completed banding schedules.

- Data pertaining to all band returns.

Vegetation Monitoring

- All data collected since inception of monitoring and maps of survey locations.
- All past protocols/methods used to conduct surveys.
- All data collected since inception of monitoring and maps of survey locations.
- Data on locations of where plants were found on any given survey under NBRC survey requirements.
- For Pre/Post burn monitoring, all data since inception of monitoring and maps of survey locations.
- For Pre/Post burn monitoring all past protocols/methods used to conduct surveys.

GIS Mapping and Monitoring

- All data since inception of monitoring and maps produced.
- Inspection of all equipment of materials/equipment used for the GPS surveys both on and off NBRC system.
- Results of past mapping efforts/data layers from the start of surveying efforts.

Invasive Plant Control

- All data since inception of monitoring and maps of control locations.
- Inspection of all equipment of materials/equipment used for control efforts.
- All past release sites, monitoring status and effectiveness of biological controls.

Wildlife Management

Big Game Count

- Past records of volunteer numbers for last 10-year period.
- All data since inception of monitoring programs beginning.
- Data from past elk culling activities that have taken place in the last 10 year span

Bison Round –Up Activities

- All data since inception of monitoring.
- Genetic data records of all cattle genes found during past round-ups.
- Records of past outbreaks of disease for all ungulate species on the NBRC.
- Past data for the herd numbers during round-up activities, i.e. cow/calf ratio, adults/calf numbers, and bull counts.
- Past failure rates of the microchip inserts over time span used in the NBR herd in a year-by-year status.

Mitigation Analyses and Recommendations

- All data since inception of monitoring.
- Past protocols/methods used in assessing direct/indirect effects in any mitigation analysis used within or by sister refuges of the NBR.
- Past data on any efforts of FWS to monitor either health of timber and or cheatgrass colonization on the NBRC.
- Protocols used in such efforts of monitoring and treatment.
- Past efforts of FWS and or any other entities development of an onsite monitoring program for the NBRC.

Animal Husbandry

- All schedules of past veterinary examinations, worming schedules, vaccinations, fairer dates, visual condition checks, and dates of conditioning prior to CSKT arrival.

- An opportunity to have all animals to be used in any form of medium to heavy physical activities (bison moves, round-up, and trail rides) examined by a veterinarian for soundness before assigned to CSKT employees.
- Horses assigned to any employee should be able to be ridden by any CSKT employee for each scheduled horse related task, in case of unforeseen accidents all riding stock should be able to be ridden by all employees. The Service and CSKT may want to initiate a rotation schedule for all horses and riders. The CSKT may seek to have greater participation in horse recruitment.
- Condition of tack to be assigned to CSKT should be inspected and documented.
- Full inspection of horse feed supplies left from previous years use (hay, grain, and supplements).

Fire Program:

For these activities designated for fire suppression and or controlled burns.

- Full video/ photographic inspection and inventory of any and all equipment/materials to be used at the NBRC.
- The new unit fire management plan required, completion by 12/31/08 (Bob Rebarchik USFWS Zone FMO).
- All past data on prescribed burns completed and schedule of all proposed burns to take place on or off NBRC for next several years.
- Preparedness activities that have been required for Service staff and that may be required for CSKT employees.
- Past 10 years data records on certification/training of all fire fighters that have been on active duty on the NBRC.
- Baseline data and monitoring standards for habitat management objectives.
- Video inspection of all fire equipment upon date or before walk-on of any CSKT employees.

- Maintenance schedules of all vehicles/equipment including maintenance logs, and a visual or video inspection of all equipment before date of walk-on CSKT employees.

Maintenance:

- A video inspection of all buildings CSKT staff will be either working in or will be held responsible for during any AFA or Management Agreement.
- Full and comprehensive report of any maintenance that is scheduled or has been required to be conducted on all NBRC outbuildings, including the Visitors Center for the last 5 years.
- A full inspection of fuel storage tanks that are on the NBRC, check for any visual leaks and or defects (include in video inspection).
- Maintenance schedule of past activities and personnel that have maintained each trash receptacle at designated bin sites for last 5 years.
- A full video inspection and inventory of all equipment to be used for irrigation purposes on the NBRC, also an inspection of all canals within the NBRC used for irrigation purposes.
- Past results and or reports from the state of Montana on daily water testing.
- Past inspection records for fire extinguishers for the last 5 years.
- Full inspection of mowing equipment to be included in video files, equipment including tractor implements, i.e. sickle-bar and flail mowers.
- Maintenance schedules for all equipment used for mowing activities for the past 5 years.
- Inspection of all drinking water pipes for damage, and document damage to Visitor Centers ceiling caused by past leaks.
- Mowing schedule and dates WPA parking areas were mowed for past 5 years.
- Past burning permit records issued for burning of burn-pile and dates of burning.

- Full inventory list of materials on-hand that are stored in the bone-yard area (video).
- Inspection of all roads within NBRC boundaries documenting current conditions.
- Maintenance schedules of all equipment used to maintain road system over the last 5 years (video).
- All inspection/cleaning reports for the last 10 years.
- Video inspection of all foot paths and maintenance schedules for last 10 years.
- Records of dust abatement applications for the past 5 years.
- Video inspection of working condition of all corrals/ fences and maintenance schedules for past 5 years.
- Video inspection of all chutes and runs and equipment to be used during any animal handling activities and or annual round-ups.
- Video inspection of all stock tanks used for round-up and or any handling activities.
- Video inspection of all plumbing within slaughterhouse area.
- Inspection of all rails, fences, signs, etc. to check for future needs.
- Video inspection of road system.
- Past plowing dates and personnel involved in snow removal activities.
- Full video inspection of fencing system prior to starting dates of any CSKT workers; inspection to include testing of all electrical components used for bison exclusion.
- Past 10 year spraying schedule, including all personnel involved and priority listings.
- Past documentation of invasive weed progression/regression both on and off the WPAs and the NBRC sprayed areas.
- Video inspection of all diversions, dams, ditches, and shut-off valves for both on and off NBRC grounds.

- Video inspection of and maintenance schedule for past 10 years on spring boxes and stock tanks within NBR boundaries.
- Visual and photographic inspection/documentation upon radios being issued.

Visitor Services:

Public Contact and Safety

- With security as an issue, has the back door of the Visitor Center been fixed or replaced since 2006?
- Inventory list of first aid and CPR supplies on hand at the start of the new AFA.
- Inventory and inspection of all equipment/supplies used for the Environmental Education Program (video).
- Inspection of working condition of all displays in the Visitor Center.
- A full report of past five years' receipts, amounts of sales of all supplies and permits sold from the NBR

Information and Education Materials

- Explanation of what is designated as Educational Library Materials and inspection of said materials for quality determination.
- List and inventory of brochures that are available to the public.
- Documentation of when will the Internet website will be activated and what information will be included for educational context (Tribal history, Federal history or both).
- Full inventory of video, photographic, and electronic library databases before reporting dates of CSKT workers.

III. Baseline Data identified by the Service as currently and readily available, and the locations/offices in possession of that data.

A. The Regional GIS Branch, Division of Planning, Lakewood CO, has GIS maps of the Refuge Boundaries for refuges of the NBRC.

B. The RMIS Branch, Division of Program Budget Development, Lakewood, CO, has:

- RPI – Real Property Inventory. This data base includes descriptions, acquisition costs, replacement costs, condition assessments on all real property assets of the NBR, and other refuges in the NBR Complex. This includes: Buildings, roads, parking lots, water control structures, dams, wells, bridges, and all other real property assets. See Att. D of this AFA.
- SAMMS - This data base includes all work orders for maintenance of real property assets. Includes Deferred Maintenance (generally high dollar items on real property), as well as small (e.g. ATVs/vehicles) and large (i.e. heavy construction equipment) equipment replacement needs.
- RAPP – Refuge Annual Performance Plans. This data base comprises the official annual work plans for each refuge, including accomplishments for habitat management, wildlife monitoring, visitor services, law enforcement, maintenance, and other workload factors.
- Five-Year Plan for Deferred Maintenance. Includes a list of DM projects forecast for funding at each Refuge over the next 5 years.

C. The Division of Contracting and General Services, Lakewood, CO, has:

- Personal Property Inventory. This is a list of all accountable personal property assigned to the NBRC. This inventory includes vehicles, heavy equipment, tools, machinery etc, generally valued at over \$3,000.00, and sensitive items including computers and other IT equipment, firearms, cameras
- Fleet Reports: The Branch of General Services maintains our Fleet Reports that include usage data on all vehicles. Mileage, repair costs, fuel utilization, etc.

D. The Division of Engineering, Lakewood, CO, has:

- Semi-annual/annual Energy Utilization Reports for each refuge, including usage of electricity, natural gas, fuel oil, gasoline, diesel fuel, etc. for operation and maintenance of buildings and process energy.

E. The Division of Realty, Lakewood, CO, has:

- All the official real estate records for each refuge. Cadastral survey, easements, ROW, etc.

F. The Wildlife Health Office in Bozeman, MT maintains the following databases of biological data for NBR and other refuges:

- Necropsy Reports – Word Documents. Pathology reports on mortalities and roundup postmortems.
- NBR Refuge Database – Access database. Includes CWD, viral serology, necropsy, capture info, parasitology, hematology, clinical chemistry, Johne's disease, brucellosis and other wildlife health data from NBR.
- Serology Database – Access database. Multi-refuge database with NBR portion listed above.
- Genetic Sample Inventory – Access database. Archive of all NWR bison and bighorn sheep genetic samples.
- AI response Database – Access database. Central flyway Avian Influenza surveillance data. (not sure if it contains any data from NBRC).
- Active Refuge CWD Risk/Needs Assessment – Access Database. Risk/needs assessments for CWD for R6 refuges, including NBR
- NBR Genetics – Access database. Includes all genetic related to NBR bison.
- Immobilization Database – Access database. Immobilization records for all refuges including NBR.
- Technical Assistance Schedule – Access database. Records of technical assistance provided to clients, including NBR.
- OVD Databases (6 total) – Access database. Summary of research on oral vaccine delivery systems. Work conducted at NBR, but not for NBR.

G. Additionally, the former NBR Biologist, currently assigned to WHO, Bozeman has the following data/reports mostly in Word or Excel:

- NBR Bison Reproductive Success Reports
- Microchip and eartag loss data
- Brand side by decade
- 2004 – 2008 roundup and chute runs
- Genetics folder – background material with some NBR material
- Some waterfowl/banding reports.

H. The Service's Montana Invasives Strike Team located at Benton Lake NWR, Great Falls, MT, has:

- Invasives species inventory work completed in 2007 for NBRC refuges, including mapping and treatment data for Yellow Flag Iris, Purple Loosestrife, Whitetop, and other invasive species.
- A summary of IPM accomplishments at Ninepipe NWR for 2007.
- GIS layer on IPM treatment sites for NBRC in 2007.

- Annual Pesticide Use Reports for refuges of the NBRC.

I. The Refuge Headquarters, NBR, Moiese, MT, has the following data:

- Rangeland Resource Condition assessment Report 2005 (CSKT product)
- Rangeland condition surveys 1964 and 1989. Conducted by NRCS
- Fire Ecology of the National Bison Range report 2006 (CSKT product)
- Condition assessment for real property (2007)
- Refuge Quarters condition assessments (2007)
- Lead based paint report for Refuge Quarters
- Asbestos report for Refuge Quarters.
- Fenced Animal Management Plan 1990 (includes target animal numbers all big game)
- NBR Complex Fire Management Plan 2002
- Deferred maintenance projects in Service Asset Maintenance Management System (SAMMS)
- Cultural Resource Overview of U.S Fish and Wildlife Service Western Montana Properties 2000 (CSKT product)
- Biological Control of weeds - Insect agents released and viable populations.
- Test Results for Chronic wasting disease in Elk 2003; pending for 2007
- Visitor Services Review by Regional EVS staff 2004.
- Visitor Satisfaction Survey (National Survey) 1998 survey Published 2003
- Federal Fee collection report to Government Accountability Office (GAO) 2007
- Safety inspection report – Regional Safety Office 2007
- Christmas Bird Counts (2000-2007)
- Weed mapping on portions of NBR (GIS layer) Mostly Dalmatian toadflax.
- Springs and watering areas for wildlife on NBR (GIS layer)
- Fences on NBR (GIS layer)
- Road resources report for NBRC Federal Highways report (2001)
- Animal Handling Protocol
- NBR Elk Count reports 2005 and 2007.
- Waterfowl banding schedules
- Waterfowl band recoveries
- Mid winter waterfowl census report
- Annual Big Game Count 1990-2006
- Pesticide use reports (1999-2007)
- General Wildlife Observations NBR complex (50 years+ of data)
- NBR Energy Use Reports
- NBR Vehicle use Reports
- Public Water system testing reports

- NBRC Waterfowl Pair Counts
- NBRC Waterfowl Brood Counts
- NBR Cougar –Prey Dynamics 1999-2000
- Parker 3 step Range Surveys (data 1992, 1999 & 2004)
- Uniform Crime report for NBRC
- Rotation schedule for bison grazing units (2005-2007)

Comprehensive Conservation Plan Schedule

March 2010

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2010 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2010 (# stations represented in parentheses)
<p><i>Final CCPs – Total completed 107*</i></p> <ul style="list-style-type: none"> • Red Rock Lakes NWR (FY 10) • North Dakota WMDs (FY 08) Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby • North Dakota Refuges (FY 08) Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo and Stewart Lake • Pathfinder NWR (FY 08) • Sully’s Hill National Game Preserve (FY 08) • Arrowwood NWR (FY 07) • Bear Butte NWR (FY07) • Des Lacs NWR (FY 07) • J. Clark Salyer NWR (FY 07) • Upper Souris NWR (FY 07) • Rainwater Basin WMD (FY 07) • Arapahoe NWR Complex (includes Bamforth, Hutton Lake, and Mortenson Lake NWRs) FY 07) • Medicine Lake Complex (includes Medicine Lake, Lamesteer NWRs, and NE Montana WMD (FY 07) • Kirwin NWR (FY 07) • Lacreek NWR and WMD (FY 06) • Long Lake NWR Complex (includes Long Lake, Florence Lake, Slade Lake NWRs, and Long Lake WMD) (FY 06) • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY05) • Lost Trail NWR (FY05) • Rocky Flats NWR (FY05) 	<ul style="list-style-type: none"> • Quivira NWR (March 2010) • Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (July 2010) • National Elk Refuge (August 2010) • National Bison Range Complex (also includes Northwest Montana WMD and Nine Pipe and Pablo NWRs (September 2010) 	<ul style="list-style-type: none"> ■ Lake Andes NWR and WMD, and Karl Mundt NWR (FY 07) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (FY 07) ■ Charles M. Russell and U.L. Bend NWRs (FY 07) ■ Benton Lake NWR and WMD, Swan River, and Blackfoot Valley (FY 08) ■ Sand Lake, Huron, and Madison WMDs (FY 08) ■ Cokeville Meadows NWR (FY 09) ■ Lee Metcalf NWR (FY 09) ■ Quivira NWR (FY 10) 	<p><i>Final CCPs – Anticipated completion 1</i></p> <ul style="list-style-type: none"> ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (6) ■ Sand Lake, Huron, and Madison WMDs (3) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Lake Andes NWR/WMD and Karl Mundt NWR (3) ■ Sand Lake, Huron, and Madison WMDs (3) ■ Lee Metcalf NWR (1) ■ Benton Lake NWR and WMD (3) ■ Charles M. Russell and U.L. Bend NWRs (2) <p style="text-align: right;">FWS-000780</p>

<ul style="list-style-type: none"> • Fish Springs NWR (FY04) • Arapaho NWR (FY04) • Monte Vista and Alamosa NWRs (FY03) • Crescent Lake NWR (FY02) • Seedskadee NWR (FY02) • Waubay NWR and WMD (FY02) • North Platte NWR (FY01) • Flint Hills NWR (FY00) • Ouray NWR (FY00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) • Browns Park NWR (FY99) • Valentine NWR (FY99) • Fort Niobrara NWR (FY99) • Lostwood NWR (FY99) • Marais des Cygnes NWR (FY98) • Bear River Migratory Bird Refuge (FY97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) <p>*Rocky Flats was also completed but does not count towards total</p>			
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March 2010

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:

FY2011*	FY2012	FY2013	FY2014
<ul style="list-style-type: none"> ■ John and Louise Seier NWR (1) ■ Baca NWR (includes Alamosa, Monte Vista, and San Luis Valley Conservation Area (4)) <p>*Represents beginning of new 15-year planning cycle</p>	<ul style="list-style-type: none"> ■ Rocky Mountain Arsenal NWR (1) ■ Two Ponds NWR (1) ■ Bear River Migratory Bird Refuge (1) 	TBD	TBD

Last updated: 02/28/2010

Regional Contact: David Lucas, 303/236-4366

Land Protection Plan Schedule

March 2010

REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs Completed Since America's Great Outdoors (Fiscal year completed in parentheses)	PPPs Completed (Month/year approved in parentheses)	LPPs Currently Underway (Month/year estimated completion in parentheses)	LPPs Scheduled for Completion in FY 2010
<p><i>Final LPPs – Total completed 0</i></p>	<ul style="list-style-type: none"> • Flint Hills Conservation Area (November 2009) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Lost Trail, Rocky Mountain Front, and Swan Valley) (March 2010) • Sweetgrass Hills Conservation Area (March 2010) <p><i>PPP Underway</i></p> <ul style="list-style-type: none"> • Bear River Conservation Area • Dakota Grasslands Conservation Area • Missouri River “String of Pearls” • Rainwater Basin WMD Expansion • San Luis Valley Conservation Area 	<ul style="list-style-type: none"> • Flint Hills Conservation Area (May 2010) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Lost Trail, Rocky Mountain Front, and Swan Valley) (September 2010) (4) 	<p><i>Final LPPs – Anticipated completion 5</i></p> <ul style="list-style-type: none"> • Flint Hills Conservation Area (1) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Lost Trail, Rocky Mountain Front, and Swan Valley) (4)

March 2010

REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs SCHEDULED FOR COMPLETION:			
FY2011	FY2012	FY2013	FY2014
<ul style="list-style-type: none"> • Sweetgrass Hills Conservation Area • Dakota Grasslands Conservation Area • Rainwater Basin WMD Expansion 	<ul style="list-style-type: none"> • Arapaho NWR Expansion <i>(includes WY satellites)</i> • Bear River Conservation Area • Missouri River “String of Pearls” • Seedskadee NWR Expansion • Little Snake River <p style="color: red; margin-top: 10px;"><i>Prairie Coteau Focus Area (R3 project)</i></p>	<ul style="list-style-type: none"> • Northern Great Plains Sage-Steppe & Grasslands Conservation Area <i>(DC shows FY12)</i> • San Luis Valley Conservation Area <i>(DC shows FY12)</i> 	TBD

Last updated: 03/16/2010

Regional Contact: David Lucas, 303/236-4366

Comprehensive Conservation Plan Schedule

March 2010

REGION 6 - MOUNTAIN-PRAIRIE REGION

<p>CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)</p>	<p>CCPs to Begin in FY 2010 (NOI Issued) (Month/year expected to begin in parentheses)</p>	<p>CCPs Currently Underway (Fiscal year planning effort began in parentheses)</p>	<p>CCPs Scheduled for Completion in FY 2010 (# stations represented in parentheses)</p>
<p><i>Final CCPs – Total completed 107*</i></p> <ul style="list-style-type: none"> • Red Rock Lakes NWR (FY 10) • North Dakota WMDs (FY 08) Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby • North Dakota Refuges (FY 08) Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo and Stewart Lake • Pathfinder NWR (FY 08) • Sully’s Hill National Game Preserve (FY 08) • Arrowwood NWR (FY 07) • Bear Butte NWR (FY07) • Des Lacs NWR (FY 07) • J. Clark Salyer NWR (FY 07) • Upper Souris NWR (FY 07) • Rainwater Basin WMD (FY 07) • Arapahoe NWR Complex (includes Bamforth, Hutton Lake, and Mortenson Lake NWRs) FY 07) • Medicine Lake Complex (includes Medicine Lake, Lamesteer NWRs, and NE Montana WMD (FY 07) • Kirwin NWR (FY 07) • Lacreek NWR and WMD (FY 06) • Long Lake NWR Complex (includes Long Lake, Florence Lake, Slade Lake NWRs, and Long Lake WMD) (FY 06) • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY05) • Lost Trail NWR (FY05) • Rocky Flats NWR (FY05) 	<ul style="list-style-type: none"> • Quivira NWR (March 2010) • Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (July 2010) • National Elk Refuge (August 2010) • National Bison Range Complex (also includes Northwest Montana WMD and Nine Pipe and Pablo NWRs (September 2010) 	<ul style="list-style-type: none"> ■ Lake Andes NWR and WMD, and Karl Mundt NWR (FY 07) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (FY 07) ■ Charles M. Russell and U.L. Bend NWRs (FY 07) ■ Benton Lake NWR and WMD, Swan River, and Blackfoot Valley (FY 08) ■ Sand Lake, Huron, and Madison WMDs (FY 08) ■ Cokeville Meadows NWR (FY 09) ■ Lee Metcalf NWR (FY 09) ■ Quivira NWR (FY 10) 	<p><i>Final CCPs – Anticipated completion 1</i></p> <ul style="list-style-type: none"> ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (6) ■ Sand Lake, Huron, and Madison WMDs (3) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Lake Andes NWR/WMD and Karl Mundt NWR (3) ■ Sand Lake, Huron, and Madison WMDs (3) ■ Lee Metcalf NWR (1) ■ Benton Lake NWR and WMD (3) ■ Charles M. Russell and U.L. Bend NWRs (2) <p style="text-align: right;">FWS-000785</p>

<ul style="list-style-type: none"> • Fish Springs NWR (FY04) • Arapaho NWR (FY04) • Monte Vista and Alamosa NWRs (FY03) • Crescent Lake NWR (FY02) • Seedskadee NWR (FY02) • Waubay NWR and WMD (FY02) • North Platte NWR (FY01) • Flint Hills NWR (FY00) • Ouray NWR (FY00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) • Browns Park NWR (FY99) • Valentine NWR (FY99) • Fort Niobrara NWR (FY99) • Lostwood NWR (FY99) • Marais des Cygnes NWR (FY98) • Bear River Migratory Bird Refuge (FY97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) <p>*Rocky Flats was also completed but does not count towards total</p>			
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March 2010

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:

FY2011*	FY2012	FY2013	FY2014
<ul style="list-style-type: none"> ■ John and Louise Seier NWR (1) ■ Baca NWR (includes Alamosa, Monte Vista, and San Luis Valley Conservation Area (4)) <p>*Represents beginning of new 15-year planning cycle</p>	<ul style="list-style-type: none"> ■ Rocky Mountain Arsenal NWR (1) ■ Two Ponds NWR (1) ■ Bear River Migratory Bird Refuge (1) 	TBD	TBD

Last updated: 02/28/2010

Regional Contact: David Lucas, 303/236-4366

Land Protection Plan Schedule

March 2010

REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs Completed Since Great Outdoors America (Fiscal year completed in parentheses)	PPPs Completed (Month/year approved in parentheses)	LPPs Currently Underway (Month/year estimated completion in parentheses)	LPPs Scheduled for Completion in FY 2010
<p><i>Final LPPs – Total completed 0</i></p>	<ul style="list-style-type: none"> • Flint Hills Conservation Area (November 2009) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Lost Trail, Rocky Mountain Front, and Swan Valley) (March 2010) • Sweetgrass Hills Conservation Area (March 2010) <p><i>PPP Underway</i></p> <ul style="list-style-type: none"> • Bear River Conservation Area • Dakota Grasslands Conservation Area • Missouri River “String of Pearls” • Rainwater Basin WMD Expansion • San Luis Valley Conservation Area 	<ul style="list-style-type: none"> • Flint Hills Conservation Area (July 2010) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Lost Trail, Rocky Mountain Front, and Swan Valley) (September 2010) (4) 	<p><i>Final LPPs – Anticipated completion 6</i></p> <ul style="list-style-type: none"> • Flint Hills Conservation Area (1) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Lost Trail, Rocky Mountain Front, and Swan Valley) (4)

March 2010
REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs SCHEDULED FOR COMPLETION:

FY2011	FY2012	FY2013	FY2014
<ul style="list-style-type: none"> • Dakota Grasslands Conservation Area • Rainwater Basin WMD Expansion 	<ul style="list-style-type: none"> • Arapaho NWR Expansion • Bear River Conservation Area • Missouri River “String of Pearls” • Seedskadee NWR Expansion • Snake River • Sweetgrass Hills Conservation Area (1) 	<ul style="list-style-type: none"> • Northern Great Plains Sage-Steppe & Grasslands Conservation Area • San Luis Valley Conservation Area 	TBD

Last updated: 02/28/2010

Regional Contact: David Lucas, 303/236-4366

Comprehensive Conservation Plan Schedule

June 2010

REGION 6 - MOUNTAIN-PRAIRIE REGION

<p>CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)</p>	<p>CCPs to Begin in FY 2010 (NOI Issued) (Month/year expected to begin in parentheses)</p>	<p>CCPs Currently Underway (Fiscal year planning effort began in parentheses)</p>	<p>CCPs Scheduled for Completion in FY 2010 (# stations represented in parentheses)</p>
<p><i>Final CCPs – Total completed 107*</i></p> <ul style="list-style-type: none"> • Red Rock Lakes NWR (FY 10) • North Dakota WMDs (FY 08) Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby • North Dakota Refuges (FY 08) Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo and Stewart Lake • Pathfinder NWR (FY 08) • Sully’s Hill National Game Preserve (FY 08) • Arrowwood NWR (FY 07) • Bear Butte NWR (FY07) • Des Lacs NWR (FY 07) • J. Clark Salyer NWR (FY 07) • Upper Souris NWR (FY 07) • Rainwater Basin WMD (FY 07) • Arapahoe NWR Complex (includes Bamforth, Hutton Lake, and Mortenson Lake NWRs) FY 07) • Medicine Lake Complex (includes Medicine Lake, Lamesteer NWRs, and NE Montana WMD (FY 07) • Kirwin NWR (FY 07) • Lacreek NWR and WMD (FY 06) • Long Lake NWR Complex (includes Long Lake, Florence Lake, Slade Lake NWRs, and Long Lake WMD) (FY 06) • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY05) • Lost Trail NWR (FY05) • Rocky Flats NWR (FY05) 	<ul style="list-style-type: none"> • Quivira NWR (March 2010) • Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (July 2010) • National Elk Refuge (August 2010) • Baca NWR (includes Alamosa, Monte Vista, and San Luis Valley Conservation Area (August 2010) 	<ul style="list-style-type: none"> ■ Lake Andes NWR and WMD, and Karl Mundt NWR (FY 07) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (FY 07) ■ Charles M. Russell and U.L. Bend NWRs (FY 07) ■ Benton Lake NWR and WMD, Swan River, and Blackfoot Valley (FY 08) ■ Sand Lake, Huron, and Madison WMDs (FY 08) ■ Cokeville Meadows NWR (FY 09) ■ Lee Metcalf NWR (FY 09) ■ Quivira NWR (FY 10) 	<p><i>Final CCPs – Anticipated completion 1</i></p> <ul style="list-style-type: none"> ■ Sand Lake, Huron, and Madison WMDs (3) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (6) ■ Lake Andes NWR/WMD and Karl Mundt NWR (3) ■ Sand Lake, Huron, and Madison WMDs (3) ■ Lee Metcalf NWR (1) ■ Charles M. Russell and U.L. Bend NWRs (2)

<ul style="list-style-type: none"> • Fish Springs NWR (FY04) • Arapaho NWR (FY04) • Monte Vista and Alamosa NWRs (FY03) • Crescent Lake NWR (FY02) • Seedskadee NWR (FY02) • Waubay NWR and WMD (FY02) • North Platte NWR (FY01) • Flint Hills NWR (FY00) • Ouray NWR (FY00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) • Browns Park NWR (FY99) • Valentine NWR (FY99) • Fort Niobrara NWR (FY99) • Lostwood NWR (FY99) • Marais des Cygnes NWR (FY98) • Bear River Migratory Bird Refuge (FY97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) <p>*Rocky Flats was also completed but does not count towards total</p>			
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June 2010

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:

FY2011*	FY2012	FY2013	FY2014
<ul style="list-style-type: none"> ■ National Bison Range Complex (also includes Northwest Montana WMD and Nine Pipe and Pablo NWRs (4) ■ John and Louise Seier NWR (1) <p>*Represents beginning of new 15-year planning cycle</p>	<ul style="list-style-type: none"> ■ Rocky Mountain Arsenal NWR (1) ■ Two Ponds NWR (1) ■ Bear River Migratory Bird Refuge (1) 	TBD	TBD

Last updated: 06/28/2010

Regional Contact: David Lucas, 303/236-4366

Land Protection Plan Schedule

June 2010

REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs Completed Since America's Great Outdoors (Fiscal year completed in parentheses)	PPPs Completed (Month/year approved in parentheses)	LPPs Currently Underway (Month/year estimated completion in parentheses)	LPPs Scheduled for Completion in FY 2010
<p><i>Final LPPs – Total completed 0</i></p>	<ul style="list-style-type: none"> • Flint Hills Conservation Area (November 2009) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Lost Trail, Rocky Mountain Front, and Swan Valley) (March 2010) • Sweetgrass Hills Conservation Area (March 2010) <p><i>PPP Underway</i></p> <ul style="list-style-type: none"> • Dakota Grasslands Conservation Area (in DC for approval) • Bear River Conservation Area (to DC on July 15th) • Rainwater Basin WMD Expansion (to DC on August 1st) • San Luis Valley Conservation Area (to DC on August 1st) • Missouri River “String of Pearls” (to DC on August 15th) • Mortenson Lake NWR Expansion 	<ul style="list-style-type: none"> • Flint Hills Conservation Area (July 2010) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Rocky Mountain Front, and Swan Valley) (September 2010) (3) 	<p><i>Final LPPs – Anticipated completion 4</i></p> <ul style="list-style-type: none"> • Flint Hills Conservation Area (1) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Rocky Mountain Front, and Swan Valley) (3)

June 2010

REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs SCHEDULED FOR COMPLETION:			
FY2011	FY2012	FY2013	FY2014
<ul style="list-style-type: none"> • Sweetgrass Hills Conservation Area • Lost Trail NWR Expansion • Dakota Grasslands Conservation Area • Rainwater Basin WMD Expansion 	<ul style="list-style-type: none"> • Arapaho NWR Expansion (includes WY satellites) • Bear River Conservation Area • Missouri River “String of Pearls” • Seedskadee NWR Expansion • Little Snake River <p style="color: red; margin-top: 10px;"><i>Prairie Coteau Focus Area (R3 project)</i></p>	<ul style="list-style-type: none"> • Northern Great Plains Sage-Steppe & Grasslands Conservation Area <i>(DC shows FY12)</i> • San Luis Valley Conservation Area <i>(DC shows FY12)</i> 	TBD

Last updated: 06/28/2010

Regional Contact: David Lucas, 303/236-4366

Federal Register Tracking
by Refuge

As of July 2010

BLUE - Date DTS to WO

RED - Date Sent Pkg to Federal Register

GREEN - DATE Document Cleared to Publish

Refuge	State	NOI	NOA - Draft	NOA - Final	EIS
L. Andes Complex	SD	May-07			
Bowdoin NWR	MT	May-07			
South Dakota WMD	SD	Jul-08			
Benton Lake NWR	MT	Aug-08			
Charles M. Russell	MT	Nov-07	Apr-10		YES
Quivira NWR	KS	Feb-10			
Cokeville Meadows	WY	2009			
Lee Metcalf NWR	MT	Sep-09			
National Bison Range	MT	Dec-97			
National Elk Refuge	WY				
John & Louise Seier	NE				
Rocky Mtn Arsenal	CO				
Baca NWR	CO				
Two Ponds NWR	CO				
Bear River MBR	UT				
Marais des Cygnes	KS				
Lostwood NWR	ND				
Browns Park NWR	CO				
Hurricane Lakes Wind Energy Project	SD				

ORGRNAME	Completion Date	Target
ALAMOSA NATIONAL WILDLIFE REFUGE	2003	2013
APPERT LAKE NATIONAL WILDLIFE REFUGE	2006	
ARAPAHO NATIONAL WILDLIFE REFUGE	2004	
ARDOCH NATIONAL WILDLIFE REFUGE	2008	
ARROWWOOD NATIONAL WILDLIFE REFUGE	2007	
ARROWWOOD WETLAND MANAGEMENT DISTRICT	2007	
AUDUBON NATIONAL WILDLIFE REFUGE	2007	
AUDUBON WETLAND MANAGEMENT DISTRICT	2008	
BACA NATIONAL WILDLIFE REFUGE		2013
BAMFORTH NATIONAL WILDLIFE REFUGE	2007	
BEAR BUTTE NATIONAL WILDLIFE REFUGE	2007	
BEAR RIVER MIGRATORY BIRD REFUGE	1997	2014
BENTON LAKE NATIONAL WILDLIFE REFUGE		2011
BENTON LAKE WETLAND MANAGEMENT DISTRICT		2011
BLACK COULEE NATIONAL WILDLIFE REFUGE		2011
BONE HILL NATIONAL WILDLIFE REFUGE	2006	
BOWDOIN NATIONAL WILDLIFE REFUGE		2011
BOWDOIN WETLAND MANAGEMENT DISTRICT		2011
BROWNS PARK NATIONAL WILDLIFE REFUGE	1999	
BRUMBA NATIONAL WILDLIFE REFUGE	2006	
BUFFALO LAKE NATIONAL WILDLIFE REFUGE	2006	
CAMP LAKE NATIONAL WILDLIFE REFUGE	2006	
CANFIELD LAKE NATIONAL WILDLIFE REFUGE	2006	
CHARLES M. RUSSELL NATIONAL WILDLIFE REFUGE		2012
CHARLES M. RUSSELL WETLAND MANAGEMENT DISTRICT		2012
CHASE LAKE NATIONAL WILDLIFE REFUGE	2008	
CHASE LAKE WETLAND MANAGEMENT DISTRICT	2008	
COKEVILLE MEADOWS NATIONAL WILDLIFE REFUGE		2012
COTTONWOOD LAKE NATIONAL WILDLIFE REFUGE	2007	
CREEDMAN COULEE NATIONAL WILDLIFE REFUGE		2011
CRESCENT LAKE NATIONAL WILDLIFE REFUGE	2002	
CROSBY WETLAND MANAGEMENT DISTRICT	2008	
DAKOTA LAKE NATIONAL WILDLIFE REFUGE	2006	
DES LACS NATIONAL WILDLIFE REFUGE	2007	
DEVILS LAKE WETLAND MANAGEMENT DISTRICT	2008	
FISH SPRINGS NATIONAL WILDLIFE REFUGE	2004	
FLINT HILLS NATIONAL WILDLIFE REFUGE	2000	
FLORENCE LAKE NATIONAL WILDLIFE REFUGE	2006	
FORT NIOBRARA NATIONAL WILDLIFE REFUGE	1999	
HAILSTONE NATIONAL WILDLIFE REFUGE		2012
HALFBREED LAKE NATIONAL WILDLIFE REFUGE		2012
HALF-WAY LAKE NATIONAL WILDLIFE REFUGE	2006	
HEWITT LAKE NATIONAL WILDLIFE REFUGE		2011
HIDDENWOOD NATIONAL WILDLIFE REFUGE	2006	
HOBART LAKE NATIONAL WILDLIFE REFUGE	2008	
HURON WETLAND MANAGEMENT DISTRICT		2011

HUTCHINSON LAKE NATIONAL WILDLIFE REFUGE	2006	
HUTTON LAKE NATIONAL WILDLIFE REFUGE	2007	
J. CLARK SALYER NATIONAL WILDLIFE REFUGE	2007	
J. CLARK SALYER WETLAND MANAGEMENT DISTRICT	2007	
JOHN W. AND LOUISE SEIER NATIONAL WILDLIFE REFUGE		2013
JOHNSON LAKE NATIONAL WILDLIFE REFUGE	2006	
KARL E. MUNDT NATIONAL WILDLIFE REFUGE		2011
KELLYS SLOUGH NATIONAL WILDLIFE REFUGE	2008	
KIRWIN NATIONAL WILDLIFE REFUGE	2007	
KULM WETLAND MANAGEMENT DISTRICT	2008	
LACREEK NATIONAL WILDLIFE REFUGE	2006	
LACREEK WETLAND MANAGEMENT DISTRICT	2006	
LAKE ALICE NATIONAL WILDLIFE REFUGE	2008	
LAKE ANDES NATIONAL WILDLIFE REFUGE		2011
LAKE ANDES WETLAND MANAGEMENT DISTRICT		2011
LAKE GEORGE NATIONAL WILDLIFE REFUGE	2006	
LAKE ILO NATIONAL WILDLIFE REFUGE	2008	
LAKE MASON NATIONAL WILDLIFE REFUGE		2012
LAKE NETTIE NATIONAL WILDLIFE REFUGE	2008	
LAKE OTIS NATIONAL WILDLIFE REFUGE	2006	
LAKE PATRICIA NATIONAL WILDLIFE REFUGE	2006	
LAKE THIBADEAU NATIONAL WILDLIFE REFUGE		2011
LAKE ZAHL NATIONAL WILDLIFE REFUGE	2008	
LAMBS LAKE NATIONAL WILDLIFE REFUGE	2006	
LAMESTEER NATIONAL WILDLIFE REFUGE	2007	
LEE METCALF NATIONAL WILDLIFE REFUGE		2011
LITTLE GOOSE NATIONAL WILDLIFE REFUGE	2006	
LONG LAKE NATIONAL WILDLIFE REFUGE	2006	
LONG LAKE WETLAND MANAGEMENT DISTRICT	2006	
LORDS LAKE NATIONAL WILDLIFE REFUGE	2006	
LOST LAKE NATIONAL WILDLIFE REFUGE	2006	
LOST TRAIL NATIONAL WILDLIFE REFUGE	2005	
LOSTWOOD NATIONAL WILDLIFE REFUGE	1999	
LOSTWOOD WETLAND MANAGEMENT DISTRICT	2008	
MADISON WETLAND MANAGEMENT DISTRICT		2011
MAPLE RIVER NATIONAL WILDLIFE REFUGE	2006	
MARAIS DES CYGNES NATIONAL WILDLIFE REFUGE	1998	
MCLEAN NATIONAL WILDLIFE REFUGE	2008	
MEDICINE LAKE NATIONAL WILDLIFE REFUGE	2007	
MONTE VISTA NATIONAL WILDLIFE REFUGE	2003	2013
MORTENSON LAKE NATIONAL WILDLIFE REFUGE	2007	
NATIONAL BISON RANGE,NATIONAL BISON RANGE		2012
NATIONAL ELK REFUGE		2012
NINE-PIPE NATIONAL WILDLIFE REFUGE		2012
NORTH DAKOTA LIMITED INTEREST REFUGES	2006	
NORTH PLATTE NATIONAL WILDLIFE REFUGE	2001	
NORTHEAST MONTANA WETLAND MANAGEMENT DISTRICT	2007	

NORTHWEST MONTANA FLATHEAD COUNTY WETLAND MANAGEMENT DISTRICT		2011
NORTHWEST MONTANA LAKE COUNTY WETLAND MANAGEMENT DISTRICT		2012
OURAY NATIONAL WILDLIFE REFUGE	2000	
PABLO NATIONAL WILDLIFE REFUGE		2012
PATHFINDER NATIONAL WILDLIFE REFUGE	2008	
PLEASANT LAKE NATIONAL WILDLIFE REFUGE	2006	
PRETTY ROCK NATIONAL WILDLIFE REFUGE	2006	
QUIVIRA NATIONAL WILDLIFE REFUGE		2012
RABB LAKE NATIONAL WILDLIFE REFUGE	2006	
RAINWATER BASIN WETLAND MANAGEMENT DISTRICT	2007	
RED ROCK LAKES NATIONAL WILDLIFE REFUGE	2010	
ROCK LAKE NATIONAL WILDLIFE REFUGE	2006	
ROCKY FLATS NATIONAL WILDLIFE REFUGE	2005	
ROCKY MOUNTAIN ARSENAL NATIONAL WILDLIFE REFUGE	1996	2014
ROSE LAKE NATIONAL WILDLIFE REFUGE	2006	
SAND LAKE NATIONAL WILDLIFE REFUGE	2005	
SAND LAKE WETLAND MANAGEMENT DISTRICT		2011
SCHOOL SECTION LAKE NATIONAL WILDLIFE REFUGE	2006	
SEEDSKADEE NATIONAL WILDLIFE REFUGE	2002	
SHELL LAKE NATIONAL WILDLIFE REFUGE	2008	
SHEYENNE LAKE NATIONAL WILDLIFE REFUGE	2006	
SIBLEY LAKE NATIONAL WILDLIFE REFUGE	2006	
SILVER LAKE NATIONAL WILDLIFE REFUGE	2006	
SLADE LAKE NATIONAL WILDLIFE REFUGE	2006	
SNYDER LAKE NATIONAL WILDLIFE REFUGE	2006	
SOUTH DAKOTA WETLAND MANAGEMENT DISTRICT		2011
SPRINGWATER NATIONAL WILDLIFE REFUGE	2006	
STEWART LAKE NATIONAL WILDLIFE REFUGE	2008	
STONEY SLOUGH NATIONAL WILDLIFE REFUGE	2006	
STORM LAKE NATIONAL WILDLIFE REFUGE	2000	
STUMP LAKE NATIONAL WILDLIFE REFUGE	2008	
SULLYS HILL NATIONAL GAME PRESERVE	2008	
SUNBURST LAKE NATIONAL WILDLIFE REFUGE	2006	
SWAN RIVER NATIONAL WILDLIFE REFUGE		2011
TEWAUKON NATIONAL WILDLIFE REFUGE	2000	
TEWAUKON WETLAND MANAGEMENT DISTRICT	2000	
TOMAHAWK NATIONAL WILDLIFE REFUGE	2006	
TWO PONDS NATIONAL WILDLIFE REFUGE	1997	2014
UL BEND NATIONAL WILDLIFE REFUGE		2012
UPPER SOURIS NATIONAL WILDLIFE REFUGE	2007	
VALENTINE NATIONAL WILDLIFE REFUGE	1999	
VALLEY CITY WETLAND MANAGEMENT DISTRICT	2008	
WAR HORSE NATIONAL WILDLIFE REFUGE		2012
WAUBAY NATIONAL WILDLIFE REFUGE	2002	
WAUBAY WETLAND MANAGEMENT DISTRICT	2002	
WHITE LAKE NATIONAL WILDLIFE REFUGE	2008	
WILD RICE LAKE NATIONAL WILDLIFE REFUGE	2002	

WILLOW LAKE NATIONAL WILDLIFE REFUGE	2006
WINTERING RIVER NATIONAL WILDLIFE REFUGE	2006
WOOD LAKE NATIONAL WILDLIFE REFUGE	2006

Comprehensive Conservation Plan Schedule

December 2010

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2011 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2011 (# stations represented in parentheses)
<p>Final CCPs – Total completed 107*</p> <ul style="list-style-type: none"> • Red Rock Lakes NWR (FY 10) • North Dakota WMDs (FY 08) Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby • North Dakota Refuges (FY 08) Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo and Stewart Lake • Pathfinder NWR (FY 08) • Sully’s Hill National Game Preserve (FY 08) • Arrowwood NWR (FY 07) • Bear Butte NWR (FY07) • Des Lacs NWR (FY 07) • J. Clark Salyer NWR (FY 07) • Upper Souris NWR (FY 07) • Rainwater Basin WMD (FY 07) • Arapahoe NWR Complex (includes Bamforth, Hutton Lake, and Mortenson Lake NWRs) FY 07) • Medicine Lake Complex (includes Medicine Lake, Lamesteer NWRs, and NE Montana WMD (FY 07) • Kirwin NWR (FY 07) • Lacreek NWR and WMD (FY 06) • Long Lake NWR Complex (includes Long Lake, Florence Lake, Slade Lake NWRs, and Long Lake WMD) (FY 06) • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY 05) • Lost Trail NWR (FY 05) • Rocky Flats NWR (FY 05) 	<ul style="list-style-type: none"> • Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (5) (January 2011) • Baca NWR (includes Alamosa, Monte Vista, and San Luis Valley Conservation Area) (1/2) (April 2011) • Rocky Mountain Arsenal NWR (includes Two Ponds) (2) (June 2011)* • National Bison Range (includes Ninepipe, Pablo, and Northwest Montana WMD – Lake County) (4) (NOI pending decision) <p>*Rocky Mountain Arsenal represents the beginning of new 15-year planning cycle</p>	<ul style="list-style-type: none"> ■ Lake Andes NWR and WMD, and Karl Mundt NWR (FY 07) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (FY 07) ■ Charles M. Russell and U.L. Bend NWRs (FY 07) ■ Benton Lake NWR, WMD, and Swan River (FY 08) ■ Sand Lake, Huron, and Madison WMDs (FY 08) ■ Cokeville Meadows NWR (FY 09) ■ Lee Metcalf NWR (FY 09) ■ Quivira NWR (FY 10) ■ National Elk Refuge (FY 10) 	<p>Final CCPs – Anticipated completion 12</p> <ul style="list-style-type: none"> ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (6) ■ Sand Lake, Huron, and Madison WMDs (3) ■ Benton Lake NWR, WMD, and Swan River (3) <p>Draft CCPs</p> <ul style="list-style-type: none"> ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (6) ■ Lake Andes NWR/WMD and Karl Mundt NWR (3) ■ Sand Lake, Huron, and Madison WMDs (3) ■ Lee Metcalf NWR (1) ■ Benton Lake NWR, WMD, and Swan River (3) <p style="text-align: right;">FWS-000801</p>

<ul style="list-style-type: none"> • Fish Springs NWR (FY 04) • Arapaho NWR (FY 04) • Monte Vista and Alamosa NWRs (FY 03) • Crescent Lake NWR (FY 02) • Seedskadee NWR (FY 02) • Waubay NWR and WMD (FY 02) • North Platte NWR (FY 01) • Flint Hills NWR (FY 00) • Ouray NWR (FY 00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY 00) • Browns Park NWR (FY 99) • Valentine NWR (FY 99) • Fort Niobrara NWR (FY 99) • Lostwood NWR (FY 99) • Marais des Cygnes NWR (FY 98) • Bear River Migratory Bird Refuge (FY 97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) <p>*Rocky Flats was also completed but does not count towards total</p>			
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December 2010

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:

CCPs SCHEDULED TO BEGIN:				
FY2012	FY2013	FY2014	FY2015	
<ul style="list-style-type: none"> ■ John and Louise Seier NWR (1) ■ Bear River Migratory Bird Refuge (1) 	TBD	TBD	TBD	

Last updated: 11/29/2010

Regional Contact: David Lucas, 303/236-4366

Land Protection Plan Schedule

December 2010

REGION 6 - MOUNTAIN-PRAIRIE REGION

<p>LPPs Completed Since America's Great Outdoors (Fiscal year completed in parentheses)</p>	<p>PPPs Completed (Month/year approved in parentheses)</p>	<p>LPPs Currently Underway (Month/year estimated completion in parentheses)</p>	<p>LPPs Scheduled for Completion in FY 2011</p>
<p><i>Final LPPs – Total completed 4</i></p> <ul style="list-style-type: none"> • Flint Hills Legacy Conservation Area (FY 10) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Rocky Mountain Front, and Swan Valley) (FY 10) 	<ul style="list-style-type: none"> • Flint Hills Legacy Conservation Area (November 2009) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Lost Trail, Rocky Mountain Front, and Swan Valley) (March 2010) • Sweetgrass Hills Conservation Area (March 2010) • Dakota Grasslands Conservation Area (September 2010) • Rainwater Basin WMD Expansion (November 2010) • San Luis Valley Conservation Area (awaiting Director's approval) • Mortenson Lake NWR Expansion (awaiting Director's approval) • Bear River Watershed Conservation Area (awaiting Director's approval) • Missouri River "String of Pearls" (awaiting Director's approval) <p><i>PPP Underway</i></p> <ul style="list-style-type: none"> • Rocky Flats NWR Expansion • Arapaho NWR Expansion • Seedskaadee NWR Expansion • Laramie Plain Conservation Area 	<ul style="list-style-type: none"> • Dakota Grasslands Conservation Area (June 2011) • Rainwater Basin WMD Expansion (July 2011) • Bear River Watershed Conservation Area (September 2012) • Missouri River "String of Pearls" (September 2012) (6) • San Luis Valley Conservation Area (September 2013) 	<p><i>Final LPPs – Anticipated completion 4</i></p> <ul style="list-style-type: none"> • Dakota Grasslands Conservation Area • Rainwater Basin WMD Expansion • Mortenson Lake NWR Expansion • Rocky Flats NWR Expansion

December 2010
REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs SCHEDULED FOR COMPLETION:

FY2012	FY2013	FY2014	FY2015
<ul style="list-style-type: none"> • Arapaho NWR Expansion • Bear River Conservation Area • Missouri River “String of Pearls” (6) • Seedskadee NWR Expansion <p><i>Prairie Coteau Focus Area (R3 project)</i></p>	<ul style="list-style-type: none"> • Northern Great Plains Sage-Steppe & Grasslands Conservation Area <i>(DC shows FY12)</i> • San Luis Valley Conservation Area <i>(DC shows FY12)</i> 	<ul style="list-style-type: none"> • Lost Trail NWR Expansion • Sweetgrass Hills Conservation Area • Little Snake River 	TBD

Last updated: 11/29/2010

Regional Contact: David Lucas, 303/236-4366

Statement of Differences
FY 2011 Operational Plan – CCP Planning

In FY11, the Region anticipated completing CCPs for an additional sixteen (16) units of the NWRs. The Region also anticipated initiating CCP planning for an additional nine (9) units. The Region did complete the Bowdoin NWR Complex CCP which covers six (6) units and initiated planning at the San Luis Valley NWR Complex and Rocky Mountain Arsenal NWR and Two Ponds NWR covering five (5) units. The Region did not meet its goal of completing the Benton Lake NWR Complex CCP or South Dakota WMDs CCP which is ten (10) less units than projected. The Region did not initiate a CCP for the National Bison Range Complex which is four (4) less units than projected.

2.10.1 - # of NWRs/WMDs with a Comprehensive Conservation Plan completed – cumulative			
	FY11 Target: 123	FY11 Actual: 113	Difference: -10
2.10.2 - # of NWRs/WMDs with CCP planning underway at the end of the FY			
	FY11 Target: 28	FY11 Actual: 24	Difference: -4
2.10.3 - # of NWRs/WMDs with a Comprehensive Conservation Plan completed (during the year)			
	FY11 Target: 16	FY11 Actual: 6	Difference: -10

During FY10 and FY11, the planning division was asked to focus its attention on several large landscape-level land protection planning efforts. This change redirected the division chief, team leaders, and support staff. This change in focus was coupled with several unforeseen challenges that caused the program to miss several CCP planning performance measures. During this two-year period, planning has adjusted its workforce and work processes to better satisfy both CCP and LPP planning efforts... but the focus in FY12 will be to meet the 2012 mandate for completion of CCPs.

Benton Lake NWR Complex (-4 CCPs completed): The CCP for the Benton Lake Complex, which includes the Benton Lake NWR, Benton Lake WMD, and the Swan Valley NWR¹, was initiated in FY 2008 and has been delayed significantly twice. In February 2010, the decision was made to stop work on the CCP and focus field and regional office staff effort on the development of three land protection plans (LPPs) for the Crown of the Continent. The planning team succeeded in getting all three LPPs completed by the end of FY10. In October 2011, the planning team focused back on the CCP, but there was still resulting workload to get the Crown of the Continent LPPs finalized and approved. An internal review draft of the Benton Lake NWR Complex CCP was in circulation in February 2011. On March 22, 2011, the Regional Director reported that he had received “an earful” from OIS advisor Steve Doherty regarding changes to hunting opportunities at the Benton Lake NWR. During the month of April there was a variety of verbal and email communications culminating in a conference call with stakeholders on May 6, 2011. A facilitated workshop to discuss selenium contamination and proposed changes in water management activities was then scheduled for May 10, 2011. As a result of the workshop, the planning team

¹ In late FY11, Lost Trail NWR and the Northwest Montana WMD were returned to the National Bison Range Complex for management and excluded from the Benton Lake planning effort. Lost Trail NWR is covered by an existing CCP and does not count towards any performance metrics. The Northwest Montana WMD is not covered by a CCP and does counts toward one of the missing CCPs in FY11.

completed additional analysis and developed three additional alternatives specific to water management at the Benton Lake NWR. A new internal review draft will be circulated beginning in November 2011 with a target to release the draft CCP by mid-February 2012 and a final CCP by June 2012.

South Dakota WMDs (-3 CCPs completed): The CCP for the South Dakota WMDs, which includes the Huron, Madison, and Sand Lake districts, was also initiated in FY08. The project remained on schedule until FY11 when support functions (primarily editorial and administrative) were required to focus their attention on higher-priority land protection planning efforts (particularly the desire to make certain changes to and complete the Dakota Grassland Conservation Area in time for Secretary Salazar to establish the area by the end of FY11). The draft CCP for the South Dakota WMDs has been printed and sitting in the Regional Office since August 2011 and will be issued today (October 20, 2011). The final CCP will be completed by January 2012.

Lake Andes NWR Complex (-3 CCPs completed): The CCP for the Lake Andes NWR Complex, which includes the Lake Andes NWR, Lake Andes WMD, and Karl Mundt NWR, was initiated in FY07. Part of the CCP process is to investigate long-standing unresolved management questions. The Region requested the assistance of the Regional Solicitor regarding the Service's authority to manage hunting, fishing, boating, snowmobiling, and other public recreational uses on Lake Andes NWR. In September 2008 the Regional Solicitor began work with refuge staff and the planning team leader. In March 2010, the planning chief drafted correspondence seeking final resolution on this matter... however upon direction of the Deputy Regional Director it was determined that a verbal reminder would suffice. The Regional Solicitor continues to work on this issue, but has provided initial indications that the Service does have the necessary authority to manage this refuge. Therefore, the planning team reinitiated its work and a draft CCP is scheduled for release in May 2012 with a final CCP by September 2012.

National Bison Range (-4 CCPs underway): The National Bison Range Complex, which includes the National Bison Range, Ninepipe NWR, Pablo NWR, and Northwest Montana WMD, has been involved in political and legal challenges for many years related to issues associated over tribal self determination. The CCP for these stations was scheduled to begin in October 2010. On September 28, 2010, the most recent attempt to implement an annual funding agreement for management activities on the National Bison Range was set aside by US District Court. This most recent verdict prompted the Region to postpone development of its comprehensive management plan until litigation is settled and an environmental assessment can be completed on the management actions. We expect to begin this CCP in early FY13.

Questions/Comments: David Lucas (303) 236-4366

Comprehensive Conservation Plan Schedule

July 2011

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2011 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2011 (# stations represented in parentheses)
<p><i>Final CCPs – Total completed 107*</i></p> <ul style="list-style-type: none"> • Red Rock Lakes NWR (FY 10) • North Dakota WMDs (includes Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby) (FY 08) • North Dakota Refuges (includes Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo) (FY08) and Stewart Lake • Pathfinder NWR (FY 08) • Sully’s Hill National Game Preserve (FY 08) • Arrowwood NWR (FY 07) • Bear Butte NWR (FY07) • Des Lacs NWR (FY 07) • J. Clark Salyer NWR (FY 07) • Upper Souris NWR (FY 07) • Rainwater Basin WMD (FY 07) • Arapaho NWR Complex (includes Bamforth, Hutton Lake, and Mortenson Lake NWRs) (FY 07) • Medicine Lake Complex (includes Medicine Lake, Lamesteer NWRs, and NE Montana WMD (FY 07) • Kirwin NWR (FY 07) • Lacreek NWR and WMD (FY 06) • Long Lake NWR Complex (includes Long Lake, Florence Lake, Slade Lake NWRs, and Long Lake WMD) (FY 06) • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY 05) • Lost Trail NWR (FY 05) • Rocky Flats NWR (FY 05) • Fish Springs NWR (FY 04) 	<ul style="list-style-type: none"> • Baca NWR (includes Alamosa, Monte Vista, and San Luis Valley Conservation Area) (1/2) (April 2011) 	<ul style="list-style-type: none"> ■ Lake Andes NWR and WMD, and Karl Mundt NWR (FY 07) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (FY 07) ■ Charles M. Russell and U.L. Bend NWRs (FY 07) ■ Benton Lake NWR, WMD, and Swan River (FY 08) ■ Sand Lake, Huron, and Madison WMDs (FY 08) ■ Cokeville Meadows NWR (FY 09) ■ Lee Metcalf NWR (FY 09) ■ Quivira NWR (FY 10) ■ National Elk Refuge (FY 10) ■ Baca NWR (includes Alamosa, Monte Vista, and San Luis Valley Conservation Area) (FY 11) 	<p><i>Final CCPs – Anticipated completion 6</i></p> <ul style="list-style-type: none"> ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (6) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Charles M. Russell and U.L. Bend NWRs (2) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (6) ■ Sand Lake, Huron, and Madison WMDs (3)

<ul style="list-style-type: none"> • Arapaho NWR (FY 04) • Monte Vista and Alamosa NWRs (FY 03) • Crescent Lake NWR (FY 02) • Seedskaadee NWR (FY 02) • Waubay NWR and WMD (FY 02) • North Platte NWR (FY 01) • Flint Hills NWR (FY 00) • Ouray NWR (FY 00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY 00) • Browns Park NWR (FY 99) • Valentine NWR (FY 99) • Fort Niobrara NWR (FY 99) • Lostwood NWR (FY 99) • Marais des Cygnes NWR (FY 98) • Bear River Migratory Bird Refuge (FY 97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) <p>*Rocky Flats was also completed but does not count towards total</p>			
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July 2011

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:

FY2012	FY2013	FY2014	FY2015
<ul style="list-style-type: none"> ■ Rocky Mountain Arsenal NWR (includes Two Ponds) (2) * ■ Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (5) ■ National Bison Range (includes Ninepipe, Pablo, and Northwest Montana WMD – Lake County) (4) 	<ul style="list-style-type: none"> ■ John and Louise Seier NWR (1) ■ Bear River Migratory Bird Refuge (1) <p>*Rocky Mountain Arsenal represents the beginning of new 15-year planning cycle</p>	TBD	TBD

Land Protection Plan Schedule

July 2011

REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs Completed Since America's Great Outdoors (Fiscal year completed in parentheses)	PPPs Completed (Month/year approved in parentheses)	LPPs Currently Underway (Month/year estimated completion in parentheses)	LPPs Scheduled for Completion in FY 2011
<p><i>Final LPPs – Total completed 4</i></p> <ul style="list-style-type: none"> • Flint Hills Legacy Conservation Area (FY 10) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Rocky Mountain Front, and Swan Valley) (FY 10) 	<ul style="list-style-type: none"> • Dakota Grasslands Conservation Area (September 2010) • Rainwater Basin WMD Expansion (November 2010) • Mortenson Lake NWR Expansion (December 2010) • Bear River Watershed Conservation Area (December 2010) • Missouri River “String of Pearls” (December 2010) • San Luis Valley Conservation Area (February 2011) • Rocky Flats NWR Expansion (awaiting Director’s approval) <p><i>PPP Underway</i></p> <ul style="list-style-type: none"> • Arapaho NWR Expansion • Seedskaadee NWR Expansion • Laramie Plain Conservation Area 	<ul style="list-style-type: none"> • Dakota Grasslands Conservation Area (June 2011) • Rainwater Basin WMD Expansion (July 2011) • Rocky Flats NWR Expansion (December 2012) • Mortenson Lake NWR Expansion (September 2012) • Bear River Watershed Conservation Area (September 2012) • Sweetgrass Hills Conservation Area (September 2012) • Missouri River “String of Pearls” (September 2013) (6) • San Luis Valley Conservation Area (September 2013) 	<p><i>Final LPPs – Anticipated completion 2</i></p> <ul style="list-style-type: none"> • Dakota Grasslands Conservation Area (1) • Rainwater Basin WMD Expansion (1)

July 2011

REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs SCHEDULED FOR COMPLETION:			
FY2012	FY2013	FY2014	FY2015
<ul style="list-style-type: none"> • Arapaho NWR Expansion • Bear River Conservation Area • Sweetgrass Hills Conservation Area • Seedskafee NWR Expansion 	<ul style="list-style-type: none"> • Missouri River “String of Pearls” (6) • Northern Great Plains Sage-Steppe & Grasslands Conservation Area <i>(DC shows FY12)</i> • San Luis Valley Conservation Area <i>(DC shows FY12)</i> 	<ul style="list-style-type: none"> • Lost Trail NWR Expansion • Little Snake River 	TBD

Last updated: 08/11/2011

Regional Contact: David Lucas, 303/236-4366

Comprehensive Conservation Plan Schedule

October 2011

REGION 6 - MOUNTAIN-PRAIRIE REGION

<p>CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)</p>	<p>CCPs to Begin in FY 2012 (NOI Issued) (Month/year expected to begin in parentheses)</p>	<p>CCPs Currently Underway (Fiscal year planning effort began in parentheses)</p>	<p>CCPs Scheduled for Completion in FY 2012 (# stations represented in parentheses)</p>
<p><i>Final CCPs – Total completed 113*</i></p> <ul style="list-style-type: none"> • Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (FY 11) • Red Rock Lakes NWR (FY 10) • North Dakota WMDs (includes Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby) (FY 08) • North Dakota Refuges (includes Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo) (FY08) and Stewart Lake • Pathfinder NWR (FY 08) • Sully’s Hill National Game Preserve (FY 08) • Arrowwood NWR (FY 07) • Bear Butte NWR (FY07) • Des Lacs NWR (FY 07) • J. Clark Salyer NWR (FY 07) • Upper Souris NWR (FY 07) • Rainwater Basin WMD (FY 07) • Arapaho NWR Complex (includes Bamforth, Hutton Lake, and Mortenson Lake NWRs) (FY 07) • Medicine Lake Complex (includes Medicine Lake, Lamesteer NWRs, and NE Montana WMD (FY 07) • Kirwin NWR (FY 07) • Lacreek NWR and WMD (FY 06) • Long Lake NWR Complex (includes Long Lake, Florence Lake, Slade Lake NWRs, and Long Lake WMD) (FY 06) 	<ul style="list-style-type: none"> • Rocky Mountain Arsenal NWR (includes Two Ponds) (2) (December 2011)* • Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (5) (January 2012) • National Bison Range (includes Ninepipe, Pablo, and Northwest Montana WMD – Lake County) (4) (August 2012) <p>*Rocky Mountain Arsenal represents the beginning of new 15-year planning cycle</p>	<ul style="list-style-type: none"> ■ Lake Andes NWR and WMD, and Karl Mundt NWR (FY 07) ■ Charles M. Russell and U.L. Bend NWRs (FY 07) ■ Benton Lake NWR, WMD, and Swan River (FY 08) ■ Sand Lake, Huron, and Madison WMDs (FY 08) ■ Cokeville Meadows NWR (FY 09) ■ Lee Metcalf NWR (FY 09) ■ Quivira NWR (FY 10) ■ National Elk Refuge (FY 10) ■ Baca NWR (includes Alamosa, Monte Vista, and San Luis Valley Conservation Area) (1/2) (FY 11) ■ Rocky Mountain Arsenal NWR (includes Two Ponds) (FY 12)* ■ Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (FY 12) 	<p><i>Final CCPs – Anticipated completion 15</i></p> <ul style="list-style-type: none"> ■ Sand Lake, Huron, and Madison WMDs (3) ■ Benton Lake NWR, WMD, and Swan River (3) ■ Lee Metcalf NWR (1) ■ Cokeville Meadows NWR (1) ■ Quivira NWR (1) ■ Lake Andes NWR and WMD, and Karl Mundt NWR (3) ■ Charles M. Russell and U.L. Bend NWRs (2) ■ National Elk Refuge (1) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Benton Lake NWR, WMD, and Swan River (3) ■ Lee Metcalf NWR (1) ■ Cokeville Meadows NWR (1) ■ Quivira NWR (1) ■ Lake Andes NWR and WMD, and Karl Mundt NWR (3) ■ National Elk Refuge (1) <p style="text-align: right;">FWS-000812</p>

<ul style="list-style-type: none"> • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY 05) • Lost Trail NWR (FY 05) • Rocky Flats NWR (FY 05) • Fish Springs NWR (FY 04) • Arapaho NWR (FY 04) • Monte Vista and Alamosa NWRs (FY 03) • Crescent Lake NWR (FY 02) • Seedskadee NWR (FY 02) • Waubay NWR and WMD (FY 02) • North Platte NWR (FY 01) • Flint Hills NWR (FY 00) • Ouray NWR (FY 00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY 00) • Browns Park NWR (FY 99) • Valentine NWR (FY 99) • Fort Niobrara NWR (FY 99) • Lostwood NWR (FY 99) • Marais des Cygnes NWR (FY 98) • Bear River Migratory Bird Refuge (FY 97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) <p>*Rocky Flats was also completed but does not count towards total</p>			
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October 2011

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:

FY2013	FY2013	FY2014	FY2015
<ul style="list-style-type: none"> ■ John and Louise Seier NWR (1) ■ Bear River Migratory Bird Refuge (1) 	TBD	TBD	TBD

Last updated: 10/17/2011

Regional Contact: David Lucas, 303/236-4366

Land Protection Plan Schedule

October 2011

REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs Completed Since America's Great Outdoors (Fiscal year completed in parentheses)	PPPs Completed (Month/year approved in parentheses)	LPPs Currently Underway (Month/year estimated completion in parentheses)	LPPs Scheduled for Completion in FY 2012
<p><i>Final LPPs – Total completed 6</i></p> <ul style="list-style-type: none"> • Flint Hills Legacy Conservation Area (FY 10) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Rocky Mountain Front, and Swan Valley) (FY 10) • Dakota Grasslands Conservation Area (FY 11) • Rainwater Basin WMD Expansion (FY 12) 	<ul style="list-style-type: none"> • Mortenson Lake NWR Expansion (December 2010) • Bear River Watershed Conservation Area (December 2010) • Missouri River “String of Pearls” (December 2010) • San Luis Valley Conservation Area (February 2011) • Rocky Flats NWR Expansion (September 2011) • Arapaho NWR Expansion (FY 2012) • Laramie Plain Conservation Area (FY 2012) <p><i>PPP Underway</i></p> <ul style="list-style-type: none"> • Seedskafee NWR Expansion 	<ul style="list-style-type: none"> • Rocky Flats NWR Expansion (December 2012) • Mortenson Lake NWR Expansion (September 2012) • Bear River Watershed Conservation Area (September 2012) • Missouri River “String of Pearls” (September 2013) (6) • Sweetgrass Hills Conservation Area (September 2013) • San Luis Valley Conservation Area (September 2013) 	<p><i>Final LPPs – Anticipated completion 3</i></p> <ul style="list-style-type: none"> • Rocky Flats NWR Expansion (1) • Mortenson Lake NWR Expansion (1) • Bear River Watershed Conservation Area (1)

October 2011

REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs SCHEDULED FOR COMPLETION:

FY2013	FY2014	FY2015	FY2016
<ul style="list-style-type: none"> • Arapaho NWR Expansion • Missouri River “String of Pearls” (Ponca/Niobrara/Bottomlands) • San Luis Valley Conservation Area <i>(DC shows FY12)</i> 	<ul style="list-style-type: none"> • Missouri River “String of Pearls” (Big Hole/Garrison Reach) 	<ul style="list-style-type: none"> • Lost Trail NWR Expansion • Missouri River “String of Pearls” (Yellowstone) • Little Snake River 	TBD

Last updated: 10/17/2011

Regional Contact: David Lucas, 303/236-4366

Comprehensive Conservation Plan Schedule

November 2008

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2009 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2009 (# stations represented in parentheses)
<p><i>Final CCPs – Total completed 106*</i></p> <ul style="list-style-type: none"> • North Dakota WMDs (FY 08) Devils Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby • North Dakota Refuges (FY 08) Stump Lake, Lake Alice, Kelly's Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo and Stewart Lake • Pathfinder NWR (FY 08) • Sully's Hill National Game Preserve (FY 08) • Arrowwood NWR (FY 07) • Bear Butte NWR (FY07) • Des Lacs NWR (FY 07) • J. Clark Salyer NWR (FY 07) • Upper Souris NWR (FY 07) • Rainwater Basin WMD (FY 07) • Arapahoe NWR Complex (includes Bamforth, Hutton Lake, and Mortenson Lake NWRs) FY 07) • Medicine Lake Complex (includes Medicine Lake, Lamesteer NWRs, and NE Montana WMD (FY 07) • Kirwin NWR (FY 07) • Lacreek NWR and WMD (FY 06) • Long Lake NWR Complex (includes Long Lake, Florence Lake, Slade Lake NWRs, and Long Lake WMD) (FY 06) • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY05) • Lost Trail NWR (FY05) • Rocky Flats NWR (FY05) • Fish Springs NWR (FY04) • Arapaho NWR (FY04) 	<ul style="list-style-type: none"> • Quivira NWR (08/09) • Cokeville Meadows NWR (12/08) • Lee Metcalf NWR(11/08) 	<ul style="list-style-type: none"> ■ Red Rock Lakes NWR (FY 05) ■ Lake Andes NWR and WMD, and Karl E. Mundt NWR (FY 07) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (FY 07) ■ Charles M. Russell and U.L. Bend NWRs (FY 07) ■ Benton Lake NWR and WMD, Swan River NWR, Blackfoot Valley, Rocky Mountain Front and Northwest Montana WMD (Flathead county) (FY 08) ■ Sand Lake, Huron, and Madison WMDs (FY 08) 	<p><i>Final CCPs – Anticipated completion 10</i></p> <ul style="list-style-type: none"> ■ Red Rock Lakes NWR (1) ■ Lake Andes NWR/WMD and Karl E. Mundt NWR (3) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (6) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Lake Andes NWR/WMD and Karl E. Mundt NWR (3) ■ Red Rock Lakes NWR (1) ■ Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (6) ■ Sand Lake, Huron, and Madison WMDs (3)

<ul style="list-style-type: none"> • Monte Vista and Alamosa NWRs (FY03) • Crescent Lake NWR (FY02) • Seedskadee NWR (FY02) • Waubay NWR and WMD (FY02) • North Platte NWR (FY01) • Flint Hills NWR (FY00) • Ouray NWR (FY00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY00) • Browns Park NWR (FY99) • Valentine NWR (FY99) • Fort Niobrara NWR (FY99) • Lostwood NWR (FY99) • Marais des Cygnes NWR (FY98) • Bear River Migratory Bird Refuge (FY97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) <p>*Rocky Flats was also completed but does not count towards total</p>			
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November 2008
REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:

FY2010	FY2011*	FY2012	FY2013
<ul style="list-style-type: none"> • National Bison Range Complex (also includes Northwest Montana WMD (Lake country) and Nine Pipe and Pablo NWRs) (4) • National Elk Refuge (1) • Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (5) 	<ul style="list-style-type: none"> ■ John W. and Louise Seier NWR (1) ■ Rocky Mountain Arsenal NWR (1) ■ Baca NWR (1) <p>*Represents beginning of new 15-year planning cycle</p>	<ul style="list-style-type: none"> ■ Two Ponds NWR (1) ■ Bear River Migratory Bird Refuge (1) 	<ul style="list-style-type: none"> ■ Marais des Cygnes NWR (1) ■ Lostwood NWR (1) ■ Browns Park NWR (1)

Comprehensive Conservation Plan Schedule

May 2012

REGION 6 - MOUNTAIN-PRAIRIE REGION

<p>CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)</p>	<p>CCPs to Begin in FY 2012 (NOI Issued) (Month/year expected to begin in parentheses)</p>	<p>CCPs Currently Underway (Fiscal year planning effort began in parentheses)</p>	<p>CCPs Scheduled for Completion in FY 2012 (# stations represented in parentheses)</p>
<p><i>Final CCPs – Total completed 113*</i></p> <ul style="list-style-type: none"> • Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (FY 11) • Red Rock Lakes NWR (FY 10) • North Dakota WMDs (includes Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby) (FY 08) • North Dakota Refuges (includes Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo) (FY08) and Stewart Lake • Pathfinder NWR (FY 08) • Sully’s Hill National Game Preserve (FY 08) • Arrowwood NWR (FY 07) • Bear Butte NWR (FY07) • Des Lacs NWR (FY 07) • J. Clark Salyer NWR (FY 07) • Upper Souris NWR (FY 07) • Rainwater Basin WMD (FY 07) • Arapaho NWR Complex (includes Bamforth, Hutton Lake, and Mortenson Lake NWRs) (FY 07) • Medicine Lake Complex (includes Medicine Lake, Lamesteer NWRs, and NE Montana WMD (FY 07) • Kirwin NWR (FY 07) • Lacreek NWR and WMD (FY 06) • Long Lake NWR Complex (includes Long Lake, Florence Lake, Slade Lake NWRs, and Long Lake WMD) (FY 06) 	<ul style="list-style-type: none"> • Rocky Mountain Arsenal NWR (includes Two Ponds) (2) (September 2012)* • Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (5) (September 2012) <p>*Rocky Mountain Arsenal represents the beginning of new 15-year planning cycle</p>	<ul style="list-style-type: none"> ■ Lake Andes NWR and WMD, and Karl Mundt NWR (FY 07) ■ Charles M. Russell and U.L. Bend NWRs (FY 07) ■ Benton Lake NWR, WMD, and Swan River (FY 08) ■ Sand Lake, Huron, and Madison WMDs (FY 08) ■ Cokeville Meadows NWR (FY 09) ■ Lee Metcalf NWR (FY 09) ■ Quivira NWR (FY 10) ■ National Elk Refuge (FY 10) ■ Baca NWR (includes Alamosa, Monte Vista, and San Luis Valley Conservation Area) (1/2) (FY 11) ■ Rocky Mountain Arsenal NWR (includes Two Ponds) (FY 12)* ■ Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (FY 12) 	<p><i>Final CCPs – Anticipated completion 15</i></p> <ul style="list-style-type: none"> ■ Sand Lake, Huron, and Madison WMDs (3) ■ Benton Lake NWR, WMD, and Swan River (3) ■ Lee Metcalf NWR (1) ■ Cokeville Meadows NWR (1) ■ Quivira NWR (1) ■ Lake Andes NWR and WMD, and Karl Mundt NWR (3) ■ Charles M. Russell and U.L. Bend NWRs (2) ■ National Elk Refuge (1) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Benton Lake NWR, WMD, and Swan River (3) ■ Lee Metcalf NWR (1) ■ Cokeville Meadows NWR (1) ■ Quivira NWR (1) ■ Lake Andes NWR and WMD, and Karl Mundt NWR (3) ■ National Elk Refuge (1) <p style="text-align: right;">FWS-000818</p>

<ul style="list-style-type: none"> • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY 05) • Lost Trail NWR (FY 05) • Rocky Flats NWR (FY 05) • Fish Springs NWR (FY 04) • Arapaho NWR (FY 04) • Monte Vista and Alamosa NWRs (FY 03) • Crescent Lake NWR (FY 02) • Seedskadee NWR (FY 02) • Waubay NWR and WMD (FY 02) • North Platte NWR (FY 01) • Flint Hills NWR (FY 00) • Ouray NWR (FY 00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY 00) • Browns Park NWR (FY 99) • Valentine NWR (FY 99) • Fort Niobrara NWR (FY 99) • Lostwood NWR (FY 99) • Marais des Cygnes NWR (FY 98) • Bear River Migratory Bird Refuge (FY 97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) <p>*Rocky Flats was also completed but does not count towards total</p>			
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May 2012

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:

FY2013	FY2013	FY2014	FY2015
<ul style="list-style-type: none"> ■ John and Louise Seier NWR (1) ■ Bear River Migratory Bird Refuge (1) 	TBD	TBD	TBD

Last updated: 05/25/2012

Regional Contact: David Lucas, 303/236-4366

Land Protection Plan Schedule

October 2011

REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs Completed Since America's Great Outdoors (Fiscal year completed in parentheses)	PPPs Completed (Month/year approved in parentheses)	LPPs Currently Underway (Month/year estimated completion in parentheses)	LPPs Scheduled for Completion in FY 2012
<p><i>Final LPPs – Total completed 6</i></p> <ul style="list-style-type: none"> • Flint Hills Legacy Conservation Area (FY 10) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Rocky Mountain Front, and Swan Valley) (FY 10) • Dakota Grasslands Conservation Area (FY 11) • Rainwater Basin WMD Expansion (FY 12) 	<ul style="list-style-type: none"> • Mortenson Lake NWR Expansion (December 2010) • Bear River Watershed Conservation Area (December 2010) • Missouri River “String of Pearls” (December 2010) • San Luis Valley Conservation Area (February 2011) • Rocky Flats NWR Expansion (September 2011) • Arapaho NWR Expansion (FY 2012) • Laramie Plain Conservation Area (FY 2012) <p><i>PPP Underway</i></p> <ul style="list-style-type: none"> • Seedskadee NWR Expansion 	<ul style="list-style-type: none"> • Rocky Flats NWR Expansion (December 2012) • Mortenson Lake NWR Expansion (September 2012) • Bear River Watershed Conservation Area (September 2012) • Missouri River “String of Pearls” (September 2013) (6) • Sweetgrass Hills Conservation Area (September 2013) • San Luis Valley Conservation Area (September 2013) 	<p><i>Final LPPs – Anticipated completion 3</i></p> <ul style="list-style-type: none"> • Rocky Flats NWR Expansion (1) • Mortenson Lake NWR Expansion (1) • Bear River Watershed Conservation Area (1)

October 2011

REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs SCHEDULED FOR COMPLETION:

FY2013	FY2014	FY2015	FY2016
<ul style="list-style-type: none"> • Arapaho NWR Expansion • Missouri River “String of Pearls” (Ponca/Niobrara/Bottomlands) • San Luis Valley Conservation Area <i>(DC shows FY12)</i> 	<ul style="list-style-type: none"> • Missouri River “String of Pearls” (Big Hole/Garrison Reach) 	<ul style="list-style-type: none"> • Lost Trail NWR Expansion • Missouri River “String of Pearls” (Yellowstone) • Little Snake River 	TBD

Last updated: 10/17/2011

Regional Contact: David Lucas, 303/236-4366

Comprehensive Conservation Plan Schedule

October 2012

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2013 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2013 (# stations represented in parentheses)
<p>Final CCPs – Total completed 122</p> <ul style="list-style-type: none"> • Lee Metcalf NWR (FY 12) • Charles M. Russell and UL Bend NWRs (FY 12) • Sand Lake, Huron, and Madison WMDs (FY 12) • Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (FY 11) • Red Rock Lakes NWR (FY 10) • North Dakota WMDs (includes Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby) (FY 08) • North Dakota Refuges (includes Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo) (FY08) and Stewart Lake • Pathfinder NWR (FY 08) • Sully’s Hill National Game Preserve (FY 08) • Arrowwood NWR (FY 07) • Bear Butte NWR (FY07) • Des Lacs NWR (FY 07) • J. Clark Salyer NWR (FY 07) • Upper Souris NWR (FY 07) • Rainwater Basin WMD (FY 07) • Arapaho NWR Complex (includes Bamforth, Hutton Lake, and Mortenson Lake NWRs) (FY 07) • Medicine Lake Complex (includes Medicine Lake, Lamesteer NWRs, and NE Montana WMD (FY 07) • Kirwin NWR (FY 07) • Lacreek NWR and WMD (FY 06) 	<ul style="list-style-type: none"> • Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (5) (December 2012) • Rocky Mountain Arsenal NWR (includes Two Ponds) (January 2013)* • National Bison Range Complex (also includes Northwest Montana WMD and Nine Pipe and Pablo NWRs (April 2013) • John and Louise Seier NWR (May 2013) • Bear River Migratory Bird Refuge (July 2013) • Valentine NWR (September 2013) • Fort Niobrara NWR (September 2013) <p>* Rocky Mountain Arsenal represents the beginning of new 15-year planning cycle</p>	<ul style="list-style-type: none"> ■ Lake Andes NWR and WMD and Karl E. Mundt NWR (FY 07) ■ Benton Lake NWR, WMD, and Swan River (FY 08) ■ Cokeville Meadows NWR (FY 09) ■ Quivira NWR (FY 10) ■ National Elk Refuge (FY 10) ■ Baca NWR (includes Alamosa, Monte Vista, Sangre de Cristo Conservation Area and San Luis Valley Conservation Area) (FY 11) ■ Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (FY 12) ■ National Bison Range Complex (also includes Northwest Montana WMD and Nine Pipe and Pablo NWRs (FY 13) ■ John and Louise Seier NWR (FY 13) ■ Rocky Mountain Arsenal NWR (includes Two Ponds) (FY 13) ■ Bear River Migratory Bird Refuge (FY 13) ■ Valentine NWR (FY13) ■ Fort Niobrara (FY13) 	<p>Final CCPs – Anticipated completion 13</p> <ul style="list-style-type: none"> ■ Lake Andes NWR and WMD and Karl E. Mundt NWR (2) ■ Benton Lake NWR, WMD, and Swan River (3) ■ Cokeville Meadows NWR (1) ■ Quivira NWR (1) ■ National Elk Refuge (1) ■ Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (5) <p>Draft CCPs</p> <ul style="list-style-type: none"> ■ Lake Andes NWR and WMD and Karl E. Mundt NWR (2) ■ Quivira NWR (1) ■ Cokeville Meadows NWR (1) ■ National Elk Refuge (1) ■ Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (5) ■ Baca NWR (includes Alamosa, Monte Vista, Sangre de Cristo Conservation Area, and San Luis Valley Conservation Area) (3) <p style="text-align: right;">FWS-000822</p>

<ul style="list-style-type: none"> • Long Lake NWR Complex (includes Long Lake, Florence Lake, Slade Lake NWRs, and Long Lake WMD) (FY 06) • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY 05) • Lost Trail NWR (FY 05) • Rocky Flats NWR (FY 05) • Fish Springs NWR (FY 04) • Arapaho NWR (FY 04) • Monte Vista and Alamosa NWRs (FY 03) • Crescent Lake NWR (FY 02) • Seedskadee NWR (FY 02) • Waubay NWR and WMD (FY 02) • North Platte NWR (FY 01) • Flint Hills NWR (FY 00) • Ouray NWR (FY 00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY 00) • Browns Park NWR (FY 99) • Valentine NWR (FY 99) • Fort Niobrara NWR (FY 99) • Lostwood NWR (FY 99) • Marais des Cygnes NWR (FY 98) • Bear River Migratory Bird Refuge (FY 97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) 			
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October 2012

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:

CCPs SCHEDULED TO BEGIN:				
FY2014	FY2015	FY2016	FY2017	
TBD	TBD	TBD	TBD	

Last updated: 07/31/2012

Regional Contact: David Lucas, 303/236-4366

Land Protection Plan Schedule

October 2012

REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs Completed Since America's Great Outdoors (Fiscal year completed in parentheses)	PPPs Completed (Month/year approved in parentheses)	LPPs Currently Underway (Month/year estimated completion in parentheses)	LPPs Scheduled for Completion in FY 2013
<p><i>Final LPPs – Total completed 8</i></p> <ul style="list-style-type: none"> • Flint Hills Legacy Conservation Area (FY 10) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Rocky Mountain Front, and Swan Valley) (FY 10) • Dakota Grassland Conservation Area (FY 11) • Rainwater Basin WMD Expansion (FY 12) • Rocky Flats NWR Expansion (FY 12) • Sangre de Cristo Conservation Area (FY 12) 	<ul style="list-style-type: none"> • Sweetgrass Hills Conservation Area (April 2010) • Mortenson Lake NWR Expansion (December 2010) • Bear River Watershed Conservation Area (December 2010) • Missouri River “String of Pearls” (December 2010) • San Luis Valley Conservation Area (February 2011) <p><i>PPP Underway</i></p> <ul style="list-style-type: none"> • Seedskadee NWR Expansion 	<ul style="list-style-type: none"> • Bear River Watershed Conservation Area (January 2013) • Mortenson Lake NWR Expansion (March 2013) • Missouri River “String of Pearls” – Ponca Bluffs Conservation Area (September 2013) • Missouri River “String of Pearls” – Niobrara Confluence Conservation Area (September 2013) • Missouri River “String of Pearls” – Big Hole Valley Conservation Area (September 2013) • Sweetgrass Hills Conservation Area (September 2014) • Missouri River “String of Pearls” – Garrison Reach Conservation Area (September 2014) • San Luis Valley Conservation Area (September 2014) 	<p><i>Final LPPs – Anticipated completion 5</i></p> <ul style="list-style-type: none"> • Missouri River “String of Pearls” – Ponca Bluffs Conservation Area (1) • Missouri River “String of Pearls” – Niobrara Confluence (1) • Missouri River “String of Pearls” – Big Hole Valley Conservation Area (1) • Mortenson Lake NWR Expansion (1) • Bear River Watershed Conservation Area (1)

October 2012
REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs SCHEDULED FOR COMPLETION:

FY2015	FY2016	FY2017	FY2018
<ul style="list-style-type: none"> • Missouri River “String of Pearls” (Yellowstone) 	<ul style="list-style-type: none"> • Lost Trail NWR Expansion • Little Snake River 	TBD	TBD

Last updated: 07/31/2012

Regional Contact: David Lucas, 303/236-4366

Comprehensive Conservation Plan Schedule

August 2012

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs Completed Since Passage of the Refuge Improvement Act (1997) (Fiscal year completed in parentheses)	CCPs to Begin in FY 2012 (NOI Issued) (Month/year expected to begin in parentheses)	CCPs Currently Underway (Fiscal year planning effort began in parentheses)	CCPs Scheduled for Completion in FY 2012 (# stations represented in parentheses)
<p><i>Final CCPs – Total completed 115</i></p> <ul style="list-style-type: none"> • Bowdoin NWR Complex (includes Bowdoin, Black Coulee, Creedman Coulee, Hewitt Lake, Lake Thibadeau NWRs, and Bowdoin WMD) (FY 11) • Red Rock Lakes NWR (FY 10) • North Dakota WMDs (includes Devil’s Lake, Arrowwood, Valley City, Chase Lake, Kulm, Audubon, J Clark Salyer, Lostwood and Crosby) (FY 08) • North Dakota Refuges (includes Stump Lake, Lake Alice, Kelly’s Slough, Audubon, Chase Lake, Lake Nettie, McLean, Lake Zahl, Shell Lake, White Lake, Lake Ilo) (FY08) and Stewart Lake • Pathfinder NWR (FY 08) • Sully’s Hill National Game Preserve (FY 08) • Arrowwood NWR (FY 07) • Bear Butte NWR (FY07) • Des Lacs NWR (FY 07) • J. Clark Salyer NWR (FY 07) • Upper Souris NWR (FY 07) • Rainwater Basin WMD (FY 07) • Arapaho NWR Complex (includes Bamforth, Hutton Lake, and Mortenson Lake NWRs) (FY 07) • Medicine Lake Complex (includes Medicine Lake, Lamesteer NWRs, and NE Montana WMD (FY 07) • Kirwin NWR (FY 07) • Lacreek NWR and WMD (FY 06) • Long Lake NWR Complex (includes Long Lake, Florence Lake, Slade Lake NWRs, and Long Lake WMD) (FY 06) 		<ul style="list-style-type: none"> ■ Lake Andes NWR and WMD, and Karl E. Mundt NWR (FY 07) ■ Charles M. Russell and U.L. Bend NWRs (FY 07) ■ Benton Lake NWR, WMD, and Swan River (FY 08) ■ Sand Lake, Huron, and Madison WMDs (FY 08) ■ Cokeville Meadows NWR (FY 09) ■ Lee Metcalf NWR (FY 09) ■ Quivira NWR (FY 10) ■ National Elk Refuge (FY 10) ■ Baca NWR (includes Alamosa, Monte Vista, Sangre de Cristo Conservation Area, and San Luis Valley Conservation Area) (FY 11) ■ Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (FY 12) 	<p><i>Final CCPs – Anticipated completion 9</i></p> <ul style="list-style-type: none"> ■ Sand Lake, Huron, and Madison WMDs (3) ■ Charles M. Russell and U.L. Bend NWRs (2) ■ Lee Metcalf NWR (1) ■ Lake Andes NWR and WMD, and Karl E. Mundt NWR (3) <p><i>Draft CCPs</i></p> <ul style="list-style-type: none"> ■ Benton Lake NWR, WMD, and Swan River (3) ■ Lee Metcalf NWR (1) ■ Lake Andes NWR and WMD, and Karl E. Mundt NWR (3)

<ul style="list-style-type: none"> • ND Limited-interest Refuges (FY 06) • Sand Lake NWR (FY 05) • Lost Trail NWR (FY 05) • Rocky Flats NWR (FY 05) • Fish Springs NWR (FY 04) • Arapaho NWR (FY 04) • Monte Vista and Alamosa NWRs (FY 03) • Crescent Lake NWR (FY 02) • Seedskadee NWR (FY 02) • Waubay NWR and WMD (FY 02) • North Platte NWR (FY 01) • Flint Hills NWR (FY 00) • Ouray NWR (FY 00) • Tewaukon NWR Complex (includes Tewaukon, Storm Lake, and Wild Rice Lake NWRs and Tewaukon WMD) (FY 00) • Browns Park NWR (FY 99) • Valentine NWR (FY 99) • Fort Niobrara NWR (FY 99) • Lostwood NWR (FY 99) • Marais des Cygnes NWR (FY 98) • Bear River Migratory Bird Refuge (FY 97) • Two Ponds NWR (FY 97) • Rocky Mountain Arsenal NWR (FY 96) 			
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August 2012

REGION 6 - MOUNTAIN-PRAIRIE REGION

CCPs SCHEDULED TO BEGIN:

FY2013 [draft issued/final CCP]	FY2013 [draft & final CCP]	FY2013 [new starts]	FY2014
<ul style="list-style-type: none"> ■ Benton Lake NWR, WMD, and Swan River (3) ■ Cokeville Meadows NWR (1) 	<ul style="list-style-type: none"> ■ National Elk Refuge (1) ■ Charles M. Russell WMD (includes Hailstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (5) 	<ul style="list-style-type: none"> ■ National Bison Range Complex (also includes Northwest Montana WMD and Nine Pipe and Pablo NWRs) (4) ■ John and Louise Seier NWR (1) ■ Rocky Mountain Arsenal NWR (includes Two Ponds) (2) ■ Bear River Migratory Bird Refuge (1) <p>* Rocky Mountain Arsenal represents the beginning of new 15-year planning cycle</p>	TBD

Last updated: 07/31/2012

Regional Contact: David Lucas, 303/236-4366

Land Protection Plan Schedule

August 2012

REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs Completed Since America's Great Outdoors (Fiscal year completed in parentheses)	PPPs Completed (Month/year approved in parentheses)	LPPs Currently Underway (Month/year estimated completion in parentheses)	LPPs Scheduled for Completion in FY 2012
<p><i>Final LPPs – Total completed 5</i></p> <ul style="list-style-type: none"> • Flint Hills Legacy Conservation Area (FY 10) • Crown of the Continent Conservation Area (includes Blackfoot Valley, Rocky Mountain Front, and Swan Valley) (FY 10) • Dakota Grassland Conservation Area (FY 11) 	<ul style="list-style-type: none"> • Mortenson Lake NWR Expansion (December 2010) • Bear River Watershed Conservation Area (December 2010) • Missouri River “String of Pearls” (December 2010) • San Luis Valley Conservation Area (February 2011) • Rocky Flats NWR Expansion (September 2011) <p><i>PPP Underway</i></p> <ul style="list-style-type: none"> • Seedskadee NWR Expansion 	<ul style="list-style-type: none"> • Mortenson Lake NWR Expansion (March 2013) • Missouri River “String of Pearls” – Ponca Bluffs Conservation Area (September 2013) • Missouri River “String of Pearls” – Niobrara Confluence Conservation Area (September 2013) • Sweetgrass Hills Conservation Area (September 2013) • Bear River Watershed Conservation Area (September 2013) • San Luis Valley Conservation Area (September 2014) 	<p><i>Final LPPs – Anticipated completion 3</i></p> <ul style="list-style-type: none"> • Rainwater Basin WMD Expansion (1) • Rocky Flats NWR Expansion (1) • Sangre de Cristo Conservation Area (1)

August 2012

REGION 6 - MOUNTAIN-PRAIRIE REGION

LPPs SCHEDULED FOR COMPLETION:

FY2013	FY2014	FY2015	FY2016
<ul style="list-style-type: none">• Arapaho NWR Expansion• Missouri River “String of Pearls” (Ponca/Niobrara/Bottomlands)	<ul style="list-style-type: none">• Missouri River “String of Pearls” (Big Hole/Garrison Reach)• San Luis Valley Conservation Area	<ul style="list-style-type: none">• Lost Trail NWR Expansion• Missouri River “String of Pearls” (Yellowstone)• Little Snake River	TBD

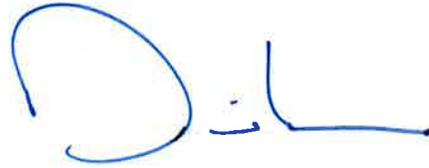
Last updated: 10/17/2011

Regional Contact: David Lucas, 303/236-4366

NOV 28 2012

INTRA-OFFICE MEMORANDUM

TO: Refuge Supervisors
FROM: Chief, Division of Refuge Planning
RE: Fiscal Year 2013 CCP/LPP Major Milestones



The NWRS Improvement Act requires that all refuges be covered by a CCP by October 12, 2012. At this moment, Region 6 has completed CCPs covering 146 units of the NWRS. There are 164 units in our Region needing a CCP by 2012. Therefore we are 89% complete. By year-end, Region 6 will have completed CCPs covering 159 units of the NWRS making us 96% complete.

- We have not started the National Bison Range Complex (which covers four units -- NBR, Ninepipe, Pablo, and Northwest MT WMD*). We expect this plan will be started shortly after the next AFA is negotiated and NEPA is complete on that decision;
- We have two units established after 1997 that are not covered by the 2012 mandate (Baca and John & Louise Seier). Baca began last year along with revisions of the remainder of the San Luis Valley NWRs. The Seier CCP will begin this year along with necessary revisions to the Fort Niobrara and Valentine CCPs (completed in FY 1999).

* the Northwest Montana WMD has been returned to Lost Trail for management, but still requires a CCP.

Last year, the planning and biological divisions along with the help of others, began a process to guide revisions of existing CCPs that included development of a questionnaire. We will continue this process in FY 2013 and continue to develop a "pre-planning" process. This year's work will also begin to incorporate new guidance received from *Conserving the Future* implementation teams affecting CCPs and LPPs. In the interim, we will begin work on revisions to the Rocky Mountain Arsenal NWR, Two Ponds NWR, and Bear River MBR (all CMPs from 1996 and 1997).

Our priorities will be: (1) to complete all CCPs required by the Improvement Act; (2) complete several additional LPPs; (3) complete our first landscape plan; and (4) begin the process of CCP revisions. The planning process includes hundreds of actions and milestones, but the following are designated as critical deadlines for planning teams. **Please communicate these important deadlines to project leaders.**

- The first is when the CCP/LPP is handed to an editor to develop the internal review draft. This represents when all the pre-work and majority of writing has been completed. This step triggers a series of actions which includes developing NOAs and the logistics of public participation.

- The second is when a draft CCP/LPP is issued to the public for comment. This is a major milestone for many reasons, but it is also the point when the majority of administrative assistance is needed and when planning teams will have to be available for public meetings and responding to comments.
- The final date is when the decision will be made on a plan. The process is slightly different for CCPs and LPPs. A CCP is considered complete (from a reporting standpoint) when the Regional Director signs a FONSI. A LPP is not complete until it is packaged and sent to headquarters for approval.

FY 2013 Deliverables	Internal Review (to editor)	Public Draft (to public)	FONSI/ROD (to RD)
Sangre de Cristo LPP	complete	complete	complete
Benton Lake Complex	complete	complete	December 2012
Lake Andes NWR	complete	complete	December 2012
Bear River Watershed LPP	complete	complete	March 2013
Quivira NWR	complete	December 2012	March 2013
Cokeville Meadows NWR	complete	January 2013	March 2013
Mortenson Lake LPP	complete	January 2013	April 2013
National Elk Refuge	December 2012	February 2013	May 2013
Ponca/Niobrara LPP (EIS)	December 2012	February 2013	September 2013
Nebraska Sandhills (LDP)	August 2013	FY 2014	FY 2014
San Luis Valley NWRs & San Luis Valley LPP (EIS)	September 2013	FY 2014	FY 2015
Outyear Deliverables	Internal Review (to editor)	Public Draft (to public)	FONSI (to RD)
Charles M. Russell WMD	December 2013	March 2014	September 2014
Garrison Reach LPP	FY 2014	FY 2014	FY 2014
Rocky Mountain Arsenal NWR (& Two Ponds NWR)	FY 2014	FY 2015	FY 2015
Bear River MBR	FY 2014	FY 2015	FY 2015
John & Louise Seier NWR	FY 2014	FY 2015	FY 2015
Valentine NWR	FY 2014	FY 2015	FY 2015
Fort Niobrara NWR	FY 2014	FY 2015	FY 2015
Crescent Lake NWR	FY 2014	FY 2015	FY 2015
National Bison Range	FY 2015	FY 2016	FY 2016

All schedules must be flexible and we will alert everyone if/when any dates change. Thank you for your assistance and please let me know if you have any questions.

HISTORY OF THE NATIONAL BISON RANGE

The National Bison Range occupies the first land ever purchased by the Federal Government for wildlife. Its history is closely tied to the history and survival of the plains bison and to the Indian Tribes of western Montana.

At the turn of the century, fewer than 100 bison, or buffalo, were left in the wild and less than 1,000 remained in existence. Most these remnants were in the hands of a few far-sighted ranchers, including McKay, Goodnight, Jones and the partnership of Pablo and Allard. The largest of these herds belonged to Michel Pablo and Charles Allard and it is believed to have reached 700 animals. It was derived from bison calves brought into the Flathead Valley by Salish and Pend d'Oreille hunters from the plains country east of the mountains.

Charles Allard's heirs sold his portion of the herd to Charles Conrad of Kalispell, Montana. About fifteen years later, Pablo also wanted to dispose of his herd. They were offered first to the United States Government. After receiving little response from that quarter, the herd was eventually purchased by Canada. After this sale was agreed upon, there was a great consternation about selling the last large herd of bison out of the country. The American Bison Society was formed in 1904 under the guidance of William Hornaday of the Smithsonian Institution. This organization petitioned Congress and President Teddy Roosevelt to purchase lands for the preservation of the bison in this country.

The National Bison Range was created by a Congressional Act dated May 23, 1908 which stated that it was to be "For a permanent National Bison Range for the herd of bison to be presented by the American Bison Society." This act, and a subsequent one, passed in March of 1909, provided \$47,000 in funds for the purchase of the land, at the appraised value, from the "Confederated Tribes of the Flathead, Kootenai and Pend d'Oreille," and "to enclose said lands with a good and substantial fence." Morton J. Elrod, Duncan McDonald and Joseph Allard, son of one of the original owners, selected the present site and 18,541 acres were purchased for the National Bison Range.

The American Bison Society raised \$10,056, a substantial sum at that time, from donations by private individuals to purchase 34 head from the Conrad herd. Three additional bison were donated from other private herds. These 37 animals formed the base stock of the National Bison Range.

By October of that year, the necessary fencing had been completed. The first bison arrived at their new range, just as the last of Pablo herd was leaving for Canada. Two other bison refuges were formed at this same time, Fort Niobrara in Nebraska and Wichita Mountains in Oklahoma. These were stocked by animals also purchased by the American Bison Society from other private herds.

The stated mission of the range at its inception was "to provide a representative herd of

bison, or buffalo, under reasonably natural conditions, to help ensure the preservation of the species for continued public benefit and enjoyment.”

In addition to the original bison, the refuge was later stocked with other animals. These all multiplied with no controls until they exceeded the carrying capacity. Numbers reached 700 bison, 600 elk, and 2,000 deer. Range condition deteriorated and managers began removing excess animals in the 1940's in a slaughter program. A system of cross fences, to allow rotational grazing, was started in the 1950's. A market for live bison began to grow in the 1960's as more private ranchers became interested in raising bison. After live sales became possible, these sales or live donation have been the only population control methods used at the Range. Today the herd is maintained between 350 and 500 animals and excess bison sold provide a gene pool and breeding stock to start or augment other herds. Animals are also donated to the InterTribal Bison Cooperative (ITBC) to support bison restoration on Tribal lands. The National Bison Range played an important part in the recovery of the species and over 200,000 now exist in North America.

Testing for Brucellosis began in 1932 with about half the animals tested having positive results. A vaccination program was started in 1941 and by 1952 all tests were negative. For the twenty year period from 1952 to 1972 a representative sample of bison, elk and deer were tested for Brucellosis and Tuberculosis with no reactors. The Bison Range herd is now certified Brucellosis free and animals may be shipped to any state with a simple blood test.

In 1921 the Bison Range was also designated as "a Refuge and breeding ground for birds." Bird species have long been a management consideration and today over 200 species inhabit the refuge. Detailed neo-tropical migrant bird surveys monitor population trends and provide management data.

Many partnerships have been developed over the years, beginning in the 1930's with fence and road building by the Civilian Conservation Corp. A Natural History Association, local schools, teaching professionals, organizations and individuals have contributed thousands of dollars in funds or labor each year.

Public use has also grown over the years. In the 1950's there was little area open to visitors except some small display pastures which held bison, elk and long-horn cattle. In the late 1950's the Red Sleep Mountain road was improved and opened to visitor traffic. This one way scenic drive continues to be a productive wildlife viewing area.

A visitor center was added in 1981 and education and interpretive programs were developed. Today a quarter of a million visitors come to the Range each year.

NATURAL AND CULTURAL RESOURCES OF THE NATIONAL BISON RANGE

The National Bison Range consists of 18,500 acres situated in Lake and Sanders counties in western Montana. It lies between the Mission and Salish mountain ranges and at the southern terminus of the Rocky Mountain Trench. Approximately 75% is in native grasslands with the balance in montane conifer forest, brush and talus slopes, riparian areas, and wetlands, plus roads and administrative sites. The diverse habitats provide for an equally diverse wildlife population.

Geologic History and Geomorphology

Basement rocks are Precambrian sedimentary rock of the Belt formation. These consist primarily of sandstone, mudstone and limestone, 1,500 to 800 million years old. These are believed to have been laid down under an ancient inland sea. Rocks with obvious ripple marks can still be found at High Point on the Bison Range and aquatic fossils have been found high in the mountain ranges to the east.

Mountains

Mountain development began some 750 million years ago as the North American continental plate moved over the Pacific Plate creating folds and overthrusts. The Rocky Mountain Trench originated as a major fault. Today it is a narrow valley between the Mission and Salish Ranges with tertiary valley fill, assorted glacial debris and lacustrine silts. It runs, as an unbroken trench from the Bison Range north into the Yukon Territory.

The Trench continues to be an active fault. In the early 1960's, over 60 discernable earthquakes occurred along this fault in just over a year. In another active period from 1969 through 1971 quakes were recorded up to 5.6 on the Richter scale. The latest noticeable temblor occurred on June 2, 1996 and registered 4.0. Earth movements continue but most are discernable only by seismograph. The Tribal Safety of Dams Information System recorded 34 such seismic events in 1996 between April and September alone. Only very minor damage and no personal injury or loss of life has resulted from area quakes so far. However, geologists have declared this a major fault, capable of major earth shifts up to 7.5 magnitude.

Glaciers

Glaciers moved down the Trench during the several ice ages that have occurred and side glaciers gouged out jagged peaks and hanging mountain valleys. The marks of these glaciers are clearly carved on the surrounding landscape.

The Bull Lake Glacier occurred 70,000 to 130,000 years ago. It was the oldest of the recent ice ages and moved farthest south. It ground over the top of the Mission Range as far south as Ronan and deposited a terminal moraine filled with ice chunks in the Ninepipe area. These ice blocks melted leaving depressions which became pothole water-table ponds or ephemeral melt ponds of enormous value to wildlife. Ninepipe National Wildlife Refuge and several Waterfowl Production Areas which are managed as a part of this refuge complex, as well as Federal Conservation Easement lands lie in

these pothole areas. Glacial outwash from the Bull Lake terminal moraine reached onto the slopes of the Bison Range.

Lake Missoula

The Pinedale glacier occurred between 12,000 and 10,000 years ago and was 2,000 feet deep at its arched center. The glacier split into several tongues and moved down several mountain valleys. The hill south of Polson is its terminal moraine. This glacier figured prominently in the development of Glacial Lake Missoula. One arm of the glacier moved down the Purcell Trench in Idaho, damming the Clark Fork River Valley. Waters from the melting glacier and mountain run-off built up behind this dam creating a glacial lake which reached back into the Bitterroot, Clark Fork, Blackfoot and Flathead River valleys. It impounded 500 cubic miles of water and at its highest level reached 4,350 feet above sea level. Evidence of only one other ice dammed glacial lake of this magnitude has ever been found in the world.

As the lake achieved a depth that could float the ice dam the impounded waters rushed out to create one of the largest natural disasters ever to occur and its effects are still apparent on the land all the way to the Pacific Coast. This was not an isolated occurrence. The lake is believed to have filled and emptied 41 times, over a span of 1,000 years. The layered progression of bottom silts is clearly defined in varve lines and horizontal shorelines still visible on the Bison Range and surrounding hills. The earlier Bull Lake Glacier also is believed to have ended with a glacial lake which was possibly of even larger proportions. Some varve lines have been located but a full picture has not yet been developed. The Bison Range was surrounded by Lake Missoula to approximately the 4,300 foot level leaving the high point of Red Sleep Mountain as an island.

Soils

The glacial aftermath left a disturbed bull-dozed landscape and dunes of glacial outwash in the valley. Lake bottom silts and mountain run-off have deposited unconsolidated valley fill sediments and assorted glacial debris and drop stones which originated far north in British Columbia. Top soil is generally shallow and often underlain with rock which lies in exposed outcrops in many areas, forming ledges, low cliffs and talus slopes.

Bison Range soils developed from materials weathered from strongly folding Precambrian quartzite and argillite bedrock. These soils are well drained, steep and range from very shallow to moderately deep in parent material. They have a loam surface horizon with near neutral pH, high organic matter content and varying degrees of rock fragment. North facing slopes, with more retained moisture and more abundant vegetative product have developed somewhat deeper soils than dry south facing slopes. Water percolation rates are high and soil erosion levels are minimal. The lower elevations consist of clay and lacustrine silt deposits. These lower slopes have a thin, light surface horizon and are low in parent material. With increasing elevation the surface horizon becomes darker and thicker. A narrow band of deep, poorly drained soil with a heavy organic surface horizon loam occurs along Mission Creek.

Topography

The Bison Range consists primarily of a small mountain connected to the Mission Mountains by a gradually descending spur. The ridge curves around a central valley drained by an intermittent stream. Elevations reach from 2,585 feet in the headquarters area to 4,885 at the top of Red Sleep Mountain at High Point. Slopes vary from gradual rolling grasslands to steep hills and rock outcrops.

Water

Water is derived from creeks, a small river, ponds, springs, a canal and wells. Streams are fed from mountain runoff as well as springs. Active springs are available up to approximately the 3,800 level. Some continue to flow even in drought years though they are higher than any land around the borders of the Refuge, indicating the existence of a unique hydraulic connection with the Mission Range to the east. Springs have been developed into man-made basins or watering troughs for wildlife watering. These are well scattered throughout the Range.

Primary water courses are Mission Creek along the north boundary, the Jocko River which borders the south edge of the refuge and intermittent Pauline and Trisky Creeks which drain interior valleys. Man-made impoundments on seasonal streams prolong water availability from these sources and provide wetland wildlife habitat. Streams and fresh water ponds are excellent education sites and allow for comparison of organisms adapted to both still and flowing water.

Water for irrigation of the headquarters area, display pasture, hay meadows, dwelling and public use areas is obtained from the "H" Canal. This canal was diverted from Mission Creek as a part of the BIA Irrigation Project under a cooperative use agreement. It passes through the refuge administrative area and on to private lands west of the refuge. The U.S. Fish and Wildlife Service has priority use of this water.

Wells are located in the administrative areas and provide water for visitor facilities, maintenance activities, residences and fire suppression. Well water is heavy in minerals and has had an intermittent history of contamination from an unknown source. Periodic shocking with chlorine has held this at bay but some possible major overhaul of these systems may be necessary to provide a dependable and safe water supply.

Water quality in other water sources is generally pristine. However, Mission Creek and the Jocko River often carry heavy silts in the spring and are subject to periodic agricultural runoff from outside the Refuge. Giardia common even in remote mountain streams of this area may also be present.

Air Quality

Air quality is exceptionally good, with no nearby manufacturing sites or major air pollution sources. Seasonal burning of logging slash in nearby mountains and burning of stubble fields on a few adjacent ranches cause some short term, localized smoke derived from natural vegetative sources. Heavy smoke may occur in drought years from wildfires either nearby or carried by the prevailing winds from the west.

Climate

Geologic evidence shows vast climatic swings in the distant past. The current microclimate of this Flathead River Valley is usually characterized by mild winter temperatures, moderate winds, and temperature inversions creating intermittent valley fog and overcast skies. Valley temperatures are somewhat moderated by Flathead Lake, 30 miles to the north. Sub-zero weather does occur but is uncommon. Summer temperatures seldom exceed 100 degrees. The month of June usually has the heaviest rainfall, however, the refuge lies in a noticeable rain shadow compared to some of the surrounding area. Precipitation averages about 13 inches per year at lower levels with slightly more at higher elevations. The growing season averages 90-110 days per year with last frosts usually in May and first fall frosts in September. Seasons can vary greatly in both temperature and moisture levels.

Habitat Diversity

Following the glacial period barren soils and rocky debris filled the valley. After lake bottom silts and runoff had deposited some topsoil the area was colonized from the west by native grasses, trees and other plant life.

Habitat Types and land use areas include:	Acres:
Native Palouse prairie	14,1000
Montane conifer forest	2,600
Riparian sub-irrigated vegetation	500
Wetlands and marshes	60
Open fresh water ponds	5
Rivers and streams	120
Brushy hillsides and draws	600
Rock outcrops and talus slopes	470
Administration, education and roads	145
TOTAL	18,500

Native grasslands

The native Palouse Prairie grasslands that established in the Flathead Valley originated in the plains of central Oregon and Washington. These perennial bunchgrasses have slender leaves and thick root-shading crowns which make them especially adapted to dryland environments. Individual plants often reach ages of a hundred or more years. Cryptogamic crusts of lichens and mosses fill the spaces between grass clumps and help to stabilize the open soils.

Predominant grasses of the Palouse system are: rough fescue, Idaho fescue, bluebunch wheatgrass, prairie junegrass, red threeawn, western wheatgrass, and basin wild rye.

These bunchgrasses are cool season grasses and they do not recover from grazing pressure throughout the year. Cross fencing and a rotational grazing system has been developed to prevent over-grazing of any one area. This rotation was planned to assure that no one area would be grazed more often than every four years during the critical spring growing season. Fences primarily control grazing of the bison, the major grass consumers. Therefore, interior fences are low enough for deer and elk to jump over and they are held up about 18 inches from the ground, or have framed rectangular antelope gates, so that pronghorn, sheep and goats can crawl under.

Like the grasses, Palouse forbs have leaves of reduced size or with deep indentations to limit the surface they present to the sun or they have other insulating strategies to avoid over heating and to conserve moisture. Hundreds of species of wildflowers attract visitor attention and many can occur in an impressive array especially in moist seasons. A list of plants and fungi is contained in **Appendix A-1**.

Intrusions of non-native forbs bring about varying degrees of threat to this remnant native prairie. In addition to the desirability for control of these exotics, it is also required by Montana Law. A number of biological controls have been initiated to effect this with as little chemical use as possible. These biological controls include both grazing methods and host-specific insects. The control insects have been extensively tested to assure they will not harm any other plants. To date there are 24 bio-control agents working on the Bison Range. The most pressing problem exotic is goatweed, also called St. Johnswort or Klamath weed (Hypericum perforatum). Four biological control agents have been introduced for control of this plant. A list of noxious weed species occurring on the Range and the biological agents established for their control are shown in **Appendix A-2**.

Non-native grass intrusions not currently in the control program include:
Cheatgrass(Bromus tectorum) areas chemically treated for toadflax
Kentucky bluegrass (Poa pratensis) encroached from private land.
Columbia needlegrass (Stipa columbiana).
Tall wheatgrass (Agropyron elongatum).
Smooth brome (Bromus inermis).

Control of noxious weeds is rendered even more critical because Palouse grasslands are becoming increasingly endangered. An additional imperative is that, once lost, restoration is very difficult if not impossible. These perennial grasses are exceptionally long lived, often surviving for hundreds of years. It is not necessary for them to replace themselves very rapidly. They do not produce viable seed every year, have a low germination rate and require ideal conditions to become established. These bunchgrasses also do not reproduce vegetatively or form a sod but remain in isolated clumps.

Inherent vegetation patterns

A number of factors are at work to create inherent vegetation patterns between grasslands and forests leaving primarily moisture induced lower tree lines on the rolling hills of the Bison Range.

Palouse grasses grow at moisture levels that cannot support trees. Their shorter, fibrous root systems are more efficient at using surface moisture and they can tolerate sites with 12 or 13 inches of rainfall per year. The usual moisture requirement for tree growth in this area is about 14 to 15 inches of annual precipitation or the equivalent in moisture retention. This puts the Bison Range moisture levels right at about the limit of tree growth. Also areas at lower elevations, with silt and clay soils do not allow the deep water penetration required by trees.

Topography, coarser soils and somewhat cooler temperatures at higher elevations allow for tree growth. Slightly more moisture falls at higher levels and have allowed tree seedlings to become established on the shaded north facing slopes. Moisture retention and collection in draws or basins and even in the narrow ledges of old Lake Missoula beach lines have allowed trees and shrubs to get a foothold in those areas. This creates a meandering timberline and provides a large amount of "edge" habitat which contributes to wildlife diversity.

Montane Forests

Trees survive primarily on the cooler or shaded upper slopes and where moisture pools in draws and depressions. Montane forest species present are Ponderosa pine and Douglas fir. The pine favors the upper reaches of the dryer, hotter, south slopes with a gradual transition to a pine/fir mix on ridge tops, to Douglas fir on the shaded north slopes.

Once established the trees tend to shade and modify their environment into one more favorable to their seedlings and have gradually extended the tree line into the grasslands. This constant encroachment reduces grassland acreage and produces seedling tree stands capable of providing ladder fuels to the mature forest in case of wildfire. Some controlled burns have been done in the past and thinning of this reseed area is an ongoing project.

Wildfires had been suppressed over many years and duff and other forest floor fuels have built up to a dangerous level in some areas. Small lightning caused fires occur

frequently during dry thunderstorms.

Riparian Areas

Sub-irrigated lands along water courses support more moisture dependent vegetation. Tree species primarily include black cottonwood quaking aspen and Rocky Mountain juniper

Cottonwoods are notorious for growing rapidly and producing weak wood. Moisture seeping into broken tops and branches has created dead heartwood allowing for numerous woodpecker excavations and holes for secondary cavity nesters. Fallen branches have created brush piles for cover for other wildlife species. Junipers bear blue, berry-like cones that provide excellent winter bird foods. Understory and groundcover plants have broad leaves to make the maximum use of the limited the sunlight that reaches them.

Shrub Lands

Shrubs thrive on hillsides, in draws, along water courses and as understory plants in forests. Dominant shrub and understory types present include:

Snowberry	In grassland swales.
Wild rose	Draws and riparian areas
Mockorange	Well drained hillsides
Chokecherry	Rocky outcrops and draws
Serviceberry	Talus slopes
Douglas Maple	Rocky slopes
Black hawthorne	Riparian areas
Smooth sumac	Rocky, south facing slopes

Wetlands

Stream shifts and meanders create oxbows, cut banks, backwaters and marshy areas that support a wide range of wildlife. Natural ponds have aquatic vegetation and successional marshy margins. Wetland emergents at these sites consist primarily of cattail bulrush and a variety of sedges and spike rushes. Teasel a non-native invader has established in many of these wetlands and is becoming a problem, crowding out native vegetation. These marshlands harbor many terrestrial and aquatic wildlife species and provide excellent invertebrate nurseries and cover for song birds.

Wildlife Resources

The diverse habitats and ecosystems represented on the National Bison Range provide for a wide diversity of wildlife species. Some 47 mammals, over 200 birds and several reptile and amphibian species call the Range home. Invertebrates of these many habitats are also an integral part of the balance of these distinct ecosystems. The edge effects created at the interface of forest and grassland, prairie and riparian, and aquatic and dry lands, add immeasurably to the diversity of the whole. Although originally established for bison preservation, the refuge is also a designated a bird reserve. Other big game species have also been added over the years to create a more balanced ecosystem. Target numbers have been adopted for all major grazers to maintain their

populations within the carrying capacity of their specific forage needs.

Bison

When established the overall mission of the National Bison Range was to maintain a representative herd of American Bison, or buffalo, under reasonably natural conditions, to ensure the preservation of the species for continued public enjoyment. Therefore, the preservation and maintenance of a representative wild herd of bison is an essential. Current bison management consists primarily of range management, plus population and disease control. The bison winter population is has been maintained at 370-380 animals with 90 to 110 calves born each spring. Herd reduction is through an annual live sale. Some are also donated to the InterTribal Bison Cooperative to support bison restoration on Tribal lands and to other refuges and parks to augment public herds. The sale is carried out by sealed bid with buyers bidding on a certain age and sex animal. Ages and sexes of animals retained have been carefully calculated and only 5% of the herd is over 10 years old. This maintains a young, vigorous breeding herd. Average herd composition is shown in **Appendix A-3**

With the exception of pasture moves, the annual roundup is the only time bison are worked. At roundup all female calves are vaccinated for brucellosis, all calves are age branded and obtain other necessary immunizations such as leptospirosis. This herd is certified brucellosis free and bison may be shipped anywhere in the country with a simple blood test.

Genetic testing has been done since 1981. Introduced animals with different genetic material have been specially marked to assure that their exclusive genes remain in the herd to breed diversity. The few introductions that have been made consisted of cows rather than bulls. Cows give a fairly certain, monitorable introduction. Whereas, a dominant bull could make a very big change that may not be a good one. Or a bull that is not dominant would make no change at all.

Other Ungulates

Other ungulates have been reintroduced over the years for a more balanced ecosystem. Foraging patterns show some degree of resource partitioning with a certain amount of overlap. Separation occurs both in plant selection and variations in the season and plant stage used.

Rocky Mountain elk are native to this area and were reintroduced to the National Bison Range during the years 1911 to 1916. Though seasonally migratory in the wild, the grasslands, forests and riparian areas of the Bison Range supply their seasonal needs for forage and cover. Primarily grass eaters, elk use forbs and shrub browse heavily during June and July and depend on browse heavily in winter. Fescue grasses make up about 82 percent of fall forage. The elk herd is maintained at approximately 130 animals. Transplanting excess numbers to State or Tribal lands to reestablish herds or enhance their gene pool is the means of population control.

Deer species include whitetail deer and mule deer. Both were originally native to this

area. Whitetails were reestablished on the refuge in 1910 as a gift from the city of Missoula. Mule deer were reintroduced in 1918 from Yellowstone Park. Target populations of each species is maintained at 175-200 animals. Whitetails favor river bottom woodlands while mule deer are more apt to use brushy hillsides. However, both species may be found throughout the Range. Both of these deer rely heavily on browse but show marked difference in seasonal use. Mule deer also use a large quantity of forbs while whitetail tend to use both forbes and grasses. Snowberry is a dominant browse for both species.

Pronghorn were probably not native to this area. Some were introduced in 1911 but did not prosper. A research herd was established in 1951 and there are about 100 animals present. Coyotes are the primary predator and at times have had a major impact on fawn survival. Habitats favored are the broad open basins of native prairie, with Alexander Basin being the most heavily used. During severe winter weather they use the south facing slopes and sheltered central valleys. Forage consists primarily of forbs during the summer months and browse in winter. There is little use of grasses. This species is the subject of long-term research and management data has been provided through the University of Idaho.

Bighorn Sheep are native to western Montana but were introduced to the Bison Range from Alberta in 1922. This herd is naturally maintained at about 50 animals. They frequent areas with steep slopes and rocky outcrops, using the security of the outcrop areas for lambing. Forbs and grasses are used throughout the year with heavier forb use in summer. Browse is used intermittently throughout the year. The species has also been heavily researched through the Craighead Wildlife/Wildlands Institute. Long-term data are available on genetics and reproduction to facilitate management decisions.

Mountain Goat are native to adjacent mountains. They were established on the Range in 1964 from the Sun River area of Montana. They use the talus slopes and Douglas fir hillsides on the south side. Numbers are maintained at 50-75 through live- transplant to State, Federal or Tribal lands.

Moose occupy nearby lands. They occasionally stray onto the refuge but do not remain because of the lack of willows and other forage they prefer.

Predators and Prey

The dominant predator is the coyote. They tend to reduce deer numbers and to maintain pronghorn and sheep populations. In some seasons coyotes have eliminated most pronghorn fawns. Coyotes are not constricted by boundary fences and occasionally require some control to ensure any survival of young pronghorns or bighorn lambs.

Bobcats have been plentiful in the past but their numbers are somewhat reduced due to displacement or removal by mountain lions. Lion populations have increased throughout the Rocky Mountain west along with deer populations. There may be some

evidence of impact on the bighorn sheep population by these large predators.

Other predators present include, black bear, raccoon, river otter, mink, and badger. A number of raptorial birds are also found including the golden eagle, great horned owl, red-tailed hawk and northern harrier which nest on the Range and the bald eagle which winters along Mission Creek. Rough-legged hawks are a dominant winter predator. Nest predators include snakes, skunks, ravens and magpies.

Small Mammals

Dominant small mammals include mountain cottontail, Columbian ground squirrel, yellow-bellied marmot, bushy tailed woodrat, muskrat, red squirrel, yellow pine chipmunk, and northern flying squirrel. A mammal list may be found in **Appendix A-4**.

Birds

The Bison Range has long managed for species diversity with special concern for grassland birds such as the grasshopper sparrow which are dependent on the diminishing bunchgrass prairie habitat. Other passerines of special interest present include lazuli bunting, yellow-breasted chat and clay-colored sparrow. Neotropical Migratory Bird surveys and nest searches were initiated in 1992. Nine intensive census routes replaced more casual census techniques previously employed. The diversity of habitats present and the extended amount of edge habitat has provided nesting, food resources and cover for over 200 species of birds. A complete bird list may be found in **Appendix A-5**.

Reptiles, Amphibians and Fish

Reptiles appear to thrive on the Bison Range with healthy populations of prairie rattlesnakes which use several hibernacula. These snakes range up to five miles from winter dens and tend to frequent dryer sites. In drought years, however, they may be found almost anywhere, including the Visitor Center front sidewalk. Also present are the rubber boa, western yellow-bellied racer, bullsnake and garter snakes. A good population of western painted turtles occupy ponds and wetlands to the delight of visiting school children.

Amphibian populations have not fared as well. Pacific tree frogs are abundant in riparian areas but leopard frogs, western toads and several salamander species are all but absent. The leopard frog was abundant in refuge wetlands prior to 1980 but an intensive study done in 1994 and 1995 found no evidence of this species on the Range or anywhere in the lower Flathead Valley. The tiger and long-toed salamanders, and the western boreal toad are still present but in greatly diminished numbers. Spotted frog numbers are similar to previous years. A herp list may be found in **Appendix A-6**.

Fish are found in Mission Creek and the Jocko River and fishing is the one consumptive use currently allowed (in season) on the refuge. A Joint State/Tribal License with Fishing Stamp are required.

Fish sampling on Mission Creek have resulted in the capture of seven species

representing four families. Of these mountain whitefish is the most numerous followed by rainbow trout. Other species found were northern squawfish, longnose dace and slimy sculpin. Sampling shows three additional trout species on the Jocko River along the south side of the Range. These include brown, westslope cutthroat and bull trout. The latter two are species of some concern.

Invertebrates

In addition to work done on insects introduced for biological control of noxious weeds, intensive long-term research has been carried out here on grasshoppers. This work provides data on foraging patterns and interactions with other species with possible management implications.

In 1989 researchers found a previously undescribed, flightless grasshopper species on the Tower Two ridge. Only females could be found. After extensive laboratory experiments it was confirmed that this species is parthenogenic, reproducing freely without a male. This grasshopper, which resembles a Mormon cricket, has so far been found only on the two highest points on Range, above 4,100 feet elevation. Nearby hills with similar characteristics have been surveyed but this species has not been confirmed on these sites. This grasshopper is determined to be a member of the Tettigoridae (Declicinae), in the genus *Steirixys*.

It is believed that this grasshopper may have evolved in isolation during the period when the upper levels of the Bison Range were islands in Glacial Lake Missoula. Research is continuing. Habitat requirements have not been fully determined but so far it has been located only in grassland habitats above 4,100 feet. If this habitat were endangered by forest encroachment and if this is the only secure population, the question arises, is this an endangered species?

More common invertebrate populations are an integral part of the various habitats. The wide variety here is heavily used as an education tool, since they represent carnivores, omnivores and herbivores and they have a variety of behaviors, communication systems and mating strategies. They are also readily available for non-threatening nature study.

Endangered species

As one of the three initial reserves set aside for the preservation of the American bison this refuge has been an important part of the great success story for the recovery of the once endangered plains bison. It has served as a gene pool and has provided breeding stock for a great many of the herds in existence today. It continues to supply bison to start or supplement other herds.

Threatened and endangered species using the Bison Range include:

Bald eagle: Several winter on Mission Creek and the Jocko River.

Peregrine falcon: This species is occasionally sighted as a transient on the Range. It is a subject of a cooperative Tribal/Federal introduction project on other units of the

Complex.

Grizzly Bear: This species has not been confirmed on the Bison Range. However, there were over 300 bear use days on nearby Ninepipe NWR in 1994.

Gray Wolf: This species has been reported by visitors but never confirmed on the Bison Range. They are known to occur in nearby mountains and two confirmed domestic stock kills occurred within a mile of the southwest corner.

Montana candidate species present:

Small-footed myotis: This small blonde colored bat occurs around buildings.

Long-eared myotis: In riparian areas

Western big-eared bat: What is believed to be a breeding population, occupies an old mine site off refuge but immediately adjacent to the southeast boundary.

Northern goshawk: Occurs regularly along Mission Creek

Western burrowing owl: Historically present. Only recent sighting were young seen at a road culvert in 1993. Not found in subsequent seasons.

Black tern: Present on the Range as a transient. Occasionally on Ravalli ponds during nest season but no nesting confirmed.

Spotted frog: Extensive herp studies conducted during 1994 and 1995 show this frog to be the most common ranid in the area. Its populations on the Range itself continue to be isolated to the Elk Creek area and does not appear to have changed dramatically. In contrast the unlisted leopard frog appears to have become extinct in most of western Montana within the last 15 years.

West-slope cutthroat trout: Fair numbers have been located in the Jocko River on the south side of the Range by Tribal Fisheries sampling

Bull Trout: Have also found in the Jocko River.

Other species of management interest include:

Grasshopper sparrow, whose narrow nesting niche requires bunchgrass prairie; Clay colored sparrow, which has always been in small localized populations; Lazuli bunting and yellow-breasted chat which are in decline along with most neo-tropical migrants. These and other passerines suffer heavy nest parasitism by brown-headed cowbirds.

Heritage program plant surveys have been made in the past. To date no endangered plants have been located on the Bison Range.

Visual Resources

The unique geological history of this area has created areas of sharp relief and contrast resulting in 10,000-foot mountain peaks which rise up from the valley floor in a 7,500-foot abrupt wall. These mountains, with their snowy peaks, create a backdrop of extraordinary beauty for the rolling hills of the refuge. In addition to unusually good wildlife viewing, the Bison Range affords views of mountains, grasslands, forests, wooded river valleys, bubbling mountain streams and a wide array of wildflowers. There is a magnificent visual diversity as well as a diversity of habitats and wildlife

Archaeology and Cultural Resources

Archaeologic surveys have been carried out on refuge lands with the most extensive having been done by Barnier in 1971. No sites of archaeological importance were found. Some stone flakes were found in a site along Mission Creek but there was no evidence that the site was ever occupied even as a short term campsite. Pits on the south slopes of Red Sleep Mountain were thought at one time to be possible eagle catching pits but again there are no other finds to support this.

Cultural resources are sizable in that the refuge is surrounded by the reservation of the Confederated Salish and Kootenai Tribes (CS&KT). The connection between Native American peoples and the bison are obvious. Although not considered among the dominant buffalo cultures, the Salish, Kootenai and Pend d'Orielle Nations did make extensive hunting forays into the plains for bison. The history of the Bison Range is tied to live bison calves brought back from these hunting trips.

Today there is access to the cultural resources of the Tribes through the People's Center at Pablo and through the Cultural Committee. Vision quests by young tribal members have always been honored by the refuge. Teacher workshop activities have been done in cooperation with the Cultural Center education director. Opportunity exists for Tribal and refuge cooperation in developing culturally sensitive displays and programs.

Picking of silver sage for religious purposes has always been allowed here and it is popular with both local religious leaders and those from other Indian Nations in the Northwest. This aromatic plant is used in purification ceremonies. Collectors indicate that sage here is preferred because of the quality of this native prairie compared to any still available in the original Palouse country in Washington.

As the first land ever purchased by the Federal Government for wildlife the refuge also contains some structures of historic significance, which include the entrance sign, stone gate posts, old headquarters building and a horse barn dating from the early part of the century.

Local Environment

The surrounding lands are on the Flathead Reservation. The Confederated Salish and Kootenai Tribe is a self-governance tribe which has compacted most BIA functions on the Reservation and manages most of its own programs. In 1995, they petitioned the Federal Government to take over the management of the National Bison Range. The Tribes operate a fully accredited four-year college which is somewhat unique to reservations. The People's Center recently won national architectural and display awards for cultural interpretation.

In 1910, acreage was allotted to individual Tribal members, and the balance of the reservation lands were then opened to homesteading. This has greatly changed the demographics of the reservation. Today the main economic bases of the valley are ranching, logging, tourism and distribution of essentials. Heavy State tourism promotion attracts many people to the area. Awed by the scenic beauty, they rush to buy up land

and loss of the agricultural base and habitat fragmentation are major concerns. Missoula, an hour away, is the largest city in the area with about 75,000 people. Other communities range from a few hundred to about 3,000.

Public Attraction and Accessibility.

The National Bison Range is a high profile refuge which receives a large amount of unsolicited advertising in the form of articles in national publications. The main attraction is the exceptional range of wildlife viewing opportunities. The American people are more interested in the environment and in wildlife than they have ever been and a recent study determined that Montana is considered by most to be the prime wildlife viewing State in the lower 48.

The State's travel promotion department actively promotes western Montana and the Bison Range. In addition, the refuge lies along US Highway 93, the main route between Yellowstone and Glacier National Parks. Bison, by themselves, are a huge attractant. Also bird watching is the fastest growing sport in the nation and the fact that the Range is also a bird refuge with a list of over 200 species makes it a target area. Easy access from the interstate (I-90) just 40 miles away increases the attractiveness and accessibility to prospective visitors.

Existing Public Use Programs

A quarter of a millions visitors come to the National Bison Range each year to engage in compatible wildlife oriented recreation. They travel the scenic drives, view wildlife and participate in interpretive programs, workshops or special activities. They come singly in passenger cars and large recreational vehicles, or in groups of up to 250 people in caravans of large highway buses. About one-third are from surrounding counties, one-third from nearby western states, and the final one-third from eastern states or foreign countries. Foreign visitors range from 5 to 15% of the total annual visitation. For most visitors this is a destination area and foreign and eastern visitors especially, plan to come here before they leave home. The visitor center and other facilities were developed for an estimated peak visitation of 95,000. With close to three times that number, facilities are severely taxed. The Bison Range is attractive to writers as well and every new article in a national publication brings another wave of visitors.

Visitors arrive better informed than in the past and they are searching for accurate and detailed responses to their questions. Interpretive staff makes every effort to respond to their inquiries with accurate science based information, to assist them with directions, advise them on places to view wildlife and to assure their safety. Staff is trained and maintain the proficiency and equanimity to enable them to respond to questions ranging from, "I saw this bird with white on its wings," to "what is that yellow flower out there near the top," or harder ones like "when do the bison hibernate," or "why is that eagle so hairy."

Safety is an important concern and all staff maintains first aid and CPR capability and jump kits are available in vehicles and at the visitor center. Due to the number of visitors and the distance from a medical facility a trauma kit with advanced first aid

equipment and oxygen is also maintained.

A fee program was initiated in 1989 with a fee of \$2.00 per car and all Golden Passes and the Federal waterfowl Stamp were also accepted for admission. Under this program 30% was returned to the refuge for the costs of collection and the balance was deposited to the migratory bird fund. This program operated at a loss for two years and it was then discontinued.

The Refuge was advised to reactivate a fee program in 1994 with a suggested entrance fee of \$4.00 per car and Golden Passes were again accepted. The refuge portion was still 30%. In 1996 a new fee pilot was initiated authorizing fees for special activities or areas and an annual pass. Under this pilot program, the Bison Range changed to a user fee of \$4.00 per car for the scenic drives, has a \$10.00 annual pass, special rates for buses and continues to accept the Golden Passes and Waterfowl Stamp. Under this program all funds are to be returned to the collecting refuge after October 1, 1996 for the support of visitor programs.

Education Resources

The National Bison Range Education Program was initiated in 1980 to fill a need for a Nature Center for area schools, to use the unique habitats, geology and wildlife species of the Bison Range to build an interest and concern for wildlife and wild places, and to help young people to develop a sense of stewardship for natural resources during their formative years. Students using the programs range from pre-school through University levels. These solid, science-based programs were then extended toward a goal of educating all visitors. They have also been adapted for use by people with disabilities in an effort to broaden their worlds.

As a wildlife agency, wildlife is the core of the education programs with emphasis on things you can see. Outdoor education is stressed, with the assumption that building a love for the resource will foster a desire for preservation. Recent studies show that it is counterproductive to frighten young children about things over which they have no control.

The unique geology, diverse habitats and broad range of wildlife here provide an extraordinary opportunity for direct hands-on involvement in a wide range of outdoor learning experiences for all visitors. The full range of educational activities and materials currently provided are shown in **Appendix A-7**.

Research Resources

The diversity and the wild yet localized animal population has provided an excellent resource for researchers from Universities throughout the Nation representing the University of Montana, Montana State University, University of Idaho, Colorado State, University of Michigan, Utah State, Penn State, University of California-Davis, Duke, Virginia Commonwealth University, Salish Kootenai College, Flathead Valley Community College, the Craighead Wildlife/Wildlands Institute and many others. Research subjects have ranged from bison, elk, deer, rattlesnakes, and bird species to

foraging patterns in ungulates, bison DNA, water quality and biological control of exotic plants. Also included are on-going long term studies on pronghorn, grasshoppers and bighorn sheep that have been carried on for 15 or more years. These research projects are also of benefit to the Range serving as a state of the art management data resource.

HISTORY OF BRUCELLOSIS ON THE NATIONAL BISON RANGE

1932 - Bison were first tested for Brucellosis (also called Bangs Disease), in 1932. In that year there were 58 positive reactors in 87 bison tested.

1934 - Additional testing on 86 animals had 48 reactors.

1940 - Herd reduction began. Excess slaughtered for meat.

1941 - Brucellosis vaccination program was initiated on Refuges. Washington Office issued instructions on vaccination of buffalo on National Refuges and method of branding to indicate vaccinated animals.

1941 - First vaccinations given on National Bison Range. The herd totaled 489 animals. A calf crop of 111 had 55 females and 56 males. Of these 95 received Brucellosis vaccine.

1952 - Bison Tested yearly since this date. No known positives for Brucellosis. Occasional suspect animals were noted. These were retested with negative results.

1963 - Determined that bull calves no longer need to be vaccinated. Confirmed by letter from USDA in November 1964. Vaccination continued on females calves of the year only.

1963 - Requirements for shipping bison were outlined. Federal Register listed requirements for interstate shipment.

1968 - Slaughter as a means of herd reduction was discontinued. A market became available for live animals. Slaughter was discontinued. Bison began to be sold live, by sealed bid.

1971 - Canadian Health Certificate - Bison were certified for shipment to Canada. Mont. Livestock Board stated, "These bison are from a herd with a negative brucellosis and tuberculosis status and are from a Certified Brucellosis Free area."

1972 - Brucellosis /Tuberculosis Testing of bison, deer, and elk. All animals in herd reduction programs for the 20 year period since 1952 were tested, with no positives recorded.

1972 - Certificate received stating brucellosis free for 20+ years. "All females vaccinated for +20 years. Clean herd tests for the last +20 years." Tentative reactors failed to reveal presence of brucella after further tests.

1977 - Montana is declared a Brucellosis Free State in Federal Register listing received on 2-8-77.

1983 - Letter declaring Range herd brucellosis free. Montana Dept of Livestock letter declared NBR herd free of any signs of Brucellosis infection and Brucellosis free.

Laurie Shannon provided the following to Tina Dobrinsky regarding the CCP Measures for the FY 2013 Refuges portion of the Ops Plan on August 29, 2013.

Measure #	Measure	FY 2013 Reported	FY 2014 Targets
CSF 2.10	Sum# NWRs/WMDs completing CCP during FY & w/Plan under development	N/A	N/A
2.10.1	# of NWRs/WMDs with a CCP completed – Cumulative	128	130
2.10.2	# of NWRs/WMDs with a CCP underway at the end of the FY	7	12
2.10.3	# of NWRs/WMDs with a CCP completed (during the FY)	7	2
2.10.4	# of NWRs/WMDs with a CCP postponed (during the FY)	9	4

Underway:

1 – Cokeville Meadows NWR (FY 09)

1 – National Elk Refuge (FY 10)

3 – San Luis Valley NWR Complex (includes Alamosa, Baca, Monte Vista, Sangre de Cristo Conservation Area, and San Luis Valley Conservation Area) (FY 11)

2 – Rocky Mountain Arsenal NWR, Two Ponds NWRs (FY13) CMP Revisions

Completed: (2012=121)

3 – Lake Andes NWR and WMD, and Karl E. Mundt NWR (FY 07)

3 – Benton Lake NWR, WMD, and Swan River (FY 08)

1 – Quirvira NWR (FY 10)

Postponed Due to Budget Cuts, Vacancies or Other Legal: New Category

5 – Charles M. Russell WMD (includes Hailsstone, Halfbreed Lake, Lake Mason, and War Horse NWRs) (FY 12)

3 -John and Louise Seier; Revision Fort Niobrara, Valentine NWRs (FY13)

1- Revision Bear River Migratory Bird Refuge CMP (FY13); (LPP finalized FY13)

5 – National Bison Range Complex, Montana: National Bison Range, Nine Pipe and Pablo National Wildlife Refuges, Northwest Montana Wetland Management District, and Lost Trail National Wildlife Refuge (Revision) ; Awaiting completion of AFA (FY14)

**HYDROGEOMORPHIC EVALUATION OF
ECOSYSTEM RESTORATION
AND MANAGEMENT OPTIONS FOR:
Wetland Areas
of the National Bison Range Complex, Montana**

Submitted To:

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January 2014

INTRODUCTION

This report provides an evaluation of ecosystem restoration and management options for the U.S. Fish and Wildlife Service (USFWS) Pablo National Wildlife Refuge (PNWR), Ninepipe National Wildlife Refuge (NNWR), and the Northwest Montana Wetland Management District (NMWMD) (Figure 1). PNWR and NNWR are overlay easement refuges on Confederated Salish-Kootenai Tribal land and managed by the USFWS. The NMWMD includes Waterfowl Production Areas (WPAs) and private conservation easement program lands. These lands are managed out of the National Bison Range Complex (NBR). This evaluation is being conducted using a Hydrogeomorphic Methodological (HGM) process of analyzing historical and current information about: 1) geology and geomorphology; 2) soils; 3) topography and elevation; 4) hydrology and flood frequency; 5) aerial photographs and maps; 6) land cover and vegetation communities; 7) key plant and animal species; and 8) physical anthropogenic features of the refuges, wetland management district, and surrounding ecosystem (e.g., Heitmeyer 2007; Heitmeyer et al. 2009, 2010; Heitmeyer and Aloia 2013). The HGM approach provides a historical context to understand the physical and biological formation, features, and ecological processes within USFWS managed lands and the surrounding region. This historical assessment identifies a baseline pre-European settlement (hereafter Presettlement) condition to determine what changes have occurred in the abiotic and biotic attributes of the ecosystem and how these changes have affected ecosystem structure and function. This information helps determine the capability of the area to restore and sustain fundamental ecological processes, communities, and resources.

This HGM evaluation for NBR wetland areas differs from most past refuge HGM reports (e.g., Heitmeyer et al. 2009, 2010; Heitmeyer and Aloia 2013) in that it provides abbreviated descriptions of the history of USFWS properties and their management, the settlement and development history of the Mission Valley including reservoir development and management, and more detailed discussion of USFWS policy and management guidance documents. The report provides general recommendations based on HGM information for ecosystem restoration and management options of USFWS managed lands within the Mission Valley including discussion of conservation needs at a landscape scale. Information on field application of the information is provided and some recommendations will require subsequent evaluation and analyses to determine the potential for changes, such as engineering analyses to determine water management design and infrastructure.

The USFWS expects to initiate a Comprehensive Conservation Plan (CCP) for the NBR including PNWR, NNWR, and the NMWMD during 2014. Information obtained and analyzed as part of the HGM will be used in the development of the CCP sections on these wetland areas. The CCP will articulate the long-term management direction for the refuge over the next 15 years based on goals, objectives, and management strategies considering the purposes of the refuges and their contribution to the regional landscape. This HGM evaluation identifies restoration and management options following USFWS guidance for NWRs that “favor management that restores or mimics natural ecosystem processes or functions to achieve refuge purpose(s)” (620 FW 1 and 601 FW 3).

The restoration and maintenance of biological integrity is a legally mandated priority for refuges based on the National Wildlife Refuge System Improvement Act of 1997 (16 U.S.C. 668dd-668ee) and stepped down in policy 601 FW 3. The evaluation of historical ecosystem processes through the HGM approach provides a baseline of reference conditions for biological integrity, defined by the USFWS as the “biotic composition, structure, and functioning..., including the natural biological processes” (USFWS Policy 601 FW 3).

THE HISTORICAL MISSION VALLEY ECOSYSTEM

Overview

PNWR and NNWR include over 4,500 acres of open water/submerged aquatic vegetation (SAV), persistent emergent wetland (PEM), and upland habitats in the Mission Valley in Lake County, Montana (Figure 1). Various grasslands and depressional wetlands surrounding NNWR are protected as state or tribal management areas, WPAs, or private land conservation easements. The NMWMD includes nine WPAs (3,268 acres) and 6,500 acres of conservation easements in Lake County. Heterogeneous soils resulting from the valley’s relatively recent glaciated geologic history created a diversity of surfaces supporting numerous wetland types. Wetland habitats within the Mission Valley were historically hydrated by onsite precipitation and local runoff, surface water from streams originating in the Mission Mountains, and groundwater. The amount and timing of water inputs was driven by seasonal, annual, and long-term variation in precipitation and snowmelt as well as groundwater dynamics.

Historical information for the Mission Valley dates back to General Land Office (GLO) surveys (1905) and various accounts associated with the development of the Flathead Indian Irrigation Project (FIIP). Historical accounts from the 1800s are limited, but provide additional information on the natural and ecological setting of the Mission Valley prior to major land changes following European settlement. Synthesis of information for the Presettlement period were completed for: 1) geology and geomorphology, 2) soils, 3) topography and elevation; 4) climate and hydrology; 5) land cover and vegetation communities; and 6) key animal species. The historical ecological processes that maintained the biological communities of PNWR, NNWR, and NMWMD are the basis for restoration and management options provided in this HGM evaluation. Summaries of the information categories used in the HGM evaluation of historical condition of the Mission Valley ecosystem are provided below.

Geology and Geomorphology

Northwest Montana has a complex and varied geologic history resulting from: 1) the movement of the North American continental plate from the Precambrian age through the Oligocene period; 2) faulting; 3) the geologically recent Bull and Pinedale ice ages; and 4) the formation and subsequent drying of glacial Lake Missoula.

The continental crust under Montana, comprised of gneiss and schist, metamorphosed into its current form approximately 2.7 billion years before the present (BP) and younger rocks have accumulated over the continental crust for the past 1.5 billion years (Alt and Hyndman 1986). Deposits of sandy and muddy sediments accumulated in western Montana from approximately 1.5 to 0.8 billion years ago (MYA) forming thick and hard sandstone, mudstone, and limestone called the "Belt formations." Black igneous diabase rock is found in dikes and sills within the Belt formations.

During the Paleozoic from 570 to 240 million years ago (MYA) sediments from a shallow sea were deposited on top of the Belt Formations. The continental crust rose and sank during the Mesozoic period until the time the Rocky Mountains formed about 70 MYA and the continental crust rose above sea level. Relatively thin Belt Formation rocks appear to have peeled off the bulging crust and came to rest stacked on top of one another in the "Overthrust Belt" that forms the east front of the Rocky Mountains. The Mission Range is the westernmost of the displaced slabs that make up the Overthrust Belt. The Mission, Flathead, and other valleys along the Rocky Mountain trench mark the boundary between the "thin-skinned tectonics" to the west and the movement of relatively thick slabs that moved at depth along faults to the east (Alt and Hyndman 1986).

Approximately 40 MYA the North American climate became drier and eroding soils were deposited throughout the valleys of western Montana. These varied deposits of gravel, sand, mud, volcanic ash (likely from the Western Cascades), limestone, and coral are called the Renova Formation. The Renova Formation tilted as crustal movements continued over time. Increased precipitation from 20 to 10 MYA caused streams to flow through Montana before another dry period occurred from 10 to 2.5 MYA. The Six Mile Creek Formation deposited during this period consists largely of coarse gravel and contains excellent aquifers (Alt and Hyndman 1986).

Great ice ages occurred during the Pleistocene period beginning approximately 2.5 MYA when modern streams began to flow. Records of the early ice ages that occurred during the Pleistocene are buried beneath more recent glacial features. Glaciers during the Bull ice age reached their maximum extent 130,000 to 70,000 years BP between St. Ignatius and Ronan, covering the Mission Mountains and leaving an enormous moraine south of Ninepipe Reservoir (Alt and Hyndman 1986). Depressional wetlands in the area of Ninepipe Reservoir have been interpreted as: 1) "kettle ponds", where large pieces of ice buried in the moraine melted and 2) as "pingo ponds" (see discussion in Phillips 1993), which formed by soil covered ice mounds fed by groundwater where freeze thaw action shifts the overlying soil to form a surrounding rim.

The maximum extent of the glacier during the Pinedale ice age, approximately 15,000 years BP, only reached as far south as Polson. The smooth surfaces between Ninepipe and Pablo Reservoirs are the glacial outwash plains formed by water from the melting Pinedale glacier. Estimates of glacier retreat range from 26-150 meters/year to >500 meters/year (Smith 2004). Mountain glaciers during the Pinedale ice age created valleys in the Mission Mountains that had previously been smoothed by the thicker glacier of the Bull ice age.

Ice broken off from the glacier filled the Missoula Valley damming the Clark Fork River and first impounded glacial Lake Missoula at the peak of the Pinedale ice age. Water levels in glacial Lake Missoula rose until the ice dam floated, creating a catastrophic flood across eastern Washington and down the Columbia River to the Pacific Ocean (Alt 2001). It is estimated that glacial Lake Missoula formed behind new ice dams 36 times with the last flood occurring about 13,000 years ago (Alt 2001). When Glacial Lake Missoula filled the Mission Valley, the lower end of the glacier at Polson floated and icebergs drifted south depositing large rocks on the valley floor south of Polson (Alt and Hyndman 1986).

Surficial geology of the Lower Flathead subbasin reflects this complex geological history (Figure 2). The Mission Mountains to the west of PNWR and NNWR consist of meta-argillite, quartzite, and carbonate rocks from the Middle-Proterozoic. The Mission Valley in the areas Pablo and Ninepipe reservoirs is dominated by glacial drift with alluvium from the Quaternary. Glaciolacustrine deposits from the Quaternary also occur within the boundary of NNWR.

Glaciolacustrine deposits include a series to tills with poorly sorted deposits of clay, silt, pebbles, and cobbles. Thin, laterally discontinuous gravel lens formed from glacial outwash and/or Quaternary alluvium are intercalated with the till. These gravel lens are proportionately insignificant in geologic cross-sections, but likely serve as principle conduits of groundwater flow in the Mission Valley due to high transmissivity relative to the surrounding glaciolacustrine sediments (Phillips 1993).

Soils

The earliest known soil survey of the lower Flathead Valley was completed during the late 1920s (DeYoung and Roberts 1929). Soils to the south, west, and north of Pablo Reservoir were classified as Polson silt loam (spotted phase); Hyrum fine sandy loam was the dominant soil type to the east (Figure 3). A large area of different phases of Post silty clay loam surrounded Ninepipe Reservoir (Figure 4). Areas of Crow gravelly silt loam, Crow stony loam, McDonald gravelly loam, and undifferentiated alluvium occurred along the eastern edge of the Mission Valley.

Soils in the Polson and McDonald series are “well developed” soils having permeable and friable subsoils, with favorable subdrainage” (for agricultural possibilities) (DeYoung and Roberts 1929:16). Polson soils developed over lake-deposited silt and clay sediments. In areas south and west of Polson, alkali accumulations on the flat soil surface of Polson soils were attributed to seepage from higher canals and Pablo Reservoir. McDonald soils developed on glacial till or ground-moraine material (DeYoung and Roberts 1929).

Soils in the Post and Crow series are also well developed, but have “tough” compact subsoils and heavy-textured stratified substrata, with restricted subdrainage” (DeYoung and Roberts 1929:16). Permeability is described as comparatively impervious to water or very slowly permeable. Surficial soils in this series have varying textures and deeper parent materials are

modified by superficial deposition of glacial ice laid material with different quantities of gravel and boulders (DeYoung and Roberts 1929). Post soils are dominant over the southern part of the Mission Valley, extending from St. Ignatius to Crow Creek, with an undulating topography of low mounds and shallow depressions.

Soil mapping initiated in 1995 (NRCS 2008, 2012) shows similar soil type patterns around the reservoirs compared to the earlier 1929 soil survey, but includes more detailed mapping with additional soil classifications. For example, 74 soil types now are mapped within the approved boundary of NNWR (Figure 5). Soils surrounding Ninepipe Reservoir are still classified as Post silty clay loam and Post silt loam (Figure 6). The Post-Ronan-Water complex dominates the area between NNWR and Kickinghorse Reservoir to the northeast. Soil types within the WPAs are shown in Figure 6. Compared to the 1929 soil map, sands to the east of Pablo Reservoir have been reclassified as McCollum fine sandy loam and Sacheen loamy fine sand (Figure 7). Polson silt loam to the west of Pablo Reservoir was mapped in complexes with Truscreek silt loam. Kerr loam and Truscreek silt loam also occur to the west of Pablo Reservoir.

Characteristics of soil types within refuge-managed lands are summarized in Table 1. Gravelly loam and sands are classified as somewhat excessively drained. Most of the loam soils are classified as well drained. However, historical descriptions of the Post silt loam and silty clay loam suggest water drainage is retarded. Bohnly and Colake silt loams are classified as poor and somewhat poorly drained.

Topography

Historical elevation contours from 1931 are available for PNWR (Figure 8); no historical elevation contours for NNWR were located. Although current elevations are modified by agricultural practices, data from the 10-meter national elevation dataset (NED) (<http://ned.usgs.gov/>) show general surface water drainage patterns within the Mission Valley (Figure 9). Based on the NED, elevation within the approved boundary of NNWR (including the WPAs) ranges from approximately 2,790 feet at the southern boundary to 3,937 feet in the northeastern corner. Elevation of PNWR is approximately 3,215 feet.

Climate and Hydrology

Climate

Long-term climate data from 1895 to 2011 from the U.S. Historical Climatology Network (USHCN) (Menne et al. 2012) is available for St. Ignatius, Montana (Station Number 247286), approximately seven miles south of Ninepipe Reservoir. Information from the Polson Kerr Dam weather station approximately three miles north of Pablo shows that precipitation averages about 20% higher than at the NBR (USFWS 1999 refuge annual narrative), but seasonal patterns are similar.

Long-term average water year (1 October to the following 30 September) precipitation for St. Ignatius, Montana based on Menne et al. (2012) is 15.82 inches/year and ranges from 54 to

159% of the average (Figure 10). Most of the precipitation in the Mission Valley occurs during the spring and early summer, averaging over two inches/month in May and June (Western Regional Climate Center 2011) (Figure 11). Precipitation during the rest of the year averages 0.75 to 1.5 inches/month. Average maximum temperatures range from approximately 30° F during December and January to 90° F during July; average minimum temperatures range from approximately 18 to 50° F (Figure 12).

Years of above and below average water conditions are highly variable with often sharp transition from relatively wet to dry conditions among years (Figure 13). Based on the Palmer Drought Hydrologic Index, drought conditions dominated from the mid-1920s to mid-1940s with 13 years of consecutive drought. Prolonged drought did not occur again until 1985-1989, when it only lasted 5 consecutive years. An 11-year drought period occurred again during 1999-2009 (NOAA 2012). This suggests 10-year drought cycles may occur every 60 years, but the period of record is relatively short.

In addition to interannual and decadal fluctuations, reconstruction of paleoclimatic conditions in the western United States indicate that wet and dry periods fluctuated on multidecadal, and centennial-scale time periods throughout the Holocene (e.g., Cook et al. 2004, Pederson et al. 2006, Cook et al 2007). The western United States experienced long periods of intense drought during warmer and drier conditions from 900 to 1300 (Medieval Warm Period) followed by wetter and cooler conditions during the Little Ice Age (1400-1700) and in 1829 and 1915 (Cook et al. 2004).

Recent climate change patterns for the U.S. Rocky Mountains and Upper Columbia River Basin during the 20th century (summarized by McWethy et al. 2010) indicate: 1) increased temperatures in most areas of 0.9 to 3.6 °F; 2) annual rates of temperature increase in the northern Rocky Mountains that are two to three times the global average; 3) increasing night time minimum temperatures; 4) variable trends in precipitation; 5) significant declines in snowpack; and 6) earlier snowmelt and peak runoff and associated decreases in summer stream flows.

The trend in decreasing soil water equivalent (SWE) of 1 April snowpack throughout the western United States is primarily related to increases in temperature and a decrease in the amount of precipitation falling as snow, which is reasonably well explained by summaries of seasonal climate at nearby stations (Hamlet et al. 2005, Mote et al. 2005, Knowles et al. 2006, Mote 2006). However, trends in 1 April SWE were better explained by changes in precipitation than temperature at higher elevations (Mote 2006, Hamlet et al. 2007). Earlier snowmelt also was related to increased evapotranspiration and earlier soil recharge indicated by increased soil moisture during spring (Hamlet et al. 2007).

Ground and Surface Water

Precipitation and snowmelt in the Mission Mountains influences stream flow entering in the Lower Flathead subbasin (Figure 14). Stream flow data from the Mission Creek near St. Ignatius and South Crow Creek near Ronan are available from October 1982 to September 2011 (USGS 2012). Average monthly discharge from Mission Creek (USGS station number 12377150) increases rapidly from April (24 cubic-feet/second (cfs)) to May (99 cfs) and peaks during June at 179 cfs (Figure 15). Stream flow declines during the summer and early fall to less 20 cfs from December to March. A similar seasonal pattern, but with less flow, is observed for South Crow Creek near Ronan (Figure 15). Water year annual peak flows for Mission Creek (drainage = 12.4 mi²) ranged from approximately 250 to 700 cfs during 1982-2011 (Figure 16). Water year annual peak flows for South Crow Creek (drainage = 7.57 mi²) ranged from approximately 50 to 300 cfs during 1982-2011, excluding 2005 when peak flow was > 600 cfs (Figure 17).

Streams in the Mission Valley near the mountains are low sinuosity, gravel-bedded streams that transition to moderate or highly sinuous silt and gravel-bedded streams near the valley floor where groundwater discharge can significantly contribute to stream flows (CSKT 2000). Heterogeneity of valley-fill sediments as a result of sediment accumulation throughout the geologic history of the valley and multiple glaciations created a variable matrix of aquifers in the Mission Valley. Direction of regional groundwater flow in the Mission Valley is to the west and southwest from the Mission Mountains (LaFave et al. 2004, Phillips 1993, Slagle 1988) (Figure 18). Aquifers occur in the deep valley-fill sediments and in zones of secondary permeability where bedrocks are fractured. Valley-fill aquifers were naturally recharged by: 1) direct infiltration of snowmelt and rainfall, 2) leakage from streams, and 3) subsurface inflow (610 acre-feet/yr). Historical natural discharge from the valley-fill aquifers occurred through: 1) evaporation, 2) transpiration by plants, 3) leakage to rivers and streams (250,000 acre-feet/year), and 4) subsurface outflow (7,400 acre-feet/year) (Slagle 1988).

The regional Mission Valley groundwater flow system appears to be poorly connected to the shallow groundwater flow system and is not affected by stage variations in reservoirs or leakage from irrigation canals (Phillips 1993). Although the direction of regional groundwater flow is generally to the southwest, the direction of the shallow groundwater flow system is from east to west, with flows near some depressional wetlands to the north and northwest(Phillips 1993). The Mission Range, Crow Creek, and numerous depressional wetlands in the eastern part of the valley are natural “recharge” sources for the shallow groundwater, whereas Post Creek, Mission Creek, and wetlands in the western portion of the valley are “discharge” points for the shallow groundwater system (Phillips 1993).

Historical Flora and Fauna

Overview

The historical vegetation of the Mission Valley was dominated by bunchgrasses and forbs of the Palouse prairie and Intermountain grasslands. Numerous depressional wetlands were imbedded within this grassland complex and the region was bisected by riparian corridors of four large creeks (Mission, Post, Mud, and Crow creeks). Tribes of the Kalispell, Kootenai,

Pend d'Oreille, and Bitterroot Salish used the valley as a rendezvous site, known for its "excellent soils, good grasses, plenty of water, and abundant timber nearby" (Schwab et al. 2000:39). Certain historical accounts of the region (e.g., Elrod 1902, Dice 1923) provide descriptions of early plant and animal communities.

GLO survey maps from 1905 are the earliest maps available for PNWR and NNWR. During 1905, small scattered ponds of various sizes were located in the area of the current Ninepipe Reservoir (Figure 19); however, no ponds were shown in the current area of PNWR (Figure 20). Survey notes that usually accompany the GLO maps were not available from the Bureau of Land Management's electronic GLO records database, so no data on vegetation was obtained from GLO surveys. GLO maps from 1915 show the perimeter of Pablo and Ninepipe reservoirs (see Figure 21).

Historical Vegetation Communities

Recognizing the annual variation in precipitation and flooding regimes, we developed an HGM matrix of potential historical vegetation communities related to geomorphic landform, soil, and hydrologic condition (Table 2). These vegetation communities were then mapped (Figure 22) based on characteristics and distribution of soil types (NRCS 2008, 2012); historical accounts; and ecological characterization of habitats in Montana, the Northern Rocky Mountains, and glaciated prairies (e.g., Hansen et al. 1995, Stewart and Kantrud 1971). Historical vegetation beneath the current Ninepipe and Pablo reservoirs was not mapped because 1) the reservoirs were mapped as water during 1929 and the 1990s soil surveys, and 2) the reservoirs are managed for irrigation purposes and currently provide important habitat that was not available historically. In general, vegetation communities are mapped at a relatively coarse scale because of the lack of detailed elevation information and poor information about inclusions of hydric soils within well drained soils.

Historically, Palouse prairie grasslands were dominated by bluebunch wheatgrass (*Pseudoroegneria spicata*), Idaho fescue (*Festuca idahoensis*), big bluegrass (*Poa secunda*), and giant wild rye (*Leymus* sp.) (Sims and Risser 2000). Bluebunch wheatgrass and big bluegrass were dominant on the eastern portion of the Mission Valley bordering the Mission Range (DeYoung and Roberts 1929). Further west, the vegetation transitioned to several species of fescue and wheatgrass with scattered sagebrush (*Artemisia* sp.) and other species likely more characteristic of Intermountain grasslands. Based on a grassland community description present on foothills west of Flathead Lake (Mueggler and Stewart 1980), grass species historically present in Intermountain grasslands in the Mission Valley may have included rough fescue (*F. altaica*), bearded wheatgrass (*Elymus caninus*), thickspike or streamside wheatgrass (*E. lanceolatus*), prairie junegrass (*Koeleria pyramidata*), and several species of needlegrass (*Achnatherum* sp.). Grasses present on more saline soils likely included basin wildrye (*L. cinereus*), Nuttall alkaligrass (*Puccinellia nuttalliana*), alkali cordgrass (*Spartina gracilis*), and alkali bluegrass (*P. secunda* ssp. *juncifolia*) (Montana Fish, Wildlife, and Parks 2005). Sagebrush increased toward the Flathead River, but bunchgrasses were the dominant

vegetation. Big sagebrush (*A. tridentata*) and silver sagebrush (*A. cana*) are historically described from western Montana (Anderson 1889).

Abundant forbs in Mission Valley grasslands during the early 1900s included arrowleaf balsamroot (*Balsamorhiza sagittata*), pinkfairies (*Clarkia pulchella*), lupine (*Lupinus* sp.), western yarrow (*Achillea millefolium*), cinquefoil (*Potentilla* sp.) and less commonly black-eyed susan (*Rudbeckia hirta*) (Elrod 1902). Wild cranesbill, identified as *Geranium caespitosum*, was abundant along the moist edges of depressional wetlands and a tall mallow (*Malvastrum* sp.) was infrequently observed along wet roadsides (Elrod 1902). Other species described by Mueggler and Stewart (1980) include stiff yellow Indian paintbrush (*Castilleja lutescens*), Wyoming kittentails (*Synthyris wyomingensis*), and nineleaf biscuitroot (*Lomatium triternatum*). Cottonwood (*Populus* sp.) tree sap, bulbs of bitterroot (unknown genus), camas (*Camassia* sp.), and yellow bells (*Fritillaria pudica*), and several species of berries, wild carrot (*Daucus carota*), and wild potato (*Solanum jamesii*) were important plants to Native Americans, forming the foundation of tribal culture and economics (Schwab et al. 2000).

Elrod (1902) described “hundreds of small ponds in glacial potholes” that were filled with water during the spring, but no plant species were listed. Depressional wetlands in the Mission Valley have been described as kettle or pothole wetlands (Hauer et al. 2002), using the terminology of Stewart and Kantrud (1971), and pingo ponds (see Phillips 1993). Regardless of their geologic origin, depressional wetlands and ponds in the Mission Valley have highly variable physical and geochemical properties resulting from varying interactions of surface and groundwater hydrology (Phillips 1993).

Depressional wetlands in the glaciated prairie of the United States have been classified as low prairie, wet meadow, shallow marsh, deep marsh, permanent open water, intermittent alkali, and alkaline bog, each of which have distinct vegetation associations resulting from differences in water permanence, soil permeability, and ground water interactions (Stewart and Kantrud 1971). Although pothole-type wetlands in the Mission Valley have less bottom microtopographic variation than wetlands from other glaciated regions, recent conceptual models incorporating surface and groundwater inputs and life-history strategies of plants developed for wetlands in the Prairie Pothole Region (e.g., Euliss et al. 2004, van der Valk 1981) may help inform historical vegetation structure and dynamics of wetlands in the Mission Valley. For example, characteristics of wetlands in the Mission Valley are influenced by their position in the landscape with respect to the shallow groundwater (Phillips 1993).

Cattail (*Typha* sp.), horsetail (*Equisetum* sp.), sedges (e.g., *Carex* sp.), and grasses were described as abundant in marshes along Flathead Lake (Dice 1923) and likely were abundant in wetlands in the Mission Valley. Currently dominant wetland sedges in the northwestern portion of the Rocky Mountains that were likely historically abundant in the Mission Valley include Nebraska sedge (*C. nebrascensis*) and beaked sedge (*C. rostrata*); other sedge communities include water sedge (*C. aquatilis*) and slender sedge (*C. lasiocarpa*) (Hansen et al. 1995). At mid to high elevations (6,000-8,500 feet amsl) Holm’s Rocky Mountain sedge (*C. scopulorum*)

and short-beaked sedge (*C. simulata*) were likely minor wetland sedge communities (Hansen et al. 1995).

Although regionally less abundant than sedge habitat types, common wetland grasses and rushes in northwestern Montana include bluejoint reedgrass (*Calamagrostis canadensis*), and common spikerush (*Eleocharis palustris*). Incidental wetland grass habitats include water bentgrass (*Agrostis gigantea*), tufted hairgrass (*Deschampsia cespitosa*), baltic rush (*Juncus balticus*), and fowl bluegrass (*Poa palustris*) (Hansen et al. 1995). Northern mannagrass (*Glyceria borealis*), hardstem bulrush (*Schoenoplectus acutus* var. *acutus*), and broad-leaf cattail (*Typha latifolia*) historically were likely characteristic of semi-permanently flooded wetlands.

Although largely cut-over by the late-1920s, riparian corridors east of Ronan historically were forested with pines (*Pinus* sp.), spruce (*Picea* sp.), tamarack (*Larix occidentalis*), and douglas fir (*Pseudotsuga menziesii*); cut areas were dominated by various kinds of underbrush (DeYoung and Roberts 1929). Based on habitat associations described by Dice (1923), black cottonwood (*Populus trichocarpa*), quaking aspen (*P. tremuloides*), and water birch (*Betula occidentalis*) were likely common deciduous trees near the mouths of streams in the Mission Valley. Underbrush likely included Scouler's willow (*Salix scouleriana*), creeping barberry (*Berberis repens*), Lewis' mock orange (*Philadelphus lewisii*), ninebark (*Physocarpus* sp.), salmon-berry (*Rubus parviflorus*), rose (*Rosa acicularis*), chokecherry (*Prunus virginiana*), dwarf maple (*Acer glabrum*), buffaloberry (*Shepherdia canadensis*), dogwood (*Cornus sericea*), snowberry (*Symphoricarpos occidentalis*), and honeysuckle (*Lonicera ciliosa*) (Dice 1923).

Natural fires caused by lightning strikes and purposeful burning to manage grasslands and forests by Native American tribes over the past 7,000 years in the northern Rocky Mountains created an interspersion of different succession stages and diverse habitat mosaics throughout the Mission Valley (CSKT Fire History Project, http://www.cskt.org/fire_history.swf). Foothills of the Mission Mountains were much more open during the early 1900s as a result of frequent fires. Large pine trees that dominated low elevation forests were also maintained by frequent, low intensity natural and Native American-lit fires.

Key Animal Communities

Breeding waterfowl historically were common in the Mission Valley. Waterfowl broods were common in Mission Valley wetlands during summer in the early 1900s, with common goldeneyes (*Bucephala clangula*) noted as the most abundant species (Elrod 1902). The density of redhead (*Aythya americana*) breeding pairs near Ninepipe Reservoir was high, averaging 25 pairs/square mile; however, nest success was low due to high rates of nest abandonment and intraspecific parasitism (Lokemoen 1966). Other breeding waterfowl species currently present that were likely abundant historically include mallards (*Anas platyrhynchos*), northern pintails (*A. acuta*), American wigeon (*A. americana*), and lesser scaup (*Aythya affinis*). Large numbers of waterbirds also were present in the Mission Valley during fall migration (Elrod 1902).

Grassland birds historically were common in the Mission Valley and included western meadowlarks (*Sturnella neglecta*) and vesper sparrows (*Pooecetes gramineus*) (Elrod 1902, Saunders 1915). Sharp-tailed grouse (*Tympanuchus phasianellus*) and mourning doves (*Zenaida macroura*) also were common. Catbirds (*Dumetella carolinensis*), Brewer's blackbirds (*Euphagus cyanocephalus*), yellow warblers (*Dendroica petechia*), Audobon's warbler (*D. coronata*), and flycatchers (species not reported) were common in bushy habitats (Elrod 1902). Western wood peewee (*Contopus sordidulus*) was the most common bird species in open pine thickets (Saunders 1915). Violet-green swallows (*Tachycineta thalassina*) nested in abundant numbers along the limestone canyon of the Flathead River about 6 miles below the outlet of Flathead Lake; rough-winged swallows (*Stelgidopteryx serripennis*) were also observed breeding in the area (Saunders 1915).

During the early-1800s, trappers found abundant beavers (*Castor canadensis*) throughout western Montana. Muskrat (*Ondatra zibethicus*) populations within the Mission Valley appeared to fluctuate depending on habitat conditions. Muskrats were noted in all of the wetlands during 1946 and trapping within the valley was described as "quite heavy" during 1948 (USFWS refuge annual narratives).

Other mammals observed in wetlands along the edges of Flathead Lake that also likely occurred within the boundary of NNWR include American mink (*Neovison vison*), meadow voles (*Microtus pennsylvanicus*), western jumping mice (*Zapus princeps*), and moose (*Alces americanus*) (Dice 1923). Numerous bats, including the little brown bat (*Myotis lucifugus*) were also observed over bodies of water; other species were suspected, but not identified (Dice 1923). Deer mice (*Peromyscus maniculatus*), western jumping mice, yellow-bellied chipmunks (*Tamias quadrivittatus*), and snowshoe hares (*Lepus americanus*) were observed near the mouths of small streams (Dice 1923). Whitetail deer (*Odocoileus virginianus*) were hunted by Native Americans in the wooded stream bottoms of several creeks, and mule deer (*O. hemionus hemionus*) were hunted on the foothills and upland slopes (Schwab et al. 2000). Other game included dusky (formerly blue) grouse (*Dendragapus obscurus*), sharp-tailed grouse (reported as 'prairie chickens'), and groundhogs on the dry prairies and foothills (Schwab et al. 2000). Coyotes (*Canis latrans*), mountain pocket gophers (*Thomomys monticola*), deer mice, and Columbian ground squirrels (*Spermophilus columbianus*) were reported from bunchgrass habitats (Dice 1923).

Frogs and garter snakes were numerous around the wetland edges, but species observed are not reported by Elrod (1902). Wetlands contained abundant crustaceans and aquatic insects (Elrod 1902), that likely provided important food resources for pre-breeding, breeding, molting, and migrating waterfowl. Odonates observed during the early 1900s include lance-tipped darners (*Aeshna constricta*), white-faced meadowhawks (*Sympetrum obtrusum*), red-veined meadowhawks (*S. madidum*), lyre-tipped spreadwings (*Lestes unguiculatus*), a red damsel (likely *Amphiagrion abbreviatum*), and a forkwing (*Ischnura* sp.) (Elrod 1902). Butterflies included organe sulphurs (*Colias eurytheme*), whites (*Pieris* sp.), coppers (*Lycaena* sp.), and several species of skippers (Hesperiidae). *Eubbranchipus serratus*, a species of fairy shrimp,

was collected from wetlands near Kickinghorse Reservoir and Ronan during the 1950s; another species of fairy shrimp, *Branchinecta reading*, was collected from the National Bison Range during 2008 (Hossack et al. 2010).

CHANGES TO THE MISSION VALLEY ECOSYSTEM

Overview

Information was obtained on contemporary: 1) physical features, 2) land use and management, 3) hydrology, 4) vegetation communities, and 5) fish and wildlife populations of Mission Valley. These data chronicle the history of land and ecosystem changes at and near the refuge and provide perspective on when, how, and why alterations have occurred to ecological processes in NNWR, PNWR, NMWMD, and surrounding lands. Chronological changes in physical features, settlement, and land use/management of the region are most available from traditional oral accounts of tribal members and cultural resource surveys, GLO maps, FIIP surveys, and other historical maps and aerial photos for the region. Data on changes in plant and animal populations are largely based on oral accounts and qualitative descriptions.

Settlement and Land Use Changes

Human settlement of the western Rocky Mountains dates back to 12,000 BP when Paleoindian hunters occupied the high terraces of glacial Lake Missoula, exploiting seasonally available plants, small game, and large megafauna. Early prehistoric sites are rare, likely due to extremes of the local mountain environment and effects of shifting glaciers, but projectile points dating back to 10,500 BP have been found at McDonald Lake (Schwab et al. 2000). Seasonal subsistence patterns developed during the postglacial period after 7,500 BP when the mountain environment provided a refuge from the warmer and drier climatic period and supported a relatively large human population. After 1,500 BP, fishing became a more important method of food gathering. Innovation in fishing methods and the development of the bow and arrow occurred during this period. Seasonal hunting of bison across the continental divide was also firmly established by this time period.

Permanent villages were established around Flathead Lake, which based on the work of C. I. Malouf, may have been the most important center of Native American settlement in western Montana for at least 5,000 years (Schwab et al. 2000). Vast archeological sites are located along the terraces of the Flathead River. Archeological sites in the vicinity of refuge-managed lands, including the NBR and Lost Trail NWR, are summarized by Schwab et al. (2000).

The introduction of horses from the south by the early-1700s increased the mobility of native peoples, creating more opportunities for trade and exchange but also increasing tensions among neighboring tribes (Schwab et al. 2000). Salish and Kootenai people were mountain and river people with some bands relying on bison from the eastern slopes of the Rocky Mountain. Tribes and bands of Native Americans in western Montana lived harmoniously until

war parties from the Blackfeet started moving south. With larger numbers and European weapons, the Blackfeet pushed the Salish, Kootenai, and Pend d'Oreille bands on the eastern slopes of the Rock Mountains west of the continental divide. War with the Blackfeet and a series of smallpox epidemics during the late 1700s may have reduced historically stable population numbers by 60 to 80% from 1650 to 1800 (Schwab et al. 2000).

Europeans first arrived in western Montana during the 1790s. By the mid-1800s, Fort Connah and the St. Ignatius Mission were established, and a series of roads were built on pre-existing trails originally used by Native American tribes. The Mission Valley is within the Flathead Indian Reservation established by the 1855 Hell Gate Treaty for the “exclusive use and benefit” of the Bitterroot Salish, Upper Pend d'Oreille, and Kootenai Tribes, although there was a clear lack of understanding by the tribes of the specifics of the treaty (Schwab et al. 2000). Following a series of government infringements into the Flathead Indian Reservation, including the transcontinental railroad, the Flathead Allotment Act was passed by Congress during 1904 which allotted 245,000 of the original 1.245 million acre reservation to tribal members (Montana Office of Public Instruction 2010). The remaining acres of reservation lands were opened to homesteaders of European descent. By 1935, over half a million acres, including the most productive and valuable land within the reservation, was sold or otherwise transferred to individuals with no Native American heritage. The Confederated Salish and Kootenai Tribes (CSKT) organized under the 1934 Indian Reorganization Act.

Contemporary Land Use and Hydrologic Changes

The primary alterations to the lands in the Mission Valley from the Presettlement period include: 1) clearing of lowland forested areas and native grasslands for timber harvest and agriculture; 2) development of the FIIP, including construction of Pablo and Ninepipe reservoirs and an extensive network of water distribution canals; 3) altered stream dynamics and surface water sheetflow within the watershed due to historical logging, construction of canals, diversion of water to irrigation reservoirs, and nonpoint and point source pollution; 4) draining, filling, and/or damming depressional wetlands; 5) altered topography, including roads, dikes, ditches, borrow areas, and water control structures at and surrounding refuge-managed lands; and 6) fire suppression.

The forested landscape surrounding the Mission Valley was altered by timber harvest and clearing of the lower valley areas for agricultural crops during the mid-1800s. The Hudson Bay Company operated Fort Connah along Post Creek from 1846 to 1871. European trappers and farmers who moved to the Mission Valley to work at the trading post planted gardens, crops, and grazed livestock in the vicinity of Post Creek. The St. Ignatius mission was built during 1854 using timber harvested from the Mission Mountains. When the mission was completed, the population near St. Ignatius increased to over 1,000 people, including members of several different Native American tribes. Homes and agricultural crops, including wheat milled at the mission, were developed along Mission Creek (Schwab et al. 2000).

Heavily timbered areas of flat western valleys were logged intensively in the late 1880s following completion of the Northern Pacific transcontinental railroad, and profoundly impacted the ecology and way of life of the Salish and Pend d'Oreille people (Schwab et al. 2000). To supplement their declining traditional food resources, tribal members within the Flathead Indian Reservation established family farm and cattle operations for subsistence needs. Agricultural production statistics from 1902 recorded 25,000 cultivated acres, 120,000 bushels of grain, 25,000 tons of hay, and 20,900 bushels of vegetables produced by tribal members on the Flathead Indian Reservation. In addition, there were 25,000 horses, 27,000 cattle, and 600 bison owned by tribal members (Montana Office of Public Instruction 2010).

Following the 1904 Allotment Act, the FIIP was passed by Congress during 1908. This bill approved a canal and reservoir system to irrigate over 150,000 acres of dry lands on the reservation. Water was taken from Flathead Lake and streams in the Mission Mountains for the operation of the irrigation project, which serviced approximately 125,597 acres during 1980 (Ruby and Brown 1992). The Pablo Feeder Canal runs north/south along the eastern side of the valley intercepting water from North Crow, Middle Crow, and South Crow creeks and water from McDonald Lake and Mission and Tabor reservoirs. The extensive canal network within the Mission Creek and Flathead River/Pablo Reservoir watersheds is shown in Figure 23 and a schematic of the irrigation system inputs into the reservoirs is provided in Figure 24.

Pablo (28,400 acre-feet capacity) and Ninepipe (15,000 acre-feet capacity) reservoirs were constructed as part of the FIIP. The FIIP was operated by the Bureau of Indian Affairs (BIA) until 2010, when it was transferred to the Cooperative Management Entity (CME), established by agreement with federal, tribal, and state governments. The water level in both reservoirs peaks during May and June and gradually declines through the summer depending on irrigation needs (Figures 25, 26, 27, 28). Average storage from 1961 to 1985 at the end of June was 23,000 acre-feet at Pablo and 14,700 acre-feet at Ninepipe; average overwinter storage from 1961 to 1985 was approximately 8,000 acre-feet at Pablo and approximately 6,000 acre-feet at Ninepipe (USFWS refuge office files, unpublished data). Data from 1990 to the mid 2000s demonstrate the marked annual variation in reservoir water levels related to storage capacity from very dry years (e.g., 1999) to extremely wet years (e.g., mid 1990s and 2001) (Figures 27, 28). Both reservoirs are classified as lakes by the USFWS National Wetland Inventory (NWI) with varying amounts of freshwater emergent marsh freshwater scrub-shrub along their perimeters (Figures 29, 30). Pothole-type depressional wetlands are extensive around Ninepipe Reservoir and are primarily classified as freshwater emergent marsh or freshwater pond by the NWI.

Waste water treatment plants discharge into a wetland complex tributary to Mission and Crow creeks. Irrigation return flows are a significant source of pollution in lower Mission and Post Creeks and Lower Crow Reservoir (CSKT 2000).

Kerr Dam was constructed on the lower Flathead River five miles southwest of Polson at the natural outlet of Flathead Lake during 1936-38 by the Montana Power Company. Kerr Dam is 205 feet high and 541 feet wide and raised the level of Flathead Lake by 10 feet over the natural

lake outlet. Water stored in Flathead Lake is used for power generation and the dam has a generating capacity of 194 megawatts. Dam operation led to significantly higher winter flows and unnatural discharges that matched peak power demands (CSKT 2000). Other dams constructed outside of the reservation affected fishery resources in the Clark Fork and Flathead watersheds.

By the 1990s, approximately 1,900 wells had been drilled in the Mission Valley. These wells are primarily used for household water supplies, followed by municipal, livestock, irrigation, and commercial uses. Slagle (1988) estimated that groundwater withdrawals for domestic and irrigation uses averaged 5,800 acre-feet/year, a relatively small percentage compared to the 250,000 acre-feet/year that discharges as leakage to streams. Groundwater levels in wells fluctuate seasonally, but no upward or downward trends were observed from 1970s to the mid-1980s (Slagle 1988).

The depth of drilled wells is variable, extracting water from unconfined surface alluvium, deeper confined sands and/or gravel under silt and mud, or fractures in the Belt bedrock (LaFave et al. 2004, Slagle 1988). Well yields reported for 1,600 wells ranged from < 1 to 2,400 gallons per minute (gpm) (LaFave et al. 2004); yields from wells completed in Belt bedrock aquifers ranged from 2.5 to 40 gpm (Slagle 1988). Dissolved-solids concentrations of groundwater from the valley fill aquifers range from 42 to 1,100 mg/l and commonly are calcium bicarbonate or sodium bicarbonate type (Slagle 1988).

Refuge Establishment and Management History

Lands for Pablo and Ninepipe reservoirs were withdrawn from the Flathead Indian Reservation during 1910. The CSKT requested that the reservoirs be designated as tribal wildlife preserves, but this request was denied by the U.S. government. President Harding established NNWR and PNWR on 25 June 1921 through Executive Orders 3503 and 3504 as refuges and breeding grounds for native birds. During 1948, the U.S. government paid the CSKT for permanent easements to manage NNWR and PNWR. The refuges are operated by the USFWS under an agreement with the BIA, FIIP, and the CSKT.

Refuge management during the 1930s focused on planting trees, shrubs, and submerged aquatic vegetation, constructing artificial nesting islands, and planting grain crops to supplement natural forage available for waterfowl and upland game birds. Water levels in the reservoirs were historically managed by the BIA for irrigation and flood control. Rapid increases in water levels during April and May flooded nests of waterfowl during some years, although re-nesting was commonly evident (USFWS refuge annual narratives). Fluctuating water levels resulting from water releases at higher reservoirs also impacted nesting waterfowl. Exposed mudflats and shallowly flooded areas during the later summer and fall following irrigation water withdrawals provided habitat for shorebirds and dabbling ducks.

Management actions, including spraying and burning to control cattail and invasive species increased during the 1950s. Winter feeding stations were managed to provide increased forage for upland game birds (USFWS refuge annual narratives) and shelter belts continued to be planted. Rotational grazing was permitted on the refuges with ungrazed areas managed for dense nesting cover.

More recently, managers have continued to use prescribed grazing, haying, and burning as management actions at NNWR and PNWR to remove dense mats of vegetation to improve plant vigor and encourage new growth (USFWS 1982). Grazing rates and periods were mutually agreed on by the USFWS and BIA. During 1987, nesting islands were constructed by excavating the base of two peninsulas along the northeast side of Ninepipe Reservoir. Approximately 200 acres of sub-impoundments were developed at PNWR during 1986 and water levels in these areas are controlled by USFWS, subject to irrigation needs (Figure 31). Water level management targets have been to maintain sub-impoundments at full pool, however irrigation demands may result in lower water levels, as occurred during 1999.

The NMWMD was established during 1970 through the Migratory Bird Conservation Act (16 USC 715-715r). Within Lake County, the NMWMD includes nine WPAs and a conservation easement program. The WPAs were purchased between 1975 and 1998 with funds from the sale of Federal Duck Stamps under the Small Wetlands Acquisition Program. Conservation easements were purchased with Land and Water Conservation Funds and Migratory Bird monies.

In addition to management tools listed above for NNWR and PNWR, establishment of dense nesting cover and water level control have historically been used as management tools on the WPAs. Farming was increasingly used as a management tool to control weeds until the site is suitable to plant native grassland species and increase the availability of dense nesting cover. Monitoring for seeding success, quality, and vigor were used to determine the disturbance interval for dense nesting cover, with typical intervals ranging from 5-10 years (USFWS 1982). More recent management of grasslands at the WPAs is targeted toward structural complexity and heterogeneity, community resilience, habitat function, and heterogeneity of post-disturbance ages. Water levels of pothole wetlands in the WPAs fluctuate naturally or can be manipulated through water control structures. Ditches and old non-functional water-control structures also occur on some of the WPAs.

Changes in Plant and Animal Communities

The major changes to plant and animal communities in the Mission Valley include: 1) altered plant species composition due to clearing, domestic livestock grazing, invasive species, and conversion to non-native pasture or croplands; 2) development of permanently flooded reservoirs stocked with non-native fish and large expanses of emergent and submerged aquatic vegetation that support large numbers of marsh birds; 3) planting of non-native trees and shrubs at PNWR and NNWR; 4) decreased populations of some native species of fish and wildlife, and 5) increased populations of non-native and invasive plants.

Suppression of natural and Native American-lit fires has altered the habitat mosaic that historically occurred in the Mission Mountains and Valley. Large pines that were sustained by frequent low intensity fires were replaced by younger trees after the large trees were logged and subsequent fire suppression created crowded conditions that promoted insect and disease outbreaks and increased the hazard of large, more intense fires (CSKT Fire History Project, http://www.cskt.org/fire_history.swf). A shift in dominant species from Ponderosa pine to Douglas fir also occurred as a result of fire suppression.

European settlement and developments in the Mission Valley and elsewhere in western Montana reduced wildlife populations that supported relatively large populations of Native Americans. Construction of the Thompson Falls Dam in 1908 resulted in the “precipitous drop-off” of bull trout (*Salvelinus confluentus*) populations throughout the Clark Fork and Flathead watersheds, including smaller streams in the Mission Valley (Schwab et al. 2000). Highways and paved roads have affected movement patterns and survival of amphibians and reptiles. Direct mortality and reduced landscape connectivity associated with Highway 93 in the Ninepipe/Ronan area appear to be affecting western painted turtles (*Chrysemys picta bellii*) with an estimated 6 to 17% of the population killed annually by highway traffic (Griffin and Pletscher 2006).

Agricultural developments and grazing by domestic livestock reduced the extent of native grasslands and altered the composition of remnant grasslands. Rough fescue is sensitive to grazing by cattle and horses and in areas that are heavily overgrazed, plants transition from robust tussocks that historically dominated the landscape to small weak shoots that are often inconspicuous among other grasses and forbs more tolerant of domestic grazing pressure (Mueggler and Stewart 1980). Other grassland species that have likely decreased as a result of domestic livestock grazing include bearded and thickspike wheatgrasses. Other grasses tolerant of grazing, such as prairie junegrass and some needlegrasses (Mueggler and Stewart 1980), may currently be more abundant than occurred historically.

Grazing and other land uses that disturbed soils and/or compromised native plant community resilience created niches for non-native species such as cheat grass (*Bromus tectorum*), Kentucky bluegrass (*Poa pratensis*), spotted knapweed (*Centaurea stoebe* ssp. *micranthos*), bull thistle (*Cirsium vulgare*), and common salsify (*Tragopogon dubius*) to invade native grasslands (Mueggler and Stewart 1980). Canada thistle (*C. arvense*) was noted as a serious problem by 1949 on refuge managed lands when it had crowded out most other vegetation on nesting islands and small patches of whitetop (*Lepidium draba*, previously *Cardaria draba*) were documented during spring 1951 (USFWS refuge annual narratives). In wetland habitats, cattails increased and expanded to new areas during the late 1940s, requiring increased management actions to control their spread during the 1950s. Flowering rush (*Butomus umbellatus*) was introduced to PNWR by pumping irrigation water from Flathead Lake and curly leaf pondweed (*Potamogeton crispus*) has become problematic at Ninepipe Reservoir. Reed canary grass (*Phalaris arundinacea*) is currently one of the most problematic invasive species in wetland and riparian habitats throughout the Mission Valley.

Roundstem bulrush (the exact species was not reported) was introduced to Ninepipe Reservoir around 1950. By 1955 it had spread and crowded out cattail in some areas. Shifts in the SAV community within the reservoirs and wetlands are noted in USFWS refuge annual narratives throughout the 1940s and 1950s. Wetland vegetation mapped at Ninepipe Reservoir during 1967 included spikerush (*Eleocharis* sp.), smartweed (*Polygonum* sp.), tules (likely *Schoenoplectus* sp.), cattails, pondweed (*Stuckenia* sp. and *Potamogeton* sp.), and waterweed (likely *Elodea canadensis*) (Figure 32). Smartweed was generally located adjacent to upland habitats. Cattails interspersed with pondweeds dominated the southeast and northern portions of the reservoir and waterweed was the predominant submerged aquatic vegetation along the southwestern edge toward the outlet. An early, but undated vegetation map is available for PNWR (Figure 33). Open water areas in the middle Pablo Reservoir were dominated by leafy pondweed (*Potamogeton foliosus*) and were surrounded by several species of emergent vegetation.

Pablo Reservoir was drained and poisoned during the mid-1950s to eliminate pumpkinseed (*Lepomis gibbosus*), perch (*Perca* sp.), and other rough fish. Following fish control efforts, trout were stocked in the reservoir during 1956 and 1959 (USFWS refuge annual narratives). Sport fish present in both reservoirs currently include yellow perch (*Perca flavescens*) and largemouth bass (*Micropterus salmoides*).

Muskrat populations declined in the early 1950s despite above average water conditions and populations were low enough by 1954 that no cattail “eat-outs” were observed on refuge wetlands (USFWS refuge annual narratives). During 1955 muskrat trapping was closed for three years through an agreement with the tribal council in hopes that the population would increase and assist with control of cattails. Muskrats were observed eating cattail and using it for their houses during the fall of 1955 and 1959.

NNWR and PNWR have become important breeding and staging areas for several species of waterfowl and other waterbirds and both refuges have been identified as Important Bird Areas (IBA) at the state level (National Audubon Society 2012). In addition to 11 species of ducks, Ninepipe Reservoir supports breeding colonies of western grebes (*Aechmophorus occidentalis*), red-necked grebes (*Podiceps grisegena*), double-crested cormorants (*Phalacrocorax coronatus*), great blue herons (*Ardea herodias*), California gulls (*Larus californicus*), ring-billed gulls (*L. delawarensis*), and yellow-headed blackbirds (*Xanthocephalus xanthocephalus*). NNWR is also supports a large portion of the breeding and staging Flathead Valley Canada goose population. PNWR supports abundant waterfowl species such as Canada geese, mallards, redheads, pintails, American widgeon, northern shovelers (*Anas clypeata*), blue-winged teal (*A. discors*), green-winged teal (*A. crecca*), ruddy ducks (*Oxyura jamaicensis*), and gadwalls, and has served as a release site for trumpeter swans (*Cygnus buccinator*) that have been reintroduced to the valley. Several of the WPAs now support breeding trumpeter swans. Pablo Reservoir is an important stopover for shorebirds during their fall migration period when extensive mudflats are exposed. The region also hosts some of the highest reported

densities of nesting short-eared owls (*Asio flammeus*) and northern harriers (*Circus cyaneus*), as well as rough-legged hawks (*Buteo lagopus*) in North America.

Predicted Impacts of Future Climate Change

Climatic trends in the western U.S. during the 20th century may be in part related to the interdecadal climate variability associated with the Pacific decadal oscillation (PDO), but also appear to be influenced by the monotonic warming, which is largely unrelated to the PDO (Knowles et al. 2006, Mote 2006). Reduced snowpack and earlier stream flow appear to be greater or vary significantly from natural variability and are attributed to climate changes caused by anthropogenic greenhouse gases, ozone, aerosols, and land use (Pierce et al. 2008, Hidalgo et al. 2009).

Temperatures in the western United States are projected to increase by at least 1.8 to 3.6 °F by 2050 (Barnett et al. 2004) and up to 8 °F by 2095 (Hamlet and Lettenmaier 1999) resulting in extensive changes to water resources throughout the region. The most significant impact of this warming will be a reduced winter snowpack and the associated reduction in natural water storage (Barnett et al. 2004). Reduced natural water storage, combined with higher summer temperatures and decreases in humidity will result in higher water temperatures, increased fire danger, and reduced ability to meet irrigation needs (Barnett et al. 2004). Earlier snowmelt and stream flow will affect the timing of surface water inputs into the Mission Valley and aquifer recharge from tributary seepage. In addition, possible reductions in total annual stream flow and lower minimum flows (Cohen et al. 2000) may alter riparian communities in the Mission Valley.

Modeling of climate change impacts on groundwater resources worldwide is limited and results are highly variable due to the complex nature of aquifers (Green et al. 2011). It is not known if overall groundwater recharge will increase, decrease, or stay the same at any scale in the western US (Dettinger and Earman 2007 as cited in Green et al. 2011). However, changes in timing and amount of precipitation in the Mission Mountains undoubtedly will affect timing and amount of recharge to the aquifer. If the increased probability of extreme high precipitation events observed in the 20th century continues to occur, then recharge to aquifers may decrease because of increased/accelerated surface water runoff that occurs during and immediately after high intensity precipitation events. Increased intensity of precipitation may also cause increased erosion from upland areas/mountain slopes and fans into valley marsh areas.

Predictions of future climate change are likely to have some effect on grassland and wetland communities in the Mission Valley and forested areas of the Mission Mountains. Increases in temperatures may extend the fire season and cause an increase in larger more severe fires in semi-arid upland habitats in the Intermountain West. Increasing temperatures may also cause shifts in species distribution. Increased CO₂ may increase the growth of plants with C3 photosynthesis pathways, including both native and non-native species (Chambers 2008). For example, the production of cheatgrass may increase under elevated CO₂ levels, subsequently

increasing fuel loads and creating a positive feedback loop of increased fire frequency and extent (Smith et al. 1987, Ziska et al. 2005, Link et al. 2006).

ECOSYSTEM RESTORATION AND MANAGEMENT OPTIONS

Information obtained in this HGM evaluation was sufficient to conduct an analysis of historical and current ecological attributes of native habitats and created reservoirs within the approved boundaries of NNWR and PNWR in the Mission Valley, Montana. However, certain key information often used for HGM assessments at NWRs and other landscape-level systems was not available for this evaluation, including detailed and refined (one-foot) elevation contours (e.g., LiDAR), field notes associated with GLO survey maps, and detailed GIS-mapped locations of water delivery and control infrastructure. Further, soil surveys conducted in the 1990s tend to map series in broad patterns and do not include small inclusions of hydric types in otherwise well-drained locations.

The Mission Valley historically supported diverse and abundant depressional pothole-type wetlands imbedded within the extensive Palouse prairie and Intermountain grasslands. Riparian wetlands occurred along streams and creeks that flowed into and through the valley. Wetlands in the Mission Valley historically were fed by seasonal precipitation and snowmelt runoff and primarily were recharged the local shallow groundwater in the Lower Flathead subbasin. Toward the western portion of the valley, wetlands were increasingly fed by groundwater discharge. Annual inputs of water were determined by the highly variable seasonal, annual, and long-term pattern of local precipitation and mountain snow melt with some wetlands and streams in the valley also being at least partly sustained by groundwater discharge.

The primary changes to the NNWR, PNWR, NMWMD lands and their surrounding ecosystem since European settlement have been:

1. Clearing of forested areas and native grasslands for timber products and agriculture.
2. Development of the FIIP, including construction of Pablo and Ninepipe reservoirs and an extensive network of water distribution canals.
3. Altered seasonal and interannual dynamics of valley streams, runoff patterns, and distribution of overland surface water sheetflow within the watershed due to historical logging, construction of canals and roads, diversion of water to irrigation reservoirs, and point and nonpoint source pollution.
4. Draining, filling and/or damming wetland basins.
5. Altered topography, including roads, dikes, ditches, borrow areas, and water control structures at and surrounding refuge-managed lands.
6. Decreased abundance of some native fish and wildlife species.
7. Increased abundance of non-native and invasive species.

Future management at NNWR, PNWR, and the NMWMD should include attempts to: 1) protect and restore native grassland and wetland habitats and 2) intensively manage altered habitats (including Ninepipe and Pablo reservoirs). These strategies can provide important and necessary resources given large-scale landscape changes and historical alteration of wetland habitats. Future management of the refuge must also seek to define the role of the refuge lands in a larger landscape-scale conservation and restoration strategy for the Pacific Flyway and Intermountain West regions.

An important, yet mostly uncertain, consideration for future conservation and management strategies for refuge managed lands is how climate change may alter future hydrological conditions and subsequently affect regional land uses, water availability, and vegetation communities within the Mission Valley. Recommendations resulting from this HGM evaluation address three management adaptation approaches that have been identified as important to increase the resilience of ecosystems to respond to projected future climate changes. These management adaptations include the following: 1) reducing anthropogenic stresses, 2) protecting key ecosystem features, and 3) restoring ecosystems that have been lost (Baron et al. 2008). Native habitats within the WPAs and other conservation lands in the Mission Valley should be restored and/or managed to provide resources used and required by native animal species and to increase the resiliency of the ecosystem to future environmental stressors (e.g., climate change).

Collaboration between the USFWS and other landowners in the Lower Flathead subbasin is essential to protect surface and subsurface processes that impact refuge-managed lands and to address predicted impacts of climate change. Regional and landscape scale collaboration with multiple partners and disciplines is highlighted in the USFWS climate change strategy (USFWS 2010). Therefore, engaging conservation programs both on and off USFWS managed lands to restore native habitats and manage for natural patterns of surface water flow and groundwater discharge will be beneficial to increasing ecosystem resiliency.

This HGM evaluation report collated existing information about basic hydrogeomorphic attributes of the Mission Valley ecosystem that can assist efforts to plan future restoration and management action on USFWS managed lands. Ideally, conservation and restoration within the Mission Valley should also be coordinated at this the larger subbasin and watershed scales to create a more sustainable system. Given constraints of surrounding land uses and current irrigation practices, mandates for restoring and managing ecosystem integrity, opportunities for within refuge and watershed scale conservation, and the HGM findings, we recommend that the future management of refuge-managed lands should consider the following goals:

1. Protect and restore the physical and hydrological character of the Lower Flathead subbasin.
2. Restore natural topography and surface water flow patterns and, where necessary, manage flows to mimic natural hydrological conditions on refuge and surrounding lands.

3. Restore and maintain the diversity, composition, distribution, and regenerating mechanisms of diverse, self-sustaining native wetland and upland vegetation communities in relationship to topographic and geomorphic landscape position.
4. Collaborate with the CME to ensure that water levels in Ninepipe and Pablo reservoirs incorporate dynamic wet/dry cycles that promote spatially and temporally diverse aquatic and wetland habitats while meeting the goal of the FIIP to efficiently deliver the annual water supply.

Restoration and Management Recommendations

The following recommendations are suggested to meet the above ecosystem restoration and management goals for USFWS managed lands in the Mission Valley ecosystem.

1. Protect and restore the physical and hydrological character of the Lower Flathead subbasin.

Refuge-managed lands ultimately are affected by land and water uses and changes in the way water flows in watersheds of the Lower Flathead subbasin. Restoration of sustainable native plant communities and ecological processes (such as flood storage and surface water sheetflow) will require changes in inputs and exports of water, sediments, and nutrients to and from refuge-managed lands and surrounding lands that now primarily are in agricultural cropland, hay, or pasture. Restoring the hydrologic characteristics of the Lower Flathead watersheds and wetlands will require the restoration or management of more natural patterns of water entry into, through, and exiting refuge managed lands.

While many of the watershed and surface water alterations are not under the control of the USFWS, collaboration and cooperation with the CSKT, CME, BIA, local organizations, private landowners, and other governmental agencies should continue to encourage conservation programs that create more sustainable land uses and restore or manage for more natural hydrology, especially water flow and drainage patterns. Site-specific and landscape-scale recommendations include:

- Protect existing native grasslands from further conversion and alteration to agricultural or other uses.
- Convert marginal, highly erosive lands to native vegetation.
- Protect key creek channels and watersheds from further alteration and restore stream corridors where possible.
- Delineate the specific watershed areas within the Lower Flathead subbasin that contribute the most, or are at the highest potential risk of contributing sediment, nutrient,

and surface water runoff into creeks and wetlands and target soil and water conservation practices to these areas.

- Restore natural drainage corridors including removal of unnecessary ditches, roads, levees, railbeds, etc.
- Collaborate with the CSKT, irrigation entities, state agencies, and local landowners to improve and develop ecologically sound water delivery infrastructure and integrated flood management measures.
- Protect and restore the physical integrity of depressional wetlands and their contributing local watersheds (see below).
- Promote acquisition of additional USFWS WPAs and conservation easements (either through USFWS, CKST, or non-profit conservation entities) where depressional wetland-grassland complexes can be protected, restored, and managed.

2. Restore natural topography and surface water flow patterns and, where possible, manage flows to mimic natural hydrological conditions on refuge and surrounding lands.

The historical ecological diversity and productivity of lands in the Mission Valley was created and maintained by their unique geomorphology coupled with the seasonally and interannually dynamic water regimes. Most of the WPAs and NNWR occur within the prairie landscape where numerous individual wetland basins had relatively small localized watersheds. The larger Mud, Mission, Post, and Crow creek drainages flowed through the area and created unique riparian wetland and woodland habitat. Relatively few natural wetlands historically occurred at PNWR. Future conservation programs in the in the NNWR acquisition boundary and surrounding Mission Valley area should seek to:

- Restore the physical and hydrological character of depressional wetlands.
- Expand existing inventories of wetlands to determine their individual local watersheds, type and degree of alteration including ditches and other dredge/fill activities, and identify respective hydrological regimes ranging from small shallow ephemeral or seasonal basins to those that are larger semi-permanently flooded basins.
- Conduct hydrological restorations of wetland basins including removing, modifying, or plugging drainage ditches into, through, and out of them. Also remove any tile or other drainage systems on uplands that drain and discharge groundwater into wetlands. Other renovations may entail restoring the integrity of individual basin watersheds and basin bathymetry if they have been altered. Certain basins may require installation of water-control structures to allow management of surface water flows into the basin.

- Manage wetlands (if water-control structures are present) for natural seasonal, interannual, and long-term water regimes that mimic historical variability of water dynamics.
- Remove or modify existing roads, levees, ditches, and other man-made topographic structures within refuge-managed lands if they negatively impact natural surface-water flow patterns. Relocating berms to positions along natural elevation contours can facilitate management of natural hydrologic conditions. Using permeable fill in roads may facilitate restoration of wet meadows (Zeedyk 1996) and seasonally flooded wetlands within refuge managed lands.

3. Restore and maintain the diversity, composition, distribution, and regenerating mechanisms of diverse, self-sustaining native wetland and upland vegetation communities in relationship to topographic and geomorphic landscape position.

The Mission Valley historically contained a mosaic of Palouse prairie and Intermountain grasslands on the foothills and valley floor, scattered sagebrush/bunchgrass grasslands in the western portion of the valley, riparian wetlands along creeks, and numerous depressional wetlands throughout the native grasslands. These communities were distributed along geomorphic, soil, topographic position, and hydrology gradients. The HGM matrix (Table 2) and potential historical vegetation community map (Figure 22) produced in this report identify specific locations for all these vegetation communities. This information essentially can guide efforts to restore vegetation communities where native habitats have been destroyed (i.e., converted to agricultural uses) or altered (e.g., changed water regimes and/or grazed by domestic livestock) and some potential to restore the site exists. Altered or destroyed habitats on USFWS managed lands occur and should be targeted for restoration. Restoration and management recommendations for vegetation communities include:

Palouse Prairie, Intermountain, and Sagebrush/Bunchgrass Grasslands

- Protect native remnant grasslands on refuge-managed lands. Remnant grasslands on the valley floor or mountain foothills within the Lower Flathead subbasin may be used as reference conditions to restore native grasslands on USFWS managed lands.
- Target restoration of altered grasslands based on current plant assemblage, succession status, soil type (this study), and ecological concepts of grassland (see overview in Nyamai et al. 2011). Broadcast spraying, spot spraying, native seeding with mulching, transplanting native grass plugs, and manipulation of soil biota (e.g., mycorrhizal inoculation) have been tested and/or used for restoration of Palouse prairie grasslands and may be appropriate for refuge and WPA lands (e.g., Nyamai et al. 2011, Weddell and Lichthardt 2001). To maximize effectiveness of restoration efforts, application of these methods to grassland restoration on refuge-managed lands should be based on site-specific characteristics of the area to be restored.

- Develop a fire management plan to implement low-intensity prescribed burns to mimic historical disturbance regimes in grassland habitats. Use of prescribed fire should be carefully considered so that it does not increase disturbance-adapted species, particularly non-native grasses. Prescribed fire may not be suitable for areas where invasive species are prevalent (Weddell 2001).
- Focus sagebrush/bunchgrass grassland habitat restoration on areas of Lonepine silt loam where historical accounts suggest it was more prevalent.

Depressional Wetlands and Wet Meadow Inclusions in Grasslands

- Restore natural topography of wetland basins and do not deepen or attempt to make small shallow basins deeper to hold more water for longer periods.
- Allow wetlands and wet meadows to seasonally dry according to historical flooding regime. To illustrate this variability, temporal and spatial patterns of wetland hydrologic conditions at Anderson and Duck Haven WPAs are shown in Figure 34. Historical flooding regime may be informed by: 1) terrain analysis (Gallant and Wilson 1996, Gessler et al. 1995) to locate depressional basins and their immediate watershed; and 2) additional soil sampling to locate hydric soil inclusions, A horizons buried by anthropogenic-induced sedimentation, and historical pollen (e.g., Servheen et al. 2002).
- Restore or manage wetland basins for different stages of succession to the extent possible to match life history needs of priority wetland-dependent species.
- Manipulate water levels of managed wetland basins to enhance wetland functions and the availability of food and cover resources. For example:
 - Manage water level drawdowns to promote desirable plant species based on plant life history strategies (e.g., germination requirements).
 - Manage open water communities in semi-permanently flooded basins for pioneering SAV species (e.g., sago pondweed) with high nutrient values that are adapted to disturbance.
 - Manage water level drawdowns to remove decadent stands of robust emergent vegetation. Drawdowns should include complete removal of surface water AND soil water within the root zone of plants. Removal of surface water only is not sufficient to stress wetland plant species with large underground biomass capable of storing large quantities of carbohydrates and nutrient reserves (e.g. *Typha*).
 - In managed wetland basins that have a long history of stabilized water levels, managing for several consecutive years of drawdown, combined with other disturbance actions, may be necessary to restore wetland processes. These

processes include, but are not limited to the following: decomposition of accumulated organic matter; oxidation; nutrient cycling; biogeochemical cycles; seed banks; and mycorrhizae associations (see summaries in van der Valk 2006, Keddy 2010).

- Periodically disturb wetland surfaces as needed with mechanical treatment, fire, mowing, or herbivory during dry periods to emulate natural patterns of vegetation decomposition, nutrient cycling, and regeneration of desirable native wetland plants. Soil disturbance resulting from mechanical treatments should be carefully considered to that does not increase niches available for germination or spread of invasive species.
- Discourage invasion of wetlands by invasive species.
- Remove non-native fish from deeper wetlands and discourage future attempts to stock or maintain non-native fish populations in these wetlands. Non-native fish reduce the abundance and diversity of aquatic invertebrates (Hentges and Stewart 2010), important for breeding waterfowl.

Riparian Wetlands

- Restore herbaceous and woody riparian wetlands along perennial and intermittent creeks on alluvial soils by creating conditions suitable for germination of native plant species.
- If native species are planted to augment establishment of woody or herbaceous vegetation, the species selected should be adapted to micro-site conditions (e.g., soil type, flooding depth and frequency; Briggs 1996).
- Remove levees or obstructions that impede seasonal overbank flooding from creeks into adjacent riparian wetlands where practical.
- Restore natural patterns of water flow and seasonal regimes in creeks where practical (see previous recommendations for the Mission Valley system).

4. Collaborate with the CME to ensure that water levels in Ninepipe and Pablo reservoirs incorporate dynamic wet/dry cycles that promote spatially and temporally diverse aquatic and wetland habitats while meeting the goal of the FIIP to efficiently deliver the annual water supply.

Construction and maintenance of Ninepipe and Pablo reservoirs destroyed the underlying native habitats that were present, and it is not likely that these reservoirs will be removed or modified sufficiently to restore former habitats. However, these reservoirs and associated aquatic habitats provide important habitats and resources that are used by many wildlife species during

certain time periods. Although artificial, these reservoirs indirectly can emulate the availability, to some degree, of vegetation and invertebrate resources that were/are present in larger Mission Valley wetlands (e.g., larger semi-permanently flooded wetland basins). The key to managing productive habitats in these reservoirs, and the impoundments built adjacent to Pablo Reservoir (Figure 31) is creating seasonal, interannual, and long-term dynamics of water levels, with variable depth, duration, and extent of flooding. While it is understood that the reservoirs are managed primarily for water storage and irrigation purposes, some opportunities seem to exist to improve resources including:

- Collaborate with the CME to maintain temporally variable drawdowns of the reservoirs throughout the summer. Historical variation in reservoir water levels likely contributed to diverse and productive vegetation communities.
- Collaborate with the CME to provide annually variable winter storage and water levels. Some very dry or wet periods are important to sustain long-term productivity of wetland plant communities (e.g., submerged aquatic and emergent vegetation) in these reservoirs, so water management should attempt to allow both alternating relatively wet (high) and dry (low) reservoir levels to occur.
- Manage wetland impoundments at Pablo Reservoir to emulate seasonal, annual, and long-term variability in water levels that mimic historical hydrologic conditions and water regimes for semi-permanently flooded wetlands (see recommendations for water management under #3 above).
- Discourage establishment and encroachment of non-native plant and animal species in reservoirs and impoundments with appropriate chemical, biological, and mechanical treatments.
- Collaborate with CME to reduce transport of invasive species propagules through the irrigation system.

Field Application of HGM Information for Site-specific Planning

Likely, the USFWS will want to evaluate each of the land tracts (NWRs, WPAs, easements) on the Bison Range NWR complex to determine future restoration and management goals and prepare step-down habitat management plans. While this HGM study was not intended to prepare individual restoration/management plans for specific tracts, it offers information that staff can use to prepare such. Generally, the HGM process asks four basic sets of questions that can guide tract assessments and help managers prepare plans. They are:

1. What was the historical (Presettlement) community(ies) on a tract, what landscape features were associated with the community(ies), and what abiotic and biotic processes sustained it?

2. What changes have occurred from the historical condition, both in landform and ecological processes?
3. What potential communities can be restored (or continue to be protected and maintained if they have not changed from the Presettlement condition) on the site? In other words, what is the new desired state?
4. What physical and biological changes are needed to create and sustain the new desired community/state?

At the site-specific scale, this report provides much of the information needed to determine what communities were present at a site and if they have been altered, which communities could potentially be restored including recommendations for future management actions. For example, the GIS databases assembled in this report provide detailed information on the geomorphology, soils, and to some degree the hydrology of a site. Unfortunately, detailed elevation information is not currently available, but can potentially be obtained in the future. This GIS information is available to all entities and can be sorted and analyzed at any spatial scale. The development of the HGM matrix (Table 2) in this report help managers identify what physical features (such as soil type) and ecological processes (such as flood frequency and duration) sustained historical communities at a site, and that must be present if the community is to be restored. This report does not identify all of the physical and biological changes that have occurred at each site, but it does describe the general types of landscape alterations that must be identified before decisions can be made about restoration options. This report suggests the following procedure to determine optimal restoration options at a site.

1. Ask what the historical community(ies) were on a site. This is generally provided in Fig. 22.
2. Ask what the physical and biological features of the community were and what the controlling biological mechanisms were. This is in part provided in Table 2 and the text for each community type. Site-specific inventories will be needed to:
 - identify all wetland basins, sizes, and individual watersheds.
 - identify where, when, and how water historically and currently moves into wetlands, across prairie grasslands, and through riparian corridors. Some detailed hydrological studies may be needed to understand whether wetlands were recharge, flow-through, or discharge sites, which will determine what plant communities belong in each basin.
 - refine soil maps to determine hydric inclusions in well drained areas.
 - obtain detailed topographic/elevation maps of the site to help inform watershed, water flow, and slope/aspect information.
3. Ask what changes have occurred to the site. Some of this information is generally provided in the report but detailed inventory of the site will be needed about changes in:
 - landform (such as roads, ditches, railbeds, etc.)

- hydrology (ditches, drains, tile, levees or berms, water-control structures, diversion structures and types, etc.)
- community composition (such as complete inventory of native and non-native species in each community)

4. Ask what communities are appropriate and ultimately can be sustained for the site given the current alterations. Answers to this question will require information on the degree and location of specific alterations and whether they can be modified or restored. Where modifications are relatively minor, a more complete restoration to original habitat and processes may be possible and are desirable. In sites where modifications are more extreme, an assessment of the potential to change the modification at least to some degree back to a previous condition will be needed. For example, if water flow patterns in natural creek channels are highly altered because of non-reversible diversions and physical landscape changes, it may not be possible to restore the natural creek channel, riparian forest, and associated wet meadows. In other places, however, some restoration of water movement into former sections of creek channels may be possible by changing diversion routes, timing, and amounts. Similarly, if a wetland basin has been highly altered by changes to its watershed that affects timing and amount of water moving to it or from ditches or other drain structures, then an assessment of the possibility to restore the surface water flow patterns or remove ditch and drain structures will be needed – and may eventually indicate that the basin can still be a wetland but of a different type (i.e., seasonally flooded instead of a former semipermanently flooded site).

5. Ask what physical and biological changes will be needed to restore and manage the desired community/habitat/resources. Suggestions for physical and management changes are in part provided in the previous section. For example, if a wetland basin has been modified with ditches, drains, levees, roads, or water-control structures an engineering analyses may be needed to determine if and how it is possible to remove or modify the change to restore water flow patterns, flooding and drying dynamics, and physical integrity of the basin.

Clearly, the degree that more site-specific information will be needed at any site depends on what information currently exists for that site, and what resources/methods will be required to obtain the unavailable information. Currently, the common data deficiencies for refuge sites include lack of detailed elevation maps, soil inclusion, and hydrology of wetlands. Additionally, the degree of alteration of former hydrology cause by site changes and systemic alterations is uncertain. If refuge resources (staff, \$, time, cooperation from other agencies and landowners) can be devoted to the above process, then priorities for future restoration and management can be developed within and across tracts.

MONITORING AND EVALUATION NEEDS

Future management of NNWR, PNWR, and NMWMD should include regular monitoring and applied research studies to determine how ecosystem structure and function are changing, regardless of whether restoration and management options identified in this report are

undertaken. Ultimately, the success in restoring and sustaining communities and ecosystem functions/values within the NNWR acquisition boundary and at PNWR will depend on how well the physical and hydrological integrity of the regional landscape in the Mission Valley is protected and restored, and how historical natural key ecological processes and events can be restored or emulated by management actions. Uncertainty exists about the ability and effectiveness of making some system changes because of incomplete and fragmented refuge ownership, irrigation requirements, land use and soil and wetland drainage in the local watershed, and past infrastructure development of roads, ditches, levees, and water-control structures. Also, techniques for controlling or reducing introduced plant species, and restoration of some community species assemblages, such as the Palouse prairie grassland, is not entirely known.

Whatever future management actions occur for the study area, activities should be done in an adaptive management framework where: 1) predictions about community response and water issues are made (e.g., increased area and productivity of shallow seasonal wetlands) relative to specific management actions (e.g., restoring spring/summer surface water sheetflow into basins) and then 2) follow-up monitoring is conducted to evaluate ecosystem responses to the action. Critical information and monitoring needs for USFWS managed lands are identified below:

Basic Soil, Topography and Watershed Features

The current HGM evaluation study was limited by the lack, or incomplete nature of, certain hydrogeomorphic data. Important data needed to refine and expand information in this study includes:

- Conduct a LiDAR topography survey of the Lower Flathead subbasin (including the valley areas and mountain foothills) to understand and identify detailed natural drainage and surface water flow patterns that will assist with restoring native habitats.
- Conduct detailed soil mapping for USFWS managed lands to complement and refine existing soil survey maps, including identification of hydric soil inclusions, the specific extent of soil types mapped as associations of complexes (e.g., Post-Ronan-Water complex that occurs on most of the WPAs), and areas of sedimentation. Soil profiles will also help determine where ditches and canals may be negatively impacting water quantity and flow patterns.

Quantity and Quality of Surface and Groundwater Discharges and Runoff

Ultimately, the capacity of USFWS managed lands to sustain native communities and contribute to restoring the integrity of its unique prairie grassland/wetland ecosystem of the Mission Valley will depend on restoring natural patterns of surface and groundwater discharge, runoff, storage,

and flow through of wetlands and native grasslands. Specific monitoring and directed studies about hydrology of the region should:

- Monitor and model surface and ground water dynamics, including discharge, recharge, and storage capacity of wetlands (restored and unrestored and/or managed) in the acquisition boundary. For example, by repeating the groundwater monitoring by Phillips (1993) and expanding it to priority wetland areas on refuge-managed lands will increase our understanding of pothole-type wetland dynamics in the Mission Valley.
- Verify the location and extent of canals and ditches from the NHD on and adjacent to refuge managed lands. GPS additional ditches and canals not already mapped in relation to soil types.
- Inventory and monitor agricultural tile drains and ditches including their location, maintenance, and discharges.
- Monitor water quality in Ninepipe and Pablo reservoirs and the creeks that influence hydrology on the WPAs.
- Complete a Water Resources Inventory and Analysis (WRIA) for refuge managed lands.

Restoring Natural Water Regimes and Water Flow Patterns

This report suggests several physical and management changes to help restore some more natural topography, water flow, and flooding dynamics in prairie and wetland habitats. Most changes involve restoring at least some more natural water flow through natural drainages across alluvial fans, prairie moraine hills and valleys, and into and through wetlands in a sheetflow manner and to manage wetland basins and impounded sites for more seasonally- and annually-dynamic flooding and drying regimes. The following monitoring will be important to understand effects of these changes if implemented:

- Monitor water management characteristics for refuge-managed lands including source, delivery mechanism or infrastructure, water level, extent and duration of flooding/drying, and relationships with non-refuge water and land uses. This will require a series of staff gauges in managed, restored, and remnant wetland habitats, inflows and outflows, groundwater wells, and piezometers tied to elevation. These data will also document how existing water drainage systems are used and maintained.
- Document how water moves across drainage basins of depressional wetlands.
- Monitor soil moisture in relation to controlled and uncontrolled inputs as well as environmental variability associated with wind, clouds, residual vegetation, soil texture,

and organic matter is relevant for assessing optimal germination conditions for native species and management of productive habitats.

Long-Term Changes in Vegetation and Animal Communities

In addition to determining current distribution and dynamics of plant and animal species on USFWS lands, long-term survey/monitoring programs are needed to understand changes over time and in relation to management activities (e.g., Paveglio and Taylor 2010). Important survey/monitoring programs are needed for:

- Distribution and composition of major plant communities including expansion or contraction rates of introduced and invasive species.
- Responses of wetland habitats to changes in water management and seasonal distribution of surface water flows. Collaborating monitoring efforts with CSKT, State of Montana, and other landowners will increase our understanding of wetland dynamics throughout the Mission Valley.
- Survival, growth, and regeneration rates of remnant and restored native grassland species.
- Abundance, chronology of use, survival, and reproduction of key species such as dabbling ducks, diving ducks, swans, marsh and shorebirds, grassland birds, small mammals, and amphibians and reptiles.

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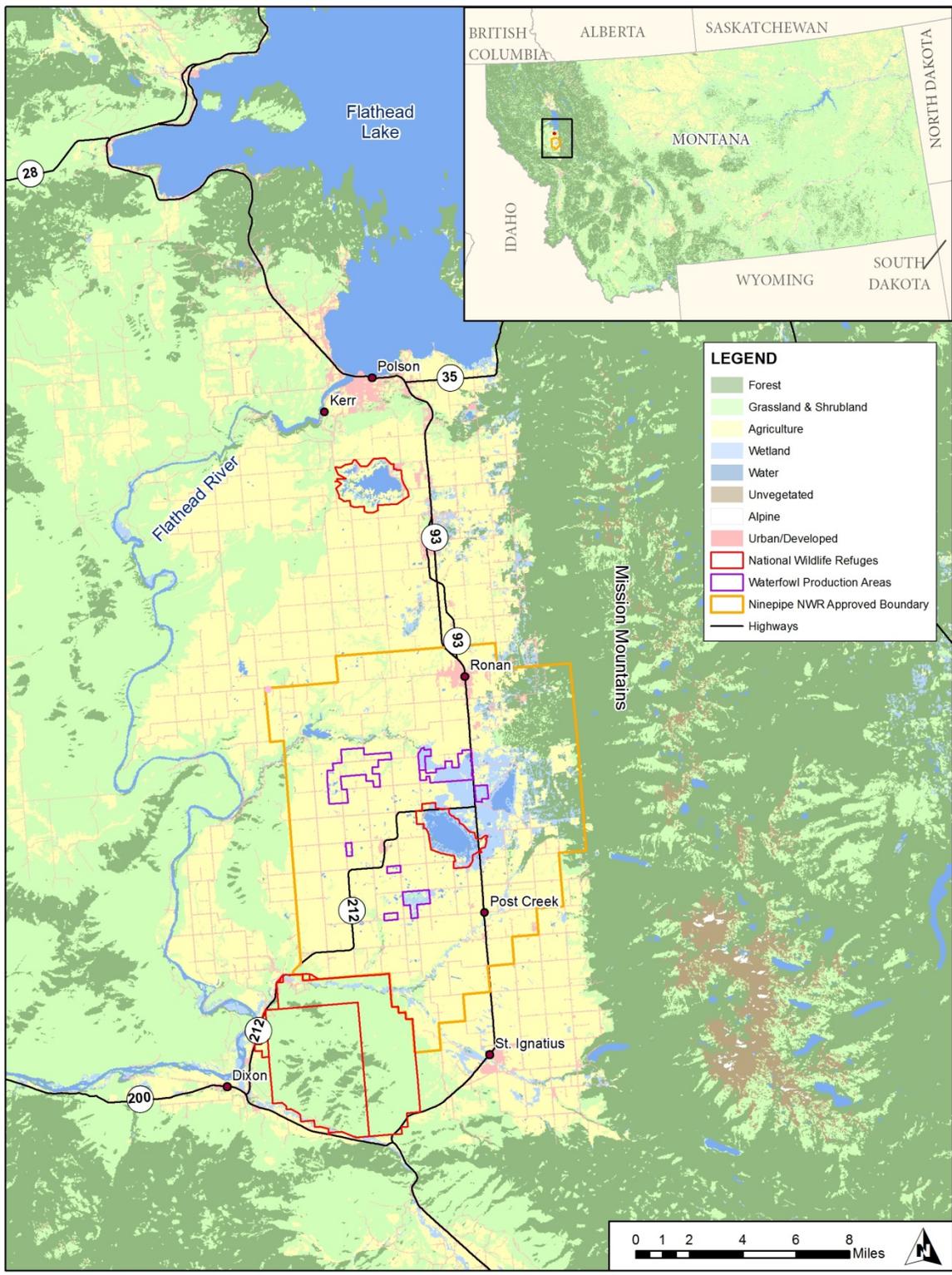


Figure 1. General location of Pablo and Ninepipe National Wildlife Refuges in Lake County, Montana.

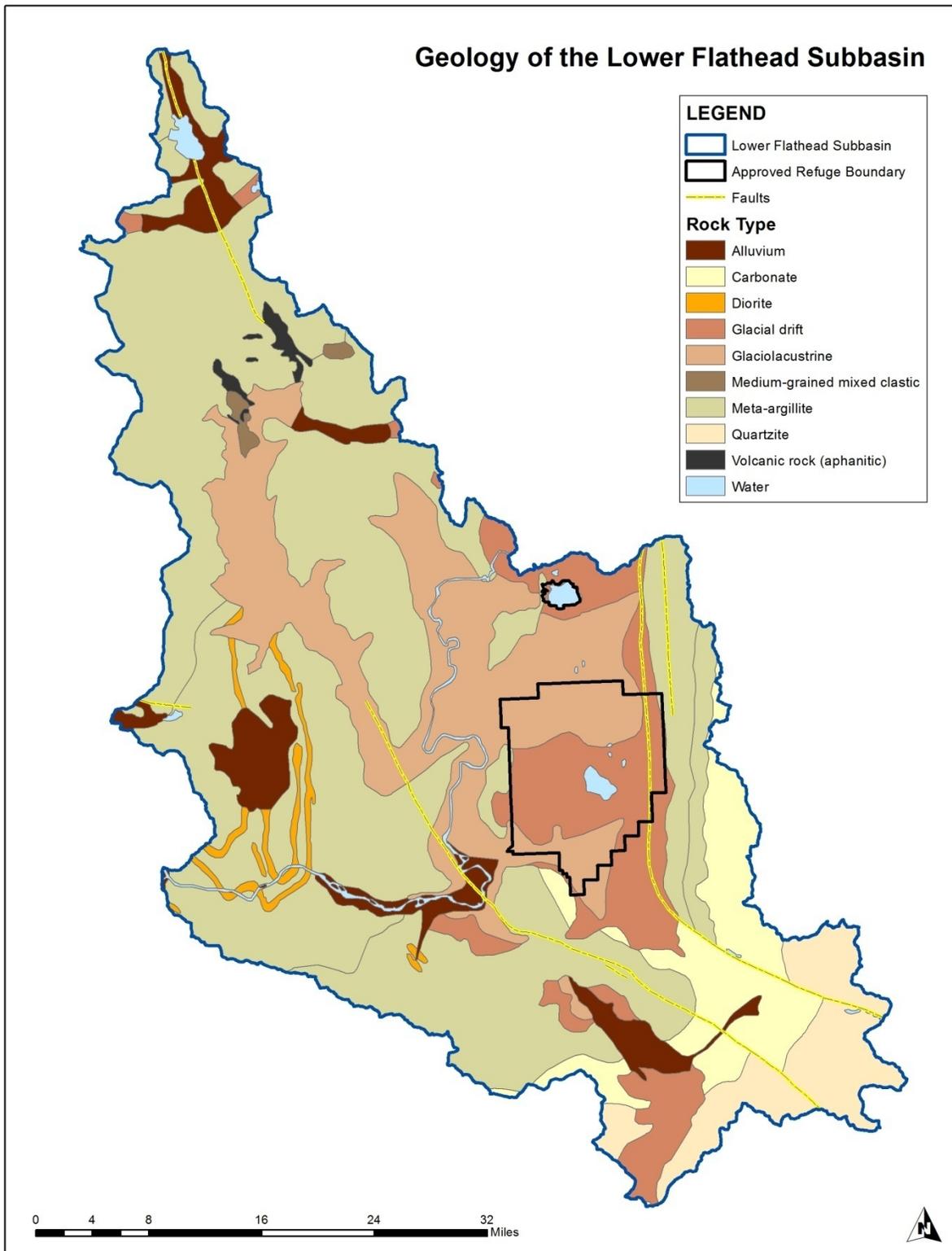


Figure 2. Surficial geology of the Lower Flathead subbasin. Lithology and faults from Stoesser et al. (2007); hydrologic unit boundary from USGS National Hydrography Dataset (<http://nhd.usgs.gov/data.html>).

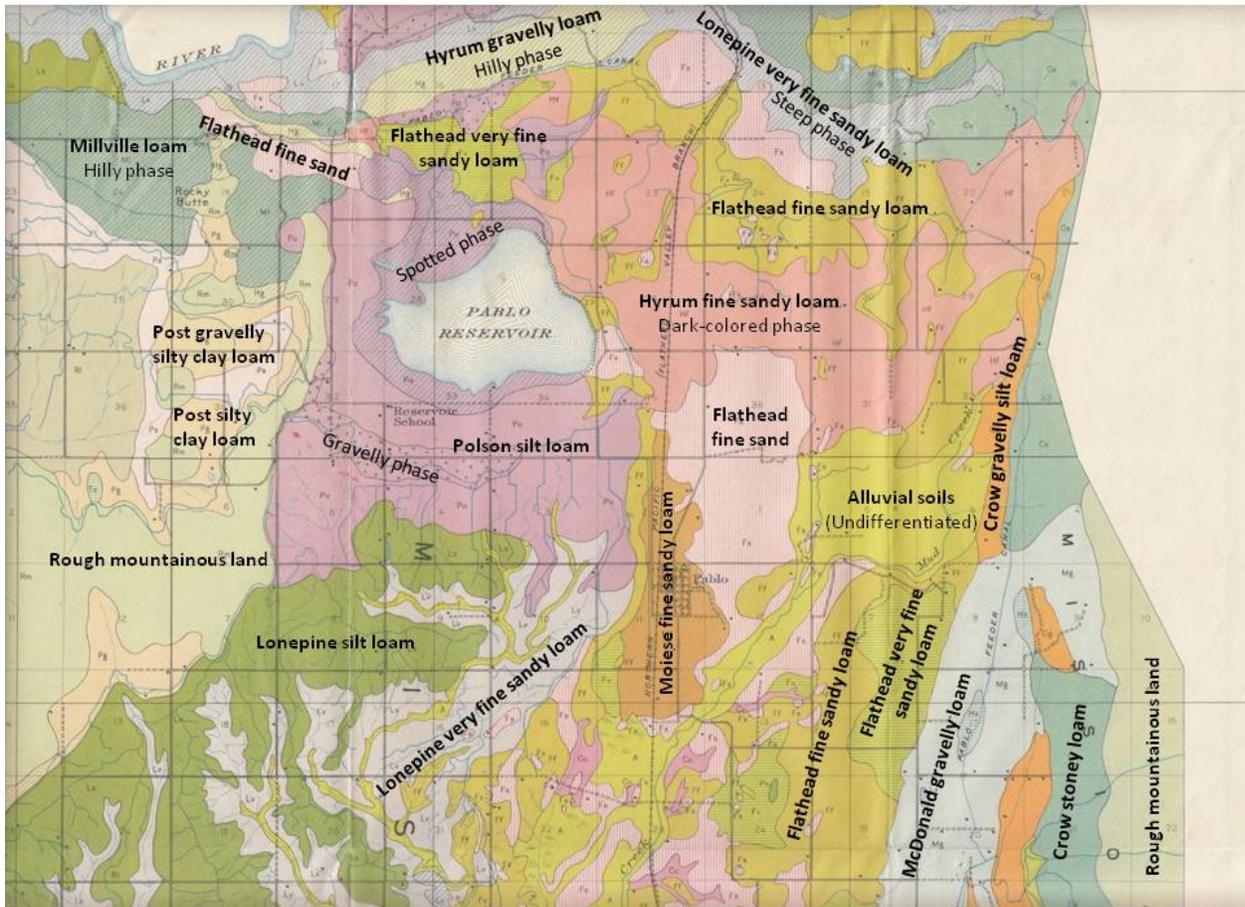


Figure 3. Portion of the 1929 soil survey map near Pablo Reservoir with soil types annotated from map legend. Map from DeYoung and Roberts (1929).

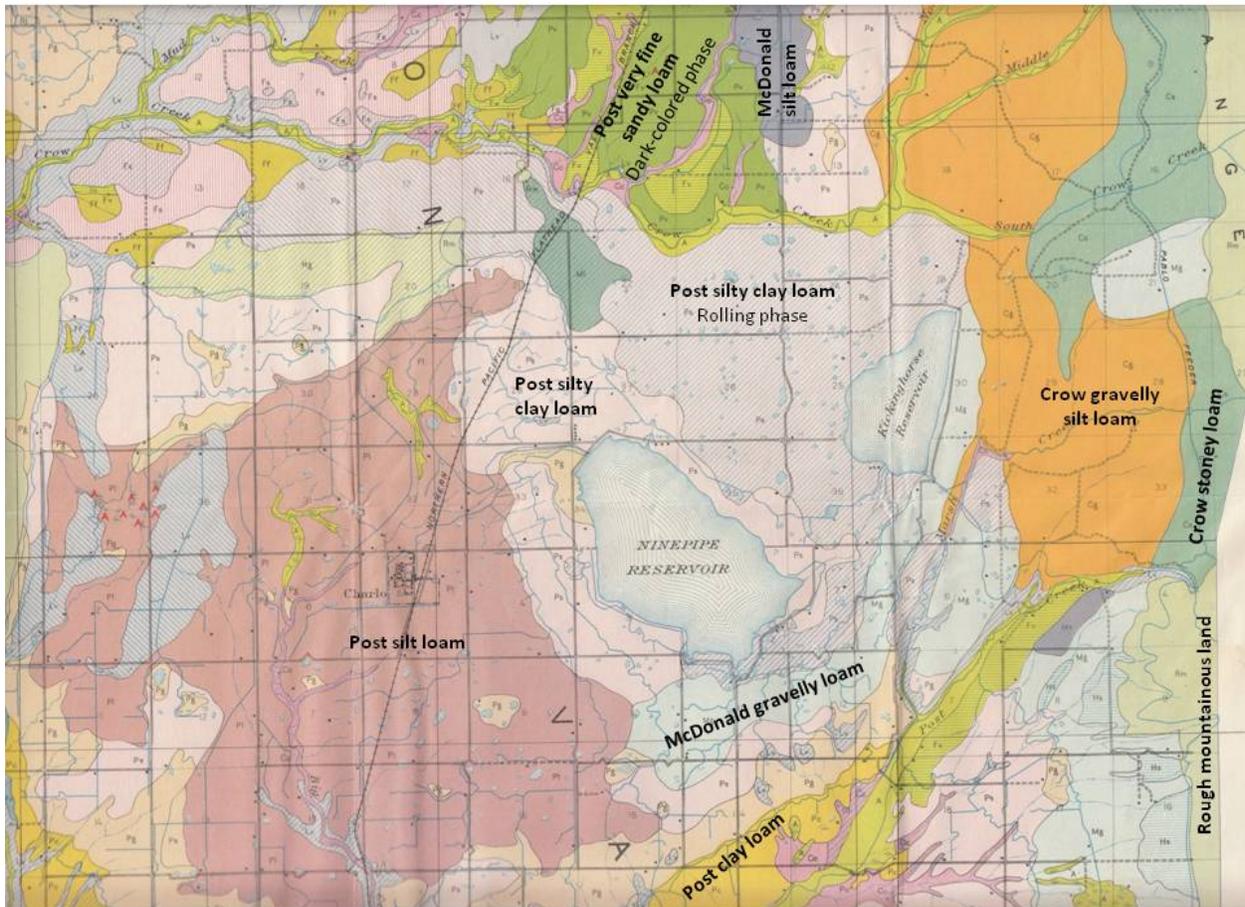


Figure 4. Portion of the 1929 soil survey map near Ninepipe Reservoir with soil types annotated from map legend. Map from DeYoung and Roberts (1929).

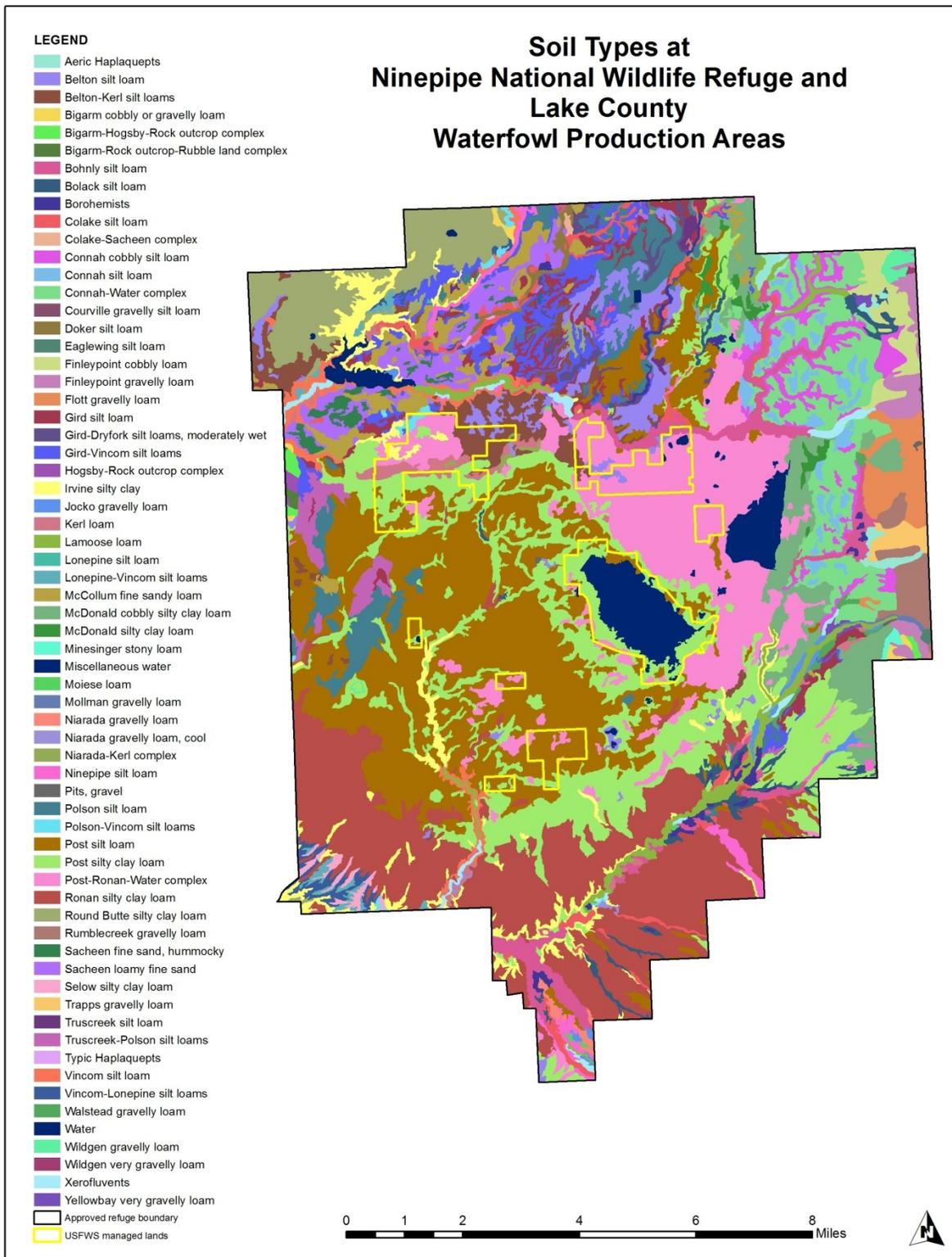


Figure 5. Soil types within the approved refuge boundary of Ninepipe National Wildlife Refuge based on NRCS soil survey of Lake County. Data from NRCS (2008, 2012).

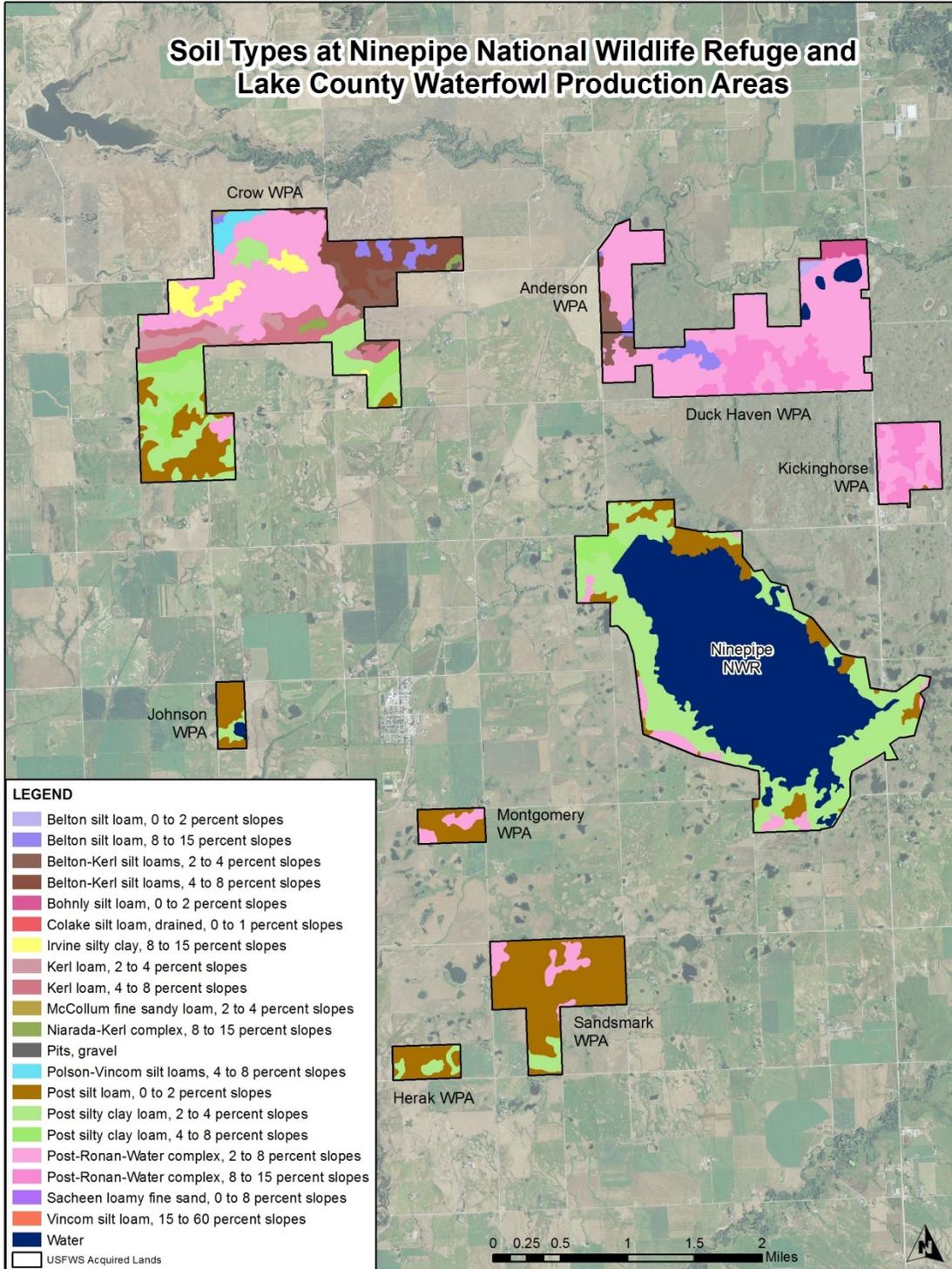


Figure 6. Soil types within refuge-managed lands at Ninepipe National Wildlife Refuge and Northwest Montana Wetland Management District. Data from the 1995-2012 soil survey of Lake County (NRCS 2008, 2012).

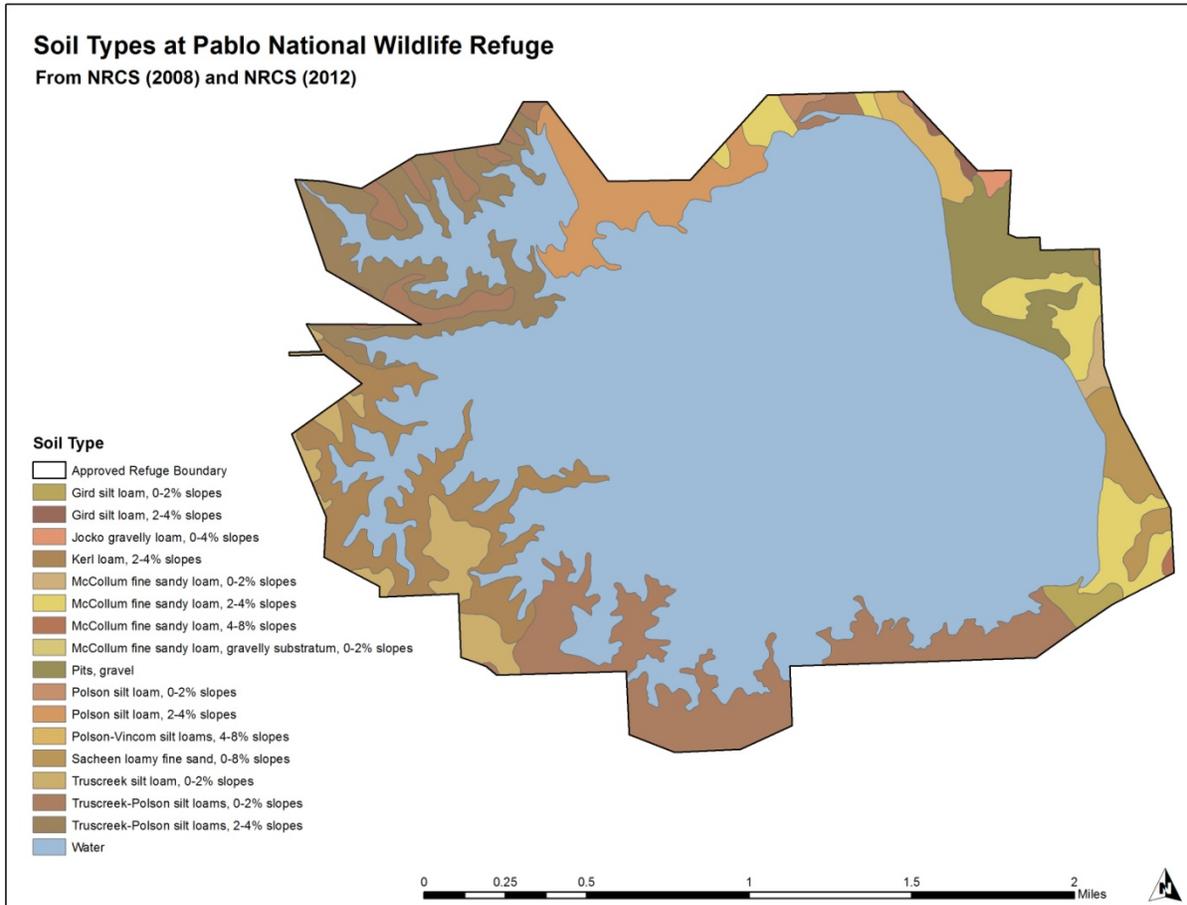


Figure 7. Soil types at Pablo National Wildlife Refuge based on NRCS soil survey of Lake County. Data from NRCS (2008, 2012).

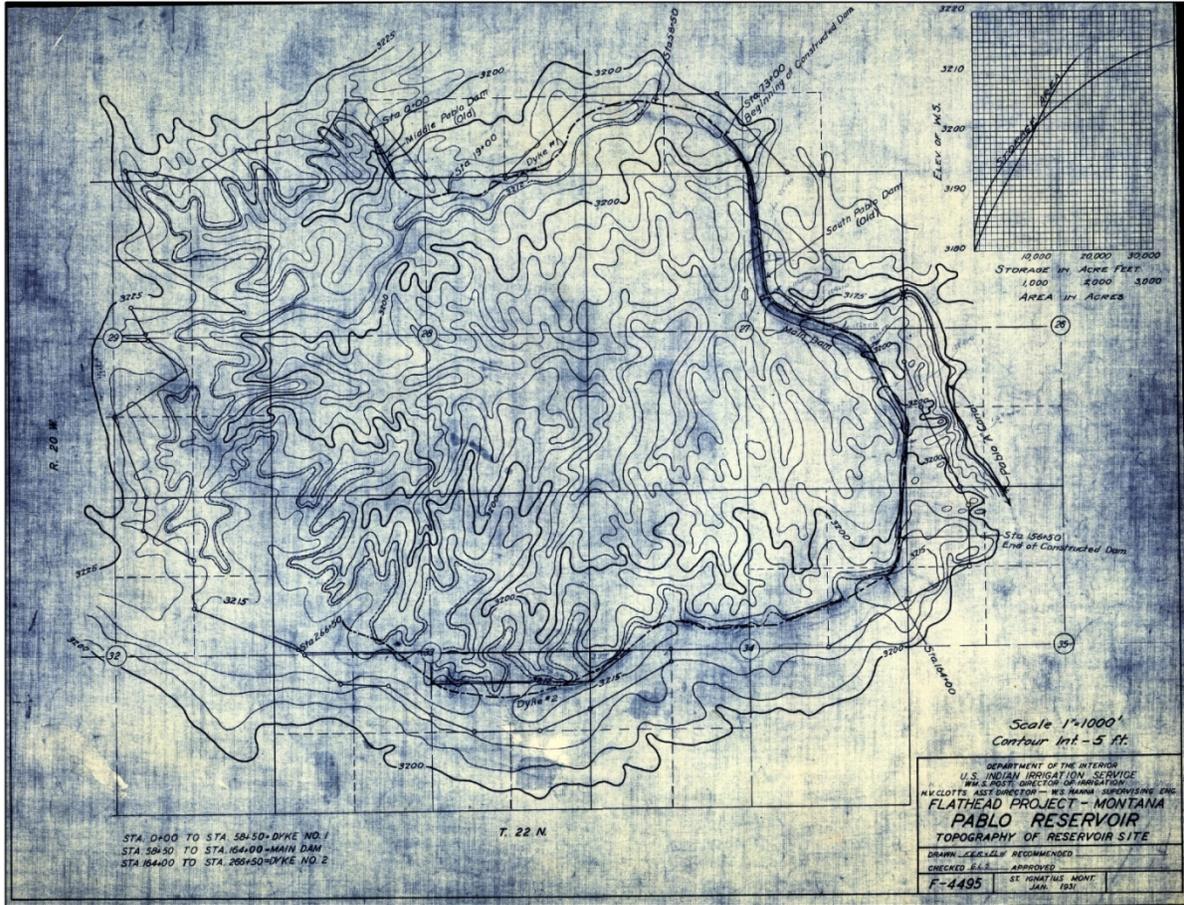


Figure 8. Elevation contours at Pablo National Wildlife Refuge from 1931.

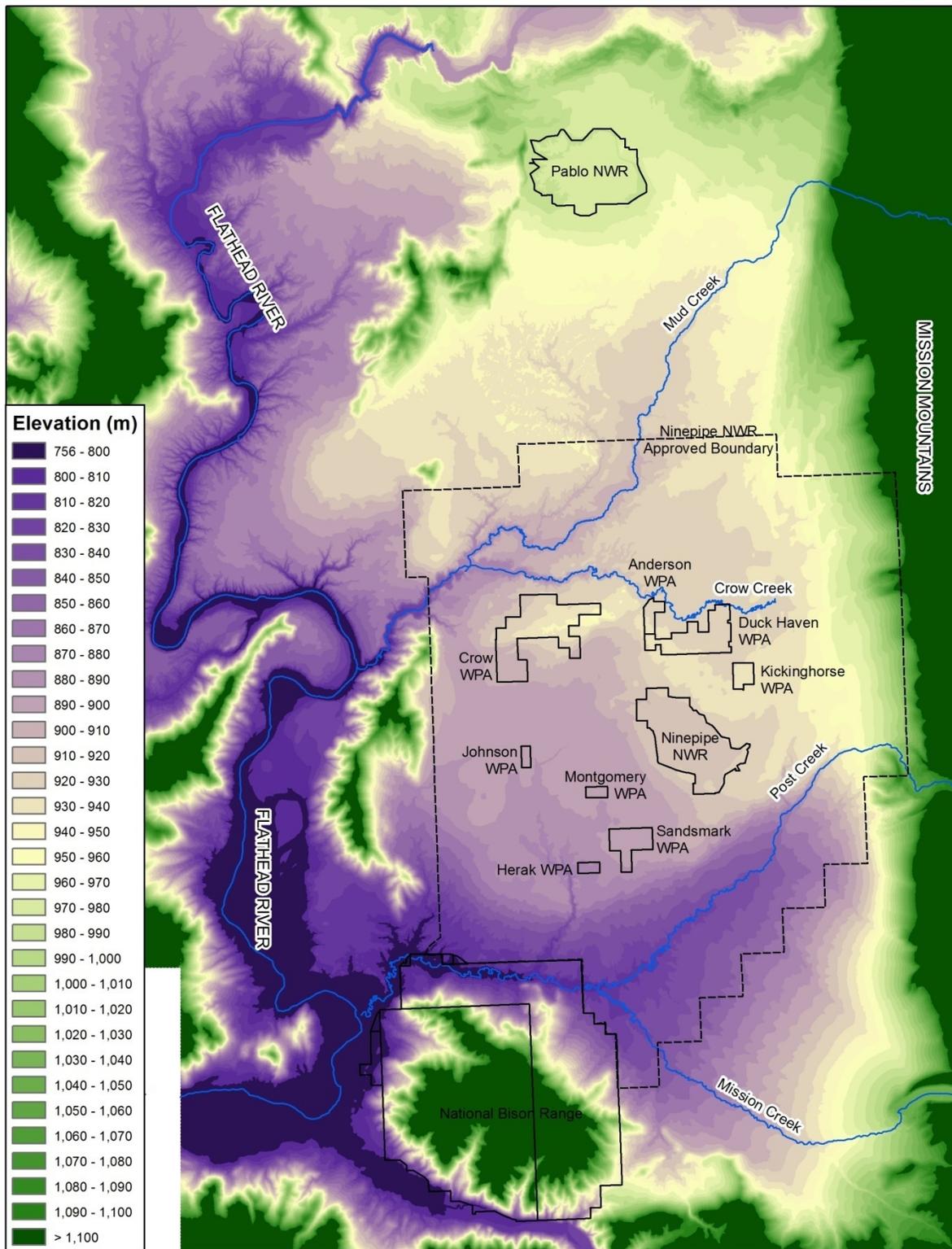


Figure 9. Elevation contours within the Mission Valley and surrounding areas based on 10-meter National Elevation Dataset (from <http://ned.usgs.gov/>). Elevation contours represent 10-meter intervals except for 756-800 m and >1,100 m contours.

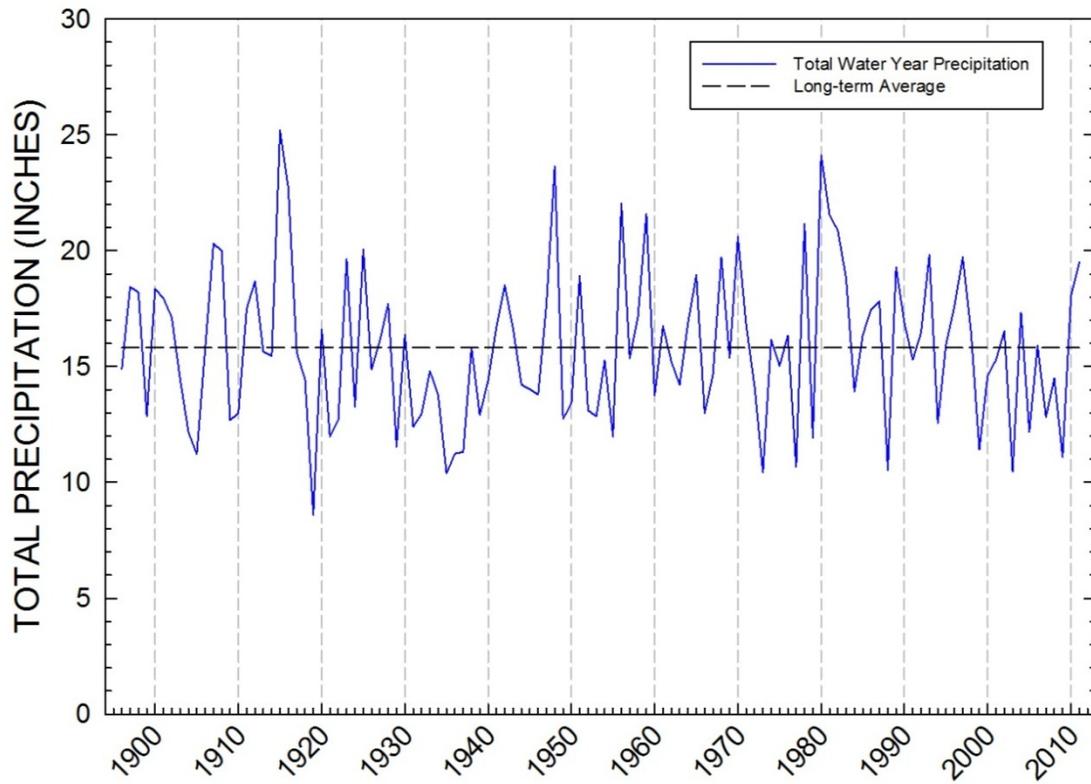


Figure 10. Total water year (Oct. 1 – Sept. 31) precipitation at St. Ignatius, Montana (USHCN Station 247286) from 1895-96 to 2010-11. Data from Menne et al. (2012).

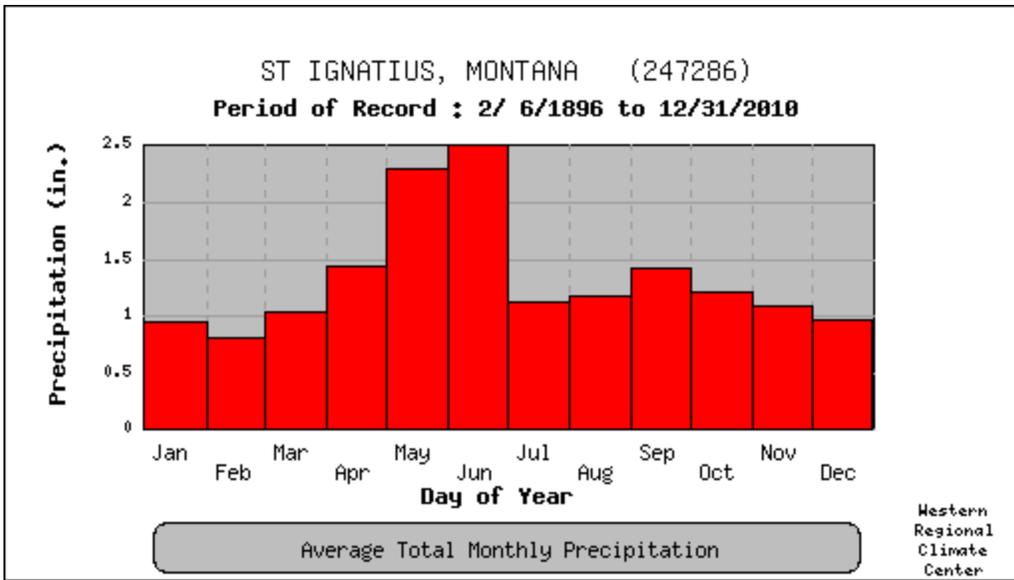


Figure 11. Average total monthly precipitation at St. Ignatius, Montana, from 1896 to 2010. From Western Regional Climate Center (2011).

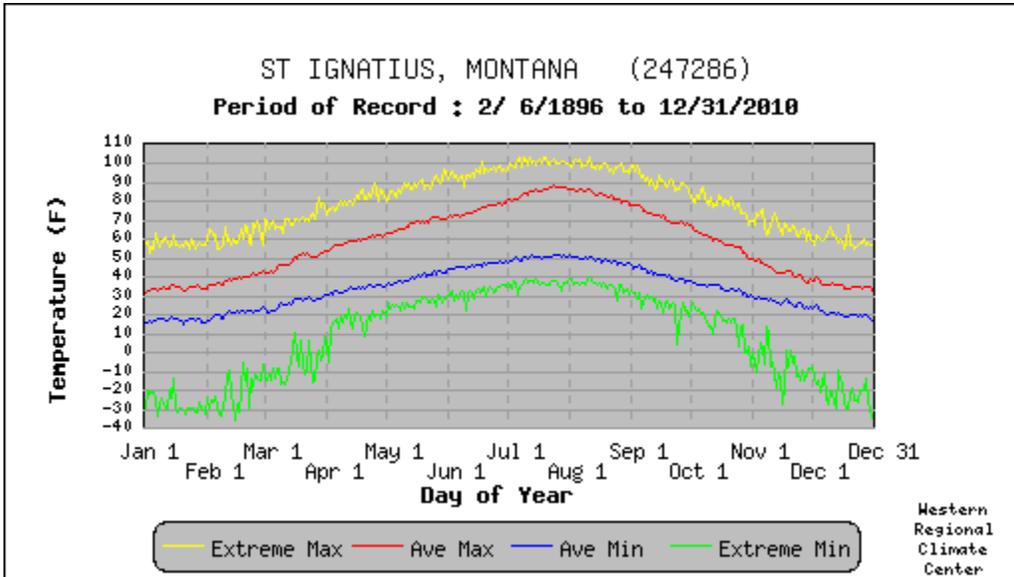


Figure 12. Daily temperature averages and extremes at St. Ignatius, Montana, from 1896 to 2010. From Western Regional Climate Center (2011).

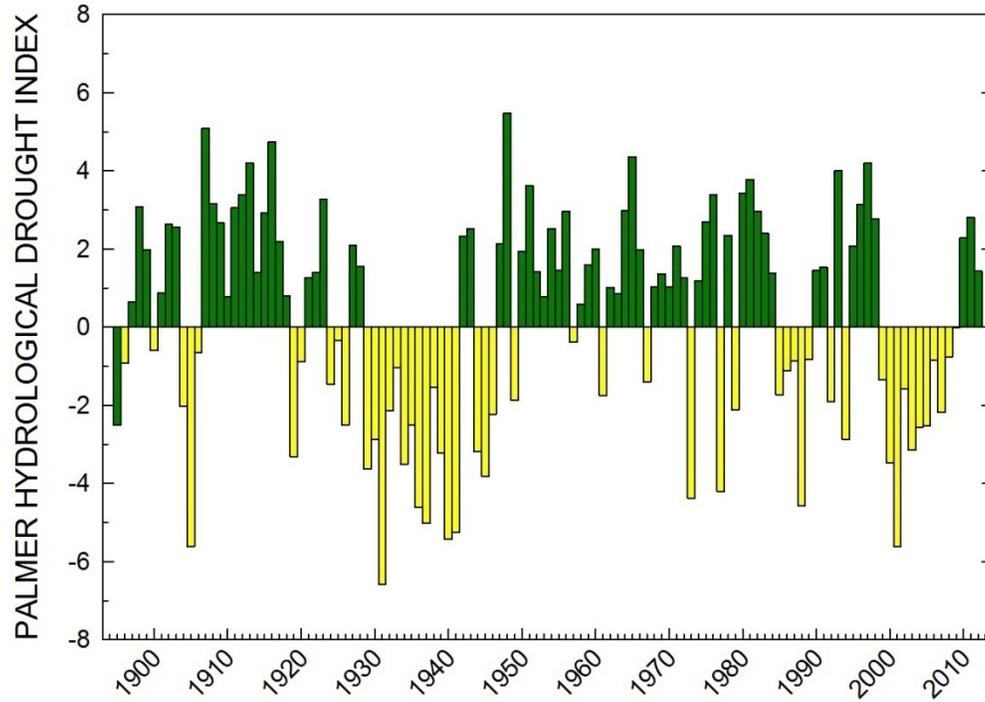


Figure 13. Palmer hydrological drought index for Montana climate division 1 for the month of August during 1895-2012. Data from NOAA (2012).

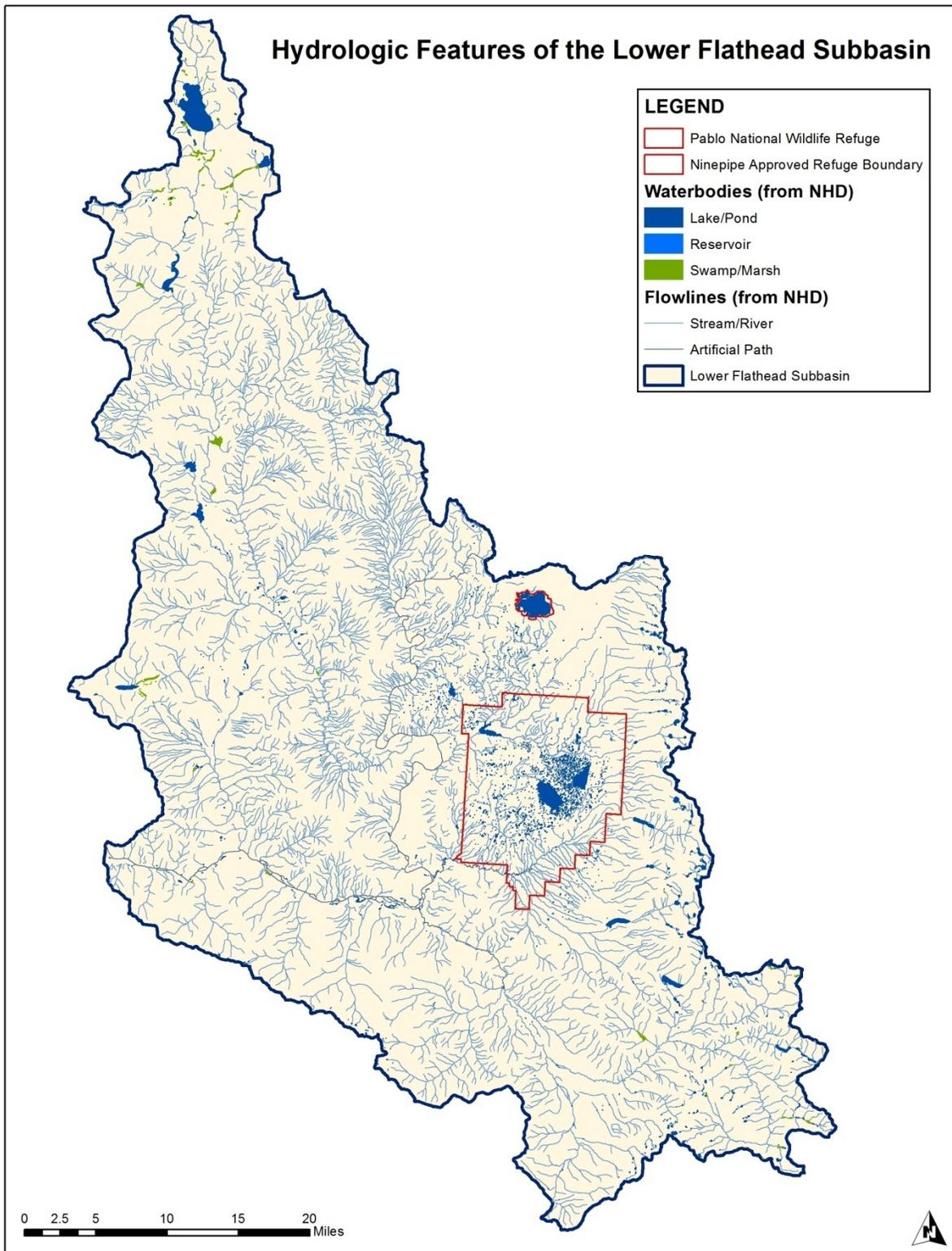


Figure 14. Streams, rivers, and waterbodies of the Lower Flathead subbasin. Data from the USGS National Hydrography Dataset (<http://nhd.usgs.gov/data.html>).

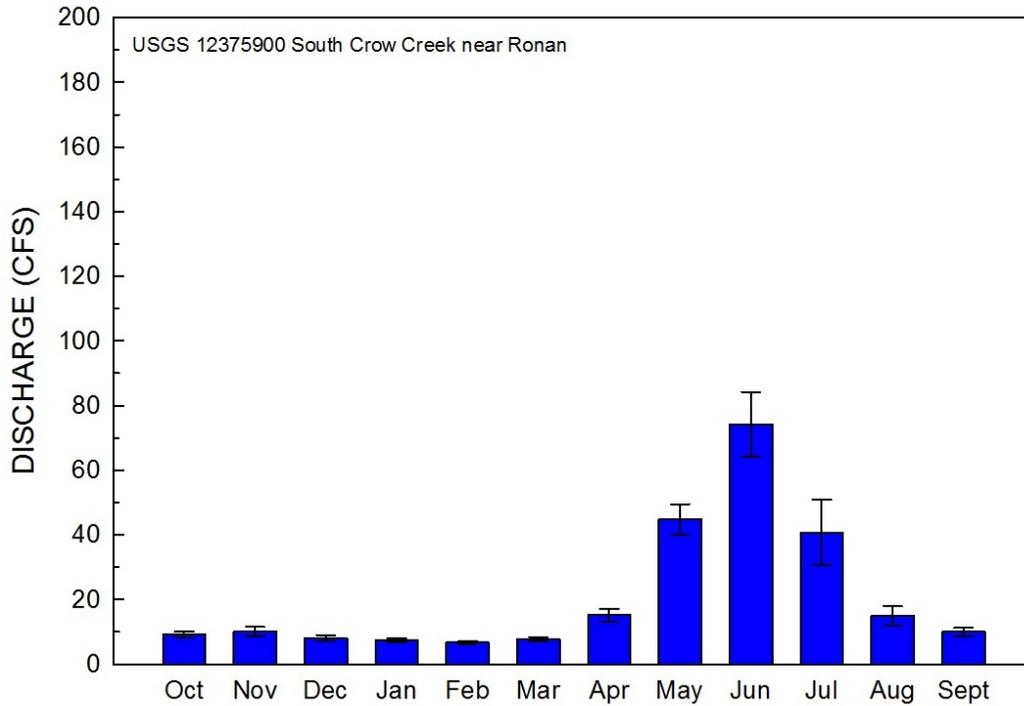
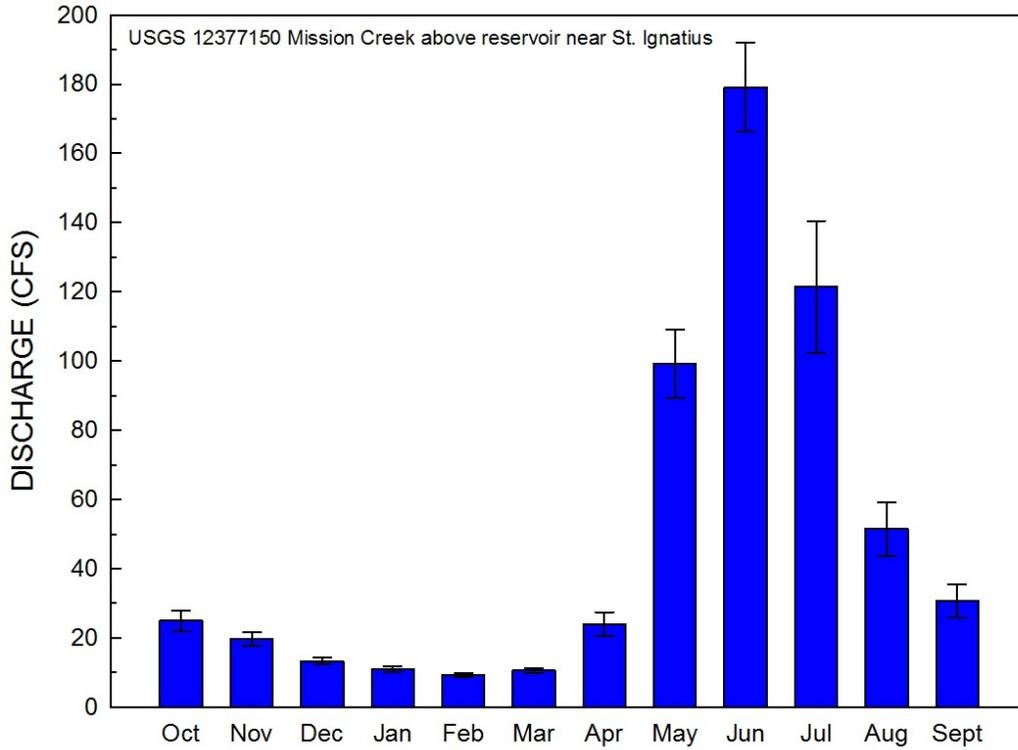


Figure 15. Mean average monthly discharge \pm 95% confidence interval at Mission Creek above reservoir near St. Ignatius, Montana, USGS station number 12377150 (top), and South Crow Creek near Ronan, Montana, USGS station number 12375900 (bottom), from October 1982 to September 2011. Data compiled from USGS (2012).

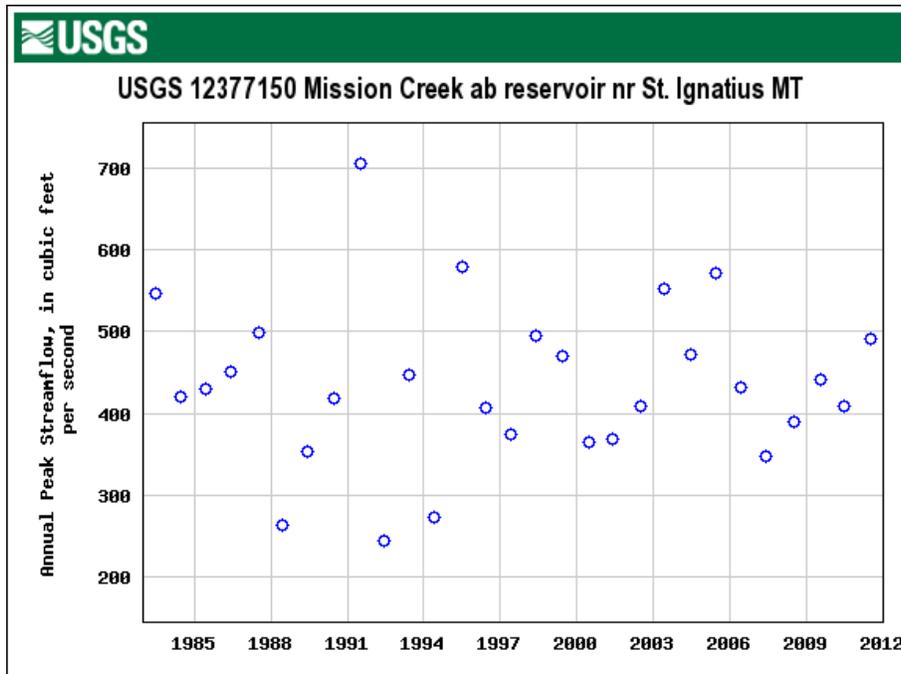


Figure 16. Water year annual peak streamflow at Mission Creek above reservoir near St. Ignatius, Montana (USGS station number 12377150) from 1983 to 2011. From USGS (2012).

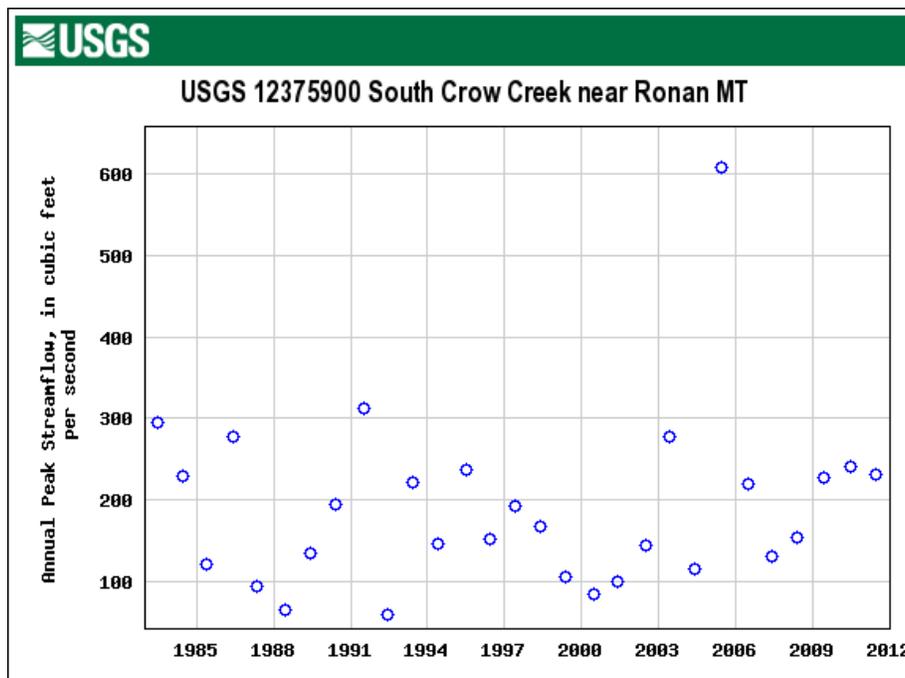


Figure 17. Water year annual peak streamflow at South Crow Creek near Ronan, Montana (USGS station number 12375900) from 1983 to 2011. From USGS (2012).

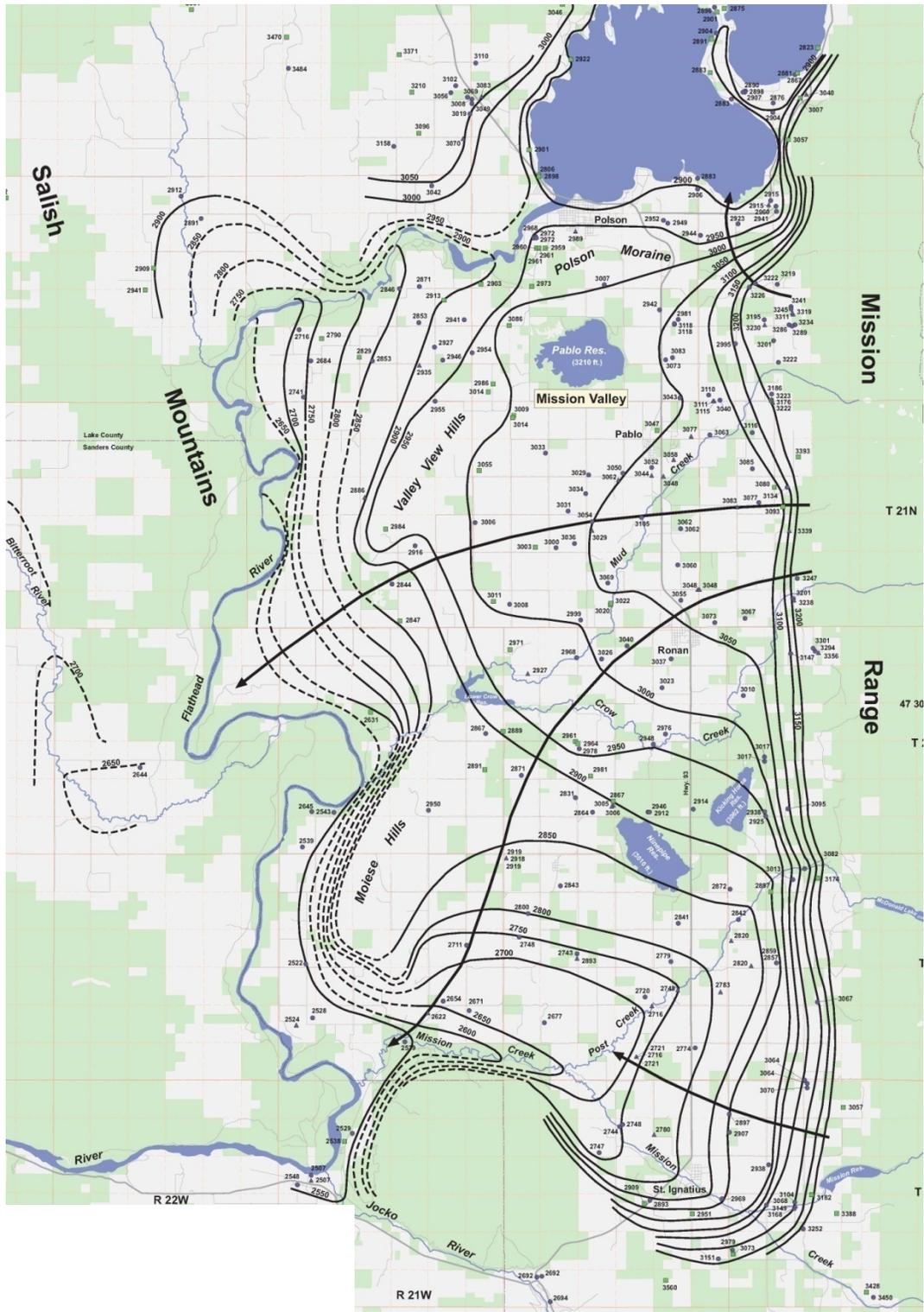


Figure 18. Potentiometric surface map of groundwater in the Mission Valley, Lake County, Montana. Map from LaFave et al. (2004).

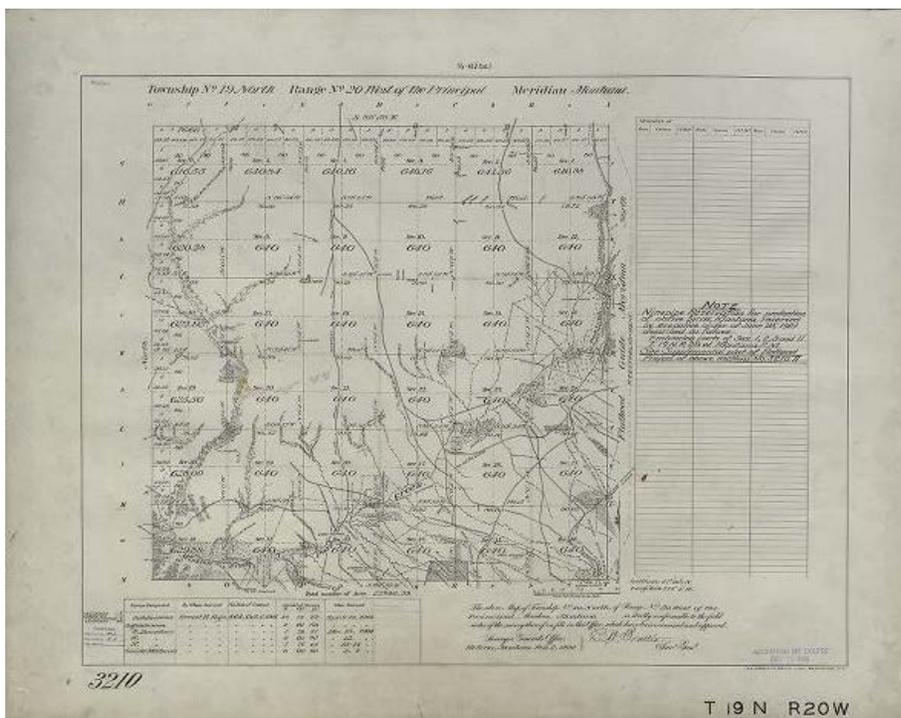
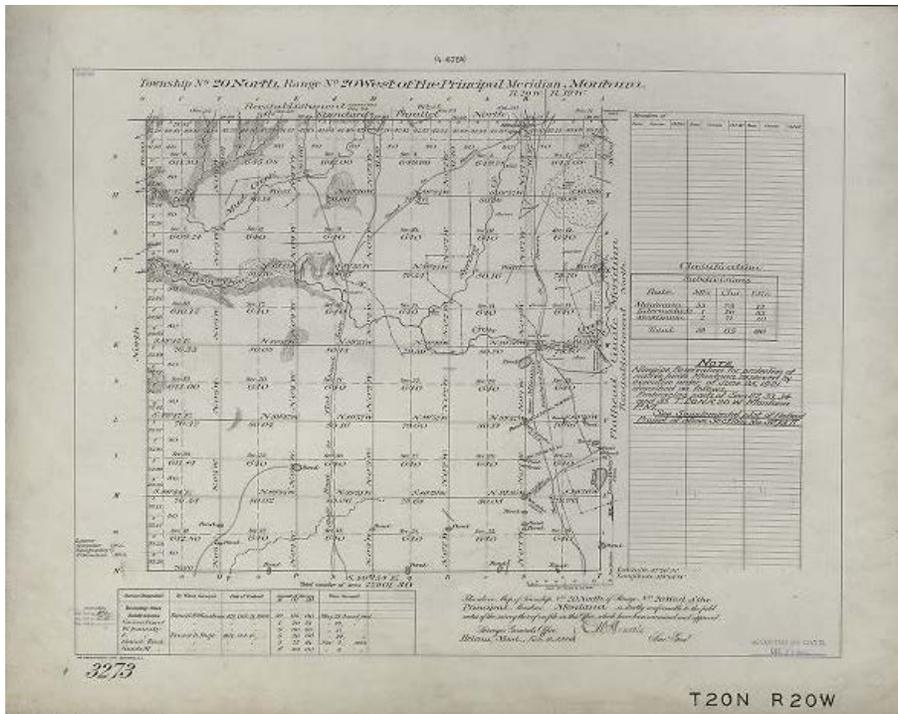


Figure 19. General Land Office survey maps of T20N R20W and T19N R20W showing the Ninepipe Reservoir area during 1905 prior to reservoir construction. From BLM General Land Office Records

<http://www.gloreCORDS.blm.gov/search/default.aspx#searchTabIndex=0&searchByTypeIndex=1>.

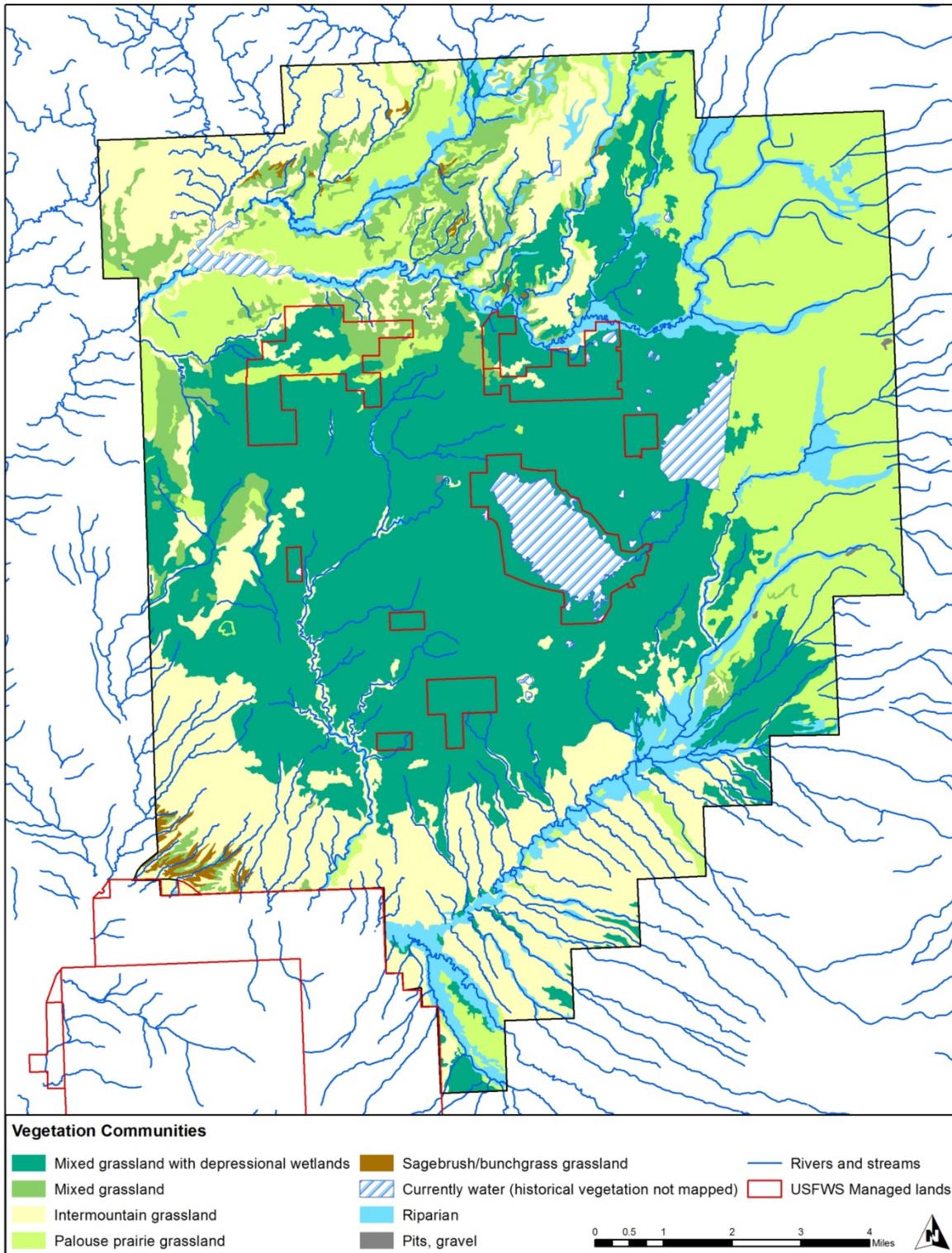


Figure 22. Potential historical vegetation communities at Ninepipe National Wildlife Refuge modeled from soil type descriptions and maps (NRCS 2008, 2012) and life history characteristics of native plants.

Hydrologic Features of the Mission Creek Watershed and the Flathead River/Pablo Reservoir Watershed within the Lower Flathead Subbasin

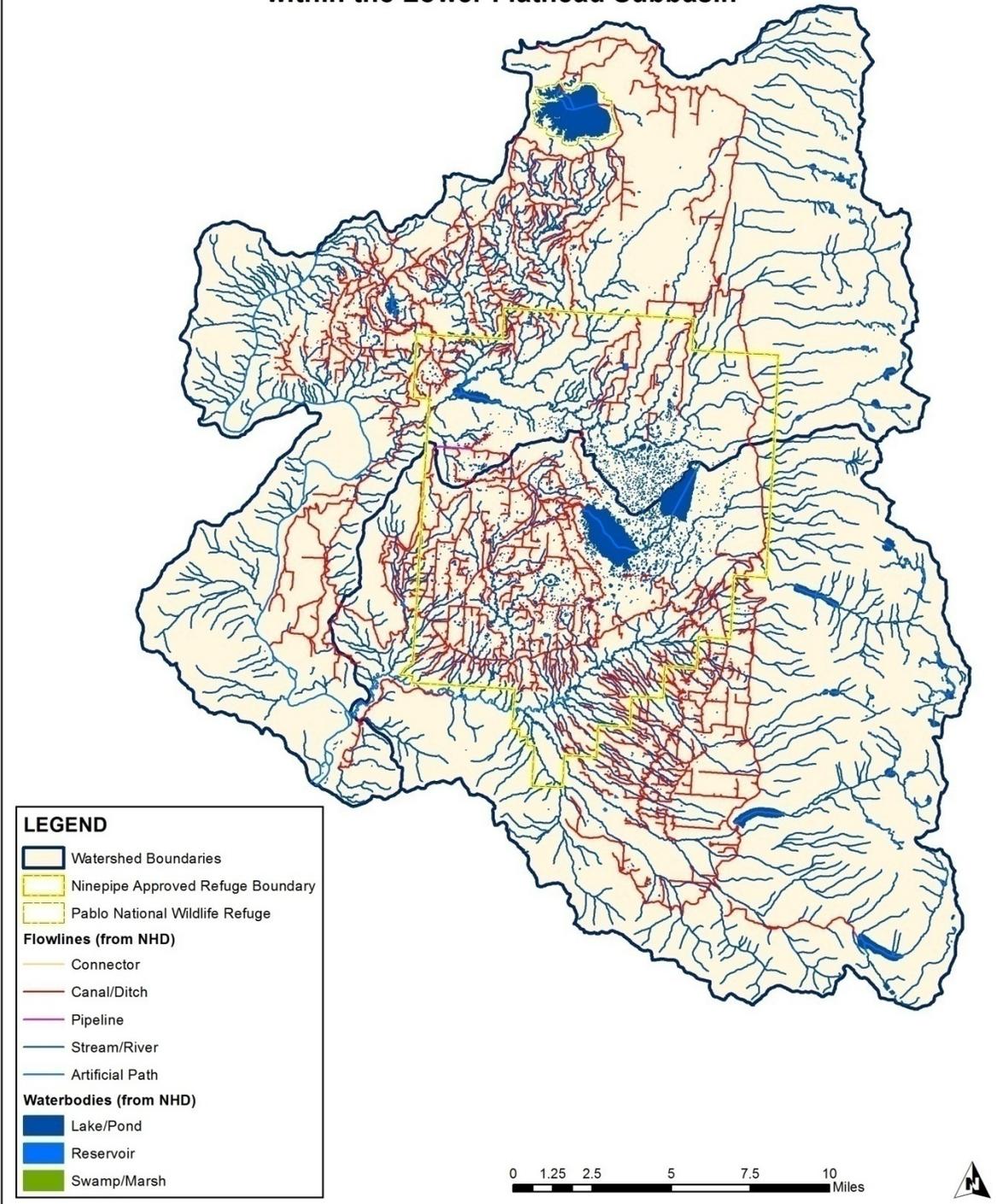


Figure 23. Hydrologic features of the Mission Creek and Flathead River/Pablo Reservoir watersheds within the Lower Flathead Subbasin. Data from USGS National Hydrography Dataset (<http://nhd.usgs.gov/data.html>).

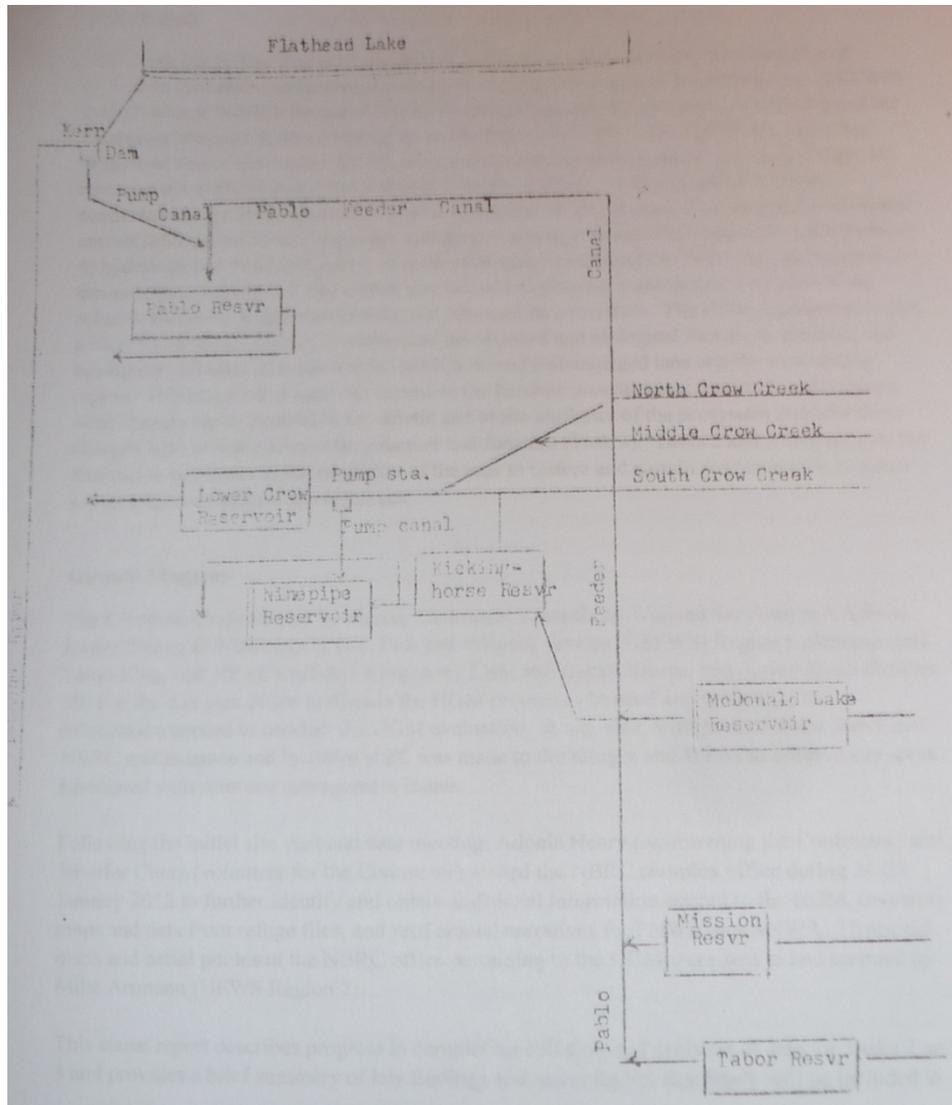


Figure 24. Schematic of Flathead Indian Irrigation Project inputs into Pablo and Ninepipe reservoirs. From USFWS refuge office files.

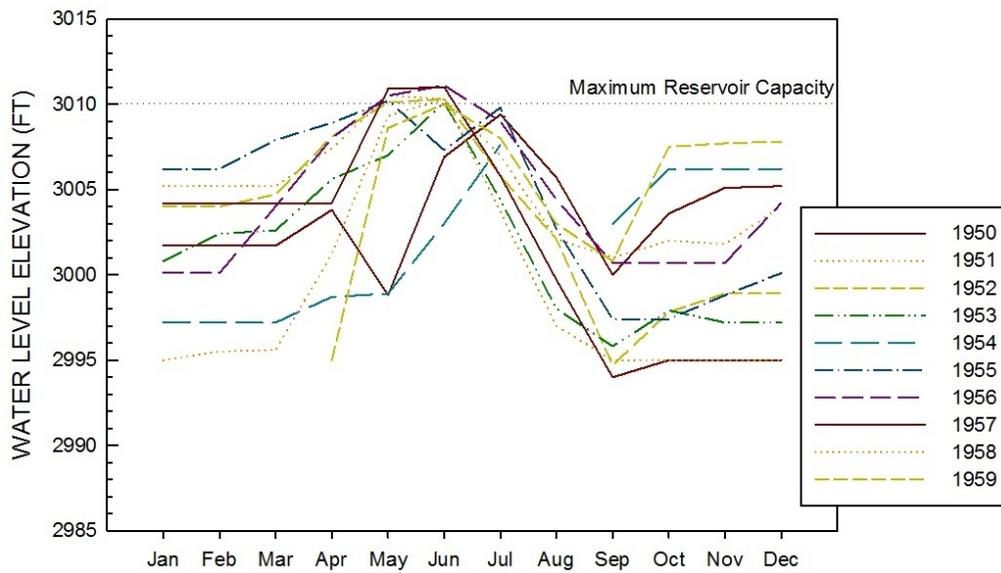
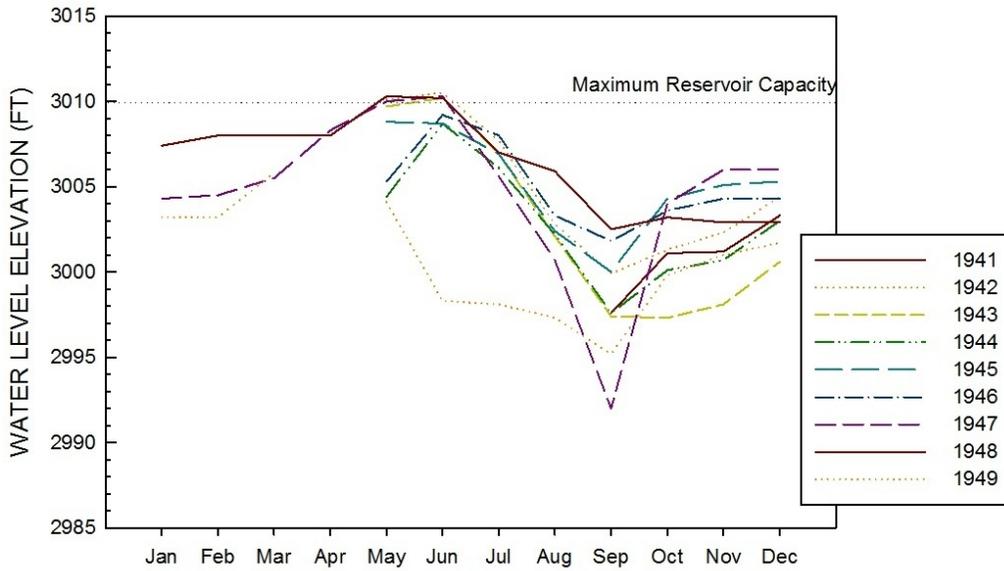


Figure 25. Water levels at the end of each month at Ninepipe Reservoir from 1941-1959. Data compiled from USFWS refuge annual narratives.

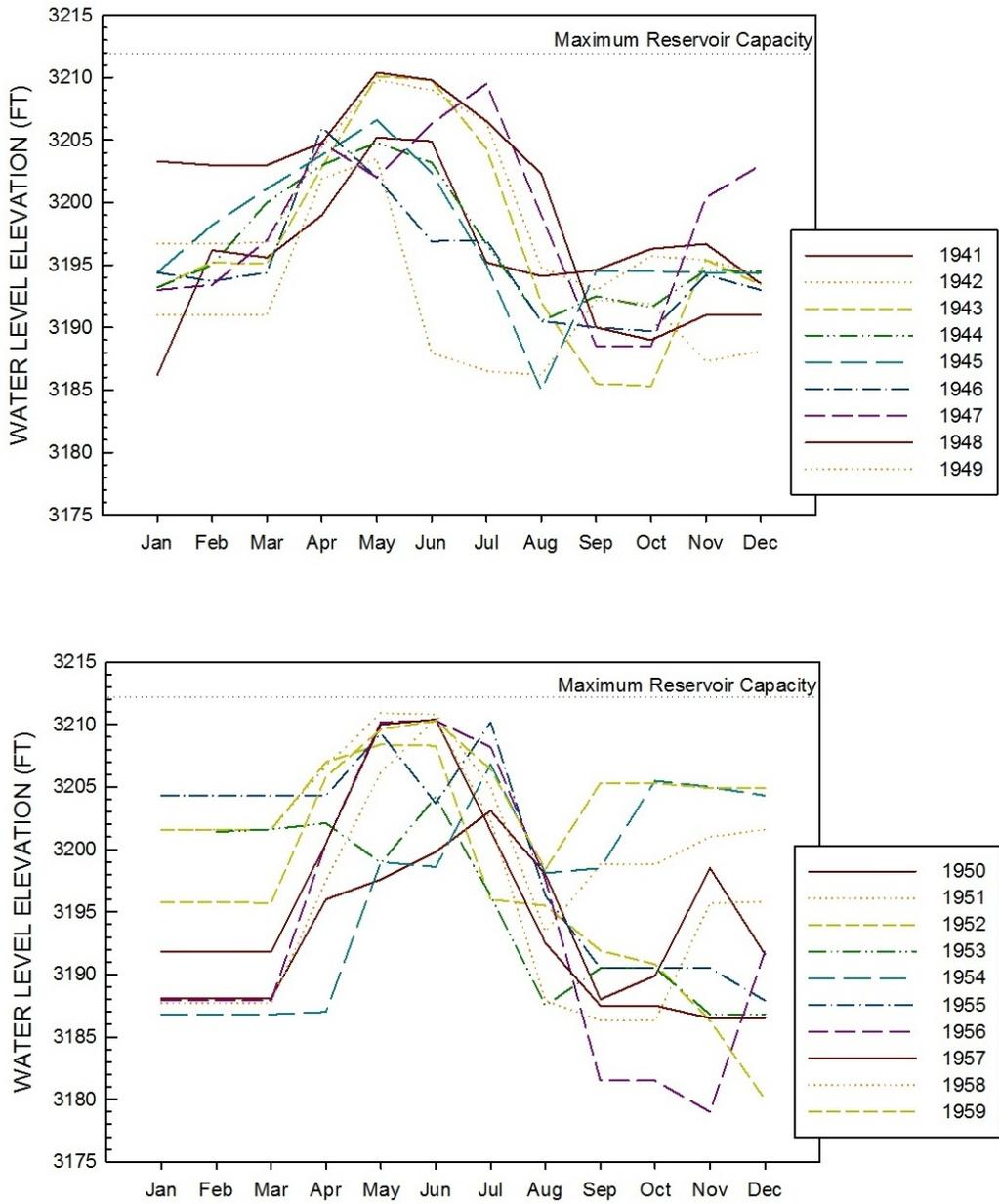


Figure 26. Water levels at the end of each month at Pablo Reservoir during 1941-1959. Data compiled from USFWS refuge annual narratives.

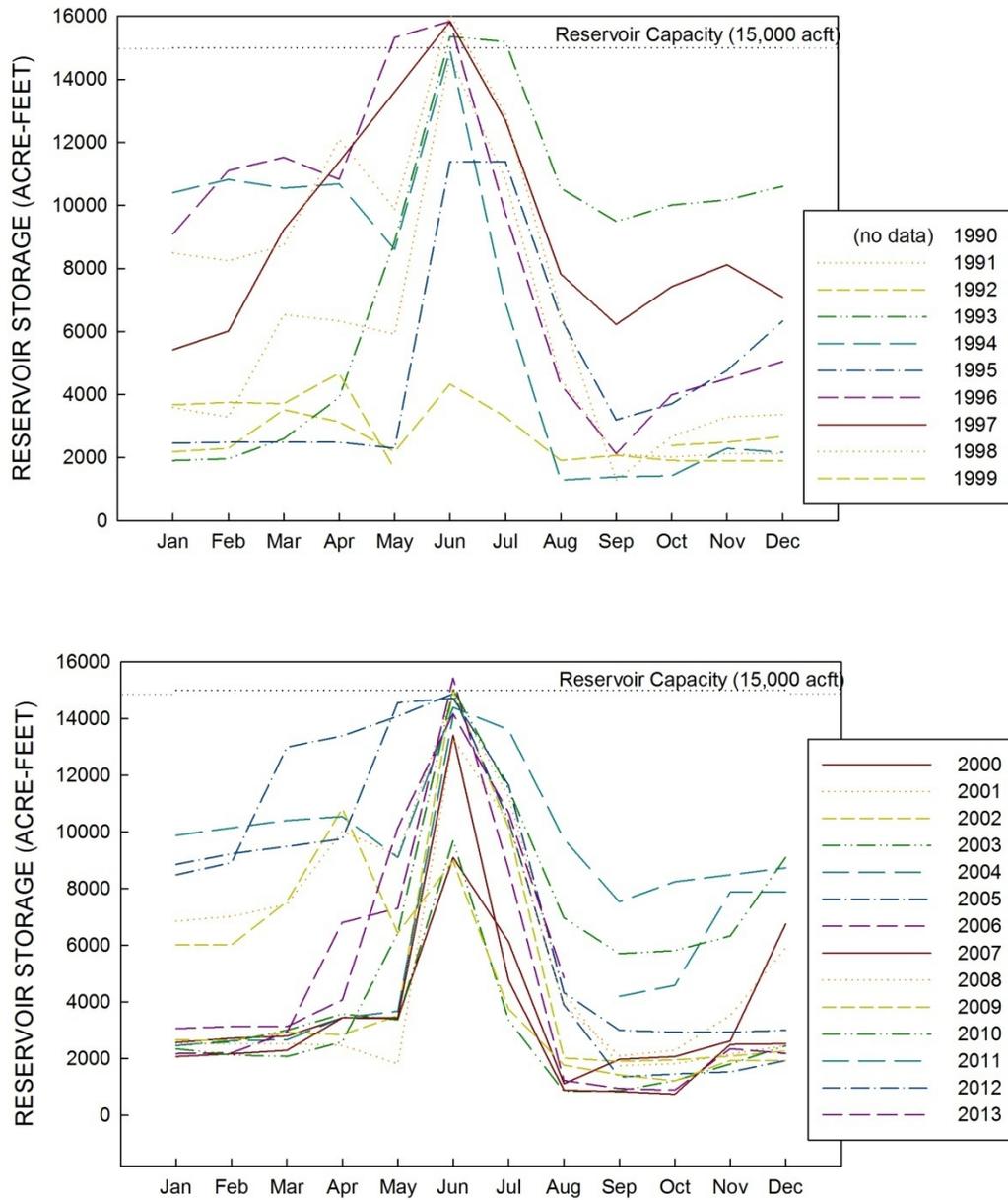


Figure 27. Monthly water storage at Ninepipe Reservoir from January 1991 through August 2013 (data from USFWS refuge office files).

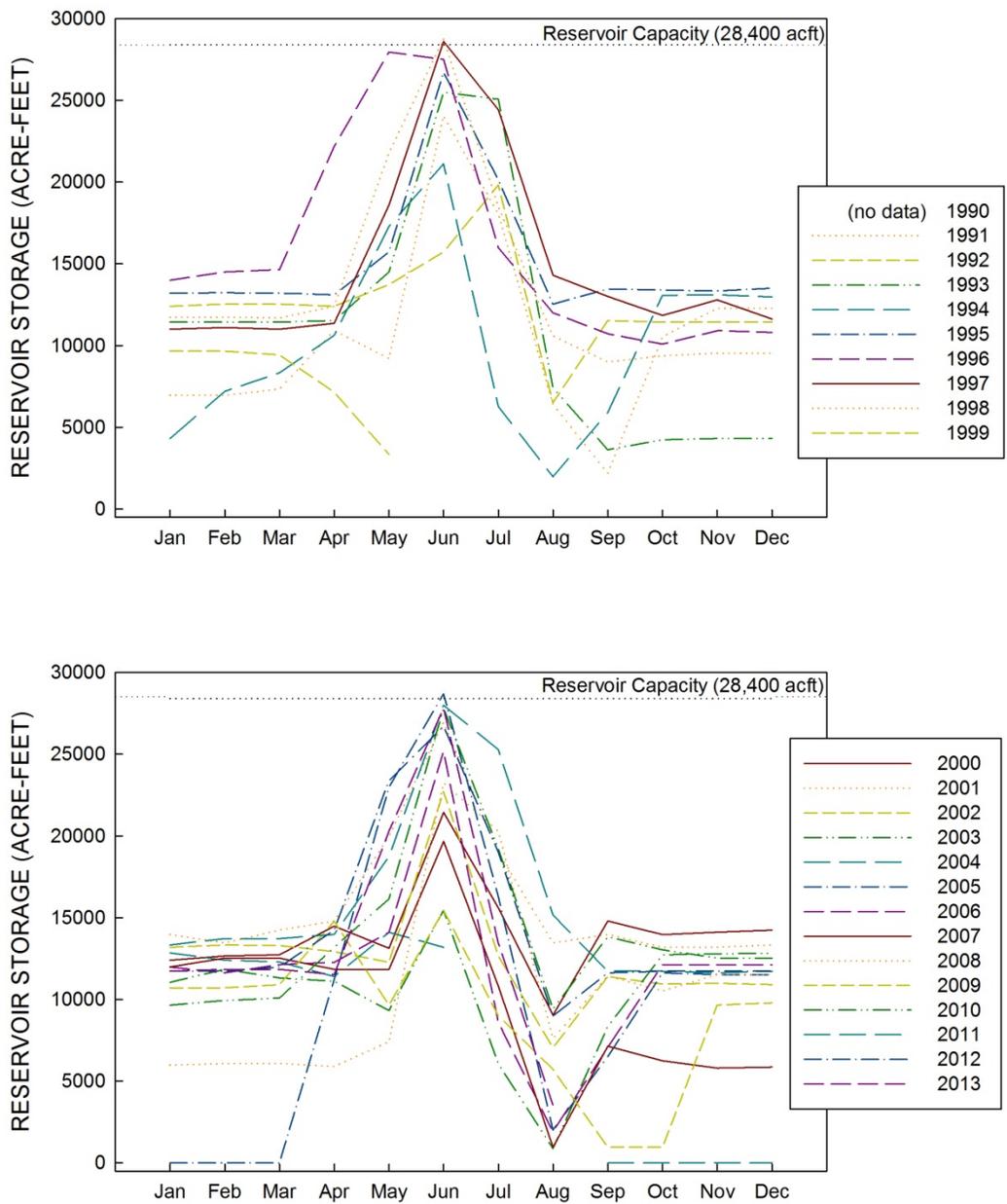


Figure 28. Monthly water storage at Pablo Reservoir from January 1991 through August 2013 (data from USFWS refuge office files).

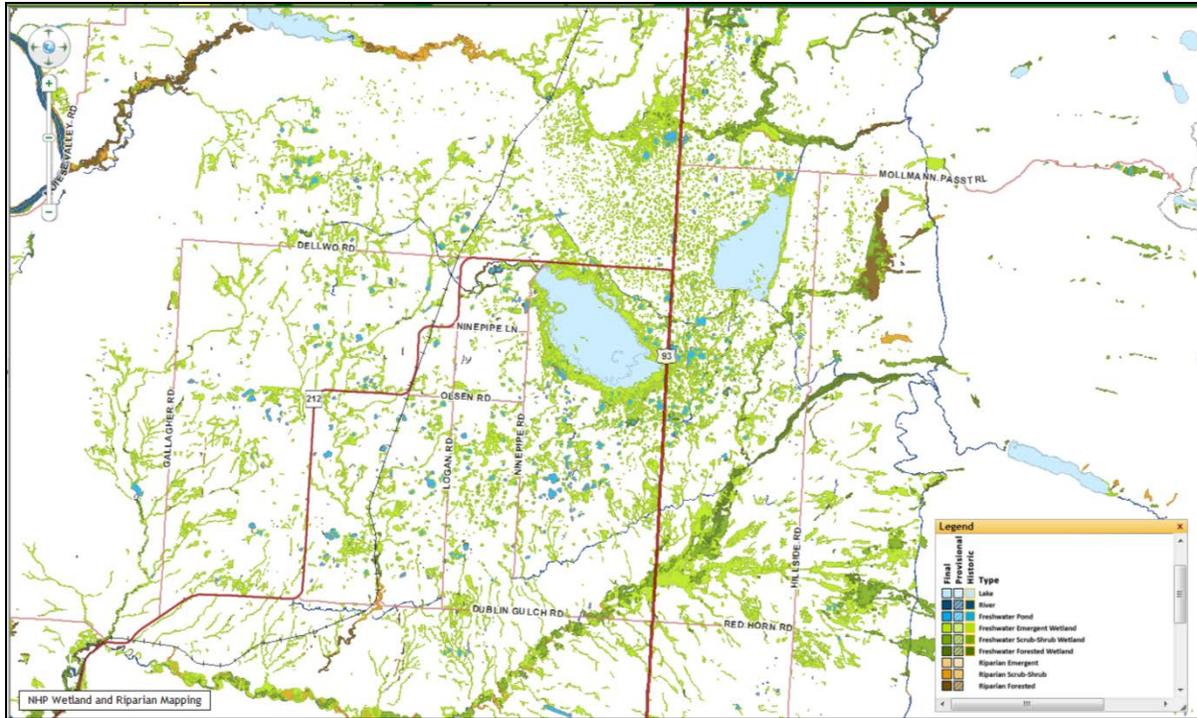


Figure 29. Wetland types in the vicinity of Ninepipe National Wildlife Refuge. From Montana Natural Heritage Program (<http://mtnhp.org/nwi/>).

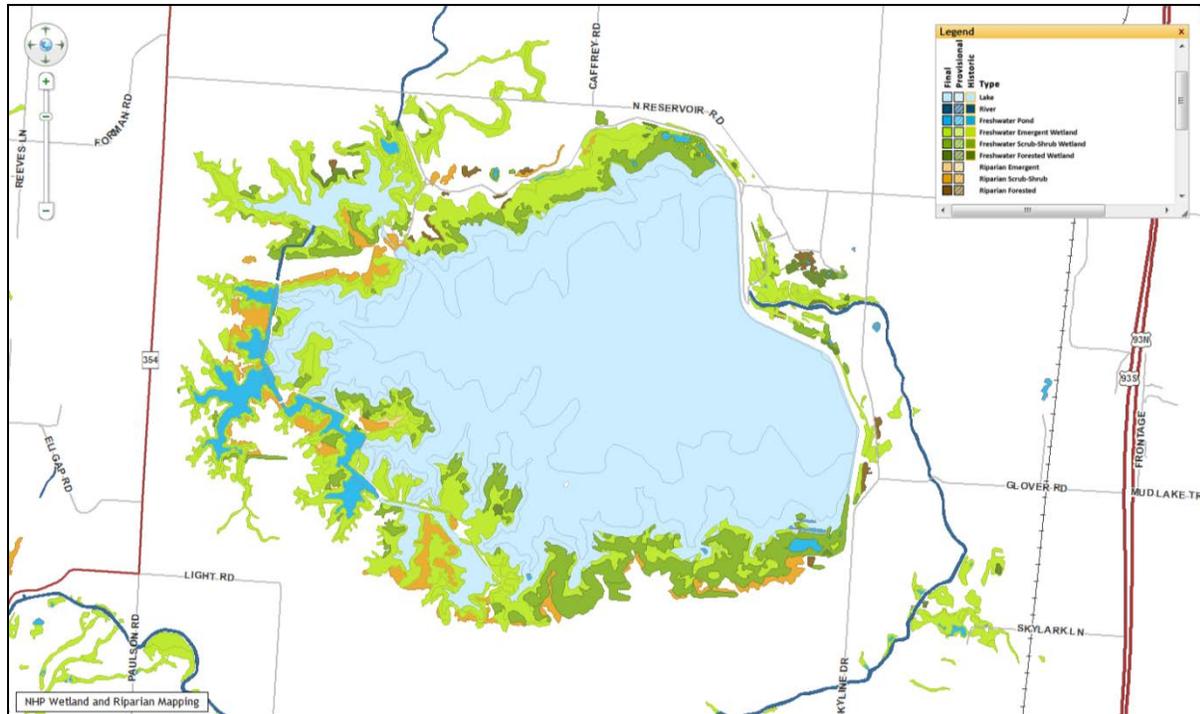


Figure 30. Wetland types at Pablo National Wildlife Refuge. From Montana Natural Heritage Program (<http://mtnhp.org/nwi/>).

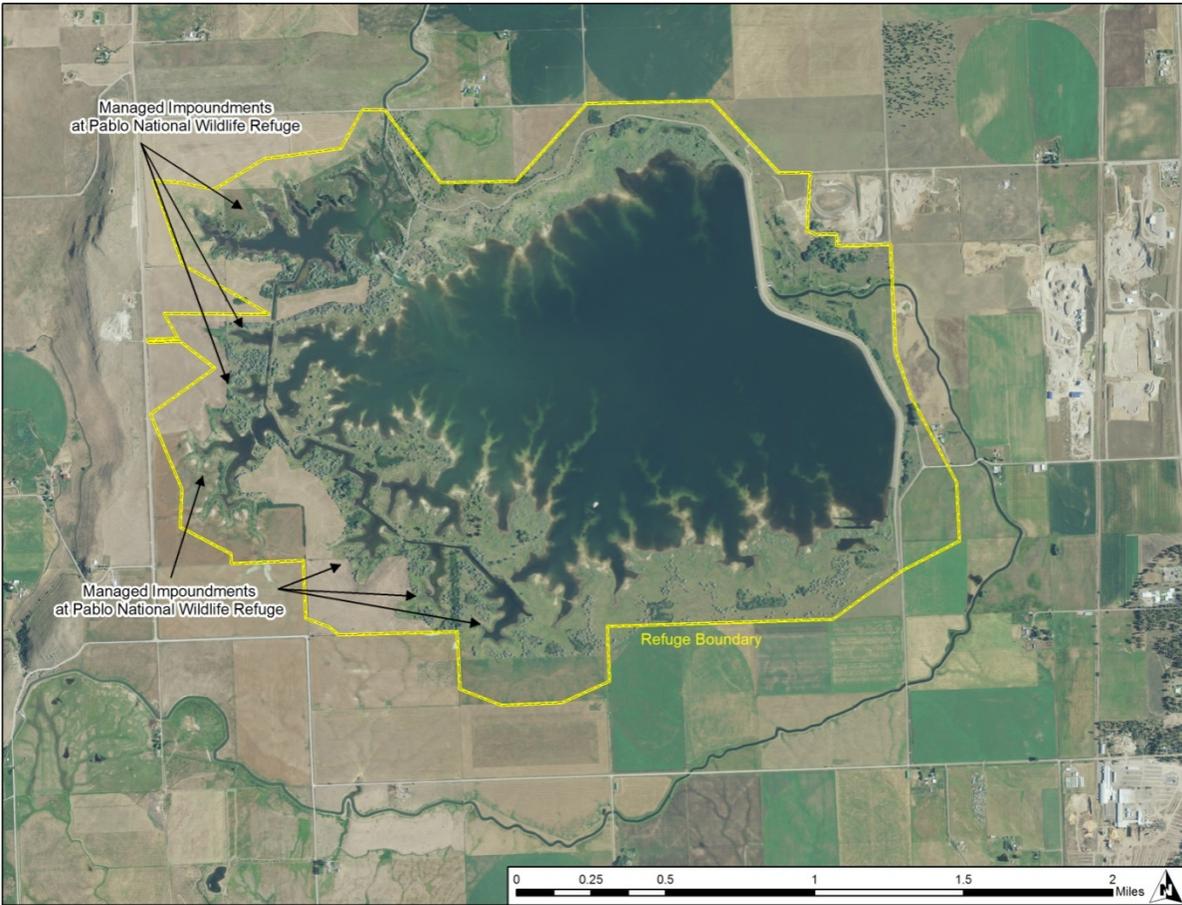


Figure 31. Managed impoundments at Pablo National Wildlife Refuge during 2009 (base map: 2009 NAIP imagery).

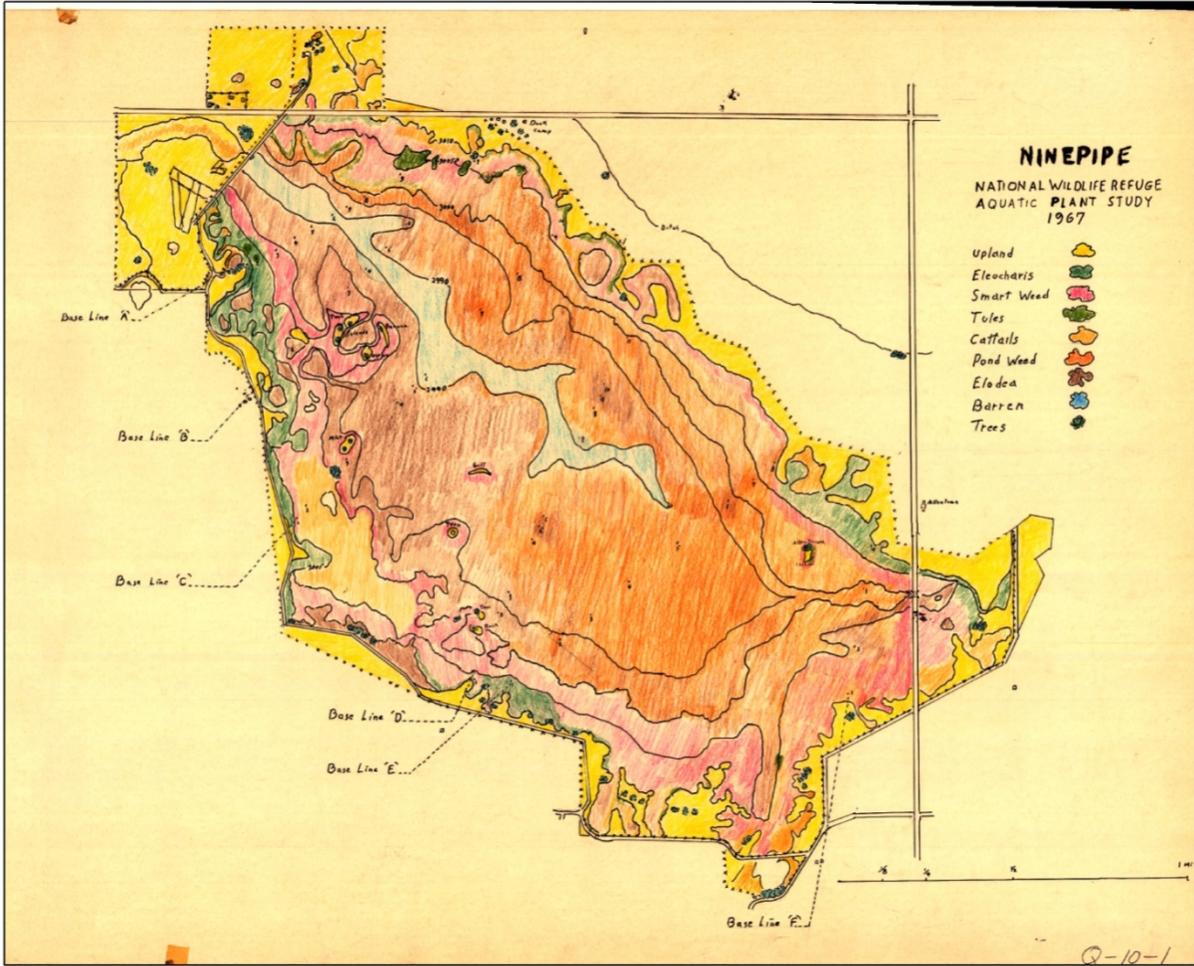


Figure 32. Wetland vegetation map of Ninepipe National Wildlife Refuge from 1967 (USFWS refuge office files, unpublished).

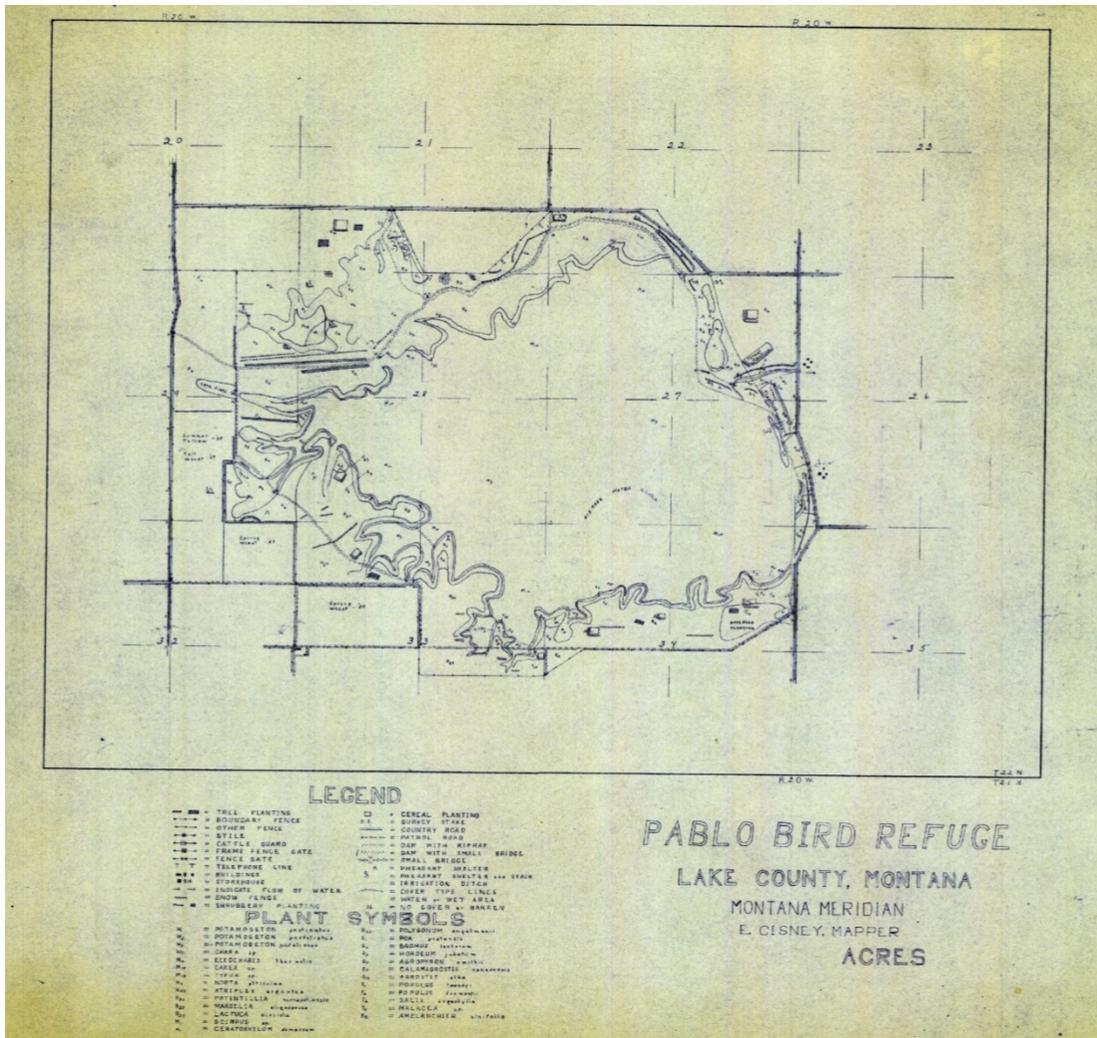


Figure 33. Historical vegetation at Pablo National Wildlife, undated (USFWS refuge office files, unpublished).

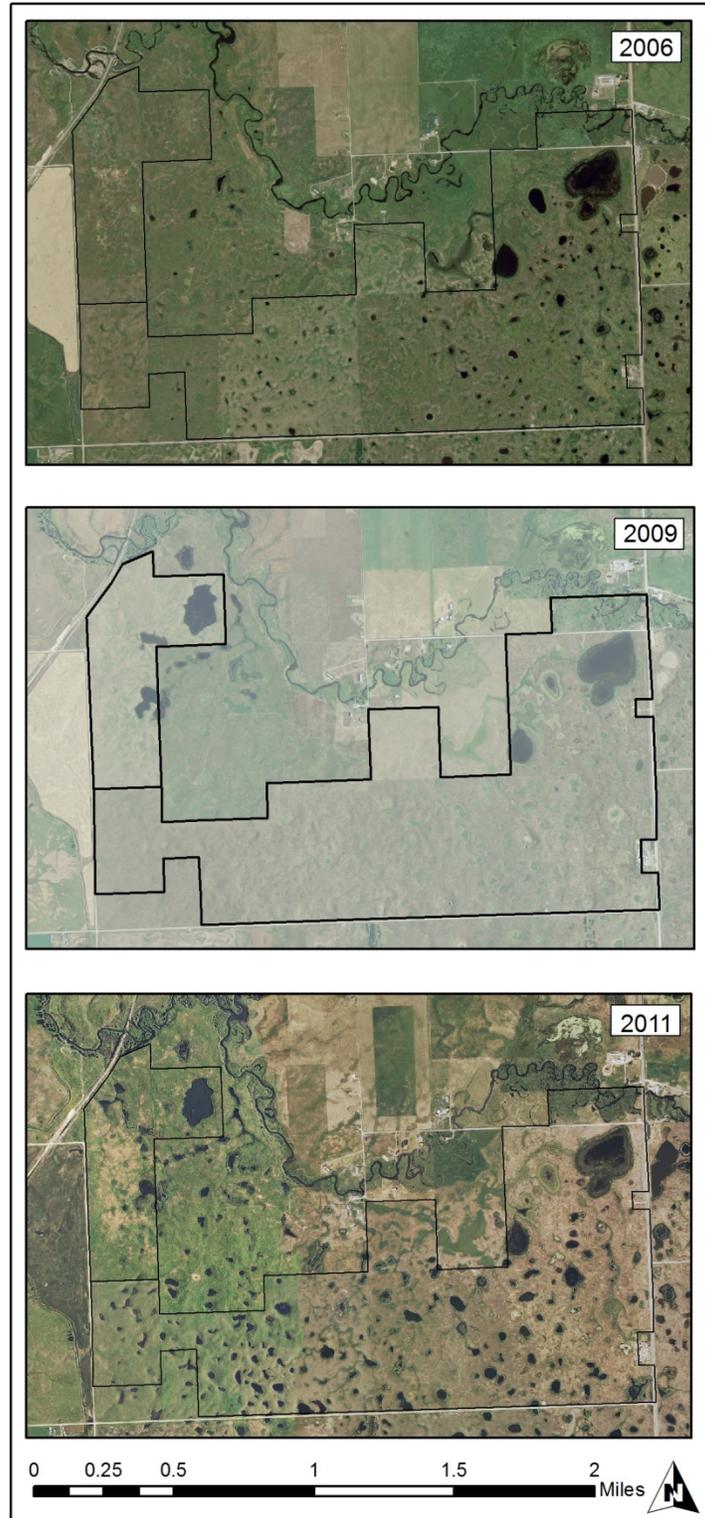


Figure 34. Temporal and spatial variability of wetland habitats at Anderson and Duck Haven Waterfowl Production Areas. NAIP imagery from USDA NRCS Geospatial Gateway (<http://datagateway.nrcs.usda.gov/>).

See attached excel files for tables

Table 1. Physical characteristics of major soil types at Pablo National Wildlife Refuge, Ninepipe National Wildlife Refuge, and Waterfowl Production Areas in the Northwest Montana Wetland Management District. Data compiled from NRCS (2012).

Table 2. Hydrogeomorphic (HGM) matrix of the historical distribution of major vegetation communities at Ninepipe and Pablo National Wildlife Refuges in relationship to surficial geology, landform, soils, and hydrological regime. Relationships were determined based on the 1929 soil survey and associated descriptions (DeYoung and Roberts 1929), recent soil survey data (NRCS 2012), and historical maps. Descriptions of vegetation communities are based on cultural traditions of Native Americans (e.g., Schwab et al. 2000), historical accounts (e.g., Elrod 1902, Dice 1923), life-history characteristics of native plants, and ecological characterizations of community types (e.g., Hansen et al. 1995, Windell et al. 1986) and are described in the text.

CCPs not Completed as of October 3, 2014

The National Wildlife Refuge System Improvement Act of 1997 mandated that by October 9, 2012 the Service develop CCPs for the 554 units in existence in 1997.

- To date, CCPs have been completed for 497 of these units (90%).
- CCPs have not been completed for 57 of the Improvement Act's 554 required units (10%). These units are:

Region (total)	Station Name	Expected CCP Completion Date
1 (12)	Camas NWR	Fall 2014
	Cold Springs NWR	Fall 2015
	Deer Flat NWR	Spring 2015
	Grays Harbor NWR	Summer 2015
	Grays Lake NWR	Winter 2015
	Hanalei NWR	Summer 2015
	Huleia NWR	Summer 2015
	Johnston Atoll NWR	Undefined due to DoD unknowns
	Kilauea Point NWR	Spring 2015
	McKay Creek NWR	Winter 2015
	Minidoka NWR	Fall 2015
Toppenish NWR	Fall 2015	
Region (total)	Station Name	Expected CCP Completion Date
2 (3)	Bosque del Apache NWR	Unknown: CCP Completion contingent upon completion of Biological Opinion on Middle Rio Grande Water Operations (FWS, CofE and BOR). No ETA for completion of BO.
	Little Sandy NWR	Unknown due to staff reductions
	Sequoyah NWR	Unknown due to staff reductions
Region (total)	Station Name	Expected CCP Completion Date
4 (1)	Crystal River NWR	CY2014
Region (total)	Station Name	Expected CCP Completion Date
5 (13)	Bombay Hook NWR	TBD
	Erie NWR	October 2015
	James River NWR	February 2015
	Mashpee NWR	TBD
	Massasoit NWR	August 2015
	Monomoy NWR	March 2015
	Moosehorn NWR	December 2015
Parker River NWR	December 2015	

	<i>Plum Tree Island NWR</i>	<i>August 2015</i>
	<i>Silvio O. Conte NF&WR</i>	<i>October 2015</i>
	<i>Stewart B. McKinney NWR</i>	<i>September 2015</i>
	<i>Thacher Island NWR</i>	<i>December 2015</i>
	<i>Wallops Island NWR</i>	<i>March 2015</i>
Region (total)	Station Name	Expected CCP Completion Date
6 (10)	<i>Charles M Russell WMD</i>	<i>FY19</i>
	<i>Hailstone NWR</i>	<i>FY19</i>
	<i>Halfbreed Lake NWR</i>	<i>FY19</i>
	<i>Lake Mason NWR</i>	<i>FY19</i>
	<i>National Bison Range</i>	<i>FY19</i>
	<i>National Elk Refuge</i>	<i>FY15</i>
	<i>Nine-pipe NWR</i>	<i>FY19</i>
	<i>Northwest Montana WMD</i>	<i>FY19</i>
	<i>Pablo NWR</i>	<i>FY19</i>
	<i>War Horse NWR</i>	<i>FY19</i>
Region (total)	Station Name	Expected CCP Completion Date
7 (5)	<i>Alaska Maritime NWR</i>	<i>Unknown</i>
	<i>Arctic NWR</i>	<i>Unknown</i>
	<i>Izembek NWR</i>	<i>Unknown</i>
	<i>Yukon Delta NWR</i>	<i>Unknown</i>
	<i>Yukon Flats NWR</i>	<i>Unknown</i>
Region (total)	Station Name	Expected CCP Completion Date
8 (13)	<i>Butte Sink WMA</i>	<i>December 2015</i>
	<i>Clear Lake NWR</i>	<i>August 2017</i>
	<i>Grasslands WMA</i>	<i>December 2015</i>
	<i>Lower Klamath NWR</i>	<i>August 2017</i>
	<i>Merced NWR</i>	<i>December 2015</i>
	<i>North Central Valley WMA</i>	<i>December 2015</i>
	<i>Ruby Lake NWR</i>	<i>December 2016</i>
	<i>San Diego NWR</i>	<i>January 2015</i>
	<i>San Luis NWR</i>	<i>December 2015</i>
	<i>Tule Lake NWR</i>	<i>August 2017</i>
	<i>Willow Creek-Lurline WMA</i>	<i>December 2015</i>
	<i>Bear Valley NWR</i>	<i>August 2017</i>
	<i>Upper Klamath NWR</i>	<i>August 2017</i>

From: [Rupp, Katherine](#)
To: [Dan Ashe](#)
Subject: Re: Three Significant Issues
Date: Wednesday, September 30, 2015 8:46:00 AM

Got it. Thanks! Booch is on it but heads up that she is traveling so it will likely land mid next week.

On Tue, Sep 29, 2015 at 6:08 PM, Dan Ashe <d_m_ashe@fws.gov> wrote:

Hey Katie! I think all are topics to discuss with Sally and Tommy. Michael Bean should be invited to all. Neil to Sheldon-Hart. Kevin to Bison Range. We can combine trophy hunting with African lion because hunting is a major issue with lion.

First priority is Bison Range.

Thanks.

Dan.

Sent from my iPhone

On Sep 29, 2015, at 2:01 PM, Rupp, Katherine <katherine_rupp@ios.doi.gov> wrote:

Hi Dan,

Tommy asked me to make sure these got set up but I wanted to make sure that we were on the same page- Do you want to meet with Tommy on the below 3 subjects, and if yes- would you like Kevin, Michael and Neil who are cc'd on the email to join OR are you asking for these to be scheduled for the Secretary?

Also, heads up- Tommy is adding a 4th topic to this list: Trophy hunting.

Let me know and I will work on finding time.

Thanks much,
Katie

On Tue, Sep 29, 2015 at 1:57 PM, Beaudreau, Tommy <tommy_beaudreau@ios.doi.gov> wrote:

----- Forwarded message -----

From: **Dan Ashe** <d_m_ashe@fws.gov>

Date: Thu, Sep 24, 2015 at 5:38 PM

Subject: Three Significant Issues

To: Tommy Beaudreau <tommy_beaudreau@ios.doi.gov>

Cc: Kevin Washburn <kevin_washburn@ios.doi.gov>, Michael Bean

<michael_bean@ios.doi.gov>, neil kornze <nkornze@blm.gov>

Hello Tommy. I know next week is likely to be crazy, but I'd like to see if we can find time to talk about three issues on which I need to ensure Sally is aware, and/or get guidance. They are briefly outlined below, in priority order:

1. National Bison Range: the NBR (MT) (b) (5) DPP
[Redacted]

2. Sheldon-Hart NWRs (and BLM lands between them): (b) (5) DPP
[Redacted]

3. African Lion: (b) (5) DPP
[Redacted]

Thanks.

Dan.

Dan Ashe
Director, U.S. Fish and Wildlife Service

From: [Wagner-Oveson, Lindsey](#)
To: [Porcari, Emily](#)
Cc: [Kevin Washburn](#); [Neil Kornze](#); [Jonathan Jarvis](#); [Hilary Tompkins](#); [Francis Iacobucci](#); [Katherine Kelly](#); [John Blair](#); [Elizabeth Klein](#); [Sarah Greenberger](#); [Sarah Neimeyer](#); [Benjamin Milakofsky](#); [Dan Ashe](#); [Brian Salerno](#); [Suzette Kimball](#); [Kevin Haugrud](#); [Blake Androff](#); [Joseph Pizarchik](#); [Michael Connor](#); [Elizabeth Washburn](#); [Janice Schneider](#); [Esther Kia"aina](#); [Kristen \(Kris\) Sarri](#); [Michael Bean](#); [Abigail Hopper](#); [Estevan Lopez](#); [Jennifer Gimbel](#); [dailybriefingbinder OS](#); [Tommy Beaudreau](#); [Nicole Buffa](#)
Subject: Briefing Material for Wednesday, October 7th
Date: Tuesday, October 06, 2015 5:12:01 PM
Attachments: [10 7 15 9am The Nature Conservancy Annual Summit.docx](#)
[10 7 15 9am Attachment Q&A The Nature Conservancy Annual Summit.docx](#)
[10 7 15 12pm Lunch with EKIP Team.docx](#)
[10 7 15 2pm Meeting with Governor Bill Walker.docx](#)
[10 7 15 2pm Attachment 1 Meeting with Governor Bill Walker.pdf](#)
[10 7 15 2pm Attachment 2 Meeting with Governor Bill Walker.pdf](#)
[10 7 15 2pm Attachment 3 Meeting with Governor Bill Walker.docx](#)
[10 7 15 330pm National Bison Range Meeting.docx](#)
[10 7 15 330pm Attachment 1 National Bison Range Meeting.docx](#)
[10 7 15 330pm Attachment 2 National Bison Range Meeting.docx](#)
[10 7 15 430pm Internal Valles Caldera Prep.docx](#)
[10 7 15 430pm Attachment Internal Valles Caldera Prep.docx](#)
[10 7 15 530pm Internal Tribal Nations Conference Prep.docx](#)
[10 7 15 750pm 2015 Sammies Gala.docx](#)
[10 7 15 750pm Attachment 1 TPs 2015 Sammies Gala.doc](#)
[10 7 15 750pm Attachment 2 PR 2015 Sammies Gala.pdf](#)

Hi all: Attached are the Secretary's briefing materials for tomorrow.

-Lindsey

--

Lindsey Wagner-Oveson
Special Assistant to the Secretary
Department of the Interior
202-208-2977 (o)
202-834-1598 (c)
lindsey_wagner-oveson@ios.doi.gov

From: [Kristine Martin](#)
To: [Megan Reed](#)
Cc: [Will Meeks](#)
Subject: RE: Bison Range call today
Date: Friday, October 09, 2015 8:28:00 AM

Ok, we'll keep as scheduled today and Will Meeks will take the call and brief Noreen on any specifics.

v/r
Kris Martin

From: Reed, Megan [mailto:megan_reed@fws.gov]
Sent: Friday, October 09, 2015 8:27 AM
To: Kristine Martin
Subject: Re: Bison Range call today

Hi Kristine,

Cynthia isn't in the office on Tuesday so we won't be able to move it.

Megan

On Fri, Oct 9, 2015 at 9:49 AM, Kristine Martin <kristine_martin@fws.gov> wrote:
Megan,
Noreen is out on leave. Can we reschedule to next Tuesday, 10/13 @ 1 p.m. EST/ 3 p.m. MDT? She will be out again on leave the remainder of that week starting on the 14th, returning on the 21st.

Kristine Martin
Executive Assistant – Office of the Regional Director
U.S. Fish & Wildlife Service
Mountain Prairie Region
134 Union Blvd, Rm 400
Lakewood, CO 80228

303-236-7920 Office
303-236-8295 FAX

Kristine_martin@fws.gov

--

Megan Davis Reed,
Special Assistant
Offices of Asst. Director, External Affairs & Chief, National Wildlife Refuge System
U.S. Fish and Wildlife Service
1849 C Street NW, Room 3351

Washington, DC 20240
Office: 202-219-3898

STATEMENT OF WORK

National Bison Range CCP

1.0 INTRODUCTION

The U.S. Fish and Wildlife Service (Service) has embraced the need for strong science-based planning within the National Wildlife Refuge System. The National Wildlife Refuge Improvement Act required the Service to complete comprehensive conservation plans (CCPs) for each unit of the National Wildlife Refuge System.

1.1 SCOPE

This Statement of Work is for assistance in the development of a comprehensive conservation plan (CCP) and environmental assessment (EA) for the National Bison Range Complex, Montana including the following units: National Bison Range, Pablo National Wildlife Refuge, Ninepipe National Wildlife Refuge, and the Northwest Montana Wetland Management District. Tasks include: facilitation of five internal workshops (preplanning, vision and goals, alternatives development, objectives and strategies, impacts and analysis), and two rounds of external public meetings (scoping and release of public draft CCP). The Contractor will also provide support for several pieces of the NEPA analysis including: cumulative effects analysis; assisting the staff in determining the direct and indirect effects of the alternatives; and comment analysis.

2.0 APPLICABLE DOCUMENTS

The Contractor will comply with all applicable (1) federal statutes, regulations and rules (including all changes amendments); and (2) Presidential Executive Orders, in effect on the date of issuance of this delivery order. The Contractor is expected to be familiar with and comply with the 1997 Improvement Act, final Refuge Planning Policy (May 2000) and the final Compatibility Regulations and Policy (October, 2000), and the Service's guidelines on information that adheres to the Data Quality Act. The Contractor is responsible to ensure that the standards being used are current. A key to common definitions is found at the end of this scope of work.

3.0 SERVICES TO BE PERFORMED BY THE CONTRACTOR

The Contractor shall furnish all personnel, necessary coordination with any subcontractors, equipment, materials and transportation necessary to complete the following services:

3.1 GENERAL

The Contractor shall coordinate with the Service to provide specific components of the CCP process (internal and external facilitation and NEPA assistance) that conforms to the Improvement Act, NEPA requirements and Department of Interior's policies and procedures for implementing NEPA and the Service's policies on planning and compatibility.

3.1.2 Meeting summary reports. The Contractor shall prepare written summaries of all formal meetings or conferences held in connection with the Scope of Work and furnish them to the Planning Team Leader via electronic mail within one week following meeting completion.

3.1.3 Administrative Record. The Contractor will maintain an Administrative Record for services performed. Generally, the administrative record will be prepared in an excel spreadsheet and all documents must be linked to the spreadsheet. Specific details will be coordinated with the Planning Team Leader, but the record should be completed at the end of each task order.

3.2 FACILITATION SERVICES INTERNAL

For all facilitation services, the Contractor will maintain a cadre of qualified facilitators with experience in complex natural resource issues, team building, and government-to-government consultation with tribes. The Contractor will provide the Service with the resumes and prior experience of facilitators and the Service may select from, recommend alternates, or refuse individual facilitators based on the unique circumstances of each task. Continuity and understanding of an individual project is essential and the Service prefers to maintain at least one consistent facilitator for all components of an individual project.

3.2.1 Preplanning and team building. To initiate the project, the Contractor will facilitate a team building, pre-planning meeting to be held at the National Bison Range. The purpose of the meeting is to bring the refuge staff and members of the Confederated Salish and Kootenai Tribes together to talk about the planning process, address their questions and concerns, and begin building a cohesive core planning team. The core planning team is responsible for most of the writing and development of the plan. Team building is an essential component in order to develop a cohesive core planning team. Together with the planning team leader, the Contractor will organize and facilitate a three-day internal workshop (plus two days of travel) with Service staff (identified at a later date), and tribal employees. Travel to and from the workshop will need to be factored into the proposal. **A workshop will require two persons including a senior team building facilitator who has experience working with tribes, strong skills in resolving conflict and building teams, plus a secondary facilitator** to help facilitate sessions, manage the meeting, take notes of the meeting, and submit writing summary of meetings. There will be up to 25-30 participants in the workshop. Specific tasks are outlined in the Note section below.

3.2.2 Additional meetings. Meetings (phone calls) may be required throughout the project. On average, the Contractor may need to participate in a conference call 2 times per month (4 hrs. per month) when the contractor during active phases of the project.

3.2.3 Vision and goals workshop. To establish common ground among the various participants, the Contractor will organize and facilitate a three-day workshop with Service (both refuge and regional office staff), tribal staff, and cooperating agency representatives (identified at a later date) to develop a draft vision statement and goals for consideration during public scoping. Building on the success at the first meeting, an internal scoping process will begin with an additional team building exercise; developing a common understanding of the purposes of the refuge; identifying management concerns, issues, and opportunities to resolve them; identifying any potential impacts and alternatives that may need to be addressed in the CCP and NEPA analysis. Following the workshop, the Contractor will prepare a vision and issues document (5-15 pages) summarizing the vision, qualities, issues, and goals, and meeting notes from the workshop. Travel to and from the workshop will need to be factored into the proposal. For a 3-day workshop, with travel, it will

require a full week. The workshop will require two persons, including a **senior team building facilitator who has experience working with tribes, strong skills in resolving conflict, and building teams, plus a secondary facilitator**. Detailed notes of the workshop will be required. There will be up to 30 participants in the workshop. Specific tasks are outlined below.

3.2.4 Alternatives workshop. To develop a draft set of alternatives, the Contractor will organize and facilitate a three-day internal workshop with Service staff (identified at a later date), and outside agencies. Travel to and from the workshop will need to be factored into the proposal. For a 3-day workshop, with travel, it will require a full week. Participants will be able to apply the teambuilding skills learned from the first two workshops, and therefore participants should be ready to discuss alternatives. The workshop will require two facilitators. One facilitator will be expected to manage the meeting and record notes for the group. There could be up to 30-40 participants in the workshop. There will be pre-work required to accomplish the task (develop chart, define categories, etc.). Following the workshop, the Contractor will work with the staff to fill in additional details for the alternative chart. Specific tasks are outlined in the Note section below.

3.2.5 Objectives and Strategies Workshop. To develop a draft set of objectives and strategies for the management direction, the Contractor will organize and facilitate a three-day internal workshop with Service refuge, regional office staff (identified at a later date), and outside agencies. Travel to and from the workshop will need to be factored into the proposal. Two facilitators will be required (this workshop will not require the expert in team building as described above, but will require a facilitator from the earlier workshops to be the lead), but we will expect to build onto the outcomes of the three previous workshops). For a 3-day workshop, with travel, it will require a full week unless otherwise specified in the task order. There will be up to 30 participants in the workshop. There will be considerable pre-workshop work required to accomplish the task (develop chart, define categories, etc.). Specific tasks are outlined in the Note section below.

3.2.6 Impacts Analysis Workshop. To develop the impacts analysis, the Contractor will organize and facilitate a three-day internal workshop with Service refuge, regional office staff (identified at a later date), and outside agencies. Travel to and from the workshop will need to be factored into the proposal. For a 3-day workshop, with travel, it will require a full week unless otherwise specified in the task order. A workshop will be required with two facilitator including one who can manage the meeting and record notes. Similar to the objectives and strategies workshop, the expert team building facilitator will not be required. There will be up to 30 participants in the workshop. There will be considerable pre-workshop work required to accomplish the task.

NOTE: Anticipated tasks of all internal workshops described above include:

- Organizational discussion via meeting, email or conference call to accomplish the following:
- Outline and develop workshop agenda, process, develop workshop chart if needed (alternatives, objectives and strategies, impact analysis), identify and responsibilities
- Confirm logistics and make needed reservations
- Define process to arrive at the product of workshop (step-by-step)
- Define who will be present, facilitate and when, who will scribe, who will take computer notes

- Define all materials that will be mailed to participants before meeting (define who is responsible for this effort)
- Agree on needed backup data and who will bring that data
- Agree on all graphics for workshop (i.e. maps, word charts,) and who is responsible for production
- Facilitation of workshop. The meeting will begin by reaffirming earlier steps and identifying other management concerns that may need to be addressed. The workshop participants will produce a draft product (e.g. vision, alternatives, objectives and strategies, impact table). The Contractor will provide expertise and suggestions to the participants to ensure the product meets Service standards.
- The Contractor will provide two facilitators for each meeting (**for two of the workshops including preplanning and vision and goals, a facilitator with experience working with tribes, and strong team building skills is required to be the lead**). For the other workshops, a lead facilitator and assistant will be adequate.
- The Contractor needs to be able to produce working copies during the workshop as products are produced.
- Following the workshop, the Contractor will perform an edit of the draft product developed during the workshop for typographical errors and highlight the sections that need additional clarification or details.
- The Contractor will provide the planning team leader with a copy of the revised product document within one week following the workshop.

3.3 FACILITATION SERVICES EXTERNAL

For all facilitation services, the Contractor will maintain a cadre of qualified facilitators with experience in complex and controversial natural resource management issues team building, and government-to-government consultation. The Contractor will provide the Service with the resumes and prior experience of facilitators and the Service may select from, recommend alternates, or refuse individual facilitators based on the unique circumstances of each task. Continuity and understanding of an individual project is essential and the Service prefers to maintain at least one facilitator for all components of an individual project.

3.3.1 Organization and facilitation of a variety of public meetings. The Contractor will assist in facilitation and recording of public meetings. These will be for: 1) scoping and 2) publication of a draft CCP. We anticipate two meetings for each round of public meetings. Unless otherwise specified, the Contractor will provide a senior facilitator and an assistant to record meeting proceedings. Additional tasks include:

- Together with the core planning team, the Contractor will provide input into the development of the format for public meetings. This will require one organizational meeting to determine format and develop draft and final agenda (this meeting can occur via a conference call or in person).
- Agree on needed backup data and who will bring that data.
- Agree on all graphics for workshop (i.e. maps, word charts, Powerpoint) and who is responsible for production.
- Organize and facilitate meetings in different locations within Region 6. It is anticipated that all meetings will be held during the same week. The purpose of the

meetings is to provide the public with an overview of the project and solicit issues, concerns, and ideas about the CCP. The exact format of the meetings will be mutually determined with input from the refuge staff, but are likely to be a combination of the following types of meetings: open house, presentation with question and answer session, break-out groups, or formal hearing

- Other anticipated tasks include: setting up/tearing down for meeting, recording comments, and other tasks as necessary
- Provide an electronic copy in Microsoft Word format of the summary of public comments received
- Confirm logistics and make needed reservations

3.4 NEPA ANALYSIS SUPPORT

3.4.1 Cumulative Impacts Analysis. Assist Service in determining what the reasonably foreseeable activities are that could result in cumulative impacts when combined with the direct and indirect impacts of the alternatives in the Draft EA. It is anticipated that this information can be readily obtained from information found in other plans (federal, state, local, etc.) The exact topics have not been identified, but could include grazing, recreation, private land development, roads/trails, wildlife management, wildlife migration, and other socioeconomic factors. Using this information, the Contractor will assist the Service in determining what the cumulative impacts of the alternatives are. It is assumed that there could be 2 or 3 alternatives including a no-action. Where possible, quantitative numbers will be used in the analysis but in some areas qualitative assumptions or discussions may be necessary. The Service will provide the mapping for the analysis.

3.4.2 General Impacts Analysis.

- Using the information developed in the impact analysis workshop, assist Service in further determining what the direct and indirect impacts of the alternatives in a draft NEPA document (EA). It will be a refinement of the information developed for the impact analysis workshop. It is anticipated that the Contractor will need to work closely with refuge and regional office to further refine impacts. Impact topics will include the physical, biological, cultural, visitor services, special management areas, and socioeconomic resources. It will be based on 3 or 4 alternatives including a no-action alternative. Defining the impacts will require weekly meetings (in person or through conference calls) to work with staff in outlining and defining the impacts of the actions of the objectives and strategies. The Contractor will be expected to write up a summary of impacts for each topic, using tables and figures to illustrate topics where needed. At a minimum, there will be a table required to summarize all the impacts, and a table of the threatened and endangered species.

3.4.3 Comment Analysis.

- The Contractor will assist the Service in response and analysis of comments on the draft CCP and EA. The Service staff will log all the individual comment letters and organization/agency letters as they come in with the exception of any mass email petitions (Service will provide a .pdf of all the petitions or other agreed upon terms to coordinating transfer of the petitions). The Service will provide the Contractor with a copy of all the comments using an excel spreadsheet to link .pdf versions of the comment letters (or other

agreed upon terms for transferring comment letters). The Contractor will assist the Service in organizing the comments and defining and coding the substantive issues that require a response as well as coding the non-substantive comments. The Contractor will coordinate closely with the Service (minimum of weekly phone calls to report on progress and discuss issues). The Service will be responsible for writing the comment responses for the agency letters. The Contractor will then review the Service's responses and provide professional feedback and guidance on those responses as they relate to NEPA, particularly the scope of analysis, the reasonable alternatives, Service legal directives (mission, refuge purposes, and integrity policy, and others), cumulative impacts and other relevant topics. The Contractor will compile and organize the analysis of the comments into a document.

3.4.4 Refine Objectives, Strategies, and Rationale. After the objectives and strategies workshop (see 3.25), the Contractor will work with the planning team leader and staff to further refine the biological and public use objectives to prepare them for the final CCP. This is necessary as the objectives, strategies, and rationales are still very rough following the workshops. The following tasks will be necessary:

- Participate in about 3–4 conference calls (estimate 2 hours each call) with the staff at the refuge or use other communication forums to further refine the objectives, strategies, and rationale statements. The Service will make use of web conferencing capabilities to ensure that the document will be available for all to see and work on via web conferencing.
- The Contractor will help refine (edit, cut, re-write if needed) the objectives, strategies, and rationale.
- The Contractor will ensure that the writing is grammatically and technically correct, but it is not expected that the Contractor will be responsible for the final level of technical editing that will occur.

3.5 ADMINISTRATIVE PROVISIONS

3.5.1 Performance Evaluation.

At the completion of each task order, the Government will work with the Contractor to complete a performance evaluation of deliverables. This evaluation will be a two-way communication tool designed to improve performance over the duration of this contract. Factors of evaluation will include, but are not limited to, quality, timeliness, customer service and satisfaction, and cost.

3.5.2 Urgent Requirements.

Occasionally the Service will have urgent requirements. Such requirements will be identified in the task order. Urgent requirements may impact delivery dates of existing orders. Under such circumstances, the Service and Contractor will agree in advance to the priority of each order.

3.5.3 Government Furnished Data/Information.

Existing files, templates, literature, and refuge data/information within refuge files and easily attainable will be made available to the contractor if found of value to the Contractor.

3.5.4 Contractor Travel.

When necessary, the Contractor is responsible for all travel costs and will utilize the Federal Travel Regulations for applicable lodging and per-diem rates. Task orders will specifically identify any additional requirements for official travel.

3.5.5 Definition of Terms

Comprehensive Conservation Plan – required by the National Wildlife Refuge System Improvement Act of 1997, CCPs provide long-term management direction for each unit of the National Wildlife Refuge System. CCPs are required to be updated on a 15-year cycle. The NEPA process requires development of an environmental assessment (EA) or environmental impact statement (EIS) to ensure there are no significant impacts to the natural or human environment as a result of the plan. CCPs may be specific to one unit or cover multiple stations. The current process for CCPs is to issue a Notice of Intent to complete the plan; to develop a draft CCP for internal review; issue a Notice of Availability for public review of the draft CCP; incorporate changes and to develop a final CCP. The final decision document is an environment assessment with a Finding of No Significant Impacts (FONSI) or a more extensive environmental impact statement with a Record of Decision (ROD). Environmental compliance documents are incorporated with the CCP as the final product. The Service currently has extensive Adobe InDesign templates available for CCPs.

Finding of No Significant Impact (FONSI) – The majority of our CCPs involve development of an EA followed by a FONSI. This statement of work is based on an EA, but if significant impacts are identified, the Service will pursue completion of an Environmental Impact Statement under a new task order. This scope of work in no way presumes or predicts the final outcome of any NEPA process.

4.0 PERIOD OF PERFORMANCE

The start date for this Task Order shall be March 2016 and all work shall be completed by September 30, 2019. This contract may be extended for up to an additional one year or September 2020.

5.0 DELIVERABLES

5.1 All deliverables will follow the general tasks above. However, individual projects will be specified in the task order and reference specific line items at the time of the task order.

5.2 General Specifications

- A. The Contractor will provide electronic files of all documents as a CD with all native files for the project (all components and final product) in PC-compatible format/file extensions (and as a high resolution PDF).
- B. The Contractor shall provide one sample hard copy and one CD with digital files (native files and one Adobe .pdf) of all documents.
- C. The Contractor is required to maintain an electronic copy of all documents and templates for the duration of this contract.

DESIGNATED OFFICIALS

A Contracting Officer's Technical Representative (COTR) will be identified in each task order.

**CCP Planning: National Bison Range Master Statement of Work
U.S. Fish & Wildlife Service**

Project Purpose: Assist with and facilitate CCP internal and external workshops, and NEPA assistance,

Contract Personnel and Rates	Lead TeamBuild	Senior Facilitator	Assistant	Admin.	BUDGET
Rate	\$160.00	\$130.00	\$100.00	\$80.00	

1 Facilitation of Preplanning and team building meeting

1. Organizational Meeting. Develop agenda; discuss workshop logistics/responsibilities/graphics	20	20			
2. Organize and facilitate 3-day meeting at National Bison Range. (2 facilitators) plus 2-days travel	40	40			
3. Workshop Summary: Prepare a written summary of the meetings (submit 1 draft for review before producing final summary).	4	12		8	
4. Additional meetings-average 4 hrs. month for 12 months	4	24			
HOURS SUBTOTAL	68	96	0	8	172
SUBTASK SUBTOTAL	\$10,880.00	\$12,480.00	\$0.00	\$640.00	\$24,000.00

2 Vision and Goals Workshop

1. Organizational Meeting: Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics.	8	20			
3. Organize and facilitate 3-day workshop plus two days travel for 2 facilitators	40	40			
4. Workshop Summary: Prepare a written summary of the workshop proceedings (submit 1 draft for review before producing final summary).	4	16		8	
HOURS SUBTOTAL	52	76	0	8	136
SUBTASK SUBTOTAL	\$8,320.00	\$9,880.00	\$0.00	\$640.00	\$18,840.00

3 Alternatives Workshop

1. Organizational Meeting: Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics.		16			
2. Organize and facilitate 3-day workshop plus two days travel for 2 facilitators		40			
3. Workshop Summary: Prepare a written summary of the workshop proceedings (submit 1 draft for review before producing final summary).		12	8	4	
4. Work with staff to fill in details of alternatives chart		8	16		

HOURS SUBTOTAL	0	76	80	4	160
SUBTASK SUBTOTAL	\$0.00	\$9,880.00	\$8,000.00	\$320.00	\$18,200.00

4 Objectives and Strategies Workshop

1. <i>Organizational Meeting:</i> Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics.		20	20		
2. <i>Organize and facilitate 3-day workshop plus two days travel for 2 facilitators</i>		40	40		
3. <i>Workshop Summary:</i> Prepare a written summary of the workshop proceedings (submit 1 draft for review before producing final summary).		24	16	4	
HOURS SUBTOTAL		84	76	4	164
SUBTASK SUBTOTAL	\$0.00	\$10,920.00	\$7,600.00	\$320.00	\$18,840.00

5 Impacts Analysis Workshop

1. <i>Organizational Meeting:</i> Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics.		8	8		
2. <i>Organize and facilitate 3-day workshop plus two days travel for 2 facilitators</i>		40	40		
3. <i>Workshop Summary:</i> Prepare a written summary of the workshop proceedings (submit 1 draft for review before producing final summary).		6	16	4	
HOURS SUBTOTAL	0	54	64	4	122
SUBTASK SUBTOTAL	\$0.00	\$7,020.00	\$5,400.00	\$320.00	\$13,740.00

6 External Facilitation-Public Meetings Scoping

1. <i>Organizational Meeting:</i> Develop draft agenda for review; meet to discuss meeting logistics/responsibilities/graphics.		12	4		
2. <i>Facilitate 2 public meetings-3 days; day 1-fly, facilitate; day 2 facilitate, day 3 travel</i>		24	24		
3. <i>Summary of Public Comments:</i> Prepare a written summary of the public meetings (submit 1 draft for review before producing final summary).		6	8	2	
HOURS SUBTOTAL		42	36	2	80
SUBTASK SUBTOTAL	\$0.00	\$5,460.00	\$3,600.00	\$160.00	\$9,220.00

7 Public Meetings Draft CcP

1. <i>Organizational Meeting:</i> Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics.		16	4		
2. <i>Facilitate 2 public meetings-3 days; day 1-fly, facilitate; day 2 facilitate, day 3 travel</i>		24	24		

3. Summary of Public Comments: Prepare a written summary of the public meetings (submit 1 draft for review before producing final summary).								
HOURS SUBTOTAL		6	8	4				
SUBTASK SUBTOTAL	\$0.00	\$5,980.00	\$3,600.00	\$320.00				\$9,900.00

8 NEPA Analysis- Support Cumulative and General Impacts								
1. Participate in 2 conference calls (2 hrs. each)		4	4					
2. Survey for reasonably foreseeable activities		16						
3. Cumulative Effects Analysis		8	16					
4. Assist staff in preparing evaluation of impacts against alternatives		32						
HOURS SUBTOTAL		60	20	0				80
SUBTASK SUBTOTAL		\$7,800.00	\$2,000.00	\$0.00				\$9,800.00

9 NEPA Analysis Support -Comment Analysis								
5. Assistance with comment analysis		60	60	4				
HOURS SUBTOTAL		60	60	4				124
SUBTASK SUBTOTAL		\$7,800.00	\$6,000.00	\$320.00				\$14,120.00

8 Refine Objectives, Strategies, and Rationale								
1. Assistance with refining objectives, strategies, and rationale		40	40					
HOURS SUBTOTAL		40	40	0				80
SUBTASK SUBTOTAL		\$5,200.00	\$4,000.00	\$0.00				\$9,200.00

HOURS TOTAL 1,204
Expenses Total \$14,576.00
Hours Total \$145,860.00
Grand Total \$160,436.00

Summary of Expenses	
EXPENSES	
Hotel @ \$90 night (48)	\$4,320
Per Diem @ \$51 (56)	\$2,856
Air Fare=14 flights *350	\$4,900
Workshop supplies, Miles, Copies, Printing, other travel costs, Shipping	\$2,500
EXPENSE TOTAL	\$14,576.00

Task Order 1-Internal and External Facilitation National Bison Range Complex CCP

1.0 INTRODUCTION

The U.S. Fish and Wildlife Service (Service) has embraced the need for strong science-based planning within the National Wildlife Refuge System. The National Wildlife Refuge Improvement Act required the Service to complete comprehensive conservation plans (CCPs) for each national wildlife refuge by 2012.

1.1 SCOPE

This Task Order is for assistance in the development of a comprehensive conservation plan (CCP) and environmental assessment (EA) for the National Bison Range, Montana. Tasks include: facilitation of five internal workshops (preplanning, vision and goals, alternatives development, objectives and strategies, impacts and analysis), and one round of external public meetings for scoping (two meetings).

2.0 APPLICABLE DOCUMENTS

The Contractor will comply with all applicable (1) federal statutes, regulations and rules (including all changes amendments); and (2) Presidential Executive Orders, in effect on the date of issuance of this delivery order. The Contractor is expected to be familiar with and comply with the 1997 Improvement Act, final Refuge Planning Policy (May 2000) and the final Compatibility Regulations and Policy (October, 2000), and the Service's guidelines on information that adheres to the Data Quality Act. The Contractor is responsible to ensure that the standards being used are current. A key to common definitions is found at the end of this scope of work.

3.0 SERVICES TO BE PERFORMED BY THE CONTRACTOR

The Contractor shall furnish all personnel, necessary coordination with any subcontractors, equipment, materials and transportation necessary to complete the following services:

3.1 GENERAL

The Contractor shall coordinate with the Service to provide specific components of the CCP process (internal and external facilitation and NEPA assistance) that conforms to the Improvement Act, NEPA requirements and Department of Interior's policies and procedures for implementing NEPA and the Service's policies on planning and compatibility.

3.1.2 Meeting summary reports. The Contractor shall prepare written summaries of all formal meetings or conferences held in connection with the Scope of Work and furnish them to the Planning Team Leader via electronic mail within one week.

3.1.3 Administrative Record. The Contractor will maintain an Administrative Record for services performed. Generally, the administrative record will be prepared in an excel spreadsheet

and all documents must be linked to the spreadsheet. Specific details will be coordinated with the Planning Team Leader, but the record should be completed at the end of each task order.

3.2 FACILITATION SERVICES INTERNAL

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3.2.1 Preplanning and team building.

To initiate the project, the Contractor will facilitate a team building, pre-planning meeting to be held at the National Bison Range. The purpose of the meeting is to bring the refuge staff and members of the Confederated Salish and Kootenai Tribes together to talk about the planning process, address their questions and concerns, and begin building a cohesive core planning team. The core planning team is responsible for most of the writing and development of the plan. Team building is an essential component in order to develop a cohesive core planning team. Together with the planning team leader, the Contractor will organize and facilitate a three-day internal workshop (plus two days of travel) with Service staff (identified at a later date), and tribal employees. Travel to and from the workshop will need to be factored into the proposal. **A workshop will require two persons including a senior team building facilitator who has experience working with tribes, strong skills in resolving conflict and building teams, plus a secondary facilitator** to help facilitate sessions, manage the meeting, take notes of the meeting, and submit writing summary of meetings. There will be up to 25-30 participants in the workshop. Specific tasks are outlined in the Note section below.

3.2.2 Additional meetings. Meetings, primarily phone calls will be required throughout the project. On average, the Contractor should expect to participate in a conference call about 2 times per month (i.e. 4 hrs. per month for 6 months).

3.2.3 Vision and goals workshop.

To establish common ground among the various participants, the Contractor will organize and facilitate a three-day workshop with Service (both refuge and regional office staff), tribal staff, and cooperating agency representatives (identified at a later date) to develop a draft vision statement and goals for consideration during public scoping. Building on the success at the first meeting, an internal scoping process will begin with an additional team building exercise; developing a common understanding of the purposes of the refuge; identifying management concerns, issues, and opportunities to resolve them; identifying any potential impacts and alternatives that may need to be addressed in the CCP and NEPA analysis. Following the workshop, the Contractor will prepare a vision and issues document (5-15 pages) summarizing the vision, qualities, issues, and goals, and meeting notes from the workshop. Travel to and from the workshop will need to be factored into the proposal. For a 3-day workshop, with travel, it will require a full week. The workshop will require two persons, including a **senior team building facilitator who has**

experience working with tribes, strong skills in resolving conflict, and building teams, plus a secondary facilitator. Detailed notes of the workshop will be required. There will be up to 30 participants in the workshop. Specific tasks are outlined below.

3.2.4 Alternatives workshop.

To develop a draft set of alternatives, the Contractor will organize and facilitate a three-day internal workshop with Service staff (identified at a later date), and outside agencies. Travel to and from the workshop will need to be factored into the proposal. For a 3-day workshop, with travel, it will require a full week. Participants will be able to apply the teambuilding skills learned from the first two workshops, and therefore participants should be ready to discuss alternatives. The workshop will require two facilitators. One facilitator will be expected to manage the meeting and record notes for the group. There could be up to 30-40 participants in the workshop. There will be pre-work required to accomplish the task (develop chart, define categories, etc.). Following the workshop, the Contractor will work with the staff to fill in additional details for the alternative chart. Specific tasks are outlined in the Note section below.

3.2.5 Objectives and Strategies Workshop.

To develop a draft set of objectives and strategies for the management direction, the Contractor will organize and facilitate a three-day internal workshop with Service refuge, regional office staff (identified at a later date), and outside agencies. Travel to and from the workshop will need to be factored into the proposal. Two facilitators will be required (this workshop will not require the expert in team building as described above, but will require a facilitator from the earlier workshops to be the lead), but we will expect to build onto the outcomes of the three previous workshops). For a 3-day workshop, with travel, it will require a full week unless otherwise specified in the task order. There will be up to 30 participants in the workshop. There will be considerable pre-workshop work required to accomplish the task (develop chart, define categories, etc.). Specific tasks are outlined in the Note section below.

3.2.6 Impacts Analysis Workshop.

To develop the impacts analysis, the Contractor will organize and facilitate a three-day internal workshop with Service refuge, regional office staff (identified at a later date), and outside agencies. Travel to and from the workshop will need to be factored into the proposal. For a 3-day workshop, with travel, it will require a full week unless otherwise specified in the task order. A workshop will be required with two facilitator including one who can manage the meeting and record notes. Similar to the objectives and strategies workshop, the expert team building facilitator will not be required. There will be up to 30 participants in the workshop. There will be considerable pre-workshop work required to accomplish the task.

NOTE: Anticipated tasks of all internal workshops described above include:

- Organizational discussion via meeting, email or conference call to accomplish the following:
- Outline and develop workshop agenda, process, develop workshop chart if needed (alternatives, objectives and strategies, impact analysis), identify and responsibilities
- Confirm logistics and make needed reservations
- Define process to arrive at the product of workshop (step-by-step)

- Define who will be present, facilitate and when, who will scribe, who will take computer notes
- Define all materials that will be mailed to participants before meeting (define who is responsible for this effort)
- Agree on needed backup data and who will bring that data
- Agree on all graphics for workshop (i.e. maps, word charts,) and who is responsible for production
- Facilitation of workshop. The meeting will begin by reaffirming earlier steps and identifying other management concerns that may need to be addressed. The workshop participants will produce a draft product (e.g. vision, alternatives, objectives and strategies, impact table). The Contractor will provide expertise and suggestions to the participants to ensure the product meets Service standards.
- The Contractor will provide two facilitators for each meeting (**for two of the workshops including preplanning and vision and goals, a facilitator with strong team building skills is required to be the lead**). For the other workshops, a lead facilitator and assistant would be adequate.
- The Contractor needs to be able to produce working copies during the workshop as products are produced.
- Following the workshop, the Contractor will perform an edit of the draft product developed during the workshop for typographical errors and highlight the sections that need additional clarification or details.
- The Contractor will provide the planning team leader with a copy of the revised product document within one week following the workshop.

3.3 FACILITATION SERVICES EXTERNAL

For all facilitation services, the Contractor will maintain a cadre of qualified facilitators with experience in complex and controversial natural resource management issues team building, and government-to-government consultation. The Contractor will provide the Service with the resumes and prior experience of facilitators and the Service may select from, recommend alternates, or refuse individual facilitators based on the unique circumstances of each task. Continuity and understanding of an individual project is essential and the Service prefers to maintain at least one facilitator for all components of an individual project.

3.3.1 Organization and facilitation of public scoping meetings. The Contractor will assist in facilitation and recording of scoping meetings. Unless otherwise specified, the Contractor will provide a senior facilitator and an assistant to record meeting proceedings. Additional tasks include:

- Together with the core planning team, the Contractor will provide input into the development of the format for public scoping meetings. This will require one organizational meeting to determine format and develop draft and final agenda (this meeting can occur via a conference call or in person).
- Agree on needed backup data and who will bring that data.
- Agree on all graphics for workshop (i.e. maps, word charts, Powerpoint) and who is responsible for production.
- Organize and facilitate two meetings in different locations in Montana. It is anticipated that all meetings will be held during the same week. The purpose of the

meetings is to provide the public with an overview of the project and solicit issues, concerns, and ideas about the CCP. The exact format of the meetings will be mutually determined with input from the refuge staff, but are likely to be a combination of the following types of meetings: open house, presentation with question and answer session, break-out groups, or formal hearing

- Other anticipated tasks include: setting up/tearing down for meeting, recording comments, and other tasks as necessary
- Provide an electronic copy in Microsoft Word format of the summary of public comments received
- Confirm logistics and make needed reservations

4.0 PERIOD OF PERFORMANCE

The start date for this Task Order shall be March 2016 and all work shall be completed by September 30, 2019. This contract may be extended for up to an additional one year or September 2020.

5.0 DELIVERABLES

5.1 All deliverables will follow the general tasks above. However, individual projects will be specified in the task order and reference specific line items at the time of the task order.

5.2 General Specifications

- A. The Contractor will provide electronic files of all documents as a CD with all native files for the project (all components and final product) in PC-compatible format/file extensions (and as a high resolution PDF).
- B. The Contractor shall provide one sample hard copy and one CD with digital files (native files and one Adobe .pdf) of all documents.
- C. The Contractor is required to maintain an electronic copy of all documents and templates for the duration of this contract.

DESIGNATED OFFICIALS

A Contracting Officer's Technical Representative (COTR) will be identified in each task order.

USFWS Program Purchase Request						Form Legend			
FWS FORM 3-2109						<input type="checkbox"/>	Required Fields		
						<input type="checkbox"/>	If Applicable		
PR Type		PR Title				Award Document #:			
FP-Funded Purchase Request		IDIQ Planners Toolbox-Bison Range CCP							
Narrative of Requirements (To Include POC)						Recommended Contracting Officer:			
This is for assistance in facilitation and environmental analysis as part of development of the CCP for the National Bison Range. It includes facilitation for 5 internal workshops, 2 public meetings, and environmental analysis of cumulative impacts, general impacts, and responses to comments. At this time we are only funding items 1-5 and a portion of 6 (internal and external facilitation).						Cathleen DeBerry			
						Attachments Included?		Check One <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
						On IT Spend Plan?		Check One <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Suggested Vendor						Delivery Date or POP:			
Vendor Name						September 30, 2019			
Duns #						Delivery Address:			
REQUESTING OFFICE						Denver Federal Center, PO Box 25483, Denver CO 80225			
Program:									
Station:		FWS BRANCH OF PLANNING							
Station Code:		3000003556		FBMS SUP/CF		Jolene Beaudry			
Phone:		3032354378		FBMS COR:		Helen Edwards			
						Delivery Address Code:			
						8350011			
Line Items						For services and bulk goods, "Q" is always 1, and "Unit" is always AU.			
Line No.	Line Item Text			UPC	Quantity	Unit	Unit Price		
10	Internal Facilitation						\$46,295.00		
20	Internal and External Facilitation						\$70,061.00		
30							\$0.00		
40							\$0.00		
50							\$0.00		
(PROVIDE ADDITIONAL SHEETS IF NECESSARY)						TOTAL ESTIMATED COST			
						\$116,356.00			
Funding Detail									
Line No.	Dollar Amount	Cost/Fund Center	WBS		Partial Funds	Work Order			
10	\$46,295.00	FF06R06000	FXRS12610600000		156				
20	\$70,061.00	FF06R06000	FXRS12610600000		167				
Authorization									
Name		Signature				Date			
1. Preparer		Laurie Shannon				11/16/15			
2. Supervisor									
3. Certifying Funds Approver									
CONTRACTING USE ONLY									
Requisitioner	Name	Date	Additional Comments			Logged <input type="checkbox"/>			
Received							PR #		
Entered									
Last Updated: 6/3/2015		Version 1.4		PAGE 1 OF 1					

From: [Sellars, Roslyn](#)
To: [Kristine Martin](#); [Thomas Irwin](#)
Subject: Re: FW: Bison Range
Date: Tuesday, November 17, 2015 8:51:56 AM

Dan is available 2pm - 3pm on 11/20

Roslyn Sellars

Please copy Thomas Irwin (thomas_irwin@fws.gov) on future emails related to scheduling.

Executive Assistant | Office of the Director | U.S. Fish and Wildlife Service

1849 C Street NW | Room 3356 | Washington, DC | (202) 208-4545 | roslyn_sellars@fws.gov

On Tue, Nov 17, 2015 at 10:28 AM, Kristine Martin <kristine_martin@fws.gov> wrote:

Sounds good, thanks.

v/r

Kris Martin

From: Sellars, Roslyn [mailto:roslyn_sellars@fws.gov]
Sent: Tuesday, November 17, 2015 8:25 AM
To: Kristine Martin
Cc: Thomas Irwin
Subject: Re: FW: Bison Range

We may need to make changes to Dan's Friday (11/20) afternoon schedule. We will be able to let you if he's available later today.

Roslyn

On Tue, Nov 17, 2015 at 10:17 AM, Kristine Martin <kristine_martin@fws.gov> wrote:

Thomas & Roslyn,

Would Dan be available this Friday afternoon after 1 p.m. MT for a bison call or would after Thanksgiving be better. If after, Noreen's best available date would be Dec. 2nd.

v/r

Kris Martin

From: Noreen Walsh [mailto:noreen_walsh@fws.gov]
Sent: Tuesday, November 17, 2015 7:53 AM
To: Kristine Martin
Subject: FW: Bison Range

Kris,

Can you set this up? Friday 11/20 afternoon, or after Thanksgiving. Note on Weds 12/2 I am taking AL, but could do a call early in the morning. On our end we need me, Matt H and Will. Topic: NBR.

Thanks,

Noreen

Noreen Walsh

Regional Director

Mountain-Prairie Region

U. S. Fish and Wildlife Service

303 236 7920

From: Dan Ashe [mailto:d_m_ashe@fws.gov]
Sent: Tuesday, November 17, 2015 4:42 AM
To: Noreen Walsh
Cc: Cynthia Martinez; Jim Kurth; Stephen Guertin; Betsy Hildebrandt
Subject: Re: Bison Range

Let's set up a call.

Dan Ashe

Director, U.S. Fish and Wildlife Service

On Nov 16, 2015, at 10:43 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

Dan, how about while you are in Denver next week? You may want to stay a little longer.....we are racking up quite a list of topics to discuss. But the timing might not work out right to include folks back in DC on the phone; after the Mexican wolf meeting it will be getting late. Alternately, I can set up a call with all the folks listed here.

Noreen Walsh

Regional Director

Mountain-Prairie Region

U. S. Fish and Wildlife Service

303 236 7920

From: Dan Ashe [mailto:d_m_ashe@fws.gov]
Sent: Monday, November 16, 2015 8:24 PM
To: Noreen Walsh; cynthia_martinez@fws.gov
Cc: Jim Kurth; Stephen Guertin; Betsy Hildebrandt
Subject: Fwd: Bison Range

We need to discuss our game plan.

Dan Ashe

Director, U.S. Fish and Wildlife Service

Begin forwarded message:

From: "Washburn, Kevin" <kevin.washburn@bia.gov>
Date: November 16, 2015 at 5:11:02 PM EST
To: Dan Ashe <d_m_ashe@fws.gov>
Cc: Lawrence Roberts <lawrence_roberts@ios.doi.gov>
Subject: **Bison Range**

Dear Dan - let us know if/how we can help with the NBR. Larry and I would be happy to brainstorm with you and your team about how to make this work. We do think some advance conversation is a good idea to spot potential issues and have a game plan about options to address them. We also think that legislation will be necessary and would be happy to work with you and OCL on drafting it.

We don't want to be pushy here, but we are excited about this idea! Let us know how we can help.

Kevin

--

Kevin K. Washburn
Assistant Secretary for Indian Affairs
U.S. Department of the Interior
1849 C Street, NW, MS 7329
Washington, DC 20240
Main number 202-208-7163
Fax 202-208-5320
kevin.washburn@bia.gov

From: [Kristine Martin](#)
To: [Noreen Walsh](#); [Matt Hogan](#)
Subject: FW: FW: Bison Range
Date: Tuesday, November 17, 2015 9:08:00 AM

Dan is available from 2-3 p.m. EST on Friday for the NBR call so I will schedule that but it will require ending the RDT on-site by Noon. Does that work?

v/r
Kris Martin

From: Sellars, Roslyn [mailto:roslyn_sellars@fws.gov]
Sent: Tuesday, November 17, 2015 8:51 AM
To: Kristine Martin; Thomas Irwin
Subject: Re: FW: Bison Range

Dan is available 2pm - 3pm on 11/20

Roslyn Sellars

Please copy Thomas Irwin (thomas_irwin@fws.gov) on future emails related to scheduling.
Executive Assistant | Office of the Director | U.S. Fish and Wildlife Service
1849 C Street NW | Room 3356 | Washington, DC | (202) 208-4545 | roslyn_sellars@fws.gov

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Sounds good, thanks.

v/r
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To: Kristine Martin
Cc: Thomas Irwin
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Roslyn

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v/r
Kris Martin

From: Noreen Walsh [mailto:noreen_walsh@fws.gov]

Sent: Tuesday, November 17, 2015 7:53 AM
To: Kristine Martin
Subject: FW: Bison Range

Kris,

Can you set this up? Friday 11/20 afternoon, or after Thanksgiving. Note on Weds 12/2 I am taking AL, but could do a call early in the morning. On our end we need me, Matt H and Will. Topic: NBR.

Thanks,
Noreen

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Dan Ashe [mailto:d_m_ashe@fws.gov]
Sent: Tuesday, November 17, 2015 4:42 AM
To: Noreen Walsh
Cc: Cynthia Martinez; Jim Kurth; Stephen Guertin; Betsy Hildebrandt
Subject: Re: Bison Range

Let's set up a call.

Dan Ashe
Director, U.S. Fish and Wildlife Service

On Nov 16, 2015, at 10:43 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

Dan, how about while you are in Denver next week? You may want to stay a little longer.....we are racking up quite a list of topics to discuss. But the timing might not work out right to include folks back in DC on the phone; after the Mexican wolf meeting it will be getting late. Alternately, I can set up a call with all the folks listed here.

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Dan Ashe [mailto:d_m_ashe@fws.gov]
Sent: Monday, November 16, 2015 8:24 PM
To: Noreen Walsh; cynthia_martinez@fws.gov
Cc: Jim Kurth; Stephen Guertin; Betsy Hildebrandt
Subject: Fwd: Bison Range

(b) (5) DPP

Dan Ashe
Director, U.S. Fish and Wildlife Service

Begin forwarded message:

From: "Washburn, Kevin" <kevin.washburn@bia.gov>
Date: November 16, 2015 at 5:11:02 PM EST
To: Dan Ashe <d_m_ashe@fws.gov>
Cc: Lawrence Roberts <lawrence_roberts@ios.doi.gov>
Subject: Bison Range

Dear Dan - (b) (5) DPP

[Redacted]

(b) (5) DPP

Kevin

--
Kevin K. Washburn
Assistant Secretary for Indian Affairs
U.S. Department of the Interior
1849 C Street, NW, MS 7329
Washington, DC 20240
Main number 202-208-7163
Fax 202-208-5320
kevin.washburn@bia.gov

From: [Lawrence Roberts](#)
To: [Dan Ashe](#)
Cc: [Kevin Washburn](#); [Tommy Beaudreau](#); [Lawrence Roberts](#)
Subject: Re: DC visit CSKT
Date: Wednesday, November 25, 2015 3:53:16 PM

Sounds great. Happy Thanksgiving!

Sent from my iPhone

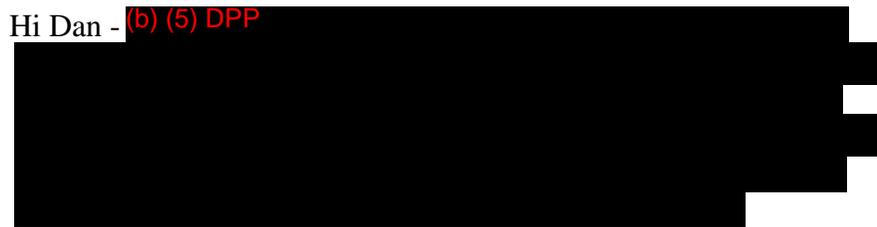
On Nov 25, 2015, at 3:13 PM, Dan Ashe <d_m_ashe@fws.gov> wrote:

Sounds good. Larry, let's talk Monday. Happy Thanksgiving!

Dan Ashe
Director, U.S. Fish and Wildlife Service

On Nov 25, 2015, at 2:37 PM, Kevin Washburn <kevin.washburn@bia.gov> wrote:

Hi Dan - (b) (5) DPP



Sent from my iPhone

On Nov 24, 2015, at 7:06 PM, Dan Ashe <d_m_ashe@fws.gov> wrote:

(b) (5) DPP



Dan.

Dan Ashe

Director, U.S. Fish and Wildlife Service

On Nov 24, 2015, at 7:16 PM, Sally Jewell
<srj2@ios.doi.gov> wrote:

Kevin and Dan -

(b) (5) DPP
[Redacted]
[Redacted] will be out of town all week.
(Paris and NV).

Thanks,

Sally

Begin forwarded message:

From:
<cskt.vernonf@gmail.com>
Date: November 24, 2015 at
6:23:46 PM EST
To: <srj2@ios.doi.gov>
Subject: DC visit CSKT

Madam Secretary and Mr.
Washburn,
First I want to thank you for
inviting me to attend the small
meeting at your office a couple
weeks ago. It was an honor
and, I believe, further evidence
of the strong relationship
between the Confederated
Salish and Kootenai Tribes
(CSKT) and the Interior
Department.
I very much appreciated our
discussion regarding CSKT's
Self-Governance efforts at the
National Bison Range

Complex. You had indicated that the Department may have some thoughts about getting us on course towards completing this process. As you know, CSKT is very interested in resolving this issue, and doing so in compliance with the Department's obligations under the National Environmental Policy Act and the Tribal Self-Governance Act. I would very much like to discuss this with you to get a better understanding as to what directions the Department may be considering. Can we talk next week?
Thank you.

Vernon Finley, Chairman

Confederated Salish &
Kootenai Tribal Council

Sent from my iPhone

From: [Will Meeks](#)
To: [Noreen Walsh](#)
Cc: [Matt Hogan](#)
Subject: Re: Bison Range
Date: Sunday, November 29, 2015 3:28:28 PM

Thanks Noreen. I did talk briefly with Cynthia about this. She was going to talk to the solicitors. I'll give her a call this week and let you know the status.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0319 (c)

On Nov 29, 2015, at 10:41 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

Will, feel free to engage with Cynthia and share any comments / concerns you have. (b) (5) DPP [REDACTED] Don't wait for me but please do keep me up to speed. Many thanks,

Noreen

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Martinez, Cynthia [mailto:cynthia_martinez@fws.gov]
Sent: Monday, November 23, 2015 6:48 AM
To: Dan Ashe
Cc: Stephen Guertin; Jim Kurth; Noreen Walsh; Betsy Hildebrandt; will_meeks@fws.gov; Shaun Sanchez
Subject: Re: Bison Range

(b) (5) DPP [REDACTED]

[REDACTED]

[REDACTED]

Cynthia

On Sun, Nov 22, 2015 at 8:26 AM, Dan Ashe <d_m_ashe@fws.gov> wrote:
Good question Steve. (b) (5) DPP

Dan Ashe
Director, U.S. Fish and Wildlife Service

On Nov 22, 2015, at 7:33 AM, Stephen Guertin <stephen_guertin@fws.gov>
wrote:

Do we want the legislation to say anything about the animals themselves? I know our priority will be to focus on providing larger habitat needs range wide. (b) (5) DPP

Thanks.

Sent from my iPad

On Nov 20, 2015, at 6:47 PM, Dan Ashe <d_m_ashe@fws.gov>
wrote:

Here is the draft from SOL. Still under review from Hilary Tompkins but shouldn't change significantly from legal perspective.

Sent from my iPhone

Begin forwarded message:

From: "Boling, Edward"
<ted.boling@sol.doi.gov>
Date: November 20, 2015 at 3:19:30 PM EST
To: Dan Ashe <d_m_ashe@fws.gov>
Cc: Hilary Tompkins
<hilary.tompkins@sol.doi.gov>
Subject: Re: Bison Range

Attached is our current draft.

Ted Boling
Deputy Solicitor -- Parks & Wildlife
U.S Department of the Interior
1849 C Street NW
Washington, DC 20240

202-208-4423 (main)
202-208-3125 (direct)
202-208-5584 (fax)
Ted.Boling@sol.doi.gov

On Fri, Nov 20, 2015 at 3:16 PM, Dan Ashe
<d_m_ashe@fws.gov> wrote:
Meeting with my team now. We need to see
the draft legislation. I'm
told it is with you. Can you send me a copy,
please?

Dan Ashe
Director, U.S. Fish and Wildlife Service

<BisonRange.draft 111815 TB.docx>

A BILL

To transfer the lands comprising the National Bison Range Unit of the National Wildlife Refuge System to the Confederated Salish and Kootenai Tribes of the Flathead Reservation, to be held in trust by the Secretary of the Interior, and for other purposes.

SECTION 1. SHORT TITLE.

This Act may be cited as the “National Bison Range Unit Transfer Act of 2015.”

SECTION 2. TRANSFER OF THE NATIONAL BISON RANGE UNIT OF THE NATIONAL WILDLIFE REFUGE SYSTEM.

(b) (5) DPP [REDACTED]

(a) Transfer of Land to be Held in Trust. Notwithstanding the National Wildlife Refuge System Administration Act (16 U.S.C. 668dd et seq.), upon enactment of this section all lands comprising the National Bison Range Unit of the National Wildlife Refuge System, which were reserved and excepted from the unallotted lands within the Flathead Indian Reservation under the provisions of 35 Stat. 267, 16 U.S.C. § 671, shall be transferred from the Refuge System by the Secretary of the Interior to be held in trust for the benefit of the Confederated Salish and Kootenai Tribes of the Flathead Reservation.

(b) Transfer of other property. Upon enactment of this section, the United States hereby transfers to the Tribes its ~~fee~~ interests and ownership of any buildings, structures, improvements and appurtenances located on the lands transferred pursuant to this section. In addition, the Secretary may transfer to the Tribes such personal property at the site that she determines is appropriate.

(c) Management. -- The Tribes shall --

- (1) manage all lands transferred in subsection (a) for the care and maintenance of the herd of bison, in accordance with the purposes of 35 Stat. 267; and
- (2) manage all lands transferred in subsection (a) to conserve the natural resources of such lands; and
- (3) manage all property transferred in subsection (b) in a manner that would not be inconsistent with the management directives in subparagraphs (1) and (2) of this subsection; and
- (4) in the Tribes’ sole discretion, determine what if any public access should be afforded to the land and other property transferred under this section.

(d) No Liability. Nothing in this section establishes a substantive right or a cause of action by the Tribes against the United States that would be cognizable in the United States Court of Federal Claims pursuant to 28 U.S.C. § 1491 or 28 U.S.C. § 1505.

ERO RESOURCES COST PROPOSAL AND QUALIFICATIONS COMPREHENSIVE CONSERVATION PLAN AND ENVIRONMENTAL ASSESSMENT NATIONAL BISON RANGE COMPLEX

December 2015

INTRODUCTION

The U.S. Fish and Wildlife Service (Service) is seeking assistance in facilitation and internal workshops, external public meetings, and National Environmental Policy Act (NEPA) analysis support in conjunction with the preparation of a Comprehensive Conservation Plan (CCP) and Environmental Assessment (EA) for the National Bison Range Complex. The units to be addressed are the National Bison Range, Pablo National Wildlife Refuge, Ninepipe National Wildlife Refuge, and the Northwest Montana Wetland Management District. In recent years, ERO has assisted the Service with several CCPs and NEPA documents and is knowledgeable about and current on all compliance requirements.

Our proposal and cost estimate includes all of the tasks described in the Statement of Work, beyond the internal and external facilitation outlined specifically for Task Order 1.

ERO RESOURCES TEAM

For this project, ERO has teamed with Triangle Associates and Root House Studio to provide the Service with the specialized experience and expertise that is necessary to successfully complete this CCP effort. Each of our firms is briefly described below.

ERO Resources

ERO has been a leader in environmental consulting and NEPA compliance throughout the intermountain West since 1981. We provide services that are efficient, effective, and responsive to our clients' needs and expectations, balancing resource management and development of the natural environment within a framework of legal requirements, agency compliance, and public involvement. ERO has extensive experience in conducting environmental investigations under NEPA for federal agencies, including the Service, National Park Service, Bureau of Land Management, USDA Forest Service, Bureau of Reclamation, U.S. Army Corps of Engineers, and Federal Highway Administration.

Triangle Associates

Triangle Associates, Inc. is an employee-owned consulting firm of professionals committed to helping people understand and resolve public policy and planning issues and conflicts. Triangle has a broad bench of neutral facilitators in Washington, Oregon, and Montana that have many years of experience leading interagency coordination and team building efforts for federal agencies that have land and natural resource management responsibilities, facilitating internal and external workshops, and coordinating tribal outreach around natural resources issues. Some of the most recent and relevant projects from Triangle's proposed staff include:

ERO RESOURCES COST PROPOSAL AND QUALIFICATIONS
COMPREHENSIVE CONSERVATION PLAN AND ENVIRONMENTAL ASSESSMENT
NATIONAL BISON RANGE COMPLEX

- Co-training of federal land managers for the development and implementation of a customized facilitation training program to establish a cadre of federal land management employees certified in facilitation and skillful in navigating conflict and interest based negotiations;
- Facilitation of an Interagency Bison Management Plan Meeting with stakeholders from the National Park Service, the Service, and others with a stake in bison management;
- Facilitation of a workshop for EPA Region 10, two tribes, and the States of Idaho, Washington, and Oregon to form partnerships that address ways to keep pesticides out of the Columbia River Basin; and
- Design and facilitation of the public engagement work and cooperating agency process for the fourth Yellowstone Grand Teton Winter Use Environmental Impact Statement under NEPA.

Root House Studio

Established on the principle that communities deeply rooted in place are healthier, happier and more sustainable, Mimi Mather and Ian Scott launched Root House Studio in 2011. Root House uses environmental and communication design to celebrate the stories of place and craft meaningful and memorable visitor experiences of the land. Located in Boulder, Colorado, Root House Studio is a design firm that concentrates its practice on public lands planning, landscape architecture and communication design. At Root House, we consider our protected private and public lands a prized collective resource and an important platform for promoting healthy lifestyles, reconnecting people and nature, sharing our nation’s heritage, and encouraging environmental stewardship.

Root House Studio has worked across the country on conservation and recreation-oriented planning and design projects for the federal land management agencies (NPS, USFS, USFWS, BLM) as well as local municipalities. These projects are rooted in collaboration and the vast majority of them require extensive public and stakeholder involvement. As a result, Root House brings tested and effective tools for engaging multiple parties in large-scale planning efforts in a meaningful (and fun) way.

ERO Resources Information

<i>Company Point of Contact:</i>	Bill Mangle
<i>Address:</i>	1842 Clarkson Street, Denver, CO 80218
<i>Email:</i>	bmangle@eroresources.com
<i>Telephone Number:</i>	303-830-1188
<i>Reference Number:</i>	0040249340
<i>GSA Contract Number:</i>	GS10F0302L

PROPOSED PROJECT STAFFING

Bill Mangle will serve as project manager and the primary point of contact between the Service and the ERO team. As requested by the Service, we have assembled a team of qualified facilitators with the necessary experience in team building, conflict resolution, working with tribes, and the CCP process. In addition, our team has proven experience completing the CCP process and NEPA analysis tasks that are necessary for this effort. Resumes for key staff are included at the end of this proposal.

Project Management

Bill Mangle, Natural Resource Planner/Principal (ERO)

Bill will serve as natural resource specialist, project manager, and principal-in-charge. Bill is a natural resource planner with 18 years of experience in NEPA compliance and environmental permitting, and has considerable experience completing CCPs and NEPA analyses for the Service. Bill has experience with all aspects of the NEPA process, from public scoping to impact assessment, and is able to develop clear and effective documentation. He recently worked directly with Service staff to complete the CCP and EIS for the San Luis Valley Refuge Complex. Additionally, Bill has been assisting Service staff at the National Bison Range and Region 6 with the NEPA analysis of the currently proposed Annual Funding Agreement with the Confederated Salish and Kootenai Tribes (CSKT), and is familiar with the history behind the Services' relationship with the tribe. Bill's past and current projects include NEPA assistance for the Charles M. Russell National Wildlife Refuge (NWR), the Ungulate Management Plan and EIS for the Great Sand Dunes National Park and Preserve, the Rocky Flats NWR CCP/EIS, and the Bison and Elk Management Plan and EIS for the National Elk Refuge.

Facilitation

Nedra Chandler, Senior Associate Facilitator (Triangle)

Nedra is an experienced mediator and facilitator with more than 25 years of experience as a neutral facilitator and mediator of complex, interagency environmental conflicts involving stakeholders including federal and state agencies, tribal governments, and non-governmental organizations. Throughout her career, Nedra has served as an impartial process guide for more than 200 projects involving land managers, scientists, policy makers, and county, state, and federal cooperating agencies. She is known for her flexibility, her ability to quickly summarize background material, and being enjoyable to work with. Based in Helena, Montana, Nedra brings experience with interagency environmental conflict and facilitation throughout Montana and the western United States, and has specific experience working with tribal governments and stakeholders including the CSKT, Blackfeet Tribe, and Ogallala Sioux Tribe.

Mimi Mather, Facilitator/Planner (Root House)

Mimi will serve as the lead facilitator. As the founder of Root House Studio, Mimi has devoted her career to public sector design and planning projects. With a suite of communication design, planning, and facilitation skills, Mimi assists clients in clarifying their messages and connecting with their audiences and stakeholders in meaningful ways. As a trained facilitator, Mimi is also frequently charged

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with coordinating the public/stakeholder involvement and internal collaboration aspects of projects. Mimi has worked on numerous CCP projects for the Service throughout Region 6, and has specific experience successfully facilitating planning workshops for CCPs.

Rachel Caldwell, Project Associated Facilitator (Triangle)

Rachel is an associated facilitator with a background in natural resources conflict resolution and facilitation, and experience supporting multi-party processes. She is particularly interested in helping stakeholders address intractable conflicts, and identify sustainable solutions that are driven by innovation, community engagement, and collaboration. She identifies ways to organize, simplify, and streamline complex projects to help stakeholders remain focused on reaching their goals. Before joining Triangle she worked as a facilitation assistant for the Montana governor-appointed Private Land/Public Wildlife Council which reviewed and addressed issues relating to hunting and fishing access on private land.

Bill Mangle, Natural Resource Planner (ERO)

As described above, Bill is a planning and project manager with considerable experience in process planning, stakeholder engagement, and facilitation. His role on the facilitation team, if required, is to assist the primary facilitators and to provide continuity between the intergovernmental processes and the CCP/NEPA processes.

NEPA Compliance

Bill Mangle, ERO *Described above*

Lia Jenkins, Natural Resource Specialist (ERO)

Lia will provide NEPA and wildlife biology support, and will assist with organizing and maintaining the administrative record. She has four years of experience in writing NEPA compliance documentation, including EISs for National Wildlife Refuges and National Parks. Lia has also analyzed public comments responding to NEPA documents, and has coded public comments and assisted with drafting comment summary reports, most recently for the San Luis Valley Refuges CCP/EIS.

Other Staff

ERO has a variety of other professional staff who are available to assist with this effort, including GIS and graphics specialists, technical editors, wildlife biologists, and junior technical staff.

FACILITATION APPROACH

As requested by the Service, and recognizing the sensitivity of past and current relationship between the Service and its tribal partners, we have assembled a cadre of qualified facilitators to assist with this project. We believe that this group of professionals has the depth and breadth of experience and relationships to bring the diverse tribal and Service professionals together into a cohesive core planning team with a shared vision for the future management of the National Bison Range Complex.

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- **Senior Facilitator** - Our recommended senior facilitator for the preplanning and vision and goals workshops would be Nedra Chandler from Triangle Associates. Nedra has considerable relevant experience with complex natural resource management issues and has worked with tribal governments, including the CSKT.
- **Assistant Facilitators** – Our recommended assistant facilitator would be either Mimi Mather (Root House) or Rachel Caldwell (Triangle), depending on the meeting.
- **Additional Facilitation** – Bill Mangle would be available to assist facilitating some workshops, particularly the impacts analysis workshop which requires continuity between the previous workshops and the NEPA documentation.

We will work with the Service at the outset of the project to develop an approach that makes the best use of these individuals at different points during the process. While it is clear that the front-end workshops require leadership from a senior facilitator (Nedra), we also want to take advantage of the specific strengths and experience of other staff (Mimi, Rachel, and Bill) to move the CCP process forward. Overall, we also believe that it is also very important to ensure continuity of staff through the duration of the planning process. We believe that this team will be able to successfully accomplish those goals.

COST ASSUMPTIONS

Our cost proposal to complete the tasks in the Service’s Statement of Work is provided in the attached spreadsheet. Our cost proposal is based on the following assumptions:

- Our cost proposal includes all tasks outlined in the Statement of Work, including NEPA Analysis Support and draft CCP/EA public meetings.
- Under Task 1 (Facilitation of Preplanning and Team Building Meeting), we have included limited additional effort associated with project initiation and early coordination between the Service and the ERO team members.
- Under Task 9 (NEPA Analysis Support – Comment Analysis), we assume that the level of public interest in the Draft CCP/EA will be low, and the number of public and agency comments received will be between 50 and 100 total comments.
- For each round of meetings, we have included time for graphics support (e.g., PowerPoint slides and/or display boards).
- Travel expenses for the workshops are based on the current GSA per diem rates of \$59/day for meals and incidental expenses, and \$95/night for lodging.
- Travel expenses are based on current approximate costs for flights (Denver – Missoula: \$500) and rental cars (\$200).

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ATTACHMENTS

The following items are attached to support this proposal:

1. Cost Spreadsheet
2. Resumes of key personnel

CCP Planning: National Bison Range
U.S. Fish & Wildlife Service

Project Purpose: Assist with and facilitate CCP internal and external workshops, and NEPA assistance

Contract Personnel and Rates	PM/ NEPA Planner	Senior Facilitator	Assistant Facilitator	Planner/ Assistant	Admin.	BUDGET
<i>Rate</i>	\$132.00	\$150.00	\$130.00	\$85.00	\$68.00	
1 Facilitation of Preplanning and team building meeting						
1. <i>Organizational Meeting. Develop agenda; discuss workshop logistics/responsibilities/graphics</i>	12	16	16	30	2	
2. <i>Organize and facilitate 3-day meeting at National Bison Range. (2 facilitators) plus 2-days travel for FWS and CSKT staff</i>		40	40			
3. <i>Workshop Summary: Prepare a written summary of the meetings (submit 1 draft for review before producing final summary).</i>	2	2	8	10	4	
4. <i>Additional meetings-average 4 hrs. month for 6 months</i>	12	6	6			
HOURS SUBTOTAL	26	64	70	40	6	206
SUBTASK SUBTOTAL	\$3,432.00	\$9,600.00	\$9,100.00	\$3,400.00	\$408.00	\$25,940.00
2 Vision and Goals Workshop						
1. <i>Organizational Meeting: Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics.</i>	6	20	4	20	2	
2. <i>Organize and facilitate 3-day workshop plus two days travel for 2 facilitators for all planning team members</i>		40	40			
3. <i>Workshop Summary: Prepare a written summary of the workshop proceedings (submit 1 draft for review before producing final summary).</i>	2	2	8	20	4	
HOURS SUBTOTAL	8	62	52	40	6	168
SUBTASK SUBTOTAL	\$1,056.00	\$9,300.00	\$6,760.00	\$3,400.00	\$408.00	\$20,924.00
3 Alternatives Workshop						
1. <i>Organizational Meeting: Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics.</i>	4	4	4	16	2	
2. <i>Organize and facilitate 3-day workshop plus two days travel for 2 facilitators</i>		40	40			
3. <i>Workshop Summary: Prepare a written summary of the workshop proceedings (submit 1 draft for review before producing final summary) and work with staff to complete.</i>	2	2	8	20	4	
4. <i>Work with staff to fill in details of alternatives chart</i>	2		6	12		
HOURS SUBTOTAL	8	46	58	48	6	166
SUBTASK SUBTOTAL	\$1,056.00	\$6,900.00	\$7,540.00	\$4,080.00	\$408.00	\$19,984.00

Contract Personnel and Rates		PM/ NEPA Planner	Senior Facilitator	Assistant Facilitator	Planner/ Assistant	Admin.	BUDGET
<i>Rate</i>		\$132.00	\$150.00	\$130.00	\$85.00	\$68.00	
4 Objectives and Strategies Workshop							
1. <i>Organizational Meeting:</i> Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics.		4		10	16	2	
2. <i>Organize and facilitate 3-day workshop plus two days travel for 2 facilitators</i>		40		40			
3. <i>Workshop Summary:</i> Prepare a written summary of the workshop proceedings (submit 1 draft for review before producing final summary).		10		20	32	4	
HOURS SUBTOTAL		54		70	48	6	178
SUBTASK SUBTOTAL		\$7,128.00		\$9,100.00	\$4,080.00	\$408.00	\$20,716.00
5 Impacts Analysis Workshop							
1. <i>Organizational Meeting:</i> Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics.		8		4	12	2	
3. <i>Organize and facilitate 3-day workshop plus two days travel for 2 facilitators</i>		40		40			
4. <i>Workshop Summary:</i> Prepare a written summary of the workshop proceedings (submit 1 draft for review before producing final summary).		6		4	12	4	
HOURS SUBTOTAL		54		48	24	6	132
SUBTASK SUBTOTAL		\$7,128.00		\$6,240.00	\$2,040.00	\$408.00	\$15,816.00
6 External Facilitation-Public Meetings Scoping							
1. <i>Organizational Meeting:</i> Develop draft agenda for review; meet to discuss meeting logistics/responsibilities/graphics.		12		12	30	4	
2. <i>Facilitate 2 public meetings-3 days; day 1-fly, facilitate; day 2 facilitate, day 3 travel</i>		26		26			
3. <i>Summary of Public Comments:</i> Prepare a written summary of the public meetings (submit 1 draft for review before producing final summary).				8	12	4	
HOURS SUBTOTAL		38		46	42	8	134
SUBTASK SUBTOTAL		\$5,016.00		\$5,980.00	\$3,570.00	\$544.00	\$15,110.00
7 Public Meetings Draft CCP							
1. <i>Organizational Meeting:</i> Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics.		6		6	24	4	
2. <i>Facilitate 2 public meetings-3 days; day 1-fly, facilitate; day 2 facilitate, day 3 travel</i>		26		26			
3. <i>Summary of Public Comments:</i> Prepare a written summary of the public meetings (submit 1 draft for review before producing final summary).				8	12	4	
HOURS SUBTOTAL		32		40	36	8	116
SUBTASK SUBTOTAL		\$4,224.00		\$5,200.00	\$3,060.00	\$544.00	\$13,028.00

Contract Personnel and Rates	PM/ NEPA Planner	Senior Facilitator	Assistant Facilitator	Planner/ Assistant	Admin.	BUDGET
<i>Rate</i>	\$132.00	\$150.00	\$130.00	\$85.00	\$68.00	
8 NEPA Analysis- Support Cumulative and General Impacts						
1. Participate in 2 conference calls (2 hrs. each)	6					
2. Survey for reasonably foreseeable activities	16			40		
3. Cumulative Effects Analysis	24			40		
4. Assist staff in preparing evaluation of impacts against alternatives	40			24	6	
HOURS SUBTOTAL	86			104	6	196
SUBTASK SUBTOTAL	\$11,352.00			\$8,840.00	\$408.00	\$20,600.00
9 NEPA Analysis Support -Comment Analysis						
1. Assistance with comment analysis	40			110	8	
HOURS SUBTOTAL	40			110	8	158
SUBTASK SUBTOTAL	\$5,280.00			\$9,350.00	\$544.00	\$15,174.00
10 Refine Objectives, Strategies, and Rationale						
1. Assistance with refining objectives, strategies, and rationale	32		16	24	2	
HOURS SUBTOTAL	32		16	24	2	74
SUBTASK SUBTOTAL	\$4,224.00		\$2,080.00	\$2,040.00	\$136.00	\$8,480.00

HOURS TOTAL	378	172	400	516	62	1,528
Expenses Total						\$17,760.00
Task Total	\$49,896.00	\$25,800.00	\$52,000.00	\$43,860.00	\$4,216.00	\$175,772.00
Grand Total						\$193,532.00

Summary of Expenses

EXPENSES	
Airfare - 14 trips	\$7,000
Lodging	\$4,560
Meals	\$3,300
Car rental	\$1,400
Printing, plots, materials, phones, mileage, etc.	\$1,500
EXPENSE TOTAL	\$17,760.00

Bill has a broad background in natural resource and natural resource assessments, open space planning, National Environmental Policy Act (NEPA) documentation, and water resource studies throughout Colorado and the intermountain West. He has experience with all aspects of the NEPA process, from public scoping to impact assessment, and is able to develop clear, effective documentation. He has a strong interdisciplinary background that balances biological sciences, environmental and land use planning, natural resource policy, and community involvement. These technical and professional skills have enabled Bill to effectively coordinate and manage diverse project teams and develop creative and strategic solutions to natural resource problems and issues.

Education

2001: M.S., Natural Resource Policy and Planning, University of Michigan School of Natural Resources and Environment

1996: B.A., History/Political Science, Colorado College

Charles M. Russell NWR CCP/EIS, MT

Assisted the Service with the development of a complex CCP/EIS and worked with refuge staff to describe resources and the effects of management alternatives in a concise and defensible manner that is appropriate for an EIS. Other tasks included technical review, editing, and revisions to the document; cumulative effects analysis; and general NEPA support.

San Luis Valley National Wildlife Refuge Complex CCP/EIS

Working with the U.S. Fish and Wildlife Service (Service) for the development of a Comprehensive Conservation Plan and Environmental Impact Statement (CCP/EIS) for the San Luis Valley National Wildlife Refuge (NWR) Complex. Tasks have included cumulative effects analysis and assistance with the environmental analysis, including close coordination with refuge biologists to define and document the potential effects of the proposed alternatives on refuge resources.

Ungulate Management Plan and EIS, Great Sand Dunes National Park and Preserve, CO

Natural resource and NEPA planner for a proactive effort to develop long-term management recommendations and implementation tools for elk, bison, and other ungulates. Played a central role in the planning team by facilitating multistakeholder workshops and reconciling scientific information with management needs.

National Bison Range, Annual Funding Agreement EA, MT

Facilitated environmental consequences workshop and provided NEPA analysis and compliance assistance for the draft EA on the proposed Annual Funding Agreement for the National Bison Range Complex. The proposed agreement will determine how management and administration of the National Bison Range Complex will be shared with the Confederated Salish and Kootenai Tribes.

Rocky Flats NWR CCP/EIS, CO

Worked with the Service to develop a plan for vegetation and wildlife management, trail and facilities development, and refuge administration for the future Rocky Flats NWR, and analyzed the impacts of various alternatives in an EIS. In 2006, this effort earned the Outstanding Plan Award from the Service.

Bison and Elk Management Plan and EIS, Jackson Hole, WY

Cumulative impact assessment, public comment evaluation, and general project management assistance to complete NEPA documentation to support bison and elk management planning on the National Elk Refuge and Grand Teton National Park.

Baca NWR Oil and Gas EA Public Comment Documentation

In 2011, the U.S. Fish and Wildlife Service completed a draft Environmental Analysis (EA) on proposed standards and measures to protect surface refuge resources from planned subsurface oil and gas exploration. Recognizing the considerable public interest and tight timeframe involved, the Service contracted with ERO to assist with public comment analysis, responses, and documentation. Processed and coded more than 1,000 comments and more than 23,000 form letters to characterize the concerns that were raised and to develop responses to substantive issues.

Nedra Chandler is an experienced mediator and facilitator with more than 20 years of experience in public policy and governance work. She serves as an impartial process guide, assisting participants to enable constructive engagement, useful information exchanges, and public decision making.

She is also a credentialed conflict coach who specializes with public sector individuals and teams. She is a qualified practitioner for *Lumina Learning* and *Play to Your Strengths™* tools for use with work teams and intergovernmental collaborators.

PROFESSIONAL AFFILIATIONS

- U.S. Institute for Environmental Conflict Resolution's (USIECR) National Roster of Conflict Resolution Professionals & Native Network
- International Coach Federation
- International Association for Public Participation member (IAP2), graduate of IAP2 certificate programs
- Association for Conflict Resolution's (ACR) Environment and Public Policy Section

EDUCATION AND TRAINING

- M.A., Geography, University of Washington, 1992
- B.A., Political Science, Montana State University, 1987
- ICF-Accredited Coach Training 2013-15
- Graduate Certificate in Public Health, University of Montana, July 2012
- Mediation Certificate, University of Washington, 1996

RELEVANT PAST WORK EXPERIENCE

- Montana (MT) Department of Public Health Program Manager
- Mediator then Managing Director of MT Consensus Council
- MT Dept of Labor mediator
- Cadence. Inc.

Intergovernmental Neutral Facilitation

For 25 years Nedra has mediated and facilitated over 200 multi-party groups, subcommittees, and other interagency or multi-sector working groups to help them discern for themselves where they can take a situation, generate options, manage conflict, reach agreements, manage resources, and set action plans.

Example topics have included: establishing rules for cleanup, cleanup priorities and Superfund remedy selection, state-tribal relations, federal-tribal relations, joint fact finding, modeling, and regulation and enforcement for water, air quality, pesticides, public health and land management.

During her career as a professional facilitator and coach for both organization/workplace and intergovernmental public conflict, Nedra has:

- Developed and managed major public decision-making projects involving deep values, big public investments and emotional currency;
- Created and implemented workshops, lectures, trainings and presentations on open governance, mediation, facilitation, leadership and trust-building behaviors in the course of everyday work;
- Conducted up to eight situation assessments per year, many leading to successful decision-making, capacity building or agreement-building processes;
- Used visual process maps, field trips, collaborative fact-finding, expert panels, risk management assessments, media relations, roving teams, and other creative tools to engage agency participants, elected officials and stakeholders;
- Facilitated senior management teams and stakeholder caucus work to assist parties to understand, jointly frame, and engage in the tasks at hand and carry results forward.
- Provided all levels of individual development coaching and organizational development for public agencies – assisting them toward specific, measurable, achievable, realistic and time bound work they design and commit to themselves.
- Taught and trained interest-based negotiation, listening and powerful questions, and facilitative leadership skills for agency staff, leaders, citizens, and county and other elected officials.
- Served as mediator of challenging intergovernmental situations and other conflicts since 1990.

Interagency/Conflict Coaching – Selected Projects Facilitated by Nedra

- Facilitated **Interagency Bison Management Plan meeting** that included representatives from the NPS, Forest Service, Fish and Wildlife Service, and others with a stake in bison management.
- Served as **interagency neutral** for the EPA Region 10 and Idaho Department of Environmental Quality in their annual meeting to renegotiate their partnership on the Bunker Hill cleanup, implementation and monitoring.
- Served as **interagency neutral** for the legislatively-mandated Montana Public Health Care Advisory Council over a period of 18 months to redesign Montana Medicaid. As part of this role Nedra also **facilitated monthly conflict management and coordination meetings** between the Governor’s Health Policy Advisor, the Indian Affairs Coordinator, and the Medicaid Director.
- Served as lead **Cooperating Agency facilitator** for development of the Winter Use Plan in Yellowstone Park between 2007 and 2008 and served as neutral for additional work up through 2010. One significant project success was increased and functional **information sharing and cooperation between and among the NPS, Wyoming, Idaho and Montana, 5 counties, the U.S. Forest Service and the U.S. EPA Region 8.**
- Served as a neutral facilitator for a **multi-agency group** (U.S. Forest Service, NPS, BLM, counties and state and federal Historic Preservation offices) with the **Blackfoot Tribe** regarding oil and gas leasing in the Badger-Two Medicine area of Montana.
- Developed and facilitated an expert panel regarding in situ treatment technologies potentially relevant to the **Superfund cleanup remedy** that was under consideration for the complex 49-mile stretch of river floodplain on the Clark Fork River contaminated with mining waste. With this as an entry point, Nedra was then selected to conduct a situation assessment and provide **interagency neutral services to EPA and Montana Department of Environmental Quality** – to assist them over a **period of 9 months** to get agreement on key aspects of the cleanup.
- Facilitated a workshop for **EPA Region 10 and two Tribal governments, Idaho, Washington and Oregon**, bringing regional stakeholders together to form partnerships to keep pesticides out of the Columbia River Basin.
- Facilitated many team meetings and **cooperating agency meetings for National Park Service (NPS) and EPA**, states, counties and National Forests surrounding Yellowstone National Park environmental issues from winter use to Clean Water Act-related work.
- Mediated MOU between **EPA Regions 7 and 8, Nebraska Department of Agriculture and the Oglala Sioux Tribal Pesticides Program.**
- Facilitated the **Libby Asbestos Superfund Site Cumulative Risk Assessment Meeting** (for Region 8).
- Facilitated the **EPA-convened Collaborative Summit of state and federal leaders** in the Intermountain West (held in Utah) to discuss air quality modeling, interagency cooperation, and the future of the Federal Leadership Forum.
- Served as facilitator for Montana State University’s Office of Rural Health on statewide assessments of **critical access hospitals and their services and impacts on rural communities in Montana and in Indian Country.**

Notes/References from Federal Agencies and Tribal Governments

Nedra was awesome to work with. She helped the interagency group create a constructive work environment over a period of 3 days as we charted out the real risks and gains associated with avalanche control on Sylvan Pass. This alone was an enormous feat dealing with sensitive and technical situations and working relationships. What also stood out was that she followed with some critically useful document preparation which put a solid cap on the work. In short, a very dependable, effective and smart facilitator. – **William Shott, NPS Intermountain Chief Ranger**

Nedra, you were extraordinarily organized and your Triangle team did an exceptional job of helping to plan and implement this workshop. I really appreciated your organizational skills. You did an excellent job providing flexibility in responding to the moment and providing the appropriate facilitation and meeting support that was needed at that time. – **Mary Lou Soscia, Columbia River Coordinator, US EPA**

You have great skills in working with a group of individuals who are skeptical about a facilitated process. You help with development of vision and you have the flexibility to adjust in ways that blend and empower the group. -- **Julie DalSoglio, Office Director, U.S. Environmental Protection Agency, Region 8 Montana Office**

I was astounded at what a fabulous job you did in walking us through action steps for this coming year. I usually find these kinds of sessions absolutely excruciating. Nedra, you did a great job of engaging us, obtaining participation from everyone, assisting in identifying our goals, and developing accountability on the action steps. Thank you. – **Deb Chouinard, Montana Department of Labor** regarding interagency economic development

One of the many strengths that Nedra brings to the table is the ability to know when to push and pull agencies into new comfort zones. Enhanced opportunities for honest reflection and dialog, both internal and external, exist because of her ability to do this. Nedra was a joy to work with. – **Denice Swanke, NPS Yellowstone Grand Teton Winter Use Team, now Superintendent, Little Bighorn Battlefield**

It's a rare skill to be able to focus a diverse group's attention – to blend the various personalities, biases, and worldviews of the individual participants – into an organic unit with a shared mission. Nedra Chandler has all these skills. Nedra is a great facilitator. – **(former) Montana Department of Environmental Quality Director Richard Oppen, now Director of Public Health and Human Services**

You leveled the playing field. You ensured that every person's expression and way they view the world was honored as important to the outcome. You were very clear about what your role was in the process. The summaries were very, very helpful as well as your intuition/insight into human nature. A positive experience. I would do it again if you were facilitating. – **Patricia Sternberg, Lewis & Clark County Library Business Manager**

Nedra, you helped us get the real issues on the table and get out of the box we had been in. Ultimately that was the beginning of what may result in millions of dollars saved. -- **Kevin Howlett, Confederated Salish and Kootenai Tribes Health & Human Services Department Head**

The work Nedra helped us do made changes for the better. Nedra is committed to assisting tribal governments and natural resource agencies with this important work. I recommend her to others working to find collaborative solutions to environmental problems. -- **Irv Provost, Director, Oglala Sioux Tribe Natural Resources Regulatory Agency Pesticide Enforcement**



MIMI MATHER FACILITATOR / PLANNER

Founder of Root House Studio, Mimi has devoted her career to public-sector design and planning projects. With a suite of communication design, planning and facilitation skills, Mimi assists clients in clarifying their messages and connecting with their audiences and stakeholders in meaningful ways. Passionate about interpretation, exhibit design and storytelling, Mimi is keen on designing creative media to share and celebrate the stories of place and their communities. Mimi is dedicated to helping agencies, non-profits and change makers craft graphics, interpretive media, social media and inspiring copy, as well as calls-to-action, that garner attention and raise new awareness. A trained facilitator, Mimi is also frequently charged with coordinating the public/stakeholder involvement and internal collaboration aspects of projects.

Masters of Landscape Architecture,
University of Michigan, 2002

Bachelor of Arts, Anthropology and
Sociology, Middlebury College, 1996

Certified Interpretive Planner

LEED Accredited Professional

Relevant Project Experience:

Facilitation / Public Lands Planning / Public and Stakeholder Engagement

Rocky Mountain Arsenal National Wildlife Refuge Recreation Site Planning, Commerce City, CO

Project Manager/Planner. Assisted FWS with the development of the Comprehensive Conservation Plan (CCP) for this urban national wildlife refuge which required the facilitation of multiple internal workshops with cooperating agencies and staff as well as several rounds of public meetings. Mimi is now working with refuge staff to develop site plans for the key recreation facilities proposed in the comprehensive planning effort. These facilities include new trails and trail heads along the refuge's perimeter, overlooks, and an environmental education center. The project will involve working with communities outlying the refuge to refine the trail head designs, make the refuge more welcoming, and determine strategies for encouraging more refuge use among neighboring residents.

San Luis Valley National Wildlife Refuge Complex Comprehensive Conservation Plan, CO

Facilitator/Planner: Facilitated a series of workshops with FWS and their partners to develop and refine biological and public use objectives for future management of the refuge. Proposed improvements for wildlife-dependent recreation, trails and interpretation and environmental education throughout the complex.

Charles M. Russell National Wildlife Refuge Comprehensive Conservation Plan, USFWS, MT

Facilitator/Planner: Led multiple rounds of workshops with FWS' partner agencies including Vision and Goals, Alternatives Development, and several Objectives and Strategies workshops. Additionally, Mimi facilitated scoping, alternatives review, and draft CCP public meetings in communities around the 1 million-acre national wildlife refuge.

Strategic Habitat Conservation Workshop Facilitation, USFWS Region 6

Facilitator: Planned and facilitated a series of workshops throughout Region 6 for the USFWS. The two-day workshops were designed to engaged multiple stakeholders in discussions about refining the Service's new approach to conservation planning.

Geothermal Energy Development BLM and Industry Talks Facilitation, NV State Office

Facilitator: Facilitated a series of highly contentious workshops between the BLM and geothermal industry representatives. Through multiple workshops the two groups reached consensus on a strategy for streamlining the geothermal permit approval process.

San Luis Valley Trails and Recreation Master Plan, CO

Project Manager/Planner/Designer. A year-long effort to promote the San Luis Valley's outdoor recreation assets and to develop strategies and tool kits for encouraging more recreation among locals and Valley visitors. For the project, Root House developed a set of recreation "tool kits", identified priority initiatives for recreation facility and trail development, and developed communication media including a website (www.slvgo.com), promotional graphics and video, and social media along with destination branding strategies. Mimi led the public outreach and stakeholder engagement aspects of the project which included many public open houses, presentations to public officials, and several workshops with SLV stakeholders.



Waterton Canyon and Kassler Master Plan, Denver Water, CO

Project Manager/Planner: Mimi is assisting Denver Water with the master plan for their property at the start of the High Line Canal at Waterton Canyon. The project involves site planning for the popular recreation site which includes about 8 miles of the South Platte river, fishing ponds, an “eco area” dedicated to environmental education, and the historic Kassler Town Site. In addition to the site planning, the Root House team is preparing strategies for preserving and interpreting the property’s historic features.

Gateway National Recreation Area, NYC, NY

Project Manager: Visitor, conservation, and tourism planning for one of the NPS busiest and most urban national parks. For this project, Mimi worked closely with National Park Service staff and the NYC Parks and Recreation Department to develop strategies and planning solutions for attracting a broader audience to the national park and to connect more people to the recreation area’s natural areas and rich history. Throughout the planning process Mimi facilitated numerous planning workshops with NPS and its many partners .

Irvine Reserve Visitor Use Framework Plan, Orange County, CA

Facilitator/Planner: Led a series of workshops with the Irvine Ranch Conservancy’s partners to plan for recreational facility development throughout the 50,000-acres of open space. Project addressed trail and recreation facility design and development as well recreation, interpretive and educational programming.

Plains Conservation Center (PCC) Bijou Property Master Plan, Aurora, CO

Facilitator/Planner: Root House worked with the PCC to master plan their newly acquired, 7,000 acre Bijou Property. Mimi worked with PCC staff and the PCC board to identify suitable locations and a recreation development programs for trails, overlooks, viewing blinds, campgrounds, outdoor classrooms and other facilities needed to accommodate the PCC’s target audiences which includes citizen scientists, Scout troops, families, school groups as well as those in search of opportunities to “get away from it all” in a beautiful prairie setting.

Recreation and Tourism Framework Plan, USDA Forest Service, Humboldt-Toiyabe National Forest, NV

Planner: As the project’s recreation planner, Mimi worked with a team of resource specialists, tourism market analysts, and USFS staff to develop strategies for increasing tourism opportunities in the Austin and Tonopah Ranger Districts and in neighboring communities. The project involved extensive site analysis in order to identify locations appropriate for new and expanded camping opportunities, trails and trail heads, motorized use and interpretation of the area’s natural, historic and cultural resources. Proposed camping facilities for this project included backcountry camping, designated dispersed camp sites, and campgrounds with limited amenities.

South Park Heritage Site Planning, Park County, CO

Project Manager/Interpretive Planner/Designer: Mimi worked with Park County and private land owners to develop conceptual designs for developing and branding five historic sites in the county as heritage tourism destinations. This included three historic ranches, a railroad roundhouse and a mill. Mimi researched the history for the sites, proposed interpretive messaging and developed strategies for adaptive reuse of the structures.

Northern Colorado Strategic Cultural Tourism Branding and Plan, Larimer and Weld Counties, CO

Project Manager/Planner: Through a series of stakeholder workshops and public meetings with residents throughout the region, identified heritage assets, established a set of interpretive themes and designed brands and graphic identities for “NOCO” - Northern Colorado.

Cache La Poudre River National Heritage Area Interpretive Plan and Marketing Strategies, CO

Interpretive Planner & Designer: Developed an Interpretive Plan and set of marketing strategies for the NHA. Researched the region’s history and developed conceptual designs for interpretive media, on-site and digital exhibits and other tools for enriching the visitor experience of the river corridor. Marketing strategies focused on raising awareness of the NHA and establishing the river corridor as a tourism destination in order to expand opportunities for economic development.

Rachel Caldwell joined Triangle Associates in 2015. She brings with her a background in natural resources conflict resolution and facilitation and experience supporting multi-party processes relating to intractable resource-based conflicts.

Rachel is passionate about helping stakeholders work together to identify innovative and sustainable solutions to complex issues. She identifies ways to organize, simplify, and streamline conversations and projects to help stakeholders remain focused on reaching their goals. Rachel has skills in meeting support, writing services, communications, and data management.

EDUCATION AND TRAINING

M.S., Environmental Studies, University of Montana, 2015

Certificate, Natural Resources Conflict Resolution, Center for Natural Resources and Environmental Policy, 2014

B.A., English and Writing, Southern Oregon University, 2010

SKILLS

- Project Management
- Group Facilitation
- Communications and Outreach
- Research
- Writing and Editing
- Data Management
- Event and Meeting Coordination

PUBLICATIONS

- Caldwell, Rachel A., "Ecological Status of Black-Tailed Prairie Dogs on Boulder, Colorado Open Space and Mountain Parks Land: An Analysis of Select Indicators" (2015).

Selected Triangle Project Experience

West Central Local Integrating Organization (LIO), 2015 – ongoing:

Rachel supports the ecosystem coordination work in west-central Puget Sound between nine member jurisdictions (tribes, counties, and cities) and several non-governmental organizations. She writes and revises documents such as agendas, meeting summaries, and guiding documents. In addition, Rachel oversees the website and generates quarterly newsletters. complex

Lake Ozette Sockeye Steering Committee, 2014-ongoing: Triangle currently facilitates the Lake Ozette Sockeye Steering Committee (LOSSC), a multi-government, multi-stakeholder advisory committee tasked with guiding the implementation of the Lake Ozette Sockeye Recovery Plan. Rachel provides facilitation support for the LOSSC quarterly meetings. She manages meeting scheduling and logistics, assists with developing meeting materials, communicates with stakeholders in between meetings, and develops meeting summaries, action lists, and other products as needed.

Makah Warmhouse Beach Community Involvement Plan, 2015 – ongoing: Through its superfund program, the Environmental Protection Agency (EPA) is tasked with addressing the Warmhouse Beach Dump Site. Triangle Associates is working with the Makah Tribe and the EPA to produce a Community Involvement Plan as part of this effort to ensure the community is appropriately informed and engaged throughout the process. Rachel supports this project by drafting meeting agendas and summaries, coordinating travel and meeting logistics, and assisting with presentations.

Previous Experience

Private Land/Public Wildlife Council, 2014: Rachel served as a research and facilitation assistant for this statewide collaborative council appointed by Montana's Governor Bullock. The purpose of this council is to review and address issues relating to hunting and fishing access on private land. For this project Rachel conducted research, drafted reports, took minutes, generated meeting summaries, and led small group workshops.

Weatherization and Retrofit Assistance Project (WRAP) (2013):

Rachel was involved with the conceptualization and launch of the WRAP program, which provides energy audit and retrofit services for low-income residents in Missoula, Montana. Rachel worked to secure vital program partners including the City of Missoula, local nonprofits, educational institutions, and other unofficial partners. In addition, Rachel conducted research, drafted proposals and reports, organized meetings, researched funding opportunities, and assisted with the development of a pilot timeline.

Lia has five years' experience as a natural resource specialist, having served on interdisciplinary planning teams tasked with writing plans and documentation for compliance with the National Environmental Policy Act (NEPA) and other relevant laws, regulations, and policies. She has authored natural resource sections in environmental analysis documents for the National Park Service and Federal Energy Regulatory Committee (FERC). Lia has experience collaborating with agency scientists, technical staff, and/or resource managers to prepare technically, scientifically, and legally sufficient compliance documentation. She has performed environmental and public use inspections for FERC, serving as lead environmental inspector or co-inspector, and has experience conducting route inventories for the Bureau of Land Management.

Education

2009: B.S. Biology, B.A. Spanish, Minors in Environmental Science and Leadership, University of Colorado Denver, CO

Training and Certifications

NEPA/NHPA Section 106 Training, NPS Intermountain Region, Hardin, MT, April 2012

NEPA Fundamentals Training, The Louis Berger Group, Inc., Denver, CO, April 2011

Affiliations

Johnson Creek Watershed Council, volunteer, May 2014

Colorado Environmental Coalition, volunteer, 2006-2009

San Luis Valley National Wildlife Refuge Complex CCP/EIS, CO

Completed public comment evaluation, coding, and reporting on the draft Comprehensive Conservation Plan (CCP) and EIS. Assisted with the review of the internal draft final CCP/EIS and the draft Record of Decision.

Exotic Ungulate Management Plan/EIS, Hawaii Volcanoes National Park, HI

Environmental scientist/contributing author. The purpose of the plan/EIS was to refine strategies for managing nonnative ungulates to support long-term ecosystem protection, promote recovery and restoration of native vegetation and other natural resources, and protect and preserve cultural resources. Authored the affected environment and impacts analysis for native wildlife and wildlife habitat, and rare, unique, threatened, and endangered species.

Deer Management Plan/EIS, Rock Creek Park, District of Columbia

Administrative assistant for a deer management plan to support long-term protection, preservation, and restoration of native vegetation and other natural and cultural resources. Assisted in locating and organizing reference materials used in the EIS and organized the administrative record.

Winter Use Plan and EIS, Yellowstone National Park, ID, MT, WY

Participated in the development of an EIS for the long-term plan to manage winter use of motorized vehicles, including oversnow vehicles. Served as contributing author and took notes for the science advisory team conference calls, which addressed management options to tackle key unresolved scientific issues and the consequences of winter use on park resources, values, and visitor experience. Also contributed to the literature review for the plan/EIS and authored sections on the cognitive effects of noise, as well as public and employee safety. Authored the affected environment section for air quality.

Draft General Management Plan, Golden Gate National Recreation Area, CA

Public comment analyst. Participated in a public comment analysis effort, which included coding public comments and co-drafting a revised public scoping report.

Elk Management Plan/EIS, Theodore Roosevelt National Park, ND

Public comment analyst. The purpose of the plan/EIS was to address elk management options that would protect natural and cultural resources. Organized and entered letters, public scoping forms, and emails into the NPS PEPC database. Assisted in public comment analysis, as well as developing public comment concern statements.

Off-road Vehicle (ORV) Management Plan/EIS, Glen Canyon NRA, UT

Environmental scientist/contributing author for the ORV Management Plan/EIS to analyze a range of alternatives and actions for the management of ORV use in the park. Authored the affected environment and impact analysis for wildlife and wildlife habitat, and special status species.

CCP Planning: National Bison Range CCP/EA
U.S. Fish & Wildlife Service

Revised (12.30.15) Price Proposal- Total Quality NEPA

Project Purpose : Assist with and facilitate CCP internal and external workshops, and NEPA assistance,

Contract Personnel and Rates	Lead Facilitator - West	Senior Facilitator- Smiley-Marquez or Mather	Assistant or Editor or Graphics Support	Admin	BUDGET
<i>Rate</i>	\$145.00	\$140.00	\$90.00	\$70.00	

Please note our approach, staff, split of labor, and assumptions for each task are described in the Technical proposal. Red text shows additional assumptions in response to FWS request to lower hours for certain tasks.

1 Facilitation of Preplanning and team building meeting					
1. Organizational Meeting. Develop agenda; discuss workshop logistics/responsibilities/graphics; prepare design of workshop; pre-meeting calls to <i>a few</i> tribal and other leaders; develop <i>minimal</i> graphics and other materials	20	34	6		\$8,200.00
2. Organize and facilitate 3-day meeting at National Bison Range. (2 facilitators) plus 2-days travel for FWS and CSKT staff	40	40			\$11,400.00
3. Workshop Summary: Follow-up calls to participants; Prepare a written summary of the meetings (submit 1 draft for review before producing final summary).	22	8	2		\$4,490.00
4. Additional meetings-average 4 hrs. month for 12 months- <i>no additional note taker provided by contractor</i>	48	4			\$7,520.00
HOURS SUBTOTAL	130	86	8	0	224
SUBTASK SUBTOTAL					\$31,610
2 Vision and Goals Workshop					
1. Organizational Meeting: Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics; develop graphics, materials and design.	12	20	4		\$4,900.00
2. Organize and facilitate 3-day workshop plus two days travel for 2 facilitators for all planning team member	40	40			\$11,400.00
3. Workshop Summary: Prepare a written summary of the workshop proceedings (submit 1 draft for review before	24	16	4		\$6,080.00
HOURS SUBTOTAL	76	76	8	0	160
SUBTASK SUBTOTAL					\$22,380
3 Alternatives Workshop					
1. Organizational Meeting: Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics.	12	16	8		\$4,700.00

2. Organize and facilitate 3-day workshop plus two days travel for 2 facilitators	40	40			\$11,400.00
3. Workshop Summary: Prepare a written summary of the workshop proceedings (submit 1 draft for review before producing final summary) and work with staff to complete.	16	4			\$2,880.00
4. Work with staff to fill in details of alternatives chart (assumes no more than 3 total alternatives and that the majority of issues are resolved at the workshop; e.g. few details remain; FWS provides notetaker if needed)	8	24			\$4,520.00
HOURS SUBTOTAL	76	84	8	0	168
SUBTASK SUBTOTAL					\$23,668
4 Objectives and Strategies Workshop					
1. Organizational Meeting: Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics.	16	16	8		\$5,280.00
2. Organize and facilitate 3-day workshop plus two days travel for 2 facilitators	40	40			\$11,400.00
3. Workshop Summary: Prepare a written summary of the workshop proceedings (submit 1 draft for review before producing final summary).	16	16			\$4,560.00
HOURS SUBTOTAL	72	72	8	0	152
SUBTASK SUBTOTAL					\$21,240
5 Impacts Analysis Workshop					
1. Organizational Meeting: Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics. Assumes only very simple handouts for participants; no issues chart prepared before meeting.	12	4			\$2,300.00
3. Organize and facilitate 3-day workshop plus two days travel for 2 facilitators	40	40			\$11,400.00
4. Workshop Summary: Prepare a written summary of the workshop proceedings (submit 1 draft for review before producing final summary). Assumes no more than 6 substantial impact topics or 3 alternatives.	24	12			\$5,160.00
HOURS SUBTOTAL	76	56	0	0	132
SUBTASK SUBTOTAL					\$18,860
6 External Facilitation-Public Meetings Scoping					
1. Organizational Meeting: Develop draft agenda for review; meet to discuss meeting; logistics/responsibilities/graphics. Develop draft Powerpoint and other graphics	12	2	12		\$3,100.00
2. Facilitate 2 public scoping meetings-3 days; day 1-fly, facilitate; day 2 facilitate, day 3 travel	24		24		\$5,640.00
3. Summary of Public Comments from scoping: Prepare a written summary of the public meetings (submit 1 draft for review before producing final summary).	4		4		\$940.00
HOURS SUBTOTAL	40	2	40	0	82

SUBTASK SUBTOTAL					\$9,680
7 Public Meetings Draft CCP					
1. <i>Organizational Meeting: Develop draft agenda for review; meet to discuss workshop logistics/responsibilities/graphics.</i>	2	12	16		\$3,410.00
2. <i>Facilitate 2 public meetings-3 days; day 1-fly, facilitate; day 2 facilitate, day 3 travel</i>		24	24		\$5,520.00
3. <i>Summary of Public Comments: Prepare a written summary of the public meetings (submit 1 draft for review before producing final summary).</i>		4	4		\$920.00
HOURS SUBTOTAL	2	40	44	0	86
SUBTASK SUBTOTAL					\$9,850
8 NEPA Analysis- Support Cumulative and General Impacts					
1. <i>Participate in 2 conference calls (2 hrs. each)</i>	4	4			\$1,140
2. <i>Survey for reasonably foreseeable activities</i>	16	8			\$3,440
3. <i>Cumulative Effects Analysis</i>	16	12			\$4,000
4. <i>Assist staff in preparing evaluation of impacts against alternatives- assumes all sources of information provided by FWS if needed for additional writing; the great majority of writing completed by FWS.</i>	56	24			\$11,480
HOURS SUBTOTAL	92	48	0	0	140
SUBTASK SUBTOTAL					\$20,060
9 NEPA Analysis Support -Comment Analysis					
5. <i>Assistance with comment analysis; assumes no more than 100 substantive comments (note a comment letter can have several comments) blended into no more than 50 issues requiring responses. Assumes one review by contractor of responses; formatting of section by contractor editor</i>	32	16	16	18	\$9,580
HOURS SUBTOTAL	32	16	16	18	82
SUBTASK SUBTOTAL					\$9,580
10 Refine Objectives, Strategies, and Rationale					
1. <i>Assistance with refining objectives, strategies, and rationale</i>	24	24	6		\$7,380
HOURS SUBTOTAL	24	24	6	0	54
SUBTASK SUBTOTAL					\$7,380
TOTAL HOURS	506	466	134	18	1124
TOTAL LABOR COST					\$174,308
TOTAL EXPENSES					\$18,490
TOTAL ALL					\$192,798

Summary of Expenses

Item	Number	Cost per item	Total
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Flights for all tasks	14	\$525.00	\$7,350.00
Hotel nights for all tasks (8 per workshop, 6 for public review)	52	\$90.00	\$4,680.00
Car rental (4 days per workshop, 3 for public review)	26	\$75.00	\$1,950.00
Gas for rental car	7	\$30.00	\$210.00
Airport parking	26	\$23.00	\$598.00
Per diem	52	\$51.00	\$2,652.00
Supplies per workshop	7	\$150.00	\$1,050.00
EXPENSE TOTAL			\$18,490



**Revised Technical and Price Proposal to
US Fish and Wildlife Service
National Bison Range Complex CCP/EA Facilitation
0040249430**



Total Quality NEPA
(303) 652-6572
9348 Hills View Drive,
Longmont, Colorado 80503
12/30/2015
GSA #GS10F-0562N

Introduction to Our Team

Total Quality NEPA is pleased to submit its revised bid for facilitation assistance in preparing a Comprehensive Conservation Plan and environmental documentation for the refuges of the National Bison Range Complex. For this proposal, we have teamed with our experienced planning partners at Roothouse Studio and with Dr. Carolyn Smiley-Marquez, an experienced tribal facilitator. Total Quality NEPA (TQNEPA) would supply programmatic planning and NEPA experience as well as continuity through our presence at all workshops named in task 1. Carolyn and the principals of both TQNEPA and Roothouse Studio —Heidi West and Mimi Mather—would switch off as facilitator or assistant facilitator for the project depending on the task. Each of us has agreed to use lower hourly rates than allowed under the TQNEPA GSA contract to offer the highest quality leadership at a competitive price.

Dr. Carolyn Smiley-Marquez, Lead Tribal Facilitator

While TQNEPA and Roothouse have worked together on several plans and environmental documents for agencies of the Department of the Interior including the Fish and Wildlife Service (Service), Dr. Smiley-Marquez (Carolyn) is new to our team. Carolyn is CEO of Smiley & Co., Ltd, a Native American and woman-owned 8(a) SDB certified company. Carolyn has a 33-year record of successfully facilitating, mediating, achieving consensus and applying peace building techniques. She is recognized for her in-depth, insightful, collaborative and engaging process design with multicultural, multiparty and multi-coalition stakeholders, which she applies in team building, capacity development, dispute resolution and strategic planning. Her certifications, extra-academic training and experience in interpreting interpersonal, intercultural and group dynamics deepen her contribution to facilitated negotiation and broaden her abilities for guiding participation toward consensus or informed consent. She is certified by the Elsie Y. Cross Associates/National Training Laboratories as a facilitator for high-conflict and historically embedded disputes, and regularly works to resolve conflict and facilitate the most potentially explosive of family and children issues for the courts.



Carolyn's experience with Tribal issues is varied and extensive. She is trained in the Hopi Tribal Court's peacemaking model for dispute resolution and serves as one of the informal leaders of the US Institute for Environmental Conflict Resolution (USIECR) Native Network. She also works with leadership groups in conflict, planning and facilitating complex and controversial reorganizations and/or broad ranging strategic plans; clients have included the Center for Collaborative Conservation and the Board of the Society for American Indian Government Employees (SAIGE). Carolyn designed the process and facilitated the Native American Symposium on Indian Boarding Schools and Historic Trauma sponsored by the Native American Rights Fund and University of Colorado's American Indian Law Clinic. Similarly, with the Casey Family Foundation Indian Child Welfare Group, she designed the process, facilitated and video documented and produced reports on a national symposium attended by representatives from twenty-six tribes.

An ADR Roster member with the U.S. Department of the Interior, Carolyn has worked with the Bureaus of Land Management, Reclamation and Indian Affairs, as well as the Fish and Wildlife Service, National Park Service and U.S. Forest Service. She provided assessment and consensus-building services for the San Juan Public Lands Center and the Anasazi Heritage Center. She worked for two years with the U.S. Fish and Wildlife Service's Region 6 to create and facilitate a cohesive core planning team for increasing appreciation for diversity and for educating government-to-government, particularly tribal, relations.

Mimi Mather, FWS CCP Specialist and Co-Facilitator

Mimi Mather, principal of Roothouse, has worked on over 12 National Wildlife Refuge projects for the USFWS in Colorado, Montana, North Dakota, South Dakota, Nebraska and Kansas. Mimi recently completed work on Comprehensive Conservation Plan/EIS's for the Charles M. Russell NWR and the San Luis Valley NWR Complex and is currently working with Total Quality NEPA on the CCP/EIS for the Rocky Mountain Arsenal NWR. In addition to offering expertise in the CCP planning process and its requirements, Mimi is an experienced team facilitator. For example, completing the Charles M. Russell NWR CCP/EIS required multiple rounds of internal, public and cooperating agency workshops and meetings. Mimi and Heidi have also co-facilitated or traded off in facilitating all planning and impact analysis workshops for the ongoing Rocky Mountain Arsenal NWR CCP/EIS.

Dr. Heidi West, NEPA Specialist and Overall Lead Facilitator

Dr. Heidi West is principal of Total Quality NEPA. Heidi has owned and operated Total Quality NEPA since its inception in 1993, and is a specialist in all aspects of the NEPA process. Our firm has particular expertise in facilitating/guiding agency teams through the internal scoping phase of NEPA to develop purpose, need, objectives, constraints, alternatives and impact topics. We have also produced or partnered with agency staff and subcontractors to produce dozens of EISs and EAs, and have specific knowledge of bison and wetland biology. Like Carolyn, Heidi is also on the USIECR roster of environmental conflict resolution facilitators and mediators; she has managed multiple highly controversial, multi-agency complex planning processes for agencies of the Department of the Interior and is a particular specialist in programmatic natural resource planning. She and TQNEPA have been heavily involved in or completed 10 programmatic plans and accompanying NEPA documents for national parks and refuges across the nation. Heidi is well-known for her friendly but firm facilitation style as well as for offering a flexible approach to partnering with agencies to produce the best possible product. Our partnerships with agencies have included the smallest effort—facilitating a single meeting or analyzing a single impact topic—to full completion or management of huge multi-EIS projects or programs. We are also often asked to substitute one task for another in our approved scope and find this or other agency “asks” no problem to accommodate.

Approach

Overall, we believe the approach outlined in this scope is geared toward teaching Service and Tribal staff how to conduct their own NEPA process and complete an adequate NEPA document. It may be odd to hear a contractor say this, but we think this is a great idea! The core planning team may never be part of another CCP, but they will most certainly be part of another NEPA process. Heidi has trained thousands of federal staff in NEPA and TQNEPA has completed dozens of some of the most complex and controversial NEPA processes ever undertaken by the Department of the Interior. We

think this combination would be ideal for leading the FWS through the scope of work for the Bison National Refuge Complex CCP/EA.

TQNEPA would be the prime contractor and Heidi the project manager for this proposal. However, Mimi and Heidi are both experienced in programmatic planning and NEPA and can offer important guidance throughout the process. Carolyna provides more in-depth experience in resolving embedded conflicts especially when tribes or other multi-cultural values are at stake.

To provide the best possible process, continuity and product, we are proposing a partnership where Heidi would attend all internal workshops in Task 1 and either Carolyna or Mimi would attend as a co-facilitator. This would mean two senior professionals would be present at each meeting, offering the best combination of experience and insight into planning, environmental issues and conflict resolution. The scope indicates team building and conflict resolution would be important in the first two team meetings and so Heidi and Carolyna would team up to provide background in these areas as well as technical knowledge regarding the FWS CCP planning requirements (for vision and goals, for example). Carolyna would be the lead facilitator for task 3.2.1 and Heidi would take notes and be present to help in guiding the CCP process. Heidi has developed a specialty in leading multi-agency, contractor and tribal staff through defining the planning elements required in any NEPA process such as purpose, need, objectives, alternatives and environmental impact topics. Therefore, in task 3.2.3, Heidi and Carolyna would share facilitation of the team to ensure that conflicts are surfaced and eventually resolved and that the vision, goals, purposes of the refuges, management concerns and alternatives adhere to the requirements of CCP planning and NEPA.

After completion of the Vision and Goals workshop, we would phase Carolyna out and Mimi Mather in as a co-facilitator. Mimi is a specialist in the FWS CCP process and she and Heidi would co-facilitate the next three internal workshops, e.g. subtasks 3.2.4, 3.2.5 and 3.2.6. In addition to FWS CCP's, Heidi and Mimi have worked together on several National Park Service general management plans and accompanying EISs and Mimi has provided insight into and analysis of socio-cultural impacts, such as visitor experience, visitor use, soundscapes, visual quality and cultural landscapes. Heidi and TQNEPA staff have analyzed impacts to natural, physical and cultural resources, including air quality, water resources, water quality, soils, vegetation and habitat, fish and wildlife, archeological resources, ethnographic resources, and listed species. Between the two of them, Heidi and Mimi would offer the best possible combination of facilitation skills, experience in programmatic planning and CCPs, and technical environmental/NEPA knowledge to complete facilitation of these three subtasks as well as of the remaining impact analysis, cumulative impact analysis, public comment analysis and refining of objectives and strategies.

Each of the three key facilitators also has a background in public involvement. Heidi would take the lead in external scoping of the CCP/EA and Mimi the review of the draft document. While we have proposed a more junior staff person to assist in both cases, we note that Carolyna would be available to substitute if the FWS anticipates conflict resolution skills would be needed.

Our approach is explained in more detail below and assumptions (which are important in the costing of our proposal) for each task stated. **Any changes as a result of FWS requests (email from DeBerry 12.28.15) are in underline and strikeout and are highlighted in red.**

3.2.1 Pre-planning and Team Building. Carolyna's overarching goal in team building is to develop a working trust between and among participating individuals so that they will at a minimum support

informed consent and ideally support the production of consensus. A process design for this workshop would value and guide multiple, as possibly conflicting, motivations and desired outcomes toward collaboration. Assessment of these motivations and outcomes would be key to informing the development of a design that both values this diversity and respectfully guides participants and participant groups through experiences, including dialogue, that are designed to dissolve barriers and to engender co-creation and commitment. For multi-party teambuilding, Dr. Smiley-Marquez finds it helpful to engage participants, especially formal and informal leaders, in the planning process itself, focusing on the shared goal of producing a useable, thoughtful CCP and high-quality EA that could withstand legal challenges should they arise. When appropriate, shared and prepared facilitated or instructional roles may also be helpful. Carolyna would take the lead in collaborating with planners, decision-makers, key stakeholders and other professionals that are or will become engaged with the working group to assure that the design and activities of an initial teambuilding event acknowledge the past and support co-creation of sustainable future agreements and relationships. In addition to fulfilling these goals, we would be prepared to suggest and discuss areas of expertise and responsibility needed on the core planning and analysis team.

To help in meeting these needs, we have included hours for Carolyna and Heidi to speak with a few key individuals identified by the FWS as official and unofficial leaders of sub-sets of possible team members or that have strong feelings or concerns. We believe tribal (and other) participants may be hesitant to fully voice issues in a team environment and also think that our fuller understanding of what seem like intractable positions before we meet as a group would be critical to team building and conflict resolution. ~~We also know that FWS operates under laws, regulations and policies that must be considered in determining reasonable management options, and so would fold these constraints into our understanding of conflicts on the team if appropriate. We~~ Carolyna would summarize ~~our~~ her understanding of these conflicts as well as our initial workshop and process design for building and maintaining a collaborative and functional planning team for discussion with FWS management before the meeting and incorporate FWS suggestions. Roothouse would supply minimal graphic support for this first workshop if needed.

Following the meeting, we would prepare a summary of key points and ~~detailed~~ notes of the relevant discussion for review by a select group of attendees identified at the workshop and revise as per comments. We also have proposed a few hours of time to conduct follow-up conversations with some tribal and agency participants to ensure their concerns were raised and resolved in a satisfactory manner and to discuss our findings with FWS.

Our assumptions for this task include:

- Any graphics prepared by Roothouse ~~(such as a map of each refuge or planning area)~~ would be printed by FWS.
- Costs for meeting space if not at an FWS location and meeting supplies such as a projector, flip charts etc. would be paid by FWS.

3.2.2 Additional Meetings. Although we have included hours for discussions with team members and the FWS in other tasks, we agree that a regularly scheduled twice-monthly call to discuss progress, needs, future tasks and concerns is a good idea. To provide continuity, Heidi would normally be part of ~~all of the calls, but could switch with other facilitators if needed. No additional note taker would be supplied by TQNEPA. Carolyna would participate in the first few calls and Mimi on the remainder. One of us would take notes of the call and send out a summary of key points.~~

3.2.3 Vision and Goals Development. We understand the vision and goals show the world how FWS sees its refuges and defines its important ideals. But the vision and goals are also key in setting the sideboards on the rest of the planning and NEPA process. In a CCP or other large scale planning, purpose and need are greatly expanded by the agencies to include a vision, desired future conditions, goals and objectives, issues that need to be resolved, and constraints that prevent certain actions (often laws or regulations, although they can also be physical or even financial). It is within this framework that reasonable alternatives are developed, as each alternative must meet the purpose and resolve the stated need to be considered reasonable by the courts. Heidi is a specialist in leading teams through this development of “planning elements” for both programmatic plans and the most specific of projects, and is currently working with Mimi in completing the plan and EIS for the Rocky Mountain Arsenal CCP with a scope that is very similar to this one. While Carolyn will lead us in task 3.2.1, both she and Heidi will facilitate the core planning team through the development of the vision and goals. Carolyn will help in designing the workshop to continue and further the success in teambuilding from the pre-planning meeting. Heidi will provide examples of vision and goals for the group and assist Carolyn in guiding the team through their development. We would also prepare handouts relevant to articulating the purpose of the complex and its refuges by drawing on Service statements of policy, enabling legislation for the refuges and any relevant discussion by congress or others. We would also work with the group at the meeting and potentially prior to the meeting to identify planning issues raised by the staff and/or the public that the CCP could or must resolve and alternative approaches to address them. Because alternatives beyond a proposed action are required in an EA when there are disagreements about how resources should be managed, this would be an ideal time to create responses that reflect those disagreements and connect goals and constraints with the idea of reasonableness. Heidi has led this kind of discussion for many planning teams and could provide some NEPA insights for the team and facilitate the discussion. Both Carolyn and Heidi would take relevant notes when the other is facilitating discussions. Our assumptions for this task include:

- Management issues and concerns mentioned in the statement of work are those related to the plan and management of the refuge rather than with the team’s ability to work together
- The focus of this workshop is on producing the beginning elements of the plan and not as much on team building as task 3.2.1
- If needed, a planner from the Region or a Service staff person could take notes if both Heidi and Carolyn are facilitating a section of the workshop.

3.2.4. Alternatives Development. At this point in the process, the workshops require primarily planning and NEPA expertise, and so we would use Mimi, a specialist in FWS CCP planning and Heidi, our NEPA facilitator and specialist. Mimi and Heidi would trade off facilitating and taking notes; both have extensive background in leading teams through the development of alternatives. Because the rationale of why certain options were pursued and others dismissed can be critical in later addressing public comments and/or defending against a lawsuit, we believe this continued use of senior key personnel in taking notes and providing continuity for the entire process would greatly benefit the project.

Our experience indicates that the alternatives workshop would be full of ideas generated and result in a first cut of a set of options. [However, our assumptions in preparing our revised price proposal \(12.30.15\) require the alternatives are in more complete form than usually achieved in this first meeting.](#) Drawing from our discussion in 3.2.3 on overarching approaches to manage resources and resolve issues and concerns raised by agencies and the public, we would create a preliminary

alternatives matrix with some details filled in. Alternatives development can follow a list of issues or concerns (or opportunities) and/or focus on the goals created by the planning team in Task 3.2.3. These are the specific elements of Need for the plan and Purpose of the plan and would be listed in the chart. Following a short PowerPoint explanation by Heidi of how and why refuge purpose, goals, issues and concerns are connected to creating reasonable alternatives, we would work with the team to complete the matrix. We traditionally project the alternatives table and work with the team to progressively add actions consistent with the overarching approach or theme of an alternative to address the issues or goals. The focus is on creative thinking, with a check at the end of the workshop to decide whether the alternatives are truly reasonable as defined by NEPA regulations. Although it is ideal to work as a whole team on this task, we could divide into smaller groups to develop an alternative each if needed to help complete and refine alternatives the task in the 3 days.

Follow-up conversations with the planning team or a representative subset of them to review the alternatives chart and descriptions as details are resolved are almost certainly required as part of this task. Mimi would take the lead in We would consolidating ideas and rationale from the workshop and distribute it to the team. This would begin a short series of—and then begin what we have assumed is a series of scheduled conference calls. The calls would flesh out the few remaining details of the alternatives, ask and answer technical questions about implementation and ensure the completeness of each. Mimi would be the lead on these calls; Heidi would be available as needed. Mimi would use an associate in her firm to take notes so that costs are lower for this follow-up. If a note taker is required, FWS would provide one.

Our assumptions for this task are:

- Refuge staff would help in resolving questions or issues with the alternatives; the contractor role would be to keep track of questions and issues and update the table once these are resolved
- FWS would set up WebEx conferences if needed to discuss the alternatives or provide conference lines
- Alternatives would be developed for the complex rather than an independent set of alternatives for each refuge.
- No more than two action alternatives and No Action (e.g. a total of 3) for the complex would be developed

3.2.5. Objectives, Strategies and Rationales Development. For the workshop, Heidi will facilitate discussion and development of an initial set of biological/habitat objectives, strategies and an outline of rationale. Mimi would facilitate development of all remaining objectives. It is our experience that one 3-day workshop to accomplish this task may be inadequate and so we would propose dividing into two groups, each with a Service provided note taker, a projector and either Mimi or Heidi facilitating. We also propose substantial work completed before the workshop to develop categories and possibly draft objectives and rationale where possible. Heidi or Mimi would facilitate these pre-workshop Web-Ex or conference call discussions as dictated by subject matter. This information would be summarized and sent to the core planning team prior to meeting. As with all workshops, a summary of decisions made and a lengthier summary of rationale, agreements and disagreements etc. would be sent to team members and revised once as per comments. Our assumptions for this task include:

- Objectives, strategies and rationale would be developed for one alternative (the selected or preferred alternative for the complex) only. (However, we are happy to use the hours bid in

this task to work with the group in developing these for other alternatives if our assumption is not correct.)

- The FWS can provide note takers if we all believe we need to split into smaller groups to complete development of objectives, rationale and strategies for all topics

3.2.6. Impacts Analysis Workshop. The objective of this workshop would be to create a chart of environmental issues and preliminary assessment of impacts for core team members to use in their analysis write ups. We would put together examples of environmental issues ~~and a partially filled chart~~ to use in the workshop. Rather than impacts, which require scientific literature, agency reports and credible analysis to determine the context and intensity of effects for each of the alternatives, we would focus on helping the team to create a kind of “road map” to use in their analysis. An example of an issue might be something like “expanding the existing auto route through the refuge would increase losses of wildlife from road kill” whereas impact analysis would describe factors such as species most at risk, the extent of the risk and any relevant context. The focus is on actions in the alternatives and how each would affect or change conditions for a given resource. As a first step, the team would develop a list of actions for each of the alternatives and compare these against a few of the major issues (e.g. where impacts could be more than minor) to discuss cause and effect relationships. This method results in a preliminary “issues chart” which is highly analytical and meets the requirements of NEPA for a systematic process. We may also provide some examples of intensity thresholds (minor, moderate, significant etc.) for the team to use in determining some preliminary idea of the likelihood of a major or significant impact. The assessment of whether or not an impact might be “significant” is a trigger for an EIS and a discussion of its probability would be critical in defending against challenges that an EA is not the appropriate NEPA document for the CCP.

Assumptions for this task:

- Very simple handouts of other projects as handouts—no prep of issues for this project
- The group will develop all aspects of the issues chart rather than the contractor preparing preliminary information for this refuge complex
- No more than 3 alternatives and 6 substantial impact issues will be used to create the issues chart

3.3.1 Public Meetings. For scoping, we have proposed Heidi and an assistant facilitate. Heidi would attend any phone meetings to determine format, develop agendas and would draft any relevant PowerPoint presentations. Roothouse would help in creating and refining graphics. We would provide a summary of notes and what we heard.

For review of the draft CCP/EA, Mimi would be the lead facilitator and would bring an assistant. She would attend phone meetings to determine format and to answer questions as posed in the statement of work, create graphics as needed and facilitate and record comments from the workshop. In this case, comments would become an important part of the administrative record and so participants would be encouraged to provide written comments. Forms for this purpose would be provided. Assumptions include:

- Although contractor staff would help in securing meeting space if needed, the Service would pay for the space and would provide flip charts, projectors and other meeting materials as needed
- If needed, Carolyna Smiley-Marquez could be substituted for either associate in scoping or review of the draft CCP/EA. This would mean an extra cost beyond that in our price proposal.

3.4.1 NEPA Analysis Support- cumulative impacts analysis. For each of the major (e.g. where issues development in task 3.2.6 indicate more than minor impacts are likely) environmental issues, Heidi and Mimi would work independently with a specialist or group of specialists to define relevant past, present and reasonably foreseeable future actions that have the potential for cumulative impacts to the resource in question. Both the contractors and the FWS staff on the call would be familiar with relevant agency plans or reports and/or the scientific literature for their subject matter. We would determine the reasonable geographic and temporal boundaries for each of the impact topics, track rationale, discuss and decide on the appropriate list of actions and identify resource materials to use in analyzing the intensity of the impacts. If actions in the alternatives change the boundaries for cumulative actions, we would conduct this same process for each alternative (up to 3). Heidi would provide handouts and some “training” for participants and would be available to answer questions. We anticipate conducting two two-hour joint sessions with all team members first to provide this training and discuss process. We have also included hours in our proposal for Heidi or Mimi to review work completed by the team to make sure it complies with NEPA requirements and supported with facts. If we can make appropriate rewrites, we will; if not, we will provide comments.

3.4.2 General Impact Analysis. Following the “road map” we created together in the Task 3.2.6, we would work with the analysts to ensure all relevant actions in an alternative (including strategies if appropriate) are included in the analysis. We envision these phone meetings to be a kind of “interview” with the appropriate specialist or team of specialists to flesh out cause and effect relationships (issues), all applicable contexts and discuss the extent or intensity of the impact. We also anticipate reviewing and adding to our discussion of factors relevant to determining whether or not an impact could be significant as defined by CEQ and also considering agency mandates, refuge purposes and other important elements. Calls would be limited to no more than 2 hours. We would track the conversation, rationale and write up a summary of the findings for each of these discussions. We would supply these summaries to the analyst ~~and would review and rewrite our summary after we read and review each analyst’s section.~~ To help in lowering costs as per request by FWS, we would either provide a content edit on sections where we have been working with specialists or create an impact summary table and list of T/E species for the EA. For this task we have assumed:

- Up to 6 major impact topics
- Up to 3 alternatives
- We would perform a content edit on sections written by Service analysts or we would create a final summary table (and a list of T/E species) for the EA based on these sections
- Contractor would not be responsible for ensuring FWS analysis would prevail in a lawsuit

3.4.3 Comment Analysis. This task is a combination of administrative work to type in comments from pdf or other non-electronic media, organize these and electronic media into a database such as the excel spreadsheet and then into substantive and non-substantive comments, and identify similar substantive comments to combine into single issues for response. TQNEPA has provided these services for other plan/EISs, and where the number of comments (each comment document may have several comments) is fewer than about 500, excel works well. We would conduct these subtasks and work with the Service as we sort into substantive/non-substantive comments, as we “code” similar comments and to provide a comment summary report to the Service. We anticipate about 12 weeks of conference calls each week to get to this point. As noted in the scope, we would be available to work individually with Service staff in helping them to frame responses responding to

comments and would review responses to substantive comments to ensure they are complete and truly address the issues. Our assumptions for this task include:

- No more than ~~500~~ 200 total comments (where a document may have several comments) submitted; only a few pages of typing into electronic media required.
- No more than ~~300~~ 100 of these are substantive
- No more than ~~400~~ 50 unique issues from the substantive group

3.4.4 Refine Objectives, Strategies and Rationale. We agree objectives and strategies would be very rough after the initial workshop and that refining would be important. We propose working with smaller groups by subject matter to fill in missing information and rework the wording of objectives if needed. When they have been refined and updated, we propose a Web-Ex or similar visual format so that everyone can see changes as they are made to what the smaller teams have created. From here, we would produce a draft of all changes and send it onto the team for a final review. Again, we have assumed this process would take place for the preferred/selected alternative only.

Past Performance

Select TQNEPA Project Experience (please note we have many more examples if reviewers would like to see additional projects)

Controversial, multi-agency facilitation and NEPA guidance

- **Yellowstone Bison Management Plan and EIS, Wyoming**

After eight contentious years of battling between the state of Montana, Department of Agriculture (APHIS and USFS), and Yellowstone National Park, Total Quality NEPA was hired to help facilitate completion of the park's bison management plan. Dr. West acted as facilitator, team leader, NEPA advisor, technical quality control and chief writer and editor. Although the team remained at odds with one another in several technical areas, Dr. West was able to facilitate the writing, review and subsequent production of five complete in-house draft EISs in one year. Despite extensive public controversy over the selected plan and the indication by several organizations that they were well funded for litigation, no lawsuits have been filed. We believe this is at least in part due to the quality control and extensive knowledge of NEPA process and technical requirements supplied by TQNEPA.

- **Southern Rockies LCC**

TQNEPA was hired in 2012 to facilitate all groups of the Southern Rockies Landscape Conservation Cooperative (SRLCC). These originally included a Steering Committee and a Science Working Group (SWG), and Heidi West served as the primary facilitator for both. She worked with the SRLCC coordinator, the science coordinator and the Chairperson of the Steering Committee to strategize on what was needed to move the group forward, created the agenda for review and revision and helped in collecting and preparing all materials the groups might need for their meeting. In addition to FWS and BoR leadership, the Steering Committee included a diverse set of participants-- from several state agencies (Arizona, Utah, New Mexico, and Colorado), federal agencies (NPS, BLM, BIA, USFS, USGS) tribes (Paiute, Pueblo, Navajo) and NGOs (Nature Conservancy, Trust for Public Land). Each of these members had its own goals for the SRLCC, reasons for joining and resources they could bring to the group. Heidi facilitated both technical discussions and recommendations by the SWG as well as helping the Steering Committee clarify its goals and conservation direction.

- **Elwha Ecosystem Restoration EIS, SEIS**

TQNEPA was responsible for coordinating many subcontractors and agency staff in writing several sets of EISs (draft and final of a programmatic statement, then draft and final for an EIS to implement the chosen policy direction) in the mid 1990's for this restoration effort involving the removal of two very large hydroelectric dams. We also facilitated the team through all steps of the NEPA process, conducted scoping and DEIS review sessions with the public, and rewrote much of the document so it was complete and spoke with one voice. With an increased staff, TQNEPA also wrote an extensive supplemental EIS using technical reports and information from the US Bureau of Reclamation, URS engineers, US Army Corps of Engineers, the Lower Elwha K'lallam Tribe and their engineers and consultants to evaluate the impacts of several very large scale water treatment and flood control mitigation measures that would result from removing the dams now blocking flows of the Elwha River in Olympic NP.

- **Golden Gate National Recreation Area Dog Management Plan/EIS and Negotiated Rulemaking**

This complex and controversial plan involves the integration of an EIS to evaluate options for walking dogs off-leash in the urban park sites at GGNRA with a citizen’s negotiated rulemaking process. TQNEPA was the prime contractor for the first four phases, and added several very large subcontractors to assist with the workload of preparing extensive site and resource condition information for the citizens’ committee. We also facilitated all aspects of internal scoping with the park, including the development of purpose, objectives, a range of alternatives, impact topics, planning issues, existing management scenarios, cumulative actions and boundary setting for each resource.

Programmatic Planning and NEPA facilitation and guidance

- **Rocky Mountain Arsenal CCP/EIS**

Heidi and Mimi co-facilitated all steps in the CCP planning process to guide a multi-agency team through developing vision, goals, alternatives, preliminary and more in-depth impact analysis, selection of a proposed action, and objectives and strategies for the selected alternative. Mimi is now working with this urban refuge to conduct much more specific site planning.

- **Point Reyes General Management Plan and EIS**

The programmatic plan and EIS is the cornerstone of decision-making by the park. Park staff conducting the initial analysis and wrote the first draft of the document. TQNEPA performed a content edit, worked with park management to make alternatives and impact analysis consistent and supplemented and clarified analysis throughout the document. TQNEPA substituted several hundred pages of confusing and unnecessary text with new analysis using up-to-date references.

- **Nez Perce National Historic Trail, USFS. 4-state area.**

TQNEPA was hired to conduct what the USFS calls “pre-NEPA” work for this team. For the first year, the team consisted only of staff that had never done any planning, yet were tasked with completing an update of the trail’s Comprehensive Management Plan. Also many national trails have completed plans, none complied with even the majority of requirements dictated by the National Trails Act. Heidi was able to create a set of planning issues and objectives that reflected these gaps in the current plan and eventually facilitated the team through creating alternatives that would resolve these issues and meet objectives.

- **Gateway National Recreation Area General Management Plan/EIS**

TQNEPA coordinated completion of the plan/EIS and analyzed impacts to all natural resource topics. Facilitation of the elements of the plan and EIS were managed jointly with Roothouse Studio.

Relevant substantive knowledge- bison, wetlands

- **Klamath Basin NWR Complex CCP/EIS**

Heidi is currently working with Regional and Refuge analysts and writers to create a NEPA document that would withstand legal challenge as the Service completes its court-ordered CCP and EIS. She has provided insights on the alternatives, purpose and need and impact analysis, and has completed reviews of several sections and written cumulative impact sections for several topics including waterfowl, listed species, habitat and water resources. This refuge complex includes some of the best inland southern Oregon/northern California wetlands in this part of North America and with the Central Valley of California provides migratory, nesting and wintering habitat for millions of waterfowl traveling the Pacific Flyway.

- **Yellowstone Bison Management Plan and EIS, Wyoming**

In addition to facilitating and mediating the team described above for this project, Heidi served as content editor for the entire EIS, coordinated the process of identifying substantive and unique public comments from the 265,000+ comments received, and responding to many of those where her expertise permitted. By the end of the project, she had become knowledgeable enough in bison and other large ungulate ecology and disease that she could add and rewrite material and respond to public or agency comments.

- **Giacomini Wetlands Restoration EIS**

TQNEPA provided NEPA guidance and product review/quality control to staff who are completing an EIS to evaluate impacts to remove an existing dairy and re-establish a coastal connection with a 500-acre parcel and Tomales Bay.

- **National Elk Refuge/Grand Teton National Park Elk and Bison Management Plan/EIS**

TQNEPA was hired to help facilitate a large group of agency and private sector veterinarians in their analysis of the relative disease risk of several highly complex alternative management strategies for elk and bison on wildlife, cattle and humans. Thirteen diseases, including CWD and brucellosis were examined. TQNEPA also acted in a quality control capacity for this product (written by park and FWS staff), and helped in providing a content edit for it, for chapters 1 and 2 of the DEIS and in writing the executive summary of this 900+ page EIS. TQNEPA was later asked to completely rewrite the impacts to natural resources (the elk and bison herd, other wildlife, vegetation) written by another contractor and FWS staff to reduce it in length by half.

RootHouse Studio

Established on the principle that communities deeply rooted in place are healthier, happier and more sustainable, Mimi Mather and Ian Scott launched the Root House Studio [www.roothousestudio.com] in 2011 to celebrate the stories of place and craft meaningful and memorable visitor experiences of the land through design. Located in Boulder, Colorado, Root House Studio is a design firm that concentrates its practice on public lands planning and landscape architecture. At Root House, we consider our protected private and public lands a prized collective resource and an important platform for promoting healthy lifestyles, reconnecting people and nature, sharing our nation's heritage and encouraging environmental stewardship. Committed to designing for the greater good, the Root House team also uses creative communication design (film, animation, websites, graphics) to assist non-profits, government agencies, change-makers, and local entrepreneurs scale their impact.

Select Project Descriptions

Gateway National Recreation Area General Management Plan & Environmental Impact Statement

Mimi was the lead planner on the development of the General Management Plan (GMP) and partnered with Total Quality NEPA as the lead for the EIS for Gateway National Recreation Area in New York City. Informed by the Secretary of the Interior's America the Great Outdoors Initiative, the long-range planning effort was focused on improving Gateway as a venue where urban residents can enjoy and connect with nature. The project had a strong emphasis on visitor use planning. An overarching goal of the GMP effort was to conceptualize how the NPS could attract a broader, "non-traditional" audience and diversify the park's visitor experiences and recreation opportunities. Mimi's role in the project involved facilitating numerous workshops with NPS, its partners, and the public; assisting NPS with the development of the GMP alternatives; analyzing impacts to visitor use; and producing the final planning document.

Charles M. Russell National Wildlife Refuge Comprehensive Conservation Plan and Environmental Impact Statement

Mimi Mather assisted the U.S. Fish and Wildlife Service in developing a Comprehensive Conservation Plan (CCP) and Environmental Impact Statement (EIS) for the Charles M. Russell National Wildlife Refuge in Montana. The CCP is a long-range management plan that provides guidance for all the refuge's programs including habitat conservation and wildlife-dependent recreation including hunting, fishing, environmental education and wildlife photography and observation. For this project, Mimi worked closely with regional planning staff and refuge staff to develop management alternatives and to craft the objectives and strategies for wildlife-dependent recreation and visitor use management. Additionally, Mimi facilitated numerous rounds of public and stakeholder meetings as well as planning workshops with the refuge staff and their cooperating agency partners.

C. Smiley-Marquez, Ph.D.

Select Tribal-related Facilitation Experience

Land Use for Temporary Park Facility Kaibab-Paiute, National Park Service, Bureau of Land Management, U.S. Geological Survey

Teambuilding - Assessment and facilitation services Kaibob Paiute Environmental Department, Fredonia Village Representative to Council, National Park and Bureau of Land Management personnel regarding approval of move of a National Park temporary facility near Highway 389 to Pipe Spring National Monument. Professional services included design of a culturally relevant communication approach, scheduling, logistics, process design for building of working group and facilitation of meetings of federal personnel with Tribal leaders and community members. Participants included Council members, elders from Fredonia Village, Tribal Environmental, Land Use and Wildlife Department/s and tribal member stakeholders. These meetings were successful. A decade later, boundaries were expanded and the Kaibab Band of the Paiute Indians established a Visitor Center and Museum in the area.

Water Testing and Use, Environmental Protection Agency Shiprock Agency, Beclabito Chapter "Town Meetings"

Training and facilitation services with representatives of the Navajo (Dine) Nation and community members in and around the Beclabito Chapter House to plan for water testing and community use. Professional services included pre-meeting cultural awareness training for EPA personnel, preparation of culturally-relevant informational presentations, facilitation services for meetings, debriefing with cultural informants and government representatives and follow-up.

Submersion of Sacred Sites by Raising Levels of Water Shasta Dam, Bureau of Reclamation, State of California Westlands Water District and the Winnemen Wintu

Cultural awareness training, facilitation, mediation and early draft of mutual understanding among federal and state personnel and the Winnemen Wintu of Northern California. Professional services included educational design and preparation of government personnel, collaboration and process design for dialogues with the Winnemen Wintu and other stakeholders. Assisted with initial draft of mutual understanding.

Indian Child Welfare Act Policy Dialogues, Casey Family Foundation Programs, Native American Rights Fund and other national American Indian advocacy organizations and the National Indian Child Welfare Practice Workgroup

Process design for collaborative process, agenda preparation, coordination and logistics support for ICWP Managing Director, development of a discussion process for the meeting, preparing speakers, facilitating the three day meeting, tracking and recording participants' comments, provide video records of presentations, and provide a report of Workgroup concerns and recommendations for future steps.

Boarding School Healing Symposium, Native American Rights Fund, Native Organizations and Survivors of Indian Boarding School Trauma

The purpose of this two-day symposium was to establish a foundation for structuring a coalition of agencies and organizations to address issues of complex historic trauma amplified by Boarding School experiences of Native Americans and the cross-generational effects. Professional services included planning, process design, advertising (newsletter) for participation and engagement, agenda and logistics preparation, facilitation and small group facilitator/s preparation and follow-up, record keeping and report writing.

References

For Carolyn Smiley-Marquez

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Nancy Corbin
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Contacts for programmatic projects completed by TQNEPA and Root House:

RMA NWR CCP/EIS - Toni Griffin, Acting Chief, Division of Refuge Planning. 303-236-4378;
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David Lucas, Rocky Mountain Arsenal Complex Refuge Manager; david_c_lucas@fws.gov –
Bernardo Garza, CCP Team Leader; 303-236-4377; bernardo_garza@fws.gov

Gateway National Recreation Area GMP/EIS: - Dave Avrin, Chief of the Division of Resource Management for the park. Phone: 718-354-4510. Dave_Avrin@nps.gov

Doug Adamo, Chief of the Natural Resources Management Division for the park; phone: 718-354-4510.
Doug_Adamo@nps.gov

Helen Mahan, Planner and Project Manager for the NPS; 215-597-6483. Helen_Mahan@nps.gov

Contacts/References for Heidi West-

Mike Savidge, Planner and AC34 Project Manager, Golden Gate National Recreation Area; E-mail: Michael_J_Savidge@nps.gov; (415) 561-4725

John Mack, John_Mack@nps.gov; 970-586-1258; analyst for Yellowstone Bison Project and current chief of natural resources for Rocky Mountain National Park

Kevin Johnson, SRLCC Coordinator. E-mail: Kevin_M_Johnson@fws.gov; phone: 303-236-4404
and John Rice, SRLCC Science Coordinator. E-mail: JRice@usbr.gov; phone: 801-52-3685.

Resumes of facilitators

Heidi West, Principal

Total Quality NEPA



Heidi West has owned and operated Total Quality NEPA, a small environmental consulting firm specializing in all aspects of the NPS NEPA process since 1993. Heidi has managed staff from her company, other contractors, and agency personnel on dozens of projects, and coordinated some of the most complex and controversial proposals NPS and DOI have considered. The majority of these have been for plans or other programmatic proposals. She has also had many unique opportunities to work one-on-one with NPS staff or small planning groups. She has helped guide NEPA strategy decisions and discussions, reviewed agency technical products, facilitated agency and agency/contractor discussion and decision-making, conducted multi-agency facilitation and project leadership on agency EISs, designed and conducted public meeting and workshops, provided insight from NEPA case law and CEQ regulations and performed other non-traditional contractor tasks. At the same time, as principal of TQNEPA she has managed the production of many environmental impact statements and assessments from start to finish. The National Park Service has been Heidi's primary client since beginning TQNEPA in 1993. She is a primary author of the NPS NEPA regulations and handbook, has trained hundreds of agency staff in NEPA analysis, writing, management and policy both with agency personnel and on her own.

SELECT PROJECT WORK

NEPA Regulations, National Park Service. Revised and updated 15 year old NEPA regulations for entire National Park Service. Worked independently and with a team of NPS NEPA professionals to make large-scale changes to streamline the NEPA process, yet ensure its quality and usability.

General Management Plan and EIS, Pt. Reyes National Seashore, California. Have partnered with the Seashore to provide supplementary information and substantial rewrites to staff prepared draft. Facilitated multiple conference calls between Chief of Interpretation, Seashore Superintendent to sort out actions in alternatives; added more than 200 pages of necessary science-based analysis and removed 200 pages of irrelevant information from document.

General Management Plan and EIS, Statue of Liberty/Ellis Island National Monuments, New York. Partnered with Shapins Associates to address programmatic issues and impacts as part of planning for these iconic national monuments.

Wind Cave Elk Management Plan EIS. Managed TQNEPA staff preparation of all aspects of this EIS; facilitated discussions and reviews with park staff on purpose, need and alternatives; created a range of alternatives and fully fleshed out all aspects of how each would operate; assisted in analysis of

SKILLS AND EXPERIENCE

- Framing, feasibility and internal scoping for plans, EISs and EAs.
- Manage and coordinate agency, contractor teams to prepare plans, EISs and EAs.
- Oversee analysis, particular to natural resources
- Supplement and rewrite staff, agency documents.
- Facilitate team consensus on all environmental issues.
- Team leader on complex projects involving bureaus of the Department of the Interior and a multitude of cooperating agencies
- Design, develop and conduct public input sessions

EDUCATION

- ▶ **Ph.D.** Environmental Science and Engineering, UCLA
- ▶ **M.S.** Ecology, California State University, Los Angeles
- ▶ **B.A.** Biology, UCLA
- ▶ **M.A.** Science Communication, UC Santa Cruz

impacts to elk herd and other natural resource topics and reviewed all TQNEPA submittals.

Long-term Bison Management Plan EIS, Yellowstone National Park. Co-managed team of federal and state staff to analyze and prepare multiple in-house review drafts of complex and controversial EIS in court-mandated time frame. Facilitated resolution of differences in opinion, interpretation of existing data, need for new data, need and purpose of project and other firmly held beliefs in lead and cooperating agencies.

Elwha River Ecosystem Management EIS, Olympic National Park. Coordinated a team of over 200 lead and cooperating agency personnel (including USFWS, Bureau of Reclamation and NPS) and supporting consultants to identify issues, alternatives, data collection needs, scheduling, etc. to produce several in-house drafts, public draft and final set of tiered programmatic and project level EISs. Also managed TQNEPA team to analyze and write extensive supplemental EIS to address changes in design and impacts of mitigation measures (including large water treatment, septic treatment facilities). Developed public involvement strategy with park public affairs officer, conducted potentially hostile public workshops, wrote or oversaw writing of sections of the EIS's and supplemental EIS.

Jackson/Teton Elk and Bison Management Plan and EIS. Facilitated several day technical discussion among a group of agency veterinarians of impacts of multiple complex alternatives to manage ungulates and their relative risk of transmitting disease. Reviewed and commented on several sections of the resulting plan/EIS; revised impacts to wildlife section to reduce bulk by half, but kept important information, needed facts and conclusions.

Elk and Vegetation Management Plan EIS, Rocky Mountain National Park. Facilitated and advised multi-agency team on purpose, need and highly complex alternatives for this plan. Incorporated two years' worth of modeling results to ensure feasibility of alternatives and their ability to resolve stated needs and meet project objectives.

Golden Gate NRA Dog Management Plan and EIS. Team leader and prime contractor for group of TQNEPA staff and several large consulting firms to prepare purpose, need, objectives and alternatives for plan to consider off-leash dog walking at some GGNRA park sites. Worked at the request of contracted mediators to provide very large quantities of information under extremely short deadlines to inform citizens (Negotiated Rulemaking) committee considering management options for this project. Extremely political and controversial project.

Pt. Reyes National Seashore Fire Management Plan EIS, Exotic Deer Management EIS, Giacomini Wetlands Restoration EIS. Have performed a variety of roles on these projects, including NEPA advisor and reviewer of technical material; extensive rewrites of unclear or too-detailed material submitted by agency staff; extensive additions of technical information and analysis to bolster ability to survive legal challenges.

Bandelier Ecological Restoration Plan EIS. Managed a team of TQNEPA staff, subcontractors and NPS staff to create purpose, need, objectives, constraints, and reasonable alternatives that would restore piñon-juniper woodland to its pre-disturbance condition in a designated wilderness area. Analyzed impacts to wilderness and from noise (chain-saws were one of the alternatives analyzed), facilitated all planning discussions, minimum requirements analysis, designed and conducted public input sessions, etc.

Pt. Reyes Dune Restoration EA. Managed TQNEPA staff and acted as project manager and facilitator to lead park staff through the creation of a full range of alternatives to restore European beachgrass-infested dunes to a natural condition. Analyzed all impacts, prepared all drafts of environmental assessment.

Headlands Institute Expansion EA. Managed TQNEPA staff in the analysis and writing of an EA to address alternatives to expand a non-profit environmental education center occupying national park historic buildings.

Statue of Liberty/Ellis Island Development Concept Plan EIS and General Management Plan EIS. Revised and strengthened contractor prepared EIS examining possible restoration of many Ellis Island buildings. Currently under contract to manage and prepare natural, cultural and socioeconomic sections of GMP EIS.

NEPA workshops. Conducted more than 250, 1-5 day workshops with federal agency personnel from beginners to very advanced users. Provided overview courses for decision-makers, practical, hands-on courses for users, single-subject courses for small groups wishing to investigate the more complex subjects in NEPA. Worked with US Forest Service, National Park Service, Environmental Protection Agency, Department of Energy, Bureau of Reclamation, Bureau of Land Management, US Marine Corps, US Navy and more.

AFFILIATIONS/RECENT PRESENTATIONS

Udall Institute of Environmental Conflict Resolution. Member of the roster of environmental conflict resolution professionals since 2009.

DOI Conference on the Environment 2010. Speaker on NEPA and environmental conflict resolution. "Gaining Consensus on the Planning Elements of NEPA."

Mid-Atlantic Climate Change Conference, 2010. Speaker on NEPA and climate change. "Climate Change, Adaptive Management and NEPA."



MIMI MATHER FACILITATOR / RECREATION PLANNER

Founder of Root House Studio, Mimi has devoted her career to public-sector design and planning projects. With a suite of communication design, planning and facilitation skills, Mimi assists clients in clarifying their messages and connecting with their audiences and stakeholders in meaningful ways. Passionate about interpretation, exhibit design and storytelling, Mimi is keen on designing creative media to share and celebrate the stories of place and their communities. Mimi is dedicated to helping agencies, non-profits and change makers craft brands, interpretive media as well as calls-to-action that garner attention and raise new awareness through graphics, social media and inspiring copy. A trained facilitator, Mimi is also frequently charged with coordinating the public/stakeholder involvement and internal collaboration aspects of projects.

Masters of Landscape Architecture,
University of Michigan, 2002

Bachelor of Arts, Anthropology and
Sociology, Middlebury College, 1996

LEED Accredited Professional

Certified Interpretive Planner

Relevant Project Experience:

Recreation Planning , Facilitation and Public & Stakeholder Engagement

San Luis Valley National Wildlife Refuge Complex Comprehensive Conservation Plan, CO

Facilitator/Planner: Facilitated a series of workshops with USFWS and their partners to develop and refine biological and public use objectives for future management of the refuge. Proposed improvements for wildlife-dependent recreation, trails and interpretation throughout the complex.

Gateway National Recreation Area, NYC, NY (current)

Project Manager: Visitor and tourism planning for one of the NPS busiest and most urban national parks. Working closely with park staff and the NYC Parks and Recreation Department to attract a broader audience through more innovative and relevant graphic communication, interpretive programming and exhibits and expanded recreation and tourism offerings.

Sangre de Cristo National Heritage Area Feasibility Study, CO

Manager/Planner/Designer: Led development of the feasibility study required to secure federal National Heritage Area designation for the Sangre de Cristo NHA. Later designed a set of interpreted auto tours for the six counties within the San Luis Valley. The auto tour project included the design and production of travel itineraries, brochure and series of logos.

Goodsprings Trail Study, Clark County, NV

Planner: Worked on trail and interpretive planning for a 35-mile trail system connecting historic communities and mine sites in a desert environment outside of Las Vegas. Segments of the trail followed abandoned narrow-gauge rail lines and historic wagon trails.

Irvine Reserve Visitor Use Framework Plan, Orange County, CA

Facilitator/Planner: Led a series of workshops with the Irvine Ranch Conservancy's partners to plan for recreational facility development throughout the 50,000-acres of open space. Project addressed trail and recreation facility design and development as well recreation, interpretive and educational programming.

West Bijou Property Master Plan, Plains Conservation Center, CO

Planner: Planned for recreational facility development and environmental education program expansion on the PCC's new 10,000-acre West Bijou property.

Charles M. Russell National Wildlife Refuge Comprehensive Conservation Plan, USFWS, MT

Facilitator/Planner: Led multiple rounds of workshops with USFWS' partner agencies as well as public meetings in communities around the 1 million-acre national wildlife refuge. Also contributed to visitor experience and wildlife-dependent recreation planning for the refuge.



MIMI MATHER EXHIBIT DESIGNER / PROJECT MANAGER

Strategic Habitat Conservation Workshop Facilitation, USFWS Region 6

Facilitator: Facilitated a series of workshops throughout Region 6 for the USFWS. Engaged multiple stakeholders in discussions about refining a new approach to conservation planning.

Geothermal Energy Development BLM and Industry Talks Facilitation, NV State Office

Facilitator: Facilitated a series of highly contentious series of workshops between the BLM and geothermal industry representatives. Reached consensus on a strategy for streamlining the permit approval process.

Relevant Project Experience:

Heritage Tourism & Interpretive Planning, Destination Branding

San Luis Valley Heritage Tourism Travel Itineraries, CO

Manager/Planner/Designer: Led development of the feasibility study required to secure federal National Heritage Area designation for the Sangre de Cristo NHA. Later designed a set of interpreted auto tours for the six counties within the San Luis Valley. The auto tour project included the design and production of travel itineraries, brochure and series of logos.

Cache La Poudre River National Heritage Area Interpretive Plan and Marketing Strategies, CO

Interpretive Planner & Designer: Developed an Interpretive Plan and set of marketing strategies for the NHA. Researched the region's history and developed conceptual designs for interpretive media, on-site and digital exhibits and other tools for enriching the visitor experience of the river corridor. Marketing strategies focused on raising awareness of the NHA and establishing the river corridor as a tourism destination in order to expand opportunities for economic development.

Discover Liberty! Interpretive Guide and Interpretive Media Design, Liberty Island, NY

Interpretive Planner: Worked with the NPS to develop an interpretive guide or "Discovery Trail" for Liberty Island. Later collaborated on Discover Liberty! a project to enrich the experience of Liberty Island through the expansion of interpretive media and activities.

Denver Story Trek, Denver, CO

Interpretive Planner: Worked with History Colorado and a collection of 5 small museums to design and produce a cellphone-based interpretive tour that traverses downtown Denver. The project involved the production of a brochure, audio recordings and a system of wayfinding and signs.

Gospel Institute, Dumas, AK

Interpretive Planner: Researched the history of gospel music and its relationship to the Mississippi Delta region of Arkansas in order to develop a master plan and exhibit concepts for a Gospel Institute and gospel-related tourism programming in Dumas.

Florida Keys Scenic Byway Master Plan, FL

Interpretive Planner: Mimi assisted the planning team in researching the Florida Keys and developing a set of interpretive themes that would guide the visitor experience of the byway and the development of interpretive media along the route.

Northern Colorado Strategic Cultural Tourism Branding and Plan, Larimer and Weld Counties, CO

Manager/Planner: Through a series of stakeholder workshops and public meetings with residents throughout the region, identified heritage assets, established a set of interpretive themes and designed brands and graphic identities for "NOCO" - Northern Colorado.

Northwest Colorado Cultural Tourism Strategic Plan & Interpretive Media Design

Manager/Interpretive Planner: Following interpretive theme development and an inventory of the five-county region's history and "visitor-ready" heritage destinations, assisted Noble Erikson with the development of a region map, website, brochure, rack cards and signs that identified travel routes and shared history of the area's communities and local characters.

ROOT HOUSE STUDIO | BOULDER, CO



MIMI MATHER EXHIBIT DESIGNER / PROJECT MANAGER

City of Steamboat Springs, Cultural Heritage Branding and Interpretive Plan

Interpretive Planner: Root House engaged local user groups and stakeholders in defining the key heritage tourism attractions and story lines in the City of Steamboat Springs. This work was distilled into a set of interpretive themes and translated into creative interpretive signs as well as an exhibit on the town's ranching history.

South Park Heritage Site Planning, Park County, CO

Project Manager/Interpretive Planner/Designer: Mimi worked with Park County to develop conceptual designs for developing and branding five historic sites in the county as heritage tourism destinations. This included three historic ranches, a railroad roundhouse and a mill. Mimi researched the history for the sites, proposed interpretive messaging and developed strategies for adaptive reuse of the structures.

Carolyna Smiley-Marquez, Ph.D.
Smiley & Co, Ltd.

Smiley & Co, Ltd. is a full-service 27 year old woman/ minority-owned small business that provides professional facilitation, assessment, alternative dispute resolution, investigation, coaching and training services, including for distance learning. Dr. Smiley-Marquez's services are informed by her expertise in organizational development and change, equal opportunity law, diversity and diversity dynamics issues, cross cultural communication, interpersonal and group dynamics and individual psychology. She has facilitated thousands of hours of intra-governmental and inter-governmental team building, conflict resolution and team reconstruction, organizational goal setting, team effectiveness and strategic planning sessions for coalitions and consortiums. She specializes in designing teambuilding processes that address both explicit and implicit objectives and that appreciate diverse and conflicting positions and cultures. She provided teambuilding for the initial U.S. Fish & Wildlife's Diversity Committee and served as their consultant for assessment and training throughout Region 6 and has worked with many other federal agencies.

SELECT PROJECT WORK

Multi-Party Multi-Cultural Conflict Assessment and Teambuilding Consortium of U.S.D.A.'s Research Services, Delta Nutrition Intervention Research Initiative, six university research partners and three county/community parish offices in Arkansas, Louisiana and Mississippi. Facilitated ADR assessments and teambuilding with individual, paired and collective parties to resolve issues and engage in collaborative decision-making and strategic planning.

Multiple Location Conflict and Performance Assessment and Teambuilding Bureau of Indian Affairs, Eastern Oklahoma Region. Provided multi-site cultural climate assessments, engaged leaders and informal leaders in goal setting and teambuilding and provided interactive town hall and interactive webinar sessions.

Teambuilding and Organizational Development for the Center for Collaborative Conservation. Developed retreat process and facilitated an interactive collaborative retreat intended to reinvigorate commitment of staff, consultants and supporters for setting measurable, attainable and realistic goals for future work.

Conflict Resolution Facilitation for Improved Inter-Group Working Relationship. Mountain Plains Regional Indian Tribal Organization Project Steering Committee and NATIONS with USDA. Assessed, designed highly interactive process, agenda for inter-group collaboration and provided facilitation

SKILLS AND EXPERIENCE

- Developmental process design for group facilitation
- Assessment, interviewing for understanding, data collection and management
- Appreciate and communicate effectively with diverse people, groups and perspectives
- Organizational, group and interpersonal psychology and dynamics

EDUCATION

- Ph.D. Interdisciplinary Multicultural Education Policy, UCB
- M.A. Ethnic Studies, U of Indiana
- B.A. Multicultural Studies, North & Latin America, U of Indiana

SELECT PUBLICATIONS

- Native Dispute Resolution Network, USIECR: A Bridge, ACR Quarterly 2009.
- Video: *New Indian Wars: Natural Resources Issues for Native Americans* with the Denver Post, 1995.

NOTE TO REVIEWERS

Senator Jon Tester Request for Technical Drafting Assistance National Bison Range

- Senator Jon Tester (D-MT) requested the Department provide technical drafting assistance for legislative language that would transfer the lands comprising the National Bison Range unit of the National Wildlife Refuge System to the Confederated Salish and Kootenai Tribes of the Flathead Reservation, to be held in trust by the Secretary of the Interior for the benefit of the Confederated Salish and Kootenai Tribes (CSKT).
- The language attached has been reviewed by the Solicitor's Office and would:
 - Transfer the lands from the Refuge System by the Secretary of the Interior to be held in trust for the benefit of the Tribes and shall be part of the Flathead Indian Reservation.
 - Transfer other property (buildings, structures, etc.)
 - Lays out management responsibilities to include: care and maintenance of bison, conservation of natural resources on the lands, and maintenance of a visitor's center for provide for public visitation and education.
- Please review and surname as soon as possible. The surname route is as follows:
 - R6 (16-Surname through DTS)
 - AEA-CLA (16-Surname through DTS)
 - ANRS (16-Surname through DTS)
 - AEA-DAEA (16-Surname through DTS)
 - AEA (16-Surname through DTS)
 - D (16-Surname through DTS)
 - FW (16-Surname through DTS)
 - CLA (2-Appropriate Action)
- Once the internal review process is complete, CLA will share the approved draft text with the Department's Office of Congressional and Legislative Affairs (OCL) to finish the review process through DOI, OMB, etc. OCL will then transmit the cleared language to Senator Tester's office.
- Any questions or concerns should be directed to Roya Mogadam in Congressional and Legislative Affairs at 703-358-2128.

From: [Anna Munoz](#)
To: kristine_martin@fws.gov
Subject: Can you print this for the meeting we're in?
Date: Monday, January 04, 2016 1:45:43 PM
Attachments: [Note Taking 6.docx](#)

Bison Range Comms Strategy

Meeting w/CSKT

- Noreen, Will, and Anna should participate by phone

Internal Communication

DAY 1: NATIONAL BISON RANGE STAFF

- Conference Call 30 minutes after the HQ meeting
- Participants:
 - Will Meeks (in person)
 - Maureen Gallagher (in person)
 - Noreen Walsh (on the phone)
 - Cynthia Martinez? (on the phone)
 - Dan? (on the phone)
 - Anna (on the phone)
- Key Considerations
 - Immediately after the HQ meeting, Will should:
 - Let folks know that the meeting just occurred and that he participated by phone.
 - Communicate a general context for the meeting and provide an overview of the outcome. (Will and Anna will need to develop TPs - context, decision, the why, and how this relates to the bigger picture of the work that we do/what this means for the resource)
 - Let folks know that there will be a phone call with Leadership (TBD) in 30 minutes.
 - Recognize the concerns/fears/emotions,

Sunday, January 3, 2016

- Provide assurances that this is going to be a well planned transition,
 - Acknowledge that we don't know all of the specifics or have all of the answer right now but that our people and the resource itself will be our top priorities we move forward.
 - Outline how we will communicate and engage staff moving forward.
- Will should plan for HR and EAP counselors to be on hand the following day.

DAY 2: COMMUNICATION W/R6

- e-mail from Will Meeks to R6 Refuges leadership after the Bison Range meeting outlining proposal and key messages with information for a call the following morning.
- e-mail from Noreen to all R6 the day after the Bison Range meeting, after Will's call with R6 Refuges leadership [noon].
- QUESTION: When will the next all-hands meeting occur?

DAY 2: COMMUNICATION W/ ALL NWRS

- e-mail from Chief Martinez to all NWRS.
- Timing TBD

TBD: COMMUNICATION W/NWRS OPINION LEADERS

- Propose that this occur immediately after the CSKT meeting.
- VTC with Refuge Leadership Team immediately following the CSKT meeting.
- Calls to other key opinion leaders?

External Communication Strategy

DAY 1: CONGRESSIONAL

- Calls from HQ CLA to MT Delegation immediately following the CSKT meeting. May want to give them a heads-up that the meeting is occurring and proposal being discussed (talk to Roya).

Sunday, January 3, 2016

- R6 calls to local Congressional staff? - We are trying to build relationships, so I'm inclined to make these calls, however, I would like to wait until Day 2 to make them given that Royce will be calling DC staffers on Day 1.

DAY 1: GOVERNOR'S OFFICE

- Call from Dan or Noreen to the Governor's Office after the CSKT meeting (timing TBD)

DAY 1/2: STAKEHOLDER NOTIFICATION

- National Wildlife Refuge Association (Cynthia)
- Blue Goose Alliance (Jim)
- PEER (Jim)
- Defenders of Wildlife (Jim)
- NFWF (Dan)
- National Wildlife Federation (Dan)

MEDIA

- Need to talk to HQ - think we should tell our story, somehow - embargoed story, op-ed?
- Don't think this is the sort of thing we want to issue a press release on.
- Prepare key media TPs
- Prepare FAQs
-

From: [Noreen Walsh](#)
To: [Kristine Martin](#)
Subject: Re: Bison call with Dan
Date: Thursday, January 07, 2016 1:42:28 PM

TWS is negotiable so go ahead and schedule at Dans convenience. Thanks

Sent from my iPhone

On Jan 7, 2016, at 11:55 AM, Kristine Martin <kristine_martin@fws.gov> wrote:

Dan is meeting with CSKT on 2/5 and would like to have a call with you on that day. You will be attending the CO TWS meeting that day but I would think you could step out and do a call. Is there a time you would like to shoot for? Dan is apparently very open that day. Will and Anna wanted to sit in on the call but unless they are will you will have to call in separately.

Kristine Martin
Executive Assistant – Office of the Regional Director
U.S. Fish & Wildlife Service
Mountain Prairie Region
134 Union Blvd, Rm 400
Lakewood, CO 80228

303-236-7920 Office
303-236-8295 FAX

[Kristine_martin@fws.gov](mailto:kristine_martin@fws.gov)

From: [Noreen Walsh](#)
To: [Will Meeks](#)
Subject: RE: Feb. 5 g request: Bison Range
Date: Friday, January 08, 2016 10:23:23 AM

Sure, I will give you a call

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Will Meeks [mailto:will_meeks@fws.gov]
Sent: Friday, January 08, 2016 9:51 AM
To: Noreen Walsh
Subject: Re: Feb. 5 g request: Bison Range

OK. 1:00 pm?

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0319 (c)

On Jan 8, 2016, at 9:27 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

I am tied up til about noon, but after that have a lot of flex,

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Will Meeks [mailto:will_meeks@fws.gov]
Sent: Friday, January 08, 2016 9:12 AM
To: Noreen Walsh
Subject: Re: Feb. 5 g request: Bison Range

Sure can. I think I know the answers. I'm on a call right now. Can you squeeze in five minutes sometime today?

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0319 (c)

On Jan 8, 2016, at 9:09 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

Will, not sure where this meeting falls in the process we anticipated
but can you get somemore details from Cynthia?

Thanks,
Noreen

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Sellars, Roslyn [mailto:roslyn_sellars@fws.gov]
Sent: Friday, January 08, 2016 8:13 AM
To: Morris, Charisa
Cc: Thomas Irwin; Anna Munoz; Kristine Martin; Noreen Walsh; Cynthia
Martinez
Subject: Feb. 5 g request: Bison Range

FYI,

This is scheduled for 1pm EST on Feb. 5. Jim Kurth will be on
travel.

Roslyn

On Thu, Jan 7, 2016 at 3:27 PM, Morris, Charisa

<charisa_morris@fws.gov> wrote:

Good afternoon, Rosyln-

Can we put "Bison Range Follow-up Discussion" on the calendar for
whatever time works on February 5 for the following attendees:

Dan
Steve
Jim
Bob
Cynthia
Noreen (by phone, likely)
Scott Aikin

Larry Roberts (BIA)
Sarah Walters (BIA)
Brian Upton
Vernon Finley

We will likely need an hour. I am hoping you already have Brian and Vernon's emails in hand, but have put in a request with BIA to obtain them, just in case. I have copied Anna on this message, as I think she may have some insight into Noreen's schedule that would not be evident on her calendar.

Thank you!
Charisa

--

Charisa_Morris@fws.gov | Chief of Staff, Office of the
Director | U.S. Fish & Wildlife Service | 1849 C Street NW, Room 3348
| Washington, DC 20240 | (202) 208-3843

From: [Noreen Walsh](#)
To: [Will Meeks](#)
Subject: RE: next Wednesday?
Date: Thursday, January 14, 2016 10:51:44 AM

We can do Friday – I am available. I will set it up.

If you need any input before Friday, give me a call; I am in all week.

When you have a chance today, no rush, I wouldn't mind understanding where things stand with your employees that we mentioned.

Thanks so much Will.

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Will Meeks [mailto:will_meeks@fws.gov]
Sent: Thursday, January 14, 2016 10:44 AM
To: Noreen Walsh
Subject: Re: next Wednesday?

Only Friday

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0319 (c)

On Jan 14, 2016, at 10:20 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

Yeah.....

Cancelled. Kris is doing that.

You, me, Anna, and Steve do need a check in next week. That will come separately. Are you in the office all next week?

Noreen Walsh

*Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Will Meeks [mailto:will_meeks@fws.gov]
Sent: Thursday, January 14, 2016 10:13 AM
To: Noreen Walsh
Subject: Fwd: next Wednesday?

Very confused. I recommend Kris cancel this and not yet include Mike. Got your phone call. I'm not even included on the invite - thus the confusion.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0319 (c)

Begin forwarded message:

From: Mike Blenden <mike_blenden@fws.gov>
Date: January 14, 2016 at 10:08:03 AM MST
To: [Will Meeks@fws.gov](mailto:Will_Meeks@fws.gov), Maureen Gallagher
<maureen_gallagher@fws.gov>
Subject: Fwd: next Wednesday?

Please remind me. What are we trying to accomplish at this briefing?

Sent from my iPad

Begin forwarded message:

From: Kristine Martin <kristine_martin@fws.gov>
Date: January 14, 2016 at 9:09:15 AM MST
To: Mike Blenden <mike_blenden@fws.gov>
Subject: RE: next Wednesday?

It is really rescheduled to the 20th at 2 p.m. Noreen has a conflict at 1 p.m. now. My computer seems to be having trouble with it's sync so apologies on multiple notices on that!

v/r
Kris Martin

-----Original Message-----

From: Mike Blenden [mailto:mike_blenden@fws.gov]

Sent: Thursday, January 14, 2016 9:07 AM

To: kristine_martin@fws.gov

Subject: next Wednesday?

Kris, I keep getting a notification of an National Bison Range AFA briefing with Maureen and Noreen at 2:00 p.m. on January 20. Is this really scheduled or is it some artifact of a briefing that was cancelled?

Thanks, Mike

Sent from my iPad

From: [Kristine Martin](#)
To: [Will Meeks](#)
Subject: RE: meeting with Noreen?
Date: Friday, January 23, 2015 7:37:00 AM

Will she's out all day today. I know you are out next week. Do you want to try to do a phone call next week or push it out to till the following week?

v/r
Kris Martin

From: Will Meeks [mailto:Will_Meeks@fws.gov]
Sent: Thursday, January 22, 2015 3:38 PM
To: Kristine Martin
Subject: meeting with Noreen?

Kris,

Does Noreen have 15 minutes that I can follow-up on the National Bison Range NEPA?

I can meet 8:00 – 8:30, 9-10, 11-12, 1-2

Thanks.

Will Meeks
U.S. Fish and Wildlife Service, Region 6
ARD-NWRS and PFW
303-236-4303 (w)
720-541-0310 (c)

From: [Hilary Tompkins](#)
To: [Barry Roth](#)
Cc: d_m_ashe@fws.gov
Subject: Re: 2/5 meeting
Date: Tuesday, January 26, 2016 7:58:20 AM

(b)5 AC

Sent from my iPhone

On Jan 25, 2016, at 8:51 PM, Barry Roth <barry.roth@sol.doi.gov> wrote:

(b)5 AC

Sent from my iPad

Begin forwarded message:

From: Brian Upton <brianu@cskt.org>
Date: January 25, 2016 at 6:31:34 PM EST
To: Barry Roth <barry.roth@sol.doi.gov>
Subject: 2/5 meeting

Hi Barry,

CSKT has a meeting scheduled with FWS and other DOI officials on February 5th to discuss the National Bison Range Complex. I know you and Hilary are already aware of it, but just wanted to check in. CSKT Chairman Vernon Finley had requested that Sharee Freeman be included in the meeting as well. I conveyed that request to FWS. Sounds like it should be an interesting meeting, but we have been told very little about it.

BU

From: [Dan Ashe](#)
To: [Noreen Walsh](#); cynthia_martinez@fws.gov
Cc: [Jim Kurth](#); [Stephen Guertin](#); [Betsy Hildebrandt](#)
Subject: Fwd: National Bison Range
Date: Tuesday, January 26, 2016 7:15:54 PM
Attachments: [Untitled attachment_00357.htm](#)
[BisonRange.draft_01052016.docx](#)

This is the latest draft of legislation that I have.

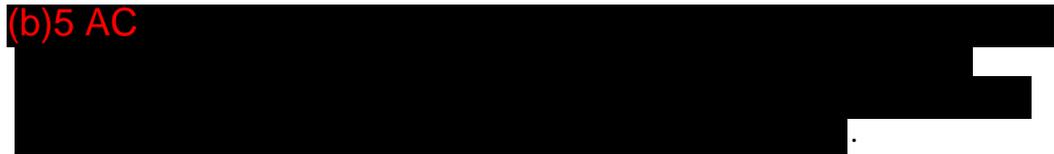
Dan Ashe
Director, U.S. Fish and Wildlife Service

Begin forwarded message:

From: "Boling, Edward" <ted.boling@sol.doi.gov>
Date: January 5, 2016 at 4:25:53 PM EST
To: Dan Ashe <d_m_ashe@fws.gov>
Cc: Hilary Tompkins <Hilary.Tompkins@sol.doi.gov>, Barry Roth <BARRY.ROTH@sol.doi.gov>
Subject: National Bison Range

Dan,

(b)5 AC



Regards,

Ted Boling
Deputy Solicitor -- Parks & Wildlife
U.S Department of the Interior
1849 C Street NW
Washington, DC 20240
202-208-4423 (main)
202-208-3125 (direct)
202-208-5584 (fax)
Ted.Boling@sol.doi.gov

(b)5 Draft/AC

From: [Noreen Walsh](#)
To: [Dan Ashe](#)
Subject: RE: National Bison Range
Date: Tuesday, January 26, 2016 7:29:10 PM

Thank you

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Dan Ashe [mailto:d_m_ashe@fws.gov]
Sent: Tuesday, January 26, 2016 5:16 PM
To: Noreen Walsh; cynthia_martinez@fws.gov
Cc: Jim Kurth; Stephen Guertin; Betsy Hildebrandt
Subject: Fwd: National Bison Range

This is the latest draft of legislation that I have.

Dan Ashe
Director, U.S. Fish and Wildlife Service

Begin forwarded message:

From: "Boling, Edward" <ted.boling@sol.doi.gov>
Date: January 5, 2016 at 4:25:53 PM EST
To: Dan Ashe <d_m_ashe@fws.gov>
Cc: Hilary Tompkins <Hilary.Tompkins@sol.doi.gov>, Barry Roth <BARRY.ROTH@sol.doi.gov>
Subject: National Bison Range

Dan,

(b)5 AC



Regards,

Ted Boling
Deputy Solicitor -- Parks & Wildlife
U.S Department of the Interior
1849 C Street NW
Washington, DC 20240

202-208-4423 (main)
202-208-3125 (direct)
202-208-5584 (fax)
Ted.Boling@sol.doi.gov

(b)5 AC/Draft

[Redacted text block]

From: [Noreen Walsh](#)
To: [Anna Munoz](#)
Cc: [Kristine Martin](#)
Subject: FW: IMPORTANT: See Attached for Review and Comment
Date: Thursday, January 28, 2016 2:42:18 PM
Attachments: [Draft Comms Strategy NBR.torbit edits.docx](#)

Anna, when you have a final draft with others' comments incorporated, can you provide a hard copy to Kris for my review?

Thanks
Noreen

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Stephen Torbit [mailto:Stephen_Torbit@fws.gov]
Sent: Thursday, January 28, 2016 11:21 AM
To: Anna Munoz; Noreen Walsh; Will Meeks
Subject: RE: IMPORTANT: See Attached for Review and Comment

A few comments/questions from me.

Stephen C. Torbit
Assistant Regional Director
Science Applications
U.S. Fish and Wildlife Service
134 Union Blvd.
Lakewood, Colorado 80228
303-236-4602 – Office
720-626-7504 – Cell

From: Munoz, Anna [mailto:anna_munoz@fws.gov]
Sent: Tuesday, January 26, 2016 6:41 PM
To: Noreen Walsh; Will Meeks; Stephen Torbit
Subject: IMPORTANT: See Attached for Review and Comment

I would like to send this to HQ no later than Thursday, so the sooner you can provide me any comments, the better. Please add any potential questions we might get asked to the list, even if you don't have answers.

Thanks,
Anna

Anna Muñoz
Assistant Regional Director - External Affairs

U.S. Fish and Wildlife Service
134 Union Blvd.
Lakewood, CO 80228
Office: 303-236-4510
Cell: 720-648-2542
Fax: 303-236-3815
anna_munoz@fws.gov

National Bison Range NWR Communication Strategy

Key Dates

January 11 - FWS Internal Planning Call - **Completed**

January 11-13 - Communicate to Jeff King that the Director has requested a meeting with CSKT as a follow-up to their meeting with Secretary Jewell regarding the AFA. – **Completed**

February 5, 1 p.m. ET/11:00 a.m. MT - The Director meets with CSKT (Noreen, Will, Steve, Jeff King and Anna participate by phone)

February 5, 2 p.m. ET/12:00 p.m. MT – Internal FWS call, post-meeting wrap-up.

February 5, 3:00 p.m. ET/1:00 p.m. MT – Noreen and Will meet with staff at the National Bison Range NWR. HR on the phone.

February 8/9 - HR and EAP visit National Bison Range NWR?

Procedural Questions and Considerations

- We are assuming that CSKT will agree with the proposal with caveats
 - May need council approval
 - Will likely request operational funding
 - Other?
- Who would sponsor legislation (Tester?)
- What if the tribe asks the sponsor to include funding for the NBR in the legislation and its not new money, but taken out of R6 refuge base funding?
- What if the Malheur NWR situation hasn't been resolved? Even if it has been resolved, it creates a context for any proposal to divest in refuge/federal lands.
- Do we highlight environmental justice aspects of this proposal?

Formatted

Key Internal Communication Tactics

- Feb 5, 3:00 p.m., ET/1:00 p.m., MT: Regional leadership communicates meeting outcome to National Bison Range Staff.
- Feb 5, 4:00 p.m. E.T./2:00 p.m., MT: Betsy sends a message to EA-ARDs

- Feb 5/8: Cynthia Martinez hosts a call with Refuge Leadership Team, initiates a cascading communication plan for Feb. 8.
- Feb 5/8: Cynthia Martinez calls Refuge "opinion leaders" to discuss.
- Feb 5/8: Director communicates meeting outcome to Directorate and Deputies
- Feb 8 (morning, MT) : Noreen communicates meeting outcome to R6 RDT
- Feb 8 (morning, MT): Will hosts a call with R6 Refuge Leadership, initiates a cascading communication plan.
- Feb 8 (afternoon, MT): R6 RDT initiates a cascading communication plan.
- Feb 8 (afternoon, MT): R6 Regional Director sends all-employee e-mail
- For Discussion:
 - All-employee e-mail from the Director?
 - All-Refuges e-mail from the Chief?
 - Will there be a Director's Broadcast following the Directorate Meeting, if so, we should be prepared to address?
 - When is the next R6 all-hands meeting?

External Communication Tactics - Dates TBD

- **Congressional Outreach (Feb. 5)**
 - Pre-meeting (9:00 a.m., ET): Dan may want to call Tester and Daines (and/or other potential bill sponsors) prior to the meeting to let them know about the meeting and proposal to be discussed.
 - Post-meeting (3:00 p.m., ET): Dan calls MT delegation to discuss the meeting outcome.
 - R6 calls to local MT Congressional staff on Feb 8.
- **Outreach to Governor's Office (Feb. 5)**
 - Dan calls Governor Bullock
- **Key Stakeholders (proposed lead) (Feb. 5/8)**
 - National Wildlife Refuge Association (Cynthia Martinez)
 - Dale Hall – Ducks Unlimited (Dan Ashe or Jim Kurth)

Comment [MA1]: Need HQ Feedback

- Wildlife Conservation Society (Dan Ashe)
- Defenders of Wildlife (Dan Ashe or Jim Kurth)
- National Wildlife Federation (Dan Ashe)
- Rep. Debbie Dingell (Dan Ashe or Jim Kurth)

- **Media Inquiries**

- Prepared media statement for pre-meeting inquiries
- Overarching TPs and FAQs

Communication Products That Need To Be Developed

- Prepared Media Statement in the event of a pre-meeting leak. - **Drafted**
- Overarching Talking Points – can be used internally and externally (provide context, intent, what this means for the resource, and process for implementing) - **Drafted**
- Additional Internal Talking Points (addresses internal concerns/logistics - personnel issues, setting a precedent for other refuges, how we will communicate with staff moving forward) - **Drafted**
- FAQs - **Drafted**

NATIONAL BISON RANGE COMMUNICATION SCHEDULE			
Date	Time	Action	Suggested Lead
Feb 5	7:00 a.m. ET/9:00 a.m. MT	Pre-meeting call with MT Congressional Delegation	Dan Ashe
Feb 5	1 p.m. ET/11:00 a.m. MT	Director meets with CSKT	
Feb 5	2 p.m. ET/12:00 p.m. MT	Internal FWS call, post-meeting wrap-up	
Feb 5	3:00 p.m. ET/1:00 p.m. MT	Meet with staff at the National Bison Range NWR	Noreen Walsh Will Meeks Mike Blenden
Feb 5	3:00 p.m. ET/1:00 p.m. MT	Call/VTC with Refuge Leadership Team	Cynthia Martinez
Feb 5	3:00 p.m. ET/1:00 p.m. MT	Calls to MT Congressional Delegation	Dan Ashe
Feb 5	3:30 p.m. ET/1:00 p.m. MT	Calls to Refuge Opinion Leaders	Cynthia Martinez Shaun Sanchez
Feb. 5/8	TBD	E-mail message to Directorate and Deputies	Dan Ashe Jim Kurth
Feb 5/8	TBD	Calls to Key Stakeholders	Dan Ashe Jim Kurth Cynthia Martinez

NATIONAL BISON RANGE COMMUNICATION SCHEDULE			
Date	Time	Action	Suggested Lead
Feb. 8	Morning, MT	Communicate meeting outcome to R6 RDT	Noreen Walsh
Feb. 8	Morning, MT	Call with R6 Refuge Leadership	Will Meeks
Feb. 8	TBD	All-region e-mail	Noreen Walsh
Feb. 8	TBD	All-Refuges e-mail	Cynthia Martinez
Feb. 8	TBD	All-employee e-mail	Dan Ashe/Betsy Hildebrandt

Comment [MA2]: Need to coordinate

Pre-meeting Media Statement:

The U.S. Fish and Wildlife Service (Service) has scheduled a meeting with the Confederate Salish and Kootenai Tribes (CSKT) for Friday, February 5 to discuss options for a long-term solution to the ongoing negotiations regarding how the lands and resources that encompass the National Bison Range National Wildlife Refuge can be managed in partnership between the Service and the Tribe. To date, all efforts have focused on the signing of an Annual Funding Agreement between the Service and the Tribes. As this meeting has not yet occurred, we cannot comment further on any potential outcomes.

Overarching Messages:

- The U.S. Fish and Wildlife Service (Service) is working with the Bureau of Indian Affairs and the Confederate Salish and Kootenai Tribes (CSKT) to transfer the lands comprising the National Bison Range to be held in trust by the BIA for the benefit of the CSKT.
- The National Bison Range was established in 1908 within the boundaries of the Flathead Indian Reservation, home of the CSKT. The purpose for establishing the refuge was to conserve the American bison, which, at the time, was on the verge of extinction.
- Since that time, the Service and our partners, including other federal agencies, states, tribal nations, have made great strides in the conservation of bison across the western plains.
- Although the Bison Range has been pivotal to this success, we believe that turning over these lands and the associated bison heard to the CSKT will provide for the continued

conservation of bison within this area, while allowing the Service to focus its limited resources on other priority conservation activities.

- Any transfer of lands into a trust administered by the BIA will include provisions that ensure that the transferred lands will continue to be managed for the care and maintenance of the bison herd as well as the conservation of other natural resources.
- The Service believes that the CSKT ~~is-are~~ well equipped to manage the lands and resources that comprise the Bison Range. They are a successful and progressive Self-Governance Tribe under the Indian Self Determination and Educational Assistance Act. They have one of the best tribal wildlife programs in the country and have been a partner in the management of the Bison Range. Within recent months, the tribe has purchased and now operates what was previously known as “Kerr Dam,” a major hydroelectric facility on the Flathead River. This acquisition and administration of a tribally-owned energy corporation is further testament to the tribe’s ability to manage the natural resources on their lands.
- The Service would not consider this land trust if we did not believe that the CSKT ~~was/were~~ fully capable of maintaining the high conservation standards currently in place on the Bison Range.
- We believe that the National Bison Range has is a conservation success story and transferring these lands into a trust for the CSKT does not mean that bison conservation is no longer a priority of the Service. Moving forward, the Service would like to focus conservation efforts towards managing this species at a landscape scale.
- Congressional approval is required for the lands to go from Service ownership to being held in trust by the BIA for the benefit of the CSKT.

Talking Points for NBR Staff

- First and foremost, let me say that everyone here will remain a valued employee of the U.S. Fish and Wildlife Service and you will be our top priority as this process moves forward.
- We recognize that this will be a very difficult transition. Your life and family are tied to this region and you have a passion for these lands and resources you work to conserve on a daily basis.
- We will employ maximum flexibility to ensure that you are taken care during this transition. In the coming days and weeks, we will be sitting down with each and every one of you to discuss employment options and opportunities once the Bison Range has been transferred to the CSKT.
- We do not know how long this process will take but it won’t be happening tomorrow. The development and passage of the legislation required for this action can take a long time. During this transition period, we are committed to keeping you informed and doing all that we can to ensure that this transition is carried out in a respectful and considerate manner.
- We will be communicating with you often as things move forward so that you are always aware of new developments, understand where the process stands, and have ample opportunities to ask questions.

- We know that many of you may not support this decision. Please know that it was not an easy decision to make. We have been struggling with successfully implementing an AFA for the Bison Range for over 20 years now and have spent an inordinate amount of time trying to figure out how we can best work in partnership with the tribes in the management of the Bison Range.
- Recently, leadership in the Director’s Office, the Refuges Program in HQ, and in our Region sat down and asked ourselves what would be our best, long-term solution for managing the desires of the Tribes while still meeting the conservation goals for these lands and natural resources, as well as the conservation priorities of the Service as a whole.
- We believe that transferring the lands to the CSKT via a trust held by BIA is our best option. It will not only ensure that these lands continue to be managed for conservation purposes, but it will also allow us to direct our limited resources towards other priority conservation efforts.

Frequently Asked Questions

How big is the National Bison Range?

The National Bison Range NWR is 18,800 acres in size

How many bison are on the National Bison Range?

The National Bison Range supports between 350-500 bison.

Why is the Service pursuing the transfer of these lands as opposed to moving forward with an Annual Funding Agreement?

Over the last 20 years, the Service has invested considerable time and resources towards the development of an AFA that would allow for us to manage the Bison Range in partnership with the CSKT. These efforts have been met with very little success due to litigation, personnel issues between Service staff and Tribal staff, and differences in expectations regarding how the agreement should be crafted. In considering a long-term solution that will allow for a greater tribal role in management of the Bison Range, we believe that transferring these lands to the CSKT is the best solution for the Service, the Tribes, and the conservation of bison and other natural resources supported by these lands.

Background on the Service’s AFA efforts to date:

Why would we give away one of our Refuges to a Tribe or any other entity?

We do not view this proposal as “giving away one of our refuges.” The National Bison Range was established in 1908 for the express purpose of conserving bison during a time when they were literally on the verge of extinction. And over the last hundred years, the Bison Range has played a critical role in bison conservation. Since that time, the Service along with other Federal, State, and Tribal partners have made significant strides in conserving bison and re-establishing herds throughout their historic range. To this end, the Service believes that the purpose of the Bison Range has been fully and successfully met and it is now time to focus our efforts in a different direction. By ~~transferring-handing-over~~ under the BIA in trust, these lands and bison to the CSKT, the Service can focus our limited resources on more pressing landscape-scale conservation priorities.

Comment [MA3]: Could someone in Refuges provide a synopsis/overview.

Are there other National Wildlife Refuges that exist wholly within the boundaries of tribal lands?

Yes. Currently XX other refuges exist within the boundaries of tribal lands.

Comment [MA4]: Insert number.

Is the Service considering transferring other refuge lands that are similarly situated within the boundaries of tribal land?

No. The Bison Range presents a unique circumstance where in the legislative purpose of the refuge – to conserve a population of bison during a time when the species was in steep decline – has been fully met and the continued management of these lands and associated bison population are no longer integral to our national bison conservation efforts. Other refuges that may be located wholly within the boundaries of Tribal lands were established for other purposes, such as migratory bird conservation or XXX and are still very necessary for achieving these critical conservation outcomes.

Comment [MA5]: Insert another example

Are bison being conserved on other wildlife Refuges?

Yes. Currently XX National Wildlife Refuges are engaged in bison conservation efforts. These refuges include:

Comment [MA6]: Number?

Comment [MA7]: List of refuges with bison

In addition to bison populations being conserved on other National Wildlife Refuges, other federal, state, and tribal lands also support bison populations.

What needs to happen for this land transfer to occur?

Legislation would need to be passed by Congress to transfer of lands owned and administered by the Service to a trust held by BIA for the benefit of CSKT.

Who will draft the required legislation?

We are early in this process, but the Service expects to play a significant role in the drafting of legislation for the transfer of this land.

Does the CSKT have the biological expertise and/or financial resources to manage the lands and resources encompassing the National Bison Range?

We are confident that the CSKT have the resources and expertise to manage the lands, bison and other natural resources comprising the Bison Range. They have one of the best tribal wildlife programs in the country and have been a partner in the management of the Bison Range. We would not support this transfer if we did not believe that the CSKT were fully capable of managing these lands.

The bison population on the National Bison Range has been identified as having a high genetic diversity that is important for ensuring the genetic health of other Department of Interior bison herds. How will transferring the management of these bison to CSKT impact the genetic integrity of other bison conservation efforts?

In recent years, the Service has moved bison from the National Bison Range to other refuges, effectively spreading the unique genetic stock of these animals to other locations where we will still have access to them for conservation purposes. During this transition, the Service will also consider management of important genetic stock found on Bison Range to ensure that it is available for the long-term conservation and restoration of bison across the U.S. We expect that CSKT will continue to provide these important genetic resources to other public and tribal herds across the country to ensure the genetic viability of the NBR strain.

Comment [MA8]: Steve, please help with this answer.

Will public visitation still be allowed once the National Bison Range is no longer part of the National Wildlife Refuge System?

Once the land has been placed into a trust held by the BIA and management authority is transferred to the CSKT, it will be up to the Tribes to determine whether these lands will remain open to public visitation.

Currently/Recently, a group of private landowners are claiming/have claimed, through physical occupation, that the lands comprising Malheur National Wildlife Refuge should be removed from federal ownership. Does this proposal affirm their position?

No. There is a right way to do things and a wrong way. The occupation of lands and property at Malheur NWR are the wrong way of doing things and are completely unrelated to the proposed transfer of Bison Range lands to the CSKT. First and foremost, the Service and CSKT have a long history of working together in the management of the Bison Range. During this time we have forged relationships and mutual understanding that lead us to believe that the CSKT are more than capable of taking on the management of the lands, bison herd, and associated natural resources in a manner that will maintain the continued conservation of these resources. Second, the Service, BIA, and the CSKT will be working cooperatively throughout this process. Lastly, this proposal will be carried out in accordance with federal law which requires that legislation be passed by Congress to transfer the lands from Service ownership to be held in trust by BIA for the benefit of CSKT.

“First Round” CCPs Not Completed as of February, 2016

The National Wildlife Refuge System Improvement Act of 1997 mandated that by October 9, 2012 the Service develop CCPs for the 554 units in existence in 1997.

- To date, CCPs have been completed for 503 of these units (91%).
- CCPs have not been completed for 51 of the Improvement Act’s 554 required units (9%)
- Of these 51, one is essentially done (awaiting publication), seven have published drafts and are developing finals, six will publish drafts soon, 18 are developing drafts, and 10 have not published an NOI to begin planning.
- At their June 2015 meeting, the NWRS Leadership Team agreed that, assuming no further budget reductions, all remaining first-round CCPs would be initiated by FY 2017.

These units are:

Region (total)	Station Name	Status/Notes	Expected Completion Date
1 (10)	Camas NWR	Almost done. Waiting on DOI clearance of final NOA.	Winter/Spring 2016
	Grays Harbor NWR	Draft cleared for publication 5/15. Awaiting publication.	Spring/Summer 2016
	Toppenish NWR	2011 NOI. Draft expected soon.	Spring/Summer 2016
	Grays Lake NWR	2012 NOI.	FY 2016
	Hanalei NWR	2009 NOI. Draft expected soon.	Summer 2016
	Huleia NWR	2009 NOI. Draft expected soon.	Summer/Fall 2016
	Cold Springs NWR	2011 NOI. Developing draft.	Summer/Fall 2016
	McKay Creek NWR	2011 NOI. Developing draft.	Summer/Fall 2016
	Minidoka NWR	2011 NOI. Developing draft.	Fall 2016
	Johnston Atoll NWR	2011 NOI. Unknown when DoD will transfer to FWS.	FY 2017
Region (total)	Station Name	Status/Notes	Expected Completion Date
2 (3)	Bosque del Apache NWR	2005 NOI. Scoping completed 2010.	Unknown: CCP Completion contingent upon completion of Biological Opinion on Middle Rio Grande Water Operations (FWS, CofE and BOR). No ETA for completion of BO.
	Little Sandy NWR	2007 NOI. Scoping completed 2010.	Unknown due to staff reductions
	Sequoyah NWR	2012 NOI.	Unknown due to staff reductions.

Region (total)	Station Name	Status/Notes	Expected Completion Date
3 (0)			
Region (total)	Station Name	Status/Notes	Expected Completion Date
4 (1)	Crystal River NWR	2008 NOI. Developing draft.	CY 2016
Region (total)	Station Name	Status/Notes	Expected Completion Date
5 (10)	Silvio O. Conte NF&WR	Draft published 8/15. Developing final.	July 2016
	Erie NWR	2008 NOI. Developing draft.	June 2016
	Massasoit NWR	2012 NOI. Developing draft.	June 2016
	Plum Tree Island NWR	2012 NOI. Developing draft.	August 2016
	Stewart B. McKinney NWR	2011 NOI. Developing draft.	September 2016
	Moosehorn NWR	2006. NOI. Developing draft.	December 2016
	Parker River NWR	2011. NOI. Developing draft.	December 2016
	Thacher Island NWR	2011 NOI. Developing draft.	December 2016
	Mashpee NWR	2012 NOI.	TBD
	Bombay Hook NWR	2011 NOI.	TBD
Region (total)	Station Name	Status/Notes	Expected Completion Date
6 (10)	National Elk Refuge	Draft published 9/14. Developing final.	Spring 2016
	Northwest Montana WMD	2008 NOI. Preplanning started.	FY 2019
	Charles M Russell WMD	No NOI. Scheduled to start in 2016.	FY 2018
	Hailstone NWR	No NOI. Scheduled to start in 2016.	FY 2018
	Halfbreed Lake NWR	No NOI. Scheduled to start in 2016.	FY 2018
	Lake Mason NWR	No NOI. Scheduled to start in 2016.	FY 2018
	National Bison Range	No NOI. Preplanning started.	Unknown pending Bison Range transfer
	Nine-pipe NWR	No NOI. Preplanning started.	FY 2019
	Pablo NWR	No NOI. Preplanning started.	FY 2019
	War Horse NWR	No NOI. Scheduled to start in 2016.	FY 2018

Region (total)	Station Name	Status/Notes	Expected Completion Date
7 (4)	<i>Alaska Maritime NWR</i>	<i>No NOI. Scheduled to start in 2016.</i>	
	<i>Yukon Flats NWR</i>	<i>No NOI. Scheduled to start in 2016.</i>	
	<i>Yukon Delta NWR</i>	<i>2007 NOI. Scheduled to start in 2017.</i>	
	<i>Izembek NWR</i>	<i>2006 NOI.</i>	<i>Unknown – after others</i>
Region (total)	Station Name	Status/Notes	Expected Completion Date
8 (13)	<i>San Diego NWR</i>	<i>Draft published 6/14. Developing final.</i>	<i>FY 2016</i>
	<i>Butte Sink WMA</i>	<i>Draft published 6/15. Developing final.</i>	<i>FY 2016</i>
	<i>North Central Valley WMA</i>	<i>Draft published 6/15. Developing final.</i>	<i>FY 2016</i>
	<i>Willow Creek-Lurline WMA</i>	<i>Draft published 6/15. Developing final.</i>	<i>FY 2016</i>
	<i>Grasslands WMA</i>	<i>NOA draft pending.</i>	<i>FY 2016</i>
	<i>Merced NWR</i>	<i>NOA draft pending.</i>	<i>FY 2016</i>
	<i>San Luis NWR</i>	<i>NOA draft pending.</i>	<i>FY 2016</i>
	<i>Bear Valley NWR</i>	<i>2010 NOI. Developing draft.</i>	<i>August 2016</i>
	<i>Clear Lake NWR</i>	<i>2010 NOI. Developing draft.</i>	<i>August 2016</i>
	<i>Lower Klamath NWR</i>	<i>2010 NOI. Developing draft.</i>	<i>August 2016</i>
	<i>Upper Klamath NWR</i>	<i>2010 NOI. Developing draft.</i>	<i>August 2016</i>
	<i>Tule Lake NWR</i>	<i>2010 NOI. Developing draft.</i>	<i>FY 2016</i>
	<i>Ruby Lake NWR</i>	<i>2010 NOI. Developing draft.</i>	<i>FY 2017</i>

From: [Will Meeks](#)
To: [Noreen Walsh](#)
Cc: [Matt Hogan](#)
Subject: Fwd: Org chart
Date: Thursday, February 04, 2016 8:39:27 AM
Attachments: [Untitled attachment_00775.htm](#)
[orgChart_FF06RNBR00.pdf](#)

Noreen,

Attached is the draft org chart. It has the names of the folks at the NBR "Complex." There are a few comments needed and additions.

Kevin Shinn and Beverly Skinner are stationed at Lost Trail (not sure they will be there, but will confirm). They wouldn't be directly impacted.

Mike Koole (LE) - he is the Complex LE Officer but works primarily at the NBR and has an office there.

Karen Shoemaker - she has an office there (and lives on-site) but part of the Business Team. There may be an SCA there - I wouldn't know them.

Others at the NBR (office space; but not assigned to NBR) -

Laura King (Planning)

Dean Vaughn (PFW)

Mary Danno (Visitor Services; mostly teleworks)

I think that's it.

Will Meeks

U.S. Fish and Wildlife Service

Mountain-Prairie Region

Assistant Regional Director

National Wildlife Refuge System

303-236-4303 (w)

720-541-0310 (c)

Begin forwarded message:

From: "Baaske, Kandi" <kandi_baaske@fws.gov>

Date: February 4, 2016 at 7:59:12 AM MST

To: Will Meeks <will_meeks@fws.gov>

Subject: Re: Org chart

Here you go.

Kandi Baaske
HR/Payroll Liaison
NWRS Region 6 RO
134 Union Blvd. Ste. 300

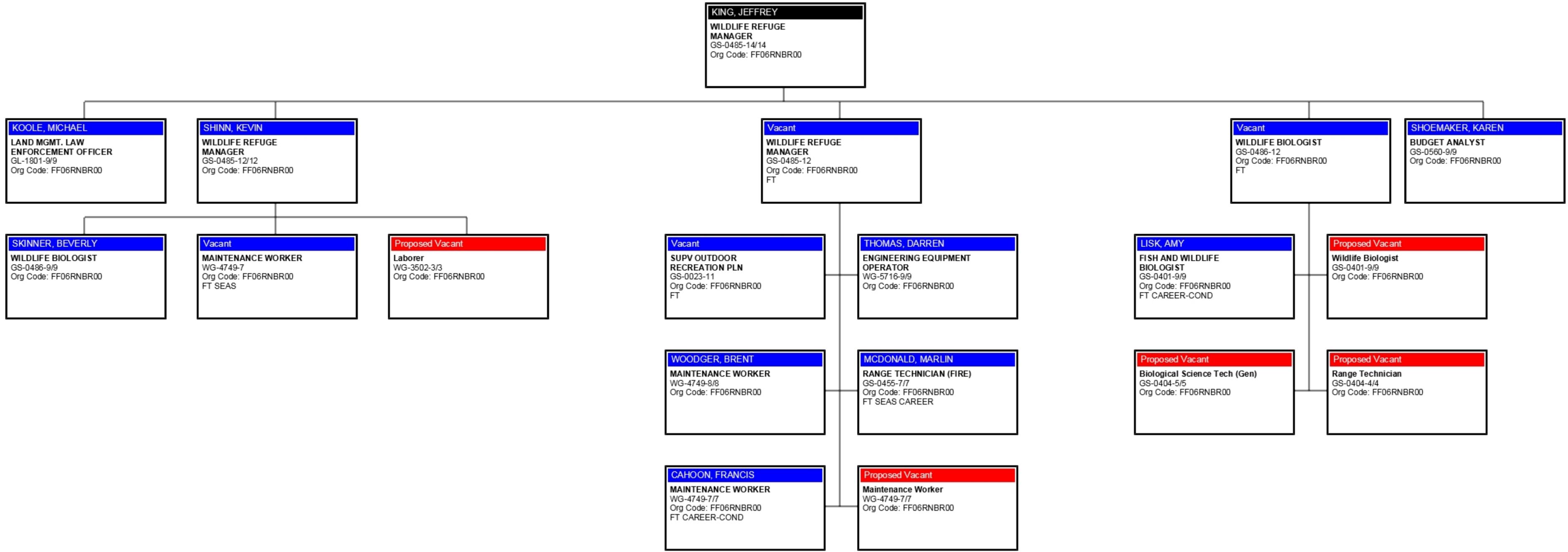
Lakewood, CO 80228
(303) 236-4385 phone
(303) 236-4792 fax

On Thu, Feb 4, 2016 at 7:44 AM, Will Meeks <will_meeks@fws.gov> wrote:

Kandi,

Can you send me the most current (draft) org chart for National Bison Range Complex? Thanks.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0319 (c)



From: [Munoz, Anna](#)
To: [Noreen Walsh](#)
Subject: Re:
Date: Thursday, February 04, 2016 12:28:20 PM

I will get you a draft this afternoon and will then tweak it, as needed, after tomorrow's call and your meeting with folks at NBR. I'm also working on an African American History month e-mail for you to send out sometime next week.

Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service
134 Union Blvd.
Lakewood, CO 80228
Office: 303-236-4510
Cell: 720-648-2542
Fax: 303-236-3815
anna_munoz@fws.gov

On Thu, Feb 4, 2016 at 12:25 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

Anna, the other thing we forgot to talk about is my all employee email for tomorrow...

Noreen Walsh

Regional Director

Mountain-Prairie Region

U. S. Fish and Wildlife Service

303 236 7920

From: [Munoz, Anna](#)
To: [Noreen Walsh](#); [Will Meeks](#)
Subject: e-mail
Date: Thursday, February 04, 2016 7:16:44 PM

Drafting this was harder than I thought it would be, so I welcome any and all feedback. I know that some people are going to have questions and I wasn't sure how we can best address those questions. My gut tells me that another all-employee call may be in order. Maybe we wait and see what sort of response we get and then schedule something. Or, we can be proactive and schedule something now and include it in this e-mail. Thoughts? I'm including Will on this e-mail as I'm sure he may have some insights as well.

Dear Mountain-Prairie Region,

Earlier today I participated, via teleconference, in a meeting between Service leadership, Departmental leadership, the Bureau of Indian Affairs, and the Confederate Salish and Kootenai Tribes (CSKT) regarding our ongoing efforts to identify a long-term solution for management of the National Bison Refuge in Montana. As some of you may know, we have been working with the CSKT for over 20 years to successfully implement an Annual Funding Agreement (AFA) that would allow the them to manage and implement some of the key conservation activities on the refuge including the visitor services, biology, maintenance, and fire programs. This process has required an inordinate amount of time and effort on behalf of the Service and the tribes and yielded very little success in achieving our partnership goals with the CSKT.

In an effort to achieve the best, long-term solution for meeting our tribal trust responsibilities while still accomplishing the conservation goals of the National Bison Range and the Service as a whole, we are proposing to transfer the lands comprising the National Bison Range in to a federal trust for the benefit of the CSKT.

The National Bison Range was established in 1908 within the boundaries of the Flathead Reservation, home of the CSKT, for the express purpose of conserving the American bison during a time when the species was on the verge of extinction. Since then, the Service as well as our federal, state, and tribal partners have made great strides in conserving bison and re-establishing herds throughout their historic range. Given that the purpose of the National Bison Range has been met and our priorities have shifted towards larger, landscape-scale conservation efforts, we believe that now is the right time to begin the process of transferring the refuge, which was long ago carved out of tribal lands, into a trust for the benefit of the CSKT.

The proposed land transfer would require Congressional approval and at this point, we don't know if or when this arrangement will be finalized. My greatest concern moving forward will be ensuring that the talented and committed staff of the National Bison Refuge is taken care of and that the impacts to their life and family are minimized to the greatest extent possible. To this end, Will Meeks and I spent the afternoon at the Refuge where we had some very open and candid conversations with staff regarding this proposal and potential next steps. In our conversations, we emphasized that they will all remain valued employees of the Service, regardless of the outcome. They will be my top priority as this process moves forward and I will do everything I can to ensure that this transition is carried out in a respectful and considerate manner that honors their work in conserving these lands and resources.

I know that many of you will have strong opinions about this proposal. This was not an easy decision to come by, or one that was taken lightly, but in the end, I believe that this is the right decision for the Service, the CSKT, and for the conservation of our fish and wildlife resources.

From: [Betsy Hildebrandt](#)
To: [Dan Ashe](#)
Subject: Re: Better?
Date: Friday, February 05, 2016 6:39:27 AM

Ok. I'll make edit and print out for meeting

Sent from my iPad

On Feb 4, 2016, at 8:39 PM, Dan Ashe <d_m_ashe@fws.gov> wrote:

Looks very good. In the first sentence, it should be "Confederated"
Salish_Kootenai.

Dan Ashe
Director, U.S. Fish and Wildlife Service

On Feb 4, 2016, at 5:14 PM, Betsy Hildebrandt <betsy_hildebrandt@fws.gov>
wrote:

Statement for tomorrow. Worked with Anna today and Noreen good
with this.

Sent from my iPhone

Begin forwarded message:

From: "Munoz, Anna" <anna_munoz@fws.gov>
Date: February 4, 2016 at 4:18:55 PM EST
To: Betsy Hildebrandt <Betsy_Hildebrandt@fws.gov>
Subject: Better?

The U.S. Fish and Wildlife Service (Service) is in discussions with the Confederate Salish-Kootenai Tribes (CSKT) regarding the transfer of the lands comprising the National Bison Range to be held in federal trust for the benefit of the CSKT. This begins a new phase in a longstanding relationship between the Service and CSKT in the conservation of the land, bison, and other natural resources comprising the National Bison Range. The Service has long relied on the Tribes' expertise and history with herd management and believe now is the right time to begin the transition into trust of a refuge long ago carved out of tribal lands. Any final decisions to transfer these lands will require Congressional

approval.

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service
134 Union Blvd.
Lakewood, CO 80228
Office: 303-236-4510
Cell: 720-648-2542
Fax: 303-236-3815
anna_munoz@fws.gov

From: [Hildebrandt, Betsy](#)
To: [Martinez, Cynthia](#)
Cc: [Noreen Walsh](#); anna_munoz@fws.gov
Subject: Re: Dan would like to see proposed employee emails before meeting this afternoon. Thanks.
Date: Friday, February 05, 2016 7:06:17 AM

Thanks and just for reference, here is the approved "if asked statement"

The U.S. Fish and Wildlife Service (Service) is in discussions with the Confederated Salish Kootenai Tribes (CSKT) regarding the transfer of the lands comprising the National Bison Range to be held in federal trust for the benefit of the CSKT. This begins a new phase in a longstanding relationship between the Service and CSKT in the conservation of the land, bison, and other natural resources comprising the National Bison Range. The Service believes now is the right time to begin the transition in to trust of a refuge long ago carved out of tribal lands. This is an ongoing process that will require Congressional approval.

On Fri, Feb 5, 2016 at 9:00 AM, Martinez, Cynthia <cynthia_martinez@fws.gov> wrote:
I am also reviewing mine. I might wait to see Noreen's to ensure consistency.

Cynthia

On Fri, Feb 5, 2016 at 8:50 AM, Betsy Hildebrandt <betsy_hildebrandt@fws.gov> wrote:
Thanks. Our expectation is that it will leak so want to make sure whatever's in writing is consistent at least with the public statement.

Sent from my iPhone

> On Feb 5, 2016, at 8:46 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>

> I was just working on wood Anna drafted for me. I will send it along in a bit

>

> Noreen Walsh

> Regional Director

> Mountain-Prairie Region

> U. S. Fish and Wildlife Service

>

>> On Feb 5, 2016, at 6:38 AM, Betsy Hildebrandt <betsy_hildebrandt@fws.gov> wrote:

>>

>> Sent from my iPhone

--

Betsy Hildebrandt
Assistant Director - External Affairs

U.S. Fish & Wildlife Service
betsy_hildebrandt@fws.gov
202-208-5256

From: [Noreen Walsh](#)
To: [Anna Munoz](#); [Betsy Hildebrandt](#); [Cynthia Martinez](#); [Will Meeks](#)
Subject: Draft
Date: Friday, February 05, 2016 7:21:25 AM

Thanks to Anna for drafting. I made a few tweaks.

Dear Mountain-Prairie Region,

I want to inform you of a discussion the Service started today with the Confederate Salish and Kootenai Tribes (CSKT) regarding the National Bison Range. Many of you know that we have been working with the CSKT for about 20 years on the idea of a partnership at the National Bison Range that would be outlined in an Annual Funding Agreement which would allow them to manage and implement some of the activities on the refuge. This process has required much time and effort on the part of many, and despite valiant efforts all around, we have not yet achieved the type of partnership with the CSKT that we desired.

In an effort to achieve the best, long-term solution for our many conservation priorities, for meeting our tribal trust responsibilities, and for the specific conservation goals of the National Bison Range, there was a discussion today with the CSKT about the potential for the Service to support legislation that would transfer the lands comprising the National Bison Range to be held in trust by the Bureau of Indian Affairs (BIA) for the CSKT.

I wanted you all to know why we entered into these discussions. The National Bison Range was established in 1908 within the boundaries of the Flathead Reservation, home of the CSKT, for the express purpose of conserving the American bison during a time when the species was on the verge of extinction. Since then, the Service as well as our federal, state, and tribal partners have made great strides in conserving bison and re-establishing herds throughout their historic range. Also, while we have desired a meaningful partnership with CSKT at the National Bison Range, an Annual Funding Agreement has not yet proven to be an effective tool to establish that kind of partnership. Given that we are today in a much better place regarding the future of bison, that we have much work to do on landscape-scale conservation efforts, and that we want to strengthen our partnership with the CSKT, we believe that now is the right time to investigate the possibility of transferring the refuge, which was long ago carved out of tribal lands, into trust for the benefit of the CSKT.

Such a proposal would require Congressional approval and therefore, at this point, we don't know if or when such a transfer would occur. Today was our first discussion with the CSKT about the idea. As we go forward, my pledge is to ensure that wherever the discussion leads us, the talented and committed staff of the National Bison Range are taken care of. To this end, Will Meeks, Mike Blenden, and I spent the afternoon at the Refuge where we talked about the ideas under discussion. In our conversations, I emphasized that they will all remain valued employees of the Service, regardless of the outcome of these discussions.

I know that many of you will have thoughts and questions opinions about this idea. This was not an easy decision to come by, nor one that was taken lightly, but in the end, I believe that this is a good path for the Service, the CSKT, and for the conservation of our fish and wildlife resources.

As always, I value your feedback and questions.

Noreen

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: [Martinez, Cynthia](#)
To: [Betsy Hildebrandt](#)
Cc: [Noreen Walsh](#); [Anna Munoz](#)
Subject: Re: Dan would like to see proposed employee emails before meeting this afternoon. Thanks.
Date: Friday, February 05, 2016 9:36:55 AM

Below is my draft to come from the Chiefs email.

Thanks to Betsy for her review and comments.

"Today the U.S. Fish and Wildlife Service began discussions with the Bureau of Indian Affairs (BIA) and the Confederated Salish and Kootenai Tribes (CSKT) about the potential for the Service to support legislation that would transfer the lands comprising the National Bison Range in Montana to be held in trust by the BIA for the benefit of the CSKT. While the transfer will require Congressional approval, the decision to move forward was not made lightly.

The National Bison Range was established by President Theodore Roosevelt in 1908 within the boundaries of the Flathead Indian Reservation, home of the CSKT. It was established for a defined purpose: to prevent the extinction of bison. We have been hugely successful in meeting that mission. The Bison Range's conservation legacy will live on and we have confidence that the CSKT will maintain the high conservation standards that we established at the Bison Range. It is time for the Service to focus our efforts on landscape-scale bison restoration.

I want you to know that every employee at the Bison Range will be taken care of. Employment options and opportunities are being discussed. Anyone that knows the history of the Bison Range, knows that our employees have worked and lived with uncertainty regarding the Bison Range for many years now. The process of negotiating and implementing Annual Funding Agreements has not been effective and has resulted in uncertainty for our employees.

I know that many of you will have varying thoughts, opinions and questions. This decision was not made lightly and does not represent a new direction for the Refuge System. Rather, it is a response to a specific set of circumstances in a specific location at a specific point in time.

Since 1999, the Service has established more than 40 new national wildlife refuges, marine national monuments and national conservation areas. Service employees are justifiably proud of hitting new conservation milestones year after year. And we will continue to do so. We have a vibrant and strong National Wildlife Refuge System and we will continue to conserve and manage these wild lands and wild places for wildlife and future generations to come.

The expertise, creativity and dedication of Service employees are limitless. I thank you for all you do on behalf of wildlife conservation and the American people."

On Fri, Feb 5, 2016 at 8:37 AM, Betsy Hildebrandt <betsy_hildebrandt@fws.gov> wrote:
| Sent from my iPhone

From: [Noreen Walsh](#)
To: [Martinez, Cynthia](#)
Cc: [Betsy Hildebrandt](#); [Anna Munoz](#)
Subject: Re: Dan would like to see proposed employee emails before meeting this afternoon. Thanks.
Date: Friday, February 05, 2016 9:56:28 AM

Cynthia

It's very good. One request: would you please change

"It is time for the Service to focus our efforts on landscape-scale bison restoration."

To

"It is time for the Service to focus our efforts on landscape-scale conservation"

I can explain better when we talk. Thank you!

Sent from my iPhone

On Feb 5, 2016, at 9:36 AM, Martinez, Cynthia <cynthia_martinez@fws.gov> wrote:

Below is my draft to come from the Chiefs email.

Thanks to Betsy for her review and comments.

"Today the U.S. Fish and Wildlife Service began discussions with the Bureau of Indian Affairs (BIA) and the Confederated Salish and Kootenai Tribes (CSKT) about the potential for the Service to support legislation that would transfer the lands comprising the National Bison Range in Montana to be held in trust by the BIA for the benefit of the CSKT. While the transfer will require Congressional approval, the decision to move forward was not made lightly.

The National Bison Range was established by President Theodore Roosevelt in 1908 within the boundaries of the Flathead Indian Reservation, home of the CSKT. It was established for a defined purpose: to prevent the extinction of bison. We have been hugely successful in meeting that mission. The Bison Range's conservation legacy will live on and we have confidence that the CSKT will maintain the high conservation standards that we established at the Bison Range. It is time for the Service to focus our efforts on landscape-scale bison restoration.

I want you to know that every employee at the Bison Range will be taken care of. Employment options and opportunities are being discussed. Anyone that knows the history of the Bison Range, knows that our employees have worked and lived

with uncertainty regarding the Bison Range for many years now. The process of negotiating and implementing Annual Funding Agreements has not been effective and has resulted in uncertainty for our employees.

I know that many of you will have varying thoughts, opinions and questions. This decision was not made lightly and does not represent a new direction for the Refuge System. Rather, it is a response to a specific set of circumstances in a specific location at a specific point in time.

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The expertise, creativity and dedication of Service employees are limitless. I thank you for all you do on behalf of wildlife conservation and the American people."

On Fri, Feb 5, 2016 at 8:37 AM, Betsy Hildebrandt
<betsy_hildebrandt@fws.gov> wrote:
| Sent from my iPhone

From: [Cynthia Martinez](#)
To: [Noreen Walsh](#); [Will Meeks](#); [Betsy Hildebrandt](#); [Martin Kodis](#); [Chris Nolin](#); [Charisa Morris](#); [Roslyn Sellars@fws.gov](#)
Subject: Final Email
Date: Friday, February 05, 2016 10:40:48 AM

"Today the U.S. Fish and Wildlife Service began discussions with the Bureau of Indian Affairs (BIA) and the Confederated Salish and Kootenai Tribes (CSKT) about the potential for the Service to support legislation that would transfer the lands comprising the National Bison Range in Montana to be held in trust by the BIA for the benefit of the CSKT. While the transfer will require Congressional approval, the decision to move forward was not made lightly.

The National Bison Range was established by President Theodore Roosevelt in 1908 within the boundaries of the Flathead Indian Reservation, home of the CSKT. It was established for a defined purpose: to prevent the extinction of bison. We have been hugely successful in meeting that mission. The Bison Range's conservation legacy will live on and we have confidence that the CSKT will maintain the high conservation standards that we established at the Bison Range. It is time for the Service to focus our efforts on landscape-scale conservation.

I want you to know that every employee at the Bison Range will be taken care of. Employment options and opportunities are being discussed. Anyone that knows the history of the Bison Range, knows that our employees have worked and lived with uncertainty regarding the Bison Range for many years now. The process of negotiating and implementing Annual Funding Agreements has not been effective and has resulted in uncertainty for our employees.

I know that many of you will have varying thoughts, opinions and questions. This decision was not made lightly and does not represent a new direction for the Refuge System. Rather, it is a response to a specific set of circumstances in a specific location at a specific point in time.

Since 1999, the Service has established more than 40 new national wildlife refuges, marine national monuments and national conservation areas. Service employees are justifiably proud of hitting new conservation milestones year after year. And we will continue to do so. We have a vibrant and strong National Wildlife Refuge System and we will continue to conserve and manage these wild lands and wild places for wildlife and future generations to come.

The expertise, creativity and dedication of Service employees are limitless. I thank you for all you do on behalf of wildlife conservation and the American people."

From: [Munoz, Anna](#)
To: [Noreen Walsh](#); [Matt Hogan](#); [Will Meeks](#); [Maureen Gallagher](#); [Cynthia Martinez](#); [Shaun Sanchez](#); [Betsy Hildebrandt](#); [Martin Kodis](#); [Stephen Torbit](#); [Chris Nolin](#)
Subject: Re: NBR Comms Materials
Date: Friday, February 05, 2016 10:58:41 AM
Attachments: [Draft Comms Strategy NBR v5.docx](#)

Hi All,

Attached is an updated version of the comms strategy. Please let me know if you have any questions.

Thanks,
Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service
134 Union Blvd.
Lakewood, CO 80228
Office: 303-236-4510
Cell: 720-648-2542
Fax: 303-236-3815
anna_munoz@fws.gov

On Thu, Feb 4, 2016 at 4:19 PM, Munoz, Anna <anna_munoz@fws.gov> wrote:

Hi All,

Attached is the latest version of the comms materials for NBR. If you have any edits, comments, or questions, please let me know ASAP.

Thanks,
Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service
134 Union Blvd.
Lakewood, CO 80228
Office: 303-236-4510
Cell: 720-648-2542
Fax: 303-236-3815
anna_munoz@fws.gov

National Bison Range NWR Communication Strategy

Internal Communication Tactics (see Schedule for detailed info)

Communication Products:

- Overarching Internal Messages
- Additional Talking Points for NBR Staff
- Frequently Asked Questions for Internal Use Only

February 5, 2016

- Region 6 leadership communicates meeting outcome to National Bison Range Staff.
- Director and Chief of Refuges host a VTC with Directorate, Deputies, and Regional Refuge Chiefs.
- Chief of Refuges calls Refuge "opinion leaders" to discuss this proposal.
- Regional Director Walsh sends an all-regional employee e-mail.
- Chief Martinez sends an all-refuge employee e-mail

February 8, 2016

- Region 6 DRD communicates meeting outcome to R6 RDT
- Region 6 Refuge Chief hosts a call with R6 Refuge Leadership
- Director Ashe sends out an all-employee e-mail

Late February

- Refuge Chiefs Meeting (week of Feb. 22)
- DOI Bison Working Group Call/Meeting (February 29)

External Communication Tactics

Congressional Outreach

- February 5 (Post-meeting): CLA-HQ places calls to the MT delegation to discuss the meeting and associated proposal. CLA will let them know that Director Ashe is happy to schedule a call to discuss further.
- February 8: R6-EA makes calls to local staffers.

Outreach to Governor's Office (Feb. 5)

- Director Ashe calls Governor Bullock

Key Stakeholder Calls (proposed lead) (Feb. 5/8)

- National Wildlife Refuge Association (Cynthia Martinez) – Potential Validator?
- Dale Hall – Ducks Unlimited (Dan Ashe or Jim Kurth) – Potential Validator
- Wildlife Conservation Society (Dan Ashe) – Potential Validator
- Defenders of Wildlife (Dan Ashe or Jim Kurth) – Potential Validator?
- National Wildlife Federation (Dan Ashe) – Potential Validator
- Rep. Debbie Dingell (Jim Kurth) – Potential detractor
- Dean Rundell (Will Meeks) – Potential Validator
- Intertribal Buffalo Council (Scott Aikin (Steve Torbit as back-up))

Media Inquiries

- Media Statement

NATIONAL BISON RANGE COMMUNICATION SCHEDULE

Date	Time	Action	Suggested Lead
February 5	1 p.m. ET/ 11:00 a.m. MT	Director meets with CSKT	
February 5	2 p.m. ET/ 12:00 p.m. MT	If needed: internal post-meeting call	
February 5	3:00 p.m. ET/ 1:00 p.m. MT	Region 6 Leadership meets w/ staff at NBR	Noreen Walsh Will Meeks Mike Blenden
February 5	3:00 p.m. ET/ 1:00 p.m. MT	Calls to MT Congressional Delegation	HQ-CLA
February 5	3:00 p.m. ET/ 1:00 p.m. MT	Call to Governor Bullock	Dan Ashe
February 5	3:30 p.m. ET/ 1:00 p.m. MT	Call/VTC with Directorate, Deputies, and Regional Refuge Chiefs	Dan Ashe Cynthia Martinez
February 5	Late Afternoon	All-Region 6 e-mail	Noreen Walsh
February 5	After R6 e-mail	All-Refuges e-mail	Cynthia Martinez
February 5/8		Calls to Key Stakeholders	See list below
February 8	Morning, MT	Communicate meeting outcome to R6 RDT	Matt Hogan
February 8	Morning, MT	Call with R6 Refuge Leadership	Will Meeks
February 8	TBD	All-employee e-mail	Dan Ashe
Late February		Refuge Chiefs Meeting DOI Bison Working Group	Cynthia Martinez Steve Torbit

Montana Delegation Contact List		
Date	Contact	Contacted by
Fri. Feb. 5	Governor Bullock	Dan Ashe
Fri. Feb. 5	Senator Tester	HQ-CLA
Fri. Feb. 5	Senator Daines	HQ-CLA
Fri. Feb. 5	Representative Zinke	HQ – CLA
Mon. Feb. 8	Local Staffers	R6-EA

Key Stakeholder Contact List				
Date	Stakeholder Name	Contact	Phone Number	Contacted by
Fri. Feb. 5	National Wildlife Refuge Association	David Houghton	603-831-0920	Cynthia Martinez
Fri. Feb. 5		Dale Hall		Jim Kurth
Fri. Feb. 5	Wildlife Conservation Society	John Calvelli	718-220-5100	Dan Ashe
Fri. Feb. 5	Defenders of Wildlife	Jamie Clark Don Barry	202-682-9400	Jim Kurth
Mon. Feb. 8	National Wildlife Federation	Colin O'Mara	202-797-6892	Dan Ashe
Mon. Feb. 8		Rep. Debbie Dingell	202-225-4071	Jim Kurth
Mon. Feb. 8		Dean Rundell		Will Meeks
Mon. Feb. 8	Intertribal Buffalo Council			Scott Aikin

EXTERNAL COMMUNICATION

All media inquiries should be directed to Anna Muñoz at 303-236-4510 or anna_munoz@fws.gov

Media Statement:

The U.S. Fish and Wildlife Service (Service) is in discussions with the Confederated Salish and Kootenai Tribes (CSKT) regarding the transfer of the lands comprising the National Bison Range to be held in federal trust for the benefit of the CSKT. This begins a new phase in a longstanding relationship between the Service and CSKT in the conservation of the land, bison, and other natural resources comprising the National Bison Range. The Service believe now is the right time to begin the transition into trust of a refuge long ago carved out of tribal lands. This is an ongoing process that will require Congressional approval.

INTERNAL COMMUNICATION

Overarching Internal Messages

- The U.S. Fish and Wildlife Service (Service) is working with the Bureau of Indian Affairs (BIA) and the Confederated Salish and Kootenai Tribes (CSKT) to transfer the lands comprising the National Bison Range to be held in trust by the BIA for the benefit of the CSKT.
- The National Bison Range was established in 1908 within the boundaries of the Flathead Indian Reservation, home of the CSKT. The purpose for establishing the refuge was to conserve the American bison, which, at the time, was on the verge of extinction.
- Since that time, the Service and our partners, including other federal agencies, states, tribal nations, have made great strides in the conservation of bison across the western plains.
- Although the National Bison Range has played a historic role in this success, we are in a new era of conservation where we want to focus on landscape-scale restoration efforts. We believe the CSKT will provide for the continued conservation of bison within this area, while allowing the Service to focus its limited resources on higher priority conservation activities.
- Any transfer of lands into a trust administered by the BIA will include provisions that ensure that the transferred lands will continue to be managed for the care and maintenance of the bison herd as well as the conservation of other wildlife and natural resources.
- Transferring these lands to be held in trust for CSKT will allow the Tribes to re-establish their historic, cultural, and spiritual ties to the bison and the land.
- The Service believes that the CSKT is well equipped to manage the lands and resources that comprise the National Bison Range. They have one of the best tribal wildlife programs in the country and have been an active partner in the management of the National Bison Range. Within recent months, the tribe has purchased and now operates what was previously known as “Kerr Dam,” a major hydroelectric facility on the Flathead River. This acquisition and administration of a tribally-owned energy corporation is further testament to the tribe’s ability to manage the natural resources on their lands.
- Congressional approval is required for these lands to go from Service ownership to being held in trust by the BIA for the benefit of the CSKT.
- This proposal is not related to the current program realignment efforts being undertaken by the NWRS Program in Region 6.

Additional Talking Points for National Bison Range Staff

- First and foremost, let me say that everyone here will remain a valued employee of the U.S. Fish and Wildlife Service and you will be our top priority if this process moves forward.
- The ideas proposed today to the Tribes would require Congressional approval, so at this point, we don't know if this arrangement will be finalized – but we want to talk with you about what it would mean if it is.
- We recognize that this will be a very difficult transition. Your life and family are tied to this region and you have a passion for these lands and resources you work to conserve on a daily basis.
- We will employ maximum flexibility to ensure that you are taken care during this transition. In the coming days and weeks, we will be sitting down with each and every one of you to discuss employment options and opportunities once the National Bison Range has been transferred to the CSKT.
- We recognize that you have worked and lived with uncertainty regarding the National Bison Range for many years and we do not know how long this process will take. The drafting and passage of the legislation required for this action can take a long time. During this transition period, we are committed to keeping you informed and doing all that we can to ensure that this transition is carried out in a respectful and considerate manner.
- We will be communicating with you often as things move forward so that you are always aware of new developments, understand where the process stands, and have ample opportunities to ask questions.
- We know that many of you may not support this decision. Please know that it was not an easy decision to make. We have been struggling with successfully implementing an AFA for the National Bison Range for over 20 years now and have spent an inordinate amount of time trying to figure out how we can best work in partnership with the tribes in the management of the National Bison Range.
- Recently, leadership in DOI have been discussing would be our best, long-term solution for meeting our many conservation priorities, the specific conservation goals of the National Bison Range, and to support the principles of Indian self-determination.
- We believe that transferring the lands to the CSKT via a trust held by BIA is our best option for the continued conservation of these lands, wildlife, and other natural resources and for supporting the principles of Indian self-determination. It will not only ensure that these lands continue to be managed for conservation purposes, but it will also allow us to direct our limited resources towards higher priority conservation efforts.

Frequently Asked Questions – For Internal Use Only

How big is the National Bison Range?

The National Bison Range is 18,800 acres in size

How many bison are on the National Bison Range?

The National Bison Range supports between 350-500 bison.

How many people are employed by the National Bison Range and how will they be affected?

Our people are our top priority. Currently, the National Bison Range has seven employees and they will all remain valued members of the Service. We recognize that this may be a difficult transition for some of them as they have all contributed greatly to the conservation successes at the National Bison Range. As this process moves forward, we will be working with each of them to assess potential career options and opportunities within the Service.

Why is the Service pursuing the transfer of these lands as opposed to moving forward with an Annual Funding Agreement?

The Service's priority is to focus on landscape-scale conservation. The CSKT is more than capable of managing bison on these lands. By turning this responsibility over to the Tribes, we can turn our attention to other priorities while supporting the Tribes' cultural and historic ties to this land and the bison that reside here.

Over the last 20 years, the Service has invested considerable time and resources towards the development of an AFA that would allow for us to manage the National Bison Range in partnership with the Confederated Salish Kootenai Tribes (CSKT). These efforts have been met with mixed success due to litigation, personnel management issues between Service staff and Tribal staff, and differences in expectations regarding how the agreement should be crafted. In considering a long-term solution that will allow for a greater tribal role in management of the National Bison Range, we believe that transferring these lands to the CSKT is the best solution for the Service, the Tribes, and the conservation of bison and other natural resources supported by these lands.

Background on the Service's AFA efforts to date:

In 2003, the Service began negotiating an annual funding agreement (AFA) with the CSKT. This agreement became effective in March 2005 but was terminated in late 2006, largely due to personnel management issues. Negotiations for a second agreement were initiated in early 2008. This agreement was fully implemented in early 2009 but was rescinded by the court in September 2010, not because of performance issue but, on procedural grounds related to compliance with the National Environmental Policy Act. Negotiations for a third agreement started in early 2011. This agreement was structured around the successes experienced during the second AFA and was the proposed alternative in an environmental assessment released for public comment in August 2014. A finding of no significant impact has not been signed and as a result, the AFA has not gone into effect.

Why would we give away one of our Refuges to a Tribe or any other entity?

We do not view this proposal as "giving away one of our refuges." The National Bison Range was established in 1908 for the express purpose of conserving bison during a time when they were

literally on the verge of extinction. And over the last hundred years, the National Bison Range has played a critical role in bison conservation. Since that time, the Service along with other Federal, State, and Tribal partners have made significant strides in conserving bison and re-establishing herds throughout their historic range. To this end, the Service believes that the purpose of the National Bison Range has been fully and successfully met and it is now time to focus our efforts in a different direction. By transferring these lands and bison to the CSKT under the BIA in trust, the Service can focus our limited resources on more pressing landscape-scale conservation priorities.

Are there other National Wildlife Refuges that exist wholly within the boundaries of tribal lands?

Yes. Currently 11 other refuges exist within the boundaries of tribal lands.

Is the Service considering transferring other refuge lands that are similarly situated within the boundaries of tribal land?

No., the National Bison Range is a unique situation whereby a refuge was established within a Reservation boundary for a defined purpose. Bison were on the verge of extinction, and the National Bison Range played a unique role in preventing that. The Service, as well as DOI, must constantly assess how to meet our highest conservation priorities and to respect the government-to-government relationship we have with tribal sovereign nations, like the CSKT. In this case transferring these lands, to be held in trust for the Tribes, helps us to do both. Thus, we are working with Congress to determine if the original legislation can be lawfully changed to allow for a transfer.

Are bison being conserved on other DOI Lands?

Yes. Currently six other National Wildlife Refuges (NWRs) and nine National Park Service sites, and two BLM sites are contributing to DOI's bison conservation efforts. The other NWRs engaged in bison conservation include: Rocky Mountain Arsenal NWR (CO), Neil Smith NWR (IA), NWR (NE), Rio Mora NWR (NM), Sully's Hill NWR (ND), Fort Niobrara, and Wichita Mountains NWR (OK).

The National Park Service lands currently engaged in bison conservation include: Wrangell-St. Elia National Park (NP) and Preserve (AK), Grand Canyon NP (AZ), Tallgrass Prairie National Preserve (KS), Theodore Roosevelt NP (MT), Wind Cave NP (SD), Badlands NP (SD), Chickasaw National Recreation Area (TX), Yellowstone NP (WY) and Grand Teton NP (WY)

In addition to bison populations being conserved on DOI lands, other federal, state, and tribal lands also support bison populations.

What needs to happen for this land transfer to occur?

Legislation would need to be passed by Congress to transfer lands owned and administered by the Service to be held by BIA in trust for the CSKT.

Who will draft the required legislation?

We are early in this process, but the Service expects to play a significant role in the drafting of legislation for the transfer of this land.

Does the CSKT have the biological expertise and/or financial resources to manage the lands and resources encompassing the National Bison Range?

We are confident that the CSKT have the resources and expertise to manage the lands, bison and other natural resources comprising the National Bison Range. They have one of the best tribal wildlife programs in the country and have been a partner in the management of the National Bison Range. We would not support this transfer if we did not believe that the CSKT were fully capable of managing these lands and bison.

The bison population on the National Bison Range has been identified as having a high genetic diversity that is important for ensuring the genetic health of other Department of Interior bison herds. How will transferring the management of these bison to CSKT impact the genetic integrity of other bison conservation efforts?

In recent years, the Service has moved bison from the National Bison Range to other refuges, effectively spreading the unique genetic stock of these animals to other locations where we will still have access to them for conservation purposes. During this transition, the Service will also consider management of important genetic stock found on National Bison Range to ensure that it is available for the long-term conservation and restoration of bison across the U.S. We expect that CSKT will continue to provide these important genetic resources to other public and tribal herds across the country to ensure the genetic viability of the National Bison Range strain.

Will public visitation still be allowed once the National Bison Range is no longer part of the National Wildlife Refuge System?

Once the land has been placed into a trust held by the BIA and management authority is transferred to the CSKT, it will be up to the Tribes to determine whether these lands will remain open to public visitation.

Currently/Recently, a group of people are claiming/have claimed, through physical occupation, that the lands comprising Malheur National Wildlife Refuge should be removed from federal ownership. Does this proposal affirm their position?

No, in the case of the occupation of Malheur NWR, unlawful actions were taken by armed occupiers to demand changes. First, the Service and CSKT have a long history of working together in the management of the National Bison Range. During this time we have forged relationships and mutual understanding that lead us to believe that the CSKT is capable of taking on the continued conservation of the lands, bison herd, and associated natural resources. Second, the Service, BIA, and the CSKT will be working cooperatively throughout this process. Lastly, this proposal will be carried out in accordance with federal law which requires that legislation be passed by Congress to transfer the lands from Service ownership to be held in trust by BIA for the benefit of CSKT.

From: [Anna Munoz](#)
To: [Noreen Walsh](#)
Subject: Fwd: Noreen's e-mail to R6 employees
Date: Friday, February 05, 2016 11:42:02 AM

Corrected e-mail so that it reads "Confederated" Salish and Kootenai Tribes

Sent from my iPad

Begin forwarded message:

From: "Munoz, Anna" <anna_munoz@fws.gov>
Date: February 5, 2016 at 10:54:07 AM MST
To: Dan Ashe <d_m_ashe@fws.gov>, Betsy Hildebrandt <Betsy_Hildebrandt@fws.gov>, Roslyn Sellars <Roslyn_Sellars@fws.gov>, Charisa Morris <charisa_morris@fws.gov>, Cynthia Martinez <cynthia_martinez@fws.gov>, Noreen Walsh <noreen_walsh@fws.gov>, Matt Hogan <Matt_Hogan@fws.gov>, Martin Kodis <Martin_Kodis@fws.gov>, Chris Nolin <chris_nolin@fws.gov>
Subject: Noreen's e-mail to R6 employees

See below

Dear Mountain-Prairie Region,

I want to inform you of a discussion the Service started today with the Confederated Salish and Kootenai Tribes (CSKT) regarding the National Bison Range. Many of you know that we have been working with the CSKT for about 20 years on the idea of a partnership at the National Bison Range that would be outlined in an Annual Funding Agreement which would allow them to manage and implement some of the activities on the refuge. This process has required much time and effort on the part of many, and despite valiant efforts all around, we have not yet achieved the type of partnership with the CSKT that we desired.

In an effort to achieve the best, long-term solution for our many conservation priorities, the specific conservation goals of the National Bison Range, and to support the principles of Indian self-determination there was a discussion today with the CSKT about the potential for the Service to support legislation that would transfer the lands comprising the National Bison Range to be held in trust by the Bureau of Indian Affairs (BIA) for the CSKT.

I wanted you all to know why we entered into these discussions. The National Bison Range was established in 1908 within the boundaries of the Flathead Reservation, home of the CSKT, for the express purpose of conserving the American bison during a time when the species was on the verge of extinction. Since then, the Service as well as our federal, state, and tribal partners have made great strides in conserving bison and re-establishing herds throughout their historic range. Also, while we have desired a meaningful partnership with CSKT at the National Bison Range, an Annual Funding Agreement has not yet proven to be an effective tool to establish that kind of partnership. Given that we are today in a much better place regarding the future of bison, that we have much work to do on landscape-scale conservation efforts, and that we want to strengthen our partnership with the CSKT, we believe that now is the right time to investigate the possibility of transferring the refuge, which was long ago carved out of tribal lands, into trust for the benefit of the CSKT.

Such a proposal would require Congressional approval and therefore, at this point, we don't know if or when such a transfer would occur. Today was our first discussion with the CSKT about the idea. As we go forward, my pledge is to ensure that wherever the discussion leads us, the talented and committed staff of the National Bison Range are taken care of. To this end, Will Meeks, Mike Blenden, and I spent the afternoon at the Refuge where we talked about the ideas under discussion. In our conversations, I emphasized that they will all remain valued employees of the Service, regardless of the outcome of these discussions.

I know that many of you will have thoughts and questions opinions about this idea. This was not an easy decision to come by, nor one that was taken lightly, but in the end, I believe that this is a good path for the Service, the CSKT, and for the conservation of our fish and wildlife resources.

As always, I value your feedback and questions.

Noreen

From: [Cynthia Martinez](#)
To: [Noreen Walsh](#)
Cc: [Anna Munoz](#)
Subject: Re: Noreen's e-mail to R6 employees
Date: Friday, February 05, 2016 12:21:08 PM

There are some technical changes from BIA.

Also Brian is going to review now and let us know if they have any requested changes.

Cynthia

On Feb 5, 2016, at 2:19 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

IF there are no other changes to this email that came about because of the convo (we could not hear it all) then I will send it when I finish the discussion with the staff here. Estimated time: 1.5 hours from now. I will alert Cynthia when I am ready to send so she can do the same.

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

On Feb 5, 2016, at 11:42 AM, Anna Munoz <anna_munoz@fws.gov> wrote:

Corrected e-mail so that it reads "Confederated" Salish and Kootenai Tribes

Sent from my iPad

Begin forwarded message:

From: "Munoz, Anna" <anna_munoz@fws.gov>
Date: February 5, 2016 at 10:54:07 AM MST
To: Dan Ashe <d_m_ashe@fws.gov>, Betsy Hildebrandt <Betsy_Hildebrandt@fws.gov>, Roslyn Sellars <Roslyn_Sellars@fws.gov>, Charisa Morris <charisa_morris@fws.gov>, Cynthia Martinez <cynthia_martinez@fws.gov>, Noreen Walsh <noreen_walsh@fws.gov>, Matt Hogan <Matt_Hogan@fws.gov>, Martin Kodis <Martin_Kodis@fws.gov>, Chris Nolin <chris_nolin@fws.gov>
Subject: Noreen's e-mail to R6 employees

See below

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I wanted you all to know why we entered into these discussions. The National Bison Range was established in 1908 within the boundaries of the Flathead Reservation, home of the CSKT, for the express purpose of conserving the American bison during a time when the species was on the verge of extinction. Since then, the Service as well as our federal, state, and tribal partners have made great strides in conserving bison and re-establishing herds throughout their historic range. Also, while we have desired a meaningful partnership with CSKT at the National Bison Range, an Annual Funding Agreement has not yet proven to be an effective tool to establish that kind of partnership. Given that we are today in a much better place regarding the future of bison, that we have much work to do on landscape-scale conservation efforts, and that we want to strengthen our partnership with the CSKT, we believe

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As always, I value your feedback and questions.

Noreen

From: [Anna Munoz](#)
To: [Noreen Walsh](#)
Cc: [Matt Hogan](#)
Subject: Fwd: email w/chairman edits attached
Date: Friday, February 05, 2016 1:23:39 PM
Attachments: [Untitled attachment_01044.htm](#)
[Message from Mountain Prairie Region-2.docx](#)

I can't see track changes, so I just want to make sure that you're good with this.

Sent from my iPad

Begin forwarded message:

From: "Hildebrandt, Betsy" <betsy_hildebrandt@fws.gov>
Date: February 5, 2016 at 1:09:52 PM MST
To: Anna Munoz <anna_munoz@fws.gov>, Noreen Walsh
<noreen_walsh@fws.gov>
Subject: email w/chairman edits attached

--

Betsy Hildebrandt
Assistant Director - External Affairs
U.S. Fish & Wildlife Service
betsy_hildebrandt@fws.gov
202-208-5256

February 5, 2016

Dear Mountain-Prairie Region,

I want to inform you of a discussion the Service started today with the Confederated Salish and Kootenai Tribes (CSKT) regarding the National Bison Range. Many of you know that we have been working with the CSKT for about 20 years on the idea of a partnership at the National Bison Range that would be outlined in an Annual Funding Agreement which would allow them to manage and implement some of the activities on the refuge. This process has required much time and effort on the part of many, and despite valiant efforts all around, ~~we have not yet achieved the type of partnership with the CSKT that we desired~~the parties have been unable to come to terms on a mutually-acceptable agreement.

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I wanted you all to know why we entered into these discussions. The National Bison Range was established in 1908 within the boundaries of the Flathead Reservation, home of the CSKT, for the express purpose of conserving the American bison during a time when the species was on the verge of extinction. Since then, the Service as well as our federal, state, and tribal partners have made great strides in conserving bison and re-establishing herds throughout their historic range. Also, while we have desired a meaningful partnership with CSKT at the National Bison Range, ~~an Annual Funding Agreement~~a mutually-acceptable agreement has ~~not yet proven to be an effective tool to establish that kind of partnership~~been elusive. Given that we are today in a much better place regarding the future of bison, that we have much work to do on landscape-scale conservation efforts, and that we want to strengthen our partnership with the CSKT, we believe that now is the right time to investigate the possibility of transferring the refuge, which was long ago carved out of tribal lands, into trust for the benefit of the CSKT.

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As always, I value your feedback and questions.

Noreen Walsh

From: [Noreen Walsh](#)
To: [Munoz, Anna](#)
Cc: [Matt Hogan](#)
Subject: Re: FINAL VERSION OF ALL-EMPLOYEE E-MAIL
Date: Friday, February 05, 2016 3:32:51 PM

Got it. Still in meeting. Will try to send as soon as we can exit.

Sent from my iPhone

On Feb 5, 2016, at 2:00 PM, Munoz, Anna <anna_munoz@fws.gov> wrote:

Hi Noreen,

Please find below the FINAL version of the all-employee e-mail that incorporates the requested changes.

Dear Mountain-Prairie Region,

I want to inform you of a discussion the Service started today with the Confederated Salish and Kootenai Tribes (CSKT) regarding the National Bison Range. Many of you know that we have been working with the CSKT for about 20 years on the idea of a partnership at the National Bison Range that would be outlined in an Annual Funding Agreement which would allow them to manage and implement some of the activities on the refuge. This process has required much time and effort on the part of many, and despite valiant efforts all around, the parties have been unable to come to terms on a mutually-acceptable agreement.

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decision to come by, nor one that was taken lightly, but in the end, I believe that this is a good path for the Service, the CSKT, and for the conservation of our fish and wildlife resources.

As always, I value your feedback and questions.

Noreen Walsh

From: [Noreen Walsh](#)
To: [FW6 All Employees](#)
Bcc: [Cynthia Martinez](#); [Dan Ashe](#); [Noreen Walsh](#)
Subject: Discussion with the CSKT about the National Bison Range
Date: Friday, February 05, 2016 4:12:44 PM

Dear Mountain-Prairie Region,

I want to inform you of a discussion the Service started today with the Confederated Salish and Kootenai Tribes (CSKT) regarding the National Bison Range. Many of you know that we have been working with the CSKT for about 20 years on the idea of a partnership at the National Bison Range that would be outlined in an Annual Funding Agreement which would allow them to manage and implement some of the activities on the refuge. This process has required much time and effort on the part of many, and despite valiant efforts all around, the parties have been unable to come to terms on a mutually-acceptable agreement.

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As always, I value your feedback and questions.

Noreen

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

From: [Serena Baker](#)
To: [Noreen Walsh](#); [Will Meeks](#); [Mike Blenden](#)
Subject: FW: Discussion with the CSKT about the National Bison Range
Date: Friday, February 05, 2016 4:20:53 PM

Hello Noreen, Will, and Mike,

I can't even imagine the tough spot you all were in today, while fielding some difficult questions for which we may not yet have answers, and that can stir emotions even higher. What I do know about each of you, is that you will do what you absolutely believe is the right thing for everyone involved, and that the Refuge, employees, and resources involved are in the very best of hands.

Hang in there! We're behind you 100%!

Serena Baker

From: Noreen Walsh [mailto:noreen_walsh@fws.gov]
Sent: Friday, February 05, 2016 4:13 PM
To: FW6 All Employees
Subject: Discussion with the CSKT about the National Bison Range

Dear Mountain-Prairie Region,

I want to inform you of a discussion the Service started today with the Confederated Salish and Kootenai Tribes (CSKT) regarding the National Bison Range. Many of you know that we have been working with the CSKT for about 20 years on the idea of a partnership at the National Bison Range that would be outlined in an Annual Funding Agreement which would allow them to manage and implement some of the activities on the refuge. This process has required much time and effort on the part of many, and despite valiant efforts all around, the parties have been unable to come to terms on a mutually-acceptable agreement.

In an effort to achieve the best, long-term solution for our many conservation priorities, the specific conservation goals of the National Bison Range, and to support the principles of Indian self-determination there was a discussion today with the CSKT about the potential for the Service to support legislation that would transfer the lands comprising the National Bison Range to be held in trust by the United States for the CSKT.

I wanted you all to know why we entered into these discussions. The National Bison Range was established in 1908 within the boundaries of the Flathead Reservation, home of the CSKT, for the express purpose of conserving the American bison during a time when the species was on the verge of extinction. Since then, the Service as well as our federal, state, and tribal partners have made great strides in conserving bison and re-establishing herds throughout their historic range. Also, while we have desired a meaningful partnership with CSKT at the National Bison Range, a mutually-acceptable agreement has been elusive. Given that we are today in a much better place regarding the future of bison, that we have much work to do on landscape-scale conservation efforts, and that we want to strengthen our partnership with the CSKT, we believe that now is the right time to investigate the possibility of transferring the refuge, which was long ago carved out of tribal lands, into trust for the benefit of the CSKT.

Such a proposal would require Congressional approval and therefore, at this point, we don't

know if or when such a transfer would occur. Today was our first discussion with the CSKT about the idea. As we go forward, my pledge is to ensure that wherever the discussion leads us, the talented and committed staff of the National Bison Range are taken care of. To this end, Will Meeks, Mike Blenden, and I spent the afternoon at the Refuge where we talked about the ideas under discussion. In our conversations, I emphasized that they will all remain valued employees of the Service, regardless of the outcome of these discussions.

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As always, I value your feedback and questions.

Noreen

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

From: [Cynthia Martinez](#)
To: [Noreen Walsh](#)
Subject: Fwd: National Bison Range
Date: Friday, February 05, 2016 5:46:08 PM

Cynthia

Begin forwarded message:

From: "National Wildlife Refuge System, Chief"
<chief_national_wildlife_refuge_system@fws.gov>
Date: February 5, 2016 at 7:37:26 PM EST
To: undisclosed-recipients;;
Subject: National Bison Range

Today the U.S. Fish and Wildlife Service began discussions with Indian Affairs and the Confederated Salish and Kootenai Tribes (CSKT) about the potential for the Service to support legislation that would transfer the lands comprising the National Bison Range in Montana to be held in trust by the United States for the benefit of the CSKT. While the transfer will require Congressional approval, the decision to move forward was not made lightly.

The National Bison Range was established by President Theodore Roosevelt in 1908 within the boundaries of the Flathead Indian Reservation, home of the CSKT. It was established for a defined purpose: to prevent the extinction of bison. We have been hugely successful in meeting that mission. The Bison Range's conservation legacy will live on and we have confidence that the CSKT will maintain the high conservation standards that we established at the Bison Range. It is time for the Service to focus our efforts on landscape-scale conservation.

I want you to know that every employee at the Bison Range will be taken care of. Employment options and opportunities are being discussed. Anyone who knows the history of the Bison Range knows that our employees have worked and lived with uncertainty regarding the Bison Range for many years now.

I know that many of you will have varying thoughts, opinions and questions. This decision was not made lightly and does not represent a new direction for the Refuge System. Rather, it is a response to a specific set of circumstances in a specific location at a specific point in time.

Since 1999, the Service has established more than 40 new national wildlife refuges and national conservation areas. Service employees are justifiably proud of hitting new conservation milestones year after year. And we will continue to do so. We have a vibrant and strong National Wildlife Refuge System and we will continue to conserve and manage these wild lands and wild places for wildlife and future generations.

The expertise, creativity and dedication of Service employees are limitless. I thank you for all you do on behalf of wildlife conservation and the American people.

Cynthia Martinez

Chief

National Wildlife Refuge System

From: [Anna Munoz](#)
To: [Noreen Walsh](#); will_meeks@fws.gov
Subject: Fwd: Important Update from the Fish and Wildlife Service on the Management of National Bison Range
Date: Friday, February 05, 2016 5:50:41 PM

FYI

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service
[134 Union Blvd.](#)
[Lakewood, CO 80228](#)
Office: [303-236-4510](tel:303-236-4510)
Cell: [720-648-2542](tel:720-648-2542)

Begin forwarded message:

From: "Kodis, Martin" <martin_kodis@fws.gov>
Date: February 5, 2016 at 5:44:13 PM MST
To: undisclosed-recipients;;
Subject: **Important Update from the Fish and Wildlife Service on the Management of National Bison Range**

Good Evening,

The U.S. Fish and Wildlife Service (Service) is in discussions with the Confederated Salish Kootenai Tribes (CSKT) regarding the transfer of the lands comprising the National Bison Range to be held in federal trust for the benefit of the CSKT. This begins a new phase in a longstanding relationship between the Service and CSKT in the conservation of the land, bison, and other natural resources comprising the National Bison Range. The Service believes now is the right time to begin the transition in to trust of a refuge long ago carved out of tribal lands. This is an ongoing process that will require Congressional approval.

Please contact me or Roya Mogadam if you have any questions.

Marty

--

Martin Kodis
Chief, Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service

5275 Leesburg Pike
Falls Church, VA 22041

703-358-2241 ph
703-358-2245 fax

From: [Matt Kales](#)
To: matt_hogan@fws.gov
Subject: Fwd: Discussion with the CSKT about the National Bison Range
Date: Friday, February 05, 2016 6:58:02 PM

Good talking with you earlier. Just read this and think it's a really well-conceived message and I credit you and Noreen and other Service leadership for seeking a path forward on this tough issue.

Beyond the item we discussed about leveraging a transfer, and some mild flashbacks from the tense time when we terminated the original AFA, my only immediate thought is the statement that the refuge was "carved out" of tribal land may prove controversial in external conversations: opponents of any relationship between the Range and the CSKT will likely be quick to point up the United States paid - 2x - for the land that is the refuge. I don't pretend to know the "truth" on that matter but it was and may still be a lightning rod aspect of the issue.

Lots to think about and I expect I'll have further thoughts to share but on its face I see this as a wise, profitable and long-overdue approach to pursue.

Best,

Matt

Begin forwarded message:

From: Noreen Walsh <noreen_walsh@fws.gov>
Date: February 5, 2016 at 4:12:44 PM MST
To: FW6 All Employees <fw6_all_employees@fws.gov>
Subject: Discussion with the CSKT about the National Bison Range

Dear Mountain-Prairie Region,

I want to inform you of a discussion the Service started today with the Confederated Salish and Kootenai Tribes (CSKT) regarding the National Bison Range. Many of you know that we have been working with the CSKT for about 20 years on the idea of a partnership at the National Bison Range that would be outlined in an Annual Funding Agreement which would allow them to manage and implement some of the activities on the refuge. This process has required much time and effort on the part of many, and despite valiant efforts all around, the parties have been unable to come to terms on a mutually-acceptable agreement.

In an effort to achieve the best, long-term solution for our many conservation priorities, the specific conservation goals of the National Bison Range, and to support the principles of Indian self-determination there was a discussion today with the CSKT about the potential for the Service to support legislation that would transfer the lands comprising the National Bison Range to be held in trust by the United States for the CSKT.

I wanted you all to know why we entered into these discussions. The National Bison Range was established in 1908 within the boundaries of the Flathead Reservation, home of the CSKT, for the express purpose of conserving the American bison during a time when the species was on the verge of extinction. Since then, the Service as well as our federal, state, and tribal partners have made great strides in conserving bison and re-establishing herds throughout their historic range. Also, while we have desired a meaningful partnership with CSKT at the National Bison Range, a mutually-acceptable agreement has been elusive. Given that we are today in a much better place regarding the future of bison, that we have much work to do on landscape-scale conservation efforts, and that we want to strengthen our partnership with the CSKT, we believe that now is the right time to investigate the possibility of transferring the refuge, which was long ago carved out of tribal lands, into trust for the benefit of the CSKT.

Such a proposal would require Congressional approval and therefore, at this point, we don't know if or when such a transfer would occur. Today was our first discussion with the CSKT about the idea. As we go forward, my pledge is to ensure that wherever the discussion leads us, the talented and committed staff of the National Bison Range are taken care of. To this end, Will Meeks, Mike Blenden, and I spent the afternoon at the Refuge where we talked about the ideas under discussion. In our conversations, I emphasized that they will all remain valued employees of the Service, regardless of the outcome of these discussions.

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As always, I value your feedback and questions.

Noreen

Noreen Walsh

Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

From: [Charisa Morris](#)
To: [Munoz, Anna](#)
Cc: [Cynthia Martinez](#); [Betsy Hildebrandt](#); [Dan Ashe](#); scott_aikin@fws.gov; [Stephen Guertin](#); [Jim Kurth](#)
Subject: Re: Discussion with the CSKT about the National Bison Range
Date: Friday, February 05, 2016 7:11:04 PM

Thank you, Anna!

Sent from my iPhone

On Feb 5, 2016, at 6:56 PM, Munoz, Anna <anna_munoz@fws.gov> wrote:

FYI

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service
134 Union Blvd.
Lakewood, CO 80228
Office: 303-236-4510
Cell: 720-648-2542
Fax: 303-236-3815
anna_munoz@fws.gov

----- Forwarded message -----

From: **Noreen Walsh** <noreen_walsh@fws.gov>
Date: Fri, Feb 5, 2016 at 4:12 PM
Subject: Discussion with the CSKT about the National Bison Range
To: FW6 All Employees <fw6_all_employees@fws.gov>

Dear Mountain-Prairie Region,

I want to inform you of a discussion the Service started today with the Confederated Salish and Kootenai Tribes (CSKT) regarding the National Bison Range. Many of you know that we have been working with the CSKT for about 20 years on the idea of a partnership at the National Bison Range that would be outlined in an Annual Funding Agreement which would allow them to manage and implement some of the activities on the refuge. This process has required much time and effort on the part of many, and despite valiant efforts all around, the parties have been unable to come to terms on a mutually-acceptable agreement.

In an effort to achieve the best, long-term solution for our many conservation priorities, the specific conservation goals of the National Bison Range, and to support the principles of Indian self-determination there was a discussion today

with the CSKT about the potential for the Service to support legislation that would transfer the lands comprising the National Bison Range to be held in trust by the United States for the CSKT.

I wanted you all to know why we entered into these discussions. The National Bison Range was established in 1908 within the boundaries of the Flathead Reservation, home of the CSKT, for the express purpose of conserving the American bison during a time when the species was on the verge of extinction. Since then, the Service as well as our federal, state, and tribal partners have made great strides in conserving bison and re-establishing herds throughout their historic range. Also, while we have desired a meaningful partnership with CSKT at the National Bison Range, a mutually-acceptable agreement has been elusive. Given that we are today in a much better place regarding the future of bison, that we have much work to do on landscape-scale conservation efforts, and that we want to strengthen our partnership with the CSKT, we believe that now is the right time to investigate the possibility of transferring the refuge, which was long ago carved out of tribal lands, into trust for the benefit of the CSKT.

Such a proposal would require Congressional approval and therefore, at this point, we don't know if or when such a transfer would occur. Today was our first discussion with the CSKT about the idea. As we go forward, my pledge is to ensure that wherever the discussion leads us, the talented and committed staff of the National Bison Range are taken care of. To this end, Will Meeks, Mike Blenden, and I spent the afternoon at the Refuge where we talked about the ideas under discussion. In our conversations, I emphasized that they will all remain valued employees of the Service, regardless of the outcome of these discussions.

I know that many of you will have thoughts and questions about this idea. This was not an easy decision to come by, nor one that was taken lightly, but in the end, I believe that this is a good path for the Service, the CSKT, and for the conservation of our fish and wildlife resources.

As always, I value your feedback and questions.

Noreen

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

From: [Noreen Walsh](#)
To: [Munoz, Anna](#)
Cc: [Will Meeks](#)
Subject: Re: Revised Media Statement
Date: Saturday, February 06, 2016 11:03:37 AM

Thank you Anna. I've seen no media pop up yet either.

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

On Feb 6, 2016, at 10:30 AM, Munoz, Anna <anna_munoz@fws.gov> wrote:

Hi Noreen,

I wanted to let you know that we received the following media statement edits from Brian Upton last night (in bold and underlined). The previous version stated that "the lands comprising the NBR would be transferred into a federal trust for the benefit of CSKT." HQ is good with the changes but I wanted to make sure that you're aware. If you have any questions or comments, please let me know. Thus far, there have been no media inquiries.

The U.S. Fish and Wildlife Service (Service) has initiated discussions with the Confederated Salish and Kootenai Tribes (CSKT) regarding the **return of the lands comprising the National Bison Range to once again be held in federal trust** for the benefit of the CSKT. This begins a new phase in a longstanding relationship between the Service and CSKT in the conservation of the land, bison, and other natural resources comprising the National Bison Range. The Service believes now is the right time to begin the transition into trust of a refuge long ago carved out of tribal lands. This is an ongoing process that will require Congressional approval.

Anna

From: [Mike Blenden](#)
To: [Noreen Walsh](#)
Cc: [Will Meeks](#); [Anna Munoz](#); [Matt Hogan](#)
Subject: Re: Held in trust
Date: Saturday, February 06, 2016 2:16:16 PM

It seems to me that Brian's edits are consistent with these definitions. I think the lands currently comprising the National Bison Range will become "Restricted status Indian lands." I think of these as "tribal" as opposed to "allotted" lands. But I'm no expert.

Sent from my iPad

On Feb 6, 2016, at 1:44 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

Thinking about the edits to the media statement, I wanted to make sure I had a good understanding of the terminology. A good plain language explanation I found:

"A federal Indian reservation is an area of land reserved for a tribe or tribes under treaty or other agreement with the United States, executive order, or federal statute or administrative action as permanent tribal homelands, and where the federal government holds title to the land in trust on behalf of the tribe."

<http://www.bia.gov/FAQs/>

What is a federal Indian reservation?

In the United States there are three types of reserved federal lands: military, public, and Indian. A federal Indian reservation is an area of land reserved for a tribe or tribes under treaty or other agreement with the United States, executive order, or federal statute or administrative action as permanent tribal homelands, and where the federal government holds title to the land in trust on behalf of the tribe.

Approximately 56.2 million acres are held in trust by the United States for various Indian tribes and individuals. There are approximately 326 Indian land areas in the U.S. administered as federal Indian reservations (i.e., reservations, pueblos, rancherias, missions, villages, communities, etc.). The largest is the 16 million-acre Navajo Nation Reservation located in Arizona, New Mexico, and Utah. The smallest is a 1.32-acre parcel in California where the Pit River Tribe's cemetery is located. Many of the smaller reservations are less than 1,000 acres.

Some reservations are the remnants of a tribe's original land base. Others were created by the federal government for the resettling of Indian people forcibly relocated from their homelands. Not every federally recognized tribe has a reservation. Federal Indian reservations are generally exempt from state jurisdiction, including taxation, except when Congress specifically authorizes such jurisdiction.

Are there any federal Indian reservations in Alaska?

Yes, one. It is the Metlakatla Indian Community of the Annette Island Reserve in southeastern Alaska.

Are there other types of “Indian lands”?

Yes. Other types of Indian lands are:

- **Allotted lands**, which are remnants of reservations broken up during the federal allotment period of the late nineteenth and early twentieth centuries. Although the practice of allotting lands had begun in the eighteenth century, it was put to greater use after the Civil War. By 1885, over 11,000 patents had been issued to individual Indians under various treaties and laws. Starting with the General Allotment Act in 1887 (also known as the Dawes Act) until the Indian Reorganization Act of 1934, allotments were conveyed to members of affected tribes and held in trust by the federal government. As allotments were taken out of trust, they became subject to state and local taxation, which resulted in thousands of acres passing out of Indian hands. Today, 10,059,290.74 million acres of individually owned lands are still held in trust for allottees and their heirs.
- **Restricted status**, also known as restricted fee, where title to the land is held by an individual Indian person or a tribe and which can only be alienated or encumbered by the owner with the approval of the Secretary of the Interior because of limitations contained in the conveyance instrument pursuant to federal law.
- **State Indian reservations**, which are lands held in trust by a state for an Indian tribe. With state trust lands title is held by the state on behalf of the tribe and the lands are not subject to state property tax. They are subject to state law, however. State trust lands stem from treaties or other agreements between a tribal group and the state government or the colonial government(s) that preceded it.

American Indian and Alaska Native tribes, businesses, and individuals may also own land as private property. In such cases, they are subject to state and local laws, regulations, codes, and taxation.

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

From: [Randolph, Nikki](#)
To: [Megan Reed](#); [Kristine Martin](#)
Subject: Fwd: Impasse on National Bison Range Partnership Agreement Spurs Handover Scenario
Date: Monday, February 08, 2016 9:57:19 AM

FYI

----- Forwarded message -----

From: **Sellars, Roslyn** <roslyn_sellars@fws.gov>
Date: Mon, Feb 8, 2016 at 11:08 AM
Subject: Impasse on National Bison Range Partnership Agreement Spurs Handover Scenario
To: Nikki Randolph <Nikki_Randolph@fws.gov>

FYI

Roslyn

----- Forwarded message -----

From: **Robert E. Rutkowski** <r_e_rutkowski@att.net>
Date: Mon, Feb 8, 2016 at 11:00 AM
Subject: MOVE TO CEDE CROWN JEWEL REFUGE TO TRIBE
To: Paul Ryan <connect@messages.speaker.gov>, Mitch McConnell <Elizabeth_Strimer@mccconnell.senate.gov>, Dan_Ashe@fws.gov

Speaker Paul Ryan
Office of the Speaker
H-204 The Capitol
Washington, DC 20515
Phone: (202) 225-4000
Fax: (202) 225-5117

Senator Mitch McConnell
Senate Majority Leader
361-A Russell Senate Office Building
Washington, DC 20510
Phone: (202) 224-2541
Fax: (202) 224-2499

Dan Ashe
Director, U.S. Fish and Wildlife Service
1849 C Street, N.W.
Washington, D.C. 20240

Re: MOVE TO CEDE CROWN JEWEL REFUGE TO TRIBE/ Impasse on National Bison Range Partnership Agreement Spurs Handover Scenario

Dear Speaker Ryan, Senator McConnell and Director Ash:

The U.S. Fish & Wildlife Service has announced that it is now looking to support legislation transferring Montana's National Bison Range, often called the Crown Jewel of the National Wildlife

Refuge System, to a local Indian tribe. The move comes after years of failed attempts by the agency to partner with the Confederated Salish and Kootenai Tribes (CSKT), and at a time when the future of federal lands in the West is under growing controversy.

Late Friday afternoon messages by both FWS Refuge Chief Cynthia Martinez and Mountain-Prairie Regional Director Noreen Walsh indicate that talks have begun about drafting “legislation that would transfer the lands comprising the National Bison Range in Montana to be held in trust by the United States for the benefit of the CSKT.” Displaced federal Bison Range employees are assured that they “will be taken care of” without further explanation except that “options and opportunities are being discussed.”

The move stems from a deadlock after nearly six-years of fruitless negotiations between FWS and the CSKT, with Ms. Walsh indicating that “the parties have been unable to come to terms on a mutually-acceptable agreement.” This signals the failure of a third try at reaching a power-sharing pact. A 2005 agreement was summarily cancelled in 2006 by FWS due to a host of performance-related issues on the part of the CSKT, as well as reported mistreatment of FWS employees by the tribal employees. A successor 2008 agreement was invalidated in 2010 by federal court order in a lawsuit brought by PEER.

Once again, the National Bison Range is a political trading card whose conservation mission is an afterthought. This latest twist extends the “uncertainty” under which affected federal “employees have worked and lived” in the words of the Martinez email. “At least they are not handing the refuge over to the Bundy family.”

Relinquishing control of Bison Range raises concerns that extend far beyond this refuge, however:

- While Ms. Martinez claims the move “does not represent a new direction for the Refuge System,” many other tribes have similar legal status covering 18 refuges in 8 states, including all of the Alaska refuges, constituting 80% of the land area of the entire National Wildlife Refuge System. Similarly, 57 National Park Service units in 19 states are similarly situated, including parks such as Redwood, Glacier, Voyageurs, Olympic and Cape Cod National Seashore;
- There is no mention of a means to prevent recurrence of past CSKT performance problems at Bison Range. In 2006, FWS cancelled the first CSKT pact citing wide-ranging failures in bison management and husbandry, biological data collection and other issues; and
- It appears that the Service is rewarding long-standing intransigence by the CSKT in reaching an agreement which would keep the Bison Range in the National Wildlife Refuge System, and in so doing will encourage other tribes to follow the same disengaging playbook.

Legislation for the CSKT could be expected to spark demands by other tribes for similar handovers of 75 other national parks and refuges. These new talks would also require analysis of impacts under the National Environmental Policy Act, where previous FWS stumbles led to the cancellation of 2008 pact. This precedent at Bison Range may have profound implications for our entire system of national parks and refuges.

Thank you for the opportunity to bring these remarks to your attention.

Yours sincerely,
Robert E. Rutkowski

cc:

The Hon. Nancy Pelosi
House Minority Leader
United States Capitol
Washington, DC 20515

2527 Faxon Court
Topeka, Kansas 66605-2086
P/F: 1 785 379-9671
E-mail: r_e_rutkowski@att.net

--

Nikki S. Randolph
Chief, CCU
U.S. Fish and Wildlife Service
202-208-7535

*"It's my Life. it's now or never, I ain't gonna live forever, I just wanna live while I am
alive....." My hero... JBJ*

From: [Munoz, Anna](#)
To: [FW6 RO ARDs](#)
Cc: [Kenneth Ostrand](#); [Kate Miyamoto](#)
Subject: National Bison Range Internal TPs and FAQs
Date: Monday, February 08, 2016 9:58:09 AM
Attachments: [NBR INTERNAL COMMUNICATION.docx](#)

Good Morning,

I know that a number of you may be getting some questions re: our path forward re: the National Bison Range. Attached are some internal TPs and FAQs you can use with your staff. If you have any questions or they have any questions that aren't covered, please let me know.

Please note that these are for internal use only. Any and all media/external inquiries should be sent to me.

Thanks,
Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service
134 Union Blvd.
Lakewood, CO 80228
Office: 303-236-4510
Cell: 720-648-2542
Fax: 303-236-3815
anna_munoz@fws.gov

INTERNAL COMMUNICATION

Overarching Internal Messages

- The U.S. Fish and Wildlife Service (Service) is working with the Bureau of Indian Affairs (BIA) and the Confederated Salish and Kootenai Tribes (CSKT) to transfer the lands comprising the National Bison Range to be held in trust by the BIA for the benefit of the CSKT.
- The National Bison Range was established in 1908 within the boundaries of the Flathead Indian Reservation, home of the CSKT. The purpose for establishing the refuge was to conserve the American bison, which, at the time, was on the verge of extinction.
- Since that time, the Service and our partners, including other federal agencies, states, tribal nations, have made great strides in the conservation of bison across the western plains.
- Although the National Bison Range has played a historic role in this success, we are in a new era of conservation where we want to focus on landscape-scale restoration efforts. We believe the CSKT will provide for the continued conservation of bison within this area, while allowing the Service to focus its limited resources on higher priority conservation activities.
- Any transfer of lands into a trust administered by the BIA will include provisions that ensure that the transferred lands will continue to be managed for the care and maintenance of the bison herd as well as the conservation of other wildlife and natural resources.
- Transferring these lands to be held in trust for CSKT will allow the Tribes to re-establish their historic, cultural, and spiritual ties to the bison and the land.
- The Service believes that the CSKT is well equipped to manage the lands and resources that comprise the National Bison Range. They have one of the best tribal wildlife programs in the country and have been an active partner in the management of the National Bison Range. Within recent months, the tribe has purchased and now operates what was previously known as “Kerr Dam,” a major hydroelectric facility on the Flathead River. This acquisition and administration of a tribally-owned energy corporation is further testament to the tribe’s ability to manage the natural resources on their lands.
- Congressional approval is required for these lands to go from Service ownership to being held in trust by the BIA for the benefit of the CSKT.
- This proposal is not related to the current program realignment efforts being undertaken by the NWRS Program in Region 6.

Frequently Asked Questions – For Internal Use Only

How big is the National Bison Range?

The National Bison Range is 18,800 acres in size

How many bison are on the National Bison Range?

The National Bison Range supports between 350-500 bison.

How many people are employed by the National Bison Range and how will they be affected?

Our people are our top priority. Currently, the National Bison Range has seven employees and they will all remain valued members of the Service. We recognize that this may be a difficult transition for some of them as they have all contributed greatly to the conservation successes at the National Bison Range. As this process moves forward, we will be working with each of them to assess potential career options and opportunities within the Service.

Why is the Service pursuing the transfer of these lands as opposed to moving forward with an Annual Funding Agreement?

The Service's priority is to focus on landscape-scale conservation. The CSKT is more than capable of managing bison on these lands. By turning this responsibility over the Tribes, we can turn our attention to other priorities while supporting the Tribes' cultural and historic ties to this land and the bison that reside here.

Over the last 20 years, the Service has invested considerable time and resources towards the development of an AFA that would allow for us to manage the National Bison Range in partnership with the Confederated Salish Kootenai Tribes (CSKT). These efforts have been met with mixed success due to litigation, personnel management issues between Service staff and Tribal staff, and differences in expectations regarding how the agreement should be crafted. In considering a long-term solution that will allow for a greater tribal role in management of the National Bison Range, we believe that transferring these lands to the CSKT is the best solution for the Service, the Tribes, and the conservation of bison and other natural resources supported by these lands.

Background on the Service's AFA efforts to date:

In 2003, the Service began negotiating an annual funding agreement (AFA) with the CSKT. This agreement became effective in March 2005 but was terminated in late 2006, largely due to personnel management issues. Negotiations for a second agreement were initiated in early 2008. This agreement was fully implemented in early 2009 but was rescinded by the court in September 2010, not because of performance issue but, on procedural grounds related to compliance with the National Environmental Policy Act. Negotiations for a third agreement started in early 2011. This agreement was structured around the successes experienced during the second AFA and was the proposed alternative in an environmental assessment released for public comment in August 2014. A finding of no significant impact has not been signed and as a result, the AFA has not gone into effect.

Why would we give away one of our Refuges to a Tribe or any other entity?

We do not view this proposal as “giving away one of our refuges.” The National Bison Range was established in 1908 for the express purpose of conserving bison during a time when they were literally on the verge of extinction. And over the last hundred years, the National Bison Range has played a critical role in bison conservation. Since that time, the Service along with other Federal, State, and Tribal partners have made significant strides in conserving bison and re-establishing herds throughout their historic range. To this end, the Service believes that the purpose of the National Bison Range has been fully and successfully met and it is now time to focus our efforts in a different direction. By transferring these lands and bison to the CSKT under the BIA in trust, the Service can focus our limited resources on more pressing landscape-scale conservation priorities.

Are there other National Wildlife Refuges that exist wholly within the boundaries of tribal lands?

Yes. Currently 11 other refuges exist within the boundaries of tribal lands.

Is the Service considering transferring other refuge lands that are similarly situated within the boundaries of tribal land?

No., the National Bison Range is a unique situation whereby a refuge was established within a Reservation boundary for a defined purpose. Bison were on the verge of extinction, and the National Bison Range played a unique role in preventing that. The Service, as well as DOI, must constantly assess how to meet our highest conservation priorities and to respect the government-to-government relationship we have with tribal sovereign nations, like the CSKT. In this case transferring these lands, to be held in trust for the Tribes, helps us to do both. Thus, we are working with Congress to determine if the original legislation can be lawfully changed to allow for a transfer.

Are bison being conserved on other DOI Lands?

Yes. Currently six other National Wildlife Refuges (NWRs) and nine National Park Service sites, and two BLM sites are contributing to DOI’s bison conservation efforts. The other NWRs engaged in bison conservation include: Rocky Mountain Arsenal NWR (CO), Neil Smith NWR (IA), NWR (NE), Rio Mora NWR (NM), Sully’s Hill NWR (ND), Fort Niobrara, and Wichita Mountains NWR (OK).

The National Park Service lands currently engaged in bison conservation include: Wrangell-St. Elia National Park (NP) and Preserve (AK), Grand Canyon NP (AZ), Tallgrass Prairie National Preserve (KS), Theodore Roosevelt NP (MT), Wind Cave NP (SD), Badlands NP (SD), Chickasaw National Recreation Area (TX), Yellowstone NP (WY) and Grand Teton NP (WY)

In addition to bison populations being conserved on DOI lands, other federal, state, and tribal lands also support bison populations.

What needs to happen for this land transfer to occur?

Legislation would need to be passed by Congress to transfer lands owned and administered by the Service to be held by BIA in trust for the CSKT.

Who will draft the required legislation?

We are early in this process, but the Service expects to play a significant role in the drafting of legislation for the transfer of this land.

Does the CSKT have the biological expertise and/or financial resources to manage the lands and resources encompassing the National Bison Range?

We are confident that the CSKT have the resources and expertise to manage the lands, bison and other natural resources comprising the National Bison Range. They have one of the best tribal wildlife programs in the country and have been a partner in the management of the National Bison Range. We would not support this transfer if we did not believe that the CSKT were fully capable of managing these lands and bison.

The bison population on the National Bison Range has been identified as having a high genetic diversity that is important for ensuring the genetic health of other Department of Interior bison herds. How will transferring the management of these bison to CSKT impact the genetic integrity of other bison conservation efforts?

In recent years, the Service has moved bison from the National Bison Range to other refuges, effectively spreading the unique genetic stock of these animals to other locations where we will still have access to them for conservation purposes. During this transition, the Service will also consider management of important genetic stock found on National Bison Range to ensure that it is available for the long-term conservation and restoration of bison across the U.S. We expect that CSKT will continue to provide these important genetic resources to other public and tribal herds across the country to ensure the genetic viability of the National Bison Range strain.

Will public visitation still be allowed once the National Bison Range is no longer part of the National Wildlife Refuge System?

Once the land has been placed into a trust held by the BIA and management authority is transferred to the CSKT, it will be up to the Tribes to determine whether these lands will remain open to public visitation.

Currently/Recently, a group of people are claiming/have claimed, through physical occupation, that the lands comprising Malheur National Wildlife Refuge should be removed from federal ownership. Does this proposal affirm their position?

No, in the case of the occupation of Malheur NWR, unlawful actions were taken by armed occupiers to demand changes. First, the Service and CSKT have a long history of working together in the management of the National Bison Range. During this time we have forged relationships and mutual understanding that lead us to believe that the CSKT is capable of taking on the continued conservation of the lands, bison herd, and associated natural resources. Second, the Service, BIA, and the CSKT will be working cooperatively throughout this process. Lastly, this proposal will be carried out in accordance with federal law which requires that legislation be passed by Congress to transfer the lands from Service ownership to be held in trust by BIA for the benefit of CSKT.

From: [Noreen Walsh](#)
To: [Cynthia Martinez](#); [Jim Kurth](#); [Steve Guertin](#); [Betsy Hildebrandt](#); [Dan Ashe](#)
Cc: [Matt Hogan](#)
Subject: Missoulian on NBR
Date: Monday, February 08, 2016 8:40:52 PM

http://missoulian.com/news/local/fws-will-consider-transferring-national-bison-range-to-indian-tribes/article_b2533abc-91f4-5555-9be2-14a991550f05.html

Shared via the [Google app](#)

Apologies for any duplication

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

From: [Noreen Walsh](#)
To: [Cynthia Martinez](#)
Subject: FW: Request for Briefing - National Bison Range
Date: Tuesday, February 09, 2016 9:08:53 AM

See Will's question – if you will do the briefing can we support you with a paper or anything else?

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Will Meeks [mailto:will_meeks@fws.gov]
Sent: Tuesday, February 09, 2016 8:40 AM
To: Anna Munoz
Cc: Noreen Walsh; Matt Hogan
Subject: Re: Request for Briefing - National Bison Range

Can you inquire if they need a bp prepared?

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0319 (c)

On Feb 9, 2016, at 8:09 AM, Anna Munoz <anna_munoz@fws.gov> wrote:

FYI

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service
[134 Union Blvd.](#)
[Lakewood, CO 80228](#)
Office: [303-236-4510](tel:303-236-4510)
Cell: [720-648-2542](tel:720-648-2542)

Begin forwarded message:

From: "Mogadam, Roya" <roya_mogadam@fws.gov>
Date: February 9, 2016 at 8:01:33 AM MST
To: Anna Munoz <anna_munoz@fws.gov>
Subject: Fwd: Request for Briefing - National Bison Range

FYI.

----- Forwarded message -----

From: **Mogadam, Roya** <roya_mogadam@fws.gov>

Date: Tue, Feb 9, 2016 at 10:01 AM

Subject: Request for Briefing - National Bison Range

To: Cynthia Martinez <cynthia_martinez@fws.gov>, Shaun Sanchez <shaun_sanchez@fws.gov>

Cc: Martin Kodis <martin_kodis@fws.gov>, Angela Gustavson <Angela_Gustavson@fws.gov>

Morning Cynthia-

Congressman Zinke's (R-MT-AL) office is requesting a briefing on the National Bison Range. They would like us to come up and give them a brief history and our process for moving forward. They are also meeting with lawyers from one of the tribes this week.

Would you be available next week to meet with them? Maybe on Tuesday before the 2:00ET Hill briefing on monuments? They are in Cannon so it would be a quick walk from Cannon to the 2:00 in Longworth.

-Roya

--

Roya Mogadam
Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Roya_Mogadam@fws.gov
703-358-2128

--

Roya Mogadam
Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Roya_Mogadam@fws.gov
703-358-2128

From: [Noreen Walsh](#)
To: [Matt Kales](#)
Subject: RE: Quick updates
Date: Tuesday, February 09, 2016 9:58:26 AM

Sure, that would be helpful. Thank you

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920

From: Matt Kales [mailto:matt_kales@fws.gov]
Sent: Tuesday, February 09, 2016 9:58 AM
To: Noreen Walsh
Subject: RE: Quick updates

It definitely is, and if I was a smarter man I would have taken an alternate route to work this morning.

I am heading to a meeting with Clint in a moment, but for now I'll offer I have heard very little about the NBR issue you wrote on last Friday, both internally and in external arenas. At the same time, I've been immersed in sage the last few days (years) so my antennae don't always turn 360 degrees so I may simply may not be picking up stuff on this.

If it helpful, I am happy to forward what I wrote to Matt Hogan after I read your original message.

From: Noreen Walsh [mailto:noreen_walsh@fws.gov]
Sent: Tuesday, February 09, 2016 9:51 AM
To: Matt Kales
Subject: RE: Quick updates

I don't know! I didn't know the parade was today. Sorry for your trouble, but isn't it worth it for a SUPERBOWL WIN?? 😊

Hey, can you tell me any feedback? I wonder how Friday's email about that MT issue is playing in Peoria.....what are you hearing?

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

303 236 7920

From: Matt Kales [mailto:matt_kales@fws.gov]
Sent: Tuesday, February 09, 2016 9:45 AM
To: Noreen Walsh
Subject: RE: Quick updates

No, we hadn't. I fear CLA pulled the trigger too soon but didn't want to throw them under the bus in front of a larger audience. Either way, we'll make it right.

From: Noreen Walsh [mailto:noreen_walsh@fws.gov]
Sent: Tuesday, February 09, 2016 9:44 AM
To: Matt Kales
Subject: RE: Quick updates

It wasn't clear to me if you guys already had Gary's feedback when I saw his note this morning

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Matt Kales [mailto:matt_kales@fws.gov]
Sent: Tuesday, February 09, 2016 9:37 AM
To: Noreen Walsh
Subject: RE: Quick updates

Great; thanks. Hopefully, the reference to the Amodei item provided some context on the larger chain to which I just responded.

From: Noreen Walsh [mailto:noreen_walsh@fws.gov]
Sent: Tuesday, February 09, 2016 9:35 AM
To: Matt Kales
Subject: RE: Quick updates

This one? Yes 😊
Most helpful

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service*

FWS-001088

From: Matt Kales [mailto:matt_kales@fws.gov]
Sent: Monday, February 08, 2016 3:39 PM
To: Noreen Walsh
Subject: Quick updates

Hi. Hope your travels today went smoothly. Please see below some items FYSA that may be useful in sagebrush conversations this week. Thanks.

- A revised federal implementation plan framework is pending per your comments on the draft.
- Hill visits the last week of April are moving forward per the earlier chain from HQ I forwarded. Also, I saw the chain you forwarded from Gary; Nicole, Mary and I are helping CLA refine related briefing materials on the issues Mr. Amodei raised.
- Nicole, Mary and I are meeting with Shauna later this week to get her expert feedback on specific needs re: the mitigation coordination item we flagged for you and the RDs earlier.
- Anna M. and I met today to brainstorm an approach for the 2/17 call with Audubon. We will speak with Brian R. this week to get some more intel/perspective and adjust our approach as necessary before our pre-call meeting with you on 2/16.
- I am meeting with Clint tomorrow to try and get some more information about MB work in sagebrush (which will in turn inform what tasks we offer to Will's detailee).
- I spoke with Scott Aikin last week and he agreed to facilitate a conversation with the ARDs-EA, their tribal liaisons, and Steve T. to line out next steps re: tribal engagement in the sage.
- Lief reports things are moving forward with CED 2.0. Please let me know if at any point you want/need a more detailed status report on same.
- Lindy reports the action plan team coming out of the WIWS is convening in early March and she is currently working with that group to identify agenda items and desired outcomes.

Matt Kales, Senior Adviser for Sagebrush Ecosystem Conservation
Office of the Regional Director
US Fish and Wildlife Service, Mountain-Prairie Region
Office: (303) 236-4576
Mobile: (720) 234-0257

From: [Noreen Walsh](#)
To: [Matt Kales](#)
Subject: RE: Discussion with the CSKT about the National Bison Range
Date: Tuesday, February 09, 2016 11:17:50 AM

Thanks, I appreciate the feedback. The “2x” has come up – from one person to me. I’d be glad to share the history as I know it when we have a chance to talk. It’s pretty interesting.

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Matt Kales [mailto:matt_kales@fws.gov]
Sent: Tuesday, February 09, 2016 10:03 AM
To: Noreen Walsh
Subject: Fwd: Discussion with the CSKT about the National Bison Range

Nothing super novel here but my initial reaction after reading your message.

Begin forwarded message:

From: Matt Kales <matt_kales@fws.gov>
Date: February 5, 2016 at 6:57:58 PM MST
To: matt_hogan@fws.gov
Subject: Fwd: Discussion with the CSKT about the National Bison Range

Good talking with you earlier. Just read this and think it's a really well-conceived message and I credit you and Noreen and other Service leadership for seeking a path forward on this tough issue.

Beyond the item we discussed about leveraging a transfer, and some mild flashbacks from the tense time when we terminated the original AFA, my only immediate thought is the statement that the refuge was "carved out" of tribal land may prove controversial in external conversations: opponents of any relationship between the Range and the CSKT will likely be quick to point up the United States paid - 2x - for the land that is the refuge. I don't pretend to know the "truth" on that matter but it was and may still be a lightning rod aspect of the issue.

Lots to think about and I expect I'll have further thoughts to share but on its face I see this as a wise, profitable and long-overdue approach to pursue.

Best,

Matt

Begin forwarded message:

From: Noreen Walsh <noreen_walsh@fws.gov>
Date: February 5, 2016 at 4:12:44 PM MST
To: FW6 All Employees <fw6_all_employees@fws.gov>
Subject: Discussion with the CSKT about the National Bison Range

Dear Mountain-Prairie Region,

I want to inform you of a discussion the Service started today with the Confederated Salish and Kootenai Tribes (CSKT) regarding the National Bison Range. Many of you know that we have been working with the CSKT for about 20 years on the idea of a partnership at the National Bison Range that would be outlined in an Annual Funding Agreement which would allow them to manage and implement some of the activities on the refuge. This process has required much time and effort on the part of many, and despite valiant efforts all around, the parties have been unable to come to terms on a mutually-acceptable agreement.

In an effort to achieve the best, long-term solution for our many conservation priorities, the specific conservation goals of the National Bison Range, and to support the principles of Indian self-determination there was a discussion today with the CSKT about the potential for the Service to support legislation that would transfer the lands comprising the National Bison Range to be held in trust by the United States for the CSKT.

I wanted you all to know why we entered into these discussions. The National Bison Range was established in 1908 within the boundaries of the Flathead Reservation, home of the CSKT, for the express purpose of conserving the American bison during a time when the species was on the verge of extinction. Since then, the Service as well as our federal, state, and tribal partners have made great strides in conserving bison and re-establishing herds throughout their historic range. Also, while we have desired a meaningful partnership with CSKT at the National Bison Range, a mutually-acceptable agreement has been elusive. Given that we are today in a much better place regarding the future of bison, that we have much work to do on landscape-scale conservation efforts, and that we want to strengthen our partnership with the CSKT, we believe that now is the right time to investigate the possibility of transferring the refuge, which was long ago carved out of tribal lands, into trust for the benefit of the CSKT.

Such a proposal would require Congressional approval and therefore, at this point, we don't know if or when such a transfer would occur.

Today was our first discussion with the CSKT about the idea. As we go forward, my pledge is to ensure that wherever the discussion leads us, the talented and committed staff of the National Bison Range are taken care of. To this end, Will Meeks, Mike Blenden, and I spent the afternoon at the Refuge where we talked about the ideas under discussion. In our conversations, I emphasized that they will all remain valued employees of the Service, regardless of the outcome of these discussions.

I know that many of you will have thoughts and questions about this idea. This was not an easy decision to come by, nor one that was taken lightly, but in the end, I believe that this is a good path for the Service, the CSKT, and for the conservation of our fish and wildlife resources.

As always, I value your feedback and questions.

Noreen

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

From: [Dan Ashe](#)
To: [Black, Michael](#)
Cc: [Robert Dreher](#)
Subject: Re: National Bison Range
Date: Wednesday, February 10, 2016 10:03:13 PM

Sorry I missed you Mike. I'll call in the morning.

Dan.

Sent from my iPhone

> On Feb 10, 2016, at 2:38 PM, Black, Michael <mike.black@bia.gov> wrote:

>

> Dan and Bob,

>

> Wanting to touch base with you guys regarding a call I received this morning and a follow up meeting I have this afternoon at 3:30 with the Tribe. Apparently there has been some issues related to our discussions last week and the anti-compact/anti-tribal groups.

>

> Anyways, if you could give me a call when you get a chance we can talk thru it.

>

> 202-513-7631 or 406-855-8396.

>

> Thanks, Mike

From: [Will Meeks](#)
To: [Mogadam, Roya](#)
Cc: [Munoz, Anna](#); [Noreen Walsh](#); [Matt Hogan](#); [Martin Kodis](#)
Subject: Re: NBR revenue sharing
Date: Thursday, February 11, 2016 7:08:51 AM

Happy to help the week I am there . . . Just let me know if I should plan on it.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

On Feb 11, 2016, at 7:31 AM, Mogadam, Roya <roya_mogadam@fws.gov> wrote:

Thanks Anna for pulling this together.

We are looking at scheduling Hill meetings for next week with Cynthia with the following offices:

- Zinke
- Daines
- Tester
- House Natural Resources Minority

We have a very limited block of time next week so if we cannot get some of these scheduled we may push to Wednesday the following week when Will is in town.

-Roya

On Wed, Feb 10, 2016 at 6:58 PM, Munoz, Anna <anna_munoz@fws.gov> wrote:

Hi All,

Please see the e-mail below for information on revenue sharing associated with NBR. If you have any follow-up questions, please let me know.

National Bison Range is located in two counties: Lake and Sanders, MT.

Revenue share is paid to counties on fee acres only, not easement, and is based on the total Congressional appropriation for the program nationally. In recent years, the revenue sharing program has only been funded by Congress at approximately 22-25% of its full allocation, thereby resulting in an across-the-board proportional reduction to all impacted counties (% of full entitlement).

- Lake County fee acres: 8,678
- Sanders County fee acres: 10,122

- Total NBR fee acres: 18,800 as of FY2015

<image.png>

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

--

Roya Mogadam
Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Roya_Mogadam@fws.gov
703-358-2128

From: [Black, Michael](#)
To: [Dan Ashe](#)
Cc: [Robert Dreher](#)
Subject: Re: National Bison Range
Date: Thursday, February 11, 2016 8:09:28 AM

Thanks Dan, the tribe would definitely appreciate that. Give me a call whenever you have a chance.

Mike

On Wed, Feb 10, 2016 at 11:06 PM, Dan Ashe <d_m_ashe@fws.gov> wrote:

We will be happy to issue a joint statement. Let's talk tomorrow.

Sent from my iPhone

> On Feb 10, 2016, at 9:16 PM, Robert Dreher <robert_dreher@fws.gov> wrote:

>

> Thanks, Mike.

>

> Sent from my iPhone

>

>> On Feb 10, 2016, at 6:21 PM, Black, Michael <mike.black@bia.gov> wrote:

>>

>> Dan and Bob,

>>

>> Just following up on my meeting the CSKT Chairman earlier. (b) (5) DPP

They also said they had visited with Sen. Tester and Rep. Zinke from MT, and that both of them were very positive and supportive as well.

>>

>> The one ask they had was the possibility of a statement from your office, or some kind of joint statement. (b) (5) DPP

>>

>> I told them I would pass the message on to the both of you, and ask that someone get back to them.

>>

>> All in all a very positive meeting. Let me know if you have any questions.

>>

>> Thanks, Mike

From: [Cynthia Martinez](#)
To: [D.M.Ashe](#); [Noreen Walsh](#); [Jim Kurth](#); stephen_quertin@fws.gov
Subject: Fwd: Briefing on NBR for AWCP
Date: Thursday, February 11, 2016 9:35:14 AM

FYI, I let Susan know that we would attend. Happy to have a conversation about who might be the best to attend.

Thanks
Cynthia

Begin forwarded message:

From: "Recce, Susan" <SRecce@nrahq.org>
Date: February 10, 2016 at 4:21:47 PM EST
To: "cynthia_martinez@fws.gov" <cynthia_martinez@fws.gov>
Cc: Len Vallender <lvallen491@aol.com>
Subject: Briefing on NBR for AWCP

Hi Cynthia,

The American Wildlife Conservation Partners is having a one-day meeting Tuesday, March 15th in Pittsburgh during the North American Conference. It has been suggested that we add the National Bison Range issue to the agenda given that it is on the front burner with many asking questions being asked about it within our community. I am copying Len Vallender on this email because he, representing Campfire Club of America, is the 2016 chair of AWCP. We would like to see if you are available to give AWCP a briefing on this topic. If you are not available, would you have someone on your staff who could?

Thanks so much,
Susan

From: [Noreen Walsh](#)
To: [Cynthia Martinez](#); [Dan Ashe](#); [Jim Kurth](#); [Stephen Guertin](#)
Subject: RE: Briefing on NBR for AWCP
Date: Thursday, February 11, 2016 11:36:26 AM

Happy to help however I can.

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Cynthia Martinez [mailto:cynthia_martinez@fws.gov]
Sent: Thursday, February 11, 2016 7:29 AM
To: D M Ashe; Noreen Walsh; Jim Kurth; stephen_guertin@fws.gov
Subject: Fwd: Briefing on NBR for AWCP

FYI, I let Susan know that we would attend. Happy to have a conversation about who might be the best to attend.

Thanks
Cynthia

Begin forwarded message:

From: "Recce, Susan" <SRecce@nrahq.org>
Date: February 10, 2016 at 4:21:47 PM EST
To: "'cynthia_martinez@fws.gov'" <cynthia_martinez@fws.gov>
Cc: Len Vallender <lvallen491@aol.com>
Subject: Briefing on NBR for AWCP

Hi Cynthia,

The American Wildlife Conservation Partners is having a one-day meeting Tuesday, March 15th in Pittsburgh during the North American Conference. It has been suggested that we add the National Bison Range issue to the agenda given that it is on the front burner with many asking questions being asked about it within our community. I am copying Len Vallender on this email because he, representing Campfire Club of America, is the 2016 chair of AWCP. We would like to see if you are available to give AWCP a briefing on this topic. If you are not available, would you have someone on your staff who could?

Thanks so much,

Susan

From: [Betsy Hildebrandt](#)
To: [Dan Ashe](#)
Subject: Re: National Bison Range
Date: Friday, February 12, 2016 6:17:49 PM

(b) (5) DPP

Sent from my iPhone

On Feb 12, 2016, at 5:49 PM, Dan Ashe <d_m_ashe@fws.gov> wrote:

(b) (5) DPP

Let's talk Monday.

Sent from my iPhone

On Feb 12, 2016, at 5:34 PM, Betsy Hildebrandt <betsy_hildebrandt@fws.gov> wrote:

(b) (5) DPP

Sent from my iPhone

Begin forwarded message:

From: "Ryan C. Rusche" <ryan.cskt@gmail.com>
Date: February 12, 2016 at 2:34:37 PM EST
To: Betsy Hildebrandt <Betsy_Hildebrandt@fws.gov>
Cc: Betsy Hildebrandt
<Betsy_Hildebrandt@ios.doi.gov>, Betsy Hildebrandt
<betsyhildebrandt@gmail.com>, Brian Upton
<brianu@cskt.org>, Ryan Rusche
<ryan.rusche@cskt.org>
Subject: National Bison Range

Ms. Hildebrandt:

Yesterday Director Ashe contacted Confederated Salish and Kootenai Tribal Chairman Vernon Finley and discussed the possibility of issuing a joint statement on USFWS's recent proposal on the National Bison Range. We were very encouraged by this news and look forward to working with the Service on this. On Director Ashe's recommendation, Chairman Finley asked my colleague, Brian Upton, and I to contact you about facilitating such a statement. In the interest of moving this along, Mr. Upton drafted the following

proposed statement for your consideration. We are not sure exactly what you or Director Ashe had in mind, but thought this might be a good starting point. Of course, we are open to any and all thoughts you may have.

If you would like to discuss this by telephone, please feel free to call me at (406) 890-8450. Mr. Upton is traveling today, but I should be able to patch him in on the road. The proposed statement is as follows:

"Last week, the U.S. Fish & Wildlife Service proposed that the United States restore the National Bison Range lands to federal trust status for the Confederated Salish and Kootenai Tribes. The federal government would continue to own the property in trust for the Tribes, with a requirement that the land continue to be managed for bison conservation purposes. These discussions were initiated because of the highly unique facts underlying the situation at the National Bison Range, which is located in the center of the Flathead Indian Reservation. Both parties have been actively involved in bison management at the Range, and both parties recognize the Tribes' role in stewarding the nation's last remaining bison at a time when they were literally on the brink of extinction. We look forward to jointly continuing our discussions, and ensuring continued bison conservation management and public access at the Bison Range."

Best,

Ryan C. Rusche and Brian Upton
Attorneys
Confederated Salish and Kootenai Tribes of the Flathead
Reservation

From: [Bulletin Intelligence](#)
To: Interior@BulletinIntelligence.com
Subject: U.S. Department of the Interior News Briefing for Tuesday, February 16, 2016
Date: Tuesday, February 16, 2016 7:03:13 AM

U.S. DEPARTMENT OF THE INTERIOR NEWS BRIEFING

Mobile version and searchable archives available at interior.bulletinintelligence.com. Please [contact](#) Public Affairs with subscription requests, questions or comments.

DATE: TUESDAY, FEBRUARY 16, 2016 7:00 AM EST

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- + House Natural Resources Subcommittee Hears Testimony On Historical Site Conservation Bills.
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DOI in the News:

OBAMA DESIGNATES THREE NEW NATIONAL MONUMENTS IN SOUTHERN CALIFORNIA. The White House announced on Friday that President Obama designated three new national monuments in the California desert. According to an information sheet, the White House says the new monuments will encompass “nearly 1.8 million acres of America’s public lands,” and will “nearly double the number of acres of public lands previously protected as national monuments by President Obama – demonstrating the Administration’s strong commitment to aggressive action to protect the environment for future generations.” The new monuments will “link already protected lands, including Joshua Tree National Park, Mojave National Preserve, and fifteen congressionally-designated Wilderness areas, permanently protecting key wildlife corridors and providing plants and animals with the space and elevation range that they will need in order to adapt to the impacts of climate change.” The new monuments are Mojave Trails National Monument, Sand to Snow National Monument and Castle Mountains National Monument.

The [Washington Post](#) (2/12, Eilperin, 8.98M) reported the monuments create “the world’s second-largest desert preserve” and nearly double “the amount of land [Obama] has unilaterally protected while in office,” giving rise to opposition to Obama’s use of executive powers. House Natural Resources Committee Chairman Rob Bishop (R-UT) called it “presidential bullying.” On the other side, Agriculture Secretary Tom Vilsack said, “Sand to Snow’s peaks and valleys have long provided physical and spiritual sustenance to native people,” adding, “they are also an inspiration and recreational beacon to millions.”

The [AP](#) (2/16, Rogers) pointed out the “Mojave Trails National Monument, at 1.6 million acres, is by far the largest of the three new ones.” The article described the lands. [US News & World Report](#) (2/12, 853K) also carried the AP report. [The Hill](#) (2/16, Cama, 862K) cited Sen. Dianne Feinstein’s (D-CA) support for the monument designations. The BLM, the NPS, and the Forest Service will manage the lands, which were “already owned by the federal government.”

[McClatchy](#) (2/15, Doyle, 22K) quotes Interior Secretary Sally Jewell’s statement that “the California desert is a cherished and irreplaceable resource for the people of Southern California.” Jewell also said “valid existing” uses of the affected lands will continue, including those of the US military. [Reuters](#) (2/12, Bernstein) reported similarly, and its report was also carried by [Philly \(PA\)](#) (2/12, Bernstein, 822K) and [Yahoo! News](#) (2/12, Bernstein, 6.31M).

[Greenwire](#) (2/12, Jacobs, Subscription Publication) explained the monument designation “shields the land from any new mining and other industrial activities, including solar and wind farms.” Jewell reportedly “applauded the designations in San Bernardino and Riverside counties.” Jewell said in a statement, “Today’s designation by the President furthers the longstanding work of public land managers and local communities to ensure these areas will remain preserved and accessible to the public for future generations.”

The [Sierra \(CA\) Sun Times](#) (2/15) carries the press release from the Interior Department. Additional coverage was provided by [My News LA \(CA\)](#) (2/12, Sklar), [Tech Times](#) (2/14, Pascual, 173K), and [The Guardian \(UK\)](#) (2/12, Milman, 3.71M).

Western Lawmakers Concerned By “Federal Overreach” In Obama’s National Monument Strategy.

The [Christian Science Monitor](#) (2/13, Jonsson, 442K) discussed how President Obama’s Friday decision to establish three new national monuments, the Mojave Trails, Sand to Snow, and Castle Mountains, in California “smacks of federal overreach” to critics. The article said “the reaction to Obama’s use of executive powers to protect these natural resources highlights the shifts in thinking around public lands

and the impact of federal policy on Americans who live and work in the West.”

JEWELL DISCUSSES NATIONAL MONUMENTS AT ALASKA WILDERNESS LEAGUE EVENT. The [Seattle Post-Intelligencer](#) (2/15, Connelly, 663K) reports that US Interior Secretary Sally Jewell was “honored Saturday night by the Alaska Wilderness League” following the creation of three new national monuments, but that the group proceeded to pitch “designation of a new national monument on land in Alaska’s Arctic National Wildlife Refuge that is coveted by Big Oil.” Jewell “joked” in responding, “Everybody is coming to me with their wish list.” Jewell added, “The fact is you do not see the land of man,” but also said “There’s a lot of oil under there.” The article describes how in recent months, Jewell “has lately been at work on everything from monuments to the role of indigenous people in protecting lands, to a global anti-poaching initiative which has taken her to Africa and Southeast Asia.” At the event Jewell said of Obama, “He does not have the outdoor affinity that I do except for Hawaii. He is a creature of the beach.”

PHILANTHROPIST DONATES \$18.5 MILLION TO RENOVATE LINCOLN MEMORIAL. The [AP](#) (2/15, Barakat) reports that on Monday the NPS announced philanthropist billionaire David Rubenstein donated \$18.5 million to refurbish the Lincoln Memorial and other icons, with the money slated to “be used to fix the memorial’s roof, clean Lincoln’s statue, repair marble panels and improve accessibility by adding a second elevator.” The NPS “also plans to create 15,000 square feet of visitor space in the cavernous space below the memorial for education.” NPS Director Jonathan Jarvis said the memorial is “pretty stout, and...has held up quite well for a structure of its age,” but added, “you can’t build a 100-year roof.” The [Washington Times](#) (2/15, Barakat, 285K), the [Washington \(DC\) Post](#) (2/15, Barakat, 8.98M), the [Christian Science Monitor](#) (2/15, Barakat, 442K), the [Houston \(TX\) Chronicle](#) (2/15, Barakat, 1.99M), the [Chicago \(IL\) Tribune](#) (2/15, Services, 2.17M), [Philly \(PA\)](#) (2/15, Barakat, 822K), also carry this story.

The [Washington Post](#) (2/15, Ruane, 8.98M) says the planned repairs will likely be “the biggest overhaul of the building since the structure was dedicated in 1922,” according to officials. Rubenstein said in an interview last week, “the idea was to take the basic Lincoln Memorial and reshape it a bit, make it more modern, scrub it up a bit,” and to add an education center about Lincoln. National Mall and Memorial Parks superintendent Gay Vietzke said the memorial “has become symbolic of so much more.” Jarvis said last week, “When we build the new exhibit and visitor-use space, it will...give the public an opportunity to actually see underneath the memorial,” adding that he “feel[s] great” about the renovations.

The [Chicago Sun-Times](#) (2/15, Merda, 764K) quotes US Secretary of the Interior Sally Jewell’s statement: “His act of ‘patriotic philanthropy’ will not only safeguard one of our most visited and recognizable memorials for future generations, but will also help preserve Lincoln’s legacy to this country.” [UPI](#) (2/15, Ware) further quotes Jewell as saying, “This generous donation by David Rubenstein, his fourth to benefit national parks, comes at a perfect time as our national parks usher in a new century of service to this nation.”

The [Washington Times](#) (2/15, Mcdermott, 285K) cites Rubenstein saying his donation aims to “help people better understand Lincoln’s leadership during a trying time.” The article adds that the NPS “is expected to spend about \$6 million of its own money” toward the project, and paraphrases Jewell as saying the NPS “is in desperate need of donation.” Jewell said “From my office I’ve watched the roof of the Jefferson Memorial get browner and browner.”

[Reuters](#) (2/16) reports similarly, and is also carried by [Yahoo! News](#) (2/16, 6.31M), [Philly \(PA\)](#) (2/15, 822K), and the website of [AOL](#) (2/15, 6.15M). [WTOP-FM Washington \(DC\)](#) Washington (2/18, 255K) and the [Minneapolis \(MN\) Star Tribune](#) (2/15, 1.25M) provide photographic coverage online. [TIME](#) (2/15, Reilly, 18.01M) also covers this story.

IN FASTEST-EVER SPECIES RECOVERY, FWS RECOMMENDS DELISTING CALIFORNIA FOXES. The [AP](#) (2/12) reported in its “The Latest” brief that on Friday the FWS said “years of work to monitor” the population of three island fox subspecies native to California’s Channel Islands, to vaccinate them against diseases and to “relocate non-native predators have resulted in the historic recovery” of the subspecies that “were once on the brink of extinction.” The FWS also recommended foxes on Santa Catalina Island “be reclassified from endangered to threatened, saying the potential for disease outbreak is a remaining

threat” to that subspecies. The FWS “says it’s the fastest successful recovery of any mammal listed” under the ESA. This report was also carried by the [Washington \(DC\) Post](#) (2/12, 8.98M) and the [Houston \(TX\) Chronicle](#) (2/12, 1.99M).

In lengthier coverage, the [Los Angeles Times](#) (2/12, Sahagun, 4.1M) said a “remarkably successful recovery effort” by the FWS led to the delisting recommendation for subspecies. The Times explained the population of Santa Catalina Island foxes “crashed to roughly 100 in 1999 because of a canine distemper epidemic.” The San Miguel, Santa Rosa and Santa Cruz Island foxes “were classified as endangered in 2004 after suffering catastrophic declines primarily because of predation by Golden eagles.” FWS Director Dan Ashe said, “The speed at which these subspecies have recovered points to the strength of the endangered species act in focusing conservation attention and catalyzing recovery actions, and demonstrates what we can achieve together.”

[National Parks Traveler](#) (2/14, 989) paraphrased the FWS press release as stating the “best available scientific data now suggests that populations of these island fox subspecies have recovered to self-sustaining levels.” Ashe is further quoted as saying, “The remarkable recovery efforts of land managers and conservation partners over the past two decades on behalf of the Channel Island fox is the reason for this historic recovery success.” Ashe added, “We look forward to continuing our collaborations with land managers and conservation partners on Santa Cruz, Santa Rosa, San Miguel and Santa Catalina Islands. ... Together, we will continue to monitor island fox populations to ensure their long-term survival in the wild.”

[E&E Publishing](#) (2/12, Hiar, Subscription Publication, 705) added that “the only species that have recovered faster or as fast are Eggert’s sunflowers, with an eight-year recovery, and Lake Erie water snakes, which took 12 years.” Additional coverage was provided by the [Santa Barbara \(CA\) Noozhawk](#) (2/15, Potthoff, 210), [Nature World News](#) (2/14) and [Solo News \(ITA\)](#) (2/15).

THREATENED BAT SPECIES UNLIKELY TO DISRUPT CASINO CONSTRUCTION IN INDIANA. The [AP](#) (2/14) reported “a less restrictive rule taking effect this month” will allow the Pokagon Band of Potawatomi Indians to construct an 18-story casino in South Bend, IN despite a rule proposed by the FWS in April that would’ve prohibited development on potential northern long-eared bat habitat. The threatened species now only receives protection “on sites known to contain roosting trees.” The AP paraphrased FWS field supervisor Scott Pruitt’s statement to the [South Bend \(IN\) Tribune](#) (2/5, Parrott, 184K) that “the database for Indiana contains no records of roosting trees on the 165-acre site in South Bend where the tribe wants to build its development.”

The AP story is also carried by the [Times of Northwest Indiana](#) (2/14, 283K), the [Houston \(TX\) Chronicle](#) (2/14, 1.99M), and the [Washington \(DC\) Times](#) (2/14, 285K).

Groups To Sue FWS Over Possible Bat Habitat Destruction. [Greenwire](#) (2/12, Skibell, Subscription Publication) reported four environmental groups said on Friday they plan to sue the FWS for permitting “logging and habitat destruction” for the northern long-eared bats. Despite disease causing the bat’s decline, the groups claimed “habitat loss is also a contributing factor...because the animals require large, uninterrupted swaths of forest for foraging, migrating and roosting.” The FWS’ new rule would allow “logging, coal mining, pesticide use, oil and gas projects, and pipeline construction in the areas where the bats live.”

ENVIRONMENTALISTS PERMITTED TO INTERVENE IN SAGE GROUSE LITIGATION. The [AP](#) (2/14, Sonner) reported that late last month US District Judge Miranda Du permitted three national conservation groups to intervene in Idaho Gov. C.L. “Butch” Otter’s (R) lawsuit against the Obama Administration that contends “land use planning amendments impose unnecessary restrictions on activities in or near grouse habitat.” Neither the Governor nor the Administration objected to the intervention, but other parties opposed the introduction of new elements “in an already complicated case expected to drag well into the summer in Reno.” Du decided the conservation groups should be allowed to intervene “because of their more narrowed focus (on) environmental protections in contrast to the agencies’ broader land management interests.”

This story was also carried by the [Houston \(TX\) Chronicle](#) (2/14, Sonner, 1.99M), the [Denver \(CO\) Post](#) (2/14, 881K), the [Washington \(DC\) Times](#) (2/14, Sonner, 285K), the [Elko \(NV\) Daily Free Press](#) (2/15, 22K), [Montana Kaimin](#) (2/15, 11K), and on the website of [KTNV-TV Las Vegas \(NV\)](#) Las Vegas (2/15, 27K).

IMAX FILM “NATIONAL PARKS ADVENTURE” RECEIVES POSITIVE REVIEWS. The [AP](#) (2/14, Harpaz) continued coverage of the new IMAX movie, “National Parks Adventure,” which debuted Friday, celebrating “the beauty and thrills of America’s parks.” The [Clark County \(WA\) Columbian](#) (2/13, 94K) and the [Paducah \(KY\) Sun](#) (2/13, 61K) also carried the AP story. [Greenwire](#) (2/12, Subscription Publication) quoted MacGillivray Freeman Films Director Greg MacGillivray as praising the 3-D movie medium, saying, “When something spectacular happens in an Imax film, audiences remember it like it’s a firsthand experience.” The movie “follows three adventurers led by elite climber Conrad Anker through some of the country’s most famous landscapes.” MacGillivray said the film “fills you with a reverence for what nature can do.”

[Skift](#) (2/14) said the movie, narrated by Robert Redford, stars “geysers, red rock canyons, mountaintops and redwood forests.” According to Skift, “the emphasis on adventure and not just beauty and history is a way of furthering the National Park Service’s efforts to attract millennials.” The article quoted NPS Director Jon Jarvis’ statement that the service aims to “connect with the next generation of park visitors, supporters and advocates.”

The [Los Angeles Times](#) (2/12, King, 4.1M) highlighted the “eye-popping footage” in its review of the movie. MacGillivray expressed gratitude for the production team’s “incredible access to the parks,” saying “the people in Washington, D.C., were able to help us a lot as far as navigating and working with each park to get the best possible shots.”

In its review of the film, the [Miami Herald](#) (2/15, Granfield, 803K) calls the soundtrack “superb,” as it “adds to the upbeat momentum of rushing waterfalls, towering canyons and other sweeping scenes.” The Herald also praises the NPS’ use of the IMAX medium. However, in assessing content the Herald concludes, “Though the film highlights threats that happened before the National Park’s formation, such as the near extinction of redwoods for lumber, it falls short of engaging the audience with ongoing threats and controversial practices within and around the parks.” NPS Ranger Gary Bremen said, “The centennial is a great opportunity for people to get out and experience the beauty of national parks. ... No matter what your interest is, there’ll be something for you.”

Additional coverage is provided by the website of [KSTU-TV](#) Salt Lake City (2/14, 165K) and the [Uniontown \(PA\) Herald-Standard](#) (2/15, 44K).

Empowering Native American Communities:

GOOGLE CULTURAL INSTITUTE TO OFFER NPS ARTIFACTS IN ONLINE MUSEUM. [Indian Republic](#) (2/15, Nehru) reports Secretary Jewell “was in Tuskegee Thursday to make a big announcement involving a public-private partnership with Google.” The Google Cultural Institute will be putting many artifacts from the National Park Service in its online museum.

BIA, FBI INVESTIGATING STABBING DEATH ON UTE MOUNTAIN UTE RESERVATION. The [Denver Post](#) (2/16, 881K) reports on the investigation into the stabbing death of Keisha Meya Colorow at the Ute Mountain Ute reservation on Monday. The US Attorney’s spokesman Jeff Dorschner said that “no arrests have been made,” but that both the Bureau of Indian Affairs and FBI “are investigating.”

Tackling America’s Water Challenges:

SANTA CLARA VALLEY WATER DISTRICT URGED TO SUPPORT TWIN TUNNELS. Derrick Seaver of the San Jose Silicon Valley Chamber of Commerce and Josué García of the Santa Clara & San Benito Counties Building and Construction Trades Council write in an op-ed for the [San Jose \(CA\) Mercury News](#) (2/15, Seaver, García, 648K) that the Santa Clara Valley Water District should support the

California Water Fix. “It is absolutely vital to ensure reliable, secure water for our region and to protect the health of the failing Delta.” They note that Bay Area water districts supply “Lawrence Livermore National Laboratory, Oracle, AT&T, and many biotech and medical research firms.”

BUDGET WOULD BOOST FUNDS FOR LAND AND WATER CONSERVATION, IMPOSE FEE ON HARDROCK MINING. The [Durango \(CO\) Herald](#) (2/12, Graham, 31K) reports the Administration’s budget “would invest hundreds of millions of dollars in environmental causes to the benefit of Colorado and other Western states.” That includes funding for “land and water conservation...water sustainability efforts and...fees on hardrock mining.” It would spend \$900 million for the Land and Water Conservation Fund. It would also impose a fee on hardrock mining, the revenue to be used for “remediating abandoned mine sites.” It would also include “\$98.6 million for WaterSMART programs, with \$61.5 million for water sustainability efforts through (the Bureau of) Reclamation.”

JUDGE REJECTS EFFORT TO FORCE BUREAU OF RECLAMATION TO RELEASE WATER TO IRRIGATORS ASSOCIATION. The [Salem \(OR\) Capital Press](#) (2/15, Jenkins, 113K) reports U.S. District Judge Rosanna Malouf Peterson ruled against the Columbia-Snake River Irrigators Association in its effort to secure “water to irrigate 14,000 acres in Eastern Washington.” The group sued “to push the U.S. Bureau of Reclamation toward providing” the water, but Judge Peterson “said she wasn’t going to second-guess” the agency.

SUIT SEEKS CHANGE IN MANAGEMENT OF DESCHUTES RIVER. The [Bend \(OR\) Bulletin](#) (2/15, 98K) reports on management of the Deschutes River as the Center for Biological Diversity and WaterWatch of Oregon are seeking a preliminary injunction to force “the Bureau of Reclamation and five irrigation districts in Central Oregon [to] manage the river’s water differently.” The groups are seeking to change water management in order to ensure water for “the Oregon spotted frog and other river animals.” The Deschutes Basin Board of Control objects that any change ordered by the court may result in “abrupt and severe restrictions” on water usage. The frog is listed as threatened by the US Fish and Wildlife Service.

COMPROMISE SOUGHT ON WATER USAGE AROUND QUIVIRA NATIONAL WILDLIFE REFUGE. The [AP](#) (2/12) reports on the effort to come to an agreement on “competing water needs of south-central Kansas irrigators” and the Quivira National Wildlife Refuge, “which has senior rights to water that has long been used by hundreds of surrounding irrigators with junior rights.” The US Fish and Wildlife Service has requested Kansas “to address the issue, but the state has so far refused.” A report last year from the Kansas Division of Water Resources found that “the refuge had been denied more than 3,000 acre-feet in 18 of the 34 years reviewed,” and that “a solution would likely include ‘long term cuts in groundwater pumping.’” Refuge manager Mike Oldham said the refuge needs water “to maintain the 7,000 acres of internationally recognized wetlands.” The various authorities and interests are “working to devise a compromise.”

FLORIDA RELEASING WATER FROM OKEECHOBEE TO EVERGLADES. [USA Today](#) (2/15, Gillis, 5.56M) reports that Florida is “releasing water from Lake Okeechobee to Everglades National Park” to reduce flooding. The release is attributed to Gov. Rick Scott’s insistence, and “the U.S. Army Corps of Engineers, National Park Service, U.S. Fish and Wildlife Service, the Florida Department of Environmental Protection, the South Florida Water Management District and others agreed to speed up a project aimed at restoring historic flows.” In addition, affected area landowners agreed not to sue, and the Miccosukee Tribe of Indians of Florida, facing flooding, also agreed.

[Securing America’s Energy Future:](#)

Renewable Energy:

FORMER EPA OFFICIAL CALLS FOR INVESTMENT IN NATURAL GAS PRODUCTION, INFRASTRUCTURE. Former EPA Assistant Administrator J. Winston Porter, in a letter to the editor of the [Wall Street Journal](#) (2/15, Subscription Publication, 6.74M), takes issues with Fred Krupp’s op-ed on methane leaks. While Porter agrees that methane leakage should be reduced, he argues Krupp doesn’t

credit the progress the industry is already occurring in this area. Porter disagrees with Krupp's call for additional regulation and instead calls for investment in natural-gas production and infrastructure.

Methane Leaks Said To Undermine Clean Power Plan Targets. Elena Krieger at PSE Healthy Energy and Zeke Hausfather at UC Berkeley write for [The Hill](#) (2/16, Krieger, Hausfather, 862K) that "according to a study by PSE Healthy Energy released in January, methane leakage from natural gas wells and pipelines could severely undermine the climate objectives of the Clean Power Plan." As a result of methane's "outsized impact on near-term climate change," the "real climate benefit of natural gas is much lower than the EPA suggests," they write. If methane leaks are not addressed, they could "severely undermine the EPA's aim to slash greenhouse gas emissions from the power sector, especially if states shift from coal to natural gas, rather than to renewable energy."

Additional coverage is provided by the [Houston \(TX\) Chronicle](#) (2/12, 1.99M), the [Albuquerque \(NM\) Journal](#) (2/15, 290K), the [Oklahoman](#) (2/15, Moss, 421K), the [Durango \(CO\) Herald](#) (2/14, 31K), a separate article in the [Durango \(CO\) Herald](#) (2/13, Graham, 31K), the [Cortez \(CO\) Journal](#) (2/15, Romeo, 4K), and the [Santa Fe New Mexican](#) (2/15, 67K).

CLEAN POWER PLAN IN LIMBO WITH JUSTICE SCALIA'S DEATH. [NPR](#) (2/14, Elving, 1.81M) reports that following the death of Supreme Court Justice Antonin Scalia, "any case in which his vote would have been decisive will be left in stalemate, and the last ruling by a lower court will remain in force." President Obama has vowed to submit a nominee to replace Justice Scalia, but key Senate Republicans have said that a nominee should be chosen by the next president. NPR says, "Scalia's vote to freeze enforcement of President Obama's orders reducing greenhouse gas emissions from power plants, announced on Feb. 9, will stand because that 5-4 order had already been issued." However, a "short-handed court in the months ahead could elevate the importance of the decision on that issue by the D.C. Circuit Court of Appeals, which is expected to rule before summer."

[The Guardian \(UK\)](#) (2/14, Redden, 3.71M) says that such a scenario would favor the Administration as "the DC panel is made up of mostly Democratic appointees, and is likely to dismiss the states' argument that the clean power plan is illegal and represents federal government overreach." Were that to occur, the Supreme Court "would still have to overturn its stay – which would be problematic if Scalia's seat remains empty." The stay has left the EPA "unable to enforce any part of the bill until the litigation is over – marking a significant victory for opponents of regulation to restrict greenhouse gas emissions."

In a column for [The Atlantic](#) (2/14, 2.95M), Robinson Meyer speculates that "the opening of a new slot on the Supreme Court makes the Clean Power Plan's survival much likelier – if a Democrat wins the White House in November," while "the Plan might also enter force if a Court with a vacant seat hears its case."

Wisconsin Gov. Walker Orders Agencies Not To Prepare For Clean Power Plan. The [Milwaukee Journal Sentinel](#) (2/15, 743K) reports that citing last week's decision by the US Supreme Court to stay the Clean Power Plan, "Wisconsin Gov. Scott Walker on Monday ordered state agencies not to do any work to prepare for federal climate change regulations." Walker in a statement said, "The stay granted last week by the Supreme Court validates our concerns about this rule. The Executive Order we issued today protects our taxpayers from an unnecessary cost of up to \$13 billion as we continue to act in the best interests of Wisconsin citizens."

McCarthy: Court Stay Slows But Does Not Stop Carbon Cutting. [E&E Publishing](#) (2/15, Subscription Publication, 705) reports that despite a Supreme Court ruling putting the Clean Power Plan on hold, state officials "signaled interest" in continuing planning for power-sector carbon reductions when EPA Administrator Gina McCarthy spoke before the National Association of Regulatory Utility Commissioners (NARUC), National Association of State Energy Officials and National Association of Clean Air Agencies. McCarthy said EPA "remains fully confident in the legal merits of this rule," adding, "One decision to stay doesn't mean that the CPP isn't alive or isn't going to survive."

GEOENGINEERING SEEN AS TOO RISKY TO REDUCE GLOBAL EMISSIONS. [Bloomberg News](#) (2/15, Hirtenstein, 2.92M) reports that Phil Williamson, a scientist at Britain's University of East Anglia, "examined the ecological effect of a number of proposed methods known as geoengineering and

concluded in a paper that none would work at a large scale without huge risks for the planet.” Williamson said in a phone interview, “We could cool the world in all sorts of weird and wacky ways that seem like they could be technically possible, but whether they will actually work on a large scale is a big question, and what kind of disruptions they would cause is another.”

NEVADA COMMISSION UPHOLDS RATE INCREASE FOR ROOFTOP SOLAR CUSTOMER. The [Las Vegas Review-Journal](#) (2/15, Whaley, Corey, 479K) reports that on Friday the Nevada Public Utilities Commission voted to keep a Jan 1 2016 phased in rate increase to rooftop-solar customers in effect and rejected proposals to grandfather in existing customers under original net metering rates. The Commission also reduced the credits to solar-users for their excess energy back to the grid. “I think this proposal creates a seamless transition to cost-based rates,” Commission Chairman Paul Thomsen said. The Review-Journal says “Gov. Brian Sandoval expressed disappointment at the decision, saying it did not go far enough to protect existing rooftop-solar customers.” Hundreds of protesters gathered outside of the Las Vegas PUC offices in support of solar customers.

Additional coverage of this story was provided by [Reuters](#) (2/16) which reports that all three members of Nevada’s Public Utilities Commission voted unanimously to keep the increased rates.

In its “Ballot Box” blog [The Hill](#) (2/13, Neidig, 862K) reports that on Saturday at a campaign stop in Reno Nevada, Bernie Sanders called on Warren Buffett to hear from Nevada constituents on the solar decision, saying “this is a terrible decision” and “the ruling went exactly the wrong way.”

Nevada Public Utilities Union Denies Request To Resume Energy Efficiency Programs. The [Las Vegas Sun](#) (2/12, Rothberg, 196K) reports that on Friday, Nevada’s Public Utilities Union denied NV Energy’s request “to bring back two popular energy efficiency programs in Southern Nevada.” One program “lowered the cost of residential LED lights and another helped cover the cost of energy-efficient pool pumps.” NV Energy claimed that “it would be able to reinstate the programs under the budget the commission approved in December for the utility’s energy efficiency programs.” However, “The commission denied NV Energy’s argument on the foundation that NV Energy had not met its burden for an appeal before the quasi-judicial panel,” and also said that the utility “did not submit any new information to warrant a change.”

NEW YORK RANKS FOURTH IN US FOR SOLAR ENERGY JOBS. The [AP](#) (2/15) reports a census by the Solar Foundation “shows New York ranks fourth in the nation in solar technology jobs.” The nonprofit group “reports in its 2015 census that 208,859 Americans now work in the solar energy sector, including 8,250 in New York.” The Solar Foundation “says it’s the third consecutive year that solar jobs nationwide have grown by 20 percent or more.”

Onshore Energy Development:

LAWMAKERS PUSH CONGRESS TO CUT EU SODA ASH TAX. [E&E Daily](#) (2/12, Brown, Subscription Publication) reported Wyoming’s congressional delegation asserted in a letter, “U.S. trade negotiators shouldn’t come home from trans-Atlantic trade negotiations until they’ve persuaded the European Union to drop its tax on soda ash,” as part of a push for “Congress to reduce soda ash royalty rates at home to offset the impacts of what they see as foreign subsidies.” The article cited the Interior Department as indicating “Wyoming and California are home to many of the 78 soda ash mining leases on 99,000 acres of public lands, while Oregon’s Port of Portland is a major shipping point.”

NATIONAL GRID POISED TO SHIFT COSTS TO CUSTOMERS. [Newsday \(NY\)](#) (2/15, Harrington, 1.23M) reports, “National Grid is proposing to shift its \$356,000 annual electricity bill onto its gas customers following LIPA’s decision to end its longtime practice of providing electricity to the company for free.” Newsday says, “Most of the free electric service went to support National Grid’s operation of the LIPA electric grid, company spokeswoman Wendy Ladd said.” However, “That changed in the aftermath of superstorm Sandy, and in 2014 LIPA handed the contract to operate the electric system to PSEG Long Island” and “National Grid was forced to split off the gas and electric parts of its business.” Ladd said that National Grid “is now responsible for electric charges for the portion of these facilities supporting the gas business.”

NORTH DAKOTA PSC HAD HUNDREDS OF CONSUMER CONTACTS LAST YEAR. The [AP](#) (2/15) reports the Public Service Commission in North Dakota “says it received hundreds of consumer contacts in the last year that included complaints against regulated entities.” The commission “says it received a total of 905 consumer contacts in 2015” but the commission “says more than a third of them called for increased crude oil conditioning, which didn’t fall under the agency’s jurisdiction.” The PSC “regulates coal mining, land reclamation, pipelines, electric and gas utilities, grain elevators, telecommunications and auctioneers.”

COUNCIL SAYS NORTHWEST’S POWER NEEDS CAN BE MET WITH CONSERVATION. The [AP](#) (2/15, Geranios) reports the Northwest Power and Conservation Council is predicting that “the electricity needs of Northwest states can be met in the next 20 years mostly through conservation efforts, with little need to construct new power plants.” The NPCC “recently issued its 20-year plan for meeting the energy needs of Oregon, Washington, Idaho and Montana.” In a statement last week Council Chairman Henry Lorenzen said, “By investing in energy efficiency at the levels recommended in the plan, we’ll be able to grow without initiating an aggressive program to build new generating resources, and we’ll keep Northwest electricity rates low.”

CONNECTICUT TO CLOSE LAST COAL-POWERED PLANT. The [Hartford \(CT\) Courant](#) (2/11, Hladky, 518K) reports that officials from PSEG have announced they will close down Connecticut’s last coal-fired power plant, Bridgeport Harbor Station, by 2021 and replace it with a natural-gas-powered plant to begin operating in 2019. The Courant reports that Gov. Dannel P. Malloy and Bridgeport Mayor Joe Ganim “praised the announcement as a major step toward reducing pollution and retaining employment within the community.”

NYTIMES CRITICIZES MOUNTAINTOP REMOVAL. The [New York Times](#) (2/16, Subscription Publication, 12.03M), in an editorial, denounces “mountaintop removal” mining for “leaving behind...a grossly disfigured landscape.” It cites a report from Duke University researchers on the effects of the practice, and points out that the Interior Department is “working on a stronger Stream Protection Rule.” The Times concludes by quoting Chief Judge Charles Haden II of United States District Court, “No effect on related environmental values is more adverse than obliteration.”

FRACKING BECOMES FLASH POINT IN PENNSYLVANIA’S DEMOCRATIC SENATE PRIMARY. The [AP](#) (2/13, Levy) reports that in recent days, a divide over fracking has emerged in the Democratic primary battle to challenge Republican Sen. Pat Toomey in November as “two of the three candidates declared their support for a halt to hydraulic fracturing on both public and private lands.” Mayor John Fetterman and former Congressman Joe Sestak “both support a halt to fracking, at least until there is stronger regulation,” while a third candidate, Katie McGinty, “a former top-level environmental adviser in Washington and Harrisburg, also supports stronger regulation, but not a broad moratorium.” G. Terry Madonna, a pollster at Franklin and Marshall College, “said it’s not clear that the stance will help Fetterman or Sestak,” but “it is likely to be part of their campaign to highlight where McGinty may not be as liberal and help Sestak and Fetterman even the playing field with a candidate who has considerable support from the party establishment.”

Pennsylvania Democrats “Squabbling” Over State’s Fracking Future. [E&E Publishing](#) (2/15, Subscription Publication, 705) reported that Pennsylvania Democrats vying in an April 26 primary are “squabbling” over fracking’s future in the state as well as “taking aim at each other over campaign contributions tied to the energy industry.” Former White House Council on Environmental Quality Chairwoman Katie McGinty “has called fracking the state’s ‘secret sauce’ for job growth,” while former Rep. Joe Sestak “has long supported a moratorium on drilling the oil-and-gas-rich Marcellus Shale.” Meanwhile, Braddock Mayor John Fetterman is “in the middle” and “has endorsed significantly stricter environmental regulations on the process and endorsed taxing natural gas drilling.”

The [AP](#) (2/13, Levy) reported that Fetterman and Sestak both support a “halt to fracking” while McGinty supports stronger regulation, “but not a broad moratorium.” Fetterman’s campaign attacked McGinty on the issue, sending out an online video that accused McGinty of taking campaign contributions from the oil and gas industry, while McGinty’s supporters deny the charge.

LENDING LIMIT REVIEW COULD CAUSE SHAKEOUT IN OIL, NATURAL GAS PRODUCERS. [USA Today](#) (2/14, Loveless, 5.56M) reports Standard & Poor's Rating Services predicts that 45 speculative-grade US oil and natural gas producers will have their "borrowing bases" drop "by an average 20%-30% when banks take a fresh look" at credit lines in April, "making it difficult for some companies to stay in business." S&P lowered its credit ratings for 25 of the producers; previously the company "lowered credit ratings and outlooks for 13 large, investment-grade producers, including Chevron."

OIL DOWNTURN COULD HIT PIPELINE COMPANIES. The [Houston Chronicle](#) (2/16, Grattan, 1.99M) reported that US pipeline companies that move and process crude oil are likely to be impacted by an impending wave of oil company bankruptcies. Smaller pipeline companies face the most pressing fallout as their customers can be fewer and riskier. Williams Cos. and Energy Transfer Equity, which are in the process of merging, recently saw their stocks take a hit on rumors that major Williams' customer Chesapeake Energy was considering bankruptcy.

Jakab: Investors Should Cautious On MLPs. In his "Heard on the Street" column for the [Wall Street Journal](#) (2/12, Subscription Publication, 6.74M), Spencer Jakab wrote that while the energy MLP sector appears to offer good performance, he advises investors to be cautious. Jakab says that MLP's customers are struggling, with some filing for bankruptcy, and long-term contracts between MLPs and producers could be thrown out, meaning uncertain cashflow and spooked investors.

SPECULATORS BETTING ON OIL PRICE REBOUND. [Bloomberg News](#) (2/15, Shenk, 2.92M) reports speculators are betting oil prices will rebound, with long positions in West Texas Intermediate crude up "to the highest since June as oil sank toward a 12-year low, according to U.S. Commodity Futures Trading Commission data." Bloomberg notes Chevron Corp and other companies "have said they will reduce outlays to maintain cash." Meanwhile, Phil Flynn, senior market analyst at Price Futures Group in Chicago, said, "There's a growing realization after all the announcements of cuts in capital expenditures that we're going to see a drop in production."

Offshore Energy Development:

FIRST STUDY OF OFFSHORE HYDRAULIC FRACTURE IS UNDERWAY. The [Los Angeles Daily News](#) (2/13, Mazza, 301K) reports on "the first federal study of offshore hydraulic fracturing," due to a suit filed by the Center for Biological Diversity against the US Department of Interior's Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement. The suit alleged that "the environmental and human health dangers that could arise from fracking" had not been sufficiently studied as required by the Coastal Zone Management Act, the National Environmental Policy Act, and the Outer Continental Shelf Lands Act.

SCIENTISTS EXAMINE WAYS TO HARNESS ENERGY OF GULF STREAM. The [Hampton Roads \(VA\) Virginian-Pilot](#) (2/15, Hampton, 312K) reports on research into "harnessing energy from the Gulf Stream off Cape Hatteras, N.C.," which may offer "more potential than offshore wind." That's because the ocean current offers energy that is "about 800 times more dense" than wind. The Gulf Stream current is "about 60 miles wide and 3,000 feet deep in places," moving more water "than all the world's rivers put together."

CONTINUING COVERAGE OF KEEP IT IN THE GROUND ACT. In continuing coverage, the [San Francisco Chronicle](#) (2/13, Lochhead, 3.37M) reported on the Keep It in the Ground Act, which seeks "to halt new fossil fuel development on all federally controlled public lands, which is where most of the nation's coal, oil and natural gas is found." Besides blocking "leases for coal, oil, gas, oil shale and tar sands on public land," there would be a moratorium on new leases for offshore drilling and leases not producing fuel would be ended. Furthermore offshore drilling in the Arctic and the Atlantic seaboard would be banned. This is "an aggressive escalation by the Democratic left on the issue." The [Contra Costa \(CA\) Times](#) (2/12, Halstead, 251K) and the [Billings \(MT\) Gazette](#) (2/13, Pfister, 131K) also covered this story.

SHELL COMPLETES BG TAKEOVER, BECOMING WORLD'S TOP LNG COMPANY. [Reuters](#) (2/15, Bousso) reports that Royal Dutch Shell's \$53 billion takeover of BG Group became effective Monday, creating the world's top liquefied natural gas company. Said Shell CEO Ben van Beurden, "We will now

be able to shape a simpler, leaner, more competitive company, focusing on our core expertise in deep water and LNG.” The deal will define van Beurden’s legacy, reports Reuters, as he seeks to transform the company. According to Shell’s statement, BG shareholders opted largely for shares as opposed to cash in the deal. BG will now be a wholly-owned subsidiary of Shell headed by Huibert Vigeveno.

[USA Today](#) (2/15, Bomey, 5.56M) added that after completing the acquisition, Shell is now the world’s second largest energy company behind Exxon Mobil. “This is an important moment for Shell,” van Beurden said. “It significantly boosts our reserves and production and will bring a large injection to our cash flow.” [KPRC-TV Houston](#) (2/15, 5:07 p.m. CST, 87K) broadcast that “with the improvement, Shell is expecting to improve their revenue by \$3.5 billion,” while [International Business Times](#) (2/15, McHugh, 693K) reported that “the transition will be a difficult one, according to industry experts, because of an ongoing oil glut.”

Merger To Boost Shell’s Position In Brazil. [Bloomberg News](#) (2/15, Valle, 2.92M) reported that following the merger, Shell “has made Brazil one of its top three countries” and “sees the South American nation’s deep-water fields remaining competitive for years to come.” [Reuters](#) (2/16, Blount, Nogueira) reports separately that speaking in Brazil, van Beurden said, “We believe in the strong fundamentals of Brazil and the fundamentals of its geology. ... We will be looking at a substantial part of our production from Brazil.” According to van Beurden, Shell is hoping to quadruple oil and gas output in Brazil by 2020. Brazil will be key for Shell as the company focuses on LNG and deepwater oil production, thanks in part to BG’s portfolio of Brazilian assets and Shell’s 2013 purchase of 20% of the Libra offshore project.

The [Wall Street Journal](#) (2/15, Connors, Kent, Subscription Publication, 6.74M) reported that by speaking from Brazil, van Beurden highlighted the importance of Brazil’s oil and gas market. While the acquisition makes Shell the largest foreign oil company in Brazil, Brazil’s political climate and the scandal surrounding Petr leo Brasileiro SA will create challenges. The [Houston Chronicle](#) (2/15, 1.99M) reported in a brief that van Beurden said Monday that Brazil “will remain a key destination country for us for investment dollars for at least another decade.”

[Reuters](#) (2/15, Schaps) reported in a third article that van Beurden said on Monday that oil price volatility could stabilize later in 2016, with prices possibly rebounding after that, with the [Financial Times](#) (2/15, Leahy, Adams, Subscription Publication, 1.36M) adding that van Beurden predicts prices will rebound to levels in 2016 that will allow production in Brazil’s pre-salt deepwater fields to break even. [Equilibrio Informativo \(VEN\)](#) (2/15, Ojeda) likewise reported that while van Beurden “said there are ‘a lot of challenges’ in Brazil, he expects oil prices to ‘re-balance’ this year and for the region to remain competitive.”

Shell CEO: Merger “Creates A Company Of Extraordinary Strengths.” [The Times \(UK\)](#) (2/16, Van Beurden, Subscription Publication, 3K) carried an op-ed by Shell CEO Ben van Beurden, who wrote that the “joining together of Shell and BG creates a company of extraordinary strengths – a combination greater than the sum of our parts.” Over time, van Beurden “expect[s] the fundamentals of energy supply and demand to reassert themselves and the strategic and economic benefits of the deal to fully deliver for shareholders.” He praises assets Shell is inheriting in the North Sea, Brazil, Australia, the Caribbean and Asia, and names “other clear benefits” including “BG’s strong position in trading and shipping, which will bolster Shell’s capabilities, volumes and relationships in these core areas for the future development of the global gas market.” Mr. van Beurden concludes that with the merger, “we have truly changed course and are going full speed ahead.”

Analysts: Following Merger, Shell Will Struggle To Spin-Off Assets At Prices It Expected. The [Telegraph \(UK\)](#) (2/13, Ambrose, 898K) reported that as Shell completes its takeover of BG Group, the company faces “a fresh battle to dispose of \$30bn of assets in the next three years” as low oil prices continue to weigh on the market. Analysts “say Shell will struggle to spin-off assets at the price it once expected to” as low oil prices cut value across the energy sector. Once a “key prize of the merger,” BG Group’s deepwater Brazilian gasfields “now raise investor concerns after allegations of corruption against project partner Petrobras emerged last year.”

Additional Coverage. The story is also covered by the [Express and Star \(UK\)](#) (2/15), the [Norfolk \(UK\)](#)

[Eastern Daily Press](#) (2/15, Woods, 218), and the trade publications of [Offshore Energy Today](#) (2/15), [Offshore Post](#) (2/15), [Offshore Technology](#) (2/15), [Argus Media](#) (2/15), [LNG World News](#) (2/15), [Maritime Executive](#) (2/15, 21), [Energy Voice \(UK\)](#) (2/15), [Natural Gas Europe](#) (2/15) and [LNG Industry \(UK\)](#) (2/15).

LOUISIANA GOVERNOR ASKS OBAMA TO HALT ATTEMPT TO REPEAL OFFSHORE REVENUE-SHARING. The [AP](#) (2/12) reported that Louisiana governor John Bel Edwards has asked President Obama to drop an attempt in his 2017 budget proposal to repeal a 2006 budget provision establishing a revenue-sharing formula for offshore drilling in the Gulf of Mexico. Edwards in a Friday letter to Obama “said the budget proposal would strip Louisiana of the only consistent source of federal funds the state has for coastal restoration projects.”

TEXAS-BASED PARAGON OFFSHORE DRILLING COMPANY FILES FOR BANKRUPTCY. The [New York Times](#) (2/15, Corkery, Subscription Publication, 12.03M) reports Houston-based oil drilling company Paragon Offshore filed for Chapter 11 bankruptcy protection Sunday, becoming roughly the 60th company in the sector to file for bankruptcy in the last 16 months. Paragon completed a prepackaged bankruptcy agreement last week that cut its \$2.7 billion of debt “by about \$1.1 billion” so it can keep operating. The Times says the swift drop in oil prices could lead “to a series of drawn-out and messy bankruptcies,” and analysts say as much as a third of the US oil and gas industry “could be consolidated as a result of the downturn.”

[USA Today](#) (2/15, Bomey, 5.56M) reported that the bankruptcy “reflects what analysts say is the latest in a string of energy bankruptcies,” with drillers “particularly susceptible as oil companies cut back considerably on production” with a worldwide oversupply. The [Wall Street Journal](#) (2/14, Brickley, Subscription Publication, 6.74M) reported that the low oil prices are taking their toll as companies compete for increasingly scarce business, with Paragon’s big customers Petróleos Mexicanos and Petróleo Brasileiro SA both moving to cut back contracts.

LITTLE OPTIMISM FOR INDUSTRY AT INTERNATIONAL PETROLEUM WEEK CONFERENCE. [Bloomberg News](#) (2/12, Hoffman, Smith, Blas, Rascouet, 2.92M) reports that attendees at last week’s International Petroleum Week conference had seemed to repeat the same underlying message: “There are few reasons for optimism. The world is awash with oil. The market is overwhelmingly bearish.” Bloomberg says, “Prices will stay low for up to a decade as Chinese economic growth slows and the U.S. shale industry acts as a cap on any rally, according to Ian Taylor, chief executive officer of Vitol Group.” Jeff Currie, head of commodities research at Goldman Sachs, echoed that sentiment, saying, “I wouldn’t be surprised if this market goes into the teens.” Land-based oil storage is running out, “and the contango is getting so steep that it’s becoming profitable to hire supertankers, fill them with crude and anchor them offshore.”

TRUMP DISCUSSES OFFSHORE OIL DRILLING. The [Miami Herald](#) (2/16, Smith, 803K) reported on comments by Donald Trump on Cuba, oil drilling and opposing candidate Marco Rubio. When asked about current Congressional proposals that would expand offshore drilling and allow it closer to Florida’s coast, Trump said, “They’ve already got plenty in the Gulf. ... It would be a little bit of a shame [to expand drilling closer to Florida], because there’s so much fracking and there’s so much oil that we have now that we never thought possible. That’s an issue I’d absolutely study and do the right thing.”

Despite Price Rally, Oil Demand Set To Decline With Winter’s End. [Bloomberg News](#) (2/15, Smith, 2.92M) reported “one reason to withhold faith in oil’s recovery” is that despite oil prices’ recent rally, once winter ends fuel demand will decline until summer. David Hufton with PVM Group said, “Given the seasonality of oil demand, traditionally there is a supply surplus in the first half of the year,” with unconsumed oil now “coming on top of the mountain of oil that built up in 2014 and 2015.”

America’s Great Outdoors:

Bureau of Land Management:

FBI ENDED OCCUPATION AT WILDLIFE REFUGE PEACEFULLY WITH HELP. In a 2,250-word

article, the [Washington Post](#) (2/13, Sullivan, Berman, 8.98M) chronicled the final days of the occupation at the Malheur National Wildlife Refuge in Oregon. The Post described the “key” roles Nevada Assemblywoman Michele Fiore and the Rev. Franklin Graham played in convincing the four holdouts “to surrender” peacefully. In another article, the [Washington Post](#) (2/13, Sullivan, Berman, 8.98M) reported that Graham and Fiore – “a celebrity among anti-government activists” – kept the occupiers calm by assuring them that the FBI would allow them to meet Graham and Fiore after they turned themselves in.

WPost: FBI Deserves Credit For Approach To Oregon Occupation. In an editorial, the [Washington Post](#) (2/13, 8.98M) gave “credit to federal law enforcement authorities” for negotiating a “peaceful denouement” to the 41-day occupation of the Malheur National Wildlife Refuge. The Post praised the FBI for having “showed restraint in sitting out the armed activists” and for refusing to “waver on the need to bring to account those who so willfully and flagrantly broke the law.” According to the Post, the FBI “clearly had learned lessons from the bloody sieges” of the 1990s and its “patient approach in letting the Oregon siege play out and burn out proved far more effective than a SWAT team assault.”

FBI: No Booby Traps Found At Wildlife Refuge. The [AP](#) (2/12, Boone, Dubois) reported that the FBI said Friday that investigators had not found any booby traps or rigged explosives at the Malheur National Wildlife Refuge. FBI Portland Assistant Special Agent in Charge Larry Karl said agents were concluding their safety sweep of the refuge and were hoping to begin processing evidence soon. According to Karl, some hazardous materials were stored at the refuge prior to the takeover, and the FBI had information that the armed occupiers may have brought additional materials with them. Karl, the [AP](#) (2/13, Boone) reported, said that collecting evidence from the wildlife refuge could take several weeks. “Then the U.S. Fish and Wildlife Service will be tasked with cleaning up the site, including garbage or debris left by the people who occupied the refuge during the standoff,” the AP added.

Oregon Authorities Look To Feds, Occupiers To Cover Occupation Costs. [Reuters](#) (2/16, Urquhart) reports that Oregon officials have indicated that they hope to have the federal government – and the militants themselves – pay the bulk of the expenses caused by the wildlife refuge occupation. Oregon Governor Kate Brown is seeking up to \$1 million from state lawmakers to offset the costs to cities and towns. She will seek to reimburse the state from federal funds. Harney County judge and county commissioner Steven Grasty said the county plans to seek reimbursement directly from the armed occupiers, and is prepared to take them to court. Federal prosecutors, a source said, are looking into whether the US will join the county in pursuing reimbursement from the occupiers. Though the exact cost of the occupation is unknown, it is estimated in the millions of dollars, Reuters says. The [New York Times](#) (2/13, Subscription Publication, 12.03M) also reports Reuters’ coverage on its website.

Twenty-Three Charged So Far In Occupation. [The Guardian \(UK\)](#) (2/15, Levin, 3.71M) reports that 23 people allegedly involved with the occupation all face a single federal charge of conspiring to impede federal officials via “force, intimidation and threats.” The suspects “hail from 10 states across the US and have a wide range of prior involvement in conservative activism and criminal activity,” The Guardian said. Despite the long list of individuals charged, the newspaper says, some observers have noted that many involved with the occupation have so far, avoided arrest and prosecution. “Notably, many of the most high-profile women of the militia...are...not listed in the charges,” the Guardian says.

Experts: Cliven Bundy Case Is Complex. The [AP](#) (2/15, Ritter) reports that according to experts the case against Cliven Bundy in the 2014 armed standoff with federal authorities in Nevada will be a complex one. Bundy was arrested Wednesday and charged with “conspiracy, assault on a federal officer, obstruction, weapon use and possession, extortion to interfere with commerce, and aiding and abetting” in the 2014 case, the AP says. “They’ve probably been working up to this by talking to a lot of people who showed up as followers, and making deals and trying to get cooperating witnesses,” said former US Attorney Richard Pocker said. “It’s really hard to get folks in these movements to cooperate with a grand jury.”

The [Los Angeles Times](#) (2/12, Pearce, 4.1M), the [Washington Post](#) (2/12, 8.98M), and the [Oregonian](#) (2/15, Brosseau, 864K) also report on the aftermath of the Oregon occupation.

BLM PROPOSES RULE TO UPDATE RESOURCE MANAGEMENT PROCESS. The [Oil and Gas](#)

[Journal](#) (2/15, Snow, 1K) reports BLM has “proposed a rule aimed at improving its resource management process” as part of its Planning 2.0 initiative. The proposal “will make changes to regulations that are guided by the 1976 Federal Land Policy and Management Act” including the creation of “several new opportunities for early public involvement during the planning process” and requiring the “development of a planning assessment before work could begin on putting together a land use plan.”

[Politico Pro](#) (2/12) quoted BLM’s announcement that the reforms support the agency’s “shift to science-based, landscape-scale approaches to resource management while increasing opportunities for early engagement by state and local government, tribes, partner agencies, stakeholders, and the public.” Politico explained the plans entail the overhaul of Resource Management Plans, which are “the systems that the Interior Department unit uses to coordinate collective priorities for public lands, from fossil-fuel development to recreation to wildlife protection.”

TEXAS CITIES ASK BLM TO HALT PLANS FOR GAS DRILLING LEASES BELOW LEWISVILLE LAKE. The [AP](#) (2/13) reported that some North Texas cities as well as environmental groups have asked the Bureau of Land Management to halt plans to allow gas drilling below Lewisville Lake, where as many as 259 acres are up for auction for leases. The lake is “a drinking water source for millions and has a dam cited by the U.S. Army Corps of Engineers as being in hazardous condition,” and “nearby residents fear possible drinking water contamination and earthquakes that could further threaten stability.” This story was also carried by the [Washington \(DC\) Times](#) (2/13, 285K) and the [Houston \(TX\) Chronicle](#) (2/13).

The [Dallas Morning News](#) (2/12, Mosier, 1.24M) added that Dallas and Highland Village are among those opposing the drilling. Additional coverage is provided by [Fuel Fix \(TX\)](#) (2/15, 28K), the [Cross Timbers \(TX\) Gazette](#) (2/15, Pry, 429) and on the website of [WFAA-TV Dallas](#) (2/15, 367K).

BLM, UTAH AGENCY SETTLE SUIT OVER WILD HORSE AND BURRO MANAGEMENT. [KSL-TV](#) Salt Lake City (2/15, O'Donoghue, 404K) reports on its website that a lawsuit against BLM brought by the Utah Schools and Institutional Trust Lands Administration “alleging mismanagement of wild horse and burro populations on school trust lands in Utah was dismissed after the parties reached a cooperative agreement this month.” The agreement calls for “identification of priority removal areas, population surveys and enhanced monitoring of rangeland conditions.” The [Salt Lake \(UT\) Tribune](#) (2/15, Maffly, 388K) reports that “in a news release announcing the settlement last week, BLM vowed to do the things the agency...has long claimed it already does, namely collaborate with local stakeholders and protect resources.”

BLM TO HOLD FARMINGTON, NM PUBLIC FORUM ON PROPOSED RULE CHANGE. The [Farmington \(NM\) Daily Times](#) (2/14, Fenton, 44K) reports that BLM will hold a public forum at San Juan College in Farmington, New Mexico on Tuesday “to hear comment on the agency’s proposed rule on oil and gas industry venting and flaring.” The proposed rule “targets the escape of methane gas from venting and flaring, processes used in oil and gas production, and from gas leaks during drilling operations and from well sites. The proposed update to a current rule is designed to cut in half the industry’s methane emissions from operations on federal land.”

CHICAGO TRIBUNE FEATURE ON DEATH VALLEY NATIONAL PARK CITES BLM. The [Chicago Tribune](#) (2/15, Williams, 2.17M) has a feature on Death Valley National Park, writing that “it is astonishing that the land in Death Valley remains as pristine as it is, with its history of mining. In 1994, Congress expanded the area’s protection beyond its status as a national monument to that of a national park.” The Tribune piece highlights “the Trona Pinnacles, jagged peaks formed underwater up to 100,000 years ago in the now dry Searles Lake, according to the Bureau of Land Management.”

LAND PARCELS IN SAN JUAN NATIONAL FOREST TO BE UP FOR LEASE IN BLM SALE. The [Durango \(CO\) Herald](#) (2/14, 31K) reports, “The first land parcels in 15 years within the San Juan National Forest will be available for lease this spring through the Bureau of Land Management’s quarterly oil and gas lease sale.” Four parcels in the forest are among six that will be up for competitive bid on May 12.

Fish and Wildlife Service:

DOMINION PROPOSES NEW ACP ROUTE. The [AP](#) (2/12, Szkotak) reported that Dominion proposed a new route for the Atlantic Coast Pipeline (ACP) in response to a previous permit rejection from the US Forest Service, which “cited a 1994 conservation agreement with the Fish and Wildlife Service aimed at shielding the salamander from actions that would place it under the Endangered Species Act.” The new proposal would have a 30 percent smaller footprint in the Monongahela and George Washington national forests, but adds 30 miles to the project, involving an additional 249 landowners.

This story was also carried by the [Daily Mail](#) (2/12, 4.92M), the [Washington \(DC\) Post](#) (2/12, Szkotak), the [Houston \(TX\) Chronicle](#) (2/12, Szkotak, 1.99M), and [Philly \(PA\)](#) (2/12, Szkotak, 822K).

Residents Ask County Board To Oppose ACP. The [Fayetteville \(NC\) Observer](#) (2/15, Banks, 148K) reports that several residents spoke to the Cumberland County Board of Commissioners on Monday, asking them to oppose the Atlantic Coast Pipeline that they believe will devalue their property and bring fracked gas to their community. “I’m pleading with the county commissioners to not approve. We can’t afford to fight them, personally, because we don’t have the money to fight them,” said Fayetteville resident Rodney Simmons. Dominion senior policy advisor Bruce McKay was scheduled to address the Board, but did not attend and “his absence came as a surprise to the commissioners.”

Letter: Pipeline Resistance Overdone. In a letter to the editor of the [Washington \(DC\) Post](#) (2/15, 8.98M), Woodbridge resident Jeff Hazle rejects the premise of a previous letter from Lewis Freeman of the Allegheny-Blue Ridge Alliance, arguing that resistance to the Atlantic Coast Pipeline “seems oversold and more consistent with a generalized opposition to hydrocarbons than any genuinely significant risks.” He questions how the project could result in damage to the water supply.

MILITARY BASES RECEIVE \$17.5M IN CONSERVATION GRANTS. The [AP](#) (2/12, Bynum) reported that on Friday Agriculture Secretary Tom Vilsack announced “\$17.5 million in conservation funding to protect longleaf pine forests used for training troops while assisting the recovery of threatened species.” The awards to bases in Georgia, Mississippi and North Carolina were among 84 grants totaling \$720 million. FWS Fort Stewart branch chief Tim Beatty said, “Fortunately the Army is pretty good at starting fires. ... If we have an urban development at the edge of Fort Stewart, it would be awfully tough to continue to do burning the way we do now.” This story was also carried by the [Washington \(DC\) Post](#) (2/12, Bynum, 8.98M) and the [Houston \(TX\) Chronicle](#) (2/12, Bynum, 1.99M).

WHALE BONES FOUND IN LUGGAGE AT BALTIMORE AIRPORT. The [AP](#) (2/12) reported that on Friday the US CBP said agents found possible whale bones while inspecting baggage from Iceland at BWI Airport on Feb. 7. The traveler carrying the luggage also “claimed they were whale bones,” but “Customs officials kept the bones to determine their origin.” Border agents said the FWS regulates whale bones. This story was also carried by the [Washington Post](#) (2/12, 8.98M), the [Baltimore \(MD\) Sun](#) (2/12, 712K), and the [Houston \(TX\) Chronicle](#) (2/12, 1.99M).

US FISH AND WILDLIFE SERVICE PROPOSES TRANSFERRING BISON RANGE TO SALISH AND KOOTENAI TRIBES. The [Missoulian \(MT\)](#) (2/15, Devlin, 78K) reports on a “surprise” proposal by the US Fish and Wildlife Service to support legislation to transfer the National Bison Range to the Confederated Salish and Kootenai Tribes. The proposal would “place the refuge’s 18,766 acres in trust for the tribes, and leave it to them to manage and operate” with no continuing role for the Fish and Wildlife Service, and the range would no longer be part of the National Wildlife Refuge System. There are some remaining questions regarding the “costs of managing and maintaining the Bison Range.” [Indian Country Today Media Network](#) (2/15, 48K) reports the tribes “have worked to become more involved with management of the bison range since the 1994 Self Governance Act made that a possibility.”

Missoulian Favors Plan. The [Missoulian \(MT\)](#) (2/15, 78K) in an editorial says the Fish and Wildlife Service “showed signs it is finally coming to its senses” in making the proposal. The paper says the tribes ought to hold “the bison range in trust for the people of the United States – including its original inhabitants.”

USDA AGENCY SPECIALIZES IN KILLING PREDATORS. Rachael Bale writes in [National Geographic](#) (2/15, Bale, 30.99M) about Wildlife Services, an agency under the US Department of Agriculture that

“specializes in killing wild animals that threaten livestock,” though it also provides “bird control nationwide at airports to prevent crashes and feral pig control in the South.” Bale cites an article by Christopher Ketcham in Harper’s Magazine titled “The Rogue Agency: A USDA program that tortures dogs and kills endangered species.” The article describes Ketcham’s indictment of the agency.

National Park Service:

INTERIOR DEPARTMENT VALENTINE’S VIDEO DISTRIBUTED. [EHS Today](#) (2/15, 3K) reports the Interior Department “created a video showcasing couples who committed to one another while celebrating their love of planet Earth.” The agency said, “America’s public lands are wonderful places to love and be in love.” On its website, the [Miami Herald](#) (2/14, 803K) hosted the Interior Department’s video that celebrates the thousands who get engaged and married in national parks ever year.

Spending Valentine’s Day In A National Park Recommended. On its website, [CNN](#) (2/14, 3.96M) summarized ways to spend Valentine’s Day, describing how lovers could “celebrate nature and the centennial of the National Park Service by visiting Yosemite or Yellowstone National Parks or one of the nation’s park sites in your state.” CNN wrote that lovers “can be awed by the same beauty and power that inspired President Abraham Lincoln (who protected Yosemite in the middle of the Civil War), Sierra Club founder John Muir and President Theodore Roosevelt.”

HOUSE NATURAL RESOURCES SUBCOMMITTEE HEARS TESTIMONY ON HISTORICAL SITE CONVERSATION BILLS. [E&E Daily](#) (2/12, Kessler, Subscription Publication) reported on testimony before the House Natural Resources subcommittee regarding “four bills aimed at promoting the conservation of historical sites.” A bill “from Rep. Marsha Blackburn, H.R. 87, would modify the boundaries of Shiloh National Military Park in southern Tennessee” to permit the NPS “to preserve more than 21,000 additional acres to include Fallen Timber Battlefield, Russell House Battlefield and Davis Bridge Battlefield.” Chairman Tom McClintock (R-CA) rebutted an economic argument for the historical preservation of the sites.

INTERIOR, GOOGLE LAUNCH ONLINE EXHIBIT OF PARKS’ HISTORY. [National Parks Traveler](#) (2/15, 989) reports the Department of the Interior said it “is partnering with the Google Cultural Institute to photograph and share historically important material with global audiences and digitally preserve them for future generations.” The institute’s Centennial One Object Exhibit contains “more than 3,800 works of art, artifacts, and records [that] can be viewed as part of an online exhibition just launched to honor the National Park Service’s centennial.” Secretary of the Interior Sally Jewell said in a statement last week, “This marriage of technology and history means that anyone, anywhere can see artifacts and sites that provide a taste of the rich and diverse story of America,” adding, “Our hope is that this partnership will not only illustrate and elevate our nation’s history and culture, but inspire more people to visit the wonderfully diverse places that the National Park Service protects and preserves for current and future generations.”

NPS EXTENDS COMMENT PERIOD ON BISON QUARANTINE PLAN. The [AP](#) (2/15) reports that the National Park Service “has extended the public comment period” two weeks to February 29 on its plan to “quarantine some Yellowstone National Park bison on the Fort Peck Indian Reservation in Montana.”

YELLOWSTONE BISON CULL CRITICIZED. Christopher Ketcham, a fellow at M.I.T.’s Knight Science Journalism Program, writes in the [New York Times](#) (2/15, Subscription Publication, 12.03M) on the bison cull at Yellowstone National Park, which “is done largely outside of public view” in order to protect “the safety of the public and staff” according to the park service, though Ketcham says it is because “the brutality of the cull would be revealed.” Ketcham says the cull has been justified by fears that cattle could be infected with brucellosis from the bison, but “not a single instance of transmission has ever been documented.” He argues that instead of the cull, the bison should be allowed to roam, like other wild animals and controlled “with seasonal hunting.” Ketcham praises Montana Gov. Steve Bullock’s proposal to allow the “Yellowstone bison to roam in certain areas beyond the park’s boundaries throughout the year,” but laments “the park service...helping to slaughter a native animal so iconic that it is emblazoned on the park service’s own logo.”

DEATH VALLEY PARK RANGER HOPES FOR “SUPER BLOOM” THIS YEAR. The [Washington Post](#)

(2/12, Starrs, 8.98M) reports on Death Valley, where National Park Service Park Ranger Alan Van Valkenburg said that he hopes there will be a “super bloom” this year. He explains that such events “are quite rare, maybe once a decade or so,” the last one having been in 2005. But, he also points out that they “are near-impossible to predict and very short-lived.” There is a bloom at present that is “beginning to spread beyond the southeastern part of the park.”

PARK SERVICE ACCEPTING COMMENTS ON YELLOWSTONE ROAD PROPOSAL UNTIL MARCH 15. The [AP](#) (2/14) report the National Park Service is accepting public comments until March 15 on its proposal for a “road repair project on the east side of Yellowstone National Park.” The proposal includes reconstructing “a segment of the East Entrance Road from Fishing Bridge to Indian Pond.”

MAINE GOVERNOR OPPOSES PROPOSAL FOR NEW NATIONAL PARK IN MAINE. The [AP](#) (2/14) reports that Maine Gov. Paul LePage opposes the proposal for a new national park in Maine, “especially when there’s a \$12 billion backlog of maintenance.” The idea comes from “Burt’s Bees founder and conservationist Roxanne Quimby [who] proposed donating land east of Baxter State Park for a new national park in 2011.” LePage says the idea “defies logic” given the maintenance backlog.

NATIONAL PARK FOUNDATION PRESIDENT URGES SUPPORT FOR CENTENNIAL CAMPAIGN. Will Shafroth, President of the National Park Foundation, writes at [Huffington Post](#) (2/15, Shafroth, 518K) on the centennial of the National Park Service. He writes that the “national parks and their future are dependent on vibrant and robust public-private partnerships.” That’s because “federal appropriations only sustain basic operations,” and there are “\$11.9 billion in deferred maintenance projects.” That means the parks “rely on other sources of funding,” namely, the National Park Foundation. The foundation is conducting “the largest comprehensive fundraising campaign in its history, the Centennial Campaign for America’s National Parks” with a goal of \$350 million.

MONTANA EXPECTED TO SEE MORE NATIONAL PARK VISITS THIS YEAR. The [AP](#) (2/14) reports Norma Nickerson, director of the Institution for Tourism and Recreation Research, is projecting “another big year for national park visitation and ski resorts” in Montana, due “to the National Park Service’s centennial and an increase in advertising.”

ADDITIONAL COVERAGE: INTERIOR ASKED TO DO MORE TO PROTECT GRAND CANYON EMPLOYEES. [CBS5 Arizona](#) (2/15) continued coverage in reporting on its website “Arizona’s congressional delegation says the National Park Service must do more to protect Grand Canyon employees who participate on the agency’s river rafting trips.” The article notes that “a report released last month by a federal watchdog found that Park Service workers have preyed on their female colleagues, demanding sex and retaliating against women who refused.” The NPS “banned alcohol on the trips and required pre-trip briefings while the Interior Department’s Office of the Inspector General looked into allegations of sexual harassment,” but “Arizona’s congressional delegation says those reforms are insufficient.”

US Geological Survey:

BUDGET PROPOSES \$8 MILLION FOR “SHAKEALERT” SYSTEM. [McClatchy](#) (2/15, Hotakainen, 22K) reports the President’s budget proposes \$8 million for “an early earthquake warning system,” known as the “ShakeAlert” system, that would include “a network of sensors on the ocean floor” over the Cascadia Subduction Zone. The system is being developed with the assistance of the University of Washington, the California Institute of Technology, the University of California, Berkeley, the University of Oregon, and the U.S. Geological Survey. Secretary Jewell has also urged support for the system.

APP TO USE CELLPHONES TO HELP DETECT EARTHQUAKES. The [Los Angeles Times](#) (2/12, Xia, Lin, 4.1M) reports on an app to test an idea to use “cellphones to detect earthquakes as soon as they start.” The app “uses smartphone sensors to detect movement caused by an earthquake,” and sends that data “to a central server.” The app works on the idea that if 300 phones in an area are “sending warnings” that means there is an earthquake. It may also be used to support a system to “provide early warnings before the worst shaking from an earthquake arrives,” which is based on “the U.S. Geological Survey’s ShakeAlert prototype.” The phone app could not be a replacement because the phone sensors are not

“as effective as hundreds of sophisticated earthquake sensor stations installed underground,” but it might provide an alternative where there are few or no earthquake sensors.

USGS: OKLAHOMA HIT BY STATE’S THIRD-STRONGEST EARTHQUAKE EVER. [Reuters](#) (2/16) reports that according to the US Geological Survey, Oklahoma this weekend was hit by the third-strongest quake to ever be recorded in the state, a magnitude 5.1 quake that struck at around 11 am Saturday morning. Seismologists say Oklahoma’s frequent earthquakes could be linked to the oil and gas industry’s injection disposal wells. [CBS News](#) (2/16, Villarreal, 3.97M) reports on its website that the quake hit near Fairview, which “is quickly gaining a big reputation for large quakes.”

This story was also covered by the [Daily Mail](#) (2/15, 4.92M), the [Washington \(DC\) Post](#) (2/13, 8.98M), the [New York Daily News](#) (2/15, 3.7M), the [Houston \(TX\) Chronicle](#) (2/13, Miller, Press, 1.99M), [Philly \(PA\)](#) (2/13, 822K), and the website of [ABC News](#) (2/15, 4M).

Top National News:

WHITE HOUSE COULD ANNOUNCE HIGH COURT NOMINEE NEXT WEEK. The coming battle over the successor to late Supreme Court Justice Antonin Scalia received 19 minutes of coverage between the three broadcast networks, with CBS and NBC opening with the story. The White House is indicating that President Obama may offer a nominee as soon as next week, but most of the television coverage deals with the difficulty any nominee will have in advancing, and on the role the vacancy will play in the presidential race. Those political considerations are also part of the print and online coverage, but these sources also look at prospective candidates, with Attorney General Lynch and District of Columbia Circuit Court of Appeals Judge Sri Srinivasan mentioned as top contenders.

The [CBS Evening News](#) (2/15, lead story, 3:00, Pelley, 5.08M) reported that the “quiet memorial” to Scalia outside the Supreme Court is “in sharp contrast to the coming political battle over his successor.” CBS (Crawford) added, “When the justices return to the bench next week, it will be the first time for all eight to serve without Justice Scalia. ... They will have a term of controversial case, regulation of abortion clinics, another challenge to Obamacare, affirmative action and college admissions and presidential power on immigration.” Without Scalia, it will be “a court on pause. Many of those cases will end up in a 4-4 tie, keeping the lower court rulings in place and setting no nationwide precedents.”

[NBC Nightly News](#) (2/15, lead story, 2:35, Holt, 7.86M) opened by saying, “In an election year already fraught with improbable plot twists and drama, now this: The ideological balance of the US Supreme Court suddenly in limbo...as lines are drawn for an epic battle between Democrats and Senate Republicans who are determined to leave the choice up to the next president. Tonight, the current president is suggesting Republicans are full of bluster.” On [ABC World News](#) (2/15, story 5, 2:50, Muir, 5.84M), Jonathan Karl reported, “The flag is at half staff today at a snowy and peaceful Supreme Court, but the epic political battle is just beginning. ... Within an hour” of Scalia’s death, Senate Majority Leader McConnell “drew the battle lines, declaring, ‘This vacancy should not be filled until we have a new president.’ Then, President Obama weighed in, paying tribute to Scalia, but making it clear, he’s ready to fight to replace him.”

[Reuters](#) (2/16, Mason, Rampton) reports the White House said the President had started discussions with his advisers about selecting a nominee. [USA Today](#) (2/15, Korte, 5.56M) reports deputy press secretary Eric Schultz said a nominee could come “as soon as next week.” Schultz said, “As soon as the Senate returns, the President was very clear that he is going to fulfill his constitutional responsibility to nominate a successor to Justice Scalia. ... There are no caveats. The Constitution does not include exemptions for election years, or for the president’s last term in office. There’s no exemption for when a nomination would tip the balance of the court.”

The [Washington Times](#) (2/15, Boyer, 285K) says the Senate “is in the middle of a 10-day recess until Monday, giving Mr. Obama a chance to bypass Congress and install a successor quickly” via recess appointment. But [The Hill](#) (2/15, Balluck, 862K) and the [NPR](#) (2/15, 1.81M) website report that Obama has ruled that out.

In a 2,100-word assessment, Tom Goldstein of [SCOTUSblog](#) (2/15, 2K) writes that Obama “has two priorities. First, fill the Scalia seat by getting a nominee confirmed,” and “second, gain as much political benefit as possible and exact as heavy a political toll as possible on Republicans, particularly in the presidential election.” Goldstein says a nominee “may in fact receive a vote” in the Senate, and “if Republicans can come up with even a slender substantive thread on which to base an objection to the nominee, they will seize on it and vote the nominee down on the merits.” Politically, the best candidate “would probably be Hispanic,” but Obama “personally will be very tempted to appoint a black Justice.” California Attorney General Kamala Harris would be the best choice, Goldstein writes, but as “the prohibitive favorite” in the California Senate race, she probably does not want it. So Lynch “is a very serious possibility.” [AOL](#) (2/15, 6.15M) and [Mediaite](#) (2/15, Griswold, 277K) also report on Goldstein’s assessment.

However, Edward-Isaac Dove of [Politico](#) (2/15, 1.07M) writes that while Lynch is “suddenly lighting up chatter as a potential dark horse,” Srinivasan is Obama’s “likeliest Supreme Court choice.” He would be “a historic first” as an immigrant from India and won unanimous Senate approval to the appeals bench. On the [CBS Evening News](#) (2/15, story 2, 1:45, Pelley, 5.08M), Margaret Brennan said Obama “could choose a candidate who has already won Senate approval,” such as Srinivasan, “or he could make a bold choice” like Lynch, “who had to wait more than 160 days before she was confirmed for her current position.”

The [Wall Street Journal](#) (2/15, Hughes, Subscription Publication, 6.74M) reports that whomever Obama nominates, the candidate will face a polarized Senate Judiciary Committee. Chairman Charles Grassley, who has said he supports McConnell’s plan to block any Obama nominee, would be presiding over his first Supreme Court confirmation hearings. Karen Tumulty of the [Washington Post](#) (2/15, 8.98M) says the “rancorous debate...reflects in many ways a growing public skepticism toward the US Supreme Court itself, as its image has evolved from impartial arbiter of the laws to yet another politicized institution.”

The [Washington Post](#) (2/15, 8.98M) editorializes, “This one shouldn’t be complicated. The fourth year of President Obama’s four-year term has just begun. Senators are elected to six-year terms, and all of them have at least 11 months still to serve.” Scalia’s death “has created a vacancy on the nine-member Supreme Court. The Constitution tells the president to nominate justices and senators to confirm or reject those nominees.” Dana Milbank writes in his [Washington Post](#) (2/15, 8.98M) column that the Senate should “force Obama’s nominee to prove that he, or she, is in the mainstream. But unless the Senate wants to return to antebellum divisions, don’t deny that nominee consideration.”

But the [Wall Street Journal](#) (2/16, Subscription Publication, 6.74M) says in an editorial that it is liberals who have politicized the Court, so it is reasonable that Republicans would prefer to wait for a new president before confirming a nominee. In a second editorial, the [Wall Street Journal](#) (2/16, Subscription Publication, 6.74M) quotes Sen. Charles Schumer from a 2007 speech, 18 months before President Bush left office, saying that should a vacancy arise, he would recommend to his colleagues “that we should not confirm any Bush nominee to the Supreme Court except in extraordinary circumstances.” The [CBS Evening News](#) (2/15, story 3, 2:05, Pelley, 5.08M) also included Schumer’s 2007 remarks in a report.

Four Republican Senators In Tight Races Backing McConnell. The [New York Times](#) (2/15, Shear, Steinhauer, Subscription Publication, 12.03M) reports that several Republican senators facing tough re-election races this year are now saying they will back McConnell in blocking a nominee. New Hampshire Sen. Kelly Ayotte, “who faces a primary threat from the right wing of her party, said over the weekend that she supported” McConnell. In addition, Ohio Sen. Rob Portman said Monday, “It is common practice for the Senate to stop acting on lifetime appointments during the last year of a presidential term, and it’s been nearly 80 years since any president was permitted to immediately fill a vacancy that arose in a presidential election year.” [Politico](#) (2/15, Everett, 1.07M) reports that Pennsylvania Sen. Pat Toomey and Wisconsin Sen. Ron Johnson are also backing McConnell.

The [Washington Post](#) (2/15, Mufson, Eilperin, 8.98M) writes that “one consideration that may force Republicans to recalibrate their strategy is the prospect of political damage” to some of these incumbents. The [Chicago Tribune](#) (2/15, Pearson, 2.17M) reports that Illinois Sen. Mark Kirk, “perhaps the most

vulnerable of Republican senators seeking re-election this year,” is “offering no clue on whether he will side with” McConnell.

The [New York Times](#) (2/15, Savage, Subscription Publication, 12.03M) says “the clash is less a new front against the White House than an escalation of a battle that had begun at the appeals court level.” Since Republicans gained the Senate majority 13 months ago, “the process that would enable Mr. Obama to fill vacancies on the 12 regional federal courts of appeal has essentially been halted.”

Cruz, Trump Make Issue Of Vacancy. [Bloomberg Politics](#) (2/15, Kapur, 289K) reports that “within hours” of Scalia’s death, Republican presidential candidates “began using the battle to tear each other apart” ahead of Saturday’s pivotal South Carolina primary. Sen. Ted Cruz is airing an ad “attacking Republican front-runner Donald Trump as untrustworthy when it comes to picking justices,” while Trump is blasting Cruz for supporting the 2005 nomination of John Roberts as chief justice. [Politico](#) (2/15, Glueck, 1.07M) reports that Cruz also criticized Trump for suggesting last year that his sister Maryanne Trump Barry, a federal appeals court judge, would be his pick. Trump said he was joking, but on Monday, Cruz called Barry “a Bill Clinton-appointed federal appellate judge who’s a radical pro-abortion extremist.”

[NBC Nightly News](#) (2/15, story 2, 2:15, Holt, 7.86M) reported, “No matter who it is the President picks, the Republican leader in the Senate and many of the leading GOP candidates say no one should get a vote and the seat should remain empty until the next president nominates a successor. That could leave this battle raging for well over a year.” The [New York Times](#) (2/15, Hulse, Subscription Publication, 12.03M) says “the unexpected vacancy...immediately made the Supreme Court a dominant issue in the presidential campaign. The court, usually cast in the role of deciding issues that elections cannot, now may be the issue that decides the election.”

Scalia Left Suggestions On Successor In Passage From 2015 Dissent. The [New York Times](#) (2/15, Liptak, Subscription Publication, 12.03M) writes that “we know more than you might think” about what sort of successor Scalia might have preferred. In a “largely overlooked passage in his dissent from the court’s decision in June establishing a constitutional right to same-sex marriage, he left detailed suggestions,” such as finding “someone who did not go to law school at Harvard or Yale,” or “a candidate from the Southwest” or an evangelical Christian. He “was criticizing the lack of diversity of the court he sat on, and he did not exclude himself.” [ABC World News](#) (2/15, story 6, 2:30, Muir, 5.84M) and the [CBS Evening News](#) (2/15, story 11, 2:05, Pelley, 5.08M) both broadcast remembrances of Scalia’s life and career.

Scalia’s Death Sparks Conspiracy Theories. The [Washington Post](#) (2/15, Sun, Horwitz, 8.98M) reports on the “conspiracy theories” arising in the wake of Scalia’s sudden death, particularly since no autopsy was ordered. The [AP](#) (2/15, Hananel, Warren) reports that Presidio County Judge Cinderela Guevara, “who decided no autopsy was needed,” said she spoke to Scalia’s doctor on the day he was found dead and was told that Scalia “had a history of heart trouble, high blood pressure and was considered too weak to undergo surgery for a recent shoulder injury.”

Writer Wonders If Obama Could Sue Senate Over Obstruction. Writing at the [Huffington Post](#) (2/15, 518K), television writer Michael Russnow asks, “Why can’t Obama sue the Senate?” Last September, “a court determined that the House of Representatives could sue the Executive Branch over funding of the Affordable Care Act.” He argues that “a Senate led by an obstructionist” may be overstepping constitutional boundaries.

SURGEON GENERAL SAYS “TRUSTED VOICES” NEED TO GET INVOLVED IN FLINT. The [Detroit Free Press](#) (2/15, Allen, 989K) reports Surgeon General Murthy said in Flint, Michigan on Monday night that “most Flint kids exposed to toxic lead in the city’s tap water should be OK, but ‘trusted voices’ need to impart critical nutrition and education.” Murthy said, “The problem is, we don’t know which kids are going to develop complications going forward. And that’s why what we have to do is make sure that we are providing as much support to these kids and their families as possible.”

HOUSE FETAL TISSUE INVESTIGATION SUBPOENAS MORE THAN 30 GROUPS. The [Washington Post](#) (2/15, DeBonis, 8.98M) reports the special House committee formed amid the Planned Parenthood fetal tissue controversy “has begun a broad investigation of the matter, issuing document requests to

more than 30 agencies and organizations, including a closely scrutinized abortion clinic and some of the nation's most prominent research institutions." Subpoenas were sent to "StemExpress, a California firm that prepares human specimens for researchers; Southwestern Women's Options, an Albuquerque abortion clinic; and the University of New Mexico, whose Health Sciences Center conducts medical research using fetal tissue." Critics have expressed concern about "the privacy implications of the wide-ranging requests."

Editorial Wrap-Up:

NEW YORK TIMES. *"A College Education For Prisoners."* The [New York Times](#) (2/16, Subscription Publication, 12.03M), in an editorial, says "the most effective way to keep people out of prison once they leave is to give them jobs skills," and that "means restarting prison education programs." The Times says that those inmates "who attend privately financed college classes" have much lower recidivism rates, with a Bard College program showing a "recidivism rate of 4 percent" for participants and "2.5 percent" for graduates. The Times urges New York to provide public funding for college education for prison inmates.

"The Chirp Heard Across The Universe." A [New York Times](#) (2/16, Subscription Publication, 12.03M) editorial

"How The Coal Industry Flattened The Mountains Of Appalachia." The [New York Times](#) (2/16, Subscription Publication, 12.03M), in an editorial, denounces "mountaintop removal" mining for "leaving behind...a grossly disfigured landscape." It cites a report from Duke University researchers on the effects of the practice, and points out that the Interior Department is "working on a stronger Stream Protection Rule." The Times concludes by quoting Chief Judge Charles Haden II of United States District Court, "No effect on related environmental values is more adverse than obliteration."

WASHINGTON POST. *"Ukraine Should Heed Its Economy Minister's Warning On Corruption."* The [Washington Post](#) (2/15, 8.98M) in an editorial says that Ukraine must "build a strong and prosperous nation" if it is going to remain independent of Russia, but has so far "remained mired in a system in which billionaires gobble up state assets and siphon off the revenue streams." The Post says the problem goes "all the way to the top" of Ukraine's government, and that if Ukraine is to "survive" it must be rid of this system.

"Senators, Do Your Job And Vote On The Next Supreme Court Nominee." The [Washington Post](#) (2/15, 8.98M) editorializes, "This one shouldn't be complicated. The fourth year of President Obama's four-year term has just begun. Senators are elected to six-year terms, and all of them have at least 11 months still to serve." Scalia's death "has created a vacancy on the nine-member Supreme Court. The Constitution tells the president to nominate justices and senators to confirm or reject those nominees."

"Gun Safety Advocates Are Wrong To Rebuff Gov. McAuliffe's Gun Control Victory." The [Washington Post](#) (2/15, 8.98M) says it's a "shame" that gun safety advocates have "vilified" Virginia Gov. Terry McAuliffe for scrapping the state's attorney general's order ending recognition of concealed-carry permits from 25 states "with lax standards" in return for "a concession from the pro-gun lobby" that will allow the state to criminalize gun possession of almost 5,000 domestic abusers hit with protective orders annually. While the deal "isn't perfect," a "cold-eyed assessment suggests that Mr. McAuliffe got the better bargain."

WALL STREET JOURNAL. *"The Supreme Court After Scalia."* The [Wall Street Journal](#) (2/16, Subscription Publication, 6.74M) says in an editorial that it is liberals who have politicized the Court, so it is reasonable that Republicans would prefer to wait for a new president before confirming a nominee.

"The Schumer Precedent." The [Wall Street Journal](#) (2/16, Subscription Publication, 6.74M) quotes Sen. Charles Schumer from a 2007 speech, 18 months before President Bush left office, saying that should a vacancy arise, he would recommend to his colleagues "that we should not confirm any Bush nominee to the Supreme Court except in extraordinary circumstances."

“Donald Trump’s MoveOn.org Moment.” The [Wall Street Journal](#) (2/16, Subscription Publication, 6.74M) blasts Donald Trump’s claim during Saturday’s GOP debate that the Administration of President George W. Bush deliberately “lied” about the existence of weapons of mass destruction in Iraq, noting that there is no evidence to support the claim. The Journal says touting false conspiracy theories should disqualify a presidential candidate because it undermines public trust in democracy and argues Trump’s willingness to entertain the theory demonstrates the risk the GOP would be taking by making him the party’s presidential nominee.

Big Picture:

HEADLINES FROM TODAY’S FRONT PAGES.

Wall Street Journal:

[Scalia’s Death Sets Up Collision](#)

[Millennial Wave Unsettles Presidential Race](#)

[Senate Girds For A Pivotal Battle On Court Nominee](#)

[Stocks Rise As Banking Shares Rally](#)

New York Times:

[Before Scalia’s Death, A Clash Between GOP And Obama Over Appellate Judges](#)

[What Would Scalia Want In His Successor? A Dissent Offers Clues](#)

[South Carolina Church Bridges Racial Gap, But Not Political Divide](#)

[Bush Brothers Swipe At Donald Trump](#)

[Tasked With Combating Opium, Afghan Officials Profit From It](#)

[Cornell’s Plan To Merge Hotel School Gets An Icy Reception](#)

[Kendrick Lamar Sweeps Rap Field At Grammys; Taylor Swift Wins Best Album](#)

Washington Post:

[In Nev. Sanders Is Challenging Clinton’s “Firewall”](#)

[“My Demons Won Today”: Ohio Activist’s Suicide Spotlights Depression Among Black Lives Matter Leaders](#)

[Court Fight Hits Senate Races](#)

[Venezuela Lacks Tools To Battle Zika Virus](#)

[In A Fearful Europe, Racial Profiling Becomes More Common](#)

Financial Times:

[Russia-Turkey Tensions In Syria Hit Peak](#)

[Criminals’ “Currency Of Choice” For Chop](#)

Washington Times:

[Special Forces Face Challenges As Integration Of Women Loom](#)

[Lawmakers Hope To Stop Pressure On Child Brides In Virginia](#)

[Ex-President Makes Return To Campaign For Jeb Bush](#)

[Obama Starts With Cautious Approach To Fill Scalia’s Seat](#)

[Kiosk Carnage Raises Questions On Moscow’s Business Climate](#)

[Palestinians Admit To Working With Israel To Foil Local Attacks](#)

Story Lineup From Last Night’s Network News:

ABC: Severe Weather; Weather Forecast; 2016 Politics-Republicans; 2016 Politics-Democrats; Supreme Court Nomination Debate; Supreme Court Justice Scalia Death; Syria-Hospital Bombed; Virgin Atlantic Flight-Laser Scare; Heartburn Medication Warning; Peyton Manning-University Of Tennessee Allegations; Pope Francis-Mexico Visit; Westminster Dog Show.

CBS: Supreme Court Justice Scalia Death; Supreme Court Nomination Debate; Supreme Court Nomination Process; 2016 Politics-Republicans; Syria-Hospital Bombed; Pope Francis-Mexico Visit; Central America-Migration Crisis; Severe Weather; Alaska Flight-Smoke; Lincoln Memorial Restoration; Justice Scalia-Record.

NBC: Supreme Court Nomination Debate; Supreme Court Nomination Process; 2016 Politics-Republicans; 2016 Politics-Democrats; Severe Weather; Syria-Hospital Bombed; Pope Francis-Mexico Visit; Heartburn Medication-Warning; Virgin Atlantic Flight-Laser Scare; 2015 Airline Safety; Jimmy Carter-Grammy.

Network TV At A Glance:

Supreme Court Justice Scalia Death – 19 minutes, 05 seconds
2016 Politics – 12 minutes, 50 seconds
Severe Weather – 6 minutes, 25 seconds
Syria-Hospital Bombed – 4 minutes, 35 seconds
Pope Francis-Mexico Visit – 0 minutes, 45 seconds

Story Lineup From This Morning's Radio News Broadcasts:

ABC: Supreme Court Nomination Debate; Severe Weather-Snow Storms; 2016 Politics-Republican Campaign Trail; Financial Markets.
CBS: Supreme Court Nomination Debate; 2016 Politics-Jeb Bush Campaign; Severe Weather-Damages; Grammy Awards; Oregon Legislation-Coal Reduction; Gas Price Decrease.
NPR: Supreme Court Nomination Debate; 2016 Politics-Jeb Bush Campaign; 2016 Politics-Republicans; US-ASEAN Summit; Severe Weather-Damage; Indian University-Student Protests; Bahrain-US Journalists Detained.
FOX: Supreme Court Nomination Debate; Syria Hospital Bombed-France Condemnation; US-ASEAN Summit; Severe Weather Damage.

Washington Schedule:

TODAY'S EVENTS IN WASHINGTON.

White House:

PRESIDENT OBAMA — Hosts day two of the US-ASEAN Summit in California.

VICE PRESIDENT BIDEN — No public scheduled events.

US Senate: Senate on recess from 12 Feb – 22 Feb

US House: House of Representatives on recess from 12 Feb – 22 Feb

Other: 9:30 AM Public Citizen Goes to Court Seeking to Uncover Misconduct by Immigration Judges – Public Citizen will argue before the U.S. Court of Appeals for the D.C. Circuit that the government should be required to disclose information about immigration judges who have been accused of misconduct. In 2013, Public Citizen and the American Immigration Council, acting as counsel for the American Immigration Lawyers Association (AILA), sued the U.S. Executive Office for Immigration Review (EOIR) under the Freedom of Information Act. The lawsuit challenged EOIR's refusal to disclose complaints against immigration judges and to make public records that would reveal agency investigations of and resolutions to those complaints. After filing the lawsuit, EOIR released nearly 16,000 pages of complaint and complaint resolution documents. However, key sections of many documents were blacked out. And none of the documents contained the names of the immigration judges who had been the subject of complaints, even though these judges are high-ranking public officials who make life-or-death decisions for the immigrant Location: Courtroom 31, U.S. Court of Appeals for the D.C. Circuit, 333 Constitution Ave., NW <http://www.citizen.org/Page.aspx?pid=2281> https://twitter.com/public_citizen

8:30 AM National Academies workshop on the Zika virus – National Academies of Science, Engineering, and Medicine convene workshop – at the request of the Department of Health and Human Services – to identify basic research priorities that could be implemented in real time to help minimize the likelihood of local Zika virus transmission in the U.S. and inform public health responses. Experts and stakeholders discuss topics including clinical management, public health resources, and guidance that may be needed to inform prevention, mitigation, detection, and treatment efforts; current research efforts to better understand the virus and research gaps; specific risk factors for the babies of pregnant women who have been infected with the Zika virus and periods of particularly increased risk during pregnancy; burdens associated with microcephaly and other neurological disorders in babies and the resources need to care

for them and other affected individuals; and risk factors for developing Guillain-Barre syndrome after Zika infection and appropriate medical care Location: NAS, 2101 Constitution Ave NW, Washington, DC www.nas.edu/ [#ZikaResearch](https://twitter.com/NASciences)

10:00 AM GOP Rep. Luke Messer speaks at NPC – House Republican Policy Chair Luke Messer discusses governing in the 2016 election year via NPC Newsmaker news conference Location: National Press Club, 529 14th St NW, Washington, DC <http://press.org/> <https://twitter.com/PressClubDC>

10:00 AM Deputy Secretary of State Blinken in conversation at Brookings – ‘New frameworks for countering terrorism and violent extremism: A conversation with Deputy Secretary of State Antony Blinken’ hosted by Brookings Institution Foreign Policy program, on U.S. civilian-led initiatives to counter the spread of the Islamic State group and other violent extremist groups. He charts the path forward and outlines the challenges that lie ahead Location: Brookings Institution, 1775 Massachusetts Ave NW, Washington, DC <http://www.brookings.edu> <https://twitter.com/BrookingsInst> #CVE

1:00 PM Washington FPC briefed on new U.S. assistance for the Syrian crisis – Washington Foreign Press Center On-The-Record Briefing on ‘New U.S. Assistance to Respond to Syria Crisis’, featuring Assistant Secretary of State for Population, Refugees, and Migration Anne Richard, and USAID Acting Assistant Administrator for Democracy, Conflict and Humanitarian Assistance Thomas Staal Location: National Press Bldg, 529 14th St NW, Washington, DC www.fpc.state.gov <https://twitter.com/ForeignPressCtr>

Last Laughs:

LATE NIGHT POLITICAL HUMOR.

Jimmy Fallon: “In addition to the [Los Angeles] marathon, I also saw that President Obama just visited LA. Or as Donald Trump put it, ‘The state is being taken over by Kenyans.’”

Jimmy Fallon: “Actually, while he was in Los Angeles last week, President Obama met privately with Will Smith. Not to be outdone, Joe Biden spent the day learning how to do the Carlton.”

Jimmy Fallon: “Here’s the latest on the election. Donald Trump just promised that he will no longer use foul language on the campaign trail. Now, when people ask him his policy on ISIS, he just says, ‘I’m gonna bomb the shy diddly doodles out of them.’”

Jimmy Fallon: “And during a recent rally in Louisiana, Donald Trump actually autographed someone’s baby. Even crazier, when he handed the baby back to the parents, he said, ‘Congratulations, your baby is worth three times as much now.’”

Jimmy Fallon: “Meanwhile, Ted Cruz’s campaign pulled a recent attack ad after it came out that one of the actresses in the ad had also appeared in some softcore porn films. I feel so bad for that actress who now has to explain to her parents what she was doing in a Ted Cruz ad.”

Seth Meyers: “Republicans and Democrats are fighting over whether President Obama should be able to appoint Justice Scalia’s successor. Democrats say that he should, whereas the Constitution says that he shall.”

Seth Meyers: “The Ted Cruz campaign has pulled a new ad after it was revealed that the actress in it has appeared in softcore porn. And now Jeb has hired her to teach him how to act like he’s enjoying something.”

Jimmy Kimmel: “Donald Trump spent his President’s Day getting ready by photoshopping his head onto a million-dollar bill.”

Jimmy Kimmel: “Meanwhile, in a very different kind of race in LA: the LA marathon, the 31st annual

marathon. Between the marathon and Obama's visit, it was a big week for Kenyans screwing up LA traffic."

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From: [George Waters](#)
To: d_m_ashe@fws.gov; jim_kurth@fws.gov; anna_munoz@fws.gov; stephen_quertin@fws.gov; cynthia_martinez@fws.gov; robert_dreher@fws.gov; charisa_morris@fws.gov; sarah_walters@ios.doi.gov; scott_aikin@fws.gov; noreen_walsh@fws.gov; hilary.tompkins@sol.doi.gov; terri_johnson@ios.doi.gov; michael_bean@ios.doi.gov; karen_hyun@ios.doi.gov; lawrence_roberts@ios.doi.gov; [Freeman, Sharee](#)
Subject: Proposed transfer of Bison Range
Date: Tuesday, February 16, 2016 12:10:08 PM

I thought you might be interested in this article and supportive editorial from the Missoulian, the second largest newspaper in Montana. Vince Devlin's articles also appear in the Billings Gazette.

So sorry to have missed the meeting on February 5th with Chairman Finley and Brian Upton. I was on travel and couldn't be there. I have been involved in this issue since the beginning so please don't hesitate to call or email if you have any questions or if I can be of assistance.

Thanks.

Article from Missoulian newspaper re proposal to transfer the National Bison Range to the CSKT:
http://missoulian.com/news/local/new-direction-for-bison-range-fws-proposal-catches-many-off/article_069afc12-92fa-5ce4-8b80-6b5e64b7044c.html

Editorial from Missoulian Editorial Board supporting the transfer:
http://missoulian.com/news/opinion/editorial/missoulian-editorial-tribes-should-manage-national-bison-range/article_325c9892-db0b-5851-ada0-2769ab5e2e54.html

*George Waters, President
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From: [Anna Munoz](#)
To: [Noreen Walsh](#); [Matt Hogan](#); will_meeks@fws.gov
Subject: Fwd: NBR meetings today and Thursday
Date: Tuesday, February 16, 2016 11:44:58 AM

FYI

Sent from my iPad

Begin forwarded message:

From: "Kodis, Martin" <martin_kodis@fws.gov>
Date: February 16, 2016 at 10:17:45 AM MST
To: Anna Munoz <anna_munoz@fws.gov>
Subject: NBR meetings today and Thursday

Anna,

Roya set up some meetings this week for Cynthia to chat with MT member staff about NBR. She'll be there to answer questions primarily, but if there are none, she'll go over the history of NBR and how we got to the decision to start discussing the possibility of transfer.

If there is anything I should know going in please text me: 202-384-3021.

First meeting (Zinke) is today at 1pm est (45 min from now),

The other meetings (Daines and Tester) are on Thursday.

Marty

--

Martin Kodis
Chief, Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service

5275 Leesburg Pike
Falls Church, VA 22041

703-358-2241 ph
703-358-2245 fax

From: [Betsy Hildebrandt](#)
To: [D.M.Ashe](#)
Subject: Fwd: follow-up
Date: Thursday, February 18, 2016 1:43:58 PM

(b) (5) DPP

Sent from my iPad

Begin forwarded message:

From: "Munoz, Anna" <anna_munoz@fws.gov>
Date: February 18, 2016 at 1:41:36 PM EST
To: Betsy Hildebrandt <Betsy_Hildebrandt@fws.gov>
Subject: Fwd: follow-up

FYI

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

----- Forwarded message -----

From: **Brian Upton** <brianu@cskt.org>
Date: Wed, Feb 17, 2016 at 11:30 AM
Subject: follow-up
To: anna_munoz@fws.gov
Cc: "rusche. ryan" <ryan.rusche@cskt.org>, Robert McDonald <robertmc@cskt.org>

Anna,

After our phone discussion, I was able to connect with Chairman Finley. He said that Director Ashe had contacted him by phone last week and that, during the call, the Director said he understood there was discussion about a joint statement and that the Director said he thought it was a good idea. Chairman Finley said that the Director told him he would send the Chairman the name of FWS staff with whom CSKT staff could follow up regarding working on a statement.

Director Ashe later gave the Chairman the contact information for Betsy Hildebrandt, so my colleague Ryan Rusche then sent Betsy the email I had forwarded to you during our discussion this morning.

I hope that helps. The Chairman did say that he believed that, when Director Ashe called, it was within the context of issuing a statement proactively. However, the Chairman agrees that while there is not a need to issue something proactively at the moment, both CSKT and FWS should have a joint statement that is approved and ready for the next media inquiries.

Following up on your question, I also asked Chairman Finley whether he had communicated to Director Ashe the Tribal Council's support for the FWS proposal. The Chairman thought he had communicated that, but he could not remember with specificity, so he said he will email the Director to confirm the Council support. Please advise if the Director needs anything further with respect to the Council support.

Let us know what you hear on your end.

Thanks,

BU

From: [Noreen Walsh](#)
To: [Matt Hogan](#)
Subject: FW: joint statement
Date: Thursday, February 18, 2016 7:19:54 PM

Please don't forward tonight but I wanted you to see this.

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920

-----Original Message-----

From: Dan Ashe [mailto:d_m_ashe@fws.gov]
Sent: Thursday, February 18, 2016 7:11 PM
To: Vernon Finley
Cc: Brian Upton; Noreen Walsh; cynthia_martinez@fws.gov; Betsy Hildebrandt; will_meeks@fws.gov
Subject: Re: joint statement

Hello Vernon and thank you for your kind note. I am very happy to hear that the CSKT Council is supportive, and we are anxious to begin working together. Our National Wildlife Refuge System Chief, Cynthia Martinez, has been meeting with the Montana delegation staff, and as you described from your visits, she is getting supportive responses.

We met today, with our DOI team, and the DOI Solicitor (Hilary Tomkins) is ready to begin work to draft legislation. Cynthia Martinez will be our point of contact on this effort and stands ready to work with Brian Upton and Hilary. I hope we can have a good draft by the end of next week, as I'm anticipating that the delegation may ask us for assistance in drafting legislation.

We also discussed convening the "Transition Team" that we agreed would be helpful. Our lead on this effort is Will Meeks (in Denver), and by copying him with this note, I'm asking him to take steps to convene this team, working with Brian Upton, and with Cynthia Martinez. As we discussed, we will need to involve BIA, and others from DOI. If you would like others to participate, from the tribal side, please let me know.

On the issue of a joint statement, we stand ready to do that. However, my communications team is suggesting that we hold off, for now, and work on a statement to issue when we have some news, like introduction of legislation. That makes sense to me, but if you feel differently, please let me know.

Thanks again. We are proud to be working with you on this, and look forward to progress and success!

Dan.

Dan Ashe

Director, U.S. Fish and Wildlife Service

> On Feb 17, 2016, at 7:34 PM, Vernon Finley <vernonf@cskt.org> wrote:

>

> Good day Dan:

>

> It was great meeting with you on our recent trip to DC. The news that you
> shared with Brian Upton and myself concerning the Bison Range couldn't
> have been greater appreciated by myself and the Council. I shared the
> meeting as well as the emails that went out to FWS staff with the rest of
> tribal council and they were all ecstatic as well. I also wanted to thank
> you for the phone call and agreement to provide a joint statement about
> the willingness and cooperation between the FWS and CSKT on the transfer.
> That statement will be useful when the time is appropriate.

>

> Again thank you for your hospitality and we are looking forward to working
> with FWS staff to pull the legislation together and presented to Congress.

>

> later,

> vernon

From: [Noreen Walsh](#)
To: [Dan Ashe](#)
Subject: RE: joint statement
Date: Thursday, February 18, 2016 9:23:21 PM

Thank you...

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920

-----Original Message-----

From: Dan Ashe [mailto:d_m_ashe@fws.gov]
Sent: Thursday, February 18, 2016 7:11 PM
To: Vernon Finley
Cc: Brian Upton; Noreen Walsh; cynthia_martinez@fws.gov; Betsy Hildebrandt; will_meeks@fws.gov
Subject: Re: joint statement

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Director, U.S. Fish and Wildlife Service

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> That statement will be useful when the time is appropriate.
>
> Again thank you for your hospitality and we are looking forward to working
> with FWS staff to pull the legislation together and presented to Congress.
>
> later,
> vernon

From: [Noreen Walsh](#)
To: [Dan Ashe](#)
Subject: FW: National Bison Range transfer
Date: Thursday, February 18, 2016 9:31:22 PM

FYI

I suspect you are hearing from a lot of retirees.

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920

-----Original Message-----

From: Dave Heffernan [<mailto:deheffer248@yahoo.com>]
Sent: Thursday, February 18, 2016 11:48 AM
To: noreen_walsh@fws.gov
Subject: National Bison Range transfer

Hi Noreen. We worked together briefly in Atlanta before I transferred to Denver-Refuges in 2000 and subsequently retired in 2003. My wife Catherine and I still reside near Conifer just off of Hwy. 285. I was glad when you were selected the RD for Region 6 as your reputation is a good one. I received a copy of your all-employees memo (not shocking in this day, is it :) concerning the issue of simply transferring the National Bison Range to local CSK tribes since previous efforts to "co-manage" were ineffective. I have no doubt you are very familiar with that whole issue, and I for one do not envy you the position you find yourself in. Careers have been greatly impacted in several cases over this issue, and unfortunately politics seems to oftentimes rule instead of good sound science as well as the future of the Refuge System itself. I'm sure you are aware that I and many others in my situation would be much opposed to the idea of transferring the Bison Range, or any other unit of the NWRS, unless it made sound biological and scientific sense, and would make the Refuge System stronger in the long run. As I said, I do not envy you the position you are in, these are potentially dangerous waters. I would simply encourage you to continue doing what YOU believe is the right thing to do on the part of our resources, and then do your best to take each day as it unfolds. Thanks for listening, I wish you all the best in your position, and pray to the Good Lord that He blesses you with good and honest advisers. Sincerely, Dave Heffernan (retired after 35 years of service with the Refuge System :)

Sent from my iPad

From: [Dan Ashe](#)
To: [Noreen Walsh](#)
Subject: Re: National Bison Range transfer
Date: Thursday, February 18, 2016 10:33:20 PM

Please do!

Dan Ashe
Director, U.S. Fish and Wildlife Service

> On Feb 18, 2016, at 10:11 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>

> No, I don't mind, but I was going to call him. OK if I do that first?

>

> Sent from my iPhone

>

>> On Feb 18, 2016, at 8:04 PM, Dan Ashe <d_m_ashe@fws.gov> wrote:

>>

>> I've received none, actually. I know Dave well, and if you don't mind,

>> I'll send him a reply.

>>

>> Dan Ashe

>> Director, U.S. Fish and Wildlife Service

>>

>>

>>

>>> On Feb 18, 2016, at 9:31 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>>>

>>> FYI

>>> I suspect you are hearing from a lot of retirees.

>>>

>>>

>>>

>>>

>>> Noreen Walsh

>>> Regional Director

>>> Mountain-Prairie Region

>>> U. S. Fish and Wildlife Service

>>> 303 236 7920

>>>

>>>

>>> -----Original Message-----

>>> From: Dave Heffernan [<mailto:deheffer248@yahoo.com>]

>>> Sent: Thursday, February 18, 2016 11:48 AM

>>> To: noreen_walsh@fws.gov

>>> Subject: National Bison Range transfer

>>>

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>>> honest advisers. Sincerely, Dave Heffernan (retired after 35 years of
>>> service with the Refuge System :)
>>>
>>> Sent from my iPad

From: [Will Meeks](#)
To: [Noreen Walsh](#)
Cc: [Matt Hogan](#)
Subject: Re: joint statement
Date: Friday, February 19, 2016 8:07:44 AM

It would seem so. I'll see if I can schedule something for next week. Would you like to be on the call also?

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

On Feb 19, 2016, at 5:24 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

Time to schedule a brief call, as we discussed yesterday?

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

Begin forwarded message:

From: Dan Ashe <d_m_ashe@fws.gov>
Date: February 18, 2016 at 7:10:39 PM MST
To: Vernon Finley <vernonf@cskt.org>
Cc: Brian Upton <brianu@cskt.org>, Noreen Walsh <Noreen_walsh@fws.gov>, cynthia_martinez@fws.gov, Betsy Hildebrandt <Betsy_Hildebrandt@fws.gov>, will_meeks@fws.gov
Subject: **Re: joint statement**

Hello Vernon and thank you for your kind note. I am very happy to hear that the CSKT Council is supportive, and we are anxious to begin working together. Our National Wildlife Refuge System Chief, Cynthia Martinez, has been meeting with the Montana delegation staff, and as you described from your visits, she is getting supportive responses. We met today, with our DOI team, and the DOI Solicitor (Hilary Tomkins) is ready to begin work to draft legislation. Cynthia Martinez will be our point of contact on this effort and stands ready to work with Brian Upton and Hilary. I hope we can have a good draft by the

end of next week, as I'm anticipating that the delegation may ask us for assistance in drafting legislation.

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of legislation. That makes sense to me, but if you feel differently, please let me know.

Thanks again. We are proud to be working with you on this, and look forward to progress and success!

Dan.

Dan Ashe

Director, U.S. Fish and Wildlife Service

On Feb 17, 2016, at 7:34 PM, Vernon Finley
<vernonf@cskt.org> wrote:

Good day Dan:

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Again thank you for your hospitality and we are looking forward to working with FWS staff to pull the legislation together and presented to Congress.

later,

vernon

From: [Noreen Walsh](#)
To: [Will Meeks](#)
Subject: FW: Bison Range
Date: Monday, February 22, 2016 7:39:30 AM
Attachments: [Untitled attachment 00600.htm](#)
[BisonRange.draft.revised.02182016.docx](#)

One thing stands out to me. Give me a call after you have read.

Thanks

Noreen

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Dan Ashe [mailto:d_m_ashe@fws.gov]
Sent: Sunday, February 21, 2016 8:22 PM
To: cynthia_martinez@fws.gov; Noreen Walsh
Subject: Fwd: Bison Range

FYI.

Dan Ashe
Director, U.S. Fish and Wildlife Service

Begin forwarded message:

From: "Roth, Barry" <barry.roth@sol.doi.gov>
Date: February 19, 2016 at 8:59:01 AM EST
To: Shaun Sanchez <shaun_sanchez@fws.gov>, Dan Ashe
<D_M_Ashe@fws.gov>
Subject: Bison Range

(b)5 AC

A large black rectangular redaction box covers the majority of the text in this section, with the text "(b)5 AC" written in red at the top left of the box.

Barry N. Roth
Associate Solicitor
Division of Parks & Wildlife
202-208-4344
Fax: 202-208-3877
Barry.Roth@sol.doi.gov

This email is intended for the use of the individual or entity to which it is addressed. It may contain information that is privileged, confidential, or otherwise protected by applicable law. If you are not the intended recipient or the employee of or agent responsible for delivery of this email to the intended recipient, you are hereby notified that its dissemination, distribution, copying or use of this email is strictly prohibited. If you received this email in error, please notify the sender immediately and destroy all copies.

(b)5 AC/Draft

(b)5 AC/Draft

OFFICE OF THE LAKE COUNTY ATTORNEY

LAKE COUNTY COURTHOUSE

106 Fourth Avenue East
Polson, Montana 59860-2183
Phone (406) 883-7245
Fax (800) 878-9735

STEVEN N. ESCHENBACHER
COUNTY ATTORNEY

CHIEF CRIMINAL DEPUTY COUNTY ATTORNEY
JAMES LAPOTKA

CIVIL DEPUTY COUNTY ATTORNEY
WALTER E. CONGDON

DEPUTY COUNTY ATTORNEY
BENJAMIN R. ANCLAUX
MOLLY OWEN

Feb. 22, 2016

U.S. Fish & Wildlife Service
Mountain-Prairie Region Office
134 Union Blvd
Lakewood, CO 80228

**SUBJECT: NATIONAL BISON RANGE RECORD OF DECISION (ROD)
PROTEST OF DECISION**

Dear Sir or Madam:

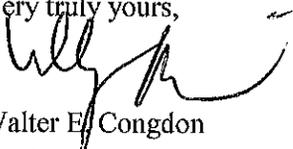
The Dept. of Interior, U.S. Fish and Wildlife service indicated in early February, 2016 that a transfer of the National Bison Range to the Confederated Salish and Kootenai Tribes was a plan or proposal that U.S.F.W.S. was submitting to the local Tribal government for consideration.

Lake County received no notice of this action until the press release and also has had no opportunity to comment upon this action. To our knowledge no consistency review of this action or plan has occurred regarding local land use plans. This protest is based upon 42 USC 4332 which provides for creation of a NEPA document on proposals for actions significantly affecting the quality of the human environment, and consideration of alternatives.

We are also concerned that a Record of Decision may have been entered without considering the inventory and planning requirements of 43 USC 1701 and 1712. These concerns include recreational opportunity, socio-economic impacts, tax base, wildlife, environment, and mitigation options.

If a R.O.D. or NEPA process has not been completed or commenced, consider this letter our request for copies of the work done thus far and a statement of our desire to cooperate in completing consideration of various options for this facility. We desire to fully explore alternatives and mitigation activities.

Very truly yours,



Walter E. Congdon
Civil Deputy Lake County Attorney

cc: Lake County Commissioners
Sanders County Commissioners

From: [Will Meeks](#)
To: [Noreen Walsh](#)
Subject: Wednesday
Date: Tuesday, February 23, 2016 7:34:15 AM

Noreen,

I will be having a call with NBR staff tomorrow at 11:00 am MST.
Please join the call if you can.

866-745-8880
9716357#

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

From: [Jeff King](#)
To: [Will Meeks](#); [Mike Blenden](#)
Subject: Re: NBR meeting w staff
Date: Wednesday, February 24, 2016 10:50:59 AM

Use to following call in info.

nonresponsive
nonresponsive

Thanks,

jk
Sent from my iPad

> On Feb 23, 2016, at 7:32 AM, Will Meeks <will_meeks@fws.gov> wrote:

>

> Jeff,

>

> I would like to keep the time. It's only an update (not much new, but
> want the chance to talk to staff).

>

> Will Meeks

> U.S. Fish and Wildlife Service

> Mountain-Prairie Region

> Assistant Regional Director

> National Wildlife Refuge System

> 303-236-4303 (w)

> 720-541-0310 (c)

>

>> On Feb 22, 2016, at 1:32 PM, Jeff King <jeff_king@fws.gov> wrote:

>>

>> Will. We have some conflicts with a few staff. Amy will be at the WS

>> mtg in Missoula but could try to call in from there. Mike K and Dean

>> will be at a Flathead Advisory board meeting and won't be able to

>> participate. I think the rest are available. What do you want to do?

>>

>> Thanks

>>

>> jk

>>

>> Sent from my iPhone

>>

>>> On Feb 22, 2016, at 10:32 AM, Will Meeks <will_meeks@fws.gov> wrote:

>>>

>>> Yep

>>>

>>> Will Meeks

>>> U.S. Fish and Wildlife Service

>>> Mountain-Prairie Region

>>> Assistant Regional Director

>>> National Wildlife Refuge System

>>> 303-236-4303(w)

>>> 720-541-0310 (c)

>>>

>>>> On Feb 22, 2016, at 12:19 PM, Jeff King <jeff_king@fws.gov> wrote:

>>>>

>>>> On the 24th?

>>>>

>>>> Thanks

>>>>

>>>> jk

>>>>

>>>> Sent from my iPhone

>>>>

>>>>> On Feb 22, 2016, at 10:18 AM, Will Meeks <will_meeks@fws.gov> wrote:

>>>>>

>>>>> Yes, sorry for the moving target. 11:00 Mountain, 1:00 EST.

>>>>>

>>>>> Will Meeks

>>>>> U.S. Fish and Wildlife Service

>>>>> Mountain-Prairie Region

>>>>> Assistant Regional Director

>>>>> National Wildlife Refuge System

>>>>> 303-236-4303(w)

>>>>> 720-541-0310 (c)

>>>>>

>>>>>> On Feb 22, 2016, at 12:15 PM, Jeff King <jeff_king@fws.gov> wrote:

>>>>>>

>>>>>> Will. I'm confused on the final date and time you'd like to talk to

>>>>>> nbr staff. I need to know soon so I can make sure I can have as many

>>>>>> as possible available.

>>>>>>

>>>>>> Thanks

>>>>>>

>>>>>> jk

>>>>>>

>>>>>> Sent from my iPhone

From: [Will Meeks](#)
To: [Jeff King](#)
Subject: Fwd: joint statement
Date: Thursday, February 25, 2016 10:37:56 AM

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

Begin forwarded message:

From: Dan Ashe <d_m_ashe@fws.gov>
Date: February 18, 2016 at 9:10:39 PM EST
To: Vernon Finley <vernonf@cskt.org>
Cc: Brian Upton <brianu@cskt.org>, Noreen Walsh <Noreen_walsh@fws.gov>, cynthia_martinez@fws.gov, Betsy Hildebrandt <Betsy_Hildebrandt@fws.gov>, will_meeks@fws.gov
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Dan.

Dan Ashe
Director, U.S. Fish and Wildlife Service

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Again thank you for your hospitality and we are looking forward to working with FWS staff to pull the legislation together and presented to Congress.

later,

vernon

From: [Roberts, Lawrence](#)
To: [Dan Ashe](#)
Cc: [Tommy Beaudreau](#); [Hilary Tompkins](#); [Bob Dreher](#)
Subject: Re: Bison Range
Date: Thursday, February 25, 2016 7:18:34 PM

Great news. Thanks for the update Dan.

On Thu, Feb 25, 2016 at 10:05 AM, Dan Ashe <d_m_ashe@fws.gov> wrote:

(b) (5) DPP



Dan.

Dan Ashe
Director, U.S. Fish and Wildlife Service

--

Lawrence S. Roberts
Acting Assistant Secretary - Indian Affairs
Main number 202-208-7163

From: [King, Jeff](#)
To: [Noreen Walsh](#); [Will Meeks](#); [Mike Blenden](#)
Cc: [Laura King](#)
Subject: Meeting Notes, Feb. 5
Date: Friday, February 26, 2016 3:06:48 PM
Attachments: [2_5_16_NBR_Transfer_Meeting_Notes.docx](#)

I requested that Laura take notes at the meeting we had on February 5. She provided a draft copy to me and the staff and we have made our suggested edits. I'm providing these notes to each of you as well. Feel free to make any suggested edits based on your own meeting notes you might have taken.

I feel it's important to document our conversations as we move through this process and in particular any discussions about the commitments being made to support and protect the NBR staff.

Please let me know if you have any questions.

Thanks,

jk

Jeff King, Project Leader
National Bison Range Complex
58355 Bison Range Road
Moiese, MT 59824
(406) 644-2211, ext. 204

From: [King, Jeff](#)
To: [Will Meeks](#); [Mike Blenden](#)
Subject: February 24 meeting notes
Date: Friday, February 26, 2016 3:17:10 PM
Attachments: [Draft 2-24-16 Meeting Notes final.docx](#)

Will and Mike,

Here are the meeting notes from our conference call updating staff on the transfer of NBR. Let me know if you have any edits you would like me to make.

Thanks,

jk

Jeff King, Project Leader
National Bison Range Complex
58355 Bison Range Road
Moiese, MT 59824
(406) 644-2211, ext. 204

From: [Cynthia Martinez](mailto:Cynthia.Martinez@fws.gov)
To: cathey_willis@fws.gov
Subject: Fwd: Phone message
Date: Friday, April 08, 2016 6:39:33 AM

Begin forwarded message:

From: "Martinez, Cynthia" <cynthia_martinez@fws.gov>
Date: February 26, 2016 at 4:35:50 PM AST
To: Brian Upton <brianu@cskt.org>
Subject: Re: Phone message

Good Evening,

The U.S. Fish and Wildlife Service (Service) is in discussions with the Confederated Salish Kootenai Tribes (CSKT) regarding the transfer of the lands comprising the National Bison Range to be held in federal trust for the benefit of the CSKT. This begins a new phase in a longstanding relationship between the Service and CSKT in the conservation of the land, bison, and other natural resources comprising the National Bison Range. The Service believes now is the right time to begin the transition in to trust of a refuge long ago carved out of tribal lands. This is an ongoing process that will require Congressional approval.

On Fri, Feb 26, 2016 at 2:35 PM, Brian Upton <brianu@cskt.org> wrote:
Thank you Cynthia; this is helpful to know. If you could forward me a copy of the email, I'd really appreciate that as well.

I'll plan on touching base with you early next week.

-----Original Message-----

From: "Martinez, Cynthia" <cynthia_martinez@fws.gov>
To: brianu@cskt.org
Date: 02/26/16 12:17 PM
Subject: Phone message

mike.freeman@mail.house.gov, erica.rhoad@mail.house.gov, "Kimball, Spencer" <spencer.kimball@mail.house.gov>, kiel.weaver@mail.house.gov, "todd.ungerecht" <todd.ungerecht@mail.house.gov>, parish.braden@mail.house.gov,

Per my rambling voicemail, this is who we sent an email to in the House.

Thanks,
Cynthia

From: [Stephen Torbit](#)
To: [Anna Munoz](#); [Will Meeks](#)
Subject: RE: More Bison inquiries
Date: Monday, February 29, 2016 9:31:00 AM

I have a bison call from 10 – Noon and am free after that. Or could chat before 10.

Stephen C. Torbit
Assistant Regional Director
Science Applications
U.S. Fish and Wildlife Service
134 Union Blvd.
Lakewood, Colorado 80228
303-236-4602 – Office
720-626-7504 – Cell

From: Anna Munoz [mailto:anna_munoz@fws.gov]
Sent: Monday, February 29, 2016 9:29 AM
To: will_meeks@fws.gov; stephen_torbit@fws.gov
Subject: Fwd: More Bison inquiries

Can we discuss ASAP?

Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service
[134 Union Blvd.](#)
[Lakewood, CO 80228](#)
Office: [303-236-4510](tel:303-236-4510)
Cell: [720-648-2542](tel:720-648-2542)

Begin forwarded message:

From: William Reffalt <w.c.reffalt@comcast.net>
Date: February 29, 2016 at 9:24:32 AM MST
To: "'Jones, Lee'" <lee_c_jones@fws.gov>
Cc: <anna_munoz@fws.gov>
Subject: **More Bison inquiries**

Hello, again: I have also been reading the DOI Bison Report – 2014, and The Ecological Future of the North American Bison: Conceiving Long-Term, Large-Scale Conservation of Wildlife (by Eric Sanderson, et al in 2008). I find the herd by herd write-ups in the DOI Report very enlightening. However, I find contradictions between the DOI Team write-up for the National Bison Range (pp. 36-38), Natalie Halbert and James Derr's article: A Comprehensive Evaluation of Cattle Introgression into US Federal Bison

Herds, and the material presented on the NBR website under “Wildlife and Habitat”, then “Bison,” and, finally the Statements by Regional Director Noreen Walsh and NWRS Chief Cynthia Martinez regarding the current status of the Bison in North America and the notion that the NBR has been so successful that FWS believes it can move on to other matters.

Without putting either of you on the spot, doesn't the larger picture and longer view strongly indicate that the NBR habitats and the NBR Bison herd, within its ecological context, remain an extremely important component to the full conservation and restoration of the N.A. plains bison? Forgive me, but it seems that the right-hand, left-hand concept is at play here.

Bill

From: [Munoz, Anna](#)
To: [Stephen Torbit](#)
Cc: [Will Meeks](#)
Subject: Re: More Bison inquiries
Date: Monday, February 29, 2016 10:01:02 AM

Let's plan on chatting around 12:30?

Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

On Mon, Feb 29, 2016 at 9:31 AM, Stephen Torbit <Stephen_Torbit@fws.gov> wrote:

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Stephen C. Torbit

Assistant Regional Director

Science Applications

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Bill

From: [Munoz, Anna](#)
To: [Stephen Torbit](#)
Subject: Fwd: Beginning questions
Date: Monday, February 29, 2016 12:38:01 PM

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

----- Forwarded message -----

From: **William Reffalt** <w.c.reffalt@comcast.net>
Date: Mon, Feb 29, 2016 at 8:53 AM
Subject: RE: Beginning questions
To: "Jones, Lee" <lee_c_jones@fws.gov>
Cc: anna_munoz@fws.gov

Lee: Thanks, very much. I obviously have a lot of reading, and hopefully "learning" to do. I continue to have a problem understanding just how one goes about "reducing or ridding" a bison population that has introgression by cattle genes from that condition? Would "drift" amount to a natural way for a population to achieve increased "purity"? If metapopulations tend to reduce drift, does that not also reduce the efforts to lower the level of cattle introgression? Is culling the only method available to increase "purity" in a population known to have introgression? In populations of less than 50 animals (or even 100?) would total testing and culling result in definite and measurable movement toward "purity"? I have read the Bison Conservation Initiative – Bison Conservation Genetics Workshop – 2012/257 report and its section on "Resolving Introgression" but I fail to see a solution in the columns. Rather, it seems to be interim steps of testing, evaluation, and essentially trial and error research at this point. Am I incorrect? It would seem that if you have a herd testing positive for cattle introgression, and at the same time that herd is known to contain unique and valuable alleles, it raises a difficult paradox for management that requires complete testing and development of techniques designed to remove specific animals from breeding or even their elimination. Is that incorrect?

Bill

P.S. Anna: I don't know you or where you are stationed or your job title. Would you please enlighten me a bit? Thanks!

From: Jones, Lee [mailto:lee_c_jones@fws.gov]
Sent: Monday, February 29, 2016 6:42 AM
To: William Reffalt <w.c.reffalt@comcast.net>
Cc: Anna Munoz <anna_munoz@fws.gov>

Subject: Re: Beginning questions

Hi Bill,

Thank you for your patience for my reply, as I've been in and out of the office and am currently back in the field this week. As I explained over the phone, I'm happy to provide answers to your general genetics questions about NWRS bison conservation, but I've cc'd Anna Munoz on this message, as Anna is the person who can help you with any questions you may have regarding the National Bison Range.

FWS bison have been managed as a metapopulation since 2007. If FWS bison were not managed as a metapopulation with specific efforts to conserve genetic diversity, you would be correct about the size of the individual herd being very important in reducing genetic loss through drift. However, by managing the individual FWS herds as a metapopulation, we have essentially increased the "herd" size to around 1400 bison including all FWS herds, such that the loss due to drift is decreased. Several publications are available that support bison management through a metapopulation, including Gates et al. 2010, Hedrick 2009 and Dratch and Gogan 2010, and this concept is widely accepted for conservation of wildlife.

Management within herd to conserve diversity is yet another step we take against loss through drift, and a recent publication demonstrates that using genetic markers to manage for low mean kinship conserves diversity better than random removal or rare allele conservation (Giglio et al. 2016). This within herd diversity management provides additional protection against loss due to genetic drift in small herds.

I've attached publications for you here. Please let me know if you have any questions about these documents and thanks again for your patience. Lee

Lee C. Jones

USFWS-Wildlife Health office

10 E. Babcock, Rm 105

Bozeman, MT 59715

Office: 406.587.2169

Cell: 406.600.8405

Fax: 406.587.9098

lee_c_jones@fws.gov

On Wed, Feb 17, 2016 at 3:54 PM, William Reffalt <w.c.reffalt@comcast.net> wrote:

Lee: Good to talk with you. I am still working on questions, but have a couple of starting questions. I hope you will excuse the total lack of knowledge on my part for genetic concepts and jargon.

Questions: Is the FWS Bison meta-population plan/program in effect now? If not, is it still to be installed? When?

Of the six FWS Bison populations, is it correct or incorrect to state that the “founding populations” herds (i.e. Wichita, Ft. Niobrara, National Bison) are relatively more important due to available range, experienced management programs, and the age/strength/relative integrity of the genetic makeup of those herds? [That is: Denver Arsenal, Sully’s Hill, and Smith Bison are fewer in number (more vulnerable to genetic drift) with ranges limited in size and which will limit the population indefinitely].

Again, thank you for whatever you feel comfortable providing in response. I am in possession of some reports, and the Thesis you copied for my long ago (U. Texas). I can use the Univ. of NM Library to run down other references you may provide.

Bill

From: [Munoz, Anna](#)
To: [Stephen Torbit](#)
Subject: Fwd: Beginning questions
Date: Monday, February 29, 2016 12:38:10 PM
Attachments: [Giglio et al-2016-Animal Conservation.pdf](#)
[Bison Genetics Report_FINAL_DratchGogan2010.pdf](#)
[Gates et al 2010 IUCNbisonconserveguide.pdf](#)
[Hedrick conservgeneticsbison JH2009.pdf](#)

Anna Muñoz
Assistant Regional Director - External Affairs
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Lee C. Jones
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Bill

Evaluation of alternative management strategies for maintenance of genetic variation in wildlife populations

R. M. Giglio¹, J. A. Ivy², L. C. Jones³ & E. K. Latch¹

¹ University of Wisconsin-Milwaukee, Milwaukee, WI, USA

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³ U.S. Fish and Wildlife Service, Bozeman, MT, USA

Keywords

bison; wildlife management; pedigree; modeling; culling; genetic variation; genetic diversity.

Correspondence

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Associate Editor: Juan Bouzat

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Abstract

Wildlife management strategies are often designed around a population's demographic goals, but such strategies also can inadvertently impact genetic variation. For species like bison *Bison bison*, where management includes the regular removal of individuals to maintain restricted population sizes on constrained landscapes, management actions can be tailored to address genetic diversity retention in addition to simply maintaining a target population size. In this study, we provide an assessment of alternative culling strategies for maintenance of genetic variation in managed wildlife populations. Our primary goal was to compare the long-term retention of genetic variation and accumulation of inbreeding among three types of culling strategies, including one that considered genetic variation directly by measuring variation at a suite of variable loci [mean allele frequency (MAF) strategy], one that used genome-wide measures of variation [mean kinship (MK) strategy] and one that relied solely on demographic information (sex and age; RANDOM). To achieve this goal, we built an individual-based model, parameterized in accordance with bison biology, to project levels of genetic variation and inbreeding over time under each of the three management strategies. Our results suggest wildlife management strategies that incorporate goals for retaining genetic variation (MAF and MK strategies) are better suited to preserving the evolutionary potential of wildlife populations than those that focus solely on a target size and demographic stability (RANDOM). In particular, the MK culling strategy performed the best at maximizing the retention of genome-wide variation. These results extend previous work demonstrating the utility of pedigree-based mate selection strategies in captive population management, and show that such strategies maximize the retention of genome-wide variation under culling practices as well. These models will aid in the long-term management of bison, and can be adapted to other managed wildlife species.

Introduction

Wildlife management is an old practice, with Egyptian hunting records dating as far back as 2500 BCE (Leopold, 1933; Gilbert & Dodds, 2001). Today, wildlife management programs aim to maintain self-sustaining populations that are viable over the long term. Historically, this goal has been met by focusing on actions to maintain demographic stability, mainly by enforcing hunting and trapping restrictions such as bag limits or closed harvest seasons. As habitats are increasingly altered and wildlife populations are more heavily impacted by human activities, the intensity of wildlife management has increased, with more species dependent on regular monitoring and intervention to ensure their persistence. Management practices such as moratoria, anti-poach-

ing efforts, predator removal, culling, health care and disease management are often undertaken at the scale of the individual animal, especially for small populations.

Small, isolated populations are not only less demographically stable than large populations, but they are also more susceptible to erosion of genetic variation by genetic drift (Wright, 1931). In the absence of gene flow, the loss of genetic variation through drift is not mitigated. A lack of genetic variation not only makes a population more susceptible to inbreeding depression (Ralls, Brugger & Ballou, 1979; Crnokrak & Roff, 1999; Keller & Waller, 2002), but also less able to adapt to changing environmental conditions (Falconer, 1981; Keller *et al.*, 1994; Willi, Van Buskirk & Hoffmann, 2006; Markert *et al.*, 2010). Preserving genetic variation has become a priority for management, particularly

for small and isolated populations, in order to maintain long term viability (McNeely *et al.*, 1990; Lacy, 1997).

A number of different strategies exist to maintain genetic variation in small, isolated populations. Indirect methods aim to maximize the exchange of genetic variation from generation to generation, and include maintaining balanced sex ratios (Komers & Curman, 2000; Harris, Wall & Allendorf, 2002; Peek *et al.*, 2002; Wedekind, 2002), avoiding fluctuations in population size over time (Caballero & Toro, 2000) and extending mean generation length (Foose & Ballou, 1988). For example, removal or contraception of young animals results in a greater proportion of offspring born to older females, an increase in generation time and higher retention of genetic variation (Gross, 2000; Gross & Wang, 2005; Hailer *et al.*, 2006). These indirect approaches are typically straightforward to implement because they do not require genetic data to be obtained for individuals.

Management strategies can also be designed to manage genetic variation directly. If genetic data are available for individual animals, strategies designed to maximize the retention of alleles could maintain variation in small and isolated populations (Wayne *et al.*, 1986). When rare alleles are found in individuals with underrepresented ancestry, an allele retention strategy could preserve rare and potentially important variation in a population (Hedrick & Miller, 1994). In contrast, if rare variants are deleterious, selective retention of such alleles could reduce the population's fitness (Hedrick *et al.*, 1986; Lacy, 2000). Additionally, strategies to retain specific rare alleles might result in loss of genetic variation across the remainder of the genome (Haig, Ballou & Derickson, 1990; Vrijenhoek & Leberg, 1991; Miller, 1995). Rare allele retention strategies have been shown to be ineffective at retaining overall genetic variation when selecting breeding pairs for captive population management (Haig *et al.*, 1990; Miller, 1995). Nevertheless, such strategies could be effective in a population-based management approach in which individuals with rare alleles are preferentially retained in the population, but may or may not actually produce offspring because breeding is not managed.

The most effective genetic management strategies for captive population management have been those that consider genome-wide variation, rather than variation at a suite of target loci. Specifically, a management strategy that minimizes the average kinship (i.e. coancestry) in a population is an effective way to retain genetic diversity and limit the accumulation of inbreeding (Ballou & Lacy, 1995; Fernández & Toro, 1999; Sonesson & Meuwissen, 2001). A population's average kinship can be managed through breeding genetically valuable individuals (i.e. those with few relatives in the population and low mean kinships (MKs); Ballou & Lacy, 1995). However, it is impossible to dictate breeding pairs in free-ranging populations. In order to minimize average kinship in wild or semi-wild populations in which breeding pair selection is not possible, individuals with high MKs could be removed from populations. For example, removing individuals with high MK values and replacing them with unrelated individuals is outlined in the conservation plan for island populations of the endangered takahe in New Zealand

(Grueber *et al.*, 2010). The concept has also been evaluated as a possible option for controlling the population size of wild horses on Assateague Island, while still maintaining genetic variation (Eggert *et al.*, 2010). Although MK-based strategies require genetic data for individual animals and established pedigrees, they could offer a distinct advantage for conserving genetic variation in intensively managed wild populations when such data are available.

Just 200 years ago, plains bison *Bison bison bison* numbered 30–50 million in herds of up to 10 000 animals (Redford & Fearn, 2007). By the late 1800s, massive overhunting and land use change reduced the population to roughly 1000 individuals, <1% of the historical population size. Efforts to establish managed herds led to an increase in the number of bison to over 500 000 individuals in North America (WCS, 2015). The successful recovery of bison is limited by the fact that the majority of extant herds are descendants of fewer than 100 bison from five private herds and a remnant population from the Yellowstone National Park (Coder, 1975). Additionally, <4% of the contemporary North American bison population (~19 000 animals) is currently maintained in conservation herds; the rest are maintained in privately owned or commercial herds. These 19 000 bison are divided into 54 conservation herds, where they are independently managed to maintain the long-term viability of the species (Gates & Aune, 2008).

Though bison have made a remarkable demographic recovery, a number of obstacles remain to ensure genetic viability over the long term. First, conservation herds were established with small numbers of individuals that remained after the severe bottleneck (Halbert, 2003; Halbert & Derr, 2008). Surplus animals from these conservation herds were often used to establish new herds, potentially exacerbating the loss of genetic variation. Second, gene flow between herds has been sporadic during the past century, often limited by concerns about disease introduction (Williams & Barker, 2001). Third, conservation herds are typically maintained at small population sizes to avoid permanent habitat damage and accommodate multiple-use goals on small, isolated reserves (Boyd, 2003; Boyd *et al.*, 2010). To maintain consistent population sizes, individuals are typically removed from populations each year. These obstacles make it critical that management of conservation herds focuses on retaining as much existing variation as possible. The annual removal of individuals is a key stage at which management actions could be designed to maximize the retention of genetic variation over time.

In this study, we provide an assessment of alternative culling strategies for maintenance of genetic variation in managed wildlife populations. Our primary goal was to compare the long-term retention of genetic variation and accumulation of inbreeding among three types of culling strategies, including one that considered genetic variation directly by measuring variation at a suite of variable loci, one that used genome-wide measures of variation and one that relied solely on demographic information (sex and age). To achieve this goal, we built an individual-based simulation, parameterized in accordance with bison biology, to project levels of genetic

variation and inbreeding over time by each of the three management strategies. Such individual-based, forward-in-time models are useful to predict the long-term genetic impact of management actions in small, potentially vulnerable populations (Haig *et al.*, 1990; Bruford *et al.*, 2010; Hoban, Bertorelle & Gaggiotti, 2012) or in populations of long-lived species (Tracy *et al.*, 2011) for which it would take many decades to observe effects of management actions.

Materials and methods

An individual-based computer simulation was constructed using the Visual Studio development environment (v10.0) to test the genetic impacts of three alternative culling strategies for wildlife management (Supporting Information Fig. S1). All culling strategies maintained balanced sex ratios in the population and preferentially culled yearlings.

Overview of culling strategies

MAF strategy

The MAF culling strategy was intended to maximize the retention of genetic variation by using a target set of microsatellite loci to guide culling decisions. Alleles at each target locus were ranked in priority based on their frequencies, and then individuals were selected for cull based on an absence of rare alleles. The overall rarity of an individual's alleles was quantified as MAF, calculated as the frequency of an individual's alleles averaged across all target loci:

$$\text{MAF} = \frac{\sum_{n=1}^N (P_{n1} + P_{n2})}{2N},$$

where N represented the number of loci and P_{n1} and P_{n2} represented the population frequencies of the first and second alleles at the n th locus in a given individual. An individual's MAF ranged from a value >0.0 to 1.0, with lower values representing individuals with more rare alleles. Yearlings with the highest MAF values were iteratively selected for cull one at a time until the cull quota was reached, with MAF values being recalculated after each individual cull.

Pedigree-based strategy

The goal of the pedigree-based strategy (MK) was to minimize kinship across the population, thereby maximizing the retention of genome-wide variation. For this strategy, yearlings were chosen for cull based on how well represented their genomes were in the rest of the population. Animals with high representation (i.e. those with many relatives) were chosen for culling, while those with low representation (i.e. those with few relatives) were retained. The kinship (f) of a pair of individuals is the probability that two alleles at a given locus, one randomly drawn from each individual, are identical by descent from a common ancestor (Falconer, 1981). An individual's MK is then the average of pairwise

f s between that individual and all living individuals in the population, including itself (Ballou & Lacy, 1995). MKs range from 0.0 to 1.0 and provide a measure of the representation of an individual's genome within a population; individuals with lower MKs have fewer relatives and, on average, carry rarer alleles than individuals with higher MKs. Yearlings with the highest MK values were iteratively selected for cull, one at a time, until the cull quota was reached, with MK values being recalculated after each individual cull.

Random removal strategy

As its name suggests, the random removal culling strategy (RANDOM) randomly removed yearlings from the population until the target size, with an even sex ratio, was reached. The strategy represented an important comparison to the two previously described, data-driven strategies because a random removal represented the least costly culling strategy to implement, both financially and with regard to required personnel, as it would require no genetic or demographic data other than sex and age.

Bison parameters

The simulation was parameterized in accordance with bison biology, using genetic and demographic information from the bison herd managed by the US Fish and Wildlife Service at the Fort Niobrara National Wildlife Refuge (FTN) in north-central Nebraska (Table 1). The FTN herd is managed annually with a population objective of 350 bison to remain in balance with the habitat and needs of other species. Extensive demographic data, complete genotypes for 55 microsatellite loci, and a nearly complete pedigree exist for this herd as of 2004. Data from 2004 to 2010 were used to parameterize the simulation.

Based on an annual 'adult' mortality rate of 3% for females and 5% for males and an annual 'juvenile' mortality rate of 5% for both sexes (Meagher, 1986), a mortality function was defined to accurately reflect age-specific mortality (see General Simulation Overview, for additional details) (Supporting Information Fig. S2). A maximum age of 24 years was specified to model a realistic lifespan (Meagher, 1986). We used the FTN pedigree to generate age-specific fecundity values (M_x ; the number of same-sex offspring produced by an individual during an age class) with the PM_x software program (Fig. 1; Ballou, Lacy & Pollak, 2011). From the M_x distributions, we derived that reproduction generally occurs between ages 4 and 16 for males and between ages 3 and 21 for females. Although calving rates vary considerably between bison herds (Shaw & Carter, 1989), in concordance with recent research (Borgreen, 2010) we specified that 82% of breeding-age female bison in the FTN herd annually produce offspring. The yearly percentage of sexually mature males assigned as breeders was set at 46% based on the average proportion of males in a given year that sired offspring within the FTN herd (data from 2004 to 2010). Male breeders were further categorized as either subordinate

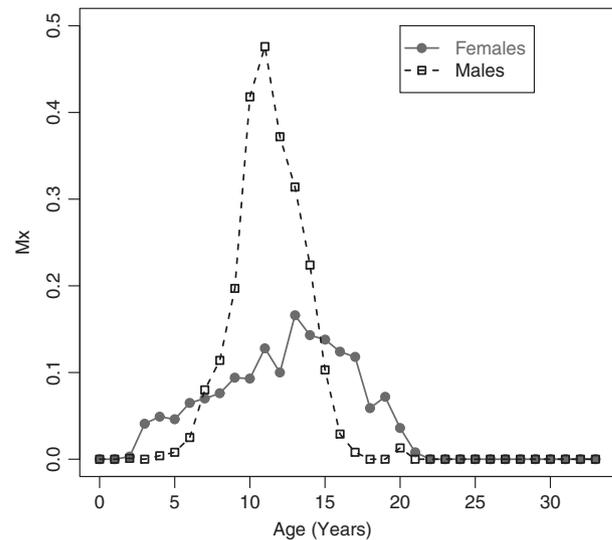
Table 1 Parameters used for the model, based on bison biology and data from the bison herd at the Fort Niobrara National Wildlife Refuge

Input file parameters	
Founder total	259
Target microsat total	55
Non-target microsat total	55
Loop parameters	
Target size (<i>T</i>)	350
Number of years to run	100, 200, and 500
Iterations	1,000
Breeding parameters	
Age range females will breed	2–21
Age range males will breed	4–16
Offspring produced by each breeding female	1
Proportion of males that will breed	0.46
Proportion of females that will breed	0.82
Dominant male breeding parameters	
Proportion of breeders that are dominant	0.21
Age range dominant males breed	8–12
Proportion of offspring produced by dominant males	0.40
Number of years males are dominant	1
Mortality parameters	
Female adult mortality	$0.03 \times 1.15^{\text{AGE}}$
Male adult mortality	$0.05 \times 1.16^{\text{AGE}}$

or dominant. Using the number of offspring annually sired by each male in the FTN herd, we defined dominant males as those for which the number of sired offspring exceeded the third quartile (>3 offspring) and found that these dominant males fell between 8 and 12 years of age (Fig. 1). The yearly percentage of dominant males was then specified as 21% of all breeding males, which was the average yearly percent of dominant males calculated for the FTN herd. Finally, we specified that 40% of offspring were sired by dominant males, which was the average for the FTN herd (Fig. 1).

We used the breeders from the 2004 FTN bison herd (100 male, 159 female) as the initial starting population for our simulation. Year of birth, sex and microsatellite genotypes at 55 loci were specified from available records. For individuals lacking genotype data for a particular locus, a custom R script (R Development Core Team, 2014) was used to generate missing data by randomly drawing alleles based on their frequencies within the starting population. Because the full FTN pedigree started in 2004, all individuals within the starting population were assumed to be equally related to establish a baseline from which to measure future loss of gene diversity (*GD*) and inbreeding (all pairwise kinships assumed to be 0.0; kinship to self assumed to be 0.5). The target size of the simulated population was specified as 350 bison, in concordance with the population objective for the FTN herd.

To determine the effects of genetic-based culling strategies on non-target microsatellite loci, we created an additional panel of 55 loci that was tracked and evaluated, but not used

**Figure 1** M_x values for males and females from the Fort Niobrara National Wildlife Refuge bison herd generated from known pedigree. M_x = the number of same-sex offspring produced by an individual during an age class.

to guide culling. At the beginning of our simulation, population-level allele frequencies for each non-target locus were determined by randomly selecting a frequency distribution from among the target set of microsatellite loci. Two alleles for each non-target locus were then assigned to each individual based on that locus' selected frequency distribution. This resulted in two different sets of loci with similar starting measures of heterozygosity and allelic richness. Data from both sets of loci were summarized for all tested culling strategies, but only the initial set of empirically generated data was used to inform culling for the MAF strategy.

General simulation overview

- 1 An initial starting population was loaded into the simulation. The following information was specified for each individual: sex, birth year, and the two panels of microsatellite genotypes (target and non-target). Pairwise kinships also were specified between all starting individuals.
- 2 Breeding individuals were identified. Potential breeders were first identified as those individuals that fell within specified reproductive age ranges. The specified percentage of potential breeders was then randomly selected to produce offspring. To allow for a polygynous mating system, a specified percentage of males selected to produce offspring was randomly flagged as dominant breeders.
- 3 Offspring were produced. Each breeding female produced one offspring, which was randomly assigned, with equal probabilities, a sex of male or female. The sire of each offspring was determined to be a dominant or subordinate breeding male based on the specified probability. After the dominant or subordinate designation was selected, the specific sire was randomly selected from among those two

breeding groups. Mendelian inheritance was used to generate the multi-locus genotypes of each offspring by randomly assigning one sire and one dam allele to each locus. Pairwise kinships (f) between each newly created offspring and all other individuals living in the population were calculated as $f_{xy} = 0.5(f_{xs} + f_{xd})$, where subscripts s and d referred to the sire and dam of each y offspring (Falconer, 1981).

- 4 Mortality occurred for all ages based on sex specific mortality functions. Male ($0.05 \times 1.16^{\text{Age}}$) and female ($0.03 \times 1.15^{\text{Age}}$) mortality functions included a starting mortality value and a multiplier raised by the age of an individual. The multiplier was used to ensure 100% mortality was observed at a biologically realistic age (20 for males, 25 for females).
- 5 Culling of yearlings was completed. The number of male and female yearlings to cull was calculated by subtracting the target number of individuals for each sex (half of total target population) from the total number of individuals of each sex. Individuals were iteratively culled through one of the strategies being tested until the number of culls calculated in the previous step was completed. If the number of males and females to be culled was unequal, individuals of the sex requiring the greater number of culls were first removed until the sex ratio to be culled was equalized. At that point, individuals of alternating sex were culled, starting with a male, with MAF or MK values being recalculated between each individual cull.
- 6 All individuals were aged 1 year. Steps 2–6 were repeated for 100, 200 or 500 years. Summary statistics for genetic variation and inbreeding were calculated on a yearly basis, immediately following Step 6. Summary statistics included allelic richness (A) measured as the mean number of alleles per locus, observed heterozygosity (H) calculated directly for each locus across all individuals and then averaged across loci (Hartl & Clark, 1997), proportional GD (expected heterozygosity) calculated as $1 - \overline{MK}$ (where \overline{MK} is the average MK in the population; Ballou & Lacy, 1995), and average inbreeding in the population (F), equal to the kinship between an individual's sire and dam averaged across all individuals (\overline{F} ; Falconer, 1981). Measures of allelic richness and observed heterozygosity were calculated separately for target and non-target loci.

Evaluation of culling strategies

Culling strategies were evaluated through a variety of genetic variation and inbreeding measures (A , H , GD and \overline{F}), which were averaged across 1000 simulation iterations. Summary statistics were reported at 100, 200 and 500 year intervals. The coefficient of variation (CV) was used to characterize summary statistic variability across iterations in relation to the mean.

Sensitivity analysis

The sensitivity of the simulation to input parameters was evaluated by analyzing the response of the genetic outputs to variations in target population size, mortality and proportion

of breeding males. We tested three alternative target population sizes (200, 500 and 1000 individuals) and three alternative levels of mortality [200%, 300% and 400% of the starting mortality values (0.05 for males and 0.03 for females)]. We also tested three alternative percentages of total breeding males (25%, 50% and 100%); to observe only the effect of the proportion of breeding males, no males were categorized as dominant.

Results

Founding population summary statistics

The founding population had a mean allelic richness of 4.418 for the target set of loci (used by the MAF strategy) and 4.397 for the non-target set of loci. Average observed heterozygosity was 0.585 for target loci and for non-target loci. Since all founding individuals were assumed to be unrelated, GD started at 0.998 and the average inbreeding coefficient was 0.000 (Table 2).

Evaluation of model output

As predicted for any population of finite size, we observed a reduction in allelic richness and GD , and an increase in inbreeding, for all strategies. Heterozygosity increased or decreased depending on the strategy employed. All strategies succeeded in maintaining the target population size and a balanced sex ratio. Differences among strategies in the amount of genetic variation retained and the extent of inbreeding were evident at the 100-year time step and became more pronounced over time. Differences in the pattern of genetic variation loss were also detected between the target and non-target microsatellite loci for some culling strategies.

Of the three culling strategies, the RANDOM strategy preserved the least variation, as measured by allelic richness and observed heterozygosity (Fig. 2; Table 2). This strategy also yielded the lowest GD and highest average inbreeding coefficient across all years of the model (Fig. 2; Table 2). Outcomes of the RANDOM strategy were similar for the target and non-target sets of microsatellite loci; after 500 years, both sets of loci exhibited comparable decreases in allelic richness (44.3% and 44.8% reductions) and heterozygosity (34.9% and 36.5% reductions). GD decreased by 36.4% and inbreeding increased to 0.360 (Fig. 2). The RANDOM strategy exhibited the largest variation across simulation iterations, yielding among the highest CV values for all genetic diversity measures (Table 2).

The MAF strategy retained the highest allelic richness (decrease of 16.3%) and increased the observed heterozygosity (increase of 17.1%) relative to the founder population after 500 years, but only at the target microsatellite loci used to inform culls (Table 2; Fig. 2). At the non-target set of loci, genetic variation was lost at a rate comparable to the RANDOM strategy (allelic richness decreased by 44.0% and heterozygosity decreased by 33.5%). However, genome-wide measures of variation indicated better retention of diversity

Table 2 Measures of genetic variation for the founding population under each culling strategy at each time step (100, 200, 500 years)

Measures of genetic variation	RANDOM						MAF						MK											
	Founding population		100 years		200 years		500 years		Founding population		100 years		200 years		500 years		Founding population		100 years		200 years		500 years	
Target A	4.418	3.688 (0.022)	3.250 (0.031)	2.459 (0.052)	4.418	3.922 (0.017)	3.809 (0.024)	3.696 (0.047)	4.418	3.824 (0.018)	3.480 (0.023)	2.787 (0.035)	4.418	3.684 (0.025)	3.351 (0.025)	2.707 (0.035)	4.418	3.684 (0.025)	3.351 (0.025)	2.707 (0.035)	4.418	3.824 (0.018)	3.480 (0.023)	2.787 (0.035)
Non-target A	4.373	3.626 (0.055)	3.186 (0.051)	2.413 (0.060)	4.491	3.702 (0.024)	3.258 (0.032)	2.516 (0.044)	4.327	3.684 (0.025)	3.351 (0.025)	2.707 (0.035)	4.327	3.684 (0.025)	3.351 (0.025)	2.707 (0.035)	4.327	3.684 (0.025)	3.351 (0.025)	2.707 (0.035)	4.327	3.684 (0.025)	3.351 (0.025)	2.707 (0.035)
Target H	0.585	0.541 (0.026)	0.494 (0.038)	0.381 (0.076)	0.585	0.669 (0.036)	0.687 (0.039)	0.685 (0.039)	0.585	0.557 (0.022)	0.524 (0.031)	0.437 (0.050)	0.585	0.557 (0.022)	0.524 (0.031)	0.437 (0.050)	0.585	0.557 (0.022)	0.524 (0.031)	0.437 (0.050)	0.585	0.557 (0.022)	0.524 (0.031)	0.437 (0.050)
Non-target H	0.586	0.529 (0.045)	0.484 (0.056)	0.372 (0.086)	0.591	0.538 (0.026)	0.497 (0.038)	0.393 (0.069)	0.578	0.543 (0.022)	0.512 (0.033)	0.426 (0.054)	0.578	0.543 (0.022)	0.512 (0.033)	0.426 (0.054)	0.578	0.543 (0.022)	0.512 (0.033)	0.426 (0.054)	0.578	0.543 (0.022)	0.512 (0.033)	0.426 (0.054)
GD	0.998	0.903 (0.008)	0.825 (0.016)	0.635 (0.041)	0.998	0.907 (0.007)	0.836 (0.012)	0.663 (0.026)	0.998	0.931 (0.003)	0.876 (0.005)	0.732 (0.010)	0.998	0.931 (0.003)	0.876 (0.005)	0.732 (0.010)	0.998	0.931 (0.003)	0.876 (0.005)	0.732 (0.010)	0.998	0.931 (0.003)	0.876 (0.005)	0.732 (0.010)
F	0.000	0.089 (0.079)	0.168 (0.077)	0.360 (0.072)	0.000	0.086 (0.070)	0.157 (0.064)	0.332 (0.051)	0.000	0.061 (0.049)	0.116 (0.034)	0.262 (0.027)	0.000	0.061 (0.049)	0.116 (0.034)	0.262 (0.027)	0.000	0.061 (0.049)	0.116 (0.034)	0.262 (0.027)	0.000	0.061 (0.049)	0.116 (0.034)	0.262 (0.027)

Values for simulations were averaged over 1000 iterations with the coefficient of variation provided in parentheses. MAF, mean allele frequency; MK, mean kinship; A, allelic richness; H, heterozygosity; GD, gene diversity.

(GD decreased by 33.6%) and lower accumulation of inbreeding (0.332) over 500 years under the MAF strategy compared to RANDOM (Table 2). The MAF strategy yielded very different patterns of variation among iterations for the target and non-target sets of loci. The strategy was very consistent among iterations for allelic richness and heterozygosity for target loci, as well as for GD. However, the CV was on par with the RANDOM strategy for non-target loci (Table 2).

The MK strategy resulted in the highest retention of allelic richness and heterozygosity for the non-target set of loci (Fig. 2; Table 2). Target and non-target loci exhibited similar reductions in allelic richness (36.9% and 37.7%) and heterozygosity (25.3% and 26.3%; Table 2). The MK strategy also resulted in the highest GD (decrease of 26.3%) and accumulated the least inbreeding (0.262) than all other strategies at the 500-year time step (Fig. 2). The MK strategy had the lowest variation among iterations for inbreeding and GD, and the lowest CV values for allelic richness and heterozygosity for non-target loci (Table 2). Variation among iterations was similar for target and non-target loci.

Sensitivity analysis

The three culling strategies proved to be robust to changes in target population size, proportion of successful breeding males, and mortality for each age and sex class. As the target population size increased above the original value of 350 individuals, allelic richness, heterozygosity, and GD were higher and inbreeding (\bar{F}) was lower, but the overall pattern for each strategy remained the same (Supporting Information Table S1a). Generally, more variation among culling strategies was observed as the proportion of males that successfully bred was reduced (Supporting Information Table S1b). Overall, decreasing the sex- and age-specific mortality values resulted in less variation among culling strategies (Supporting Information Table S1c).

Discussion

Wildlife management strategies are often designed to control a population's size and demography, but such strategies also can inadvertently impact a population's genetic variation. For species like bison, where management includes the regular removal of individuals to maintain small population sizes on restricted landscapes, management actions can be tailored to address genetic diversity retention. Our research evaluated three alternative wildlife culling strategies to determine which strategy would provide the greatest advantage for conserving a population's genetic variation while maintaining a particular target size. Our simulations demonstrated that the information used to select individuals for removal notably influence the rate at which a population loses various measures of genetic variation (Fig. 2). Furthermore, our results indicated that incorporating genetic data into culling decisions, rather than relying solely on demographic parameters, generally improves the retention of genetic variation and reduces the accumulation of inbreeding over time.

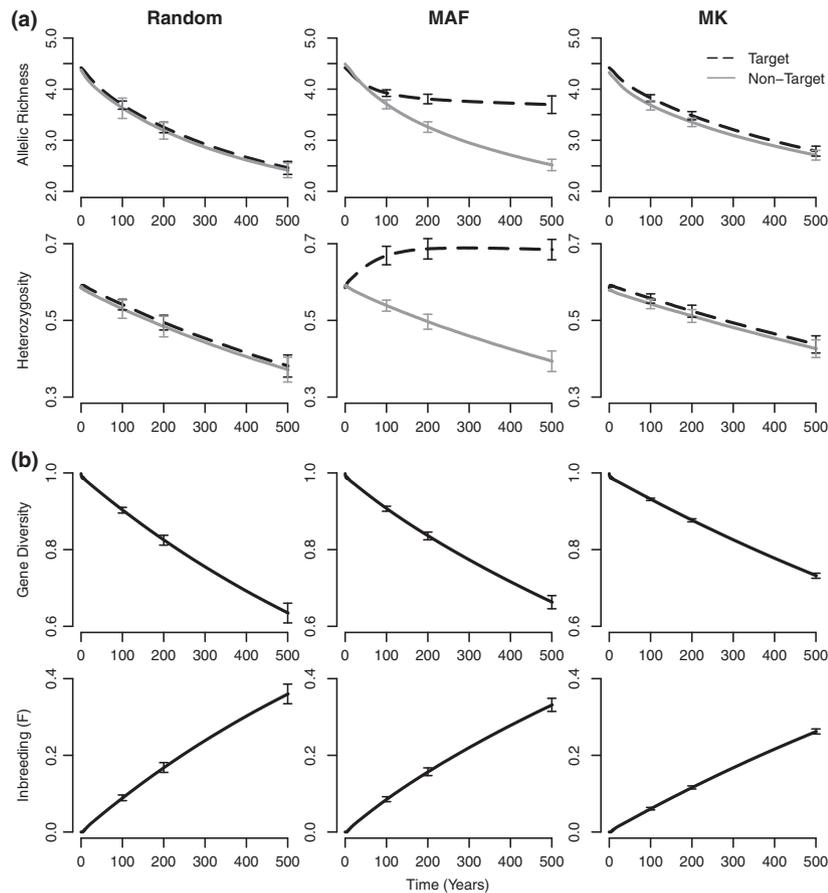


Figure 2 Average allelic richness and observed heterozygosity for both target and non-target loci (a) and genomic measures of variation (gene diversity and inbreeding) (b). Error bars represent one standard deviation at 100, 200, and 500 years.

Loss of alleles and a reduction in genome-wide heterozygosity in small populations result in loss of overall genetic variation. Since loss of genetic variation can be partially mitigated by increasing population size (e.g. Supporting Information Table S1a), wildlife managers often attempt to maximize the population size to minimize the effects of genetic drift (Epps *et al.*, 2005; Dixo *et al.*, 2009) and the related accumulation of inbreeding (Soulé & Mills, 1998). As population size decreases, maintaining stable demography and retaining genetic variation become increasingly important to prevent local extinction (Lande, 1988). In our study, the differences in genetic variation became more profound as population size decreased, demonstrating that the choice of management strategy becomes increasingly important as population size decreases (Supporting Information Table S1a). For range-restricted species such as bison, where habitat is limited and populations must be maintained at particular target sizes, management has historically focused on removal strategies based on demographic parameters to select individuals for cull. The advantage of such strategies is that they require only limited data and resources to implement. Our RANDOM culling strategy relied solely on demographic data (an individual's age and sex) to inform culls. At the end of

500 years, the RANDOM strategy yielded the lowest allelic richness, observed heterozygosity and *GD*, as well as the highest average inbreeding of the three tested culling strategies (Table 2). Further, the RANDOM, as well as the MAF, culling strategies exhibited high variance in measures of genetic variation across iterations, indicating less predictability in the outcome of these strategies and potentially important impacts on population persistence. These results indicate that although demographically based removal strategies can be easy to implement and effective at maintaining sex and age ratios, incorporating genetic data into culling decisions improves a population's long-term retention of genetic variation and thus, its adaptive potential.

We tested two alternative culling strategies (MAF and MK) that utilized genetic data. Although such strategies require additional resources and can be challenging to implement when compared to a demographically based removal strategy, both our MAF and MK strategies generally performed better at retaining genetic variation and limiting inbreeding than our RANDOM strategy. The MAF strategy was designed to maximize the retention of genetic variation by conserving as many different alleles as possible within a target set of loci used to inform culls. A perceived advantage

of this strategy was that it did not designate particular alleles as important or 'conservation-worthy', but rather aimed to conserve as many alleles as possible at as equal frequencies as possible. In theory, such an allele conservation strategy could produce a population with a higher heterozygosity than was present prior to management actions by creating more equal allele frequencies than existed in the founder population. This result was in fact observed, with the MAF strategy consistently retaining both the highest heterozygosity and allelic diversity at the suite of target loci used to inform culls (Table 2; Fig. 2). A potential drawback of this culling technique was that it aimed to maximize genetic variation at specific target loci with no regard for how the rest of the genome might be affected. In fact, although the MAF strategy effectively maximized genetic variation at a suite of target loci, it was ineffective in maintaining genetic variation at non-target loci and thus genome-wide variation. In contrast, the MK culling strategy performed the best at maximizing the retention of genome-wide variation (Table 2; Fig. 2). Therefore, of the three culling strategies tested, we found the MK strategy to be the superior method of culling intensively managed wildlife populations with respect to genome-wide measures of variation and inbreeding.

Our MK culling strategy is similar in concept to the pedigree-based strategies used by captive breeding programs that utilize MK for selecting breeding pairs (Ivy & Lacy, 2012). Pedigree-based breeding strategies that minimize the overall kinship in a population have been shown by both computer simulations (Ballou & Lacy, 1995; Fernández & Toro, 1999; Sonesson & Meuwissen, 2001) and empirical data (Montgomery *et al.*, 1997) to be the best strategies for retaining genetic variation, while limiting inbreeding, in conservation breeding programs. Our data extend these findings to demonstrate that our MK strategy outperformed both alternative strategies at limiting inbreeding and retaining genome-wide variation (as measured by pedigree-based measures and empirically calculated heterozygosity at a suite of non-target loci; Table 2). Although previous evaluations of pedigree-based culling strategies for wildlife management are rare (but see Eggert *et al.*, 2010), it is perhaps not surprising that our data support the utility of pedigree-based approaches to directly manage genetic variation in wildlife populations. An individual's MK is a measure of its genetic distinctiveness in a population; individuals with low MKs have few relatives and rare alleles, while individuals with high MKs have many relatives and common alleles. Thus, by preferentially selecting individuals with low MKs to breed, conservation breeding programs equalize, to the extent possible, the genetic representations of a population's founders and thereby maximize the retention of genetic variation over time. Our simulations indicate that MKs also are useful for selecting individuals to cull because such a strategy similarly equalizes founder genome representations by preferentially removing individuals whose genomes are over-represented in the population as a whole.

Better retention of genetic variation through direct genetic management has been demonstrated when selecting breeders to maintain captive populations (Ballou & Lacy, 1995; Ortega-Villaizan, Noguchi & Taniguchi, 2011) and choosing

individuals for reintroductions (Haig *et al.*, 1990; Miller *et al.*, 2009; Jamieson, 2010; Tracy *et al.*, 2011). However, the stipulation that direct genetic management should focus on genomic measures of variation is important. Hedrick & Miller (1994) simulated captive breeding strategies that prioritized the retention of alleles at a suite of functional immune genes, the major histocompatibility complex (MHC), and observed the effect on variation across the rest of the genome. The authors characterized genome-wide reductions in genetic variation and fitness associated with selection for variation at the MHC and urged caution in the use of this genetic management technique due to its impact on variation at non-target portions of the genome. Although we did not model effects on functional loci, the decrease in genome-wide variation with the MAF strategy, and the associated increase in inbreeding, also could be expected to lead to detrimental declines in fitness (Charlesworth & Charlesworth, 1999). Furthermore, results similar to those reported by Hedrick & Miller (1994) are expected when selecting for variation at neutral loci, particularly if the effects of genetic hitchhiking are strong (Charlesworth & Guttman, 1996; Hey, 1999; Otto, 2000). Our results further support this assertion by demonstrating that our MAF strategy, which retained high allelic diversity and heterozygosity at targeted neutral loci, retained less variation at non-target loci than a strategy that utilized a genomic measure of variation for decisions (our MK strategy). If many more loci were used in the target panel, genetic diversity estimates would more closely approximate genome-wide variation (Miller *et al.*, 2014). This should yield convergent allelic richness and heterozygosity values for target and non-target loci as the MAF strategy was applied over time. Additional research would be necessary, however, to determine the degree of convergence between the overall results of the MAF and MK strategies when using increasing numbers of loci. There is a fundamental difference between culling individuals with common alleles (MAF) and culling those that are, on average, highly related to the population (MK). As an example, consider two full-siblings; while the MK strategy would treat those individuals as genetically identical and interchangeable, the MAF strategy would prioritize one over the other for cull based on which happened to receive more 'common' alleles through Mendelian inheritance. Thus, given these complexities, more research is warranted to determine the number of loci at which the MAF strategy is expected to converge with, or even possibly surpass, the MK strategy performance.

Our results suggest wildlife management strategies that incorporate goals for retaining genetic variation are better suited to preserving the evolutionary potential of wildlife populations than those that focus solely on a target size and demographic stability. Declines in genetic variation not only limit the evolutionary potential of a population, but can also have direct and immediate effects on factors such as the response to diseases and new pathogens (O'Brien & Evermann, 1988). For these reasons, bison are an exemplary example of a species in need of genetic management. Bison, as a species, underwent a severe bottleneck in the late

1800s, and were further bottlenecked as conservation herds were founded with few individuals. Thus, all contemporary bison populations can be assumed to have accumulated some level of inbreeding, with Hedrick (2009) estimating 0.367 inbreeding (equal to two generations of full sibling matings) in the Texas State Bison Herd. Although the direct effects of inbreeding in bison are unclear, even small amounts of inbreeding have been correlated with the susceptibility to bacterial disease in other wildlife populations (Acevedo-Whitehouse *et al.*, 2003). Historical erosion of genetic variation due to severe bottlenecks, serial founding events, and current levels of inbreeding make the preservation of remaining genetic variation through effective management strategies even more imperative to the persistence of bison.

Although the focus of our research was to evaluate culling strategies for wildlife populations managed *in situ*, our results also are applicable to captive population management. Although using euthanasia as a management tool is controversial in these settings (Penfold *et al.*, 2014), there are a number of challenges that culling could address. For example, management euthanasia of post-reproductive animals not critical to a population's social structure could be utilized to free 'space' that would allow for additional breeding in populations that are tightly maintained at carrying capacity (Lacy, 1991). A second application of management euthanasia, similar in concept to the culling scenario described for bison, is the removal of surplus offspring produced when specific breeding recommendations cannot be implemented. Species maintained in herds, flocks, schools or other similar groups (e.g. antelope, flamingos, bats, fish, frogs) can only be loosely managed by MK-based breeding strategies because specific breeding pairs cannot be dictated. Although the long-term genetic impacts of MK-based management euthanasia have not been tested against those of imperfect MK-based breeding strategies, we speculate that culling would provide greater long-term genetic benefits.

Finally, one of the more compelling reasons for captive breeding programs to consider management euthanasia is related to reproductive health. Penfold *et al.* (2014) summarized data for a set of taxonomically diverse species (including canids, felids, rhinoceros, bats, wildebeest and stingrays); their findings suggested that prolonged interruptions in breeding (such as produced with some forms of contraception), during which a female does not produce offspring, can jeopardize a female's future fertility and increase probabilities of uterine pathologies. To help ensure both female reproductive health and population viability, the authors suggested that captive breeding programs could adopt mixed management strategies that breed genetically valuable females at more regular intervals while judiciously using all available tools, including both culling and contraception, to manage the number of offspring produced (Penfold *et al.*, 2014). If such strategies are indeed to be adopted by captive breeding programs, our research suggests that modifying the pedigree-based breeding strategies already in use to cull genetically over-represented individuals would provide the greatest long-term genetic benefits.

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Supporting information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Figure S1. Model flow for each simulation.

Figure S2. Mortality functions for males (solid red line) and females (dotted black line) were generated using known average adult mortality (0.05 for males; 0.03 for females), juvenile mortality (0.05), and age expectancy for the Fort Niobrara bison herd.

Table S1. Genetic variation measures averaged over 1000 iterations from the 500-year time step of the sensitivity analysis reflecting the genetic variation measures under each culling strategy with (a) different target population sizes (200, 500 and 1000), (b) with different proportions of the male population of breeding age able to breed (25%, 50% 100%), and (c) and alternative levels of mortality (200%, 300% and 400% of original).



Bison Conservation Initiative

Bison Conservation Genetics Workshop: Report and Recommendations

Natural Resource Report NPS/NRPC/BRMD/NRR—2010/257



ON THE COVER

Bison grazing at the National Bison Range in Montana
Photograph by Ryan Hagerty, USFWS

Bison Conservation Initiative

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Natural Resource Report NPS/NRPC/BRMD/NRR—2010/257

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Natural Resource Program Center
Fort Collins, Colorado

The National Park Service, Natural Resource Program Center, publishes a range of reports that address natural resource topics of interest and applicability to a broad audience in the National Park Service and others in natural resource management, including scientists, conservation and environmental constituencies, and the public.

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Executive Summary

One of the first outcomes of the Department of the Interior (DOI) Bison Conservation Initiative was the Bison Conservation Genetics Workshop held in Nebraska in September 2008. The workshop brought together scientists from government agencies and non-governmental organizations with professional population geneticists to develop guidance for the genetic management of the federal bison herds. The scientists agreed on the basic tenets of genetic management for the DOI herds and discussed different approaches to meeting those goals.

First, the 12 DOI herds are an irreplaceable resource for the long-term conservation of North American plains bison. Most of the herds show low levels of cattle introgression dating from the time when they were saved from extirpation; those herds should not be mixed without careful consideration as to their origin. Herds that show no evidence of cattle ancestry by the current molecular methods are the highest priority for protection from genetic mixing with any other bison herds.

Second, despite the fact that most of the herds now managed by the U.S. government were founded with very few bison and have been maintained for many generations at relatively low population sizes, they do not show obvious effects of inbreeding. They have retained significant amounts of genetic variation by the standard measures, heterozygosity and allelic diversity. This may be explained in part by the fact that most of these herds are not remnants of a single population.

Third, to preserve genetic variation in federal bison herds over decades and centuries, herds should be managed at a population or metapopulation level of 1,000 animals or more, with a sex ratio that enables competition between breeding bulls. The parks and refuges that currently have bison herds, with the exception of Yellowstone National Park, do not have enough land to support a population of this size. In the short term, it will be important to develop satellite herds to attain population targets, and develop a metapopulation structure between herds.

Fourth and finally, the current methods used to evaluate the DOI bison herds, using mitochondrial DNA and a suite of nuclear DNA microsatellites, are highly informative at the herd level. They have confirmed relatedness of herds that we know from historical records have a common origin. They have detected cattle ancestry in most of the herds where it was suspected and have shown some loss of rare alleles. However, they do not sample across the bison genome, and the use of neutral genetic markers as the basis for selection of individual bison—either to breed or move to other herds—would be better supported by more high-resolution molecular methods currently under development.

Introduction

Bison are an iconic animal of the American frontier, represented on both the Department of the Interior (DOI) seal and the National Park Service (NPS) arrowhead. The first principle of DOI Bison Conservation Initiative was to base management of its herds on the best available science. One of the priorities of the initiative was to convene a conservation genetics workshop focused on bison to develop genetic management guidelines, including the appropriate role in future conservation actions for bison with cattle ancestry. The NPS organized the workshop at the Lied Lodge on September 2–5, 2008, and brought together a diverse group of scientists to identify and recommend management actions and research needs important to the conservation genetics of DOI bison herds.

The DOI Bison Genetics Workshop came out of significant recent developments in North American bison conservation. Renewed public interest in bison, both as a natural food source and for their historic ecological role in western landscapes, underscored the importance of the DOI bison herds in conservation of the species. At the same time, recent published studies advanced understanding of the genetic status of these bison herds.

The workshop brought together population geneticists and other biologists from the Department of the Interior, Canadian Wildlife Service, Parks Canada, Texas Parks and Wildlife, academic institutions, and non-governmental organizations, including conservation organizations and zoos (see Appendix A for a participant list). The perspective of zoos was important, as most government herds, while roaming over large areas, are still captive populations facing fences and annual round-ups. The group heard presentations on the history of conservation of North American bison and the government role in these conservation efforts, reviewed the general principles for maintaining allelic diversity within a species, and received reports on the status of DOI bison herds addressing issues of allelic diversity and introgression of livestock genes in the North American bison genome (see Appendix B for the workshop agenda).

While there was agreement on the principles that should guide the management of DOI bison herds, consensus on the management practices that would best achieve those genetic principles was not achieved in the three-day meeting. To provide clear guidance, this report has been through multiple drafts. Workshop participants Peter Dratch, Eric Lonsdorf, and Peter Gogan and NPS writer-editor Virginia Reams all contributed to writing the final report, and most of those who attended the workshop have made substantial comments to the drafts. The recommendations primarily represent the views of the population geneticists that gave their time to address the challenge of conserving North American bison on the timescale of centuries.

The participants were asked to address three questions important to the public in developing the guidelines:

- 1) What criteria best describe a herd of wild bison?
- 2) How well do bison herds under DOI management authority meet the criteria for wild bison?

- 3) What steps can be taken to ensure that management of the DOI herds contributes to the future of wild bison in North America?

The participants established the criteria for a wild bison herd as one with a large enough population size to prevent loss of genetic variation and with low levels of cattle or subspecies introgression, and subject to some of the forces of natural selection, including competition for breeding opportunities. The desired minimum size of a population to maintain genetic variation in bison over two centuries is estimated at 1,000 individuals (Gross and Wang 2005, Gross et al. 2006, Boyd et al. 2010). This could be achieved through establishment of a single population or management of several smaller populations as a metapopulation. While recognizing that hybridization with cattle was not natural, and mixing between bison subspecies rare, participants discussed a threshold of cattle ancestry (all of the DOI herds have less than 2% cattle genes for currently used DNA markers) in evaluation of DOI bison herds. This definition of wild bison is more restrictive than that of a bison “conservation herd,” which may be defined as any herd managed by a government or non-government organization with the primary mission of nature conservation (Gates and Ellison 2010).

While the group looked at the history of both plains bison and wood bison in North America, the recommendations focus on plains bison herds in the United States managed by DOI. Addressing the question of how well do DOI bison herds meet the criteria for wild bison, the participants noted that DOI herds meet the basic threshold for genetic integrity. However, most herds are managed at numbers well below a population size of 1,000, and there are no management plans in place to manage any group of spatially isolated herds as a metapopulation. In addition, the herds are not of equal value for long-term conservation of bison.

There was a consensus among workshop participants that herds with no evidence of cattle hybridization are particularly important resources that must be safeguarded from potential introgression of livestock genes. Lineages within all DOI herds that are representative of historical conservation efforts and confirmed by genetic analysis of herds should be preserved until issues of livestock introgression are resolved with DNA analysis at higher resolution. While no DOI herds are currently subject to the full range of historic natural selective forces that influence genetic variation, management actions should maximize population size, minimize selection for docility and other traits related to domestication, strive for an even sex ratio considering differential survival, and minimally interfere with social behavior.

Finally, the DOI bison herds have a crucially important role in long-term bison conservation. Almost all herds must be increased in size to avoid negative genetic effects on a decades-to-century time scale (Gross et al. 2006). Since DOI herds are generally at or near capacity within federal boundaries, establishing satellite herds that can contribute to metapopulations is an important first step. Further, managing bison herds across current jurisdictional boundaries is an important step to long-term bison conservation. The DOI herds also are valuable source bison with which to start new conservation herds proposed by other federal, state/provincial, or tribal governments/First Nations, and others. Any new efforts should move toward establishing satellite herds that can eventually serve as interbreeding populations or metapopulations with total herd sizes of 1,000 bison to sustain genetically healthy animals over time.

Background

Brief History of American Bison Conservation

The American bison (*Bison bison*) is an icon of the conservation movement in North America. It was one of the first animals that stirred citizens and governments to intervene on behalf of a species on the verge of extinction (Coder 1975, Lothian 1981). Due largely to commercial, sport, and subsistence hunting, as well as possibly exotic bovine diseases and forage competition with domestic stock (Flores 1991), plains bison (*B. b. bison*) were reduced from tens of millions at the time of European colonization (Shaw 1995) to a few hundred by the mid-1880s (Hornaday 1889, Isenberg 2000). The other subspecies of American bison, the wood bison (*B. b. athabascae*), an inhabitant of the woodlands of northern Canada and Alaska, was reduced to an estimated 250 animals by the end of the 19th century (Hornaday 1889, Soper 1941).

While there was sentiment in the 1800s to halt the destruction of bison in North America (Dary 1989), protective legislation in Canada and the United States was not enacted until bison were near extinction. In Canada, the 1877 Buffalo Protection Act was the first attempt to legislate protection (Hewitt 1921). This measure was ineffective, however, due to lack of enforcement. In 1894, the Dominion Government passed a law protecting the surviving wood bison (Soper 1941); by this time, wild plains bison were extirpated in Canada. Plains bison were extirpated from Mexico by the 1820s (List et al. 2007).

Plains bison disappeared from the wild in the United States except in Yellowstone National Park (NP). The states of Idaho, Wyoming, and Montana implemented statutes to reduce the killing of game, including bison, between 1864 and 1872, but—like the 1877 Canadian measure—these laws were largely ineffective due to limited enforcement. The Act to Protect the Birds and Animals in Yellowstone National Park and to Punish Crimes in Said Park was signed by President Grover Cleveland in 1894, halting the extirpation of the last free-ranging plains bison population in North America (Meagher 1973). By 1902, however, fewer than 50 wild bison were estimated to remain in the remote Pelican Valley of Yellowstone NP (Meagher 1973).

Plains bison were saved from extinction by the independent actions of private citizens (Dary 1989, Coder 1975). Between 1873 and 1889, several individuals in locations ranging from Manitoba to Texas captured the last of the wild plains bison, except for the few remaining in Yellowstone NP. William Hornaday, director of the New York Zoological Park, and other wildlife advocates concerned about the loss of this symbol of the American West formed the American Bison Society (ABS) in 1905. The ABS successfully lobbied for the creation of several public reserves in the United States, which the ABS then populated with bison from private herds and the Bronx Zoo (Coder 1975, Isenberg 2000).

In Canada, the national parks system first became involved in plains bison conservation in 1897 when three animals were purchased from Charles Goodnight in Texas. A more significant early contribution by the Canadian government occurred in 1907 when it purchased the privately owned Pablo-Allard herd in Montana. The herd was shipped first to Elk Island National Park, then on to a new park, Buffalo National Park, in the grasslands of east-central Alberta (Lothian 1981, Brower 2008). With protection, the numbers of plains bison increased rapidly, and the danger of extinction was averted in both countries (Hornaday 1927, Potter et al. 2010).

The early efforts to save the bison at a crucial time have rightfully been regarded as a conservation success story. The best current estimate is that about 430,000 plains and wood bison now exist in North America (Gates and Ellison 2010). Of these, only 20,500 plains bison and 11,000 wood bison are in publicly owned herds (Gates and Ellison 2010); the remainder are privately owned. Plains bison are classified as endangered in Mexico (Aune and Wallen 2010). Wood bison are classified as endangered under the U.S. Endangered Species Act and threatened under Canada's Species at Risk Act (Aune and Wallen 2010).

Many Indian tribes and First Nations maintain bison herds for cultural, nutritional, and commercial purposes. Some of these herds have the potential to contribute to species conservation. Most privately owned plains bison today are selected for meat production, protected from natural predators, and managed as small herds in fenced paddocks. More than 90% were founded with animals that have evidence of cattle ancestry and show significant amounts of cattle introgression. These herds are not considered wild and are not included in conservation planning for the species. Most publicly owned plains bison populations in North America are directly descended from only a few founders—an effective population size of fewer than 50 (Hedrick 2009). They constitute a critical resource for long-term bison conservation.

Department of the Interior agencies (the National Park Service and U.S. Fish and Wildlife Service [USFWS]) have a record of cooperation in bison management (see Appendix C for detailed histories of the DOI bison herds). Bison from the Pablo-Allard herd (now National Bison Range) and Goodnight herd (now Texas State Bison Herd) were provided to augment the remnant herd at Yellowstone NP in 1902 (Coder 1975, Meagher 1973). Yellowstone NP bison were provided to found a bison herd at Fort Niobrara National Wildlife Refuge (NWR) in 1913 (Coder 1975, Halbert 2003, Halbert and Derr 2007a). Similarly, in 1956 bison from Fort Niobrara NWR were the source stock used to establish bison herds within the North and South units of Theodore Roosevelt NP. This latter group of three herds constitutes a metapopulation (Halbert 2003, Halbert and Derr 2007a). The bison herd at Badlands NP was established with animals from Fort Niobrara NWR and the South Unit of Theodore NP in 1963 and augmented with bison from the former herd at Colorado National Monument in 1983 (Berger and Cunningham 1994).

The New York Zoological Park also cooperated extensively in the establishment of DOI bison herds: the bison herd at Wind Cave NP was established with bison from New York Zoological Park in 1913 and Yellowstone NP in 1916. The bison herd at Wichita Mountains NWR was established with bison from the New York Zoological Park in 1907 (Coder 1975, Halbert 2003, Halbert and Derr 2007a). The known genetic relatedness of contemporary DOI bison herds is depicted in Figure 1.

The Department of the Interior is the primary federal agency for management of bison within the United States. Currently, the Department of the Interior maintains exclusive management authority over 12 plains bison herds at 10 locations (Table 1). Two additional herds at two sites are managed under cooperative plans with the states of Montana and Wyoming, respectively (Gates and Ellison 2010, Aune and Wallen 2010). Of these, the National Park Service maintains exclusive management authority for bison within Yellowstone and Grand Teton national parks. Yellowstone bison are managed by the State of Montana beyond the park boundaries. The interagency management plan calls for more aggressive management of bison when they leave

the park when population estimates exceed 3,000 (USDI and USDA 2000, Plumb et al. 2009). Jackson bison are managed cooperatively by the National Park Service within Grand Teton NP, the U.S. Fish and Wildlife Service on the National Elk Refuge (NER), and the State of Wyoming on lands adjacent to Grand Teton NP and the NER. The target population objective for the Jackson herd is approximately 500 bison (USFWS and NPS 2007). Most herds managed by the Department of the Interior are relatively small, genetically isolated, and separated from natural predators. Some show evidence of cattle ancestry, and some do not (Table 1).

Management recommendations need to consider the consequences of small population size for genetic health as well as the prevention of further introgression of cattle genes, particularly into bison herds with no evidence of hybridization. For each major concern (genetic diversity and cattle ancestry), we present background and specific recommendations based upon our current knowledge and suggest research needs where additional information may be required. Current information on genetic variation in the DOI bison herds is summarized in Table 1. The U.S. Fish and Wildlife Service has implemented translocations of bison within herds under its management authority since completion of the assessment of genetic variation. The genetic status of the newly established herds is unknown.

General Principles for Maintaining Genetic Diversity in Bison

Effective population size (N_e) is an important measure used for the maintenance of genetic diversity. Genetic drift leads to the loss of genetic diversity, and the rate of loss is expected to correlate negatively with effective population size (Hartl and Clark 2007). Declining genetic diversity and increasing inbreeding depression may interact with the stochastic process of genetic drift (Hartl and Clark 2007) and demographic stochasticity to amplify extinction risk in small populations (Saccheri et al. 1998, Westemeier et al. 1998).

Genetic drift resulting in declining allelic diversity within populations along with reductions in gene flow between populations is of particular concern for species such as bison that evolved in large, outcrossing populations. Genetic drift leads to reduced performance in many fitness-related traits (Menges 1991, Keller and Waller 2002). Small and isolated populations are more prone to extinction than larger populations due to the consequences of demographic, genetic, and environmental stochasticity (Lande 1988).

Loss of genetic variation in bison herds is more likely when the number of breeding animals is small. Our best estimates are that bison populations can generally be considered of sufficient size for genetic purposes when the population size is 1,000 animals or more and the size of the population is stable over time. A population must have a sufficient number of mature bulls to enable breeding competition. In all populations, the expected loss of genetic diversity over time is directly related to how rapidly individuals in a population replace themselves (generation time) and to the effective population size. Most guidelines for genetic management can be understood in the context of just these two factors.

Biologists are concerned about the genetic health of bison herds because all North American herds were founded by a few individuals and have generally been maintained at small population sizes (Boyd et al. 2010). Most DOI herds were established from groups of 20–50 bison (Halbert 2003, Halbert and Derr 2008), and DOI herds have largely been managed to maintain a size of fewer than 500 animals. The relatively small size and isolation of most DOI bison herds has led

to concerns about their long-term genetic health. A summary provided by Halbert and Derr (Table 1) of the current state of bison genetic diversity indicates that genetic drift may already be causing a detectable loss of allelic diversity. For example, rare alleles present in bison at both units of Theodore Roosevelt NP are no longer present in the source population at Fort Niobrara NWR.

The status of the Texas State Bison Herd underscores the potential problems with maintaining small, isolated populations of bison. The interplay of a small number of founder animals, subsequent bottlenecks in population size, and long-term small population size with genetic drift has resulted in low levels of genetic diversity (Halbert 2003, Halbert et al. 2004). This contributed to high calf mortality and low recruitment rates. Population viability analysis predicted the demise of the herd within 50 years without the infusion of genetic material from another bison herd (Halbert 2003, Halbert et al. 2004). Bison bulls were brought in for breeding with an immediate positive effect (D. Sweptson, pers. comm., 2008)

Current Evidence of Cattle Ancestry

Bison and domestic cattle (*Bos taurus*) can produce fertile offspring from human-controlled crosses (Jones 1907; Boyd 1908, 1914; Goodnight 1914). The two species are not known to produce hybrids naturally, and even carefully controlled crosses result in a low birthrate of viable first-generation hybrid offspring (Boyd 1908, Steklenev and Yasinetskaya 1982). In addition, most viable offspring are female, as are first generation backcrosses (Boyd 1908, Hedrick 2009). This typically leads to higher levels of mtDNA than autosomal DNA in introgressed bison herds (Hedrick 2010).

Each of the ranchers involved in establishing the five plains bison foundation herds in the late 1800s either experimented with domestic cattle-bison crosses or purchased bison from others who were involved in such experiments (Garretson 1938, Coder 1975, Brower 2008). Consequently, both mitochondrial (Polziehn et al. 1995, Ward et al. 1999) and nuclear (Halbert et al. 2005) evidence of domestic cattle ancestry has been identified in both public and private plains bison herds (Halbert and Derr 2007a). In a recent study, 14 unlinked microsatellite markers with non-overlapping allele size ranges between bison and domestic cattle were used to identify bison populations with evidence of nuclear domestic cattle introgression; regions of introgression were subsequently confirmed through analysis of microsatellites linked to the original diagnostic loci (Halbert et al. 2005). To date, evidence of mitochondrial or nuclear domestic cattle gene introgression has been identified in all but six of 14 U.S. and Canadian public bison populations (Ward et al. 1999, Halbert et al. 2005, Halbert and Derr 2007a). Only one of the more than 50 private bison herds examined to date showed no evidence of cattle gene introgression (J. N. Derr, pers. comm.).

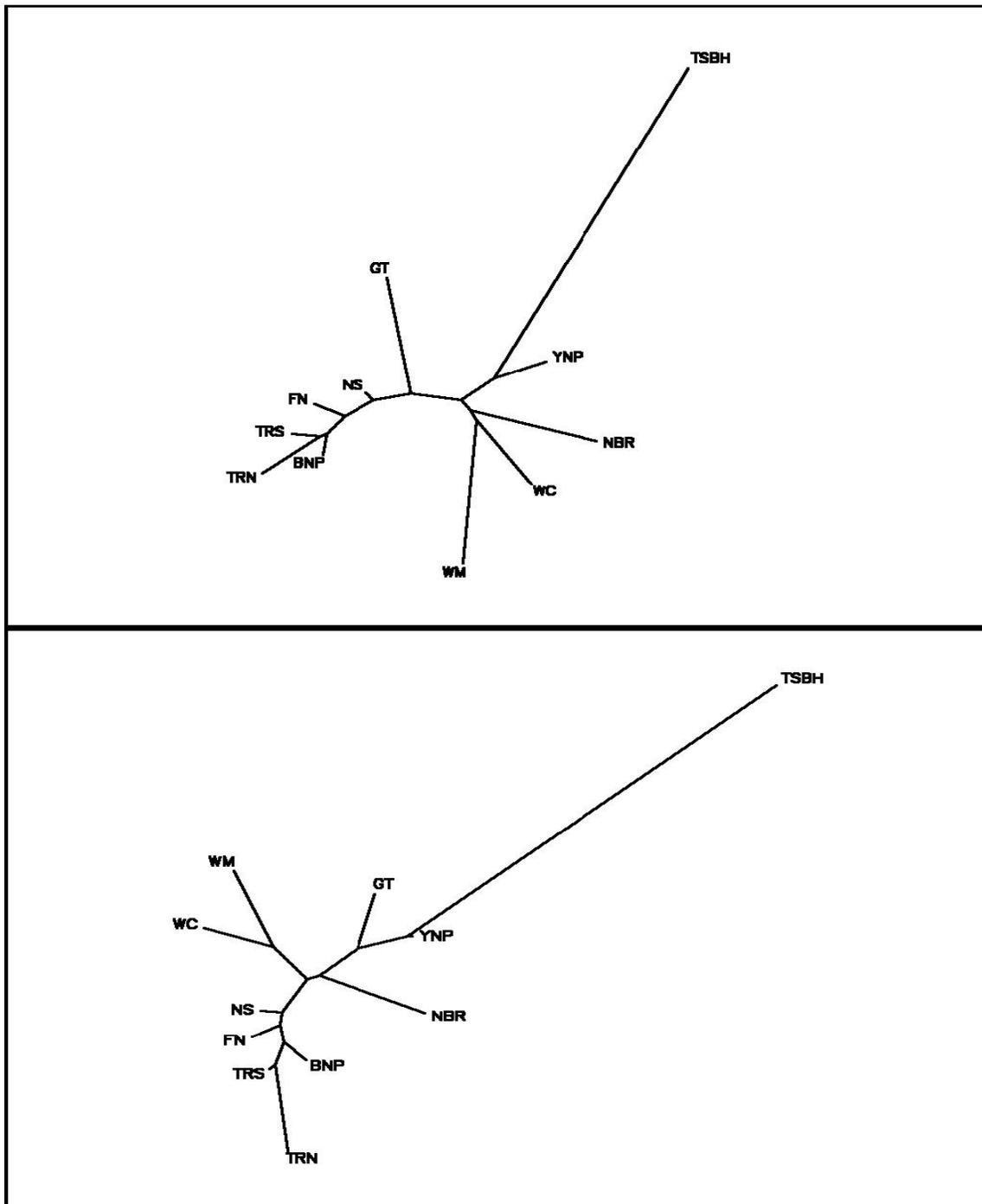


Figure 1. Neighbor-joining tree diagrams for DS (top) and $(\delta\mu)^2$ (bottom) distance measures for DOI bison herds as of 2003 (Halbert 2003:50). Herd abbreviations as in Table 1. TSBH is the Texas State Bison Herd; NS herd in these diagrams no longer exists.

Table 1. Summary of herd size and indicators of genetic diversity for U.S. Department of the Interior bison herds (after Halbert and Derr 2007a; Halbert et al. 2008; L. Jones, pers. comm. 2010, Robert Schnabel, pers. comm. 2010).

Herd name (abbreviation)	Estimated population size	Introgression present ^a	Allelic richness ^c	Expected heterozygosity ^d	Average F_{ST} ^e	Unreplicated conservation unit ^h
Fort Niobrara NWR (FN) – original herd	290	Yes	4.23	65.1	0.106	
Ft. Niobrara NWR (FNSH) – formerly located at Sullys Hill*	61	Suggested ^d	3.91	59.9	NA ^f	
Theodore Roosevelt NP – North (TRN)	312	Yes	3.16	52.2	0.139 ^g	
Theodore Roosevelt NP – South (TRS)	371	Yes	3.80	58.2	0.111	
National Bison Range (NBR)	350	Yes	4.51	66.4	0.133	Yes
Neal Smith NWR (NS)**	71	Suggested ^d	4.43	66.8		
Rocky Mountain Arsenal (RMA)***	44	Suggested ^d	4.44	64.2		
Wichita Mountains NWR (WM)	650	Yes	4.16	61.2	0.149	Yes
∞ Badlands NP (BNP)	875	Yes	3.86	57.8	0.107	
Grand Teton NP (GT)	900	Suggested ^d	3.19	53.5	NA ^f	
Wind Cave NP (WC)	350	Suggested ^d	4.29	65.2	0.123	Yes
Yellowstone NP (YNP)	3,000****	None detected	4.15	62.5	0.133	Yes

^a Based on mitochondrial DNA typing following Ward et al. 1999 and a panel of 14 nuclear microsatellites following Halbert et al. 2005.

^b Introgression was not directly detected in these herds using microsatellite markers, but it is highly suggested due to the source of the herd and/or initial testing using single nucleotide polymorphisms (Robert Schnabel, pers. comm.).

^c R_A , average of allelic richness values across markers; calculated based on a minimum sample size of 15 (El Mousadik and Petit 1996).

^d H_E , average expected heterozygosity (Nei 1987).

^e F_{ST} averaged across clusters assigned by STRUCTURE (Evanno et al. 2005) analysis.

^f These (composite) herds were assigned to multiple clusters. Average F_{ST} calculations not possible.

^g The TRN herd is directly descended from the TRS herd, which was in turn derived directly from the FN herd. It is well-established from other indices that these three herds (TRN, TRS, and FN) are closely related. Drift has likely acted to drive allele frequencies within this herd and differentiation of this herd such that inflated average F_{ST} values are detected.

^h Based on analysis of herd contribution to overall diversity, following Petit et al. 1998. These herds represent unique sources of bison diversity which is unreplicated among the DOI herds.

* The entire Sullys Hill herd was moved to Fort Niobrara NWR in 2006. They are maintained separately from the original Fort Niobrara herd.

** Based on genetic evaluation, in 2006, all bison at Neal Smith were donated to a local Native American tribe, and a new herd was established with 39 bison from the National Bison Range.

*** Established with bison from the National Bison Range in 2006–2007.

**** Yellowstone bison are two distinct but closely related types (Halbert and Derr 2007b, Gardipee 2007).

Workshop Recommendations

Recommendations emerging from the Bison Genetics Workshop addressed the two long-term challenges facing DOI herds where genetic conservation is a primary management goal: actions to limit the effects of historical introgression and actions to maintain genetic diversity. Implementing the following actions will help sustain the genetic integrity of DOI bison herds. In addressing these challenges, research recommendations are made to resolve identified uncertainty and to allow for more informed decision-making in the future. These recommendations are summarized in Tables 2, 3, and 4.

Management to Limit Introgression

We recommend management actions that decrease or prevent the spread of cattle ancestry in any existing herds or new conservation herds.

Because of the cattle-bison hybridization that occurred in private herds when plains bison were saved from extinction in the 1800s and because animals from those herds were used to found or augment the DOI herds, no herd can be absolutely assured to have no cattle ancestry. That said, conservation herds, including those of the Department of the Interior, can be grouped into four classes: 1) those with no molecular evidence of cattle introgression; 2) those with molecular evidence of low levels of cattle introgression; 3) those with historical inference of cattle ancestry but no molecular evidence with the current DNA markers; and 4) those where molecular markers indicate high levels of cattle ancestry and/or recent hybridization with domestic cattle. We have specific recommendations for each of these classes, but all follow from the overarching recommendation to prevent the increase of bison with cattle ancestry in DOI herds.

1) No molecular evidence of cattle ancestry: Herds with no molecular evidence of cattle ancestry constitute a genetic resource that must be protected from inadvertent introgression. Yellowstone National Park has the only DOI herd where there is no suggestion of cattle introgression using all of the available molecular methods. The Yellowstone bison population requires further testing, as do non-DOI herds established with Yellowstone bison. There should be no introduction of bison to these herds from herds that show molecular evidence of cattle ancestry or for which the genetic status is unknown. High priority should be given to creating satellite herds for these herds on DOI-managed lands. Moreover, where the risk is great for inadvertent interbreeding with bison from adjacent herds that show high levels of cattle ancestry, herd boundaries should be secured by the appropriate means, trespass animals should be removed, and genetic testing should be conducted to confirm that the two herds are not mixing.

2) Molecular evidence of low-level cattle ancestry: Bison in DOI herds demonstrated to have detectable cattle ancestry at low levels have important genetic value and contain unique genetic variation that is absent from Yellowstone or other conservation herds with no molecular evidence of cattle ancestry. All DOI herds fall well below 2% of cattle genes at the current molecular markers and a threshold for conservation herds was suggested at the workshop. These herds should not be used to augment herds with no molecular evidence of cattle ancestry. While removal of individuals with cattle mtDNA haplotypes is warranted, selection on the basis of cattle alleles at nuclear loci could have unintended consequences of reducing overall variation. Herds with low levels of cattle ancestry that are not genetically unique should be the lowest

priority for herd expansion and transfer to other locations. The historical Fort Niobrara bison and the two bison herds at Theodore Roosevelt NP should be identified and managed as a metapopulation to ensure the persistence of rare alleles in all three herds.

The National Bison Range (NBR) herd is of interest because it represents a geographic lineage from the northern Montana region. An introduction of bison into this herd with molecular evidence of recent cattle introgression was reversed by DNA detection and swift management action (L. Garner, pers. comm. in Halbert 2003). Molecular evidence indicates that bison with introgressed cattle genes joined this herd prior to the 1980s (Halbert 2003, Halbert and Derr 2007a). Moreover, there are three state-owned plains bison herds in Alaska that may represent an unbranched lineage to the NBR herd that predates any introgression of cattle genes. If genetic testing identifies sufficient numbers of NBR-source bison free of cattle ancestry and with sufficient genetic variation, then the establishment of herds using these animals should be a high priority.

3) Historical suggestion of cattle ancestry: There is the possibility of cattle ancestry in all DOI herds, since those herds with no molecular evidence of cattle ancestry have Yellowstone origins and three male bison from the Goodnight herd (now Texas State Bison Herd) were introduced to Yellowstone in 1902 (Coder 1975, Meagher 1973). It is not clear whether cattle-bison breeding experiments had begun in the Goodnight herd prior to translocation of bull bison to Yellowstone NP, or whether he would have sent hybrids to Yellowstone NP. In some cases, the historical suggestion is stronger, such as with the Grand Teton/National Elk Refuge herd, which was augmented with 12 bison from Theodore Roosevelt NP, where cattle ancestry had been detected in 1964. To date there is no molecular evidence that these animals contributed to the current population (Halbert and Derr 2007a). In this case, as in others, higher resolution DNA testing may reveal traces of cattle ancestry, but the herds nonetheless have an important contribution to bison conservation.

4) Molecular evidence of higher levels of cattle ancestry: This category does not apply to any DOI herds but does apply to a number of other conservation herds that border DOI lands. Because the goal is for some DOI bison herds to move across landscapes and jurisdictions, evaluation of neighboring herds is important. When the level of cattle introgression is high, augmentation or systematic herd replacement should be considered, using animals made available from DOI herds or other sources that represent the same lineages. Genetic monitoring is a key part of management to determine the effectiveness of these efforts.

Management to Retain Genetic Diversity

We recommend that each DOI herd achieve a population size of 1,000 animals in the next 10 years. This can include identification of existing satellite and closely related herds, as well as the establishment of new satellite herds to achieve metapopulations of 1,000 bison.

With respect to the risk of losing genetic diversity, it is well understood that population size is a strong correlate of the rate of loss of genetic diversity. Therefore, we group DOI herds into three population size classes: 1) those with a population of greater than 1,000 bison; 2) those with between 500 and 1000 bison; and 3) those with fewer than 500 bison. We have specific

recommendations for each of these classes, but all follow from the overarching need to prevent the loss of genetic diversity by creating large herds. The last of these categories requires the most attention and additional research to resolve uncertainty regarding how best to slow the loss of genetic diversity.

1) Populations estimated at greater than 1,000: Yellowstone bison constitute the only DOI herd with a population size greater than 1,000, and even in this population the degree of genetic structure within the entire herd is unresolved (Halbert 2003, Gardipee 2007). In addition, the current practice of culling bison at the park's boundaries may lead to the removal of matrilineal groups and thereby allelic diversity (Halbert 2003). Further assessments of population substructure and the potential impacts of the current culling practices are recommended.

2) Populations estimated at 500–1,000: Three current herds—Wichita Mountains National Wildlife Refuge (WM), Badlands National Park (BNP), and Grand Teton/Elk Refuge (GT/NER)—have estimated population sizes greater than 500, and herd-specific management plans should be created for each within the next five years. The goal of these plans would be to manage each herd to approach 1,000 bison, either as a single herd or by creating metapopulations with formal plans for moving animals within metapopulations. The plans should ensure that there is no risk of interbreeding with other bison of uncertain genetic status or with known cattle introgression. These populations should be monitored for changes in heterozygosity and other measures of genetic diversity to ensure maintenance of genetic diversity and monitored for signs of demographic fitness changes (e.g., mating rates, reproduction, and survival).

3) Populations below 500: The remaining nine herds are at risk due to the loss of genetic diversity. We recommend immediate and aggressive actions to increase the size of these herds. A combination of actions may be needed to prevent rapid loss of diversity. Within this critical population size class, we have a set of recommended management actions and recommended research to support more effective small-population management.

Small-population management

First, because many of these small herds are limited by the size of their park or reserve, we recommend reviewing current unit management plans to explore the possibility of increasing the size of each bison herd to greater than 500. This may be achieved by establishing satellite herds to comprise a metapopulation, adjusting the abundance of other ungulate populations, and increasing bison carrying capacity by range expansion through identification of neighbors willing to have bison on their lands.

Second, intensive genetic and demographic management of the herds is vital to slowing the loss of genetic diversity. We recommend that several actions be taken until these populations can be increased:

- *Maintain stable population sizes:* Based on well-established genetic population theory, fluctuations in population size increase the rate of genetic loss. Any necessary population reductions should be small and frequent to create minor adjustments as opposed to large and infrequent adjustments.

- *Maximize the number of breeding males:* Observation has shown that there can be strong sexual selection in small bison herds. That is, the majority of offspring come from a small proportion of males, which reduces the effective population size and increases the loss of genetic diversity over time. As an initial step, we recommend using DNA methods to measure genetic contribution of individual males in small isolated herds. Restricting the breeding opportunity of successful bulls, however, should not be a routine practice.
- *Approach a 1:1 sex ratio:* We know from genetic theory that the loss of genetic diversity is slowest when the number of males approaches the number of females. In small herds, chance events (demographic stochasticity) can lead to uneven sex ratios. When the number of males drops below 40%, there is also the potential for reduced competition and loss of fitness. Culling and translocation plans should strive to approach an even sex ratio in herds, considering differential mortality.
- *Remove young animals:* When herd size is limited by carrying capacity and bison are removed annually (or every other year), more young bison should be removed to reflect natural predation mortality. In the smallest of herds, the loss of genetic diversity can be reduced by increasing the age of reproduction (Gross et al. 2006). It is suggested that herd demographics in small populations should be influenced by culling and providing young animals to establish new herds rather than through contraception.
- *Increase genetic diversity:* Finally, we recommend augmenting herds with additional animals if genetic testing for heterozygosity shows results below 0.5. No DOI herd currently approaches this threshold, but it has occurred in the Texas State Bison Herd when the herd also showed a substantial decline in reproduction. It is therefore important to also monitor fitness values and their possible decline. Augmentation with additional animals has increased genetic diversity and removed the manifestations of inbreeding depression in the Texas State Bison Herd and in other confined species. We recommend similar actions if any DOI herd experiences symptoms of poor genetic health, and we recommend following the guidelines in the introgression section whenever translocation is performed.

Research Recommendations

We recommend the development and application of more high-resolution molecular markers to identify the presence of cattle ancestry in existing herds, to prevent the spread of cattle ancestry to new conservation herds, and to monitor the genetic variation in DOI herds.

Continue to identify and develop a suite of molecular markers, including single nucleotide polymorphisms that are used for on-going genetic sampling of all DOI herds. Encourage other managers of conservation herds to apply the markers and protocols to their bison herds. New markers should be evaluated in peer-reviewed literature before they are added to herd genetic-sampling protocols.

Research to address uncertainty in small-population management

We know that the bison population sizes of 1,000 and 500, whether they represent survey, census, or breeding numbers, are significantly below the effective population size that many population geneticists see as necessary to secure genetic variation in bison over centuries. Theoretically the loss of genetic diversity is proportional to the effective population size (N_e , essentially, the number of individuals that contribute to breeding). We know that the effective population size of bison herds is lower than the breeding number and probably significantly lower than the estimated population size (N), but we do not know how much lower. To better manage small herds, we need more accurate estimates of the N_e/N ratio over time in existing populations and an analysis of the magnitude of the effect of factors that influence N_e/N (e.g., sex ratio, sexual selection, population age distribution, and other factors).

Intensive breeding management is being used in some of the smaller DOI herds, with all animals genetically screened and individuals selected so that all bison alleles are conserved in each generation. This strategy had support at the workshop for the elimination of cattle mitochondrial DNA haplotypes, where it is well established that selection could be occurring. Selection for particular alleles of neutral microsatellite loci would not eliminate cattle characters or change cattle ancestry and was not supported, as it could result in loss of the bison genetic variation it seeks to preserve.

Even with the existing data on bison, more informed management decisions could be made by using decision-support tools that use models to evaluate costs and benefits of management alternatives. For example, Halbert et al. (2005) created and used an individual-based model to evaluate management strategies for the Texas State Bison Herd that exhibited low genetic diversity and signs of low fitness, and Gross et al. (2006) evaluated a range of management alternatives and population targets to retain genetic diversity in bison herds. Incorporating extensive genetic data into a model would allow quantitative evaluation of a number of different strategies and provide transparency to the final decision. Other models have used stochastic simulation processes to determine which management strategies would result in the greatest genetic diversity over time for wood bison (Macfarlane et al 2006). In a structured decision process, models are essential.

Additional research to minimize potential introgression events

The risk of increasing the proportion of cattle ancestry in a herd is a major factor in selecting bison for movement between herds. It is important, therefore, to reduce uncertainty about the history of cattle ancestry in DOI and other conservation herds. The projects below are intended to provide the information necessary to minimize further introgression of livestock genes into DOI bison herds.

Develop and apply higher resolution molecular techniques to guide bison management:

Molecular methods currently utilized in bison management (mtDNA and microsatellites) are only capable of resolving hybridization at the herd level. While these measurements can determine the presence of cattle genes, the absence of detectable cattle genes does not indicate unequivocally that hybridization has not occurred historically. The development and application of new molecular methods, such as single nucleotide polymorphic (SNP) markers, can provide much higher resolution, and these markers are already being developed for other ruminants (Van Tassel et al. 2008, Pertoldi et al. 2010, Decker et al. 2009). These markers could be used to

detect recent hybridization and to reduce its effect on conservation herds by removing specific individual bison from an existing herd, or for selecting non-introgressed individuals for translocation. These markers will also have value beyond detection of cattle ancestry. They can be used to monitor genetic variation in herds and to choose animals for transfer between closely related herds, and to better understand the relation between census and effective population size. New markers should be evaluated in peer-reviewed literature before they are added to genetic-sampling protocols.

Evaluate historic lineages and spatial genetic structure: The previous century of bison management (e.g., anthropogenic movement and re-establishment of herds) has likely wiped out the plains bison historical genetic structure. Reconstructing this history is likely to provide valuable insight into resolving and maintaining lineages to allow or prevent herd mixing. We recommend studies to analyze historical structure:

- *Analyze bison samples that were collected before widespread introgression.* Sources include museums, archeologists, and historic buffalo jumps. Extract DNA from teeth, bone, and untanned capes, in that order.
- *Create mtDNA maps for historic herd structure and spatial structure* by sampling contemporary bison herds.

Conclusions

The bison herds of the U.S. Department of the Interior constitute an invaluable resource and a keystone species in prairie and woodland ecosystems. By the efforts of citizens that saved the remnant bison and of the managers that have been entrusted with them, a remarkable amount of the North American bison genome has been preserved. No emergency actions are necessary to continue that preservation, but concerted actions by researchers and managers are needed if North American bison are to be conserved in their diversity for decades and centuries.

Herd sizes must be increased, and where there is not adequate land to support larger populations, satellite herds must be established with exchange of animals to constitute metapopulations. This requires close cooperation between government agencies, including the integration of management plans. Most importantly, management of bison must be refocused to the landscape scale, where natural selection can work to preserve variation.

Table 2. Recommendations to limit bison introgression in DOI bison herds.

	INTROGRESSION		
	Recommendation	Mechanism	Management
Maintain genetic integrity	Introduce individuals to a herd only when they do not increase overall levels of cattle ancestry	Test both donor and recipient herd for cattle markers before any translocation	Perform regular sampling and routine testing of DOI herds either during handling or by remote methods
	As a very high priority, maintain genetic isolation of herds that exhibit no DNA evidence of cattle ancestry	Secure boundaries by all appropriate means. Remove or eliminate trespass animals; test to confirm origin of trespass animals whenever possible	Install secondary fencing and perform regular testing
	Minimize historic cattle ancestry when establishing new herds, while maximizing preservation of existing genetic variation	Test herds to confirm that they do not have cattle mtDNA haplotypes and for the presence of bison with cattle microsatellite alleles	Perform genetic monitoring of satellite herd to test for drift as well trespass animals
	Separate wood and plains bison herds to avoid interbreeding and to maintain morphological and behavior differences that have a genetic basis	Use genetic analysis to evaluate the current distinctiveness of wood and plains bison herds	Support Wood Bison Recovery Strategy. As more bison markers are developed, test plains and wood bison for significant differences in marker frequency

Table 3. Recommendations to retain genetic diversity in DOI bison herds.

	PRESERVING VARIATION		
	Recommendation	Mechanism	Monitoring
Population size (loss of genetic variance over time)	Achieve herd size of 1,000 bison or more at a location whenever possible	If 1,000 or more, no action (herds with more than 1,000 bison do not require active genetic management under normal conditions) If fewer, attempt to increase size/capacity	Census or survey: The goal is to move conservation herds to a size where they do not require active genetic management
	Regularly test herds of 500 to 1,000 for heterozygosity and other measures of genetic diversity. Seek ways to increase effective herd size	Develop herd-specific management plan within (5) years	
	Actively manage herds of fewer than 500 bison to sustain adequate genetic variation	Occasionally supplement with additional genetic material, following guidelines for donor animals	
Demography – effective population size	In small(er) herds, minimize fluctuations in population size to maximize N_e	For managed populations, conduct removals frequently, rather than less frequent large removals	
	In small herds, maintain a sex ratio approaching 1:1, but no more than 60% of either sex	Remove animals of relevant sex	Monitor demographics; measure genetic contribution of bulls
	In small herds, use management strategies that maintain generation interval	In the absence of predation, remove young animals in preference to old	Monitor lifetime reproductive success, particularly of bulls
Manage to minimize inbreeding	Supplement herds with additional genetic material if heterozygosity falls below 0.50 based on the 33 microsatellites	Move animals into herds based on guidelines for animal movements	Herds approaching threshold should be monitored for heterozygosity every year to avoid or alleviate signs of inbreeding depression
Facilitate adaptation and natural selection	When removing animals to control herd size, do not select for traits such as docility, body conformation, etc.	Randomly remove animals from within sex and age classes to achieve desired population structure	
	Maintain and allow the full range of natural selection pressures to operate where possible (e.g., predation, competition for mates)	Provide sufficient space for normal range of behaviors	

To extent possible, retain spatial substructure of populations	Remove animals from all spatial segments of the population. Provide sufficient space for herds to naturally subdivide
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Maintain and allow the full range of natural selection pressures to operate where possible (e.g., predation, competition for mates)	Provide sufficient space for normal range of behaviors
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To extent possible, retain spatial substructure of populations	Remove animals from all spatial segments of the population. Provide sufficient space for herds to naturally subdivide
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Minimize risk among population of losing genetic diversity to drift

Establish multiple populations of highly valued herds

Create guidelines for prioritizing establishment of new populations

When considering exchange between populations (lineages), use the best information (preferably results from historical genetic analyses) to determine and maintain historical genetic patterns and lineages of the species to the extent possible

If conserving lineages is important, the ideal donor herd should have a genetic, ecological, or historical link to the recipient herd	Examine genetic correspondence of potential donors and match to recipient, considering ability of donors to achieve other recommendations (e.g., achieve diversity goal)
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Attempt to replicate significant lineages (YELL, WM, WC) via satellite herd establishment

Table 4. Recommendations for research priorities in bison genetics.

RESEARCH			
Purpose	Recommendation	Mechanism	Monitoring
Resolving introgression	Identify and develop a suite of molecular markers, including Single Nucleotide Polymorphism (SNP) technology, for testing of all DOI herds	Transfer development of SNP technology from cattle to bison	Sample all DOI herds and conservation herds managed by other federal and state/provincial agencies, tribal/First Nation organizations, and NGOs in North America
	Develop models utilizing decision-support tools to evaluate costs/benefits of alternative management strategies for bison conservation	Fund model development	Use models to evaluate a range of specific management strategies prior to translocation of bison between herds and establishment of new herds
	Evaluate historic lineages and spatial genetic structure	Analyze historic samples utilizing advanced DNA methodologies, including SNPs when available	Include in decision-support models to assess bison translocations
	Estimate effective population size and N_e/N ratio in existing populations and evaluate sources of variation	Perform genetic testing and characterization of entire herds over a period of years to establish breeding success	Test all animals during management of small herds

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Appendix A. Participants in the Bison Conservation Genetics Workshop held in Nebraska City, Nebraska

Name	Affiliation	Position
Kaush Arha	Department of the Interior	Deputy Assistant Secretary Fish, Wildlife & Parks
Keith Aune	Wildlife Conservation Society	Senior Conservation Scientist
Scott Baker	Oregon State University	Associate Director, Marine Mammal Institute
James Derr	Texas A&M University	Professor of Genetics, College of Veterinary Medicine and Biomedical Sciences
Peter Dratch	National Park Service	Zoologist, Endangered Species Program Manager
Peter Gogan	U.S. Geological Survey	Research Wildlife Biologist, Northern Rocky Mountain Science Center
John Gross	National Park Service	Ecologist, Inventory and Monitoring Program
Natalie Halbert	Texas A&M University	Research Assistant Professor
Phil Hedrick	Arizona State University	Ullman Professor of Conservation Biology
Briar Howes	Parks Canada	Species at Risk Biologist
Lee Jones	U.S. Fish & Wildlife Service	Wildlife Health Biologist
Eric Lonsdorf	Lincoln Park Zoo	Director, Urban Wildlife Institute
Cecilia Penedo	University of California, Davis	Associate Director, Veterinary Genetics Laboratory
Kent Redford	Wildlife Conservation Society	Vice President, Conservation Strategies
Tom Roffe	U.S. Fish & Wildlife Service	Wildlife Disease Ecologist
Oliver Ryder	San Diego Zoo	Kleberg Associate Director, Head of Genetics Division
Danny Swepston	Texas Parks and Wildlife	Wildlife Biologist
Greg Wilson	Canadian Wildlife Service	Species at Risk Biologist

Appendix B. Workshop Agenda

Bison Genetics Workshop Lied Conference Center September 2–5, 2008

Tuesday, September 2

- 4:30 p.m. Gather – introductions and agreement on meeting objectives
Peter Dratch, Eric Lonsdorf
- 6:00 Dinner
- 7:00 Welcome and charge – Deputy Assistant Secretary Kaush Arha
A brief history of bison conservation – Kent Redford

Wednesday, September 3 Issue: Introgression and hybridization

- 6:30–8:30 a.m. Breakfast buffet
- 8:30 Gather and informal discussion
Genetic management plans that take a century view – Ollie Ryder
The tools of the trade: molecular methods in use – Cecilia Penado
- 10:30 Break
- 11:00 Evidence of introgression in NA bison herds – Jim Derr
Hybridization of wood and plains bison – Greg Wilson
- Noon Lunch
- 1:00 p.m. Establishing thresholds for cattle introgression – Eric Lonsdorf
Maintaining distinctness of NA bison subspecies
- 3:00 Break
- Developing suggested guidelines on hybridization
 Research priorities and their implications
- 6:00 Dinner
- 7:30 Subgroups working on introgression and research meet

Thursday, September 4 Issue: Maintaining variation in bison herds

- 6:30–8:30 a.m. Breakfast buffet
- 8:30 Gather and report back of subgroups
 Maintaining intraspecific variation – John Gross
 Methods and measures for preserving variation – Tom Roffe
 Heterozygosity, allelic richness, etc.
 Remote biopsy sampling and genetic monitoring – Scott Baker
- 10:30 Break
- 11:00 Comparison of variation in conservation herds – Natalie Halbert
 Examining relationship between herds
- Noon Lunch
- 1:00 p.m. Establishing targets for genetic variation – Eric Lonsdorf
 Minimum herd size; sex and age structure
 Methods of gene exchange in a conservation framework
- 3:00 Break
- 3:30 Developing guidelines for genetic health of NA bison
 Sample collection, storage and distribution
- 6:00 Dinner
- 7:30 Subgroups working on variation and sampling meet

Friday, September 5

- 6:30-8:30 a.m. Breakfast buffet
- 8:30 Gather and report back of subgroups – Eric Lonsdorf
 Discussion of final recommendations on bison hybridization
 Discussion of final recommendations on bison variation
- 10:00 Break
- 10:30 Discussion of final recommendations on research and sampling
 Closing comments
- 11:30 Adjourn

Appendix C. U.S. Department of the Interior Herd Histories

Badlands National Park

Bison have continued to be the dominant large herbivore of Badlands National Park (BADL) since their establishment in 1963 through the restoration of 25 bison from Theodore Roosevelt National Park in North Dakota and three bison from Fort Niobrara National Wildlife Refuge in Nebraska. All of these animals originated from the Fort Niobrara herd. Twenty additional bison were restored to BADL in 1983 from Colorado National Monument (CNM), whose original lineage was from a 1925 Denver, Colorado, herd. All animals from both lineages have had the opportunity to interbreed since 1983.

The bison herd at BADL increased dramatically from these original bison restorations in 1963 and 1983. Between the years of 1983 and 1987, an extensive research effort was conducted at BADL. The population peaked at more than 1,000 animals, and annual recruitment rates were greater than 50%. The current population is regulated opportunistically when numbers exceed 600 animals. BADL conducted annual roundups from 2002 through 2007, and bison of different ages and sexes were given to the InterTribal Bison Cooperative (ITBC) and Ogalala Sioux Parks and Recreation Authority (OSPRA). The ITBC distributes bison to Native American tribes trying to establish bison populations on their lands. Donating the bison to the ITBC and OSPRA are the main avenues that BADL uses to regulate the current population that inhabits the 64,000-acre Sage Creek Unit of the BADL Wilderness Area.

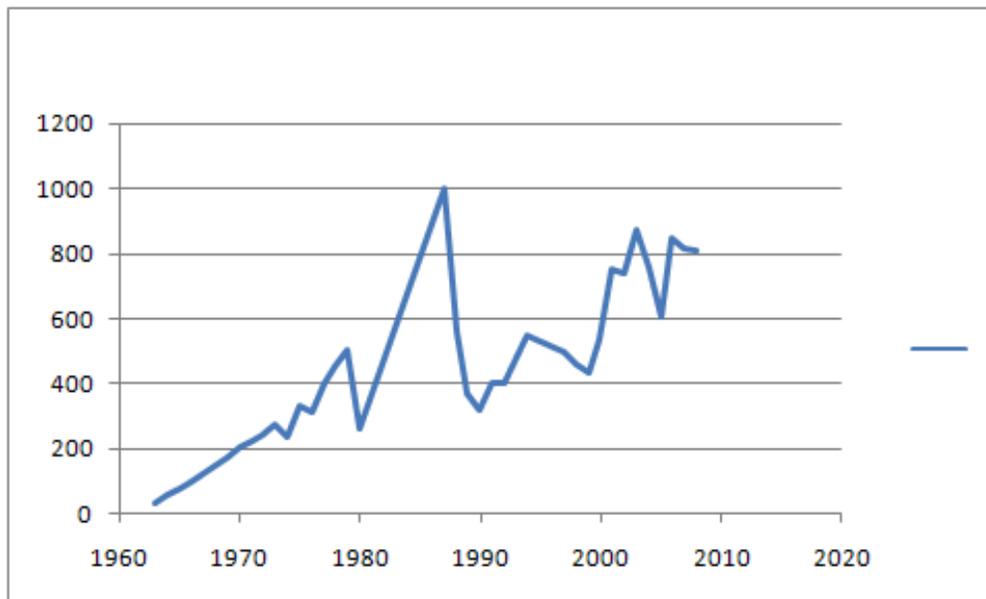


Figure 2. Badlands National Park bison herd population, 1963 to 2009.

Fort Niobrara National Wildlife Refuge

Fort Niobrara National Wildlife Refuge (NWR) consists of 19,131 acres located in north-central Nebraska along the Niobrara River. The refuge was established in 1912 as a “preserve and breeding ground for native birds.” Later that same year, its purpose was expanded to include the conservation of bison and elk herds representative of those that once roamed the Great Plains. Prescribed fire and planned periods of rest, or non-disturbance, are used in combination with grazing by bison and elk in an effort to mimic historic processes that helped shape the native plant communities on the refuge. As many as 100,000 people visit Fort Niobrara NWR each year to see, appreciate, and learn about wildlife and their habitats.

The Fort Niobrara bison herd was founded in 1913 with the donation of six bison from J.W. Gilbert of Friend, Nebraska, and the transfer of two males from Yellowstone National Park. Additional introductions were made in 1935 (Custer State Park), 1937 (Custer State Park), and 1952 (National Bison Range).

Bison have been rounded up by refuge staff on horseback annually since the early 1930s to remove surplus animals, complete health testing, vaccinate, and/or mark animals. The entire bison herd tested negative for brucellosis in 1965 and was declared brucellosis-free in 1974 by the State of Nebraska. A comprehensive bison herd health monitoring program was initiated in 2003, and bison are no longer routinely vaccinated. The animals are individually identified with microchips.

Currently, both the Fort Niobrara and Sullys Hill bison herds are managed separately by fence on the refuge. In order to manage the refuge within carrying capacity (approximately 350 bison total), the Fort Niobrara herd will likely be reduced in future years to accommodate the growing Sullys Hill herd.

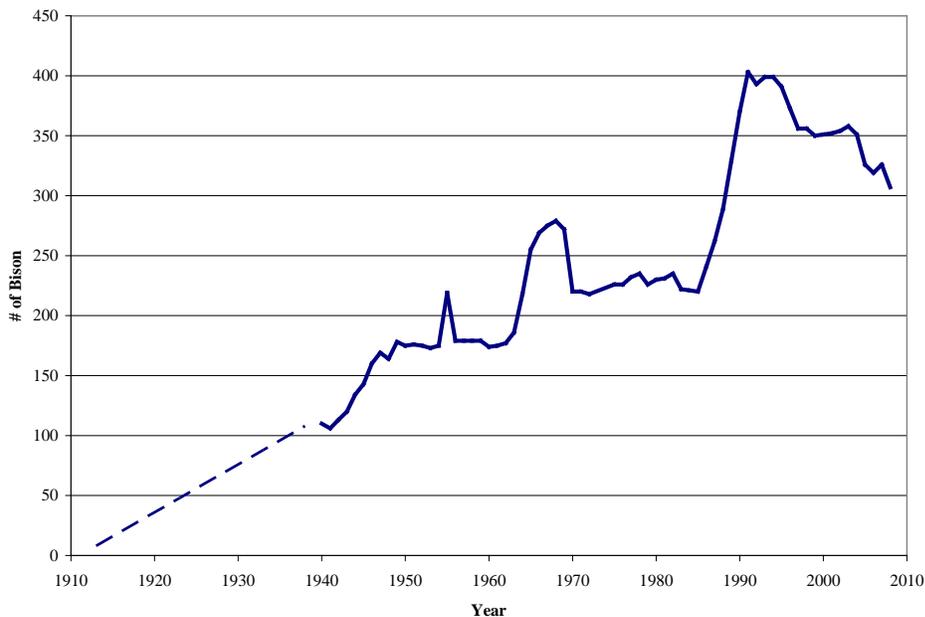


Figure C-2. Fort Niobrara National Wildlife Refuge bison herd population, 1913 to 2009.

Grand Teton National Park – National Elk Refuge (Jackson Bison Herd)

Bison were extirpated from Wyoming around Jackson Hole by the mid-1880s. In 1948, 20 bison from Yellowstone National Park were reintroduced to the 1,500-acre Jackson Hole Wildlife Park near Moran, Wyoming. A population of 15–30 bison was maintained there in a large enclosure until 1963, when brucellosis was discovered in the herd. All the adult animals were destroyed, but four vaccinated yearlings and five vaccinated calves were retained. Twelve certified brucellosis-free bison were added soon afterward from Theodore Roosevelt National Park. In 1968, the herd (down to 11 animals) escaped from the confines of the wildlife park, and a year later the decision was made to allow them to range freely. In 1975, the small Jackson Bison Herd began wintering on the National Elk Refuge, and the use of standing forage by bison on this winter range was viewed as a natural behavior and was not discouraged by managers. By 1980, however, the bison began eating supplemental feed provided for the elk, and they have continued to do so every winter since.

The discovery of supplemental feed by bison has had several consequences, including a decline in winter mortality and an increase in the population's growth rate. The Wyoming Game and Fish Department implemented a bison hunting season on lands outside Grand Teton National Park and the National Elk Refuge in 1997, but typically only 40 animals were harvested per year, and the effect on the population was minimal. The population increased approximately 10–14% per year between 1990 and 2007 and peaked at 1,059 animals in 2007. The Elk and Bison Management Plan and EIS was adopted in 2007. Under this plan the post-hunt objective is 500 bison, and the open hunting area was expanded to include the National Elk Refuge. During the 2007 harvest, 266 animals were removed, reducing the population to 920 during the 2008 winter count. The objective is to harvest 300 bison per year until the 500 objective is reached, at which time harvest levels will be reduced to maintain the population at 500.

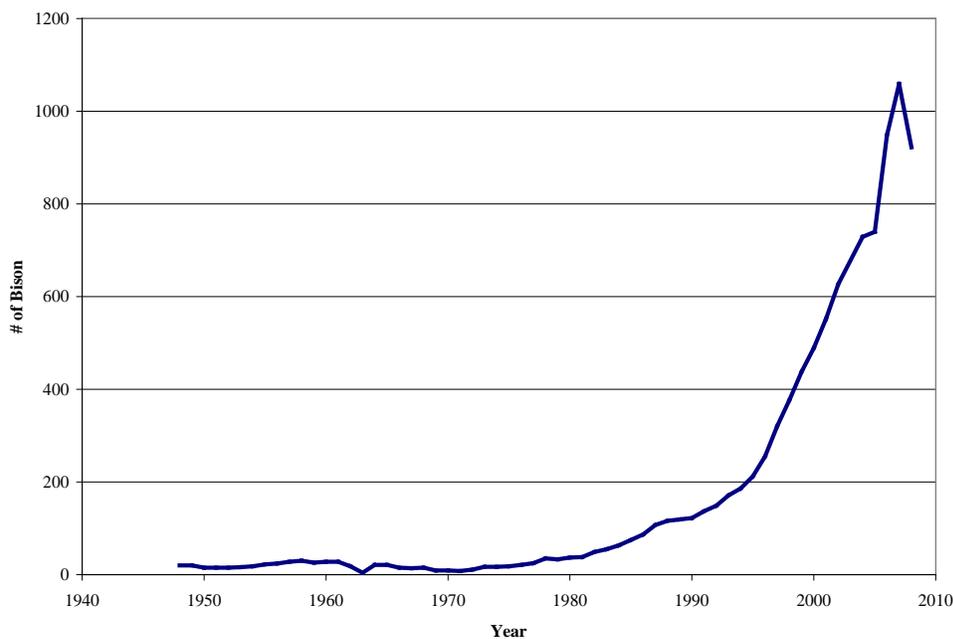


Figure C-3. Jackson Bison Herd (Grand Teton National Park/National Elk Refuge) population, 1948 to 2008.

National Bison Range

The National Bison Range, established in 1908 with the first Congressional appropriations ever made for the purchase of lands for a wildlife refuge, consists of 18,799 acres of Palouse prairie in northwest Montana. The refuge was established to provide "...for a permanent national bison range for the herd of bison..." Its purpose was expanded in 1921 to function "...as refuges and breeding grounds for birds," and again in 1958 "... to provide adequate pasture for the display of bison in their natural habitat at a location readily available to the public..." The refuge currently supports bison, elk, pronghorn antelope, Rocky Mountain bighorn sheep, mule deer and white-tailed deer, black bear, coyote, mountain lion, and more than 200 species of birds. As many as 250,000 visitors come to the refuge each year.

The herd was founded in 1909 from 34 northern plains bison purchased by the American Bison Society from the Conrad herd in Kalispell, Montana, plus two additional Conrad bison that were donated to the American Bison Society. One additional animal came from the Goodnight herd in Texas. In 1910, three additional northern plains bison were introduced from the Corbin herd. Subsequent additions include two bison in 1939 (7-Up Ranch, origin unknown); four in 1952 (Fort Niobrara); two in 1953 (Yellowstone National Park); and four in 1984 (Maxwell State Game Refuge).

The bison are rounded up annually by horseback to keep the population within the refuge carrying capacity, and a comprehensive herd health monitoring program has been in effect since 2000. The animals are individually identified with microchips, and the population is currently at approximately 320 bison.

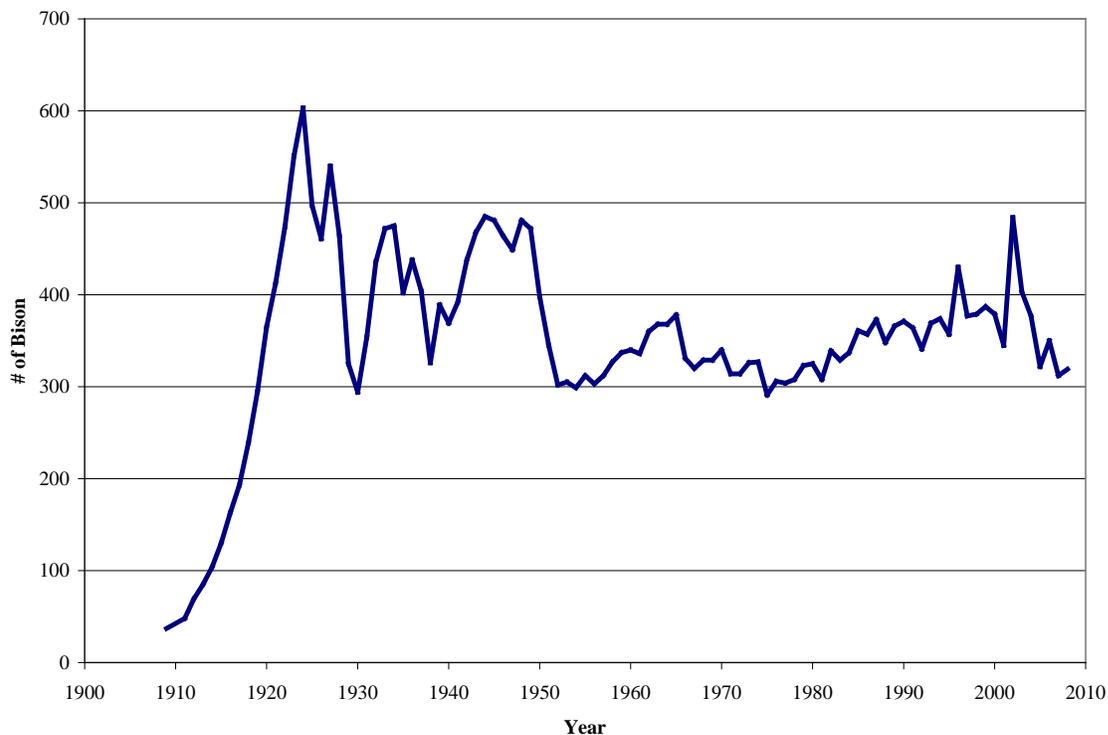


Figure C-4. National Bison Range bison herd population, 1909 to 2009.

Neal Smith National Wildlife Refuge

Neal Smith National Wildlife Refuge, located just east of Des Moines, Iowa, was established in 1991. Its mission is to re-construct tallgrass prairie and restore oak savanna on 8,654 acres of the Walnut Creek watershed and to provide a major environmental education facility focusing on prairie, oak savanna, and human interaction. Habitat management involves reclaiming agriculturally degraded land using grazing, prescribed fire, and other tools to restore tallgrass prairie and savanna habitat. Approximately 200,000 visitors come to the refuge every year. The refuge has been designated a U.S. Fish and Wildlife Service Land Management and Research Demonstration Area to facilitate development, testing, teaching, publishing, and demonstration of state-of-the-art management techniques for fish, wildlife, and plant conservation.

In 1996, bison were reintroduced from several other refuges around the country (not shown in graph below). However, recently completed genetics data suggested that the Neal Smith bison population contributed relatively little to national bison conservation efforts, and a new herd was established in 2006 with 39 animals transferred from the National Bison Range. The bison are rounded up annually to manage the population within refuge carrying capacity and to conduct health monitoring. The animals are individually identified with microchips, and the population is currently estimated at 71.

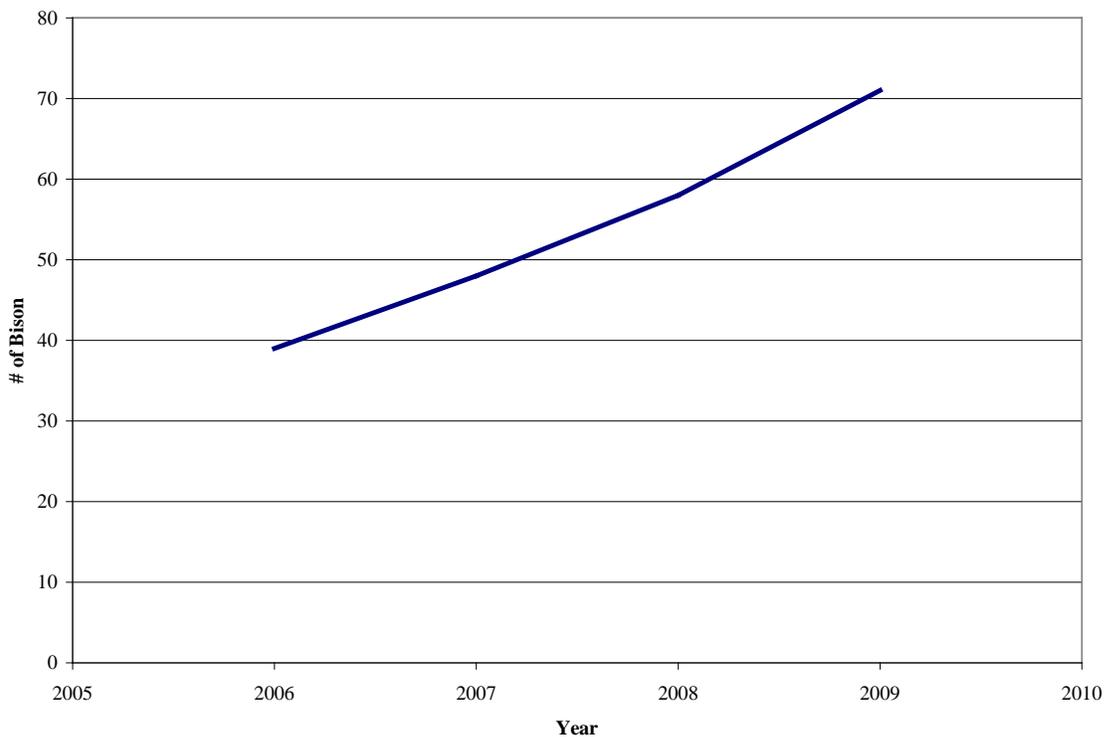


Figure C-5. Neal Smith National Wildlife Refuge bison herd population, 2006 to 2009.

Rocky Mountain Arsenal National Wildlife Refuge

In 1942, the U.S. Army bought thirty square miles of farmland to establish the Rocky Mountain Arsenal, a chemical weapons factory. After World War II, the army leased land to private companies that produced commercial pesticides. During the early Cold War of the 1950s, the U.S. Army again produced chemical weapons. While the industrial core of the site was contaminated, deer, prairie dogs, coyotes, and many species of hawks, owls, and other birds thrived in the abandoned fields, grasslands, and woodlots that had been protected from forty years of urban sprawl and development.

In 1992, Congress passed the Rocky Mountain Arsenal National Wildlife Refuge Act, designating the site as a future refuge. Since then, the U.S. Fish and Wildlife Service has managed the site “as if it were a refuge,” monitoring wildlife health, restoring native prairie habitats, and providing opportunities for wildlife-dependent recreation. Located just northeast of downtown Denver, Colorado, the refuge is the largest contiguous open space in the Denver metropolitan area. The site is currently undergoing a major environmental restoration program and will become one of the largest urban national wildlife refuges in the United States.

The bison herd at the Rocky Mountain Arsenal was established in 2007 with 16 animals transferred from the National Bison Range as part of a pilot project. In spring 2008, two yearlings from Sullys Hill National Game Preserve, also of National Bison Range foundation, were added to the population. The population is currently estimated at 44, and the bison are individually identified with microchips. The refuge is planning to develop facilities to conduct annual roundups in an effort to manage the population within carrying capacity and complete herd health monitoring in future years.

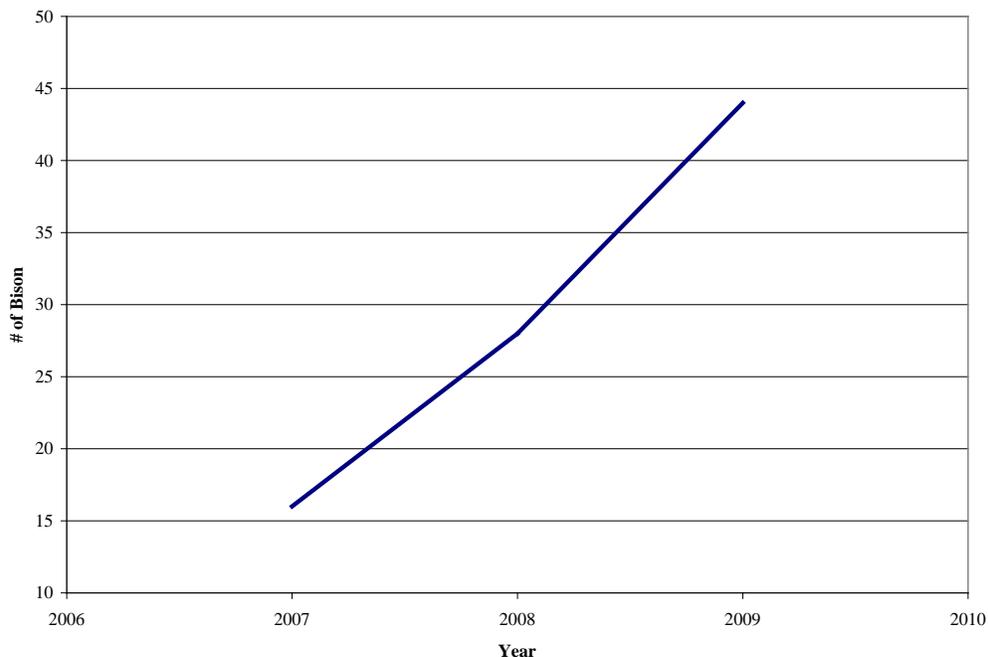


Figure C-6. Rocky Mountain Arsenal bison herd population, 2007 to 2009.

Sullys Hill National Game Preserve

Sullys Hill National Game Preserve, located on the south shore of Devils Lake, North Dakota, was established in 1904 by Teddy Roosevelt. In 1914, Sullys Hill was named a “Big Game Preserve” by Congress, and in 1921, President Warren Harding reserved the area as a refuge and breeding grounds for birds and all wildlife. Purposes include: “...a big game preserve, refuge, and breeding grounds for wild animals and birds...” and “...refuge and breeding grounds for birds.” Sullys Hill National Game Preserve currently consists of 1,674 acres of wooded hills and open meadows.

Six bison were brought to Sullys Hill in October 1918 from the Portland City Park in Portland, Oregon, including the herd matriarch and her offspring. Based on historical documentation, it is believed that the herd matriarch was obtained by the Portland City Park from Ravalli, Montana, around 1906 through a trader named B.H. Denison. In 1932, the first addition to the herd, a bull from Wind Cave National Park, was made. Nine other introductions occurred between 1941 and 1997, including bison from the National Bison Range, Fort Niobrara NWR, and Theodore Roosevelt National Park.

Since 1980, average herd size has been approximately 30 animals at Sullys Hill, with about eight removed annually until 2006, when the entire herd was relocated to Fort Niobrara NWR to allow the population to expand. The population all currently contains 61 bison, and the animals are individually identified with microchips.

Seven bison from the National Bison Range were transported to Sullys Hill in 2006 to provide environmental education, outreach, and viewing opportunities for refuge visitors. This replacement herd is not included in the graph below.

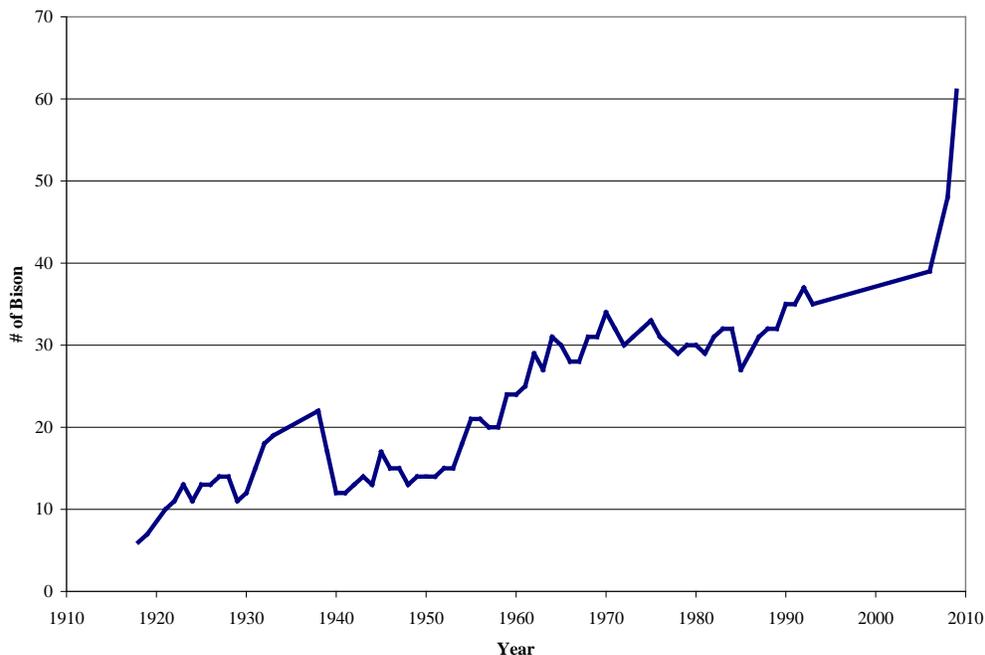


Figure C-7. Sullys Hill bison herd, 1918 to 2009 (relocated to Fort Niobrara in 2006).

Theodore Roosevelt National Park

Theodore Roosevelt National Park consists of three distinct areas totaling 70,446 acres (North Unit, 24,070; Elkhorn Ranch, 218; South Unit, 46,158). In 1956, 29 bison from Fort Niobrara NWR were reintroduced in the South Unit of the park, and in 1962, 20 bison from that population were released into the North Unit (there are no bison at the Elkhorn Ranch). Population objectives for bison in the North and South units were set at 100–300 and 200–500, respectively, using a park-specific forage allocation model, and since the initial releases, populations have ranged from 20 to 360 bison in the North Unit and from 29 to 472 in the South Unit.

Population monitoring prior to 1975 should be considered informal, and most estimates were made prior to roundups that occurred annually in the South Unit from 1962 through 1973. Records from 1975 to the present are more accurate and based on total-herd counts from complete park coverage by riders, aircraft, or both. During roundup years, the estimate reflects the population prior to culling the herd.

Each unit has its own wildlife-handling facility, holding and sorting pastures, a chute system, holding pens, and loading ramps. As bison are processed, morphometric and demographic data are collected, and each is identified with a micro-chip and federal identification tag in the right ear. Each bison is tested for brucellosis (*Brucella abortus*), and additional samples are archived for other studies (e.g., genetic purity, heterozygosity, etc.). No bison from either unit has tested positive for brucellosis.

The decision for culling an individual is based on population and demographic goals for that unit. Theodore Roosevelt National Park does not have sale authority for bison. Under a cooperative agreement, bison culled from the park are brokered through the Inter-Tribal Bison Cooperative, and other federal, state, and non-profit entities.

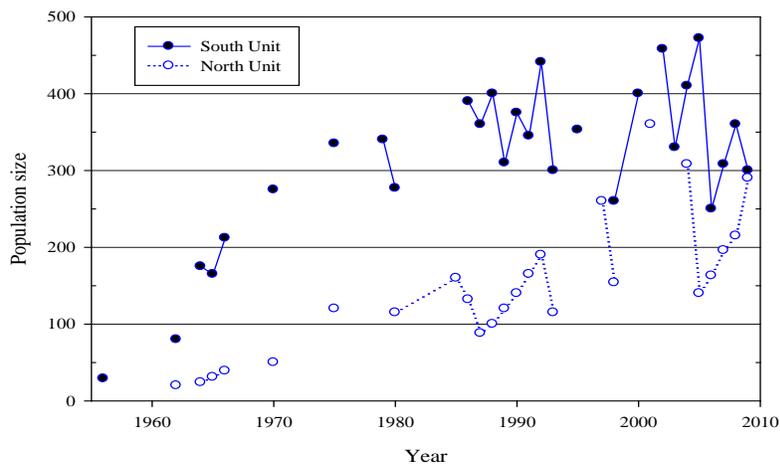


Figure C-8. Theodore Roosevelt National Park bison herd population, 1956 to 2009.

Wichita Mountains Wildlife Refuge

Wichita Mountains Wildlife Refuge, established in 1901, consists of 59,020 acres of mixed grass prairie in the Wichita Mountains of southwest Oklahoma. The refuge provides habitat for large native grazing animals such as bison, Rocky Mountain elk, and white-tailed deer. Texas longhorn cattle also share refuge rangelands as a cultural and historical legacy species. More than one million visitors come to the refuge each year.

Through the efforts of the American Bison Society and the New York Zoological Society, an offer was made to donate 15 bison to the Wichita National Forest and Game Preserve in the early 1900s. Congress set aside \$15,000 for this purpose, and on October 11, 1907, 15 bison from the New York Zoological Park were shipped by rail to the refuge. Four bison from the Fort Niobrara NWR were added to the herd in 1940.

The current population is approximately 650 bison, and an annual roundup is conducted to keep the population within refuge carrying capacity and to conduct herd health monitoring. The refuge began inserting microchips in 2007 to identify individuals, and approximately 90% of the bison herd has been microchipped to date.

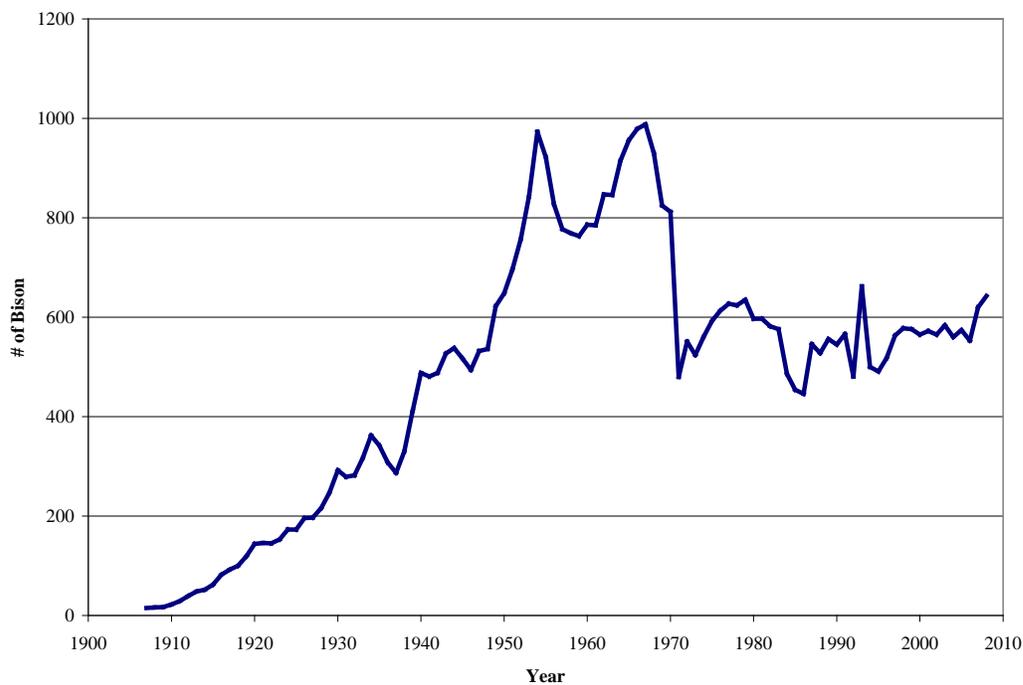


Figure C-9. Wichita Mountains Wildlife Refuge bison herd population, 1907 to 2009.

Wind Cave National Park

The Wind Cave National Park bison herd was originally established in 1913 on the Wind Cave Game Preserve, administered by the U.S. Department of Agriculture (USDA) Bureau of Biological Survey. This initial group consisted of 14 bison (six bulls and eight cows) and was a gift from the New York Zoological Society through the American Bison Association. Six more bison (two bulls and four cows) were brought to the game preserve from Yellowstone in 1916. These 20 animals were the founders of the current Wind Cave bison herd. In 1935 the Wind Cave Game Preserve was transferred from administration by the USDA to the Department of the Interior, and became part of Wind Cave National Park. A 1938 law authorized the park to sell or otherwise dispose of surplus buffalo and elk, and until 1943 bison were sold live or culled. Under an agreement with South Dakota in 1952, bison were baited into Custer State Park (CSP). This was the major means of disposing of bison until 1961 when the agreement to bait the bison into CSP was terminated in 1964 due to the high incidence of brucellosis in the Wind Cave herd, and the initiation of a calf-hood vaccination program by CSP.

As the park was expanded from 10,500 to 28,295 acres, the bison herd was allowed to increase. In the mid-1960s, the park established a target bison management population of between 350 and 500 animals. In 1960, brucellosis test results revealed approximately 75% of 52 bison tested were reactors. This led to the initiation of a brucellosis control program in 1964 in which 220 bison were shot in the field, reducing the herd from 440 to 220. The park was placed under quarantine by South Dakota from 1982 to 1986. There have been no positive brucellosis reactors from 1985 to the present.

When a roundup is conducted, as many bison as possible are captured, tested, and released back into the park or shipped to various Native American tribes, non-profit organizations, and state and federal agencies. From 1965 to 1987, the bison herd was reduced by sending to slaughter the first bison to be rounded up regardless of age or sex. Since then, the park primarily reduces the herd by live shipment of yearlings and sometimes two-year-olds, keeping 8–10 of each sex and age class. A total of 1,489 have been distributed live between 1987 and 2007. Bison are allowed to die naturally, and their remains are left on the landscape.

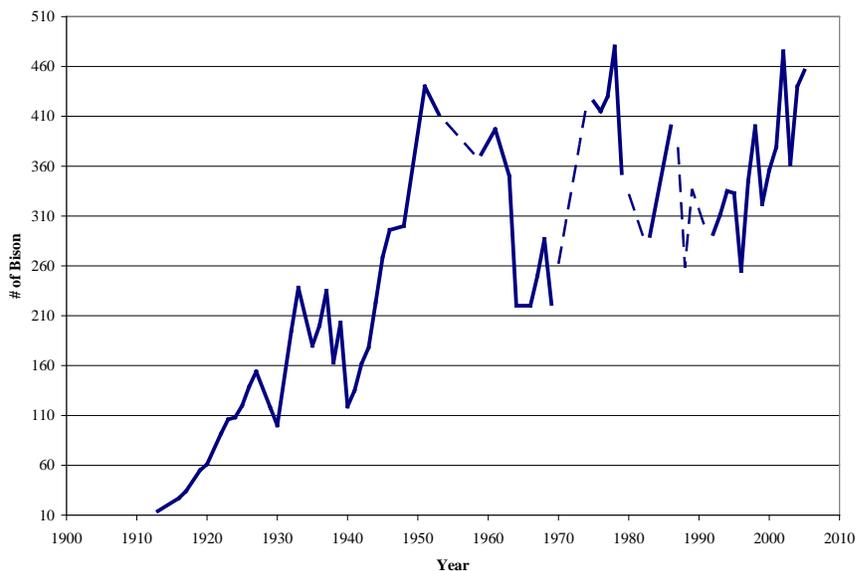


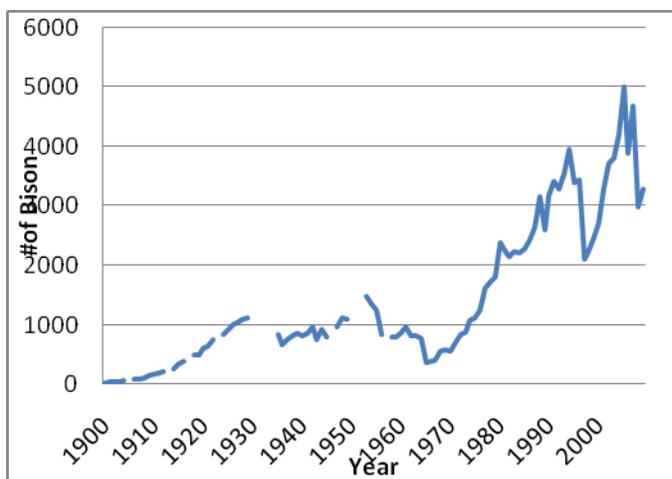
Figure C-10. Wind Cave National Park bison herd population, 1913 to 2009.

Yellowstone National Park

Yellowstone bison historically occupied approximately 20,000 km² in the headwaters of the Yellowstone and Madison rivers. Historical accounts of wild bison adjacent to and within the present-day Yellowstone National Park note that substantial numbers occupied the high plateaus in all seasons. When the park was established in 1872, the population of bison likely numbered in the several hundreds, but by 1900 the population had declined in abundance to less than 50 (actual count of 23) individuals located in the interior valley of Pelican Creek.

A restoration program on the northern range of Yellowstone was initiated in 1902 by translocating three adult males from Texas and 18 females from western Montana. This population was supplemented with a few calves from the Pelican Valley herd. The restoration program actively managed the bison by growing and feeding hay until the early 1950s and removing bison to manage abundance and sex ratio until the mid 1960s. Following a new 1968 management policy, the population increased to 4,000 by 1994 and to 5,000 bison in 2005. Conservation of Yellowstone bison is complicated by relatively high rates of *Brucella abortus* infection, their spring migratory behavior to low-elevation ranges along and outside the national park boundary, and especially with brucellosis detections in greater Yellowstone area livestock. The moderate to high population growth rate exacerbates the issue in the conflict zone at the conservation area boundary. The conservation area boundary was designated through negotiations with the State of Montana and does not include fencing to contain bison. Yellowstone bison occupy a range of about 2,300 km².

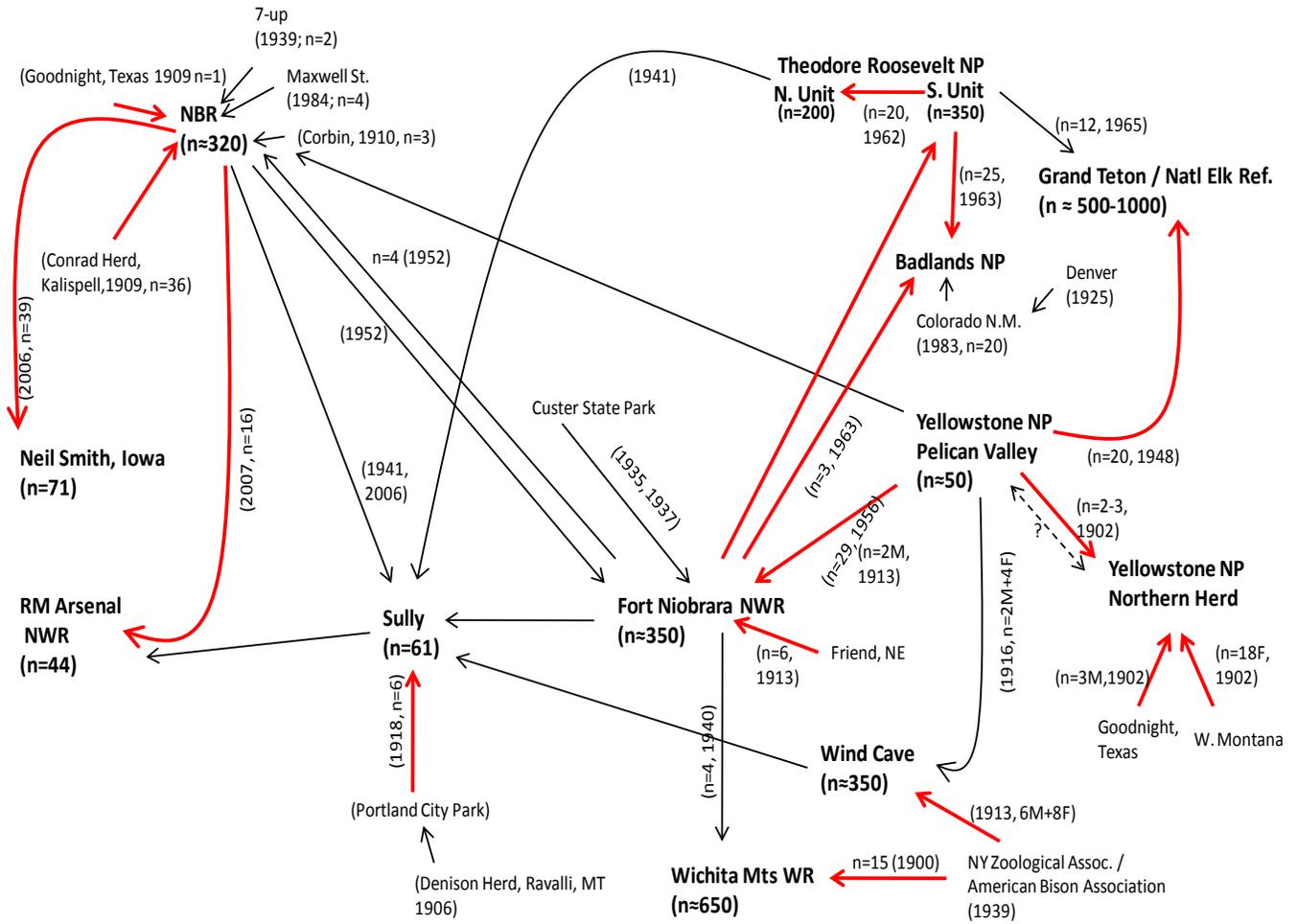
The current Yellowstone bison management program is a collaborative effort with four other state and federal management agencies, directed by a long-term management plan signed by the Secretary of the Interior in 2002. The program uses a conservation strategy to manage for fluctuations in population abundance between 2,500 and 4,500 bison in order to balance the influence bison have on the park's forage base, conservation of the genetic integrity of the bison population, protection of migratory tendencies that wild bison exhibit, meeting brucellosis risk management responsibilities negotiated with state wildlife managers, and other constraints that influence human tolerance for wild bison outside Yellowstone National Park. An active surveillance program includes annual monitoring of the population to track demographic rates, brucellosis exposure, and brucellosis sero-conversion rates by maintaining a cohort of radio-



marked individuals. Periodic roundups of bison at capture pens at the perimeter of the conservation area occur in which a few to more than 1,000 bison are removed per year depending on the population abundance and the prevailing weather conditions. Removals are focused on migrants to the boundary ranges, and in some years bison that are found to be brucellosis sero-negative are released after testing.

Figure C-11. Yellowstone National Park bison herd population, ca. 1900 to 2009.

Appendix D. Sources and Movement of DOI Bison (M. Schwartz 2010)



The Department of the Interior protects and manages the nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its special responsibilities to American Indians, Alaska Natives, and affiliated Island Communities.

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American Bison

Status Survey and Conservation Guidelines 2010

Edited by C. Cormack Gates, Curtis H. Freese, Peter J.P. Gogan, and Mandy Kotzman



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IUCN SSC Bison Specialist Group

The Bison Specialist Group is a voluntary network of people professionally involved in the study, conservation, and sustainable management of bison in Europe and North America. The BSG consists of two divisions, the European Bison Specialist Group and the American Bison Specialist Group (ABSG). The ABSG is committed to the development of comprehensive and viable strategies and management actions to enhance conservation and achieve ecological restoration of American bison as wildlife where feasible throughout the original range of the species. The ABSG operates under the authority of the Species Survival Commission of IUCN—International Union for Conservation of Nature.

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Acronyms

ABS	American Bison Society	CSP	Custer State Park, South Dakota
ABSG	American Bison Specialist Group, a division of the IUCN BSG	CWS	Canadian Wildlife Service
ADFG	Alaska Department of Fish and Game	CWCS	Comprehensive Wildlife Conservation Strategy
AGFD	Arizona Game and Fish Department	DNDC	The Department of National Defence, Canada
ALCES®	A Landscape Cumulative Effects Simulator, FOREM Technologies	EHD	Epizootic hemorrhagic disease
ANPP	Herbaceous above ground net primary productivity	EINP	Elk Island National Park, Alberta
APF	American Prairie Foundation	EIS	Environmental Impact Statement
APFRAN	Animal Plant and Food Risk Assessment Network, Canada	ESA	U.S. Endangered Species Act
APHIS	U.S. Department of Agriculture Animal and Plant Health Inspection Service	ESU	Evolutionarily significant unit
BLU	Bluetongue	FAD	Foreign Animal Disease
BNP	Badlands National Park, South Dakota	FEARP	Federal Environmental Assessment Review Panel, Canada
BRCP	Bison Research and Containment Program, Northwest Territories	FMD	Foot-and-mouth disease, or heartwater
BSE	Bovine spongiform encephalopathy	FNNWR	Fort Niobrara National Wildlife Refuge, Nebraska
BSG	IUCN Bison Specialist Group	GEU	Geminate evolutionary unit
BTB	Bovine tuberculosis	GTNP	Grand Teton National Park, Wyoming
BVD	Bovine viral diarrhoea	GWBE	Greater Wood Buffalo Ecosystem, Canada
CAMP	Conservation Action Management Plan process, IUCN Captive Breeding Specialist Group	GWBNP	Greater Wood Buffalo National Park, Canada
CATG	Council of Athabaskan Tribal Governments, Alaska	GYA	Greater Yellowstone Area
CBA	Canadian Bison Association	HMSP	Henry Mountains State Park, Utah
CBD	International Convention on Biological Diversity	HOAA	Health of Animals Act, Canada
CBSG	IUCN/SSC Conservation Breeding Specialist Group	InVEST	Integrated Valuation of Ecosystem Services and Tradeoffs
CDOJ	Canadian Department of Justice	ITBC	Intertribal Bison Cooperative
CFIA	Canadian Food Inspection Agency	IUCN SSC	IUCN Species Survival Commission
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora	IUCN SUSG	IUCN Sustainable Use Specialist Group
CMN	Canadian Museum of Nature	JD	Johne's disease
CONANP	Comision Nacional De Areas Naturales Protegidas, Mexico	MBS	Mackenzie Bison Sanctuary, Northwest Territories
COSEWIC	Committee on the Status of Endangered Wildlife in Canada	MCA	Montana Code Annotated
		MCF	Malignant catarrhal fever
		MDOL	State of Montana Department of Livestock
		MFWP	State of Montana Department of Fish, Wildlife and Parks
		MLVA	Multiple locus, variable number, tandem repeat analysis
		MtDNA	Mitochondrial deoxyribonucleic acid
		N	Population size

NBA	National Bison Association, U.S.A	SERI	Society for Ecological Restoration International
NBMB	Northern Buffalo Management Board, Canada	SERS	Society for Ecological Restoration Science
NBR	National Bison Range, Montana	SHNGP	Sully's Hill National Game Preserve, North Dakota
NCC	Nature Conservancy of Canada	SRL	Slave River Lowlands, Northwest Territories, Canada
Ne	Effective population size	SNMNH	Smithsonian National Museum of Natural History
NEP	Nonessential experimental population	SWAP	State Wildlife Action Plan (name varies by state)
NEPA	National Environmental Policy Act, U.S.A	TB	Tuberculosis
NER	National Elk Refuge, Wyoming	TGPP	Tallgrass Prairie Preserve, Oklahoma
NGO	Non-governmental organisation	TNC	The Nature Conservancy
NPS	U.S. National Park Service	TRNP	Theodore Roosevelt National Park, North Dakota
NRCS	Natural Resource Conservation Service, U.S.A	TSE	Transmissible spongiform encephalopathies
NWT	Northwest Territories, Canada	TESF	Turner Endangered Species Fund
NTENR	Northwest Territories Environment and Natural Resources	USNARA	U.S. National Archives and Records Administration
OIE	World Organization for Animal Health	USDA	U.S. Department of Agriculture
PANP	Prince Albert National Park, Saskatchewan	USDOI	U.S. Department of the Interior
PCA	Parks Canada Agency	USFS	U.S. Forest Service
PES	Pay-for-Environmental Services	USFWS	U.S. Fish and Wildlife Service
PHVA	Population and Habitat Viability Assessment	USGSBRD	U.S. Geological Survey Biological Resources Division
PPAs	Private protected areas	VJDHSP	Voluntary Johne's Disease Herd Status Programme (for cattle)
PVA	Population viability analysis	WBNP	Wood Buffalo National Park, Alberta and Northwest Territories
RAC	Research Advisory Committee for bison disease research in WBNP	WBP	Wainwright Buffalo Park, Alberta
RDR	Reportable Diseases Regulations	WCNP	Wind Cave National Park, South Dakota
\hat{r}	Observed exponential rate of population increase	WCS	Wildlife Conservation Society
r_m	Maximum exponential rate of population increase	WHO	World Health Organization
RMEF	Rocky Mountain Elk Foundation	WMNWR	Wichita Mountains National Wildlife Refuge, Oklahoma
SAGARPA	Secretary of Agriculture, Livestock Production, Rural Development, Fishery and Food, Mexico	WWF	World Wildlife Fund
SCBD	Secretariat of the Convention on Biological Diversity	YDOE	Yukon Department of the Environment
SDGFP	South Dakota Game, Fish and Parks	YNP	Yellowstone National Park, Idaho, Montana and Wyoming
SEMARNAT	Secretaría de Medio Ambiente y Recursos Naturales, México	YT	Yukon Territory, Canada
SENASICA	Servicio Nacional de Sanidad, Inocuidad y Calidad Agroalimentaria, Mexico		

Executive Summary

Curtis H. Freese and C. Cormack Gates

The publication of this IUCN American Bison Status Survey and Conservation Guidelines is timely owing to a recent convergence of factors: new research findings on bison genetics and ecology, assessment and awareness of the precarious status of many bison conservation herds, new initiatives by government and non-profit institutions to improve management of existing herds and to establish conservation herds, growing interest among Native Americans in restoring bison as part of their cultural heritage, and an increasing awareness by the commercial bison industry that conservation of wild-type bison is in the long-term interest of the industry. There is also a growing body of evidence that the biodiversity of ecosystems within the original range of bison can benefit from bison restoration, from the desert grasslands of northern Mexico, through the Great Plains, to the lowland meadow systems of interior Alaska. The ten chapters of this book examine these and other aspects of the biology and conservation of the species, and offer guidelines for what we anticipate will be a new era of bison conservation in North America. Under the auspices of the IUCN American Bison Specialist Group, twenty-nine chapter coordinators and contributors share their knowledge and ideas in this comprehensive review of the diverse topics that need to be considered by researchers, managers, policy makers and others interested in restoring and conserving this magnificent animal.

In the introductory chapter, C. Gates and P. Gogan explain the overall purpose of the IUCN American Bison Specialist Group and this document. The Specialist Group is composed of more than 60 registered members and numerous collaborators from the three nations comprising North America and ranging from Chihuahua State in Mexico to the State of Alaska. The Group operates under the aegis of the IUCN Species Survival Commission. The authors note that the purpose of this volume is to contribute to the development of strategies and actions that, where feasible, will conserve and ecologically restore bison as wildlife throughout their original range. Gates and Gogan acknowledge that large-scale restoration of bison is an ambitious and complex undertaking, perhaps unparalleled in species conservation efforts in North America. Their introduction briefly reviews the major issues facing bison conservation and the strong influence that bison historically exerted on ecosystems across much of the continent. Apart from the ecological importance of bison, the social and cultural significance of bison restoration is recognised when they state, “no other wildlife species has exercised such a profound influence on the human history of a continent.”

In Chapter 2, B. Potter and co-authors trace the evolutionary and recent history of bison, beginning with the earliest fossil records showing bison in Asia at least two million years ago, and continuing with their expansion, much later, into North America across the Bering Land Bridge during the middle Pleistocene. The evolution and distribution of various bison species and subspecies in North America present a complex story shaped, in large part, by bison habitat and ranges that shifted widely with advancing and retreating continental ice sheets. The result of this evolutionary history today is two species, the European bison and American bison, and two subspecies of American bison, wood bison and plains bison. Five hundred years ago, tens of millions of plains bison probably inhabited North America, from southern Canada to northern Mexico, and from nearly the west coast to the east coast, with the Great Plains as their centre of abundance. Wood bison, because of a more restricted boreal forest habitat, were much less numerous. For many native peoples of North America, thousands of years of coexistence had led to bison being central to their survival and cultures, a history that Potter *et al.* explore in some detail. European colonisation of North America brought rapid change to both bison and Native Americans. Commercial hunting, competition with livestock, killing of bison as government policy to subjugate Indian tribes, and other causes led to the precipitous decline of both plains and wood bison. By the end of the 19th Century a few hundred bison survived in various small captive and wild herds across North America. Fortunately, conservation efforts quickly emerged in both Canada and the United States (U.S.) and, once protected, bison numbers began to recover. Their iconic status now seems to be recovering also. Potter *et al.* echo what other authors of this volume have expressed when they note that no other North American species holds such great cultural and political significance.

In Chapter 3, D. Boyd and co-authors review the confusing and disputed evidence for, and diverse opinions about, bison taxonomy. Agreement seems to end with the consensus that bison belong to the family Bovidae. Much of the debate centres on whether bison belong to the genus *Bos*, the genus of cattle, guar, yak, and oxen, or to their own genus, *Bison*. Both names are currently used in the scientific literature. Differences of opinion are largely based on the importance of morphological (phenetic) versus molecular (phylogenetic) lines of evidence, and on historical precedence and usage. Within *Bison*, there are also some people who question the designation of European bison and American bison as separate species. Boyd *et al.* conclude

that “Further research and debate by taxonomists, and the bison conservation community, is required to reconcile molecular, behavioural and morphological evidence before a change in nomenclature could be supported, and thus, for this document, the American Bison Specialist Group adheres to the genus *Bison* with two species, *B. bonasus* and *B. bison*. Not surprisingly, disagreement also exists regarding the subspecies status of wood and plains bison. However, Boyd *et al.* emphasise that this debate does not negate the importance of conserving the two forms as separate entities. From a conservation perspective, the goal is to conserve “evolutionarily significant units” or “distinct population segments,” among other terms used to define geographic variation among populations, a concept recognised by both the U.S. Endangered Species Act and the Committee on the Status of Endangered Wildlife in Canada. Keeping wood bison and plains bison as separate non-interbreeding units is the recommended precaution.

Genetics play a particularly complex and important role in bison conservation, as explained by D. Boyd and co-authors in **Chapter 4**. The rapidly advancing science of genetics has recently brought new information and insights into not just the evolutionary relationships among bison taxa, but also to managing for viable bison populations and conserving the wild bison genome. Boyd *et al.* review the current state of bison genetics and what needs to be done to address the major threats to genetic diversity and integrity—demographic bottlenecks, founder effects, genetic drift, and inbreeding—all of which bison have experienced. Although population bottlenecks can lead to significant loss of genetic diversity, bison appear to have largely avoided this problem during their population bottleneck in the late 1800s. Given the good diversity within the bison gene pool, and recent evidence that shows several conservation herds are genetically distinguishable, one of the most important management questions is how to manage the population genetics of these often relatively small herds. Should this be accomplished as one large metapopulation or as closed herds to maintain localised diversity? The best conservation strategy is to do both, and, where possible, to increase the size of small herds to attain a large effective population size. Hybridisation also poses challenges for bison conservation. Although the introduction of plains bison into wood bison range has resulted in some hybridisation, the two forms remain distinct and avoiding further hybridisation is a priority. Much more widespread, and of greater concern, is the introgression of cattle genes into the bison genome, a legacy of attempts to cross-breed cattle and bison that began when bison numbers were still low in the early 1900s. Genetic testing reviewed by Boyd *et al.* indicates that most conservation herds have some level of cattle-gene introgression in the nuclear and (or) mitochondrial DNA. By inference this strongly suggests that a vast majority of commercial herds have cattle-gene introgression. The effects

of introgression on bison biology are largely unknown. No introgression has been detected in several conservation herds, which consequently deserve priority attention for maintaining in reproductive isolation, and as source stock for establishing new conservation herds. Finally, Boyd *et al.* note that the approximately 400,000 bison in commercial herds in North America, some 93% of the total continental population, are undergoing artificial selection for domestic traits, such as ease of handling, body conformation, carcass composition, and so on. Domestication, whether intentional or not, poses a special challenge to conserving the wild bison genome.

In Chapter 5, K. Aune and co-authors provide a comprehensive review of how diseases, particularly those that are “reportable” according to federal or state/provincial regulations, have a major influence on bison restoration and management. They describe the characteristics and implications of nine diseases for bison conservation, ranging from anthrax and bluetongue to bovine brucellosis and bovine spongiform encephalopathy. Federal and state/provincial regulations for, and management responses to, a particular disease depend on several factors, including potential effects on bison, threat to livestock and humans, and whether it is indigenous or exotic to bison and the ecosystem. The authors describe the complex and difficult management challenges that diseases present in three of North America’s most important conservation herds: the plains bison herds of Yellowstone National Park (YNP) and Grand Teton National Park/National Elk Refuge that harbour brucellosis, and the wood bison herds in and around Wood Buffalo National Park that are infected with both bovine tuberculosis (BTB) and brucellosis. Diseases such as brucellosis also severely limit the translocation of bison from infected, important conservation herds, such as the Yellowstone herd, to establish new herds in new areas because of concerns about potential transmission to cattle. While the policies and legal framework for controlling disease in domestic livestock are well established, they do not work well when applied to wildlife, including bison, because they often conflict with conservation goals and our ability to manage and maintain wild populations. The recent development of national wildlife health strategies in both Canada and the U.S. could help address this problem.

Chapter 6, by P. Gogan and co-authors, addresses general biology, ecology, and demographics of bison. Bison are remarkably adaptable to a wide range of ecosystems and climatic regimes. Physiologically, bison are much better adapted to climate extremes than cattle. Behaviourally, bison exhibit a relatively simple social structure with cow-calf pairs at the core and, more loosely and somewhat seasonally, large groups of cows, calves and immature males, and separate, smaller groups of mature bulls. Bison exhibit individual and group defence against large predators such as wolves. Historically, plains bison made seasonal migrations between summer and winter ranges, in some cases north-south and in others between the prairies

and foothills. Bison have a profound influence on ecosystems and create habitat heterogeneity through various means. As primarily graminoid (grasses and sedges) eaters, variable grazing pressure by free-ranging bison and their interaction with fire create habitat patchiness on which grassland bird diversity depends. Wallowing behaviour further promotes heterogeneity by forming temporary pools and changing surface hydrology and runoff and creating local patches of disturbed soil in which some flowering plant species prosper. Bison are dispersers of seeds, and are sources and redistributors of nutrients for predators, scavengers, plants, and ecosystem processes. Gogan *et al.* describe foraging patterns and habitat use by wood and plains bison in various ecoregions, from the arid southwest to humid cold boreal regions. The authors also review bison population structure and reproduction and demonstrate that under natural conditions newly established bison populations can double every four to six years. Population numbers are affected by both density-independent events, such as severe winters and wild fires, and density-dependent factors such as disease and wolf predation. While humans were a bison predator for thousands of years, the advent of firearms greatly increased human predation, so that by the mid-1800s, an estimated 500,000 plains bison were killed annually for subsistence and 100,000 for hides. The human-firearm-commerce combination, it would seem, largely voided the density-dependent relationship between bison and human predation until it was almost too late for the American bison.

In Chapter 7, C. Gates and co-authors assess the status of conservation herds using seven criteria: numerical status, geographic status, population size and class distribution, opportunity for mate competition among mature males, presence of wolves, presence of diseases that could affect conservation status, and occurrence or likely occurrence of cattle-gene introgression. The designation “conservation herd” is assigned to herds managed by federal or state/provincial governments or non-governmental organisations (NGOs) whose mission is nature conservation. Remarkably, little progress has been made in recent decades in increasing the number of animals in conservation herds. From the few hundred that remained in the late 1800s, the number of animals in conservation herds increased in the first half of the 1900s, but then levelled off, or in the case of the wood bison, even declined, while the number of conservation herds has continued to grow to the present day. As of 2008, there were 62 plains bison conservation herds containing about 20,500 animals, and 11 conservation herds of wood bison containing nearly 11,000 animals. Meanwhile, starting in the 1980s, the commercial bison industry prospered with the total population growing to around 400,000 animals in 2007, roughly evenly divided between the U.S. and Canada. Although a few conservation herds exceed 1,000 animals, most conservation herds of both wood and plains bison have fewer

than 400 animals and, in the case of the plains bison, many are fenced in areas of only a few thousands hectares and not subject to natural predation. Until recently, there was a wild bison herd inhabiting a trans-boundary area between Mexico and the U.S., the only herd meriting conservation status in Mexico. But now, it has been restricted to a private ranch on the U.S. side. The American bison nearly qualifies for listing as Vulnerable Ca2(1) under IUCN criteria and is currently listed as Near Threatened on the IUCN Red List.

As K. Aune and co-authors describe in **Chapter 8**, bison conservation must deal with a complex maze of legal and policy issues. Much of this complexity is due to a history of bison being treated like livestock. As the authors note, “During the great restoration period of wildlife management, bison were routinely classified and managed by state/provincial and federal agencies across North America as a form of livestock, while other wildlife were classed and managed as free-roaming wild animals.” They subsequently provide a detailed review of the legal status of, and conservation initiatives underway for, bison in Mexico, the U.S., and Canada. The legal recognition of bison as wildlife or livestock, or both, varies across various federal, state, and provincial jurisdictions in North America. For example, only ten U.S. states, four Canadian provinces and two territories, and one Mexican state classify bison as wildlife; all other states and provinces within the bison’s historic range designate them as domestic livestock. Overlaying this legal map for bison are several stakeholder groups that manage bison: public wildlife and land management agencies, Native American groups, non-profit conservation organisations, and private producers. Reportable diseases present another set of legal issues that affect international and interstate transport of bison. Aune *et al.* suggest that a paradigm shift is required whereby the public recognises bison as wildlife, and that there is much greater social tolerance, especially in the agricultural community, if major progress is to be made in re-establishing free-ranging bison on their native range. Moreover, large-scale restoration over big landscapes will typically require partnerships and co-management among multiple landowners and resource managers, and more enlightened and coordinated government regulations and policies.

In Chapter 9, J.E. Gross and co-authors provide guidelines for population, genetic, and disease management for both existing conservation herds and for the full recovery of bison over both the short and long term. As the authors explain, conservation focuses on retaining existing ecological, cultural, and genetic characteristics of bison, whereas full recovery entails a broader vision of bison inhabiting landscapes that permit the full expression of natural behaviours and ecosystem interactions that once existed. The guidelines first address bison behaviour, particularly the importance of ensuring natural mating systems that involve avoiding a skewed sex ratio and allowing

competition among bulls, as well as other factors, such as natural movements and mortality rates. Given the small size of many existing herds and newly established herds, guidelines for population and genetic management are particularly important. Herds of 1,000 or more animals are important for conserving genetic diversity, and factors such as non-random mating, skewed sex ratios, and large swings in population size need to be avoided in relatively small herds. Managing bison for restoring and maintaining biodiversity involves allowing animals to naturally move and forage across the landscape, and to interact with other natural processes such as fire, drought, and snow cover. Guidelines are provided for active management, including handling and herding and the type of infrastructure required, with the caveat that active management and handling should be minimised. Disease guidelines address prevention, surveillance and, when pathogens are detected, management. Gross *et al.* stress the importance of well-designed reintroduction programs for establishing new herds and offer suggestions ranging from stakeholder involvement to sourcing animals and ensuring proper herd structure. Given concerns about the genetic uniqueness of some herds and cattle-gene introgression, similar care needs to be given in transferring animals between herds with the goal of maintaining genetic diversity and (or) aiding in the recovery of small or threatened herds. The chapter concludes with recommendations for using modelling and computer simulations to assess bison populations and habitat.

The concluding chapter (10) on guidelines for ecological restoration by C. Gates and co-authors is directed at establishing new, large populations of bison on large landscapes. Because bison were an ecologically dominant species over much of their range, restoring historic ecological processes and biodiversity in areas they once inhabited depends on restoring large, free-roaming herds. Full ecological restoration is defined as “the re-establishment of a population of several thousand individuals of the appropriate subspecies in an area of original range in which bison interact in ecologically significant ways with the fullest possible set of other native species and biophysical elements of the landscape, with minimal necessary management interventions.” Although the focus of this chapter is on restoring large herds over large areas, where processes such as migration and natural selection are most likely fulfilled, Gates *et al.* point out that small herds can also contribute to restoring many ecological processes that occur at smaller scales. The chapter provides guidelines for planning and executing large-scale re-introductions, including a feasibility analysis that addresses both biological questions and a thorough assessment of socioeconomic variables and legal requirements, sourcing and then reintroducing suitable stock, and follow-up monitoring, evaluation and adaptation as experience is gained and lessons learned. As noted as well in chapter 8, one of the biggest challenges facing large-scale restoration is that assembling a landscape of hundreds of thousands or millions of hectares will usually require partnerships and co-management of multiple landowners, both public and private, and the support of many stakeholders.

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1.1 The Species Survival Commission and the American Bison Specialist Group

The International Union for Conservation of Nature (IUCN) Species Survival Commission (SSC) is a science-based network of approximately 8,000 volunteer experts from almost every country of the world, working together towards “*A world that values and conserves present levels of biodiversity.*” Within the SSC, over 100 specialist groups and more than 15 independent Red List Authorities are set up to track species’ status, monitor biodiversity, analyse issues, develop solutions, and implement actions (SSC Strategic Plan 2001-2010). Among them, the Bison Specialist Group is distinguished by two organisational units, one for the European bison (*Bison bonasus*), and the other, for the American bison (*Bison bison*).

The primary goals of the American Bison Specialist Group (ABSG), and the intent of this document, are to contribute to the development of comprehensive and viable strategies and management actions to promote conservation and ecological restoration of bison as wildlife where feasible throughout the original range of the species. Conservation and ecological restoration of bison, as wildlife, at the scale of its original continental range are ambitious and complex endeavours, perhaps more so than for any other North American species. Enhancing the long-term security of bison, as wildlife, will require the commitment and participation of key sectors, including public wildlife and land management agencies, non-government environmental organisations, aboriginal governments and communities, local communities, and conservation-oriented commercial producers. Toward this goal, the ABSG was established to include a broad network of people interested in bison conservation and recovery. There are more than 60 registered members and numerous other collaborators. As with other specialist groups, this network of volunteers represents the functional capacity of the IUCN to monitor the status and management of American bison in relation to global and local biodiversity. Specialist Group participants contributed the scientific and practical knowledge assembled in this report, and can offer expert advice and, in many instances, the means to make things happen on the ground by implementing actions or encouraging and facilitating others to advance the conservation and ecological restoration of bison as wildlife.

The ABSG is a group of volunteers representing a variety of disciplinary backgrounds, expertise, and professional experience. They are geographically distributed across the breadth of the original continental range of the species, from Mexico to Alaska, and from the Tallgrass Prairie in the east to the intermountain west. They work for a variety of institutions including governments, conservation organisations, and academic institutions (see Acknowledgements).

The primary goal of the American Bison Specialist Group (ABSG) is to contribute to the development of comprehensive and viable strategies and management actions to enhance conservation and achieve ecological restoration of bison as wildlife where feasible throughout the original range of the species.

1.2 Context

Prior to European settlement, the American bison had the largest original distribution of any indigenous large herbivore in North America, ranging from the desert grasslands of northern Mexico to the floodplain meadows of interior Alaska (List *et al.* 2006; Stephenson *et al.* 2001) and almost from coast to coast. The ecological scope of the species was limited only by its habitat requirements and specialised diet. An obligate grazer, grasses and sedges present in grasslands and meadows are the mainstay of the American bison’s diet and habitat. Bison have been continuously present in North America for at least 300,000 years, persisting in various forms during the late Pleistocene through sequential glacial and interglacial periods, then into the Holocene and present times (MacDonald 1981; Shapiro *et al.* 2004; Wilson *et al.* 2008). They have been associated with successive cultures since humans first occupied the continent about 12,000 years ago.

Over hundreds of thousands of years, bison have contributed to the co-evolution of other biota, including grazing adaptations in plants, mutualistic, commensal and trophic interrelationships, and bison have functioned as a key component of the native biodiversity in vast areas of the continent. Key species, such as bison, have a marked influence on the patterns of occurrence, distribution, and density of other species (Meffe and Carroll 1994; Paine 1969). Where present, bison play important ecological roles by influencing the structure, composition and stability of both plant (Campbell *et al.* 1994; Knapp *et al.* 1999) and animal communities (Bogan 1997; Roe 1970; Truett *et al.* 2001).

No other wildlife species has exercised such a profound influence on the human history of a continent. As the great ice sheets receded, and grasses and sedges colonised the emerging landscape, beginning 14,000 years ago, bison, then human cultures followed. Widespread and abundant (Shaw 1995), bison were a staple resource for more than 12,000 years in the subsistence economies of successive cultures of Native North Americans. During brief recent history, over the last 500 years or so, Europeans colonised the eastern seaboard, explored westward into the Native-occupied prairies and the North, fought for resources, dominated indigenous peoples, and prospered as new settlers and industrial societies. Trading posts recruited indigenous people to harvest bison for meat and pemmican for the forts and to fuel the trade in furs (Gates *et al.* 1992). Armies clashed under the prairie skies (Greene 1996) and railways were built to connect the West to eastern markets. Millions of plains bison were killed for their meat, hides for machine belts and robes, for sport, and to subjugate the First Nations, making way for settler society and domestic European livestock (Hornaday 1889; Isenberg 2000). In less than a century, from Chihuahua State in Mexico to the State of Alaska, the most abundant indigenous large herbivore in North America was driven close to extinction. Had it not been for the interest of private citizens in rearing a few survivors in captivity (Coder 1975), and the remoteness of a lone wild population in what is now Yellowstone National Park (YNP) (Meagher 1973), plains bison would have disappeared from the continent. Similarly, by the end of the “Great Contraction” of plains bison late in the 19th Century (Flores 1996), wood bison were also reduced to a single surviving population of fewer than 300 animals in a remote area in the forested borderlands of Alberta (AB) and the Northwest Territories (NWT) (Gates *et al.* 1992; 2001).

During the 20th and into the 21st Century, federal and state/provincial agencies and conservation organisations played an important role in the conservation and recovery of bison as wildlife. Sixty-two plains bison and 11 wood bison herds have been established for conservation, representing about 7% of the continental population. In parallel, since about 1980, the number of bison raised under captive commercial propagation has increased markedly, and now represent about 93% of the continental population (Chapter 7).

1.3 Current Challenges for Conservation and Ecological Restoration of Bison as Wildlife

Conservation of any wildlife species requires ensuring both long-term persistence of a sufficient number of populations and maintaining the potential for

ecological adaptation resulting from natural selection operating on individuals in viable populations in the wild (IUCN 2003; Secretariat of the Convention on Biological Diversity 1992; Soulé 1987). In wild mammal populations, limiting factors, such as predation, seasonal resource limitation, and mate competition, contribute to maintaining the wild character, genetic diversity, and heritable traits that enable a species to adapt to, and persist, in a natural setting (Knowles *et al.* 1998). The long-term conservation of American bison as wildlife is faced with several important challenges that need to be acknowledged and addressed by public agencies, non-profit organisations and producer organisations. They include the rarity of large wild populations in extensive native landscapes, conserving the wild character and genome of bison, and the presence of regulated diseases.

1.4 Large Wild Populations

Bison can best achieve their full potential as an evolving, ecologically interactive species in large populations occupying extensive native landscapes where human influence is minimal and a full suite of natural limiting factors is present. While such conditions remain available in the north of the continent, it is challenging to find extensive landscapes for restoring and sustaining large free-roaming wild bison populations in southern, agriculture-dominated regions. Ecological restoration is the intentional process of assisting recovery of an ecosystem that has been modified, degraded, damaged or destroyed relative to a reference state or trajectory through time (SERI and IUCN Commission on Ecosystem Management 2004). As described by the IUCN Commission on Ecosystem Management, ecological restoration has, as its goal, an ecosystem that is resilient and self-sustaining with respect to structure, species



Plate 1.1 Free ranging bison in Yellowstone National Park. Photo: John Gross.

composition and function, as well as being integrated into the larger landscape, and supporting sustainable human livelihoods. Ecological restoration involving bison as an integral component of ecosystems faces two major challenges: 1) how to undertake restoration across large areas with diverse land-use and ownership patterns; and 2) how to undertake restoration in a way that improves both biodiversity and human wellbeing. Large-scale ecological restoration involves biological and social complexity. Attitudes, economics and politics, from local to regional and international scales, will shape the future of bison conservation on occupied lands. These challenges are addressed in Chapter 10.

1.5 Conserving the Wild Character and Genome of Bison

Bison in captive herds may be managed to achieve various objectives, including the ecological services that bison provide (e.g., grazing, nutrient cycling, and terrain disturbance), education and display, commercial production, and conservation of bison as wildlife. Conserving bison as wildlife is not necessarily served by managing a population for other purposes. For example, the ecological effects of herbivory may be achieved by grazing a variety of livestock species. Although some rangelands formerly used for cattle production have been converted to bison production, the substitution of bison for cattle production does not, by itself, necessarily contribute to bison conservation, or to ecological restoration of bison as wildlife. Similarly, display herds may serve conservation education objectives without otherwise contributing to species conservation.

In the absence of intentional policies and actions to conserve the wild character and genome of bison, captivity and commercialisation can lead inadvertently or intentionally to a variety of effects that may be deleterious to bison as a wildlife species in the intermediate to long term (Chapter 4). These include effects on the genome: founder effect; reduced genetic diversity; persistence and phenotypic penetration of deleterious genes; or inadvertent selection for heritable morphology, tameness or adaptation to captivity. Small populations are particularly susceptible to such effects. The sex and age structure of captive conservation populations may be manipulated to reduce the risk of escape, remove aggressive animals, or to alter fecundity or the rate of population increase. The age composition of males in captive herds is typically substantially different from wild populations.

The common practice in captive commercial herds of eliminating males, before they become morphologically and behaviourally mature, poses a challenging question about the roles of mate competition and natural selection for fitness in such populations. In general, selection pressures on captive wildlife

are substantially different from those in the wild. O'Regan and Kitchener (2005) posited that domestication may occur inadvertently in captive wild mammals through passive selection for individuals behaviourally suited to captivity, with concomitant morphological changes over several generations. Most changes are thought to result from increasing paedomorphosis, whereby juvenile characteristics are retained in the adult form of an organism (O'Regan and Kitchener 2005). Clutton-Brock (1999) described changes in large mammals under captive conditions including reduced body and brain size, altered external appearance, the gaining of a fat layer beneath the skin and a reduction of the facial region. Inadvertent selection for tameness and adaptation to a captive environment is typical in mammals (Frankham *et al.* 1986), and in addition to altering "wildness", can reduce the chances for successful reintroduction of captives into the wild. A loss of response to predators and alteration of defensive and sexual behaviours have also been reported in captive wildlife (Price 1999; 2002). Many commercial bison producers directly select for marketable traits such as early maturity, coat colour, body size and conformation. The latter "show ring traits" are promoted in bison industry advertisements, publications and at auctions.

The large size of the commercial captive population is the basis for a popular misconception that the species is "secure", leading wildlife management agencies to ignore actions necessary for conservation of wild type bison. Today, among North American jurisdictions, there is a confusing array of classifications of bison as wildlife, domestic livestock, or both (Chapter 8).

Hybridisation with cattle is another serious challenge for bison conservation. In the U.S., Canada, and Europe, agricultural interests attempted to develop an improved range animal by hybridising bison and cattle. Forced-mating of bison and cattle can be readily achieved in a controlled environment. However, they preferentially mate with their own species under open range conditions (Boyd 1908; Goodnight 1914; Jones 1907). In Europe, the European bison (*Bison bonasus*), a relative of the American bison, and the aurochs (*Bos taurus primigenus*), progenitor of modern cattle, were sympatric, yet evolutionarily divergent, units. Typical of sympatric species occupying similar trophic niches, behavioural and ecological specialisation provides niche separation, leading to reproductive isolation and progressively to speciation (Bush 1975; Rice and Hostert 1993). Species divergence and reproductive incompatibility are evident from the low fertility of first generation (F1) bison x cattle offspring (Boyd 1908; Steklenev and Yasinetskaya 1982) and the difficulty producing viable male offspring (Boyd 1914; Goodnight 1914; Steklenev and Yasinetskaya 1982; Steklenev *et al.* 1986). Unfortunately, forced hybridisations between *B. bison* and *Bos taurus* in North America have left a legacy of cattle mitochondrial (Polziehn *et al.* 1995; Ward *et al.* 1999) and nuclear DNA (Halbert 2003; Halbert *et al.* 2005). This introgression is

widespread among contemporary bison populations, in both public and private sector herds (Chapter 4). The implications for bison conservation are just beginning to be understood and appropriate interventions considered.

1.6 Reportable Diseases

Bison host numerous parasites and pathogens (Reynolds *et al.* 2003; Tessaro 1989), some of which are important to conservation. Livestock diseases that restrict trade or pose a risk to human health and are 'reportable' under federal, provincial, and state legislation are particularly important because they may induce management actions that negatively affect bison conservation and restoration (Chapter 5). Management interventions may include depopulation, limiting dispersal and range expansion to protect adjacent bison or livestock populations, and restraining translocations. The presence or perceived risk of reportable diseases in bison devalues them as wildlife and constrains conservation and recovery potential. Large free-ranging bison populations are infected with exotic (non-native) reportable diseases in two areas of the continent, the Greater Yellowstone Area (GYA) mainly in Montana and Wyoming (bovine brucellosis), and the Greater Wood Buffalo Ecosystem in Alberta and the Northwest Territories (bovine brucellosis and tuberculosis). Balancing conservation with intensive interventions is a perpetual challenge for the agencies responsible for managing these populations.

1.7 Purpose of this Document

This document provides an authoritative summary of the biology and status of American bison, including: prehistoric to recent history and cultural context (Chapter 2); taxonomy and related issues (Chapter 3); genetic variation and effects of human interventions on the genome (Chapter 4); diseases that directly or indirectly affect bison conservation (Chapter 5); biology and ecology of the species (Chapter 6); the numeric and geographic status of American bison, emphasizing herds managed primarily for conservation (Chapter 7); legislation and policies pertaining to bison in all range states (Chapter 8). Guidelines for bison conservation are provided in the final two chapters of this document (Chapter 9 Population and Genetics Guidelines; Chapter 10 Ecological Restoration Guidelines). Throughout the document reference is made to challenges requiring actions ranging from urgent to long term.

Non-prescriptive guidance is offered on how conservation and ecological restoration of bison as wildlife may be achieved, while respecting the principles of democratic governance in the three nations forming North America, the sustainability of economic use of ecological resources, cultural heritage values, and ecological values of intact ecosystems.

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2.1 Palaeobiology and Phylogeny

Bison have existed in various forms for more than 2,000,000 years (Danz 1997; McDonald 1981). Early forms originated in Asia and appear in Villafranchian deposits, and in the early fossil record in India, China, and Europe (Guthrie 1990; Shapiro *et al.* 2004). Bison occupied Eurasia about 700,000 years ago then moved across the Bering Land Bridge into Alaska during the middle Pleistocene 300,000–130,000 years ago (Illinoian Glaciation; Marine Oxygen Isotope Stages (MIS) 8 to 6 (Shapiro *et al.* 2004). All Siberian and American bison shared a common maternal ancestor about 160,000 years ago (Shapiro *et al.* 2004). Fossil evidence indicates there was a single species, or at least a similar large-horned form with variable species/sub-species designations, the steppe bison, *Bison priscus*, throughout Beringia (Guthrie 1990).



Plate 2.1 Skull of *Bison priscus*, Yukon Canada. Photo: Cormack Gates.

Steppe bison probably reached their maximum distribution and abundance during the last glacial period (Wisconsinan, 100,000–12,000 years B.P.; MIS 2-4 and 5a-d). These are the typical bison fossils found in the Yukon and Alaska during that period. Steppe bison had relatively long hind legs, similar to the European bison (*B. bonasus*), and large horns with tips curved back, and a second hump (Guthrie 1990). Analysis of ancient mitochondrial DNA (mtDNA) (Shapiro *et al.* 2004) suggests that Late Pleistocene bison, found from the Ural Mountains to northern China, were descendants of one or more reverse dispersals from North America. The most recent common ancestor of bison specimens analysed by Shapiro *et al.* (2004) existed towards the end of the Illinoian Glacial Period (MIS6).

Villafranchian: a major division of early Pleistocene time, named for a sequence of terrestrial sediments studied in the region of Villafranca d’Asti, an Italian town near Turin. This was a time when new mammals suddenly appeared.

Holarctic: a term used by zoologists to delineate much of Eurasia and North America, which have been connected by the Bering land bridge when sea levels are low during glacial periods.

Pleistocene: Ice Age. A division of geological time; epoch of the Quaternary period following the Pliocene. During the Pleistocene, large areas of the northern hemisphere were covered with ice and there were successive glacial advances and retreats.

Beringia: a 1,000 mile wide ice-free grassland steppe, in Asia and North America linked together by the “Bering Land Bridge” when sea levels were low. Animals traveled in both directions across this vast steppe, and humans entered the Americas from what is now Siberia.

Glacial periods: There have been at least four major ice ages. The present ice age began 40 million years ago with the growth of an ice sheet in Antarctica. Since then, the world has seen cycles of glaciation with ice sheets advancing and retreating on 40,000- and 100,000-year time scales. The most recent glacial period ended about ten thousand years ago.

Marine isotopic stages (MIS): alternating warm and cool periods in the Earth’s ancient climate, deduced from oxygen isotope data reflecting temperature curves derived from data from deep sea core samples.

Ural Mountains: a mountain range that runs roughly north and south through western Russia. They are sometimes considered as the natural boundary between Europe and Asia.

Phenotype: Observable physical or biochemical characteristics of an organism. Phenotype is determined by both genetic makeup and environmental influences.

Clade: A biological group (taxa) that share features inherited from a common ancestor.

Holocene: A geological period, which began approximately 11,550 calendar years B.P. (about 9600 BC) and continues to the present. It has been identified with MIS 1 and can be considered an interglacial in the current ice age.

Phylogenetics: The study of evolutionary relatedness among groups of organisms.

Glacial maximum: The time of maximum extent of the ice sheets during the last glaciation (the Würm or Wisconsin glaciation), approximately 20,000 years ago.

Taphonomic processes: The transition of the remains, parts, or products of organisms in soil, e.g. the creation of fossil assemblages through burial.

Taxonomy: The science of classification of organisms. Nomenclature is the system of naming organisms in relation to their phylogeny.

Bison moved south into the grasslands of central North America when the ice sheets retreated at the beginning of the Sangamon Interglacial (MIS 5e) 130,000-75,000 years B.P. (MacDonald 1981), evolving there into a large form, *B. latifrons*. This giant bison possessed a horn span of more than two metres and was abundant in the central continent during the Sangamon Interglacial. It underwent a gradual reduction in body size and horn span (Guthrie 1980; van Zyll de Jong 1993). During the subsequent Wisconsin Glaciation (110,000-12,000 years B.P.; MIS 2-4 and 5a-d), Beringian and southern populations became separated as the Laurentide continental ice sheet extended into western Canada from 20,000-13,000 years B.P. (Burns 1996; Wilson 1996). Geographic separation had profound biological, taxonomic, and evolutionary effects. Southern bison evolved into distinctive phenotypes (van Zyll de Jong 1993) and separate mtDNA clades. All modern American bison now belong to a single clade that is distinct from Beringean bison, with a most recent common ancestor between 22,000 and 15,000 years B.P. (Shapiro *et al.* 2004). This interpretation is consistent

with complete separation between northern and southern populations at the time of the last glacial maximum (20,000-18,000 years B.P.).

Data presented by Shapiro *et al.* (2004) and Wilson *et al.* (2008) support the hypothesis that modern bison are descended from populations that occurred south of the ice sheet before the Last Glacial Maximum. Southern bison underwent rapid *in situ* evolution during the early Holocene from *B. antiquus* to an intermediate form *B. occidentalis*, then to the modern form *B. bison* (Wilson *et al.* 2008). When the continental ice sheets began to melt, bison invaded the emerging ice-free corridor from the south where thawing and melting occurred first. Colonisation from Beringia was limited (Shapiro *et al.* 2004). Overlap between northern and southern bison occurred in the vicinity of the Peace River in north-eastern British Columbia where northern bison were present by 11,200-10,200 years B.P. (Shapiro *et al.* 2004), and southern forms of bison were present 10,500 years B.P. Molecular research by Shapiro *et al.* (2004) indicates that all modern bison are descended from populations living south of the ice sheet before the Last Glacial Maximum. The two modern North American subspecies (plains bison and wood bison) diverged by about 5,000 years ago (Gates *et al.* 2001; van Zyll de Jong 1986). The wood bison (*B.b. athabascae*) was the most recent variant to occur in Alaska, the Yukon and Northwest Territories and the plains bison (*B.b. bison*) is the most recent southern variant of the North American species (van Zyll de Jong 1993 Stephenson *et al.* 2001). Small-horned bison similar to wood bison also occurred in northern Eurasia during the Holocene (Flerov 1979; Lazarev *et al.* 1998; van Zyll de Jong 1986, 1993). Although the European bison (*B. bonasus*) is morphologically similar to and readily interbreeds with the American bison, they form distinctly different clades based on mtDNA sequences of the 273 bp-long fragment of cytochrome b gene (Prusak *et al.* 2004). This is consistent with geographic separation between these two species starting during the mid-Pleistocene and before reverse-dispersal occurred from North America to Siberia.

2.2 Original Range

Previous typologies divide the Holocene range of bison into “prehistoric” and “historic” periods (van Zyll de Jong 1986). The distinction between them is not based on objective or biologically meaningful criteria, and provides an artificial and confusing temporal dichotomy that persists despite well-informed arguments to the contrary (Stephenson *et al.* 2001). A preferred and more accurate alternative is to refer to the previous range of bison as “original” range, thereby avoiding the necessity to distinguish between written records and other sources including zooarchaeological evidence and orally transmitted knowledge (Gates *et al.* 2001).

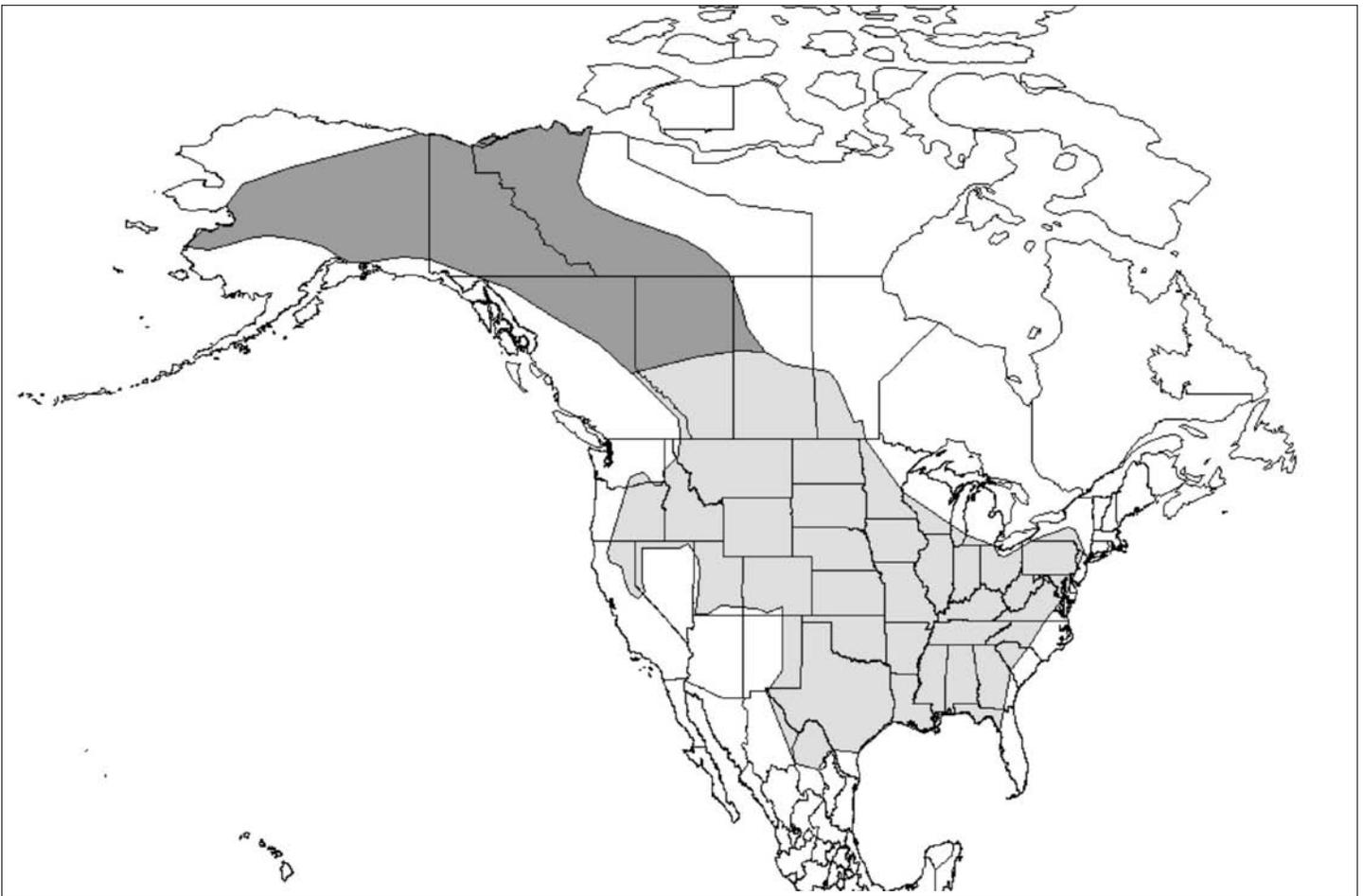


Figure 2.1 Original ranges of plains bison and wood bison. Recreated by Boyd (2003) based on van Zyll de Jong (1986) and Stephenson *et al.* (2001).

Modern bison originally ranged across most of North America (Figure 2.1). Plains bison were most abundant on the Great Plains, but also radiated eastward into the Great Lakes region, over the Allegheny Mountains toward the eastern seaboard, northward as far as northern New England, and then south into Florida; westward, they were found in Nevada and parts of the Great Basin, the Cascade and Rocky Mountains northward to mid-Alberta and Saskatchewan prairie lands, and further south along the Gulf of Mexico into Mexico (Danz 1997; Reynolds *et al.* 1982). There are records of bison occurring at surprisingly high elevations in mountainous regions, particularly along the Front Range of the Rocky Mountains (Fryxell 1928; Kay and White 2001; Meagher 1986). Evidence also indicates that bison inhabited areas of the Greater Southwest, including Arizona, New Mexico, and northern Mexico, areas not generally recognised as within the original range of plains bison (Truett 1996). Whether apparent or real, bison scarcity in the American Southwest is usually attributed to a combination of insufficient water and grass and human hunting (Truett 1996). The original range of wood bison includes northern Alberta, north-eastern British Columbia, a small area of north-western Saskatchewan, the western Northwest Territories, Yukon, and much of Alaska (Stephenson *et al.* 2001). More recent research incorporating

oral narratives of aboriginal people in Alaska, Yukon, and Northwest Territories, in combination with archaeological and palaeontological records, demonstrates that wood bison were present in the Yukon and Alaska within the last two centuries, and that these areas are within the original range of the subspecies (Lotenberg 1996; Stephenson *et al.* 2001).

2.3 Abundance

Historical and archaeological records demonstrate that plains bison thrived on the grasslands of the Great Plains (Malainey and Sherriff 1996; Shaw and Lee 1997). Explorers, settlers, and Euroamerican hunters described enormous herds of plains bison, with population estimates ranging from 15 to 100 million (Dary 1989; Shaw 1995). In the 1890s, naturalist Ernest Thompson Seton posited the widely accepted estimate for American bison at 60 million (Dary 1989; McHugh 1972; Roe 1970; Shaw 1995).

Several quantitative and qualitative methods have been used to estimate pre-settlement bison abundance, including direct observation, carrying capacity calculations, and counts of bison killed for market in the late 1800s. Even when used in combination, all methods are fraught with uncertainty, untested,

even unwarranted assumptions, and arbitrary population attributions (Shaw 1995). Regardless, there is little doubt that prior to Euroamerican settlement, plains bison numbered in the millions, and probably even in the tens of millions (Shaw 1995).

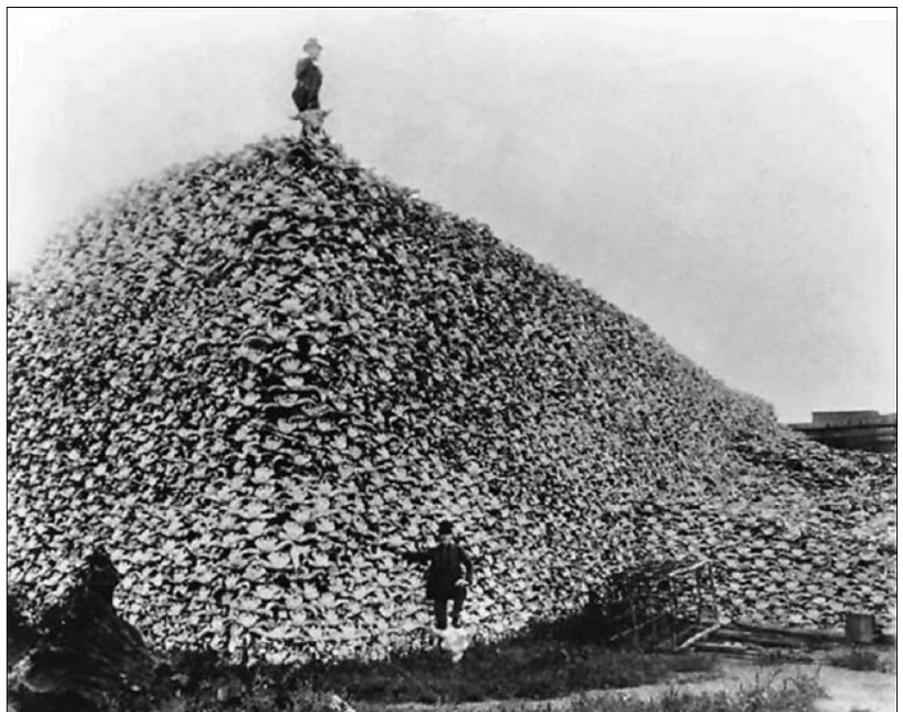
Wood bison were not as numerous as plains bison owing to limited habitat, although they did inhabit a vast region of the boreal forest in north-western North America (Gates *et al.* 2001c). Soper (1941) estimated the total wood bison population in 1800 to be 168,000, an estimate that was highly speculative. The Soper estimate is based on the number and distribution of wood bison existing in Wood Buffalo National Park (WBNP) during the 1930s, with some fuzzy extrapolation from the WBNP density to the presumed area of the original wood bison range. The estimate did not account for regional variability in habitat availability. Furthermore, Stephenson *et al.* (2001) documented a considerably larger original range than Soper (1941). Therefore, wood bison may have been more numerous than estimated by Soper.

2.4 Extirpation

Continental bison numbers declined dramatically and rapidly following European settlement. Specific regional impacts on numbers, distribution, and abundance are recorded in many historical accounts and references (e.g., Dary 1974). Large-scale seasonal migrations of both the northern and southern plains bison herds may have temporarily masked their decline, although by the late 1800s it was obvious that the American bison population had been decimated and was in serious decline (Krech 1999). Commercial hunting by Euroamericans and some Native North Americans for meat and hides was a primary cause (Hornaday 1889; Isenberg 2000). The American military quietly approved illicit market hunting on federally protected tribal lands in the northern and southern plains. Other factors included indiscriminate slaughter for sport and recreation. Sport hunting was exacerbated by the westward push of colonization from the east and across the prairies with the implicit and explicit approval of politicians and military leaders anxious to resolve the food supply side of the so-called “Indian problem.” (Danz 1997; Dary 1989; Hewitt 1919; Isenberg 2000; McHugh 1972).

Environmental factors, such as regional drought, introduced bovine diseases, and competition

Plate 2.2 *An enormous pile of bison skulls waiting to be ground for fertilizer (c. mid-1870s). Copyright expired - Courtesy of the Burton Historical Collection, Detroit Public Library - downloaded from English Wikipedia 20 Aug 2009.*



from domestic livestock (horses, cattle, sheep) and wild horses also played a role in reducing bison numbers (Flores 1991; Isenberg 2000). Furthermore, because bison provided sustenance for North American aboriginals and commodities for their barter economy, the elimination of bison was viewed by Euroamericans as the most expedient method to subjugate the Native Americans and force them onto reserves, making way for agrarian settlement and continued western development (Danz 1997; Geist 1996; Isenberg 2000; Mayer and Roth 1958). To this end, the U.S. government unofficially supported the slaughter of bison by providing ammunition and supplies to commercial buffalo hunters (Mayer and Roth 1958). Although an overt political policy to decimate bison was never formally established, the Canadian and U.S. governments capitalised on widespread hunger among aboriginal communities caused by the near extirpation of bison as a means to subjugate and control the aboriginal population (Geist 1996; Stonechild and Waiser 1997). By the late 19th Century it was estimated that there were fewer than 1,000 remaining bison in North America (Hornaday 1889; Seton 1927). Wood bison were concentrated in northern Alberta and the Northwest Territories, and plains bison were scattered in isolated groups across the Central Great Plains and, notably, in what is now Yellowstone National Park (YNP).

2.5 Early Recovery

As the great herds diminished, there was some public outcry, but few laws were enacted to protect the bison (Danz 1997). Most early plains bison conservation efforts happened through the independent actions of private citizens. Prominent figures in the conservation movement included James McKay and

Charles Alloway (Manitoba), Charles Goodnight (Texas), Walking Coyote (Montana), Frederick Dupree (South Dakota), Charles J. Jones (Kansas), and Michel Pablo and Charles Allard (Montana) (Coder 1975; Danz 1997; Dary 1989; Geist 1996). Their efforts to establish herds from the few remaining bison secured the foundation stock for most contemporary public and private plains bison herds. Formed in 1905, the American Bison Society (ABS) pressed Congress to establish several public bison herds at Wichita Mountains National Wildlife Refuge, the National Bison Range (NBR), Sully's Hill National Game Preserve (SHNGP), and Fort Niobrara National Wildlife Refuge (Coder 1975; Danz 1997). National parks in both the U.S. and Canada also figured prominently in bison recovery efforts (Danz 1997; Ogilvie 1979).

Once plains bison were protected from hunting (beginning in the 1870s), their numbers increased considerably, doubling between 1888 and 1902. By 1909, the subspecies was considered safe from extinction (Coder 1975). Initially sparked by nostalgia and reverence for the animal, motivations for bison recovery became increasingly driven by their commercial value (Yorks and Capels 1998). By 1970, there were 30,000 plains bison in North America, with approximately half in public herds located in national parks, wildlife refuges, and state wildlife areas, and half in private herds (Shaw and Meagher 2000). As reviewed in chapter 7, the number of plains bison currently is more than 20,500 in 62 conservation herds, while the number under commercial propagation is about 400,000.

The wood bison population fell to a low of 250 animals at the close of the 19th Century, then slowly grew to 1,500-2,000 by 1922 owing to the enforcement of Canadian laws enacted to protect the animal (Gates *et al.* 2001c; Soper 1941). In 2008, there were about 10,870 wood bison in 11 conservation herds (Chapter 7).

2.6 Cultural Significance

Few species enjoy a history as rich in archaeology, palaeontology, story and legend, oral and documentary history as the American bison. Nor is there another North American species for which the cultural and political significance of an animal is so great. For thousands of years various forms and populations of bison have coexisted with humans in North America, providing sustenance and shaping human social and economic patterns, and influencing national history and international political relationships. Although a comprehensive review of human-bison interactions from the colonisation of North America to recent times is encyclopaedic in scope, a brief summary and discussion is provided here.

Bison were important in the subsistence economies of the first Beringian colonisers of the western hemisphere, and later figured prominently, but differentially, in Palaeo-Indian, Archaic,

Palaeo-Indian: (12,000-6,000 B.P.) A group of Late Pleistocene–Early Holocene cultures associated with the colonisation of central North America. While their subsistence economies are debated, many archaeologists consider them to be big game hunting specialists (including mammoth).

Folsom: (11,000-10,200 B.P.) A Palaeoindian culture, characterised by very high mobility and specialised bison hunting.

Archaic: (6,000-2,300 B.P.) A group of Middle Holocene cultures characterised by broad spectrum foraging (i.e., subsisting on a wide variety of big and small game, fish, shellfish, and plant foods). They do not have permanent villages or agriculture.

Plains Woodland: (2,300-1,000 B.P.) A group of Late Holocene cultures characterised by semi-permanent villages, horticulture (maize and beans) in addition to hunting and gathering.

Altithermal: also the Holocene Climate Optimum. A warm period during the interval 9,000 to 5,000 years B.P. This event is also known by other names, including: Hypsithermal, Climatic Optimum, Holocene Optimum, Holocene Thermal Maximum, and Holocene Megathermal.

and subsequent North American cultural horizons and traditions. Bison were economically and culturally important throughout most of North America, including interior Alaska, Yukon and Northwest Territories, but they were particularly significant for groups living in the Great Plains, from north-central Texas to southern Alberta. Various forms of bison have been identified as key subsistence resources in the Palaeolithic of north-eastern Asia, forming part of a megafaunal complex adapted to the steppe-tundra of Late Pleistocene northern Eurasia and Beringia, along with mammoths and horses (Guthrie 1990). While bison remains are commonly found in Siberian archaeological sites, standard zooarchaeological methods (Ermolova 1978) indicate they do not appear to have contributed greatly to subsistence. By comparison, reindeer, mammoths, and horses are relatively abundant in Siberian archaeological sites. Bison seem to have played a more important role in North American archaeological complexes. In Alaska, there is empirical evidence from numerous archaeological complexes spanning 12,000 to 1,000 years B.P. that links bison with cultural traditions using conservative,

Plate 2.3 Arvo Looking Horse performing a ceremony honouring slaughtered bison after a harvest near Yellowstone National Park. Photo: Jim Peaco, National Park Service.

efficient microblade technology (Holmes and Bacon 1982; Potter 2005; 2008). Microblades are small elongate sharp stone blades inserted into pieces of bone or wood to make composite tools (Guthrie 1983).

Bison played a key role in Palaeo-Indian, Archaic, and later economies in North America, particularly in the Great Plains. While some have questioned early Palaeo-Indian dependence on bison and other large-bodied ungulates (Grayson and Meltzer 2002), other studies show a clear pattern of specialised large mammal hunting during the Late Pleistocene and Early Holocene in North America (Hofman and Todd 2001; Waguespack and Surovell 2003). Although there are disagreements as to whether Early Palaeo-Indians should be classified as specialised big-game hunters or broad-spectrum foragers, bison evidently played an important role in their subsistence economies. A recent survey by Waguespack and Surovell (2003) reported that 52% of 35 Early Palaeo-Indian components (Clovis, 11,300-10,900 years B.P.) included bison remains. With the extinction of the mammoth and other Pleistocene megafauna, bison became a greater economic focus for late Palaeo-Indian complexes (Folsom and others present during the Early Holocene). Changes in projectile point forms have been linked to specialisations for bison hunting (Stanford 1999). In particular, Folsom complex adaptations have been linked to intensive bison hunting (Amick 1996). Communal bison hunting probably played an important role in seasonal aggregations of Palaeo-Indian populations, with human groups combining to hunt and then dispersing into smaller groups in relation to seasonal bison migrations (Kelly and Todd 1988).

On the Great Plains, the Holocene Climatic Optimum or Altithermal (about 7,500 years B.P. in mid-latitude North America) resulted in warmer and drier conditions and increased seasonality. Climate change apparently limited bison abundance and geographic distribution, and induced human adaptations to new climatic and ecological conditions (Sheehan 2002; but see Lovvorn *et al.* 2001). Human populations adjusted primarily by developing new economic strategies, termed “Archaic” by North American archaeologists. Adaptations involved new technologies such as ground stone for processing a variety of plant foods, and incorporating a more diverse array of smaller game and plants into the subsistence economy. During this period, some portions of the Great Plains appear to have been abandoned entirely by people (Meltzer 1999). However, the dearth of sites could also be explained by taphonomy (deep



burial or destruction through erosion) (Artz 1996; Walker 1992). Some evidence indicates that during this period bison and people concentrated their activities in localised refugia, such as river valleys (Buchner 1982). Throughout North America, there was a general shift to mixed foraging economies based on more locally abundant resources, with bison playing a much smaller role except in specific areas of the Great Plains.

After 2,000 years B.P., archaeological records for the North American grasslands show evidence of widespread human occupation and regional specialisation in habitat use (Manning 1995; Speth 1983). The so-called Plains Woodland complexes showed local patterns of adaptation represented as widespread networks of cultural interactions that linked the eastern woodlands, and perhaps even the Greater Southwest, to the grasslands through trade and religious or ceremonial interactions (Frison 1991). Technologies shifted again to include bows and arrows, pottery and distinctive regional ceramic traditions. Much later, the use of horses formed the basis for the mounted,

nomadic “Plains Indian Culture” observed by European explorers and missionaries at first contact (Duke 1991; Wedel 1959). Native North Americans, during, and even after the Plains Woodland tradition, lived in larger more permanent villages. They depended on maize, bean, and gourd horticulture to name some of the most important domesticates, with winter dependence on deer and seasonal movements in the fall and spring to take advantage of migrating bison herds (Wilson 1987). This pattern is well represented ethnographically in the Middle Missouri Region. Groups like the Siouxan-speaking Mandan and Hidatsa, and the Caddoan-speaking Pawnee and Arikara, with the Wichita and others, were scattered along major Prairie rivers and tributaries like the Loup, Lower Loup, Canadian, and Washita, as far south as Nebraska, Kansas, and Oklahoma (Weltfish 1965). Large kill events, such as those represented at the Head-Smashed-In site in Alberta, generally did not occur until very late in the history of bison hunting on the Plains, and are represented from the Late Archaic and later periods (Byerly *et al.* 2005). The shift in hunting strategies may have been a response to increasing herd sizes, introduction of bow and arrow, and/or changes in social organisation (Driver 1990; Reeves 1990; Walde 2006).

With increased resolution and clarity afforded by ethnohistoric and ethnographic investigations, human-bison interactions among historic native peoples are better described and documented than for the late Pleistocene and Holocene. Bison continued to be the preferred game for many native North American cultures, especially on the Great Plains and Prairies, providing food, clothing, shelter, and tools (Geist 1996; Roe 1970). Sustained by bison and plant resources, many native groups likely affected densities of other large herbivore species (Kay *et al.* 2000; Martin and Szuter 1999). In addition to significant ecological relationships, the bison was a central element in oral tradition, rituals, dances, and ceremonies of native peoples of the Plains (Wissler 1927), and it remains symbolically important in the cultural traditions of many native Tribes to this day.

The arrival of Europeans in North America, after 1492, resulted in significant changes in human-bison interactions, and changed the fabric of Native American life forever. Introduced diseases such as smallpox decimated indigenous human populations (Crosby 1986), and altered subsistence, settlement, demography, and social organisation for many different groups. Bison hunting by native people was seasonal in nature. Bison were incorporated into a broad spectrum of plant and animal procurement activities (Holder 1970; Isenberg 2000). Bison provided the economic basis for stable, resilient land use regimes and social systems. However, effects of Native American warfare and raiding during the historic period disrupted and destabilised these land use and social systems. The spread of horses into Great Plains aboriginal economies by the 1750s, and increasing commoditisation of bison products

caused by the emergence of a European commercial market for wildlife products by the 1820s, contributed to the near extinction of the bison (Flores 1994; Isenberg 2000:27). Native peoples traded bison hides for Euro-american commodities, with the market in bison robes reaching a peak in the 1840s. Hide hunters began to significantly participate in the market hunting of plains bison in the 1850s, and by the 1890s had decimated the herds. Even bones were cleaned for sale to the eastern fertilizer market, an activity that continued to 1906 (Dary 1974).

Numerous native North American tribes manage bison on native and tribal lands, but cultural, social and spiritual relationships with this animal are changing. For many Native Americans there is still a strong spiritual and symbolic connection, but for others it is the potential commercial value of bison that is most important. For still others, it is the pragmatic use of bison for food, and the relationship between local control over food production and land, food security, tribal sovereignty, and decreasing reliance on outside sources for food and commodities that is emerging as a topic of concern, and a theme underlying tribal decision-making.

It is not just the relationship between Native Americans and bison that is changing, but the role of bison in the overall North American food system is changing as well. The North American perspective is shifting from the view that bison are an artifact from the past to be viewed as such in parks and preserves, to one that sees bison as a dynamic component of the American diet. Along with a new vision for a healthy ecological and genetic future for the American bison, food system researchers, food system enthusiasts, and the biomedical research community envision a new role for bison in the American diet. This role elevates the animal to priority over industrially raised beef and pork, and secures for it a place as the healthy alternative to a fatty, sugar-based diet that already has significant health impacts in terms of increased rates of cardiovascular disease, colorectal and other forms of cancer, and diabetes. Free-range bison meat is higher in omega-3 fatty acids than are grain-fed animals, perhaps even as high as wild salmon and other cold water fish species, and it is also high in conjugated linoleic acid, a fat-blocker and anti-carcinogen with the potential to reduce the risk of cancer, diabetes, and obesity. The extent to which bison can be produced efficiently and in healthy ways that do not further degrade ecosystems and ecosystem services, and marketed as a healthy food at an affordable price, will perhaps be the tipping points for how important bison become in a future American food system.

Whether Native American or not, cultural values, attitudes, and perspectives are reflected in how we think about, manage, and handle animals in the wild, in commercial production systems, and after butchering and processing through marketing. Bison are perhaps unique in that we manage them both as wildlife and

as livestock, with wood bison in Alaska and Canada an example of the former, and plains bison in the Canadian and American Plains an example of the latter. The jury is probably still out on whether we will manage bison as wildlife, as livestock, or as both in the future, but it is clear that there is a bright role for this animal in an emerging North American food system and tradition. Native Americans are both recovering and restoring their long-established cultural relationship with the American bison, and Native Americans and other non-native North Americans are finding new ways to relate to this animal in ways that will enhance the conservation of the species.

Lead Authors: Delaney P. Boyd, Gregory A. Wilson, and C. Cormack Gates

The purpose of naming organisms is to facilitate recognition and communication and to identify patterns and apply practical structure to the natural world. Taxonomy can support the conservation and sustainable use of biological diversity by contributing to identification, assessment, and monitoring programmes (Environment Australia 1998). Taxonomy is also vital for the creation and interpretation of laws, treaties, and conservation programmes because it creates legal identities for organisms (Geist 1991). While it is important to strive for accuracy in taxonomic classification, semantic issues and uncertainty can create substantial management challenges by distracting conservation decision makers from the issues threatening a taxon or biological unit worthy of conservation.

Despite the extensive history, and the economic and symbolic importance of bison to North American societies, there remains significant confusion and disagreement about bison taxonomy. The issues range from an historical discrepancy over the common name, to ongoing scientific debate over the systematics of the genus, species, and subspecies designations.

3.1 An Historical Misnomer: Bison vs. Buffalo

The bison is not a buffalo. True ‘buffalo’ are native only to Africa (cape buffalo, *Syncerus caffer*) and Asia (four species of water buffalo, *Bubalus spp.*). The use of the term buffalo for American bison derived perhaps from other languages used by explorers to describe the unfamiliar beast, e.g., *bisonte*, *buffes*, *buffelo*, *buffles*, and *buffilo* (Danz 1997; Dary 1989). These terms are similar to *buffle* and *buffe*, which were commonly used to refer to any animal that provided good hide for buff leather (Danz 1997). Despite the misnomer, the term ‘buffalo’ has been used interchangeably with “bison” since early explorers first discovered the North American species (Reynolds *et al.* 1982). The term has become entrenched as a colloquialism in North American culture and language. Although scientific convention dictates use of ‘bison’, the term ‘buffalo’ persists as an accepted, non-scientific convention for habitual and nostalgic reasons.

3.2 Genus: *Bos* vs. *Bison*

When Linnaeus first classified the bison in 1758 for his 10th Edition of the *Systema Naturae*, he assigned the animal to *Bos*, the same genus as domestic cattle (Wilson and Reeder 2005). During the 19th Century, taxonomists determined that

there was adequate anatomical distinctiveness to warrant assigning the bison to its own genus (Shaw and Meagher 2000). Therefore, in 1827, C. Hamilton Smith assigned the sub-generic name *Bison* to the American bison and the European bison (Skinner and Kaisen 1947). In 1849, Knight elevated the subgenus *Bison* to the level of genus (Skinner and Kaisen 1947). Since then, taxonomists have debated the validity of the genus, some arguing that bison are not sufficiently distinct from cattle, guar, yak, and oxen to warrant a distinct genus (Gardner 2002, personal communication). During the last two decades, as molecular genetic and evolutionary evidence has emerged, scientists have used *Bos* with increasing frequency. Discrepancies in the genus are reflected in major cataloguing centres and books. For example, the Canadian Museum of Nature (Balkwill 2002, personal communication) and the Smithsonian National Museum of Natural History in its publication *Mammal Species of the World* (Wilson and Reeder 2005) use *Bison*, while the Royal Ontario Museum (Eger 2002, personal communication) and the Museum of Texas Tech University, in its *Revised Checklist of North American Mammals North of Mexico* (Jones, Jr. *et al.* 1992; Jones *et al.* 1997; Baker *et al.* 2003), have reverted to *Bos*.

The debate over the appropriate genus arises from the conflict between the traditional practice of assigning names based on similar features distinguishable by morphology (the phenetic approach) versus using evolutionary relationships (the phylogenetic approach) (Freeman and Herron 2001; Winston 1999). Systematists develop evolutionary trees by analysing shared derived characteristics (Freeman and Herron 2001; Winston 1999). In this scheme, only monophyletic groups, or clades, which represent all descendants of a common ancestor, are named. A phenetic scheme might assign names to partial clades, or paraphyletic groups, which exclude one or more descendants (Freeman and Herron 2001). Some taxonomists and systematists suggest that the traditional naming system be replaced with a phylogenetic scheme (Freeman and Herron 2001). While not all biologists agree this is prudent, given that a strictly phylogenetic scheme could ignore functionally and ecologically important differences among species (Freeman and Herron 2001), the phylogenetic approach provides some useful insights about evolutionary relationships within the family Bovidae.

Bison reside in the family Bovidae, subfamily Bovinae, tribe Bovini, which currently contains four genera: *Bubalus* (Asian water buffalo); *Syncerus* (African buffalo); *Bos* (domestic cattle

and their wild relatives), and *Bison* (bison) (Wall *et al.* 1992; Wilson and Reeder 2005). Studies of nuclear-ribosomal DNA (Wall *et al.* 1992), mitochondrial DNA (Miyamoto *et al.* 1989; Miyamoto *et al.* 1993), and repetitive DNA sequences (Modi *et al.* 1996) within this tribe have revealed that the genus *Bos* is paraphyletic with respect to the genus *Bison*. Mitochondrial DNA studies do not support the traditional organisation of the tribe Bovini because the yak (*Bos grunniens*) is more closely related to bison than to its congener cattle (*Bos taurus*) (Miyamoto *et al.* 1989; Miyamoto *et al.* 1993). Ribosomal DNA studies have not fully clarified this relationship (Wall *et al.* 1992). However, skeletal analysis by Groves (1981) noted that bison and yak have 14 thoracic vertebrae while other members of the Tribe Bovini have only 13, underscoring the importance of considering heritable morphological differences that may not be revealed using molecular methods.

A comparison of various phylogenetic trees for the tribe Bovini further illustrates the naming conflict. Figure 3.1(a) depicts a

conventional scheme based on morphological characteristics (Bohlken 1958), while Figures 3.1(b-d) show different interpretations based on cranial or genetic evidence. Although non-conventional schemes do not share identical branching patterns for every species, the position of *Bison* within the pattern of development for each alternative is equally incongruous. In the conventional scheme, *Bos* branched off the tree later than *Bison*; however, the arrangements based on more recent evidence suggest that a *Bos* branch was followed by *Bison*, then by *Bos*. Each alternative demonstrates that *Bos* is paraphyletic because it is lacking one of its descendant branches (denoted as *Bison*). Under a phylogenetic scheme, bison would be included in the *Bos* clade to correct this incongruity.

For four decades, there have been suggestions to combine *Bison* and *Bos* into one genus (Baccus *et al.* 1983; Gentry 1978; Groves 1981; Miyamoto *et al.* 1989; Modi *et al.* 1996; Stormont *et al.* 1961; Van Gelder 1977). Studies of DNA, blood types, and chromosomal, immunological, and protein sequences

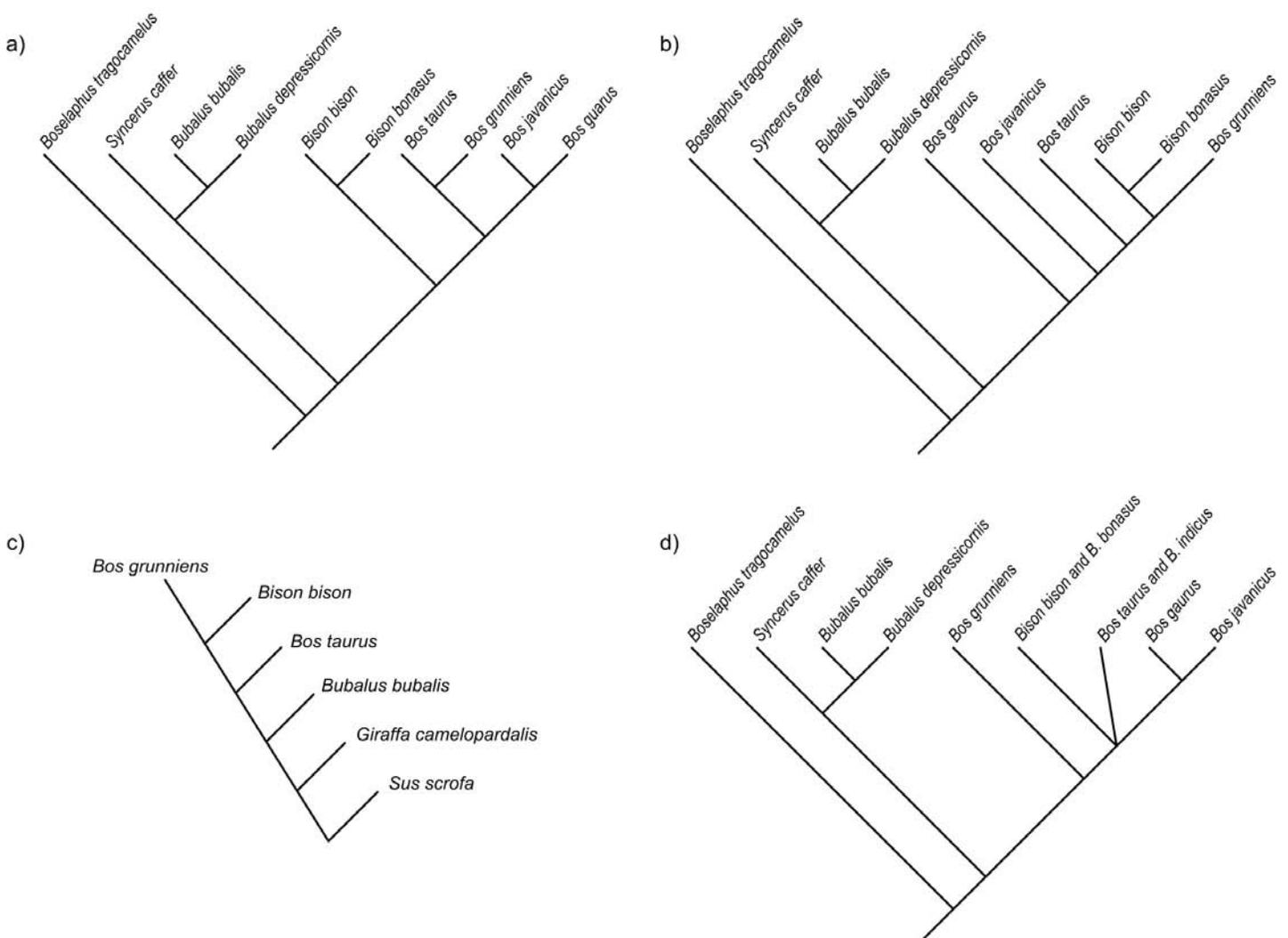


Figure 3.1 Comparison of phylogenetic hypotheses for the tribe Bovini based on: (a) conventional morphological analysis (Bohlken 1958); (b) cladistic analysis of cranial characteristics (Groves 1981); (c) mtDNA sequences (Miyamoto *et al.* 1989); and (d) ribosomal DNA analysis (Wall *et al.* 1992).

demonstrate that *Bison* and *Bos* were genetically similar, given molecular methods existing at the time (Beintema *et al.* 1986; Bhambhani and Kuspira 1969; Dayhoff 1972; Kleinschmidt and Sgouros 1987; Stormont *et al.* 1961; Wilson *et al.* 1985). Additionally, the percent divergences among mitochondrial DNA (MtDNA) sequences of *Bison bison*, *Bos grunniens*, and *Bos taurus* were comparable to those calculated among other sets of congeneric species assessed until 1989 (Miyamoto *et al.* 1989). Reproductive information also supports the inference of a close phylogenetic relationship between *Bos* and *Bison*; *Bison* and some members of *Bos* can hybridise under forced mating to produce partially fertile female offspring (Miyamoto *et al.* 1989; Van Gelder 1977; Wall *et al.* 1992; Ward 2000). Species divergence and reproductive incompatibility are evident with the low fertility of first generation (F1) bison x cattle offspring (Boyd 1908; Steklenev and Yasinetskaya 1982) and the difficulty producing viable male offspring (Boyd 1908; Goodnight 1914; Steklenev and Yasinetskaya 1982; Steklenev *et al.* 1986). Behavioural incompatibility is also evident. Although mating of bison and cattle can readily be achieved in a controlled environment, they preferentially associate and mate with individuals of their own species under open range conditions (Boyd 1908; 1914; Goodnight 1914; Jones 1907). Differences in digestive physiology and diet selection between cattle and American bison (reviewed by Reynolds *et al.* 2003) and European bison (Gębczyńska and Krasieńska 1972) provide further evidence of the antiquity of divergence between cattle and bison. Based on palaeontological evidence, Loftus *et al.* (1994) concluded that the genera *Bos* and *Bison* shared a common ancestor 1,000,000–1,400,000 years ago.

In North America, sympatry between bison and cattle is an artefact of the recent history of colonisation by Europeans and their livestock. However, in prehistoric Europe, the wisent (*Bison bonasus*) and aurochs (*Bos taurus primigenus*), the progenitor of modern cattle, were sympatric yet evolutionarily divergent units. The divergence in behaviour, morphology, physiology, and ecology observed between bison and cattle is consistent with the theory that ecological specialisation in sympatric species occupying similar trophic niches provides a mechanism for reducing competition in the absence of geographic isolation (Bush 1975; Rice and Hostert 1993).

The assignment of an animal to a genus in traditional naming schemes can be subjective, and changing generic names can create confusion and contravene the goal of taxonomy, which is to stabilise nomenclature (Winston 1999). However, we caution that maintaining a stable nomenclature should not occur at the expense of misrepresenting relationships. A change of *Bison* to *Bos* may reflect inferred evolutionary relationships and genetic similarities between *Bison* and *Bos* species. It could also potentially provide continuity and stability to the scientific reference for bison, which currently has two species names in use

(*B. bonasus* and *B. bison*). However, and in contrast, based on divergence on a cytochrome b gene sequence analysis, Prusak *et al.* (2004) concluded that although American and European bison are closely related, they should be treated as separate species of the genus *Bison*, rather than subspecies of a bison species. There is also the potential that changing the genus from *Bison* to *Bos* would complicate management of European (three subspecies) and American bison (two subspecies) at the subspecies level and disrupt an established history of public policy and scientific community identification with the genus *Bison*.

Further research and debate by taxonomists and the bison conservation community is required to reconcile molecular, behavioural and morphological evidence before a change in nomenclature could be supported by the American Bison Specialist Group (ABSG). In consideration of the uncertainties explained above, and in keeping with the naming conventions for mammals used for the 1996 Red List and the 2008 Red List (Wilson and Reeder 1993; Wilson and Reeder 2005), the ABSG adheres to the genus *Bison* with two species, European bison (*B. bonasus*) and American bison (*B. bison*), in this document.

3.3 Subspecies

A controversial aspect of American bison taxonomy is the legitimacy of the subspecies designations for plains bison (*B. Bison bison*) and wood bison (*B. bison athabasca*). The two subspecies were first distinguished in 1897, when Rhoads formally recognised the wood bison subspecies as *B. bison athabasca* based on descriptions of the animal (Rhoads 1897). Although the two variants differ in skeletal and external morphology and pelage characteristics (Table 3.1), some scientists have argued that these differences alone do not adequately substantiate subspecies designation (Geist 1991). The issue is complicated by the human-induced hybridisation between plains bison and wood bison that was encouraged in Wood Buffalo National Park (WBNP) during the 1920s. Furthermore, the concept of what constitutes a subspecies continues to evolve.

The assignment of subspecific status varies with the organism, the taxonomist, and which of the various definitions of subspecies is applied. Mayr and Ashlock (1991:430) define a subspecies as “an aggregate of local populations of a species inhabiting a geographic subdivision of the range of the species and differing taxonomically from other populations of the species.” Avise and Ball (1990:59-60) adapted their definition from the Biological Species Concept, which defines species as groups of organisms that are reproductively isolated from other groups (Mayr and Ashlock 1991): “Subspecies are groups of actually or potentially interbreeding populations phylogenetically distinguishable from, but reproductively compatible with, other such groups.”

Table 3.1 Comparison of structural and pelage characteristics for the two bison subspecies.

Plains bison <i>Bison bison bison</i>	Wood bison <i>Bison bison athabasca</i>
	
Pelage characteristics	
Dense woolly bonnet of hair between horns	Forelock dark, hanging in strands over forehead
Thick beard and full throat mane, extending below rib cage	Thin beard and rudimentary throat mane
Well-developed chaps	Reduced chaps
Well-demarcated cape, lighter in colour than wood bison	No clear cape demarcation, hair usually darker than plains bison
Structural Characteristics	
Highest point of the hump over front legs	Highest point of the hump forward of front legs
Horns rarely extend above bonnet	Horns usually extend above forelock
Smaller and lighter than the wood bison (within similar age and sex classes)	Larger and heavier than plains bison (within similar age and sex classes)

Crucial to this definition is the argument that evidence for phylogenetic distinction must derive from multiple concordant, independent, genetically-based (heritable) traits (Awise and Ball 1990). Essentially, subspecies should demonstrate several conspicuous morphological differences, geographic allopatric population patterns, and normally possess genetic divergences at several genes (Winston 1999). Hybridisation between subspecies is possible along contact interfaces (Winston 1999).

The fossil record and observations of variability among living bison suggest that the species exhibited considerable geographic variation. This variation led to claims identifying various forms of the species, most notably a northern and a southern plains bison, which differed in pelage and conformation (van Zyll de Jong 1993). Analysis of cranial, horn, and limb measurements for plains bison suggests clinal variation along a north-south axis (McDonald 1981; van Zyll de Jong 1993). It is possible that external characteristics, such as pelage

colouration, also varied along this axis (van Zyll de Jong *et al.* 1995). Therefore, the continuous gradation of intermediate bison forms prevents definitive recognition of northern and southern forms of plains bison at the trinomial level.

Unlike the clinal variation reported for plains bison, a phenotypic discontinuity exists between plains bison and wood bison (van Zyll de Jong 1993), reflected in size and in morphological differences independent of size (van Zyll de Jong 1986; Gates *et al.* 2001). Discontinuous variation occurs when a barrier impedes gene flow between populations of a species, causing genetic differences to accumulate on either side of the barrier (van Zyll de Jong 1992). Reproductive isolation caused by differing habitat preferences and seasonal movements, and the natural barrier formed by the boreal forest, contributed to maintaining the phenotypic differences between plains bison and wood bison (van Zyll de Jong 1986; van Zyll de Jong 1993; Gates *et al.* 2001). The Society for Ecological

Restoration International (SERI) and IUCN Commission on Ecosystem Management (2004) explicitly recognise the continuous nature of biological processes, such as speciation, in its guidelines for restoration of ecosystems that have been "... *degraded, damaged, or destroyed relative to a reference state or a trajectory through time*" (Chapter 9). Analysis of ancient mtDNA indicates that modern American bison are derived from a most recent common ancestor existing 22,000 to 15,000 years B.P. (Shapiro *et al.* 2004; Chapter 2).

The allopatric distribution and quantified phenotypic differences between the bison subspecies are consistent with the subspecies concept. Nevertheless, there has been a suggestion that the two subspecies are actually ecotypes, that is, forms exhibiting morphological differences that are simply a reflection of local environmental influences rather than heritable traits (Geist 1991). This hypothesis is not supported by observations of transplanted plains and wood bison. Wood bison transplanted

from their original habitat near the Nyarling River in WBNP to very different environments in the Mackenzie Bison Sanctuary (MBS) (in 1963) and Elk Island National Park (EINP) (in 1965) do not differ from each other, or from later specimens taken from the original habitat (van Zyll de Jong 1986; van Zyll de Jong *et al.* 1995). Furthermore, despite the passing of over 40 years, the EINP wood bison, which live under the same conditions as plains bison residing separately within the park, show no evidence of morphological convergence with the plains bison form (van Zyll de Jong 1986; van Zyll de Jong *et al.* 1995). Similarly, plains bison introduced to Delta Junction, Alaska (in 1928) from the National Bison Range (NBR) have clearly maintained the phenotypic traits of plains bison (van Zyll de Jong 1992; van Zyll de Jong *et al.* 1995). Such empirical evidence suggests that the morphological characteristics that distinguish plains and wood bison are genetically controlled (van Zyll de Jong *et al.* 1995).

Hybridisation between the subspecies in WBNP after an introduction of plains bison during the 1920s has complicated the consideration of subspecies designations. The controversial decision to move plains bison from Wainwright Buffalo Park (WBP) in southern Alberta to WBNP (from 1925 to 1928) resulted in the introduction of domestic bovine diseases to wood bison (Chapter 5), and threatened the distinctiveness and genetic purity of the subspecies. In 1957, Canadian Wildlife Service researchers discovered a presumably isolated population of 200 wood bison near Nyarling River and Buffalo Lake. The researchers believed that this herd had remained isolated from the hybrid herds, and therefore, represented the last reservoir of original wood bison (Banfield and Novakowski 1960; Ogilvie 1979; Van Camp 1989). In an effort to salvage the wood bison subspecies, bison from the Nyarling herd were relocated to establish the MBS and EINP wood bison herds in the 1960s. Later analysis has indicated that the Nyarling herd, and bison elsewhere in WBNP and adjacent areas, did have contact with the introduced plains bison (van Zyll de Jong 1986; Aniskowicz 1990), but it was minimal enough that the animals continued to exhibit predominately wood bison traits (van Zyll de Jong *et al.* 1995). Studies on the impact of the plains bison introduction have determined that the hybridisation did not result in a phenotypically homogeneous population, as was feared (van Zyll de Jong *et al.* 1995). Sub-populations within WBNP demonstrate varying degrees of plains bison traits depending on their proximity to, or ease of access from, the original plains bison introduction site (van Zyll de Jong *et al.* 1995).

Although descriptive morphology and quantitative morphometry provide substantial evidence supporting the subspecific designations (van Zyll de Jong *et al.* 1995), early analysis of blood characteristics and chromosomal homology did not detect a difference (Peden and Kraay 1979; Stormont *et al.* 1961; Ying and Peden 1977). Preliminary analysis of growth regulating

genes within the two subspecies suggests that the bison subspecies have reached a stage of evolutionary divergence due to geographic isolation (Bork *et al.* 1991); however, under the Biological Species Concept, subspecies may be defined at the next stage of speciation, that is when hybrid offspring exhibit reduced fitness, which does not appear to be the case in WBNP (Bork *et al.* 1991). Furthermore, analysis of mtDNA from Nyarling River wood bison and plains bison did not produce monophyletic groups (Strobeck 1991; 1992). This, however, does not mean that there is no difference. In isolated populations, mtDNA diverges at a rate of 1 to 2% per million years (Wilson *et al.* 1985). It is estimated that the two bison subspecies diverged approximately 5,000 years ago (van Zyll de Jong 1993; Wilson 1969), and human-induced subspecies hybridisation further complicated the phylogeny. Therefore, current genetic analysis techniques may not be able to detect existing differences in the mitochondrial genome. In addition, because mtDNA is maternally inherited, mtDNA within the Nyarling River herd, as well as other herds in WBNP, reflects the contributions from maternal populations, which had a biased representation of plains bison cows (Gates *et al.* 2001). Therefore, the inability to detect a difference with a molecular test comparing limited sequences of genomic material does not necessarily mean there is no genetic difference; it may just be beyond the current resolution of technology.

Recent studies of DNA microsatellites indicate that the genetic distances between plains bison and wood bison are greater than those within either of the two subspecies (Wilson 2001; Wilson and Strobeck 1999). The wood bison populations studied formed a distinctive group on a Nei's minimum unrooted tree; a strong grouping despite the pervasive hybridisation with plains bison (Wilson 2001; Wilson and Strobeck 1999). Wilson and Strobeck (1999) and Wilson (2001) concluded such a strong clustering indicates wood bison and plains bison are functioning as distinct genetic entities, and should continue to be managed separately. Based on the available evidence, Canada's National Wood Bison Recovery Team concluded: (1) historically, multiple morphological and genetic characteristics distinguished wood bison from the plains bison; (2) wood bison and plains bison continue to be morphologically and genetically distinct, despite hybridisation; and (3) wood bison constitute a subspecies of bison, and therefore, should be managed separately from plains bison (Gates *et al.* 2001).

The issue of subspecies designations is relevant to conservation in that a decision to combine forms at the species level would invite hybridisation and effectively eliminate any evolutionary divergence that had occurred. Establishing definitive recognition of bison subspecies is complicated by ongoing change of genus, species and subspecies concepts (Winston 1999). However, other classifications and concepts, such as the evolutionarily significant unit (ESU; Ryder 1986), and genetic and ecological

exchangeability, move beyond traditional trinomial taxonomy to incorporate evolutionary considerations. Conservation biologists are reconsidering definitions of conservation units that incorporate both the history of populations reflected in molecular analysis, and adaptive differences revealed by life history and other ecological information (Crandall *et al.* 2000; DeWeerdt 2002). For example, the geminate evolutionary unit identifies conservation units that are genetically similar but ecologically or behaviourally distinct (Bowen 1998). Crandall *et al.* (2000) argue for a broad categorisation of population distinctiveness based on non-exchangeability of ecological and genetic traits. Each of these concepts presents challenges, as does any concept that attempts to divide the biological continuum for the convenience of human interests. Essentially, differentiation on any level within a species warrants a formal decision and recognition. Of note, The U.S. Endangered Species Act recognises this conservation issue and provides for protection of “distinct population segments”. Similarly, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), which is responsible for assessing the status of wildlife, includes any indigenous species, subspecies, variety or geographically defined population of wild fauna or flora as a “species”.

While there appear to be sufficient grounds for formal recognition of American bison subspecies, the debate may continue. This, however, should not preclude conservation of the two forms as separate entities (van Zyll de Jong *et al.* 1995; Wilson and Strobeck 1999). Regardless of current genetic,

biochemical or other evidence about the subspecies question, there are notable phenotypic differences, and potentially other types of variation that may not be detectable with technologies available at this time. Geneticists predict that genetic analysis in the future will be able to better identify groupings within species (Wilson 2001).

Although genetic and morphological evidence often correspond, this is not always the case (Winston 1999). This can lead to debate over recognising variation that cannot be measured using alternative morphological or molecular methods. Nevertheless, all forms of geographic and ecological variation within a species contribute to biodiversity (Secretariat of the Convention on Biological Diversity 2000). All variants of a species may carry evolutionarily important ecological adaptations (Chapter 4), and possess the potential to develop genetic isolating mechanisms leading in evolutionary time to new species (O’Brien and Mayr 1991). Prediction of which variants will evolve to become species is not possible; this is an outcome of natural selection and chance. Therefore, to maintain biodiversity and evolutionary potential, it is important to not dismiss any form of differentiation within a species, and to maintain the opportunity for evolutionary processes to function (Crandall *et al.* 2000). Debating whether a name is warranted within a relatively arbitrary taxonomic system does not absolve humans of the responsibility to recognise and maintain intraspecific diversity as the raw material of evolution. The risk of losing evolutionary potential suggests it would not be prudent to prematurely dismiss existing groupings such as the plains and wood bison.

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As a science, population genetics is concerned with the origin, nature, amount, distribution and fate of genetic variation present in populations through time and space. Genetic variation constitutes the fundamental basis of evolutionary change and provides the foundation for species to adapt and survive in response to changing intrinsic and extrinsic stressors. Therefore, loss of genetic diversity is generally considered detrimental to long-term species survival. In the short-term, populations with low levels of genetic diversity may suffer from inbreeding depression, which can increase their probability of extirpation and reduce fitness. Plains and wood bison experienced severe and well-documented population declines in the 19th Century that reduced the census size of this species by over 99.99%. The spectacular recovery to around 430,000 animals today (Chapter 7) is a testament to their genetic constitution, and represents one of the most significant accomplishments in modern conservation biology. American bison have, however, undergone artificial hybridisation with domestic cattle, been subjected to domestication and artificial selection, and been separated into many relatively small isolated populations occupying tiny fractions of their original range. As well, all wood bison populations contain some level of plains bison genetic material due to artificial hybridisation between the subspecies. All of these factors have had an effect on the current levels of genetic diversity and on the integrity of the bison genome. As a result, preservation of bison genetic diversity is a key long-term conservation consideration. The following sections discuss some of the major issues that are important for the genetic management of this species into the future.

4.1 Reduction of Genetic Diversity

Within species, genetic diversity provides the mechanism for evolutionary change and adaptation (Allendorf and Leary 1986; Chambers 1998; Meffe and Carroll 1994; Mitton and Grant 1984). Reduction in genetic diversity can result in reduced fitness, diminished growth, increased mortality of individuals, and reduced evolutionary flexibility (Allendorf and Leary 1986; Ballou and Ralls 1982; Franklin 1980; Frankham *et al.* 1999; Mitton and Grant 1984;). There are four interrelated mechanisms that can reduce genetic diversity (heterozygosity and number of alleles): demographic bottlenecks, founder effects, genetic drift, and inbreeding (Meffe and Carroll 1994). Unfortunately, over the last two centuries, bison in North America have, to some degree, experienced all of these mechanisms.

As American bison approached extinction in the late 1800s, they experienced a severe demographic bottleneck, leading to a concern that extant bison populations may have lower genetic diversity than pre-decline populations. The consequences of a genetic bottleneck depend on the pre-bottleneck genetic diversity within a species, the severity of the decline, and how quickly the population rebounds after the bottleneck (Meffe and Carroll 1994; Nei *et al.* 1975). The decline of bison was severe, with a reduction from millions to fewer than 1,000 individuals. Recovery efforts, however, enabled bison populations to grow quickly, more than doubling between 1888 and 1902 (Coder 1975). Although the effects of the bottleneck on the genetic diversity of the species are not clear (Wilson 2001), there are several possible repercussions. First, after a severe reduction in population size, average heterozygosity is expected to decline (Allendorf 1986; Nei *et al.* 1975). Heterozygosity is a measure of genetic variation that is a direct reflection of the past breeding history of a population. Heterozygosity values are expressed as the frequency of heterozygotes (i.e., genes with dissimilar alleles) expected at a given locus (Griffiths *et al.* 1993). A reduction in the level of heterozygosity can result in inbreeding effects. At the same time, a loss of alleles may limit a population's ability to respond to natural selection forces and reduce the adaptive potential of a population (Allendorf 1986; Meffe and Carroll 1994; Nei *et al.* 1975; Robertson 1960).

After the demographic crash, several small bison herds remained in North America, many of which were derived from very few animals. Overall levels of genetic variation in current populations can, in theory, vary directly with the number of original founders (Meffe and Carroll 1994; Wilson and Strobeck 1999). Remnant populations may not have been representative of the original gene pool and, consequently, suffered reduced genetic variability. Through time, the detrimental effects of genetic drift may have compounded the effects of the earlier bottleneck. Genetic drift involves the random change in gene frequencies and leads to the loss of alleles over time. The rate of this loss, or fixation of alleles, is roughly inversely proportional to the population size (Allendorf 1986; Meffe and Carroll 1994). However, the actual count of breeding individuals in a population is not appropriate for determining the rate of genetic drift because factors such as unequal sex ratios, differential reproductive success, overlapping generations, and non-random mating result in the "effective" population size always being less than the census size. For bison, the ratio of effective population size (N_e) to the census population size (N) has most commonly

been estimated to be between 0.16 and 0.42 (Berger and Cunningham 1994; Shull and Tipton, 1987; Wilson and Zittlau, 2004), although Shull and Tipton (1987) suggested that the ratio could be as low as 0.09 in some managed populations.

It is possible that American bison experienced reductions in overall genetic diversity due to the population bottleneck of the late 1800s; however, this effect may not have been as great as once expected. McClenaghan, Jr. *et al.* (1990) found that plains bison have greater genetic variability than several other mammals that experienced severe demographic bottlenecks. Furthermore, Wilson and Strobeck (1999), Halbert (2003) and Halbert and Derr (2008) found levels of DNA microsatellite variability in bison populations to be similar to other North American ungulates. Some authors speculate that prior to the bottleneck, the American bison, with the possible exception of the wood bison, expressed surprising homogeneity despite its extensive range (Roe 1970; Seton 1910). Plains bison ranged over large areas. This suggests that extensive animal movements, and thereby gene flow, may have existed among populations (Berger and Cunningham 1994; Wilson and Strobeck 1999). Similar to other large mammals, bison are expected to be less genetically diverse than small mammals (Sage and Wolff 1986). Despite founder effects and low gene flow, which increase genetic distance values, recent studies demonstrate that the genetic distances between existing bison herds are lower than expected, indicating that existing isolated populations are likely derived from one large gene pool (Wilson and Strobeck 1999). Furthermore, foundation herds for contemporary bison originated from across the species' range, suggesting that much of the pre-existing diversity was likely retained (Halbert 2003). Analysis of ancient DNA may provide an opportunity for assessing pre-bottleneck genetic diversity for comparative purposes (Amos 1999; Cannon 2001; Chambers 1998). Unfortunately, it is not possible to recover the genetic material lost as a result of the bottleneck underscoring the importance of maintaining existing genetic diversity while minimising any future genetic erosion.

Inbreeding, or the mating of related individuals, can lead to the expression of deleterious alleles, decreased heterozygosity, lower fecundity, and developmental defects (Allendorf and Leary 1986; Berger and Cunningham 1994; Lande 1999; Meffe and Carroll 1994). Inbreeding is difficult to assess and does not always have measurable deleterious consequences (Berger and Cunningham 1994; Meffe and Carroll 1994); however, it remains a potential cause of reduced diversity in bison. To decrease the effects of inbreeding, some bison herds were founded or augmented with animals from different regions (Wilson 2001). Over time, the translocation of animals among herds may have reduced the impacts of inbreeding and founder effects, which are most severe in isolated, small populations with low levels of genetic diversity. While few bison herds have truly exhibited signs thought to be the result of inbreeding depression, such

as high rates of physical abnormalities, reduced growth rates, and reduced fertility, inbreeding depression has been linked to low levels of calf recruitment and high levels of calf mortality in a plains bison herd (Halbert *et al.* 2004; 2005), and has been suggested to affect male reproductive success in another population (Berger and Cunningham 1994).

Although existing bison populations may be derived from a largely homogeneous gene pool, recent studies using DNA microsatellites reveal that several plains bison herds are genetically distinguishable (Halbert and Derr 2008; Wilson and Strobeck 1999). This raises the issue of whether conservation herds should be managed as a large metapopulation, with translocation of bison among herds to maintain local diversity, or as closed herds to preserve emerging localized differentiation. Some populations may be adapting to non-native habitats or changing conditions in the natural environment, and would, therefore, benefit from localized differentiation. Other populations may be adapting to, or inadvertently selected for, unnatural conditions, and would benefit from periodic augmentation (Wilson *et al.* 2002b). A precautionary approach may be to diversify conservation efforts by transferring randomly selected animals among some herds, to maximise intra-population genetic diversity, while maintaining other herds as closed populations with the possibility of the establishment of satellite populations to increase overall effective population sizes (Halbert and Derr 2008). Managers should carefully consider the implementation of metapopulation management plans as a tool to preserve genetic diversity due to historical differences in morphology, behaviour, physiology, and disease status (Lande 1999; Ryder and Fleischer 1996; Wilson *et al.* 2002b) and to limit the spread of domestic cattle genes between bison populations (Halbert *et al.* 2005a; 2006).

Genetic analysis could be used to monitor genetic diversity by building an inventory of diversity held within conservation herds. There are several measures of genetic diversity including heterozygosity, alleles per locus, and proportion of polymorphic loci (Amos 1999; Templeton 1994; Wilson *et al.* 2002b). While early work on bison genetics involved blood groups (Stormont 1982; Stormont *et al.* 1961), some authors suggest that such studies are inappropriate for assessing genetic diversity because selection for blood group type may be high, violating the assumption of selective neutrality (Berger and Cunningham 1994; Knudsen and Allendorf 1987; Yamazaki and Maruyama 1974). More recent studies have used allozymes (Knudsen and Allendorf 1987; McClenaghan *et al.* 1990), mitochondrial DNA (MtDNA) (Polziehn *et al.* 1996), nuclear DNA restriction fragment length polymorphisms (Bork *et al.* 1991), and DNA microsatellites (Wilson and Strobeck 1999) to assess diversity. Investigation of individual genomic regions can reflect overall diversity, allowing for data from various techniques to be combined to provide an accurate representation of genetic diversity (Chambers 1998).

Selection for diversity in one system, such as blood group proteins, or biased selection for maintaining specific rare genetic characteristics could lead to reduced diversity in other parts of the genome (Chambers 1998; Hedrick *et al.* 1986). Biased selection for maintaining rare alleles is especially questionable if it is not known what the rare allele does, or if it is detrimental (i.e., it may be rare because it is being expunged from the bison genome through natural selection). Variation throughout the genome, rather than the maintenance of one specific rare allele, conveys evolutionary flexibility to a species (Chambers 1998; Vrijenhoek and Leberg 1991). Therefore, it is crucial for a genetic management plan to consider all available measures for managing genetic diversity in the policies and procedures for breeding and culling decisions.

An assessment of overall genetic diversity should examine at least 25-30 loci distributed across the nuclear genome (Chambers 1998; Nei 1987). While genetic diversity for some herds has been assessed (Baccus *et al.* 1983; Berger and Cunningham 1994; Knudsen and Allendorf 1987; Wilson and Strobeck 1999), these studies did not include a sufficient number of loci and comparisons between studies are not possible due to differences in marker systems (allozymes vs. microsatellites). Other studies have included larger numbers of loci and populations; however, several conservation herds have not been fully examined (e.g., some U.S., Canadian and Mexican state, federal and private bison herds; Halbert 2003; Halbert and Derr 2008). Clearly it is important to create a more complete assessment of bison genetic diversity to allow for more informed management decisions.

In general, maintaining genetic diversity of American bison requires an understanding of herd population dynamics to assess the probability of long-term persistence of that diversity. Most bison populations are composed of fewer than 1,000 individuals, and it is possible for a relatively small number of dominant males to be responsible for a high percent of the mating in a given year (Berger and Cunningham 1994; Wilson *et al.* 2002; Wilson *et al.* 2005; Halbert *et al.* 2004). This, in turn, can reduce genetic diversity over time, especially in the absence of natural migration and exchange of genetic diversity among populations (Berger and Cunningham 1994). The potential for disproportionate reproductive contributions emphasises the importance of maintaining large herds with large effective population sizes, that given proper management, will prevent loss of genetic diversity (Frankham 1995; Franklin 1980). Assessment of genetic uncertainty, based on N_e , founder effects, genetic drift, and inbreeding, is a required component of a population viability analysis (PVA) (Gilpin and Soulé 1986; Shaffer 1987).

4.2 Hybridisation

Hybridisation involves the interbreeding of individuals from genetically distinct groups, which can represent different species, subspecies, or geographic variants (Rhymer and Simberloff 1996). Some authors argue that hybridisation is a potentially creative evolutionary force, which generates novel combinations of genes that can help species adapt to habitat change, although such hybrids often experience reduced fitness (Anderson and Stebbins 1954; Lewontin and Birch 1966; Hewitt 1989). Hybridisation through artificial manipulation or relocation of animals, however, can compromise genetic integrity through genetic swamping of one genome over another and disruption of locally adapted gene complexes (Awise 1994). It can also produce offspring that are devalued by the conservation and legal communities (O'Brien and Mayr 1991; Chapter 7). The genetic legacy of introducing plains bison into a wood bison population in northern Canada, and crossbreeding bison and cattle, have made hybridisation a controversial topic in bison conservation.

4.2.1 Plains bison x wood bison

Based on their geographic distribution and morphology, plains bison and wood bison were historically distinct entities (Chapter 3). It can be argued that the introduction of plains bison into range occupied by wood bison was a “negligible tragedy” (Geist 1996), because some consider the two groups to be ecotypes (Geist 1991). Others maintain that the interbreeding of these two types should have been avoided to preserve geographic and environmental variation (van Zyll de Jong *et al.* 1995). The introduction of either subspecies into the original range of the other could, in theory, erode the genetic basis of adaptation to local environmental conditions (Lande 1999). Therefore, hybridisation between plains and wood bison should be considered detrimental to maintaining the genetic integrity and distinctiveness of these two geographic and morphologically distinct forms.

While historically there may have been natural hybridisation events between the subspecies in areas of range overlap, the current hybridisation issue is the consequence of an ill-advised and irreversible decision made nearly 85 years ago. In 1925, the Canadian government implemented a plan to move more than 6,000 plains bison from the overcrowded Wainwright National Park to Wood Buffalo National Park (WBNP). Biological societies from U.S. and Canada strenuously challenged this action, as interbreeding would eliminate the wood bison form, resulting hybrids might not be as fit for the environment, and diseases such as bovine tuberculosis (BTB) would spread to formerly healthy animals (Howell 1925; Harper 1925; Lothian 1981; Saunders 1925). Proponents of the plan countered the criticism by questioning the subspecies designations, arguing

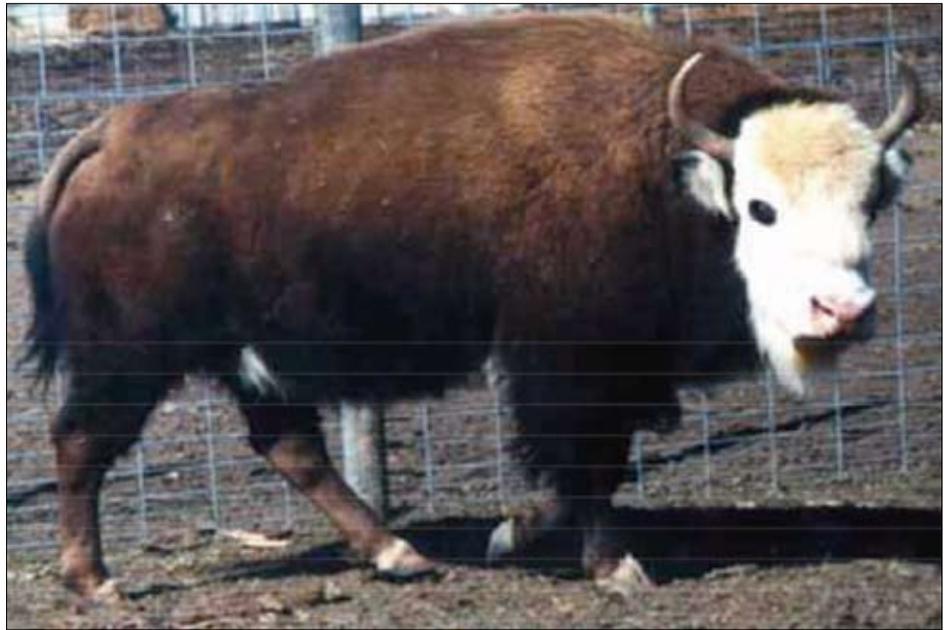
Plate 4.1 Hereford x bison hybrid; cattle gene introgression is morphologically evident. Photo: Bob Heinonen.

that the introduction site was isolated from, and unused by, the wood bison population, and suggesting that the introduced animals were too young to carry BTB (Fuller 2002; Graham 1924). These arguments did not consider the future habitat needs of the growing wood or plains bison populations, nor the likelihood that the two subspecies would not remain isolated. As well, a recommendation that only yearlings that passed a tuberculin test be shipped to WBNP was rejected (Fuller 2002).

It was not until 1957 that the discovery of a seemingly isolated herd of 200 animals near the Nyarling River and Buffalo Lake alleviated fears that wood bison was lost to hybridisation (van Camp 1989). Canadian Wildlife Service researchers determined that these animals were morphologically representative of wood bison (Banfield and Novakowski 1960). To salvage the wood bison subspecies, bison from the Nyarling herd were captured and relocated to establish two new herds. Sixteen animals were moved to the MBS north of Great Slave Lake in 1963 (Fuller 2002; Gates *et al.* 2001c), and 22 animals were successfully transferred to Elk Island National Park (EINP) east of Edmonton, Alberta in 1965 (Blyth and Hudson 1987). Two additional calves were transferred to EINP between 1966 and 1968 (Blyth and Hudson 1987; Gates *et al.* 2001c). Of those bison transferred, 11 neonates formed the founding herd.

Subsequent studies revealed that there was contact between the Nyarling herd and the introduced plains bison (van Zyll de Jong 1986). Although hybridisation within WBNP did not result in a phenotypically homogenous population (van Zyll de Jong *et al.* 1995), genetic distances among subpopulations in the park are small, indicating that there is gene flow and influence of the plains bison genome throughout all regions of the park (Wilson 2001; Wilson and Strobeck 1999). Despite hybridization, genetic distances between plains and wood bison are generally greater than those observed within subspecies. Moreover, wood bison form a genetic grouping on a Nei's minimum unrooted tree, suggesting genetic uniqueness (Wilson 2001; Wilson and Strobeck 1999).

Morphological and genetic evidence suggest that care should now be taken to maintain separation between these historically differentiated subspecies. Efforts are in place to ensure representative wood bison and plains bison herds are isolated from each other to prevent future hybridisation between these important conservation herds (Harper *et al.* 2000).



4.2.2 Domestic cattle x bison

The concept of crossing bison with domestic cattle dates back to Spanish colonisers of the 16th Century (Dary 1989). There are many accounts of historical attempts to hybridise bison and cattle (Coder 1975; Dary 1989; Ogilvie 1979; McHugh 1972; Ward 2000). Private ranchers involved with salvaging bison had aspirations to combine, through hybridisation, the hardiness and winter foraging ability of bison with the meat production traits of cattle (Dary 1989; Ogilvie 1979; Ward 2000). The Canadian government actively pursued the experimental production of crossbred animals from 1916-1964 (Ogilvie 1979; Polziehn *et al.* 1995).

Historical crossbreeding attempts have created a legacy of genetic issues related to the introgression of cattle DNA into bison herds. Introgression refers to gene flow between populations caused by hybridisation followed by breeding of the hybrid offspring to at least one of their respective parental populations (Rhymer and Simberloff 1996). The introgressed DNA replaces sections of the original genome, thereby affecting the genetic integrity of a species, and hampering the maintenance of natural genetic diversity. Many contemporary bison herds are founded on, and supplemented with, animals from herds with a history of hybridisation (Halbert 2003; Halbert *et al.* 2005a; 2006; Ward *et al.* 1999; 2000). This extensive history of hybridisation between these two species raises questions about the integrity of the bison genome and the biological effects of cattle DNA introgression.

Fertility problems thwarted many of the original crossbreeding attempts because crosses result in high mortality for offspring and mother (Ward 2000). Experimentation has revealed that crosses of bison females with domestic cattle males produce less mortality in the offspring than the more deadly reverse

cross, however, the latter is more common because it is very difficult to compel domestic cattle bulls to mate with bison females. All F1 generation hybrids experience reduced fertility and viability relative to either parent: F1 males are typically sterile, but the fertility of F1 females makes introgressive hybridisation possible (Ward 2000). Genetic studies have found no evidence of cattle Y-chromosome introgression in bison, which is supported by the sterility of F1 hybrid males from the cross of cattle males with bison females, and by the behavioural constraint preventing domestic bulls from mating with female bison (Ward 2000).

However, a number of studies using modern molecular genetic technologies have reported both mtDNA and nuclear DNA introgression in plains bison from domestic cattle. The first of these studies (Polziehn *et al.* 1995) found cattle mtDNA among Custer State Park plains bison. Subsequently, more comprehensive examinations of public bison herds revealed cattle mtDNA in seven of 21 bison conservation herds (Ward 2000; Ward *et al.* 1999), suggesting that hybridisation issues between these two species were widespread and a significant concern to long-term bison conservation efforts. Further investigations based on high-resolution nuclear DNA microsatellites detected domestic cattle nuclear DNA markers in 14 of these 21 U.S. federal conservation herds (Ward 2000).

All major public bison populations in the U.S. and Canada have now been examined using mtDNA, microsatellite markers, or a combination of these 2 technologies. Combining evidence from both mtDNA and nuclear microsatellite markers with information regarding population histories provides a more complete view of hybridisation between the two species. To date, no genetic evidence of domestic cattle introgression has been reported in 9

of these conservation populations (plains bison unless otherwise noted; n = sample size examined): EINP (wood bison, n = 25); MBS (wood bison, n = 36); WBNP (wood bison, n = 23); EINP plains bison (n = 25); GTNP (n = 39); HMSP (n = 21); SHNGP (n = 31); Wind Cave National Park (WCNP)(n = 352); and YNP (n = 520) (Halbert *et al.* 2005a; 2006; Ward *et al.* 1999).

However, the ability to detect nuclear microsatellite DNA introgression is highly dependent on the number of bison in each population, the number of bison sampled from each population and the actual amount of domestic cattle genetic material present in the population (Halbert *et al.* 2005a). Considering statistical confidence (greater than 95%) allowed by detection limits of the technology (Halbert *et al.* 2006), adequate numbers of bison have been evaluated from only two of these herds that displayed no evidence of hybridisation (WCNP and YNP). These two herds represent less than 1.0% of the 420,000 plains bison in North America today (Freese *et al.* 2007; Chapter 7) and both of these herds are currently providing animals for the establishment of new satellite herds for conservation efforts (Chapter 7). Further evaluation is urgently needed to more accurately assess levels of domestic cattle genetics in other public bison herds.

Hybridisation issues with domestic cattle must be considered along with other genetic and non-genetic factors in determining which populations are designated as 'conservation herds'. For example, although some public herds are known to have low levels of domestic cattle genetics, these herds may also represent distinct lineages that reflect historical and geographic differences in genetic diversity (Halbert 2003; Halbert and Derr 2006; Halbert and Derr submitted). Caution is needed in long-term conservation planning to ensure that genetic diversity that

represents historical bison geographic differences is identified and conserved for all important populations and not just those thought to be free of domestic cattle introgression. Nevertheless, defining genetic histories that include hybridisation is a first step in developing a species-wide conservation management plan. Given that there are several substantial bison herds that appear to be free of cattle gene introgression, it is of paramount importance to maintain these herds in reproductive isolation from herds containing hybrids.

Plate 4.2 *Custer State Park plains bison bull; a high level of cattle gene introgression is not morphologically evident. Photo: Cormack Gates.*



4.3 Domestication

The number of bison in commercial herds has grown rapidly over the past five decades as many ranchers enter the bison industry to capitalise on the economic opportunities offered by this species (Dey 1997). The increase in commercial bison production may reflect the recognition of the advantages afforded by the adaptations and ecological efficiency of bison as an indigenous range animal. Bison possess several traits that make them preferable to cattle as a range animal, including a greater ability to digest low quality forage (Hawley *et al.* 1981; Plumb and Dodd 1993), the ability to defend against predators (Carbyn *et al.* 1993), the ability to survive harsh winter conditions, and a low incidence of calving difficulties (Haigh *et al.* 2001). According to federal government surveys, the commercial bison population in North America is about 400,000, divided almost equally between the U.S. and Canada (Chapter 7). Despite the current plateau in beef and bison meat prices, both the Canadian Bison Association and the U.S.-based National Bison Association predict very favourable long-term growth of the bison industry. The number of bison in conservation herds is currently estimated at only 20,504 plains bison and 10,871 wood bison. Therefore, approximately 93% of American bison are under commercial production and experiencing some degree of domestication.

Domestication is a process involving the genotypic adaptation of animals to the captive environment (Price 1984; Price and King 1968). Purposeful selection over several generations for traits favourable for human needs, results in detectable differences in morphology, physiology, and behaviour between domestic species and their wild progenitors (Darwin 1859; Clutton-Brock 1981; Price 1984). Humans have practiced domestication of livestock species for at least 9,000 years (Clutton-Brock 1981). As agriculture precipitated the settlement of nomadic human cultures, the domestication of several wild mammal species made livestock farming possible (Clutton-Brock 1981). Intensive management practices and competition between domesticated animals and their wild ancestors often pushed wild varieties and potential predators to the periphery of their ranges or to extinction (Baerselman and Vera 1995; Hartnett *et al.* 1997; Price 1984). Examples of extinct ancestors of domesticated animals include the tarpan (*Equus przewalski gmelini*), the wild dromedary (*Camelus dromedarius*), and the aurochs (*Bos primigenius*) (Baerselman and Vera 1995).

The domestication of cattle provides a relevant history from which to consider the issues of bison domestication. Before cattle (*Bos taurus*) were introduced to North America they had experienced thousands of years of coevolution with human cultures in Europe (Clutton-Brock 1981; Hartnett *et al.* 1997). During the domestication process cattle were selected for docility and valued morphological and physiological traits, but not without adverse consequences. Genetic selection has

produced an animal that is dependent on humans, is unable to defend itself against predators, and has anatomical anomalies, such as a smaller pelvic girdle, which cause calving and walking difficulties (Kampf 1998; Knowles *et al.* 1998; Pauls 1995). Domestication has altered the wild character of cattle, producing animals maladapted to the natural environment. Furthermore, because the aurochs, the wild ancestor of European domestic cattle, became extinct in 1627 (Silverberg 1967), domestic cattle have no wild counterpart to provide a source of genetic diversity for genetic enhancement and maintenance.

While it has been suggested that domesticated animals can be reintroduced into the wild and revert to a feral state (Kampf 1998; Lott 1998; Turnbull 2001), such attempts do not restore the original genetic diversity of a species (Price 1984; van Zyll de Jong *et al.* 1995). Experience has shown that recovery of original genetic diversity is difficult or impossible once domestic breeds are highly selected for specific traits and wild stocks are extinct (Price 1984; Turnbull 2001; van Zyll de Jong *et al.* 1995). For example, in the 1920s, two German brothers, Heinz and Lutz Heck, set out to “re-create” the aurochs by back-breeding domestic cattle with other cattle demonstrating aurochs-like qualities (Fox 2001; Silverberg 1967; Turnbull 2001). They produced one successful line, the Hellabrunn breed, also known as Heck cattle. This is an animal that looks very much like an aurochs, but is devoid of the wild traits and hardiness of the original wild form (Fox 2001; Silverberg 1967). This illustrates that the original wild genotype is no longer available to the cattle industry for improving domestic breeds. The history of the aurochs offers a lesson for bison: domestication can lead to altered genetically based behaviour, morphology, physiology, and function, and the loss of the wild type and the genetic diversity it contains.

The primary goal of many commercial bison ranchers is to increase profits by maximising calf production, feed-to-meat conversion efficiency, and meat quality (Schneider 1998). This requires non-random selection for traits that serve this purpose, including conformation, docility, reduced agility, growth performance, and carcass composition. Selection for these traits reduces genetic variation and changes the character of the animal over time (Schneider 1998). Although a growing number of consumers prefer naturally produced meat products without hormones, antibiotics, or intensive management (Morris 2001), the demand for bison cannot currently compete with the much larger scale of the beef industry. Therefore, many bison producers apply cattle husbandry practices and standards to bison. Artificial selection based on husbandry and economics may make good business sense in the short term, but it will not conserve native bison germplasm.

The long term objectives and goals that drive commercial bison production generally differ from the major issues associated with

the conservation of the wild species. Furthermore, commercial bison operations could pose a threat to conservation populations through a form of genetic pollution if genetically selected commercial animals are mixed into conservation herds or escape and join wild herds. The most prudent action is to identify and maintain existing conservation herds, and avoid mixing commercially propagated stock into those herds. Bison producers and the bison industry could benefit in the long term by supporting efforts to restore and maintain conservation herds, particularly those subject to a full range of natural selection pressures (Chapter 7). Conservation herds secure the bison genome for the future use of producers—an option not available for most other domestic animals.

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Throughout their range, bison host numerous pathogens and parasites, many of which also occur in domestic cattle (see reviews: Berezowski 2002; Tessaro 1989; Reynolds *et al.* 2003). In this review, we consider only infective organisms that may negatively affect bison populations, or their conservation, either through direct pathobiological effects, or indirectly as a consequence of management interventions. Livestock diseases that restrict trade or pose a risk to human health may be “reportable” or “notifiable” under federal and provincial/state legislation.

In Canada, reportable and immediately notifiable diseases are listed nationally under the authority of the Health of Animals Act and Regulations (<http://laws.justice.gc.ca/en/H-3.3/>, accessed 15 April 2009) and under provincial statutes and legislation. The Canadian Health of Animals Act requires owners and anyone caring for animals, or having control over animals, to immediately notify the Canadian Food Inspection Agency (CFIA) when they suspect or confirm the presence of a disease prescribed in the Reportable Diseases Regulations. The CFIA reacts by either controlling or eradicating the disease based upon a programme agreed to by stakeholders (CFIA 2001).

In the U.S., the U.S. Department of Agriculture Animal and Plant Health Inspection Service (APHIS) conducts federal eradication programmes for several reportable livestock diseases and is involved in a negotiated multi-jurisdictional brucellosis management programme for bison in Yellowstone National Park (YNP) (APHIS, USDA 2007; NPS-USDOJ 2000). In both countries, Federal legislation supersedes state and provincial disease control legislation. In the U.S. and Canada there are specific state and provincial regulations that require testing for, and reporting of, various diseases. These regulations may be more extensive than federal requirements, but typically include those diseases regulated by the federal animal health authorities.

Much like the U.S and Canada, Mexico has federal animal disease regulations that are administered by the Secretary of Agriculture, Livestock Production, Rural Development, Fishery and Food (SAGARPA). Disease surveillance programmes and zoonosanitary requirements, including disease reporting, are established by federal law to protect trade in Mexico and are administered by a decentralised branch of SAGARPA titled the National Service of Health, Safety, and Agricultural Food Quality (SENASICA, see <http://www.senasica.gob.mx>). SAGARPA

also negotiates bi-lateral disease management agreements for important livestock diseases along the U.S. border, including bovine tuberculosis, brucellosis, and screwworm.

In addition to federal, state and provincial regulatory agencies there is an international organisation that influences animal disease reporting in North America. The World Organization for Animal Health (OIE) is an intergovernmental organisation created by international agreement in 1924. In 2008 the OIE had 172 member countries. Every member country is committed to declaring the animal diseases it may detect in its territory. The OIE disseminates this information to help member countries to protect themselves from the spread of disease across international boundaries. The OIE produces sanitary codes with rules that must be observed by member countries to prevent the spread of significant diseases around the world. OIE has established Sanitary Codes for Terrestrial Animals, and the Manual for Diagnostic and Vaccine Tests for Terrestrial Animals, which may influence the international movement of bison (http://www.oie.int/eng/normes/mcode/en_sommaire.htm). All three countries in North America are members of OIE.

Depending on the nature of the disease, management of reportable diseases in captive or commercial herds in North America may involve development and application of uniform protocols to reduce disease prevalence, zoning of management areas by disease status, or imposition of procedures for disease eradication, including test and slaughter, or depopulation. Where reportable diseases are detected, federal, state or provincial legislation affects management of wild bison populations. Interventions may include limiting the geographic distribution of an infected wild population, (e.g., removals at park boundaries to reduce the risk of the disease spreading to adjacent livestock population), quarantine, treatment, or eradication of infected captive conservation breeding herds, or limiting inter-population or inter-jurisdictional transport of bison. Public perception of bison as specific, or non-specific, carriers of diseases is a potential barrier to re-establishing conservation herds, particularly in regions where conventional livestock grazing occurs. National and state/provincial governments may restrict the import/export of bison for conservation projects based on real or perceived risks of infection and transmission of reportable diseases.

5.1 Diseases of Conservation Concern

The American Bison Specialist Group (ABSG) recognises nine federally listed diseases of concern for bison conservation in North America. Regulations applicable to each disease may vary among jurisdictions and in their impact on bison conservation and restoration efforts. The OIE lists seven of these diseases as “notifiable” under international standards.

5.1.1 Anaplasmosis

The etiologic agent of anaplasmosis is *Anaplasma marginale*, a rickettsia that parasitises the red blood cells of host animals. The organism is transmitted by blood sucking insects, such as ticks, which serve as a vector between hosts (Radostits *et al.* 2000). The interplay of susceptible wild ruminants and arthropod vectors is critical to the epizootiology of the disease. Anaplasmosis is a disease of international regulatory concern and, therefore, significantly impacts livestock trade between Canada and the north-central and north-western U.S. Anaplasmosis is a disease of major economic importance to the cattle industry in infected regions. Bison are known hosts of *A. marginale* (Zaug 1986) and wild bison have demonstrated serologic titres for the disease (Taylor *et al.* 1997). They have also been experimentally infected (Kocan *et al.* 2004; Zaugg 1986; Zaugg and Kuttler 1985). Serodiagnosis in wild ungulates has proven largely unreliable, but modern molecular diagnostic procedures have provided an excellent alternative (Davidson and Goff 2001). Naturally occurring infections have been reported in the National Bison Range (NBR), Montana, where 15.7% of bison tested positive for anaplasmosis (Zaugg and Kuttler 1985). Recent studies demonstrated *A. marginale* infection in two widely separated bison herds in the U.S., one in Oklahoma (Nature Conservancy Tallgrass Prairie Preserve) and one in Saskatchewan (De La Fuente *et al.* 2003). In the Canadian herd, serology and polymerase chain reactions indicated that 10 individuals were infected with *A. marginale* whereas 42 of 50 bison culled from the Tallgrass Prairie Preserve (TGPP) tested positive serologically as carriers of *A. marginale*. The U.S. bison isolate of *A. marginale* was found to be infective when inoculated into susceptible splenectomised calves. Clinical symptoms in bison are similar to those described for cattle. They include anaemia, jaundice, emaciation, and debility (Radostits *et al.* 2000). Experimentally infected bison calves demonstrated mild clinical signs suggesting that bison may be more resistant than cattle (Zaugg and Kuttler 1985). The disease occurs commonly in Africa, the Middle East, Asia, Australia, the U.S., Central and South America, and southern Europe. If anaplasmosis is diagnosed in Canadian cattle or bison, Canada’s current foreign animal disease strategy calls for its eradication through the testing of infected and exposed herds and the removal of infected individuals. Every bison imported into Canada from

the U.S. must be quarantined from the time of its importation into Canada until it proves negative to tests for anaplasmosis performed at least 60 days after it was imported into Canada (CFIA 2007). Programmes for managing this disease in domestic animals include vector control, vaccination and antibiotic therapy (Davidson and Goff 2001). Anaplasmosis is not infectious to humans.

5.1.2 Anthrax

Anthrax is an infectious bacterial disease caused by the endospore-forming bacterium *Bacillus anthracis* (Dragon and Rennie 1995). After inhalation or ingestion by a susceptible host, *B. anthracis* endospores germinate and the vegetative form of the bacterium replicates in the bloodstream, releasing toxins that cause septicaemia and death (Dragon and Rennie 1995; Gates *et al.* 2001b). Upon release from a carcass, highly resistant endospores can remain viable in the soil for decades before infecting a new host (Dragon and Rennie 1995). Humans have played an important role in the evolution of anthrax by increasing the proliferation and dispersal of this global pathogen. Observations of the role of climatic factors, such as season of year, ambient temperature, and drought in promoting anthrax epizootics have been made for several decades (APHIS, USDA 2006). The commonality of summer months, high ambient temperatures, drought, and anthrax epizootics are non-contentious. The roles of environmental factors such as soil types and soil disturbances via excavation are poorly defined despite attempts to evaluate these potential factors.

Bacillus anthracis is divided into three genotype branches with distinct geographic sub-lineage compositions that vary regionally around the globe (Van Ert 2007). Van Ert (2007) analysed 273 isolates of *B. anthracis* in North America, reporting a cosmopolitan assortment of 44 multiple locus, variable number, tandem repeat analysis genotypes. One hypothesis holds that *B. anthracis* was introduced from the Old World to the New World in spore-infected animal products (wool, skins, bone meal, shaving brushes) transported to the south-eastern seaboard during the European colonial-era (Hanson 1959; Van Ness 1971). Consistent with this hypothesis, Van Ert (2007) found a single dominant sub-group in North America (A.Br. WNA; 70% of genotypes) that is closely related to the dominant European sub-group A.Br.008/009. The diversity of sub-lineages represented varies geographically in North America. A.Br.WNA predominates in the north, while the industrialised south-eastern region of the continent contains a cosmopolitan assortment of less common *B. anthracis* genotypes in addition to the dominant form A.Br.WNA.

The geographic pattern of sub-lineage occurrence in North America is consistent with the hypothesis of an early initial introduction of a limited number of sub-lineages (perhaps

one) followed by its widespread dispersal and ecological establishment. Wild bison were abundant and widely distributed at the time of European colonisation. Once infected with anthrax they may have played an important early role in the ecological establishment and widespread dispersal of A.Br.WNA. The broad diversity of anthrax lineages represented in the industrialised south-eastern region of the continent (Van Ert *et al.* 2007) is suggestive of the accumulation of additional sub-group types over time. A likely mechanism is importation of contaminated animal products into mills and tanneries on the eastern seaboard and New England which process imported hair, wool, and hides. The World Health Organisation (WHO 2008) commented on the role of tanneries as a point source of anthrax outbreaks. Contaminated products come from animals that died of anthrax. Wastewater effluent from plants can contaminate downstream sediments and pastures with anthrax spores, providing a source of local outbreaks in livestock and further proliferation of novel introduced variants of the pathogen. Marketing of inadequately sterilised bone meals and fertilisers, rendered from contaminated materials, can result in long distance redistribution and introducing “industrial” strains to livestock remote from the original source (Hugh-Jones and Hussaini 1975).

Under certain environmental conditions, concentrations of endospores have caused periodic outbreaks among wood bison in the Slave River Lowlands (SRL), Mackenzie Bison Sanctuary (MBS), and Wood Buffalo National Park (WBNP) (Dragon and Elkin 2001; Gates *et al.* 2001b; Pybus 2000). Between 1962 and 1971, anthrax and the associated depopulation and vaccination programmes employed to control the disease, accounted for over 2,800 wood bison deaths (Dragon and Elkin 2001). Further outbreaks occurred in the MBS in 1993, in the SRL in 1978, 2000 and 2006, and in WBNP in 1978, 1991, 2000, and 2001 (Gates *et al.* 1995; Nishi *et al.* 2002c). Four factors that are associated rather consistently with these epizootics are high ambient temperatures, intense mating activity, high densities of insects, and high densities of bison as they congregate and compete for diminishing water and food supplies (APHIS, USDA 2006). Based on these four factors, two hypotheses have been proposed to explain outbreaks of anthrax in bison in northern Canada: (1) “the modified host resistance hypothesis” (Gainer and Saunders 1989) and (2) “the wallow concentrator hypothesis” (Dragon *et al.*, 1999). These two hypotheses are not mutually exclusive.

A recent outbreak was reported in a commercial herd in south-western Montana that killed over 300 bison pasturing on a large foothills landscape beneath the Gallatin Mountain Range (Ronnow 2008). Despite mass deaths of bison during anthrax outbreaks, the sporadic nature of outbreaks and predominance of male deaths suggest that the disease plays a minor role in long-term population dynamics unless operating in conjunction with other limiting factors (Joly and Messier 2001b; Shaw and Meagher 2000). Anthrax is not treatable in

free-ranging wildlife, but captive bison can be vaccinated or treated with antibiotics (Gates *et al.* 1995; Gates *et al.* 2001b). Carcass scavenging facilitates environmental contamination with anthrax spores (Dragon *et al.* 2005); therefore timely carcass treatment and disposal during an active outbreak in free-ranging bison is considered an important preventative strategy for reducing the potential for future outbreaks (Hugh-Jones and de Vos 2002; Nishi *et al.* 2002a). Anthrax is a public health concern and humans are susceptible, however, exposure from naturally occurring outbreaks requires close contact with animal carcasses or hides. In addition, humans have rarely been exposed to anthrax through the purchase of curios purchased by tourists (Whitford 1979).

5.1.3 Bluetongue

Bluetongue (BLU) is an insect-borne viral hemorrhagic disease affecting many ungulates in the lower latitudes of North America. The BLU virus is a member of the genus *Oribivirus* of the family Reoviridae. Worldwide there are 24 known BLU serotypes, but only six are active in domestic and wild ruminants from North America (Pearson *et al.* 1992). Bluetongue viruses are closely related to the viruses in the epizootic hemorrhagic disease and BLU is known to infect a wide variety of wild and domestic ruminants (Howerth *et al.* 2001). Bison are susceptible to BLU, and the virus has been isolated under field, captive, and experimental conditions (Dulac *et al.* 1988). The arthropod vectors of the bluetongue virus are various species of *Culicoides* midges (Gibbs and Greiner 1989; Howerth *et al.* 2001). Clinical symptoms include fever, stomatitis, oral ulcerations, lameness, and occasionally, reproductive failure (Howerth *et al.* 2001). There are subacute, acute, and even chronic expressions of the disease in many wild ungulates and domestic livestock. BLU typically occurs in the late summer and early fall depending upon the seasonal patterns of vector activity (Howerth *et al.* 2001). Factors influencing the frequency and intensity of disease outbreaks are innate herd immunity, virulence factors associated with viruses, and vector competency and activity. BLU occurs in livestock over much of the U.S. and its distribution parallels that of domestic livestock. Its distribution is more limited in Canada where it once was a regulated disease until rules were relaxed in July 2006 (CFIA website). There is considerable difference in the epidemiology of the disease between northern and southern portions of North America depending on the consistency of vector activity. In the southern areas, vector activity is more common and animal populations exhibit a higher prevalence of seroreactivity and antibody protection. BLU has not been widely reported in bison herds in North America. Serologic surveys of several Department of Interior bison herds in the U.S. have not found seroreactors for bluetongue virus (T. Roffe personal communication; Taylor *et al.* 1997). The U.S. Fish and Wildlife Service (USFWS) has opportunistically examined bison

near a recent outbreak of BLU in deer and found no evidence of exposure (T. Roffe personal communication). As with many vector-borne diseases, climate change is a potential factor affecting the distribution of vectors and therefore the occurrence of BLU (Gibb 1992). There is no effective treatment and, under natural conditions, the disease is not considered a significant threat to human health. There has been one human infection documented in a laboratory worker (WHO website).

5.1.4 Bovine spongiform encephalopathy

Bovine spongiform encephalopathy (BSE), or “mad cow disease” as it is commonly known, is one of a suite of distinct transmissible spongiform encephalopathies (TSE) identified during the past 50 years. TSEs are apparently caused by rogue, misfolded protein agents called prions (PrP^{Sc}) that are devoid of nucleic acids (Prusiner 1982). No other TSE in man or animal has received more worldwide attention than BSE (Hadlow 1999). It was first identified in 1986 in England and has since had far reaching economic, political, and public health implications. BSE is a neurologic disease characterised by spongiform change in gray matter neurophil, neuronal degeneration, astrocytosis, and accumulation of misfolded PrP^{Sc} (Williams *et al.* 2001). Clinically the disease is progressive, displaying gradual neurologic impairment over months or years and is usually fatal. The disease causes progressive weight loss, low-level tremors, behavioural changes, ataxia, and postural abnormalities. Substantial evidence exists for genetic variation in susceptibility among and within species (Williams *et al.* 2001). Cases of BSE were identified in 10 species of Bovidae and Felidae at a zoological collection in the British Isles (Kirkwood and Cunningham 1994). At least one of these cases included bison. Worldwide, other species susceptible to BSE include cheetah, macaques and lemurs (Williams *et al.* 2001). The recent BSE epidemic in Europe was linked to oral ingestion of contaminated feed (containing ruminant derived protein), however, there is some evidence for low-level lateral transmission. There are no known treatments or preventions for BSE. The human form called new variant Creutzfeldt-Jakob disease has been linked to consumption of BSE contaminated foods. Due to the risk of human exposure to BSE, this disease is highly regulated worldwide. Recent cases of BSE have been reported in Canada and the U.S. but are extremely rare in the livestock industry. Canada reported a case in 1993 that was imported from England and the first domestic case was detected in 2003. The U.S. reported its first case of BSE in 2003. Since then, protein by-products were banned in livestock feed, national surveillance was implemented in both countries, and several regulations were promulgated to restrict imports and exports across the U.S.-Canada boundary. Although bison are considered to be susceptible, there has not been a case of BSE reported in American bison.

5.1.5 Bovine brucellosis

Bovine brucellosis, also known as Bang’s disease, is caused by infection with the bacterium *Brucella abortus* (Tessaro 1989; Tessaro 1992). The primary hosts for bovine brucellosis are cattle, bison, and other bovid species (Tessaro 1992), however, other wild ungulates such as elk (*Cervus elaphus*) are also susceptible and seem to play a role in interspecies transmission in the Greater Yellowstone Area (GYA) (Davis 1990; Rhyan *et al.* 1997; Thorne *et al.* 1978). Evidence suggests that brucellosis was introduced to North America from Europe during the 1500s (Meagher and Mayer 1994; Aguirre and Starkey 1994). The disease is primarily transmitted through oral contact with aborted fetuses, contaminated placentas, and uterine discharges (Reynolds *et al.* 1982; Tessaro 1989). The impacts of brucellosis on female bison include abortion, inflammation of the uterus, and retained placenta (Tessaro 1989). Greater than 90% of infected female bison abort during the first pregnancy; however, naturally acquired immunity reduces this abortion rate to 20% after the second pregnancy, and to nearly zero after the third pregnancy (Davis *et al.* 1990; Davis *et al.* 1991). Male bison experience inflammation of the seminal vessels, testicles, and epididymis, and, in advanced cases, sterility (Tessaro 1992). Both sexes are susceptible to bursitis and arthritis caused by concentrations of the bacterial organism in the joints, resulting in lameness, and possibly increased vulnerability to predation (Tessaro 1989; Tessaro 1992).

Serology is used to detect exposure to *B. abortus* by identifying the presence of antibodies in the blood. Sero-prevalence is the percentage of animals in a herd that carry antibodies (Cheville *et al.* 1998). A sero-positive result, indicating the presence of antibodies, does not imply current infection, and may overestimate the true level of brucellosis infection (Cheville *et al.* 1998; Dobson and Meagher 1996) because the organism must be cultured from tissue samples to diagnose an animal as infected. However, a disparity between serology results and level of infection could also be attributed to false negative culture results related to the difficulties in isolating bacteria from chronically infected animals (Cheville *et al.* 1998).

There is currently no highly effective vaccine for preventing bovine brucellosis (Cheville *et al.* 1998; Davis 1993). Strain 19 (S19) was a commonly used vaccine administered to cattle from the 1930s until 1996 (Cheville *et al.* 1998). It was only 67% effective in preventing infection and abortion in cattle (Cheville *et al.* 1998). S19 was found to induce a high frequency of abortions in pregnant bison (Davis *et al.* 1991). Other studies failed to demonstrate efficacy of S19 as a bison calfhood vaccine (Templeton *et al.* 1998). A newer vaccine, strain RB51, is now preferred over S19 because it does not induce antibodies that can interfere with brucellosis serology tests for disease exposure (Cheville *et al.* 1998; Roffe *et al.* 1999a). RB51 protects

cattle at similar levels to S19 (Cheville *et al.* 1993). Doses of RB51 considered to be safe in cattle were found to induce endometritis, placentitis, and abortion in adult bison (Palmer *et al.* 1996). However, Roffe *et al.* (1999a) found RB51 had no significant adverse effects on bison calves. The safety and efficacy of RB51 in bison remains unclear but, nonetheless, it was provisionally approved for use in bison in the U.S. The vaccine is not recognised in Canada and vaccinated cattle are not allowed into the country (CFIA 2007). Every bison imported into Canada from the U.S. must be quarantined from the time of its importation into Canada until it proves negative to tests for brucellosis performed not less than 60 days after it was imported into Canada (CFIA 2007).

Quarantine protocols have been developed for bison to progressively eliminate all animals exposed to brucellosis from a population (APHIS, USDA 2003; Nishi *et al.* 2002b). These protocols have been successful for eliminating brucellosis in wood bison through the Hook Lake project and are currently being attempted in the GYA (Aune and Linfield 2005; Nishi *et al.* 2002b). Results from these two studies, and other case studies (HMSP, WCNP and EINP), have shown that brucellosis can be effectively eliminated from exposed populations with a high degree of certainty using test and slaughter protocols.

5.1.6 Bovine tuberculosis

Bovine tuberculosis (BTB) is a chronic infectious disease caused by the bacterium *Mycobacterium bovis* (Tessaro *et al.* 1990). The primary hosts for BTB are cattle and other bovid species, such as bison, water buffalo (*Bubalus bubalis*), African buffalo (*Syncerus caffer*), and yak (*Bos grunniens*). Primary hosts are those species that are susceptible to infection and will maintain and propagate a disease indefinitely under natural conditions (Tessaro 1992). Other animals may contract a disease, but not perpetuate it under natural conditions; these species are secondary hosts. The bison is the only native species of wildlife in North America that can act as a true primary host for *M. bovis* (Tessaro 1992). Historical evidence indicates that BTB did not occur in bison prior to contact with infected domestic cattle (Tessaro 1992). Currently, the disease is only endemic in bison populations in and near WBNP, where it was introduced with translocated plains bison during the 1920s. BTB is primarily transmitted by inhalation and ingestion (Tessaro *et al.* 1990); the bacterium may also pass from mother to offspring via the placental connection, or through contaminated milk (FEARO 1990; Tessaro 1992). The disease can affect the respiratory, digestive, urinary, nervous, skeletal, and reproductive systems (FEARO 1990; Tessaro *et al.* 1990). Once in the blood or lymph systems the bacterium may spread to any part of the host and establish chronic granulomatous lesions, which may become caseous, calcified, or necrotic (Radostits *et al.* 1994; Tessaro 1992). This chronic disease is progressively debilitating to the

host, and may cause reduced fertility and weakness; advanced cases are fatal (FEARO 1990). The disease manifests similarly in cattle and bison (Tessaro 1989; Tessaro *et al.* 1990). Both the U.S. and Canada perform nationwide surveillance of abattoir facilities to monitor BTB infection in cattle and domestic bison. There is no suitable vaccine available for BTB (FEARO 1990; CFIA 2000; APHIS USDA 2007). Every bison imported into Canada from the U.S. must be quarantined from the time of its importation into Canada until it proves negative to tests for BTB performed at least 60 days after it was imported into Canada (CFIA 2007). A quarantine protocol has been developed and an experimental project was attempted to salvage bison from a BTB exposed population (Nishi *et al.* 2002b). Although at first it appeared to be a successful tool for salvaging bison from an exposed herd, after 10 years, several of the salvaged animals expressed BTB, and in 2006 all salvaged animals were slaughtered (Nishi personal communication). There is some evidence that BTB can be treated in individual animals using long term dosing with antibiotics, but the duration of treatment, costs of therapy, and the need for containment make this option impractical for wildlife. The only definitive method for completely removing BTB from a herd is depopulation (CFIA 2000; APHIS USDA 2005). The only alternative to depopulation is controlling the spatial distribution and prevalence of disease through a cooperative risk management approach involving all stakeholders. The basic prerequisites for effectively addressing risk management associated with BBTB in bison are teamwork, collaboration across professional disciplines, and respect for scientific and traditional ecological knowledge among technical and non technical stakeholders (Nishi *et al.* 2006). BTB can infect humans, but it is treatable with antimicrobial drugs. Human TB due to *M. bovis* has become very rare in countries with pasteurised milk and BTB eradication programmes.

5.1.7 Bovine viral diarrhoea

Bovine viral diarrhoea (BVD) is a pestivirus that infects a wide variety of ungulates (Loken 1995; Nettleston 1990). Serologic surveys in free-ranging and captive populations demonstrate prior exposure in more than 40 mammal species in North America (Nettleston 1990; Taylor *et al.* 1997). The suspected source of BVD in wild animals is direct contact with domestic livestock. Infections in wild ruminants, like cattle, are dependent upon the virulence of the isolate, immune status of the animal host, and the route of transmission. Infections in cattle are usually subclinical, but some infections may cause death or abortions in pregnant animals. Factors influencing the persistence of BVD include population size and density, herd behaviour, timing of reproduction, and survivorship of young (Campen *et al.* 2001).

Positive serologic evidence was reported for blood samples from bison in the GYA (Taylor *et al.* 1997; Williams *et al.* 1993),

Alaska (Zarnke 1993) and from bison at Elk Island National Park (EINP) in Alberta (Cool 1999; Gates *et al.* 2001b). In YNP, positive antibody titres were detected in 31% of tested animals (Taylor *et al.* 1997). There are unpublished data regarding seroreactivity from bison transported to Montana from WCNP in South Dakota (K. Kunkel, personal communication). The Jackson bison herd, with a known history of commingling with cattle, has demonstrated low-level titres, but no evidence of BVD antigen or clinical disease has been found (T. Roffe, personal communication). Clinical BVD was reported in the EINP plains bison herd in 1996, prompting a serological survey of plains bison and wood bison herds (Cool 1999; Gates *et al.* 2001b). Forty-seven percent of 561 plains bison from EINP tested seropositive for BVD; one tested positive for the virus antigen. At least six plains bison deaths in EINP were attributed to the BVD virus (Cool 1999). Tissues from the suspected cases of BVD infected plains bison were submitted to the Animal Disease Research Institute, Lethbridge, Alberta, Canada, and type 1 BVD virus was isolated (Tessaro and Deregt 1999). None of 352 wood bison in the Park tested seropositive for BVD at the time. Both plains and wood bison populations at EINP are vaccinated for BVD during annual roundups. However, calves used in translocations are not vaccinated to allow future screening of recipient populations for BVD. In Poland, Sosnowski (1977) reported BVD in a captive European bison. BVD is common in cattle in North America and poses no known risk to humans.

5.1.8 Johne's disease

Johne's disease (JD) is caused by the etiologic agent *Mycobacterium avium* subsp. *paratuberculosis*, a hardy bacterium related to the agents of leprosy and tuberculosis. It occurs worldwide affecting a variety of domestic and wild ruminants including bison, cattle, and sheep (Buergelt *et al.* 2000; Williams 2001). Infections often lead to chronic granulomatous enteritis with clinical signs of diarrhoea, weight loss, decreased milk production, and mortality. JD is common in cattle. Recent studies have shown that more than 20% of dairy herds in the U.S. have JD (Chi *et al.* 2002; Ott *et al.* 1999) causing an estimated economic loss of more than US\$200 million annually. JD typically enters a herd when infected, asymptomatic animals are introduced. Unpasteurised raw milk or colostrum may be a source of infection for artificially raised calves. Animals are most susceptible to infection during their first year of life. Neonates most often become infected by swallowing small amounts of contaminated manure from the ground or from their mother's udder. Animals exposed to a very small dose of bacteria at a young age, and older animals, are not likely to develop clinical disease until they are much older. After several years, infected animals may become patent and shed mycobacteria in their faeces. Typically, pre-patent animals do not show symptoms of disease; consequently, most

infections go unnoticed and undiagnosed. There is no treatment for animals infected with JD and prevention is the best control measure. Humans are not considered susceptible, but *M. a. paratuberculosis* has been isolated in patients with chronic enteritis (Crohn's disease) (Chiodini 1989). JD is not considered to be a disease problem when bison are on open rangelands and managed at low density. However, restrictions may apply to inter-jurisdictional movement of animals from known infected herds. Hence, maintaining low risk status for bison herds used as a source for conservation projects is an important consideration.

In 1998, the U.S. Animal Health Association approved the Voluntary Johne's Disease Herd Status Program for cattle (VJDHSP). The VJDHSP provides testing guidelines for States to use to identify livestock herds as low risk for JD infection. With numerous tests over several years, herds progress to higher status levels. The higher the status level, the more likely it is that a herd is not infected with JD. In April 2002, USDA-APHIS-Veterinary Service incorporated portions of this programme into national programme standards: Uniform Program Standards for the Voluntary Bovine Johne's Disease Control Program (VBJDCP). VBJDCP-test-negative herds serve as a source of low JD risk stock. Testing for JD in conservation herds has been sporadic and opportunistic. Diagnostic tools are being developed and improved. There are no reports of JD in conservation bison herds in the literature, however, some commercial operations have discovered JD, and in many cases are managing to prevent its spread and reduce its impact on the industry.

5.1.9 Malignant catarrhal fever (sheep associated)

Malignant catarrhal fever (MCF) is a serious, often fatal disease affecting many species of the Order Artiodactyla. It is caused by viruses of the genus *Rhadinovirus*. At least 10 MCF viruses have been recognised worldwide and five viruses have been linked to disease. The viruses most significant to livestock are those carried by sheep, goats or wildebeest (*Connochaetes* spp.). Although ovine herpes virus type 2 (sheep associated MCF) does not cause disease in its natural host, domestic sheep, it does cause MCF in bison. Serological testing indicated that it is common in domestic goats (61%) and sheep (53%) in the U.S. (Li *et al.* 1996). MCF is an important disease in the commercial bison industry as it is one of the most infectious diseases of bison, especially at high densities (Heuschele and Reid 2001). It causes highly lethal infections in bison, with the reported incidence of mortality in a herd of up to 100% (Schultheiss *et al.* 2001). Infections proceed rapidly to clinical disease. MCF is expressed in two forms, acute and chronic, but regardless, death ensues in most cases. In the acute form, bison usually die within 7–10 days of infection or within 48 hr of becoming symptomatic. Alternatively, death may ensue as

long as 156 days post-infection. Some animals recover and remain persistently infected (Schultheiss *et al.* 1998). Clinical signs in bison include hemorrhagic cystitis, colitis, conjunctivitis, ocular discharge, nasal discharge, excess salivation, anorexia, diarrhoea, melaena, haematuria, multifocal ulceration of the oral mucosa, fever, circling, ataxia, behaviours suggestive of blindness, lameness, and difficult urination (Liggitt *et al.* 1980; Ruth *et al.* 1977; Schultheiss *et al.* 1998). Lymphadenomegaly and corneal opacity occur in fewer than half the cases (Schultheiss *et al.* 2001). Direct contact between bison and domestic sheep is considered the most likely source of infection. Hence, bison should not be grazed in the same pastures or adjacent to pastures with sheep. Although most infections occur when bison are in close association with domestic sheep, MCF was reported in bison herds that were five kilometres (three miles) from a lamb feedlot (Schultheiss *et al.* 2001). Dr. T. Roffe has conducted serologic surveys of two U.S. Department of the Interior bison herds not associated with domestic sheep and has found no sero-reactors for MCF (T. Roffe, personal communication). There is no vaccine or effective treatment for MCF and the best way to control this disease is to minimise contact with reservoir hosts. There is no evidence that isolates of MCF are infectious to humans (Heuschele and Seal 1992).

5.2 Episodes of Reportable Diseases in Plains Bison

Based on this survey, two plains bison conservation herds in North America have significant chronic disease issues: YNP herd and the Jackson herd in GTNP/NER. These herds, which account for 4,700 bison (as of winter 2008), or 24% of the entire North American plains bison conservation population, harbour brucellosis.

5.2.1 Yellowstone National Park

Brucellosis was first detected in the YNP bison population in 1917 (Mohler 1917). The origin of brucellosis in the park is unclear, but was probably the result of transmission from cattle (Meagher and Mayer 1994). Opportunistic and systematic serological surveys in the area revealed sero-prevalence varying between 20% and 70%, while bacterial cultures indicated an infection prevalence of approximately 10% (Dobson and Meagher 1996; Meagher and Mayer 1994). Although the true prevalence of the disease is unknown, the YNP bison population is considered to be chronically infected with brucellosis (Cheville *et al.* 1998). More recent research on the epidemiology of brucellosis in Yellowstone bison found that 46% of the sero-reactor animals were culture positive (Roffe *et al.* 1999b). Recent demographic analysis indicates that brucellosis has a significant reproductive effect, that the growth rate of the population could increase by 29% in the absence of brucellosis (Fuller *et al.* 2007),

and that brucellosis is not a threat to the long-term viability of the YNP bison (Mayer and Meagher 1995; USDO and USDA 2000). Fuller *et al.* (2007) conducted a detailed analysis of the demographics of the Yellowstone population from 1900-2000 and found evidence of density dependent changes in population growth as numbers approached 3,000 animals. This population appears robust and has grown at times to exceed 4,000, although it was reduced to fewer than 3,000 several times during the past decade under the current herd management regime (R. Wallen, personal communication).

Herd management is affected by the presence of brucellosis primarily because of the potential risk the disease poses to the livestock industry (Keiter 1997). Bison leaving the park could potentially transmit the disease to domestic cattle grazing on adjacent National Forest and private lands in Montana, Wyoming or Idaho (USDO and USDA 2000). Bison leave the park in the winter on the north and west boundaries within Montana; movement to the east and south is rare because of topographical barriers (R. Wallen, personal communication). Transmission of brucellosis from bison to cattle has been demonstrated in captive studies; however, there are no confirmed cases of transmission in the wild (Bienen 2002; Cheville *et al.* 1998; Shaw and Meagher 2000). Nevertheless, the potential exists, and this has created a contentious bison management issue in the area.

Relying on the Animal Industry Act of 1884, the U.S. Department of Agriculture began preventing and controlling the spread of contagious livestock diseases in the U.S. In 1947, federal and state officials began working closely with the livestock industry to eradicate brucellosis (Keiter 1997; NPS USDO 2000). Each state represented in the GYA is a co-operator in the National Brucellosis Program and has authority to implement control programmes for brucellosis infected or exposed animals within their respective boundaries. Due to the transmission of brucellosis to cattle, presumably by elk, Montana, Wyoming, and Idaho have each periodically lost their brucellosis-free status as certified by APHIS. Transmission of brucellosis to cattle in Montana, Wyoming or Idaho indirectly affects all producers in these states. If their APHIS status is downgraded, other states may refuse to accept cattle from producers in the GYA (Cheville *et al.* 1998).

Resolution of this issue requires the involvement of, and cooperation among, agencies in several jurisdictions: The National Park Service (NPS), the U.S. Forest Service (USFS), APHIS, and the State of Montana Department of Livestock (MDOL) and Montana Department of Fish, Wildlife, and Parks (MFWP). After many years of media and legal controversy over bison management, the agencies acknowledged the need to cooperatively develop a long-term bison management plan (Plumb and Aune 2002). In 1990, they commenced the process

for an interagency environmental impact statement to develop alternatives for the plan (USDOI and USDA 2000). A series of interagency interim plans followed, which progressively incorporated greater tolerance for bison outside the park in certain areas, and enabled NPS and MFWP personnel to lethally remove bison moving from YNP into Montana.

Legal and policy disagreements between the federal agencies and the State of Montana inhibited the development of a long-term interagency management plan until 2000 when court-ordered mediation resulted in a final decision for a long-term management approach. The long-term plan employs an adaptive management approach with three phased steps for each of the north and west boundary areas (USDOI and USDA 2000). The plan incorporates several risk management strategies including spatial and temporal separation of bison and cattle, capture, test, and slaughter of sero-positive bison, hazing of bison back into the park, vaccination, and radio-telemetry monitoring of pregnant bison to locate possible sources of infection if a cow gives birth or aborts outside the park (USDOI and USDA 2000). The ultimate purpose of the plan is to maintain a wild, free-ranging population of bison while, at the same time, protecting the economic viability of the livestock industry in Montana by addressing the risk of brucellosis transmission; it is not a brucellosis eradication plan (Plumb and Aune 2002). Although eradication of brucellosis from bison in the park is a possible future goal, such an effort is complicated by retransmission potential from elk in the GYA, which also harbour the disease (Cheville *et al.* 1998). Development of more effective vaccines and vaccination methods for bison and elk are required before considering eradication alternatives (Cheville *et al.* 1998). Recent research on genes that control natural resistance to brucellosis may also provide future methods for eradicating brucellosis (Templeton *et al.* 1998).

Recent transmission of brucellosis from elk to cattle and the subsequent loss of Montana's brucellosis status have complicated management. Current initiatives are aimed at managing the problem of brucellosis in elk and bison. Changes in the distribution of bison, elk, and cattle will generate further public debate and perhaps legal action. The GYA situation illustrates the tremendous difficulty in managing wild free ranging ungulates affected by a significant disease on a large landscape where human livelihoods are at risk.

5.2.2 Grand Teton National Park/National Elk Refuge (Jackson herd)

The Jackson herd of approximately 1,100 animals resides in the southern end of the GYA (USFWS and NPS 2007), migrating between Grand Teton National Park (GTNP) in the summer and the adjacent National Elk Refuge (NER) in the winter (Cheville *et al.* 1998). As with the YNP herd, the Jackson herd is chronically

infected with brucellosis. Williams *et al.* (1993) reported seroprevalence of 77% and infection prevalence of 36% for the herd. Serology tests over the past five years indicate a seroprevalence of 80% (S. Cain, personal communication). A reduction of 8% in fecundity has been estimated, however, the population has been increasing since the 1970s despite the disease (S. Cain, personal communication, Chapter 6; USFWS-NPS 2007).

The Jackson herd was founded in 1948 with the reintroduction of 20 bison from YNP to a 1,500-acre display pen. These bison were confined until 1963 when brucellosis was discovered in the herd (Cheville *et al.* 1998). All but four vaccinated yearlings and five vaccinated calves were destroyed. In 1964, Theodore Roosevelt National Park (TRNP) provided 12 brucellosis-free bison to augment the Jackson herd (Cheville *et al.* 1998). In 1968, the herd escaped from the progressively deteriorating enclosure facility (Cheville *et al.* 1998; Williams *et al.* 1993). From that point the park allowed the herd to roam freely. The bison herd discovered the feed ground at the NER in 1980. Although the herd was apparently healthy when released, it is suspected that infected elk on the NER introduced brucellosis to the Jackson bison (Cheville *et al.* 1998).

Similar to the YNP herd, the free-ranging nature of the Jackson herd allows for the possibility of transmitting brucellosis to domestic livestock in the area, although since the NER excludes cattle, there is limited contact between Jackson bison and cattle during the winter feeding period (Cheville *et al.* 1998). There is potential for contact, however, when bison move among private, USFS, GTNP and NER jurisdictions, especially in summer, when cattle are maintained on grazing allotments in GTNP, private ranchlands, and adjacent USFS lands (Cheville *et al.* 1998; Keiter 1997).

A new bison and elk management plan for the NER and GTNP was approved in April 2007. An earlier bison management plan approved in 1996, after undergoing a National Environmental Policy Act (NEPA) process, was subject to litigation by an animal rights group that questioned the inclusion of a sport hunt to manage population levels and the exclusion of an analysis of elk management on the federal lands in the decision process (Cain, personal communication; USFWS-NPS 2001). The court ruled that destruction of bison for population control could not be conducted until the involved agencies analysed the effects of winter feeding on bison and elk through an additional NEPA process (USFWS-NPS 2001). The feeding grounds attract 90% of the Jackson bison and 6,000-8,000 elk to one small area, creating zones of high animal density, where transmission may be enhanced among and between elk and bison (Bienen 2002; USFWS-NPS 2007). GTNP and the NER determined that a combined elk and bison management plan is needed to address the interconnected issues of the two species, including winter feeding and disease management. The Jackson bison

and elk herds migrate across several jurisdictions including the NER, GTNP, YNP, Bridger-Teton National Forest, Bureau of Land Management, State of Wyoming, and private lands. The NPS and FWS coordinated the extensive involvement of the associated agencies, organisations, and private interests affected by this new management plan and Environmental Impact Statement (EIS). The U.S. Department of Interior (USDOI) published a record of decision in April 2007, selecting a management alternative that emphasises adaptive management of elk and bison populations while reducing their dependence upon feed grounds. The plan also calls for a brucellosis vaccination programme for elk and bison conducted by the State of Wyoming. Recent hunting programmes, modification of feeding programmes and disease management have reduced the number of bison to 700 animals and the long-term management of this herd is now prescribed in a long-term plan. Several legal challenges were mounted and the implementation of the plan remains controversial.

5.3 An Occurrence of Reportable Diseases in Wood Bison

Wood bison herds in and around WBNP, including SRL, are infected with BTB and brucellosis (Gates *et al.* 1992; Gates *et al.* 2001c). These diseased herds account for about 50% of the total wood bison conservation population. Joly and Messier (2001a) reported the sero-prevalence of the diseases to be 31% for brucellosis and 49% for tuberculosis. With the exception of free-ranging bison in the WBNP and GYA, aggressive eradication programmes in both the U.S. and Canada have reduced the probability of brucellosis and BTB in domestic cattle and bison herds to extremely low levels. The wild diseased wood bison herds in and near WBNP are the only known reservoirs of BTB among all bison conservation herds (Gates *et al.* 2001c; Reynolds *et al.* 2003; Shaw and Meagher 2000).

BTB and brucellosis were likely introduced to wood bison populations with the transfer of plains bison from Wainwright Buffalo Park in the 1920s (Fuller 2002). In 1925, the Canadian government implemented a plan to move 6,673 plains bison from the overcrowded Wainwright Buffalo Park to WBNP. The transfer proceeded despite opposition from mammalogical and biological societies in the U.S. and Canada, who warned of transmission of BTB to the resident wood bison population (Anonymous 1925; Ogilvie 1979). BTB was first reported in WBNP in 1937 (Fuller 2002; Gates *et al.* 1992; Geist 1996). Although it is not known whether BTB was endemic among wood bison prior to the transfer (Reynolds *et al.* 1982), evidence indicates that the disease was introduced to wood bison with the transfer of plains bison (Fuller 1962). Brucellosis was also present in the plains bison herd and was reported in WBNP in 1956 (Gates *et al.* 1992).

The presence of BTB and brucellosis threatens the recovery of wood bison in several ways. First, the infected animals are subject to increased mortality, reduced fecundity, and increased vulnerability to predation (Gates *et al.* 1992; Joly and Messier 2001a). In 1934, the bison population in WBNP was estimated at 12,000 animals (Soper 1941). The population decreased from approximately 11,000 in 1970 to 2,151 in 1999 (Joly 2001). This decrease has been attributed to the interactive effects of diseases and predation (Carbyn *et al.* 1998; Fuller 1991; Joly and Messier 2001a). Recently, the WBNP population increased to 4,050, although the reasons for this increase are unclear (Bradley 2002, personal communication).

Second, the potential exists for the infected herds to transmit the diseases to healthy herds, most notably the Mackenzie, Nahanni, and Hay-Zama herds (Animal Plant and Food Risk Assessment Network (APFRAN 1999). Since 1987, the Government of the Northwest Territories has managed a 39,000 km² Bison Control Area south of the Mackenzie River to prevent movement of diseased bison into the MBS (Nishi 2002). Recent analysis and modelling of bison movements on the landscape have demonstrated considerable risk potential for transmission of diseases to healthy wood bison herds and bison ranches in the vicinity of the diseased herds (Gates *et al.* 2001a; Mitchell 2002). The Government of Alberta announced a new hunting season for the Hay Zama herd in 2008. The purpose of the hunt is to maintain the wood bison population at approximately 400 and limit distribution of these animals until the diseased bison issue, in and around WBNP, is successfully resolved. In particular the hunt will be used to control expansion of the Hay-Zama herd eastward, preventing contact with bison emigrating from WBNP that may be infected with brucellosis or BTB. Although preliminary, results of serological tests and post mortem examination of about 100 bison harvested from the Hay-Zama population in the winter of 2008 were negative for the two bovine diseases (D. Moyles, Alberta Sustainable Resource Development, personal communication).

Much research and debate has been focused on trying to resolve the diseased bison issue in northern Canada. In 1990, the Federal Environmental Assessment Panel released its report on its analysis of the disease issues (FEARO 1990). The panel concluded that eradication of the diseased wood bison populations is the only method for eliminating the risk of transmission of brucellosis and BTB from bison to domestic cattle, non-diseased wood bison, and humans. The panel further recommended that healthy wood bison be reintroduced to the area following depopulation of the diseased herds. Sources of healthy bison for reintroduction could include the EINP wood bison herd and other captive herds supplemented by disease-free animals salvaged from the Northern Bison herds (FEARO 1990). One such salvage operation, the Hook Lake Wood Bison Recovery Project in Fort Resolution, Northwest Territories, was

attempted (Nishi *et al.* 2002b), but failed. In 2006, after 10 years of isolation and rigorous disease testing, BTB-infected bison were detected in the herd.

Several constituencies rejected the FEARO (1990) panel's recommendation to depopulate WBNP herds. The Northern Buffalo Management Board (NBMB) was formed to develop a feasible eradication plan (Chisholm *et al.* 1998; Gates *et al.* 1992). The NBMB recommended further research into bison and disease ecology before planning management actions for the region (RAC 2001). In 1995, the Minister of Canadian Heritage formed the Bison Research and Containment Program (BRCP) to focus on disease containment and ecological and traditional knowledge research (RAC 2001). The Minister then created the Research Advisory Committee (RAC) to coordinate research activities under the BRCP (Chisholm *et al.* 1998). The RAC comprised a senior scientist appointed by Parks Canada, representatives from the Alberta and Northwest Territories governments, Canadian Parks and Wilderness Society, and four aboriginal communities (Chisholm *et al.* 1998). During the mandated five year period (1996-2001), the BRCP funded projects to assess the prevalence and effects of the diseases on northern bison (Joly and Messier 2001a), and to investigate bison movements and the risk of disease transfer (Gates *et al.* 2001a). The RAC produced a future research agenda and budget for minimum research still required under the BRCP mandate (RAC 2001), but the programme was discontinued in 2001. Many of the research needs identified by the RAC align with the recommendations outlined in the National Recovery Plan for Wood Bison prepared by the Wood Bison Recovery Team (Gates *et al.* 2001c). There remains considerable disagreement between federal and provincial governments and aboriginal interests concerning a long-term solution to the WBNP disease issue. Provincial governments support disease eradication, including aggressive intervention to achieve disease eradication within the national park. Parks Canada is concerned about the conservation and biological impacts associated with aggressive intervention. A technical workshop was convened in 2005 to explore the feasibility of removing diseased bison from the Greater Wood Buffalo National Park region followed by a reintroduction of healthy bison (Shury *et al.* 2006), and there was unanimous agreement amongst participants that this option was technically feasible. The only subsequent management action undertaken at the time of writing was the implementation of a hunting season for the Hay-Zama herd in 2008-2009, intended, in part, to test disease status and to reduce the risk of infection with BTB and brucellosis by reducing population size and limiting range expansion towards infected populations (George Hamilton, Alberta Sustainable Resource Development, personal communication).

5.4 Disease Management in Perspective

A primary consideration regarding disease management in wild populations is determining when a disease is a conservation problem and whether intervention is warranted (Gilmour and Munro 1991). It can be argued that parasitism by disease organisms is a crucial ecological and evolutionary force in natural systems (Aguirre *et al.* 1995; Wobeser 2002). Classification of a pathogen as indigenous or exotic to a host species or ecosystem can influence whether a disease should be managed (Aguirre and Starkey 1994; Aguirre *et al.* 1995; National Park Service 2000). BTB and brucellosis are believed to have been transmitted to bison from domestic cattle. Therefore, management of these diseases in bison is warranted based on their exotic origins, as well as the threat they pose to domestic animals. However, many other pathogens have coevolved with bison and do not warrant veterinary intervention and should be managed in accordance with a natural system.

The most significant diseases involving bison as wildlife affect a trinity of players (wildlife, humans, and domestic animals), and involve a tangle of transmission routes (Fischer 2008). Management of wildlife diseases has often been undertaken to minimise risks to humans and domestic animals (Nishi *et al.* 2002c; Wobeser 2002). Reportable disease management for agricultural purposes is typically based on the objective of eradicating the disease from a livestock population (Nishi *et al.* 2002c). The policy and legislative framework for eradicating reportable diseases in domestic animals is well developed, however, when applied to wildlife, the protocols used by agricultural agencies are usually not compatible with conservation goals (e.g., maintaining genetic diversity, minimal management intervention) (Nishi *et al.* 2002c). Increasingly, the broader conservation community is examining wildlife disease issues in the context of their impact on the viability of wild populations, conservation translocation programmes, and global biodiversity (Daszak and Cunningham 2000; Deem *et al.* 2001; Wobeser 2002). Creative disease-ecology research is needed, and an adaptive management framework is required for coping with diseases within a conservation context (Woodruff 1999). An evaluation of the disease management methods presently applied to bison populations is needed and could assist with development of novel conservation-appropriate policies and protocols for managing the health of free-ranging bison populations (Nishi *et al.* 2002c).

Two emerging policy concepts being discussed to manage and control the transmission or distribution of disease at the domestic/wild animal interface include regionalisation and compartmentalisation (CFIA 2002; OIE 2008). Regionalisation offers one means of spatially identifying where disease control measures will occur on the land while compartmentalisation separates the control programmes of wild and domestic animals.

These concepts are being developed and put into practice by state/provincial, federal, and international health agencies to address the complications of managing intractable disease problems in wild animals ranging on large landscapes that also sustain domestic livestock industries and associated local economies (Bengis *et al.* 2002).

National wildlife health strategies have recently been developed in Canada and the U.S. in response to the many difficult disease issues surrounding free-ranging wildlife. The development of national wildlife health programmes paralleled the increasing

profile of wildlife health issues in social and political arenas. These national strategies need to provide clear guidance for coordinated conservation action and a countrywide legislative and policy framework that will influence bison restoration and conservation efforts in North America. It is hopeful that mounting tension between the agriculture, human, and wildlife health communities can be mitigated by developing a comprehensive national wildlife health policy, supportive scientific research programmes, broad stakeholder engagement in decision processes, a conservation-sensitive regulatory framework, and open social discussion about the disease risks from wildlife.

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6.1 General Biology

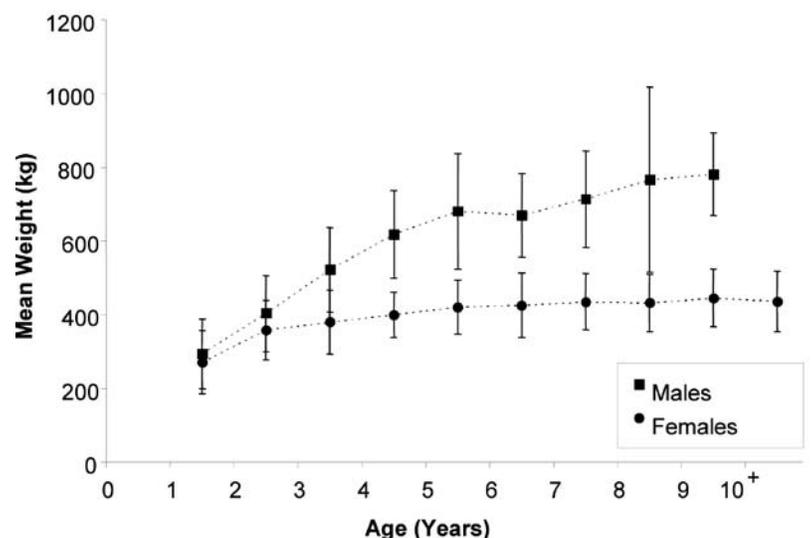
An understanding of the ecology and biology of bison is fundamental to their successful management, conservation, and restoration. Bison have the broadest original range of any indigenous ungulate species in North America, reflecting physiological, morphological, and behavioural adaptations that permit them to thrive in diverse ecosystems that provide their diet of grasses and sedges. Successful population management, conservation of genetic diversity and natural selection, modelling and predicting population level responses to human activities, and managing population structure all depend on understanding the biological characteristics and ecological roles of bison. The purpose of this chapter is to summarise what is currently known about the biology of bison; for an earlier comprehensive review, see Reynolds *et al.* (2003).

6.1.1 Physiology

6.1.1.1 Metabolism

Bison exhibit seasonal variation in energy metabolism. Christopherson *et al.* (1979) and Rutley and Hudson (2000) observed that metabolisable energy intake and requirements of yearling male bison were markedly lower in winter than summer. This was attributed to a reduction in activity and acclimation. Bison are better adapted to temperature extremes than most breeds of cattle. They expend less energy under extreme cold than do cattle because of the greater insulating capacity of their pelage (Peters and Slen 1964). Cold tolerance of hybrids between bison and cattle is intermediate between the two species (Smoliak and Peters 1955). Tolerance of bison to heat has not been studied, but the original continental range of the species included the dry, hot desert grasslands of northern Mexico, where a small population of plains bison still exists today (List *et al.* 2007).

Figure 6.1 Age-specific live-weights of male and female plains bison at Wind Cave National Park, South Dakota, obtained at fall roundups 1986–1989 and 1991–1999. Data courtesy D. Roddy and B. Meunchau, Wind Cave National Park.



6.1.1.2 Growth

Birth weights of intensively managed plains bison have been reported as 25 kg for females and 30 kg for males (Agabriel *et al.* 1998; Agabriel and Petit 1996; Rutley *et al.* 1997). Birth weights (near-term foetuses) of free-ranging plains bison range from 14 to 32 kg (McHugh 1958; Meagher 1986; Park 1969). Gogan *et al.* (2005) estimated that the birth weight of free-ranging bison calves is on average 10% less than that of captive bison. Growth from calthood to adulthood followed a similar pattern to that of adults, with weight gain during the summer and loss during the winter (P.J. Gogan, unpublished data). Weight gain among calf and yearling plains bison was affected by the influence of the timing and magnitude of summer precipitation on graminoid physical structure (Craine *et al.* 2009).

Differences in weights of plains bison in geographically separate herds have been attributed to differences in climate, nutritional plane, and genetic lineages (Berger and Peacock 1988; Lott and Galland 1987). At Elk Island National Park (EINP), female plains and wood bison achieved asymptotic body weight by six years and maximum body weight at 10 years (Olson 2002; Reynolds *et al.* 2003). Female plains bison at Wind Cave National Park (WCNP) reached an asymptotic body and maximum body weight at five years (Figure 6.1). Male plains and wood bison at EINP reached an asymptotic body weight at eight to nine years and maximum body weight by 13 years (Reynolds *et al.* 2003). Male plains bison at WCNP continued to gain weight through the

Plate 6.1 Plains bison bull tending a cow, Jackson Valley, Wyoming. Photo: Cormack Gates.



first eight years (Figure 6.1). While differences among populations in body size and weight may be apparent to an observer, comparisons must take in to account the annual cycle of weight gain and loss.

6.1.2 Behaviour

6.1.2.1 Social structure

There are many historical observations of huge plains bison herds roaming the Great Plains (Dary 1989; Hornaday 1889; Isenberg 2000; Roe 1970). Observers of both plains and wood bison consistently report a definable herd structure where cows, calves, and immature males form unstable mixed-sex and age groups, and large bulls form separate, smaller groups throughout much of the year (Allen 1876; Berger and Cunningham 1994; Komers *et al.* 1993; Meagher 1973; Melton *et al.* 1989; Schuler *et al.* 2006). Seasonal variations in group sizes are associated with abundance or dispersion of forage (Jarman 1974; Schuler 2006), landscape features (Berger and Cunningham 1994), breeding behaviour (Berger and Cunningham 1994; Meagher 1973; Melton *et al.* 1989; Komers *et al.* 1993) and population size (Schuler *et al.* 2006). The largest aggregations occur during the breeding season when mature bulls join the mixed-sex and age groups. Mean group sizes during the August rut at Badlands National Park range from a mean of 157 in flat terrain to 79 in broken terrain (Berger and Cunningham 1994). Mean maximum group sizes at Yellowstone National Park (YNP) increased from 140 in May to more than 250 in September (Hess 2002). Groups of more than 1,000 bison have been observed during the rut in contemporary Oklahoma (Schuler *et al.* 2006). Group size rapidly diminishes during autumn in plains bison (Hornaday 1889) to fewer than 30 (Berger and Cunningham 1994; Schuler *et al.* 2006). Similarly, in wood bison, typical group size is greatest during the pre-rut and rut, then declines during the fall (Komers *et al.* 1992). Mean maximum group sizes at YNP declined throughout winter from more than 250 in December to 16 in April as the area occupied by bison increased from 1,000 to more than 1,200 km² (Hess 2002).

Male bison form temporary, unstable groups, and exhibit a linear dominance hierarchy, with older, heavier animals dominant over younger smaller males (Komers *et al.* 1994; Roden *et al.* 2005). Dominance is also related to age in female bison (Rutberg 1983). Groups of adult or subadult males rarely exceed 10 individuals (Berger and Cunningham 1994).

Plains and wood bison population substructure occurs at a broad geographical scale due to traditional use of particular parts of a range by segments of a population (Joly and Messier

2001; Olexa and Gogan 2007). Plains bison within the Greater Yellowstone Area show strong fidelity to subpopulations (Christianson *et al.* 2005; Gogan *et al.* 2005; Olexa and Gogan 2007) as do wood bison in the Greater Wood Buffalo Ecosystem (GWBE) (Carbyn *et al.* 1998; 2004; Chen and Morley 2005; Joly and Messier 2004). Bison within subpopulations show stronger cohesion and coordinated movements during summer than in winter (Chen and Morley 2005; Olexa and Gogan 2007).

6.1.2.2 Reproductive behaviour

Sexually mature male plains bison join mixed-sex and age aggregations during the rut. Dominant bulls form so-called “tending bonds” with individual cows just prior to, or during, oestrus (Fuller 1960; McHugh 1958; Meagher 1973). The bull will typically attempt to keep other bulls away and to keep the cow near the edge of a mixed-sex and age group until she accepts copulation (Berger and Cunningham 1994; Lott 2002; McHugh 1958). Mature males move away from mixed-sex and age groups at the end of the rut (Berger and Cunningham 1994; Lott 2002).

Wood bison also aggregate during the summer (Joly and Messier 2001; Komers *et al.* 1992). Male wood bison become more solitary with increasing age, are more frequently aggressive, and test females for oestrus more frequently than do younger bulls (Komers *et al.* 1992). During the rut, mature males join mixed sex and groups to compete for mating opportunities and temporarily leave these groups to recover from high cost breeding activities (Komers *et al.* 1992). In the experimental absence of mature males during the rut, subadult males fed less and interacted more aggressively than when mature males were present (Komers *et al.* 1994).

6.1.2.3 Cow-calf behaviour

Female plains bison close to parturition have been described as restless and excitable (McHugh 1958). A pregnant cow may

leave the herd prior to calving or give birth within the herd (McHugh 1958). Similarly, for wood bison in the Mackenzie Bison Sanctuary (MBS), females have been observed calving in the midst of herds or in extreme isolation in the forest away from any other animals (N.C. Larter, personal observation). Birthing normally occurs while the female is lying down. The mother typically consumes portions of the afterbirth as she frees the calf from the membranes (Lott 2002; McHugh 1958). The female licks amniotic fluid from the calf's fur (Lott 2002). Suckling begins shortly after birth and may last as long as 10 minutes (McHugh 1958); although there was a report of a wood bison mother attacking the newborn calf during suckling (Carbyn and Trottier 1987). The close contact between a cow and calf begins to decline after the calf's first week of life (Green 1992). A calf is typically weaned by seven to eight months of age, although nursing may extend beyond 12 months (Green *et al.* 1993). The longest associations among bison are between cows and their female offspring; while male offspring may remain with the cow through a second summer, female offspring may remain with the cow through a third summer (Green *et al.* 1989; Shaw and Carter 1988).

The cow may use quick charges or steady advances to defend a calf against threats (Garretson 1938; Hornaday 1889; McHugh 1958). An isolated plains bison cow vigorously defended her calf from a grizzly bear (*Ursus arctos*), even though the bear was ultimately successful in killing the calf (Varley and Gunther 2002). Similarly, an isolated cow vigorously defended the calf from wolves (*Canis lupus*) (C. Freese, personal communication).

Cows and other members of mixed-sex and age groups may cooperatively protect calves from predators. In response to the approach of a grizzly bear, a mixed-sex and age group of adult plains bison responded by facing the bear in a compact group, with the calves running behind the adults (Gunther 1991). Wolves preferentially attempt to prey upon wood bison mixed-sex and age groups that include calves (Carbyn and Trottier 1987). During wolf attacks, calves moved close to the cow, or to other bison, or to the centre of the bison group (Carbyn and Trottier 1987; 1988), although this defensive response may break down when bison groups move through forested areas that may impede the movements of the calves (Carbyn and Trottier 1988).

6.1.2.4 **Horning and wallowing**

All age and sex classes of bison engage in behaviours referred to as horning and wallowing (McHugh 1958). Horning involves an animal

rubbing an object, typically a shrub or small tree, with its head, horns, neck, or shoulders (Coppedge and Shaw 1997). Wallowing involves a bison rolling in dry loose ground (or less frequently in wet ground) and tearing at the earth with its horns and hooves as it rolls. Bison prefer to horn aromatic shrubs and saplings (Coppedge and Shaw 1997; Edwards 1978; McHugh 1958; Meagher 1973), which may have insect deterrent properties. Bison have even been observed rubbing on treated telephone posts (Coppedge and Shaw 1997). Soper (1941) observed that horning and rubbing were often associated with harassment by insects. Like wallowing, horning may also constitute aggressive display behaviour.

Bison of both sexes and all age classes engage in wallowing behaviour throughout the year (Reynolds *et al.* 2003), although sexually mature males wallow more frequently during the rut, urinating in the wallow before pawing and rolling (Lott 2002; McHugh 1958). Wallowing by mature males may stimulate oestrus in females (Bowyer *et al.* 1998), and advertise a male's physical condition to other males (Lott 2002). Plains bison may also wallow to cool themselves during the hot summer months, or to achieve relief from biting insects (McMillan *et al.* 2000; Mooring and Samuel 1998). Catlin (in Hornaday 1889) described bison creating wallows in areas with a high water table and rolling in the wallow as it filled with water. The result was pelage matted with mud and clay (Catlin in Hornaday 1889). Coat shedding, rut, and insect harassment occur simultaneously during the summer; therefore in the absence of controlled experimentation, it is not possible to determine the relative influence of these factors on the frequency of horning and wallowing (Coppedge and Shaw 1997).

6.1.2.5 **Movements**

Plains bison frequently travel in single file along well-established trails when moving between foraging patches (Garretson 1938; Hornaday 1889). Historically, plains bison undertook



Plate 6.2 *Wallowing modifies the landscape. Photos: Dwight Lutesy (inset) and John Gross.*

extensive seasonal north-south movements from summer to winter ranges (Seton 1929) on both sides of the Mississippi River (Garretson 1938; Roe 1970) and from the prairies into the Parkland (Campbell *et al.* 1994). Large herds also remained on the northern prairies throughout winter (Malainey and Sherriff 1996). River valleys were crucial to the survival of bison overwintering on the grasslands (West 1995). Plains bison also undertook seasonal east-west movements from the prairies to the foothills of the Rocky Mountains in winter (Garretson 1938). Inferences from historical reports of seasonal movement patterns are confounded by the timing of the account relative to the impacts of market hunting, establishment of pioneer trails, and construction of the railroads (Roe 1970). In summer, bison on the Great Plains moved to water on an almost daily basis, and on occasion moved from 80 to 160 kilometres over several days to access water (Dary 1989).

Plains bison currently occupying the YNP spend summer at higher elevations and move to winter ranges at lower elevations (Aune *et al.* 1988; Gates *et al.* 2005; Meagher 1973; Olexa and Gogan 2007). These movements are made over a network of trails, geothermal features, and along the banks of rivers and streams, or along groomed roadways aligned with natural travel routes (Bjornlie and Garrott 2001). Adult males are often the first to pioneer previously unoccupied areas, a behaviour that has been observed in both wood bison and plains bison (Gates *et al.* 2005). Yellowstone bison have expanded their range in response to increased population densities (Taper *et al.* 2000) exacerbated by particularly severe winters (Meagher 1989).

Wood bison at Wood Buffalo National Park (WBNP) annually travel up to 50 kilometres maximum from a centre of activity (Chen and Morley 2005), and individual wood bison at the MBS range over areas of 179 to 1,442 km² (Larter and Gates 1990). Wood bison have slowly been expanding their range in the northern boreal forest. Range expansion is generally initiated by large males who then seasonally return from the peripheries of the range to join females and juveniles during the rut (Gates and Larter 1990; N. Larter and J. Nishi unpublished data). Subsequently, mixed-sex and groups move into the expanded peripheral range. Range expansion typically follows periodic high local population densities (Gates and Larter 1990) and is density-driven (Gates *et al.* 2005).

6.2 Ecology

6.2.1 Plains bison

6.2.1.1 Ecological role

Millions of plains bison historically ranged over North America's grasslands and functioned as a keystone species (Knapp *et al.* 1999). They shared this landscape with a variety of other large

mammals including pronghorn (*Antilocapra americana*), elk (*Cervus elaphus*), deer (*Odocoileus* spp.), wolves, and grizzly bears. At the landscape level, bison served as ecosystem engineers, both responding to, and creating, heterogeneity. An estimated 100 million bison wallows had a major effect on surface hydrology and runoff (Butler 2006). Ephemeral pools of standing water that persisted in wallows for many days following spring snow melt or rainstorms (Knapp *et al.* 1999) supported a variety of wetland plant species (Collins and Uno 1983; Polley and Wallace 1986). Similarly, bison wallows provided important breeding habitat for the Great Plains toad (*Bufo cognatus*; Bragg 1940) and the plains spadefoot toad (*Spea bombifrons*; Corn and Peterson 1996). Bison directly affect vegetation communities through their grazing, physical disturbance, and by stimulating nutrient recycling and seed dispersal (McHugh 1958). Such activities help to maintain meadows and grasslands on which they, and many other animal and plant species, depend.

In tallgrass prairie, bison grazing of grasses increased soil temperature, light availability, and soil moisture availability to forb species (Fahnestock and Knapp 1993). The net result was beneficial to forbs not eaten by bison (Damhoureyeh and Hartnett 1997; Fahnestock and Knapp 1993), and may thereby have been beneficial for other herbivores such as pronghorn. Bison grazing of short and mixed-grass prairie vegetation increased the rates of nutrient cycling (Day and Detling 1990), modified plant species composition (Coppock and Detling 1986) and increased the nutritive value of grasses (Coppock *et al.* 1983a; 1983b; Krueger 1986). Locally, bison consumed forage resources (England and DeVos 1969; Hornaday 1889) and reduced forage height to levels that facilitate colonisation by prairie dogs (*Cynomys* spp.; Virchow and Hygnstrom 2002). In turn, prairie dog activities enhanced the ratio of plant live: dead material, crude protein content, and digestibility (Coppock *et al.* 1983a; 1983b) and thereby encouraged further grazing by bison over more than 20% of the natural short and mixed grass prairie (Whicker and Detling 1988). While bison grazing was independent of pocket gopher (Geomyidae) activities, it influenced gopher distribution by modifying the distribution and abundance of patches of forbs used by gophers (Steuter *et al.* 1995).

Bison grazing, frequently in conjunction with fire and wallowing, enhanced the grassland heterogeneity necessary to provide suitable nesting sites for a variety of obligate grassland nesting bird species (Knapp *et al.* 1999). Bison grazing, particularly on recently burned areas, enhances the abundance of breeding bird species, such as upland sandpipers (*Bartramia longicauda*) and grasshopper sparrows (*Ammodramus savannarum*), in tallgrass prairie (Fuhlendorf *et al.* 2009; Powell 2006). Similarly, a number of bird species endemic to the short and mixed grass prairies of North America, such as the mountain plover (*Charadrius montanus*) and McCown's Longspur (*Calcarius mccownii*), were

historically dependent on a combination of bison wallows and prairie dog colonies for nesting sites. These areas were also utilised by ferruginous hawks (*Buteo regalis*) and long-billed curlew (*Numenius americanus*) (Knopf 1996). Brown-headed cowbirds (*Molothrus ater*), also called buffalo birds, occurred in association with bison throughout central North American grasslands prior to the introduction of livestock (Friedman 1929). Cowbirds feed on insects moving in response to foraging bison (Goguen and Mathews 1999; Webster 2005). Grasshopper species richness, composition, and abundance are strongly influenced by interactions between bison grazing and fire frequency (Joern 2005; Jonas and Joern 2007).

Bison facilitated dispersal of the seeds of many plant taxa as a result of the seeds becoming temporarily attached to the bison's hair (Berthoud 1892; Rosas *et al.* 2008) or via passage through the digestive tract (Gokbulak 2002). Peak passage rate for seeds was 2 days following ingestion (Gokbulak 2002).

Horning damage to trees along grassland borders is effective in slowing invasion of trees into shrub and grassland plant communities or in extending the existing grassland into the forest margin. Bison within YNP rubbed and horned lodgepole pine (*Pinus contorta*) trees around the periphery of open grasslands to the extent that some were completely girdled (Meagher 1973). Similarly horning by wood bison in the MBS has resulted in completely girdled white spruce stands on the periphery of mesic sedge meadows and willow savannas (N.C. Larter, personal observation). Several authors (Campbell *et al.* 1994; Coppedge and Shaw 1997; Edwards 1978) have suggested that bison, in combination with other factors such as fire and drought, significantly limited the historic distribution of woody vegetation on the Great Plains.

A decomposing bison carcass initially kills the underlying plants, but subsequently provides a pulse of nutrients, creating a disturbed area of limited competition with abundant resources that enhances plant community heterogeneity (Towne 2000). Carrion from dead bison is an important food resource for both grizzly and black bears (*Ursus americana*) as well as scavenging birds such as bald eagles (*Haliaeetus leucocephalus*), ravens (*Corvus corax*), and black-billed magpies (*Pica pica*).

6.2.1.2 Contemporary habitat use, nutrition, and foraging

The bison is a ruminant with a four-chambered stomach and associations of symbiotic microorganisms that assist digestion of fibrous forage. On lower quality forage, such as grasses and sedges, bison achieve greater digestive efficiencies than domestic cattle, but on high quality forages such as alfalfa, the digestive efficiency of bison and cattle converge (Reynolds *et al.* 2003). Contemporary studies of plains bison habitat selection in North American grasslands are limited to confined herds artificially maintained at varying densities (Table 6.1)—some of

which may differ markedly from pristine conditions (Fahnestock and Detling 2002).

Herbivores, including bison, respond to gradients in forage quality and quantity. Hornaday (1889) described a highly nomadic foraging strategy, where plains bison seemed to wander somewhat aimlessly until they located a patch with favourable grazing. A bison herd would then remain and graze until the need for water motivated further movement. This account contrasts with more recent studies of bison foraging, which have found that plains bison actively select more nutritious forages, and forage in a highly efficient manner that satisfies their nutritional needs and compliments diet selection by sympatric herbivores (Coppock *et al.* 1983a; 1983b; Hudson and Frank 1987; Singer and Norland 1994; Wallace *et al.* 1995). Spatial variation in forage quality and quantity results from natural gradients in soil moisture, soil nutrients, fire, and other disturbance, as well as from the impacts of foraging by bison. Bison exploit variations in forage quality and quantity at all scales; from selecting small patches of highly nutritious forages on prairie dog towns, to undertaking long-distance migration in response to seasonal snowfall or drought.

The following review of bison habitat interactions is based upon North American ecoregions identified by Ricketts *et al.* (1999) and aggregated by Sanderson *et al.* (2008).



Plate 6.3 Plains bison bull cratering in snow to forage. Photo: Yellowstone National Park.

Table 6.1 Diets of plains bison at select locations within North American ecoregions.

Ecoregion	Location	Season	Plant Type					Reference
			Grasses (%)	Sedges (%)	Forbs (%)	Woody Plants (%)	Others (%)	
Northern Mixed Grasslands	Wind Cave NP, SD	Spring	81	7	9	3		Marlow <i>et al.</i> 1984
		Summer	79	9	10	2		Westfall <i>et al.</i> 1993
		Autumn	77	12	6	5		
		Winter	79	12	2	7		
		Winter	59	37	4			Wydevan and Dahlgren 1985
Central Shortgrass Prairie	Pawnee Site, CO Lightly grazed	Spring	98		2			Peden <i>et al.</i> 1974
		Summer	94		5			
		Autumn	99					
		Winter	94		4			
	Heavily grazed	Spring	95		4			Peden <i>et al.</i> 1974
		Summer	96		4			
		Autumn	87		2	12		
		Winter	81		6	11		
Tall Grasslands Prairie and Southern Shortgrass Prairie	Wichita Mountains NWR, OK	Spring & Summer	99					Buechner 1950
	Tallgrass Prairie Preserve, OK	Spring	60	39	1			Coppedge <i>et al.</i> 1998
		Summer	88	11	1			
		Autumn	84	16	1			
		Winter	79	21	1			
Northern Fescue Grasslands	National Bison Range, MT	Annual	90	1	2	1		McCullough 1980
Rocky Mountain Forests	Yellowstone Northern Range, WY	Winter	53	44 ¹	1	1		Singer and Norland 1994
	Yellowstone Central Range, WY	Summer	55	37		<0.1		Olenicki and Irby 2004
Northern Forests	Elk Island NP, AB	Spring	29	65	6			Telfer and Cairns 1979
		Winter	18	82				
	Prince Albert NP, SK	Spring	35	65				Fortin <i>et al.</i> 2002
		Summer	26	73			1	
		Autumn	17	63			20	
		Winter	34	59			7	

¹ Includes rushes (Juncaceae)

6.2.1.2.1 Northern mixed grasslands

In the absence of fire, bison have been observed making extensive use of prairie dog colonies in the northern mixed grasslands ecoregion, where colonies may have covered 2-15% of the short grasslands (Knowles *et al.* 2002; Virchow and Hygnstrom 2002). Bison utilise the forb-dominated centres of prairie dog colonies for resting and wallowing, but feed at the graminoid-dominated periphery of colonies rather than at the colony centre (Coppock and Detling 1986; Krueger 1986). Bison use of prairie dog towns peaks during the summer and declines in the autumn (Krueger 1986) when the available forage biomass is low or the vegetation is senescent (Coppock *et al.* 1983a; 1983b). Bison use of colony sites also declines when recently burned grasslands are available (Coppock and Detling 1986).

Grasses and sedges were almost 90% of the year-round bison diet, and sedges formed 7 to 37% of the seasonal diet in the northern mixed grassland ecoregion (Table 6.1). Bison selected foraging sites containing more than 75% warm season (C4) grasses during the summer growing season (Steuter *et al.* 1995). C4 grasses were approximately 33% of the diet in June, and a maximum of 40% of the bison diet in late summer, but C4 grasses were less in the bison diet in autumn, winter, and spring (Plumb and Dodd 1993). Conversely, cool season grasses formed approximately 50% of the summer diet, but increased to 80% of the diet in September (Plumb and Dodd 1993).

6.2.1.2.2 Central shortgrass prairie

In a lightly grazed site, bison almost exclusively consumed grasses, but consumed more than 10% woody plants in the autumn and winter at a heavily grazed central shortgrass prairie site shared with cattle and sheep (Table 6.1). Three C4 grasses accounted for 65 to 75% of the bison diet (Peden *et al.* 1974; Schwartz and Nagy 1976).

6.2.1.2.3 Tall grasslands prairie and southern shortgrass prairie

Bison in the tall grasslands prairie and southern shortgrass prairie ecoregions utilised only recently burned areas in spring, but selected areas burned annually throughout the year (Shaw and Carter 1990; Vinton *et al.* 1993). Bison grazing and regrazing can maintain areas with a low vegetative cover and standing crop (Coppedge and Shaw 1998; Vinton *et al.* 1993). Areas grazed by bison were characterised by a lower abundance of C4 grasses, a higher abundance of C3 grasses, and greater overall plant species diversity (Hartnett *et al.* 1996). These characteristics were more pronounced in areas burned annually (Hartnett *et al.* 1996), which is consistent with greater bison use of annually burned sites (Shaw and Carter 1990; Vinton *et al.* 1993). Bison grazed little bluestem (*Schizachyrium scoparium*) more frequently post-burning, probably in response to removal of standing dead tillers by fire (Pfieffer and Hartnett 1995). The

greater overall plant species diversity in burned areas was linked to increased nitrogen cycling and availability (Bakker *et al.* 2003; Johnson and Matchett 2001).

C3 grasses were the most common dietary item in winter (Coppedge *et al.* 1998). Dietary quality, as measured by faecal nitrogen, peaked in May and June, coincident with a peak in C3 grasses productivity (Post *et al.* 2001). Up to 39% of the spring diet was sedges (Coppedge *et al.* 1998).

6.2.1.2.4 Northern fescue grasslands

Understanding contemporary trophic ecology of bison in this ecoregion is confounded somewhat by a management-imposed rotational grazing, by which bison are moved throughout the National Bison Range (NBR) National Wildlife Refuge, Montana (McCullough 1980). When occupying lower elevation areas of the NBR, bison utilised level to undulating open grasslands. Once herded to higher elevation portions of the range, bison continued to utilise the more level open areas available (McCullough 1980). The year-round distribution of bison was away from higher elevation steep-slope areas. Bison showed no selection for aspect, as they tended to use the more level areas available throughout the year. Bison fed almost exclusively on grasses (Table 6.1; McCullough 1980).

6.2.1.2.5 Rocky Mountain forest

In the high topographical relief of the Rocky Mountains the heterogeneity of herbaceous productivity and standing crop is caused by the spatial distribution of moisture on the landscape. Herbaceous above ground net primary productivity (ANPP) is influenced by site-specific topographic position relative to moisture distribution and aspect (Burroughs *et al.* 2001). Herbaceous ANPP is lower at low elevations with less precipitation and at the highest elevations due to a shorter growing season attributable to lower temperatures than at mid-elevations (Coughenour 2005). In general, herbaceous ANPP occurs as a pulse of nitrogen rich vegetation that sequentially follows an elevational gradient from the lower elevation winter ranges to the higher elevation summer ranges. This pattern of ANPP makes young nutritious and concentrated forage available to bison for up to six months of each year (Frank and McNaughton 1992). Summer movements of bison to higher elevation areas reduces vegetation utilisation at lower elevations and thereby enhances the availability of vegetation at lower elevations during the non-growing season (Frank and McNaughton 1992).

Bison on Yellowstone's northern range forage on sedges within more mesic sites in winter (Meagher 1973) to the extent that the winter diet is more than 95% grasses, sedges, and rushes (Table 6.1; Singer and Norland 1994). Similarly, bison utilising the Yellowstone central range during winter primarily feed on sedges along the edges of thermally influenced drainages and

at other thermal features (Meagher 1973). Upland sagebrush-bunchgrass sites are utilised to a lesser extent in winter (Meagher 1973). The summer diet of Yellowstone bison utilising the Hayden Valley was more than 90% graminoids, with one-half of these being mesic grasses, sedges, and rushes (Olenicki and Irby 2004).

6.2.1.2.6 Northern forests

Bison at EINP are highly selective for upland grasslands year-round, and to a lesser extent, select sedge meadows in winter, and shrubland and aspen forest in spring and summer (Cairns and Telfer 1980; Telfer and Cairns 1979). The bison's year-round diet was virtually exclusively herbaceous vegetation with approximately 80% of the winter diet and 65% of the summer diet sedges (*Carex* spp.; Table 6.1; Telfer and Cairns 1979).

Plains bison foraging at Prince Albert National Park (PANP) selected the sedge *Carex atherodes*, and consumed more sedges than grasses year-round (Table 6.1; Fortin *et al.* 2002). The foraging strategy favoured short-term energy gain over long-term gain for most of the year (Fortin *et al.* 2002). However, bison also selected *Carex* in spring, when a diet of more digestible grasses would have enhanced short-term energy gain (Fortin *et al.* 2002). Bison may avoid shifts in diet to facilitate maintaining a consistent microbial rumen flora (Fortin *et al.* 2002).

6.2.1.2.7 Arctic lowland taiga

Introduced plains bison at Delta Junction, Alaska, feed on sedges and fescue grasses in winter (Campbell and Hinkes 1983). In contrast, plains bison introduced to the vicinity of Farewell, Alaska, feed on willows (*Salix* spp.) almost exclusively in summer, and a mixture of willow and shrubs in the autumn (Waggoner and Hinkes 1986). Some potential exists for competition with moose (*Alces alces*) for willow in riparian, alluvial areas, although the two species select shrubs of different sizes (Waggoner and Hinkes 1986). The drastic differences between the diet of plains bison at Delta Junction and those at Farewell are directly related to forage availability. The Farewell area is almost exclusively riparian willow growth with little in the way of graminoids due to a dominant very rocky braided river substrate. In contrast, the Delta Junction area is characterised by extensive stands of grasses and sedges and domesticated grains. These differences underscore the importance of forage availability in influencing bison diets.

6.2.1.3 Habitat and dietary overlap

Originally, plains bison associated with pronghorn (Allen 1967; Yoakum 2004), elk (Miller 2002) and mule deer (*Odocoileus hemionus*) throughout much of their range, and with moose (Boer 1997) along the northern and high elevation range limits. Of the sympatric species, the seasonal distributions of pronghorn and plains bison were most similar, but their diets

were most divergent (Schwartz and Nagy 1976; McCullough 1980; Marlow *et al.* 1984; Wydeven and Dahlgren 1985; Singer and Norland 1994). Although these two species tend to have little dietary overlap, some competition for total biomass may occur (Lovaas and Bromley 1972). Similarly, sympatric plains bison and mule deer may overlap in habitat selection in winter (Cairns and Telfer 1980), but their diets differ (McCullough 1980; Wydeven and Dahlgren 1985; Singer and Norland 1994).

Plains bison and elk exhibit extensive range overlap in winter (Cairns and Telfer 1980; Barmore 2003), but less in spring and summer (Cairns and Telfer 1980). The diets of both species are predominantly graminoids from autumn through spring, with bison favouring sedges and elk favouring grasses (Barmore 2003; Singer and Norland 1994). Dietary overlap with grasses continues into the summer (McCullough 1980; Telfer and Cairns 1979), although the bison's diet contains more grass and less forbs and woody plants than that of elk (Marlow *et al.* 1984; Wydeven and Dahlgren 1985).

Plains bison and domestic cattle diets were most similar for grass consumption during the autumn and winter at a lightly grazed short grassland site, and during the spring at a nearby heavily grazed site (Peden *et al.* 1974). Bison and cattle summer and autumn diets in a shrub-steppe region were almost exclusively grasses (Van Vuren 1984; Van Vuren and Bray 1983). The diets of bison and domestic sheep were most similar during autumn at a lightly grazed short grassland site (Peden *et al.* 1974).

6.2.2 Wood bison

6.2.2.1 Original distribution and ecoregions occupied

Zooarchaeological evidence, combined with documentary records and oral narratives of aboriginal peoples in Alaska, Yukon, and Northwest Territories, indicate that the original range of wood bison included northern Alberta, north-eastern British Columbia east of the Cordillera, the Northwest Territories south and west of Great Slave Lake, the Mackenzie River Valley, and large areas of interior Alaska (Gates *et al.* 1992; Lotenberg 1996; Stephenson *et al.* 2001; van Zyll de Jong 1986). The original distribution of wood bison in northern Alberta and southern Northwest Territories centred on the Interior Plains Physiographic Region, where they ranged over the interconnected and overlapping glacial lake basins and major river valleys, where soil conditions are conducive to development of sedge-grass meadow plant communities (Gates *et al.* 1992). The total range of wood bison was more restricted than that of plains bison. Contemporary wood bison herds in the boreal regions exist in comparatively natural systems. They remain part of a fairly diverse, large ungulate fauna, which represents the prey base for several predators. Wood bison distribution overlaps with that of moose, elk, boreal and northern mountain ecotypes of

woodland caribou (*Rangifer tarandus caribou*), white-tailed deer (*Odocoileus virginianus*), mule deer and possibly stone sheep (*Ovis dalli*). Similarly, wood bison are exposed to the full suite of predators including wolf, grizzly, black bear, wolverine (*Gulo gulo*), cougar (*Felis concolor*), lynx (*Felis lynx*), and coyote (*Canis latrans*). Wolf predation is an especially important mortality factor for northern bison (Carbyn *et al.* 1993; Larter *et al.* 1994; Van Camp 1987). Furthermore, wood bison movements are generally not impeded by fences or other land uses.

6.2.2.2 Contemporary habitat relationships, nutrition, and foraging

Wood bison of the Nahanni population in the south-west Northwest Territories must cross the Liard River as it bisects the bison range for its entirety. Animals of both sexes and all age classes frequently make river crossings (Larter *et al.* 2003) making them susceptible to group mortality during spring ice breakup and rapid snowmelt. Bison use of sedges associated with wet meadows and lakes in winter also makes them susceptible to mass mortality when groups fall through weak ice. A total of 177 animals drowned in the MBS after breaking through the spring ice of Falaise Lake (Gates *et al.* 1991). Abnormally high January 2009 temperatures (+12° C) affected ice conditions which likely caused the drowning of up to 13 animals of the Nahanni wood bison population (N.C. Larter, unpublished data). Spring flooding, notably at WBNP, has caused thousands of bison deaths (Fuller 1962).

Fire, especially in the northern boreal region may improve foraging habitat for bison and, in some areas of the Northwest Territories, prescribed burning has been used as a management tool for habitat enhancement (Chowns *et al.* 1997). However, fire may play less of a role in maintaining lowland meadows than sporadic flooding (Quinlan *et al.* 2003).

6.2.2.2.1 Northern forests

Bison at WBNP and Slave River Lowlands (SRL) utilised mixed woodlands and aspen and poplar stands interspersed with meadows in summer, and upland meadows, lowland floodplains, and delta marshes in winter (Soper 1941). They feed primarily on graminoids (Table 6.2) with two genera, slough sedge (*Carex atherodes*) and reedgrass (*Calamagrostis* spp.), making up most of the annual diet (Reynolds *et al.* 1978). Willows were 8% of the summer diet (Reynolds *et al.* 1978). Bison selectively graze stands of slough sedge characterised by a biomass level that would probably minimise daily foraging time (Bergman *et al.* 2001).

6.2.2.2.2 Subarctic boreal forests

Bison exhibit sex-specific differences in habitat selection with females found in mesic sedge meadows 55% of the time in winter (compared to males, 38%) and willow savannas

77% of the time in summer (compared to males, 48%), even though these two plant communities combined constitute only about 5% of the area (Larter and Gates 1991; Matthews 1991). Both sexes utilised the most abundant coniferous forest in proportion to its availability during autumn (Larter and Gates 1991). Bison frequent areas where frozen lakes, ponds, oxbow lakes, and disturbed sites provide winter access to forage. The bison diet varied seasonally from a more diverse combination of graminoids and woody plants or forbs in summer to approximately one-third lichens and one-third grasses in autumn, to almost exclusively graminoids in winter (Table 6.2). Such feeding patterns were consistent with selection for plants with relatively high available nitrogen (Larter and Gates 1991) and to enhance short-term energy consumption (Fortin *et al.* 2002). This feeding pattern may also be attributed to dedicating time to avoid insect harassment, scanning for predators, maintaining thermal balance, or social interactions (Bergman *et al.* 2001).

In the Nahanni population of south-west Northwest Territories, bison utilise horsetails (*Equisetum*) in summer (Larter and Allaire 2007), a forage that is high in nitrogen, but also high in silica. The high silica causes rapid tooth wear, resulting in teeth wearing out 10 years earlier than in other areas.

6.2.2.3 Habitat and dietary overlap

There is little dietary overlap between wood bison and the various ungulate species that share its range. Competition with moose may occur in the Northwest Territories, where the bison's diet has a high browse component. Bison and boreal caribou in Northwest Territories/Yukon Territory both eat lichens, although during different seasons. Caribou use lichen as a diet staple in winter, whereas bison use of lichen is in autumn, when they disperse into the more forested habitats (Larter and Gates 1991). Fischer and Gates (2005) concluded that food competition between caribou and bison was low in winter.

6.3 Demographics

The abundance of the free-ranging populations of plains and wood bison, so iconic for North America, likely fluctuated considerably by location and through time. These fluctuations were probably driven by a sequence of density-dependent population regulatory factors (Eberhardt 1977; 2002; Fowler 1981; 1987; Gaillard *et al.* 1998); reduced survival of subadults, delayed age of first reproduction, decline in the reproductive rate, and increased adult mortality. This sequence was undoubtedly set back by density independent events such as episodic droughts and severe winters. Droughts and dry seasons in general were characterised by wildfires, which, on occasion, killed bison (Dary 1989; Isenberg 2000). Winters with deep snow and warming periods, resulting in ice crusting on top of

Table 6.2 Diets of wood bison at select locations within North American ecoregions.

Ecoregion	Location	Season	Plant Type					Reference
			Grasses (%)	Sedges ¹ (%)	Forbs (%)	Woody Plants (%)	Others (%)	
Northern Forests	Wood Buffalo NP and Slave Lake, NWT and AB	Spring	16	81	1	2		Reynolds et al. 1978, Reynolds. 1976 in Reynolds and Peden 1987
		Summer	24	59	8	8		
		Autumn	21	71	4	2		
		Winter	36	63		1		
Subarctic Boreal Forests	MacKenzie Bison Sanctuary, NWT	Spring	6	68	1	26		Larter and Gates 1991
		Summer	11	53	2	28	6 ²	
		Autumn	32	15	4	12	37 ²	
		Winter	2	96		2		
	Nahanni Population, NWT	Summer	6	37	29	14	1 ³	Larter and Allaire 2007; Larter, N.C. unpublished data
		Autumn	19	58	7	12	4 ³	
		Early Winter ⁴	16	37	10	4	33 ³	
		Mid-Winter ⁴	2	89	4	3	2 ³	

¹Includes rushes (Juncaceae); ²Lichens; ³*Equisetum* spp.; ⁴November/December is early winter, January/February is mid-winter

the snow, led to major die-offs of bison (Dary 1989). Thousands of bison were drowned in floods that resulted from the spring melting of large snow packs (Dary 1989).

Predation by wolves may have been a significant force, taking the most susceptible age and sex classes at different times of year. Wolves may have preyed heavily on bison calves (Flores 1991) and killed older solitary males (Dary 1989). However, predation may have had little effect on large nomadic or migratory herds of bison (Terborgh 2005). Wolves maintain group territories and bear altricial young, traits that would have made it impossible for wolf packs to sustain sufficient pressure on a wide-ranging, mobile prey (Terborgh 2005). Grizzly bears killed some bison, occasionally from ambush (Dary 1989).

Prior to the availability of firearms, the small number of resident humans, and their relatively ineffective hunting, limited the human toll on bison. Pedestrian harvesting was mostly non-selective and involved surrounding or driving of bison groups over bison jumps (Flores 1991). However, by the late 17th century, firearms-equipped tribes from the Great Lakes region began moving out on to the Great Plains. At the beginning of the 19th century, tribes with horses were beginning to exert pressure on plains bison and select for breeding age females (Flores 1991). At the same time inter-tribal warfare led to buffer zones that served as refugia for bison (Flores 1991; Martin and Szuter 1999). By mid-1800s, an estimated 500,000 plains bison were killed for subsistence, and an additional 100,000 were killed for their hides

annually (Isenberg 2000). Bison populations began to decline as increasing numbers of cattle and horses began to compete with bison for forage and water (Flores 1991; Isenberg 2000).

6.3.1 Population structure

Both plains and wood bison can be classified into sex and age classes based on body size and horn morphology. Free-ranging calves are readily distinguishable from all other age classes based upon pelage colour for the first three months of life, but their sexes cannot be distinguished. Yearlings may be distinguished from adults until about one and a half years old, based upon body size and conformation, when examined at close range. Sex can be determined in animals more than two years old on the basis of horn morphology and head shape (Bradley and Wilmshurst 2005; Komers *et al.* 1993), or noting the presence or absence of a penile sheath, but again this requires viewing from close range (Carbyn *et al.* 1998). Komers *et al.* (1993) described criteria for distinguishing between subadult (two to four years old), mature, and old bulls based on body size and horn morphology. The results of composition counts are frequently standardised as a ratio of selected age and sex classes per 100 adult females (Caughley 1977). Typically, within polygynous species such as bison, adult females are the most abundant class in a population and directly determine the size of the youngest age class (McCullough 1994). The presence of new calves in a population is sensitive to the timing of the count relative to the calving

season: Wolfe and Kimball (1989) reported an increase in the percentage of calves from 10.2% in late May to 12.2% in late July (i.e., count too early and you may miss some).

Similarly, segregation of age and sex classes may influence estimates of population composition. Meagher (1973) reported that calves formed 20% of mixed age and mixed sex bison herds, but 11% of the total Yellowstone bison population. Other biases are also possible. Carbyn *et al.* (1998) reported an unweighted average of 36 calves per 100 adult females for bison in Delta Area of WBNP for 1989-1996 (Table 6.3), while others reported between 20 and 30 calves per 100 adult females for the same area and during the same time period (Bradley and Wilmshurst 2005). Similarly, Carbyn *et al.* (1998) reported an average of 20 yearlings per 100 adult females for this time period, while others reported more than 10 yearlings per 100 adult females for only one of those years (Bradley and Wilmshurst 2005). Thus, composition estimates need to be interpreted with considerable caution and would benefit by inclusions of confidence intervals.

Few data sets permit evaluation of reproductive success and survival of young in relation to population densities (Table 6.4). The higher ratios of calves and yearlings per 100 adult females in the Mink Lake area of WBNP compared to MBS (Table 6.4) reflect differences between increasing and declining populations (Larter *et al.* 2000). Lower calf and yearling to adult female ratios were linked to a period of population decline at WBNP (Bradley and Wilmshurst 2005). Reynolds *et al.* (2003) reported density dependent fecundity in bison at EINP.

Information on the age structure of free-ranging bison populations not subjected to regular culling is limited. Wood bison at the MBS were assigned to age and sex classes in July 1993: calves and yearlings were not assigned to sex classes, all females two or more years old were assigned to a single category, and males more than two years old were assigned to one of four age categories following Komers *et al.* (1992). Here, the population age structure is presented with an assumption of an equal sex ratio in calves and yearlings (Figure 6.2). Irrespective of the sex, the relatively low numbers of calves and yearlings suggest a low recruitment rate (Figure 6.2).

6.3.2 Reproduction

The age of first reproduction is sensitive to nutritional condition and, therefore, highly variable. The proportion of females calving as two-year-olds (conceiving as one-year-olds) ranges between 4-12% (Table 6.5). However, female bison typically enter oestrus as two-year-olds, and give birth to their first calf at three years (Table 6.5). Mature females in some populations reproduce each year (Rutberg 1984; Shaw and Carter 1989; Wolff 1998), although in other populations mature females may not breed in some years (Fuller 1962; Green 1990; Halloran 1968; Soper

1941; Van Vuren and Bray 1986; Wolfe *et al.* 1999). This is particularly true of females breeding as two- to four-year-olds (Green 1990). Fuller (1962) noted that for wood bison in the Hays Camp area of WBNP, 21% of the females more than three years old at the time of parturition were lactating, but non-pregnant, while the same was true for 9% of the females in the Lake Claire area of the park. This proportion may vary within the same population at different densities of bison and other ungulate species relative to forage conditions (Halloran 1968; Shaw and Carter 1989). The young born to females following a year of not breeding were larger and more fecund than the young of females who bred the previous year (Green and Rothstein 1991). Females continue to breed until more than 16 years of age (Green 1990). Bison are typically monoparous, with twinning reported only occasionally (Reynolds *et al.* 2003).

Male bison maintained on supplemental feed are physiologically capable of breeding as early as 16 months of age (Helbig *et al.* 2007), and those not receiving diet supplements may breed at two to three years old (Maher and Byers 1987). However, males generally do not breed until they are five or six years old and large enough to compete with older and more experienced bulls (Fuller 1960; Komers *et al.* 1994; Meagher 1973; Rothstein and Griswold 1991).

The age of first successful reproduction may be modified by disease in bison of the Jackson, Yellowstone and GWBE populations. More than 90% of the first pregnancies were lost in brucellosis infected captive female bison (Davis *et al.* 1990; 1991). In free-ranging bison, the impact of brucellosis on the age of first successful reproduction will vary with the proportion of first time breeders in the population, the proportion of those breeders infected with brucellosis, and the severity of the infection (Bradley and Wilmshurst 2005). Diseases may also modify reproductive performance of older females. At WBNP, both tuberculosis (BTB) and brucellosis may impact the reproductive success of females of all age classes within select population segments (Joly and Messier 2004; 2005). In two population segments of wood bison at WBNP, infection with brucellosis or BTB alone did not impact pregnancy status, but infection with both diseases reduced the probability of pregnancy by 30% (Joly and Messier 2005). In a third population segment, infection with BTB alone reduced the probability of pregnancy by 75% (Joly and Messier 2005).

6.3.3 Mortality factors and survival

Proximate causes of mortality in contemporary wood bison herds include wolf predation and the exotic diseases brucellosis and BTB (Fuller 1962; Calef 1984; Carbyn *et al.* 1993; Joly and Messier 2001, 2004; 2005; Wilson *et al.* 1995 in Bradley and Wilmshurst 2005). In addition, some wood bison succumb to irregular outbreaks of anthrax (*Bacillus anthracis*) (Gates *et al.*

Table 6.3 Ratios of select age classes:100 females among plains and wood bison populations.

Subspecies	Location	Period of Observation	Adult		Sub-adult		Sub-adult		Reference
			Male	Female	Male	Female	Yearling	Calves	
Plains bison	Henry Mountains, UT	July or September weighted average 1977–1983	54	100			43	53	Van Vuren and Bray 1986
Wood bison	Slave River, NWT	Summer 1978	32	100	4	1	7	35	Van Camp and Calef 1987
	Mackenzie Bison Sanctuary, NWT	July 1993	78	100					Gates <i>et al.</i> 1995
	Mackenzie Bison Sanctuary, NWT	July, unweighted average 1984–1998		100			22	41	Larter <i>et al.</i> 2000
	Mink Lake, NWT	July, unweighted average 1989–1998		100			30	51	Larter <i>et al.</i> 2000
	Wood Buffalo (Delta Area), AB	Spring unweighted average 1989–1996		100			20	36	Carbyn <i>et al.</i> 1998

1995). Wallows may serve as focal areas for anthrax spores, and more frequent wallowing by adult males may contribute to greater mortality among adult males than adult females during outbreaks of the disease (Gates *et al.* 1995). Bison have died falling into hot pools and bogs. Accidental drowning of whole herds of bison by falling through thin ice in spring and fall has been reported (Roe 1970; Gates *et al.* 1991). Once bison break through lake or river ice, they are generally unable to haul themselves out and become trapped (Carbyn *et al.* 1993).

Droughts and severe winters, alone or in combination, have led to episodic over-winter mortality in the absence of wolf predation in plains bison of the YNP central herd (Cheville *et al.*

1998; Green *et al.* 1997). Episodic droughts reduce late growing season forage quality and increase the probability of wildland fires that reduce the amount of winter forage available (Frank and McNaughton 1992). Simulations indicate that over-winter survival of YNP northern range bison is most strongly influenced

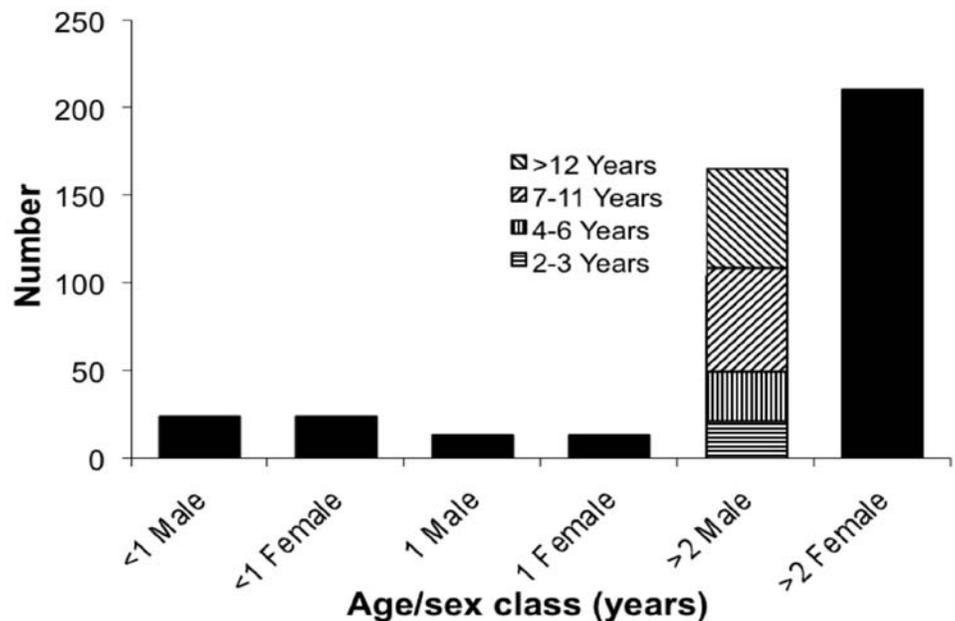


Figure 6.2 Age and sex class structure of wood bison at Mackenzie Bison Sanctuary, Northwest Territories, assuming an equal sex ratio among calves and yearlings (Gates *et al.* 1995).

Table 6.4 Age-specific reproductive rates (%) of female plains and wood bison at select locations. Ages are female ages at time of birth of offspring (so, a female reported as pregnant at one year by necropsy is shown as giving birth at two years, her second birthday).

Subspecies	Location	Age			Reference
		2 years	>2 years	>3 years	
Plains bison	Wichita Mountains, OK	13	52	67	Halloran 1968
	Wichita Mountains, OK	12	72		Shaw and Carter 1989
	Fort Niobrara, NB			83	Wolff 1998
	Henry Mountains, UT		52	62	Van Vuren and Bray 1986
	Antelope Island, UT			46	Wolfe <i>et al.</i> 1999
	National Bison Range, MT			86	Rutberg 1986
	Konza Prairie, KS			66 – 79	Towne 1999
	Badlands, SD	4		67	Berger and Cunningham 1994
	Wind Cave, SD	5		80	Green 1990, Green and Rothstein 1991
	Yellowstone – Northern Herd, WY/MT			40	Kirkpatrick <i>et al.</i> 1996
	Yellowstone – Central Herd, WY			52	Kirkpatrick <i>et al.</i> 1996
	Yellowstone – mixed, WY			73	Pac and Frey 1991
	Yellowstone – mixed, WY			79	Meyer and Meagher 1995
Wood bison	Wood Buffalo – Hays Camp, NWT	4		53	Fuller 1962
	Wood Buffalo – Lake Claire, AB	12		76	Fuller 1962
	Wood Buffalo, NWT and AB		76* 70**		Joly and Messier 2004
	Wood Buffalo, NWT and AB			43	Carbyn <i>et al.</i> 1993
	Mackenzie Bison Sanctuary, NWT		70		Gates and Larter 1990

* no disease ** infected with brucellosis and bovine tuberculosis

by winter severity and the area of wildland fires (Turner *et al.* 1994; Wallace *et al.* 2004).

Survival of calves to six months is more than 90% in plains bison herds in protected areas, or those that are only lightly hunted in the absence of predators and diseases (Table 6.5). The survival rate for the first six months of life in the presence of wolves at WBNP was 47% (Table 6.5; Bradley and Wilmshurst 2005). At the SRL survival rates for the first six months of life increased from 6% to 30% coincident with a decline in wolf abundance (Table 6.3; Calef 1984). Survival through the first year of life, in the presence of wolves, has been estimated at 10% and 41% for bison at WBNP (Table 6.5; Carbyn *et al.* 1993; Fuller 1962). Calf survival through the first year of life was 95% for an increasing

herd at the MBS, when wolf abundance was low (Table 6.5; Calef 1984). There are highly variable estimates on survival patterns in the first year of life (Table 6.5).

Adult survival rates in disease-free, protected, or lightly hunted, populations of plains bison are more than 95% for sexes combined or females only (Table 6.5). Survival rates for both sexes in increasing populations have averaged 75% for wood bison at the MBS, and 95% for the Jackson plains bison herd (Table 6.5; Larter *et al.* 2000; USFWS-NPS 2007). At WBNP, bison infected with both brucellosis and BTB experience lower survival rates than do those infected with only one of the two diseases, or not infected at all (Table 6.5; Bradley and Wilmshurst 2005; Joly and Messier 2001; 2004; 2005).

Table 6.5 Age-specific survival rates (%) of plains and wood bison at select locations (mm = male; ff = females).

Subspecies	Location and Years	Age			Comment	Reference
		<6 months %	<1 year %	Adult %		
Plains bison	Henry Mountains, UT	93		96		Van Vuren and Bray 1986
	Badlands, SD			98		Berger and Cunningham 1994
	Jackson, WY			95	Females only. Increasing population.	USFWS and NPS 2007
	Wind Cave, SD	99			1 of 153 calves born died	Green and Rothstein 1991
Wood bison	Wood Buffalo, NWT and AB		<10			Fuller 1962
	Wood Buffalo, NWT and AB		41		Calculated from life table	Carbyn <i>et al.</i> 1993
	Wood Buffalo, NWT and AB			92 (mm) 94 (ff)	One or no diseases. Average of Wilson <i>et al.</i> 1995 and Joly and Messier 2001	Bradley and Wilmshurst 2005
	Wood Buffalo, NWT and AB			<85 (mm) <87 (ff)	Both diseases	Joly and Messier 2001, Wilson <i>et al.</i> 1995 in Bradley and Wilmshurst 2005
	Wood Buffalo, NWT and AB	47	33			Bradley and Wilmshurst 2005
	Mackenzie Bison Sanctuary, NWT		95		Increasing population. Few wolves.	Calef 1984
	Mackenzie Bison Sanctuary, NWT			75	Increasing population. Ad. Female range 67–100: Adult male range 67–100	Larter <i>et al.</i> 2000
	Slave River Lowlands, NWT 1974–1976	6				Calef 1976 in Calef 1984
	Slave River Lowlands, NWT 1976–1978	30			Following wolf decline	Van Camp 1978 in Calef 1984

6.3.4 Population growth rates

The rate of increase of a population is influenced by sex ratio and age structure, forage and habitat availability and quality, immigration and emigration combined with reproductive and mortality rates. The highest rates of increase occur in captive bison herds, in the absence of predators, where the sex ratio is skewed towards reproductive age females, some supplemental feeding occurs, and most, or all, of the population is rounded up annually and “surplus” bison removed. The Tallgrass Prairie Preserve (Oklahoma) population attained a rate of increase of about 50% under such conditions (R. Hamilton, personal communication).

The maximum exponential rate of increase (r_m) is the rate at which a population with a stable age structure will grow when resources are not limiting (Caughley 1977). The observed

exponential rate of population growth over time (\hat{r}) may approximate r_m for populations introduced into areas where resources are abundant (Caughley 1977). The observed rate of growth may be expected to deviate from r_m over time as a population increases, and per capita resources become limiting. The length of time for a population to double in size may be calculated as (natural log (ln) of 2)/ \hat{r} (Johnson 1994).

Plains bison re-introduced to the NBR in 1909 were permitted to increase without management intervention for 14 years (Roelle 1977 in Fredin 1984). The observed exponential rate of growth of the population in this period, with a starting population of 37, was $\hat{r} = 0.2053$ (Figure 6.3). The population grew at a rate of 20.5% each year, with a doubling time of 3.4 years, or, given the birth-pulse characteristic of bison, it would realistically double every four years. The northern Yellowstone plains bison herd was intensively managed in the early 20th

century, with supplemental feed provided in winter (Meagher 1973). Numbers increased from 21 in 1902 to 239 in 1915, after which bison were removed from the herd (Meagher 1973).

The observed exponential rate of increase for the northern Yellowstone herd for this 14-year period was $\hat{r} = 0.1787$. The population doubling time at this rate of increase was four years.

Plains bison, allowed to become free ranging in the Jackson Valley, Wyoming in 1969, experienced minimal management intervention until 1980, when these animals began utilising supplemental forage intended for elk at the NER (USFWS-NPS 2007). Limited numbers of plains bison were killed by agency personnel or licensed hunters between 1980 and 2002 (USFWS-NPS 2007). Plains bison numbers have been estimated annually by staff of GTNP; S. Cain; personal communication). The observed exponential population growth rate for the 33-year period from 1969 to 2002 was 0.129 (Figure 6.4). The observed exponential rate of increase for the Jackson herd for the 14-year period from 1980 to 1993, with a starting population size of 37, was $\hat{r} = 0.1197$. At these rates of increase, a population would double every six years.

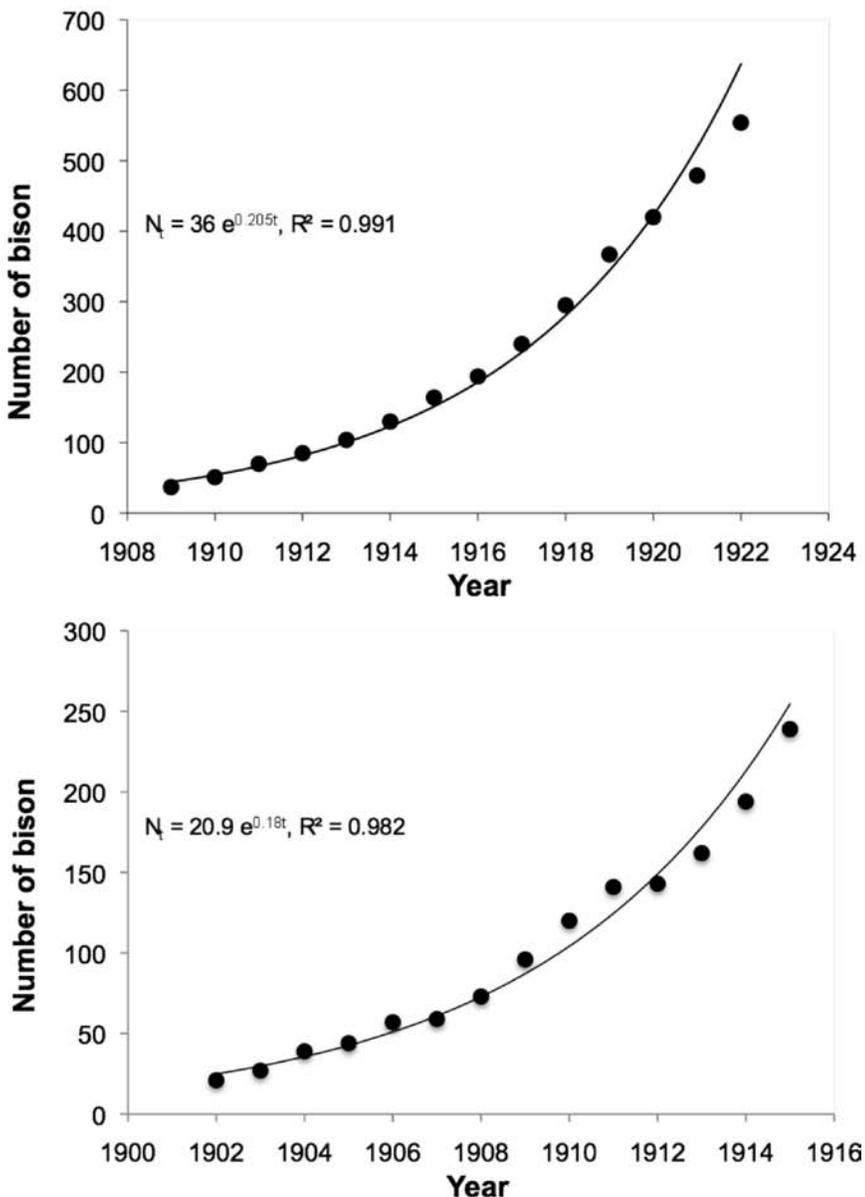
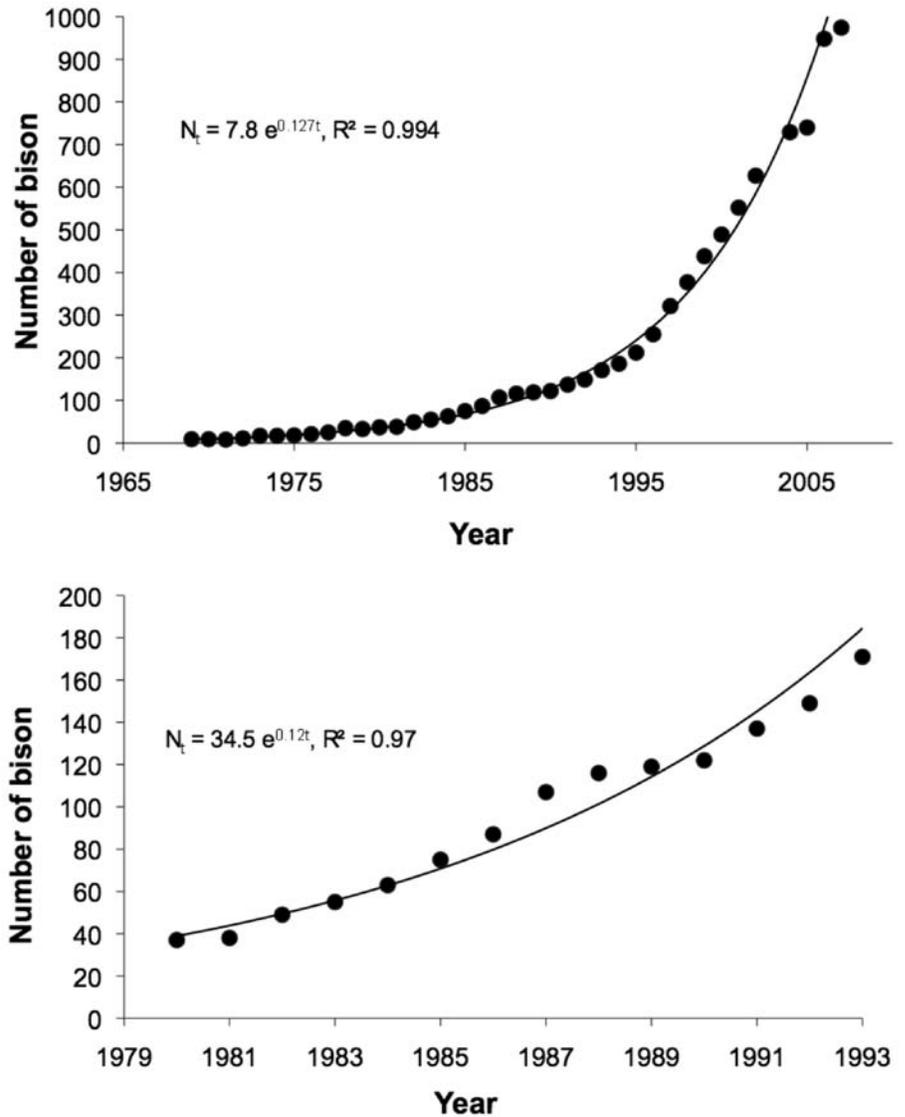


Figure 6.3 Growth of the National Bison Range plains bison population between 1909 and 1922 (14 years) starting with 37 bison (upper panel), and the northern Yellowstone National Park population between 1902 and 1915 (14 years) starting with 21 bison (lower panel).

Figure 6.4 Growth of the Jackson Valley plains bison population in Wyoming between 1969 and 2007 (39 years) starting with 9 bison (upper panel) and between 1980 and 1993 (14 years) starting with 37 bison (lower panel).

The highest rate of increase reported for a bison population under natural conditions was for the Mackenzie population in the Northwest Territories. It increased at a maximum exponential rate of 0.26, and averaged an annual exponential rate of 0.21 during the first three decades following its establishment (Calef 1984; Gates and Larter 1990).



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7.1 Introduction

The “Great Contraction”, a term used by Flores (1996) to describe the destruction of bison in North America, has been chronicled by numerous authors (Dary 1974; Isenberg 2000; Reynolds *et al.*; 2003; Roe 1970) and was summarised in Chapter 2 of this document. Fewer than 300 wood bison and perhaps only 200 plains bison remained at the turn of the 19th Century. The numerical recovery of plains bison began with the efforts of private citizens in the U.S. and Canada to save a few remaining animals (Freese *et al.* 2007). Governments later became involved in the conservation of plains and wood bison. Protective legislation was implemented first in Canada in 1877 (Gates *et al.* 2001). The first legislation providing specific protection for bison in the U.S. was the National Park Protective Act (Lacey Act) signed on 7 May 1894 by President Cleveland (Boyd and Gates 2006). It imposed a jail sentence and fine for anyone found guilty of killing game in Yellowstone National Park, the range of the last free-ranging plains bison.

Between 1900 and 1970, modest progress was made, increasing the number and populations of bison, largely in public herds. Then in the mid-1980s, the commercial bison industry began to prosper (Freese *et al.* 2007; Renecker *et al.* 1989); the number of bison in North America increased rapidly to more than 430,000, the vast majority of which are under private ownership (Boyd and Gates 2006; Freese *et al.* 2007). However, numerical progress alone cannot be equated with the security of bison as a wildlife species. Conditions under which privately owned bison are raised are commonly motivated by market objectives and there are no regulations or government-supported guidelines requiring private owners to contribute to bison conservation. Domestic bison (those raised for captive commercial propagation) may be subject to small population effects, selection for domestication and market traits including docility, growth performance, conformation and carcass composition, and intentional or unmanaged introgression of cattle genes (Freese *et al.* 2007). Although some private owners exercise their legal property right to manage bison for conservation of the species and/or for their ecological role, the conservation practices of such owners are a matter of personal choice, with no guarantee of persisting beyond the owner’s interest in the herd. Currently there are no well-developed regulatory or market-based incentives for managing private commercial herds for species conservation (e.g., independent conservation management certification).

Unless effective private-sector incentives are developed, bison populations managed in the public interest as wildlife represent the most secure opportunity for their conservation, adaptation in the evolutionary sense, and viability of bison as an ecologically interactive species in the long term.

Some North American aboriginal communities and individuals also own bison herds. As with other private bison populations, the management of Native-owned bison is not necessarily consistent with conservation policies. Management practices vary from intensive management for commercial production to semi free-ranging herds hunted for subsistence and retention of culture.

It was beyond the scope of this status report to evaluate the management of individual privately owned herds for their conservation value, whether owned by aboriginal or non-aboriginal people. The IUCN Bison Specialist Group acknowledges the important opportunity that Aboriginal Governments, the Intertribal Bison Cooperative, and the Native American Fish and Wildlife Society have to develop guidelines for enhancing the conservation value of herds managed by aboriginal peoples. Similarly, the commercial industry could play a role by providing standards and guidelines and developing incentive-based programmes, such as independent formal certification, for conservation management.

Contemporary conservation is focussed on ensuring long-term persistence and maintaining the potential for ecological adaptation through the effects of natural selection operating in viable populations in the wild (Soulé 1987; IUCN 2003; Secretariat of the Convention on Biological Diversity 1992). Viability relates to the capacity of a population to maintain itself without significant demographic or genetic manipulation by people for the foreseeable future (Soulé 1987). In wild populations, limiting factors, such as predation, resource limitation and mate competition, contribute to maintaining the wild character, genetic diversity, and heritable traits that enable a species to adapt to and survive in a natural setting without human interference (Knowles *et al.* 1998). Therefore, viable wild populations, subject to the full range of natural limiting factors, are of pre-eminent importance to the long-term conservation, security and continued evolution of bison as a wildlife species. We consider the three conservation biology principles proposed by Shaffer and Stein (2000), resiliency, representation, and redundancy, to be relevant for evaluating the geographic and

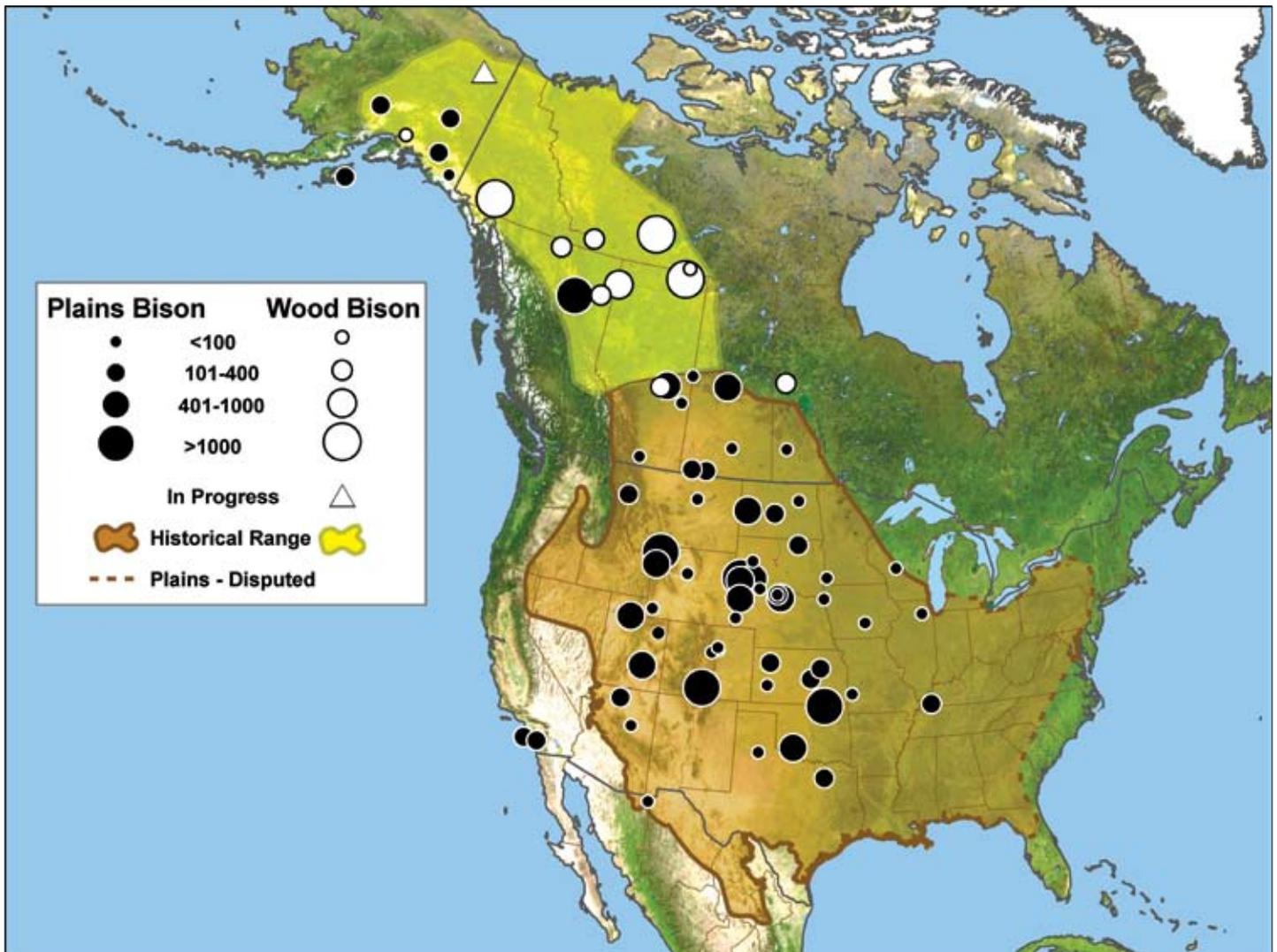


Figure 7.1 Locations and size classes of bison conservation herds in North America. Historic ranges of wood and plains bison were based on Stephenson et al. (2001) and Sanderson et al. (2008), respectively.

numerical status of bison. Beyond viability, resiliency refers to the need to preserve individual populations large enough to have a high probability of persisting for extended periods in the presence of minimal management, and which preserve genetic diversity and the potential for adaptation to changing conditions (minimum of 1,000 bison; Gross and Wang 2005). Representation reflects the need to preserve populations of a species across the fullest array of environments in which it occurred originally. Redundancy refers to the need to preserve a sufficient number of large populations to safeguard against local catastrophes.

Here, we provide a summary of the status of wood bison and plains bison populations managed by national or state/provincial public governments and non-governmental organisations whose primary mission is nature conservation. For simplicity, these populations are referred to as “conservation herds”. Information on the number of herds and bison under captive commercial propagation is also included. Display herds in zoos were not

enumerated. The following seven criteria were considered for reviewing the status of conservation herds: numerical status; geographic status; population size class distribution; opportunity for mate competition among mature males; presence of wolves; the presence or absence of diseases that could affect conservation status (see chapter 5); and presence, or likely presence, of cattle genes based on analysis or stocking history.

7.2 Numerical Status

Numerical status refers to the number of bison and number of populations in North America in conservation herds. Where possible, the reported number of bison in each conservation herd was verified with herd managers in 2008, but the numbers reported here may differ from the actual numbers of animals present because not all herds were surveyed recently, census techniques may not account for every animal, herds are not always managed to achieve a consistent target number, and herd size and productivity vary annually.

Sixty-two plains bison and 11 wood bison conservation herds were enumerated (Figure 7.1 and Appendix A). Although the number of plains bison conservation herds has steadily increased over time, the number of individuals in conservation herds has changed little since 1930 (Freese *et al.* 2007). In 2008, we estimated there were 20,504 plains bison and 10,871 wood bison in conservation herds. Among plains bison there were 9,227 breeding age females (two years old and older), 4,121 mature males (seven years old and older) and 1,230 subadult males (four to six years old). Among wood bison there were 4,892 breeding age females, 2,609 mature males and 652 subadult males.

Since conservation efforts began in the early 1900s, wood bison numbers have fluctuated independently of the number of conservation herds (Figure 7.2). Peak abundance occurred

Figure 7.2 Numbers of herds and individual plains bison (upper panel) and wood bison (lower panel) in North America, 1890-2008. Sources for wood bison data: Novakowski 1978; Wood Bison Recovery Team 1987; Reynolds and Hawley 1987; Van Camp 1989; Larter *et al.* 2000; Gates *et al.* 2001; www.nwtwildlife.com/NWTwildlife/bison/woodbuffalopark.htm accessed 15 January 2009, and 2008/2009 data from agencies. Plains bison data follow Freese *et al.* 2007 and current status data from agencies.

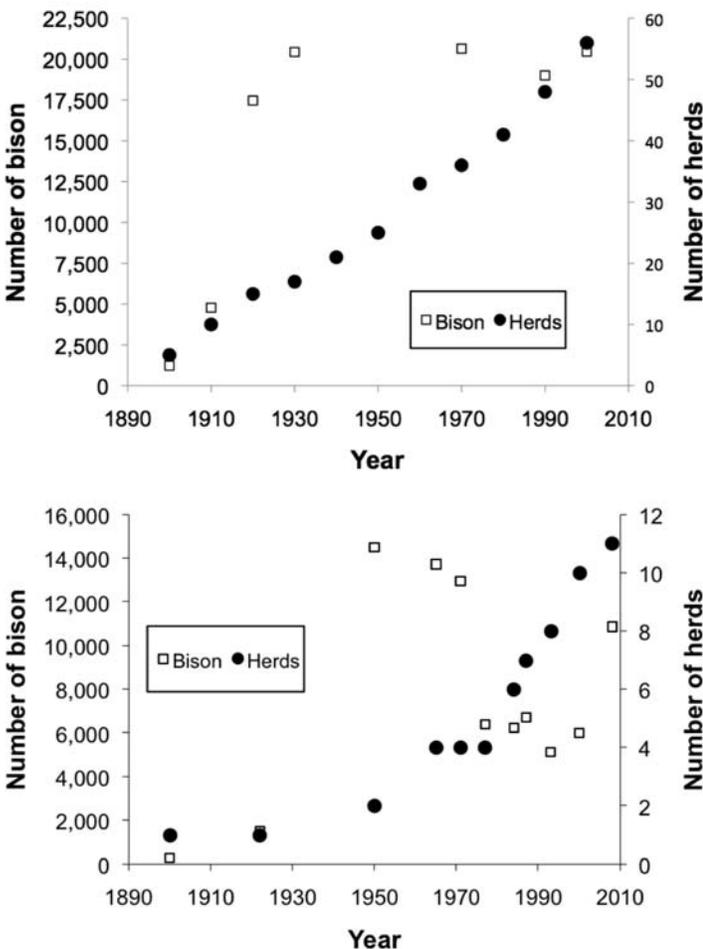


Plate 7.1 Wood bison near the northern extent of their range in the Yukon, Canada. Photo: Tom Jung.

from the 1940s to early 1970s following the introduction of more than 6,000 plains bison into Wood Buffalo National Park (WBNP) in the late 1920s. The number of bison in the Greater Wood Buffalo National Park area declined after 1971 when predator management ceased (Carbyn *et al.* 1993). The number of wood bison conservation herds has increased to 11. However, there are still more bison in the WBNP and Snake River Lowlands (SRL) metapopulation (6,141 animals), which is infected with bovine tuberculosis (BTB) and brucellosis, than in the nine disease-free reintroduced populations (4,730 animals).

The number of bison under commercial propagation has outnumbered those in conservation herds since about 1970 (Freese *et al.* 2007). In 2006, there were 195,728 bison on 1,898 farms reporting in the Canadian National Census (Statistics Canada, www.statcan.gc.ca/daily-quotidien/080125/t080125b-eng.htm, accessed 4 December 2008). The U.S. Department of Agriculture's 2007 Census of Agriculture reported 198,234 bison on 4,499 farms (<http://www.agcensus.usda.gov/>, accessed 10 February 2008). Thus, based on these numbers, there are nearly 400,000 privately owned bison on around 6,400 farms in Canada and the U.S.

7.3 Geographic Status

The original range of bison extended from lowland meadows in interior Alaska to desert grasslands in Mexico, and included areas as far east as New York and as far west as California (List *et al.* 2007; Reynolds *et al.* 2003). The original range of American bison spanned an area estimated by Sanderson *et al.* (2008) to be 9.4 million km², and encompassed 22 major habitat types (derived by Sanderson *et al.* 2008 by combining some of the eco-region classes mapped by Ricketts *et al.* 1999). In assessing geographic status of bison in conservation herds, we considered three criteria: representation of subspecies



Plate 7.2 Plains bison near the southern extent of their range near Janos, Chihuahua, Mexico. Photo: Rurik List.

is represented in four (57%) of seven major habitat types in their original range, and four habitat types have two or more herds. With the exception of WBNP and the adjacent SRL bison herds, geographic separation or management of other populations precludes inter-population movements.

Available area: The area available for a herd represents the potential for supporting a large resilient population and opportunities for bison to behave as a “landscape species”, interacting with spatially

populations within their original range and in major habitat types, and the geographic area occupied by, or potentially available to, individual conservation herds.

Representation within and outside their original range: A displaced population of a subspecies within the original range of another subspecies may occupy habitat otherwise available for the recovery and conservation of the indigenous form. Eighty-seven percent of 62 plains bison conservation herds were located within the original range of plains bison (Figures 7.1 and 7.3). Eight plains bison herds residing in California, northern British Columbia, and Alaska were distinctly outside plains bison original range. Those in Alaska and northern British Columbia occur in the original range of wood bison. Nine of 11 wood bison herds were within original range. The two wood bison conservation populations outside the original range include one free-ranging herd in the Inter-Lake region of Manitoba (originally the range of plains bison) and a fenced herd in central Alberta. The latter wood bison population is Canada’s national conservation breeding herd at Elk Island National Park, which also supports a separate herd of plains bison.

Representation in major habitat types: Eighteen major habitat types occur within the original range of plains bison (Figure 7.4). At least one conservation herd is represented in 14 (78%) of them and 10 (56%) major habitat types hold two or more conservation herds. At least one wood bison conservation herd

variable resources and a variety of other native species. On small pastures, bison may be unable to segregate into social units (mature bulls, maternal and non-maternal herds) or to move in relation to resource depletion and abundance gradients. In addition, the larger the area available, the greater the number of bison that can be supported sustainably. Landscape area is an important factor in considering the conservation status of bison.

The area of range available to bison conservation herds was classified into four categories (metric conversions are approximate): small areas (less than 20 km²; 5,000 acres); medium areas (more than 20 km² and less than 200 km²; more

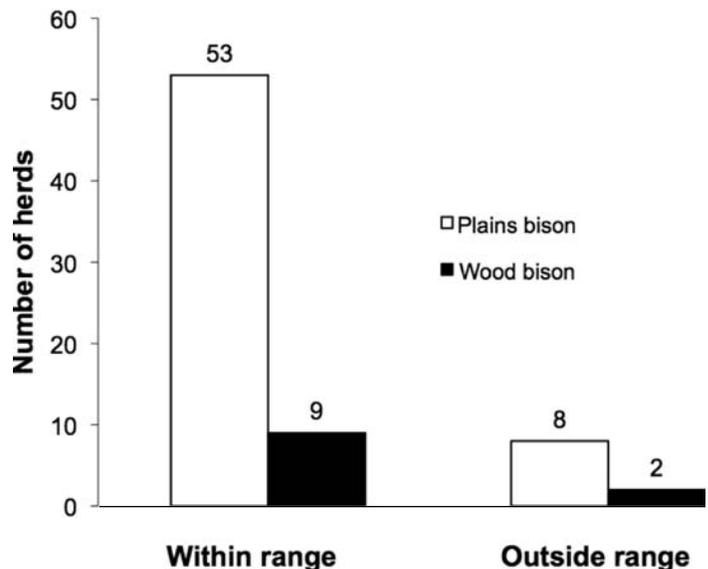


Figure 7.3 Numbers of plains and wood bison populations within and outside their original range.

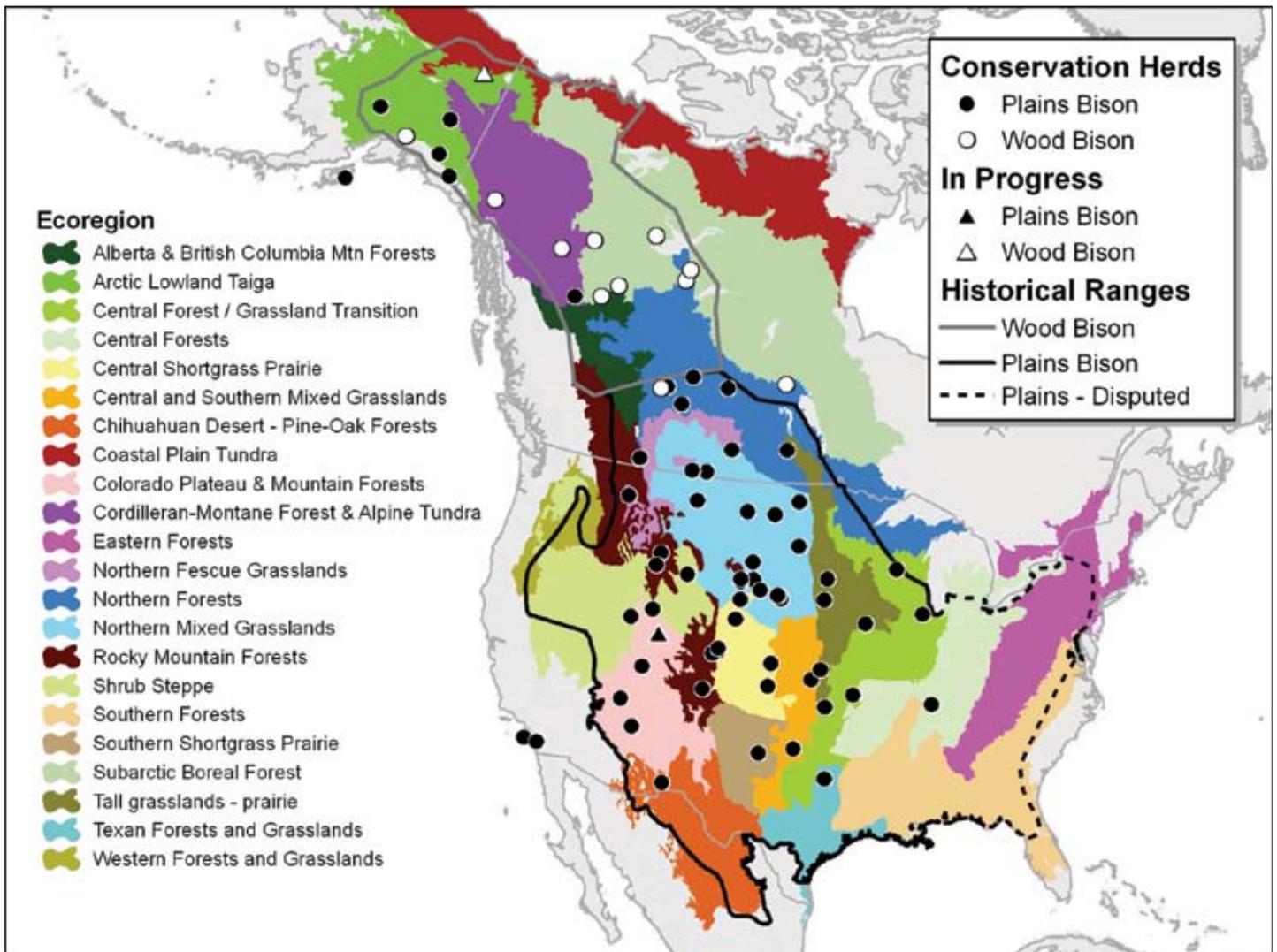


Figure 7.4 Representation of plains and wood bison conservation herds in original ranges and major habitat types in North America. Habitat types were based on Sanderson *et al.* (2008).

than 5,000 acres and less than 50,000 acres); large areas (more than 200 km² and less than 2,000 km²; more than 5,000 acres and less than 500,000 acres); and very large areas (more than 2,000 km²; more than 500,000 acres). About half of plains bison conservation herds occur on small ranges and only 10% of herds are on very large ranges (Figure 7.5). In contrast, 37% of wood bison herds occur on very large ranges and none occur on small ranges.

7.4 Population Size Distribution

Using a simulation model, Gross and Wang (2005) demonstrated that a minimum population of about 400 animals was needed to retain 90% of selectively neutral variation with a 90% probability for 200 years. Allelic diversity was more sensitive to management treatments than average heterozygosity. On average, a high proportion of alleles with an initial frequency of less than 0.05 were lost when herds had fewer than 400 animals. Differences in generation time accounted for about

75% of variation in retained heterozygosity for populations of 200-800 bison. As population size approached 1,000, the effects of population management on genetic variation were small. Therefore, we considered populations exceeding 1,000 to be more resilient than smaller populations.

Sanderson *et al.* (2008) defined the following size classes for ranking contributions of bison herds to ecological restoration: small contribution, fewer than 400 animals; modest contribution, 400-1,000 animals; large contribution, 1,000-5,000 animals; exceptional contribution, more than 5,000 animals. The frequency distribution of conservation population size (Figures 7.1 and 7.6) illustrates that small populations (fewer than 400 animals) are the most common population size class among both plains and wood bison (74% and 55%, respectively). Five plains bison and three wood bison herds exceed 1,000 animals. Only two populations have encompassed 5,000 animals within their recent range of size variability (Greater Yellowstone Area and Greater Wood Buffalo Park area).

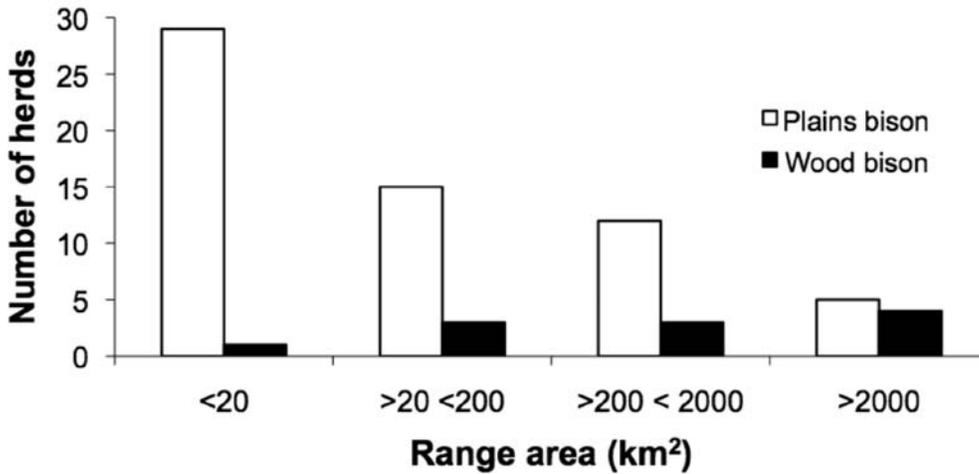
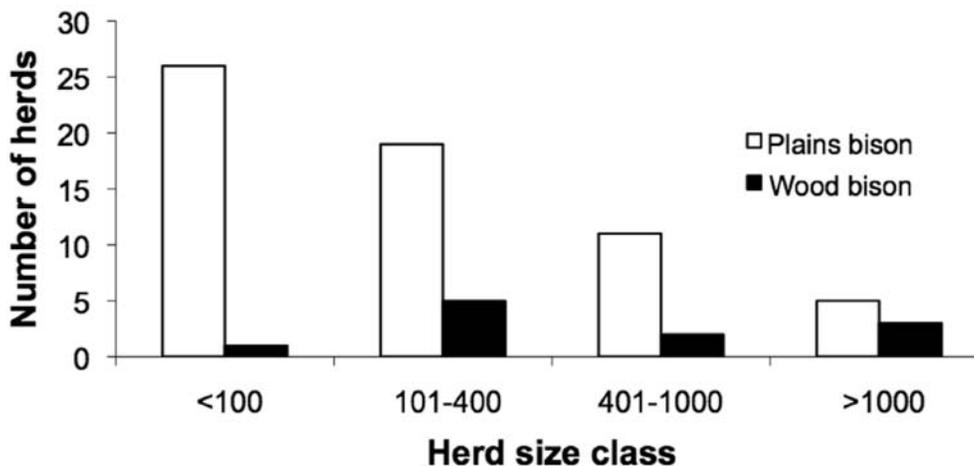


Figure 7.5 Area classes of ranges available for existing bison conservation herds.

7.5 Mate Competition

The sex and age structure of small populations are sometimes manipulated to reduce the risk of escapes, remove aggressive animals, compensate for unequal mating by males, alter fecundity, or to increase the rate of population increase. A common practice for both small conservation herds and commercial herds is to remove males before they become morphologically and behaviourally mature (six to seven years old and older), when they may become dangerous to people or other animals and property (e.g., fences). Furthermore, the sex ratio may be manipulated to maintain only sufficient young males to ensure fecundity (e.g. 10 males: 100 females). In contrast, in non-manipulated wild herds the mature male: female ratio can exceed 50:100 (Gates *et al.* 1995) and mate competition among males is assured.

The bison is a polygynous species in which mature males (six or seven years old) compete vigorously for mating opportunities (Komers *et al.* 1992). In the absence of mature males, juvenile and subadult males are capable of breeding successfully, but



there is little competition among them for mating opportunities (Komers *et al.* 1994a,b). We considered that the presence of two or more mature males indicates the potential for mate competition. Sixteen percent of plains bison conservation herds did not contain mature males. In contrast, two or more mature males were maintained in all wood bison conservation herds, thus providing opportunity for mate competition.

7.6 Presence of Wolves

Key species, such as bison, have a disproportionate influence

on the patterns of occurrence, distribution, and density of other species. Where present, bison influence the structure, composition, and stability of plant (Campbell *et al.* 1994; Knapp *et al.* 1999) and animal communities (Bogan 1997; Roe 1970; Truett *et al.* 2001). Grazers like bison also enhance mineral availability and nutrient cycling through faeces and urine deposition, and carcass decomposition (Augustine and Frank 2001; Towne 2000; Wallis DeVries *et al.* 1998). The presence of wolves, the only effective predator of bison (aside from humans), is an indicator that the maximum number of interactions is possible between bison and other species in an ecosystem. If wolves are present we assumed that all other natural limiting factors would likely be present in the ecosystem. Wolves are associated with only 10% of plains bison conservation herds (6 of 62) in contrast to 82% of wood bison herds (9 of 11).

7.7 Presence of Reportable Diseases

Although diseases may limit bison population growth and productivity they are unlikely to cause extirpation. However, the presence of diseases reportable under federal or state/provincial statutes may lead to management interventions that impact conservation (Chapter 5). The type of intervention varies with the disease and jurisdiction (Chapter 5). For example, captive conservation herds that test positive for BTB or brucellosis would normally be depopulated, while less serious interventions (such as the use of

Figure 7.6 Number of bison conservation herds in four size classes.



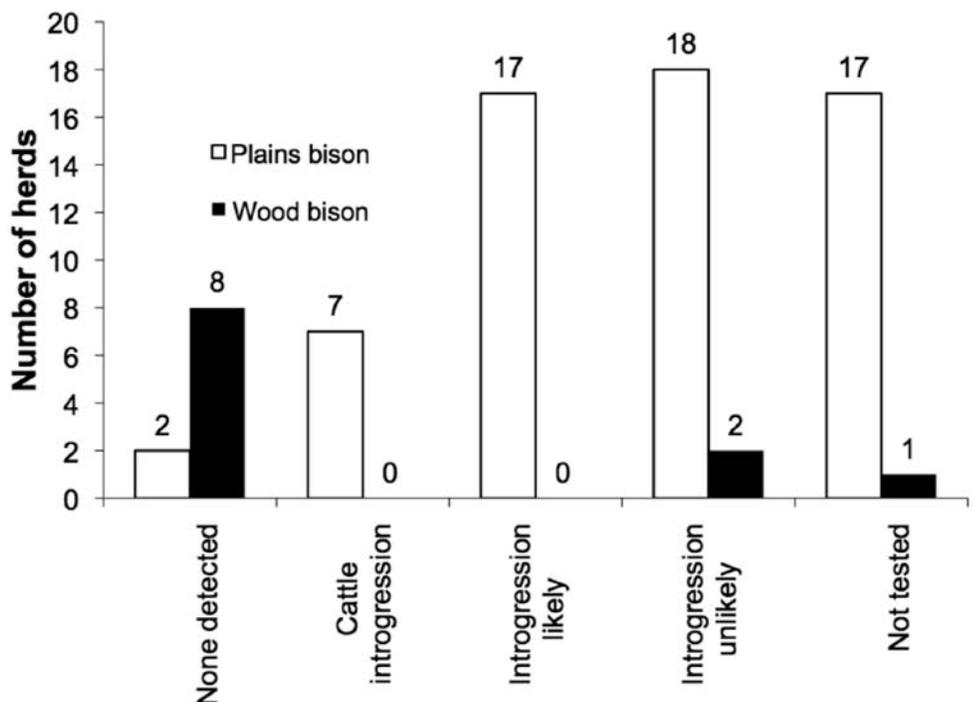
Plate 7.3 Male plains bison sparring. Photo: Dwight Lutsey.

control areas) may be applied for infected wild populations in large wilderness areas. The presence of reportable diseases may preclude translocations. Management interventions are possible to control some diseases (anthrax, BVD, JD). Reportable diseases were present in 5 of 62 (8%) of plains bison herds and 3 of 11 (27%) wood bison herds.

7.8 Cattle Gene Introgression

The molecular legacy of historic hybridisation between bison and cattle is a serious challenge for bison conservation today (Halbert and Derr 2007). Forced hybridisation has left a legacy of cattle DNA that is widespread among contemporary bison populations (Chapter 4). The implications for bison conservation are just beginning to be understood and appropriate interventions considered. Available technology allows testing of populations for the presence of markers for the cattle genome and mitochondrial DNA (MtDNA), but all conservation herds have not yet been tested (Figure 7.7). Among those tested, introgression was demonstrated in seven plains bison conservation herds, but none of eight wood bison herds. Based on stocking sources, introgression is likely in 17 plains bison herds and no wood bison herds.

Figure 7.7 Results of tests for cattle gene introgression in conservation herds.



7.9 Conclusions

Originally, the American bison ranged from northern Mexico to Alaska. Plains bison occurred from Northern Mexico to central Alberta and wood bison occurred from central Alberta to Alaska. The continental population underwent a dramatic decline during the 19th century, caused by overhunting, but has since partially recovered. Approximately 93% of the continental population is managed for private commercial propagation; very few of these herds are managed primarily for species conservation, and none are managed in the public interest for conservation. Bison currently occupy less than 1% of their original range, and conservation herds occupy a small fraction of that 1%. The number of conservation herds has increased since 1930, but the numbers of

individuals in populations managed primarily for conservation has changed little since then. There are 62 plains bison and 11 wood bison conservation herds (managed for conservation in the public interest). Conservation herds are typically small (fewer than 400 animals) and populations are widely dispersed with only one situation that provides geographic conditions for natural movements between population units. The current number of large populations is five plains bison and three wood bison herds. The estimated number of breeding females in conservation populations is 9,227 plains bison and 4,892 wood bison. Their current range is restricted by land use and wildlife

management policies in the south, and by wildlife and reportable disease management policies in the north.

Among North American nations, the species is most limited in Mexico, where an international trans-boundary wild herd recently occurred, but is now limited by management to a private ranch in New Mexico (U.S.), where they are classified as livestock. Several increasing herds or new projects (American Prairie Reserve, Montana; Broken Kettle Grassland Reserve, Iowa; San Luis Valley, Colorado; PANP, Saskatchewan, Canada; Janos Grassland, Chihuahua, Mexico and adjacent New Mexico; Yukon Flats, Minto Flats, and lower Innoko River areas in Alaska) have the potential to develop resilient populations on large landscapes thereby advancing the long-term security of bison as wildlife.

The American bison nearly qualifies for listing as Vulnerable C2a(i) under IUCN criteria and is currently listed as Near Threatened on the IUCN Red List in light of its dependence on ongoing conservation programmes and a very limited number of large resilient populations in the wild (Gates and Aune 2008). Future progress on the conservation and recovery of the American bison will depend on significant changes in its legal status and management as wildlife by federal and state/provincial agencies, harmonisation of policies and activities among agencies at multiple levels, cooperation with landed non-profit organisations, and possibly through the creation of voluntary formal conservation standards for private commercial herds and populations managed by Native American governments.

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8.1 Introduction

The bison is an iconic North American wildlife species that symbolises the wild and open western prairie and boreal forest landscapes of the recent past. Although their decline, and subsequent recovery, is frequently recounted in conservation circles, the ecological recovery of “wild” bison was never really considered, and consequently their restoration has never been fully accomplished (Sanderson *et al.* 2008). Most plains bison in North America are found on farms and ranches (about 400,000) while relatively few (about 30,000) are located on provincial/ state, federal, and non-profit conservation reserves (see Chapter 7). Few populations are distributed broadly on native landscapes in suitable habitat, and most do not enjoy equal legal or policy status when compared to other important wildlife species such as elk (*Cervus elaphus*), deer (*Odocoileus* spp.) or pronghorn (*Antilocapra americana*). Wood bison are managed more commonly as wildlife within their historic range than plains bison, but suffer from fragmented distribution and disease issues that complicate their management.

The purpose of this chapter is to evaluate the historic and current legal status of bison in North America and identify legal and policy obstacles relevant to conservation efforts for this species. Due to a historical paradigm that viewed bison as livestock, and past conservation measures that treated them in a manner similar to livestock, bison have not achieved a legal or policy status commensurate with a premier keystone herbivore native to prairie ecosystems. During the great restoration period of wildlife management, bison were routinely classified and managed by state/provincial and federal agencies across North America as a form of livestock, while other wildlife were classed and managed as free-roaming wild animals consistent with wild landscapes.

8.2 History of Protection and Conservation

8.2.1 Early legal and policy efforts by governments to protect plains and wood bison

8.2.1.1 Early policy development in the United States

Outcries during the 19th Century to halt the destruction of bison in the U.S. were largely ignored. In 1820, Major Stephens

expressed concern about the excessive killing of plains bison and advocated a law to prevent wanton slaughter (Dary 1989). In 1843, John J. Audubon issued warnings against the slaughter of bison (Dary 1989). Despite their pleas, no conservation policy or protective legislation was enacted for several more decades. Numerous bills to protect plains bison were introduced by members of the U.S. Congress between 1871 and 1876; none was passed into law. Although there were no successful federal interventions to halt the slaughter, several states enacted legislation on their own. Between 1864 and 1872, the states of Idaho, Wyoming, and Montana implemented statutes to reduce the killing of game, including bison. Although these laws reflected deep concern for the conservation of wildlife, they were largely ineffective owing to limited enforcement. In 1872, President Ulysses S. Grant established Yellowstone National Park to protect all resources, including bison, within its borders. The “Act to Protect the Birds and Animals in Yellowstone National Park and to Punish Crimes in Said Park” was signed by President Grover Cleveland in May 1894, providing the means necessary to halt the extirpation of the last free-ranging plains bison population in North America (Gates *et al.* 2005). Despite these efforts, by 1902, fewer than 25 free-ranging plains bison remained, and these were located in the remote Pelican Valley of Yellowstone National Park (YNP) (Meagher 1973). A few wood bison may have persisted into the 20th Century in Alaska, but were soon extirpated (Stephenson *et al.* 2001).

8.2.1.2 Early policy development in Canada

In Canada, early conservation efforts began in 1877 with the passing of the Buffalo Protection Act (Hewitt 1921). In 1883, the Ordinance for the Protection of Game was passed, but it was not effective owing to poor enforcement (Ogilvie 1979). Plains bison were extirpated from the wild in Canada by the 1880s (COSEWIC 2004), but wood bison persisted in a small population in what is now Wood Buffalo National Park (WBNP). The national parks system first became involved in plains bison conservation in 1897, when three animals were purchased from Charles Goodnight in Texas. However, the first significant contribution by the Government of Canada was made in 1907 when it purchased the privately owned Pablo-Allard herd in Montana. The government of Canada enacted the Unorganised Territories Game Preservation Act in 1894, partly as a response

to the decline of wood bison. The 1922 Orders in Council under the Forest Reserves and Parks Act established WBNP in an attempt to save wood bison from extinction (Boyd 2003; Gates *et al.* 2001a; 2001b; Soper 1941).

8.2.1.3 Policy development in Mexico

Historically, bison were present in five states in northern Mexico, but until recently existed in the wild only in the borderlands between the Janos region of Chihuahua and south-western New Mexico (List *et al.* 2007). Mexico first included bison on its red-list of endangered species in 1994. The most recent version (SEMARNAT 2002) specifically lists bison in the Janos-Hildago herd as “endangered wildlife”. Although the population is afforded legal protection in Mexico, it is considered livestock when it ranges into New Mexico. See section 8.5.5.3 for more details on this herd.

Bison conservation in Mexico has primarily been implemented through federal programmes; status has not yet been established under state legislation. The National Ministry of Environment (SEMARNAT 2002) managed bison for many years. Recently the responsibility for priority species, including bison, was transferred to the National Commission of Protected Natural Areas. The Institute of Ecology of the National University of Mexico is advocating legal protection of the herd in both countries, including protection under international treaties on migratory wildlife species between Mexico and the U.S. The IUCN Bison Specialist Group (BSG) strongly encourages this protective action and other efforts to restore plains bison to the Chihuahuan Desert grasslands.

8.2.2 Plains bison conservation by the private sector

Private sector conservation efforts can be categorised into two non-exclusive groups: 1) private citizens interested primarily in commercial production of bison and secondarily in bison conservation; and 2) private conservation groups interested in conserving bison as wildlife. The former do not typically have formal constitutions mandating conservation, while the latter institutions typically do. Legislation, regulations, rules, and policies affecting captive herds owned by these sectors are similar to domestic livestock, focusing on transport, trade, export, import, animal health, and use of public grazing lands.

Notably, Turner Enterprises has been involved in the development of production herds on 14 large ranches in the U.S., the largest number of plains bison owned and managed by a single owner. Bison are managed with low management inputs similar to many public conservation herds. Notably, the Castle Rock herd on Vermejo Park Ranch in New Mexico is derived from stock translocated during the 1930s from YNP and showing no evidence of cattle gene introgression. Although some privately owned herds may be valuable for conservation, there is no precedent for

assessing their long-term contribution to conservation of bison as wildlife. Recently, the Wildlife Conservation Society developed an evaluation matrix that helps identify the key characteristics and possible management adjustments that would be necessary for privately owned herds to contribute to bison conservation (Sanderson *et al.* 2008). This matrix is still evolving and was recently tested among a small producer group to refine and improve its application. Population and genetic management guidelines presented earlier in this document may also be useful for guiding private producers toward managing their herds in support of conservation. However, a system for certifying herds for conservation management would be required to ensure that guidelines are followed.

Several non-governmental organisations (NGO), particularly The Nature Conservancy (TNC), the Nature Conservancy of Canada (NCC), American Prairie Foundation (APF), and the World Wildlife Fund (WWF) have been active in developing conservation herds. More information on their initiatives can be found in section 8.5.5.4.

8.2.3 Conservation efforts by tribes and First Nations

Many North American Native Peoples have strong cultural, spiritual, and symbolic relationships with bison (Notzke 1994; Zontek 2007). Some tribes believe that because the animals once sustained their Indian way of life, they, in turn, must help the bison to sustain their place on the earth. The conservation of wild bison includes the intangible values these tribes hold for bison. Values vary greatly between tribes, and in some cases, even between members of the same tribe. Some tribal people believe that the status of the bison reflects the treatment of North American Indians. Interest in preserving the cultural significance of bison, and in restoring cultural connections to the species, can be important incentives for Native governments and communities to participate in bison conservation (Notzke 1994; Zontek 2007).

Some tribal bison managers consider all bison as wild animals regardless of the source of stock, genetic introgression from cattle, or domestication history. This can be the basis for conflict with conservation biologists who apply biological criteria when evaluating the conservation merit of a herd. Tribal governments commonly operate under challenging circumstances. Political views can vary between succeeding tribal administrations, creating unstable policies that can affect bison management and conservation practices. Numerous Native Tribes own or influence the management of a significant land base that has the potential to sustain large bison herds. However, there has yet to be a systematic survey of the number of herds or the distribution of bison under Native management—a task of sufficient magnitude and complexity to exceed the scope of this review.

The potential for tribes to participate in bison restoration is improving with the development of tribal game and fish

administrations, and the increasing capacity to implement modern wildlife management for wildlife on tribal lands. Some tribes have developed independent bison projects. Others have joined the Intertribal Bison Cooperative (ITBC) to obtain guidance and support. The ITBC was formed in 1990 with the mission to restore bison to Indian Nations in a manner that is compatible with their spiritual and cultural beliefs and practices (ITBC website: <http://www.itbcbison.com/>). In cooperation with the Native American Fish and Wildlife Society, the ITBC was able to secure U.S. congressional support for bison restoration in 1991. In 1992, tribal representatives met and the ITBC became an officially recognised tribal organisation in the U.S. The ITBC is a non-profit 501(c)(3) organisation governed by a Board of Directors comprised of a tribal representative from each member tribe. Currently there are 57 member tribes that collectively manage more than 15,000 bison. The role of ITBC is to act as a facilitator for education and training, developing market strategies, coordinating transfer of bison from federal ownership to tribal lands, and providing technical assistance to tribal members to encourage sound management. The ITBC does not have a presence in Canada, nor is there an equivalent organisation there. A summary of tribal bison conservation initiatives is in section 8.5.5.5.

8.3 Important Policy and Regulatory Considerations

8.3.1 Legal status and listings of bison

8.3.1.1 International and global status

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a multilateral agreement among nations to ensure that international trade in specimens of wild animals and plants does not threaten their survival. Species listed in Appendix I are those threatened with extinction, while species listed under Appendix II might soon be if trade is not controlled. Wood bison were transferred from CITES Appendix I to Appendix II in 1997 based on Canada's ability to satisfy the "precautionary measures" of Resolution Conf. 9.24 (Annex 4, paragraphs B.2.b.i and ii). Although bison are in demand for trade, they are managed according to the requirements of Article IV. It was determined that Canada maintains appropriate enforcement controls to prevent the unauthorised taking of wild bison for commercial farming, and that the transfer to Appendix II was consistent with the goals of the government's recovery plan, and would not hamper progress toward the recovery of wood bison in the wild within their original range. Import and export of wood bison is regulated under permit by CITES authorities within member nations. Plains bison are not listed under CITES (<http://www.cites.org/>).

American bison were recently listed as "Near Threatened" in the IUCN Red List of Threatened Species™ (Gates and Aune 2008). A taxon is Near Threatened when it has been evaluated against the criteria, but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for, or is likely to qualify for, a threatened category in the near future. No distinction is made between wood and plains bison in the World Conservation Union (IUCN) Red Book.

NatureServe is a non-profit conservation organisation and international network of biological inventories known as natural heritage programmes or conservation data centres operating in all 50 U.S. states, Canada, Latin America and the Caribbean. It assigned an overall conservation status rank to American bison of G4 (Apparently Secure), meaning they are globally common (more than 100 occurrences) generally widespread, but may be rare in parts of their range, and although they are secure in their global range, there may be a concern for their security in the long term (NatureServe 2006). The wood bison is ranked by NatureServe as G4T2Q, where "T" refers to it being an intraspecific taxon (trinomial), "2" means imperilled, and "Q" refers to questionable taxonomy. The plains bison is ranked as G4TU, where "U" means currently unrankable due to a lack of information or substantially conflicting information about status or trends.

8.3.1.2 Status in North America

The wood bison was designated by Canada as "Endangered" in 1978. Owing to progress made towards recovery, it was down listed to "Threatened" in 1988. This designation was re-evaluated and affirmed in May 2000. The wood bison is protected under the Canadian Species at Risk Act (2003), but hunting is allowed in Alberta, the Northwest Territories, and the Yukon, subject to conservation strategies and management regulation. In June 1970, the wood bison was listed under the U.S. Endangered Species Act (ESA) as "Endangered in Canada" to reflect its status in Canada at that time. Canada and the U.S. are undertaking efforts to harmonise the national listings of this subspecies (Gates *et al.* 2001b). A recent petition to down list wood bison from endangered to threatened in the U.S. was submitted and the decision is under 90-day review by the U.S. Fish and Wildlife Service (USFWS).

Although plains bison are currently not listed in the U.S. or Canada under species at risk of extinction legislation, consideration of a listing status is being undertaken (COSEWIC 2004). In 2004, COSEWIC recommended designating plains bison as Threatened under the Species at Risk Act in Canada (Wilson and Zittlau 2004). The proposed change was listed for comment on the public registry in 2005. Criticism ensued from commercial bison producers concerned with the impact on their industry and international trade, and there

was a lack of support by Agriculture and Agri-Food Canada and the provincial governments. In July 2006, The Federal Minister of the Environment recommended that plains bison not be listed because of potential economic implications for the Canadian bison industry (<http://canadagazette.gc.ca/partII/2005/20050727/html/si72-e.html>).

There are several potential complications that would accompany the process of listing plains bison in North America. One complication regarding the legal status of bison is the issue of hybridisation with cattle. There is considerable uncertainty concerning if, and how, endangered species status should be applied to hybrids in Canada and the U.S. (Boyd and Gates 2006; Campton and Kaeding, 2005). Hybrids are exempt from the Endangered Species Act (ESA) when propagated in captivity, and when they are the progeny from one listed and one non-listed parent (O'Brien and Mayr 1991). A second complication is the consideration of commercial bison production in evaluating the numerical status of this species. A third complication is the legal distinction and status of wild and captive bison should listing be considered for the wild form (Boyd 2003).

Bison often enjoy protected status in Canadian and U.S. national parks as a result of the legal status of the habitat. The Canadian National Parks Act protects bison and their habitat in national parks. In Canada, provincial and territorial governments can also use the federal Wildlife Trade Act to control the movement of bison across their borders. In the U.S., enabling legislation attached to each national park when it was established, typically protect bison as wildlife unless they are not considered native to the region. Where they are not considered native to a region, or are known to be cattle hybrids, national parks often consider them invasive and may consider removal or eradication.

The United States Forest Service (USFS) classifies the American Bison as "Not Sensitive in Region 2 and Not of Concern" by its Species Conservation Program assessment (USDA Forest Service 2009). The rationale for this classification is that populations and habitats are currently stable or increasing. This USFS review suggests that while the species may warrant restoration as an ecological keystone species, it does not warrant sensitive status.

Conservation and restoration programmes for American bison are confounded by socioeconomic challenges resulting from the confusing legal status for this species. The legal status of bison ranges from domestic livestock to wildlife among various federal, state, and provincial jurisdictions across North America (Table 8.1). The legal recognition of bison as wildlife is often impeded by their historic, or in many cases dual, classification as domestic livestock. Where they have attained their status as wildlife, they are routinely managed within fenced preserves where some, if not all, natural selective processes are curtailed.

Ten states in the U.S., four provinces in Canada, and one state in Mexico classify bison as wildlife (Table 8.1). All other states and provinces within their original range designate bison solely as domestic livestock. Plains bison are designated and managed as wildlife in Alaska, Arizona, Utah, Montana, Wyoming, British Columbia, Alberta, Saskatchewan, and Chihuahua. Four other states consider bison as wildlife, but do not have free ranging populations to manage; Idaho (extreme rarity), Missouri (extirpated), New Mexico (no longer occurring), and Texas (extirpated). Plains bison are listed and managed as wildlife, but are considered extirpated, in Alberta and Manitoba. Wild bison are preserved, as a public trust resource, managed to protect natural selection processes, and hunted as free roaming wildlife in Alaska, Arizona, Utah, Montana, Wyoming, British Columbia, Alberta, and Saskatchewan. Wood bison are designated and managed as wildlife under provincial statutes in Manitoba, Alberta, British Columbia, Yukon, and the Northwest Territories. Wood bison enjoy protected status in all of these provinces. There are legal restrictions on hunting and other activities such as capture and harassment. Subsistence hunting by aboriginal peoples is allowed under strict regulation in Northwest Territories and Yukon.

Under Mexican law, wildlife belongs to the nation. However, Mexico has only recently developed a wildlife conservation and management system that entitles a landowner to be registered in the programme (*Unidades de Manejo y Aprovechamiento*) and to receive the benefits of harvest and commercial use of wildlife. This programme has doubled the landscape available for wildlife protection in Mexico. In 1995, the federal government established a bureau managed by the Secretary of the Environment. Within this organisation is a department for the administration of wildlife conservation programmes. In 2007, the conservation of threatened species is becoming the responsibility of the National System of Protected Natural Areas.

There is only a limited state or local wildlife management infrastructure to support federal wildlife conservation efforts in Mexico. Local communities are only now beginning to accept and appreciate the value of free-ranging wildlife on landscapes that they own and manage. Until a broader legal and policy infrastructure is established, federal law and policy will continue to direct wildlife management conservation in Mexico. Federal policy is primarily aimed at developing partnerships with landowners and cooperatively identifies conservation measures acceptable to individual landowners. In addition, federal conservation law and policy drives the protection of land to establish "Natural Protected Areas" to conserve species associated with those landscapes. Public interest has increased in developing wildlife programmes for economic and conservation purposes. Interest in conservation

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Table 8.1 Current legal status of plains and wood bison (Excluding portions of bison range where large landscapes are no longer available).

Country/ State Province	Animal Classification		Protected and/or Wildlife Status	Long Term Conservation Goal	Key Statutes or Policies Affecting Conservation	Proposals for Restoration	Major Legislative and/or Policy Obstacles
	Wildlife	Domestic					
United States	Yes	Yes	Plains bison petitioned under ESA but denied; Managed as captive wildlife on USFWS Refuges; USFS R-2 classifies bison as not sensitive; Managed as wildlife (captive or free-ranging) in several National Parks. Recent petition to downlist wood bison to "Threatened" is under 90-day review.	No comprehensive strategy; Activity limited to and fragmented among NGOs, very few states, National Parks and USFWS Refuge System.	NEPA; National Refuge Act; Each National Park has its own organic legislation- Interpreted by each Park Superintendent; Wood bison are listed as Endangered under ESA; Animal Health Protection Act (7#U. S.C. 8301 et seq.).	No	Absence of strategic planning; Multiple jurisdictions and coordination of agencies; Management in captivity under refuge policy; Disease transmission to livestock; Limited involvement and interest by many state wildlife agencies; Confused regulatory status in many states.
Alaska	Yes	Yes	4 introduced plains bison herds are "Wildlife"; One plains bison herd on Popof Island; Maintain a hunting programme by permit only.	Long-term goals being established for wild wood bison in State Wildlife Action Plan (SWAP) and reintroduction programmes; Management planning for the 4 introduced plains bison herds.	ESA 10(J) status for wood bison - Minto Flats introduction; Title 16 in Alaska state statutes designates bison as wildlife; Delta Bison Mgt. Plan; Wood bison Conservation Plan in progress; Livestock manages captive bison under Title 3 in Alaska state statutes. Domestic bison governed under same rules as domestic cattle.	Yes; Yukon and Minto Flats Wood Bison Restoration is underway.	Plains bison outside their original range; Aboriginal hunting rights; USFWS interpretations of legal status of wood bison under ESA.
Arizona	Yes	Yes	Bison are wildlife, specifically big game, and are managed by AGFD on two state wildlife areas (House Rock and Raymond Ranch).	Yes, in SWAP.	Title 12, R12-4-401 Game and Fish Commission Rules for Live Wildlife; R-12-4-406 Restricted Live Wildlife Section B9.d exempts restrictions on possessing captive bison (permit not required to possess); A.R.S 17-101 A22 defines wildlife and 101B defines bison as a game animal.	No	Arizona is at the edge of bison original range; Current strategic plan limits conservation to two existing populations; House Rock population hybridised with cattle; Agriculture and forestry conflicts.
Colorado	No	Yes	Bison are exempt from the requirements of wildlife commission regulations. Today, captive herds are designated as livestock. Conservation herds exist in two Denver City parks, one USFWS Refuge and one TNC preserve.	Yes; On Two USFWS Refuges and one TNC preserve.	Chapter 11, Section 406-8 Wildlife, Parks and Unregulated Wildlife; Wildlife Commission Regulation #1103 exempts bison from all wildlife commission regulations, as domestic animals	No	Agriculture and forestry conflicts; Regulatory status.

Table 8.1 (continued)

Country/ State Province	Animal Classification		Protected and/or Wildlife Status	Long Term Conservation Goal	Key Statutes or Policies Affecting Conservation	Proposals for Restoration	Major Legislative and/or Policy Obstacles
	Wildlife	Domestic					
Idaho	Yes	Yes	Identified as S1 species in wildlife commission status report. S1= critically imperilled species at high risk because of extreme rarity.	No	Livestock regulations chapter 210 section 01.a; Not mentioned in SWAP.	No	Disease Status in YNP; Agriculture and forestry conflicts; Regulatory status.
Illinois	No	Yes	Considered extirpated in Illinois.	No	Managed as livestock under state statute Chapter 225 part 650/1; Not mentioned in SWAP.	No	Agriculture and forestry conflicts; Small parcels of public or private conservation land; Regulatory status.
Iowa	No	Yes	Considered extirpated in Iowa; Found only on one small National Wildlife Refuge.	Yes; Only on one National Wildlife Refuge.	Managed as livestock under state animal health statutes. Bison statutes combined with those of cattle; Not mentioned anywhere in wildlife regulations or wildlife conservation strategies.	No	Agriculture and forestry conflicts; Small parcels of public or private conservation land; Regulatory status.
Kansas	No	Yes	Considered extirpated prior to 1900; Designated domestic under beef rules; State wildlife department manages bison on two small game ranges; TNC has two additional preserves.	Yes; Only on TNC and state preserves	Identified in SWAP as not meeting criteria for species of greatest conservation need; Chapter 60 section 4001 in livestock regulations.	No	Agriculture and forestry conflicts; Small parcels of public or private conservation land; Regulatory status.
Louisiana	No	Yes	All bison are considered livestock.	No	Louisiana Code of regulations 7: XXI.11705; No mention of bison in SWAP or in wildlife regulations.	No	Agriculture and forestry conflicts; Small parcels of public or private conservation land; Regulatory status.
Minnesota	No	Yes	Wild bison are considered extirpated in MN; Found only on a couple of small preserves	No	Minnesota statutes for livestock (17A.03); Bison not mentioned in SWAP.	No	Agriculture and forestry conflicts; Regulatory status.
Missouri	Yes	Yes	Wild bison are considered extirpated in Missouri.	No	Identified as class 1 wildlife in title 3 Code of State Regulations (CSR) 10; Identified as livestock in title 2 CSR 30.	No	Agriculture and forestry conflicts; Small parcels of public or private conservation land.

Table 8.1 (continued)

Country/ State Province	Animal Classification		Protected and/or Wildlife Status	Long Term Conservation Goal	Key Statutes or Policies Affecting Conservation	Proposals for Restoration	Major Legislative and/or Policy Obstacles
	Wildlife	Domestic					
Montana	Yes	Yes	Game animal status; Tier 1 species in SWAP; Species in need of management in YNP; Managed in habitats adjacent to YNP. On NBR; Ownership of NBR is in dispute; American Prairie Reserve (APF).	Yes in SWAP; National Bison-Refuge Plan; Yellowstone Interagency Bison Management Plan; APF Bison Reintroduction and Conservation Plan.	Montana Environmental Policy Act (Montana Code Annotated (MCA) 75-1-102); Legislative authority to manage wild bison in Montana (MCA 81-2-120; MCA 87-2-130); SWAP; Interagency Bison Management Plan-EIS, 2000.	Yes; Charles M. Russell Refuge Plan	Agriculture and forestry conflicts; Disease status in YNP.
Nebraska	No	Yes	Wild bison are considered extirpated in the state; Bison are defined as livestock; Found only on several small preserves.	Yes; Only on National Wildlife Refuge and TNC preserves.	Bison found only in the Department of Agriculture regulations. Title 23 and 54; Section 54 defines the required health regulations for cattle and bison;	No; Possibly tribal efforts.	Agriculture and forestry conflicts.
New Mexico	Yes	Yes	Classified as game animals in 1978; Identified in wildlife database as "apparently no longer occurring" but not identified as extirpated or extinct; Included in SWAP.	Yes	Title 17-2-3 New Mexico Administrative Code (NMSA) 1978 classifies bison as game animals except where raised in captivity for commercial purposes; Title 19 (Wildlife) chapter 31 describes the legal weapons for taking of bison yet there are no hunting regulations for bison (19.31.10.16); Title 19 Chapter 26 describes livestock (and names bison) as domestic animals raised on a ranch (19.26.2.7); Title 21 (agriculture and ranching) has many references toward management of bison.	No	Agriculture and forestry conflicts; Lack of suitable habitat.
North Dakota	No	Yes	Classed as non-traditional livestock; Bison are found only in Theodore Roosevelt National Park and managed as domestic livestock outside the National Park.	Yes; Only on two federal and one TNC preserves.	Unable to find any reference to bison in agriculture regulations (Title 4) or wildlife regulations (Title 20).	No	Agriculture and forestry conflicts; Regulatory status.

Table 8.1 (continued)

Country/ State Province	Animal Classification		Protected and/or Wildlife Status	Long Term Conservation Goal	Key Statutes or Policies Affecting Conservation	Proposals for Restoration	Major Legislative and/or Policy Obstacles
	Wildlife	Domestic					
Nevada	No	Yes	Wild bison are considered extirpated in Nevada and are not classified by the Nevada Dept. of Wildlife; Bison are classified by Nevada Dept. of Agriculture.	No	Bison not referenced in wildlife regulations (Nevada Administrative Code (NAC) 502, 503 or 504); Regulations note that possession of bison does not require a permit; Regulations pertaining to domestic bison are described in NAC 571.	No	Agriculture and forestry conflicts; Regulatory status.
Oklahoma	No	Yes	Classified as domesticated animals; Protected on two preserves (one federal and one private).	Only for Wichita Mountains National Wildlife Refuge and TNC preserve.	There are no references to bison in the Game and Fish regulations in Title 29; Title 800-25-25-3 lists species of wildlife exempt from wildlife permits or license; Regulations pertaining to domestic bison are described in Title 2 (Agriculture) and Title 4 (Animals) of Oklahoma Code.	No	Agriculture and forestry conflicts; Small parcels of public or private conservation land; Regulatory status.
South Dakota	Yes, partially	Yes	Identified as "Wildlife" only in the confines of National Park System; Bison are contained within Custer State Park.	Yes; Only within the State and National Park System and one TNC preserve.	South Dakota statutes Title 41 do not mention bison anywhere in the wildlife regulations; State laws identify bison as livestock.	No	Status of bison is livestock outside the National Park System; Management under captivity; Agriculture and forestry conflicts; Regulatory status.
Texas	Yes	Yes	Texas Parks and Wildlife Department considers wild bison extirpated; Found only in Caprock State Park and on one TNC preserve.	Only within one state park and one TNC preserve.	No longer considered a game animal in Texas - Parks and Wildlife Code Chapter 43; Texas Agriculture Code (chap. 2.005) recognises bison as wild animals indigenous to the state but can be raised for commercial purposes to preserve the species.	No	Agriculture conflicts; Small parcels of public or private conservation land; Regulatory status.
Utah	Yes	Yes	Free roaming populations are found in the Henry Mountains and on Antelope Island; Utah just completed a reintroduction to the Book Cliffs.	Herd management plan being developed for the Henry Mountains population and Book Cliffs.	Wild bison are managed under regulations in Title 23 of Utah Code; Regulations pertaining to domestic bison are described in Title 4 of Utah Code.	Yes; Recent introduction to Book Cliffs.	Agriculture conflicts.

Table 8.1 (continued)

Country/ State Province	Animal Classification		Protected and/or Wildlife Status	Long Term Conservation Goal	Key Statutes or Policies Affecting Conservation	Proposals for Restoration	Major Legislative and/or Policy Obstacles
	Wildlife	Domestic					
Wyoming	Yes, partially	Yes	“Wildlife” within national forest and national parks of Park and Teton counties in the GYA; Are classified as domestic animals in the remainder of the state.	Yes, in NER and GTNP Management Plan and EIS; Yellowstone population conserved though Interagency Bison Management Plan with Montana	WY (Wyoming Fish and Game Commission regulation) 11-6-32 vi classifies bison as livestock unless otherwise designated by Livestock Board and Wildlife Commission; WY 23-1-302 xxvi gives authority to designate individual bison or herds as wildlife; Management Plan and EIS for bison and elk on NER and Grand Teton National Park.	Yes; Northern Arapaho re-introduction to the Wind River Reservation.	Status of bison outside of designated areas in statute (Park and Teton Counties); Disease status of YNP and Jackson-Grand Teton bison; Agriculture and forestry conflicts; Regulatory status outside of Parks.
Canada	Yes	Yes	The General Status of Species for plains bison is Sensitive; Plains bison petitioned for endangered status denied-Current Status Threatened; Wood bison are listed as Threatened; Both subspecies are managed as native wildlife on some Canadian Parks and in some provinces	No, plains bison; Yes, wood bison, in National Recovery Plan.	1996 Accord for the Protection of Species at Risk in Canada; Species at Risk Act, 2002; COSEWIC designated plains bison threatened in May 2004; Wood bison were classified as endangered in 1978 moved up to Threatened in 1988 (COSEWIC); Canada National Parks Act (2001); Wood bison are on The Recovery of Nationally Endangered Wildlife (RENEW) priority list.	Yes, in Banff National Park, Waterton Lakes National Park, Grasslands National Park for plains bison; National Recovery Plan for wood bison.	Absence of strategic planning for plains bison; Multiple jurisdictions and coordination of agencies; Agriculture and forestry conflicts; Disease transmission to cattle: Diseased status of some existing wild bison; Management in captivity
Alberta	Yes for wood bison; No for plains bison.	Yes	Consider plains bison as extirpated; Plains bison are not listed under the Alberta Wildlife Act; Plains bison listed at risk in 2000 status report; Lists wood bison as endangered in the Hay-Zama wood bison protection area in NW Alberta.	No for plains bison; Yes for wood bison, with National Recovery Plan.	1985 Policy for the Management of Threatened Wildlife in Alberta; Alberta Wildlife Act (1998) 2000 Status of Alberta Wild Species.	Yes; in Banff and Waterton National Parks.	Legal status of plains bison is “livestock”; Agricultural and forestry conflicts; Conservation status of hybrid bison in WBNP.
British Columbia	Yes	Yes	For plains bison the General Status of Species=Sensitive. General Class is “Big Game” and “Wildlife”; Listed as Vulnerable; Wood bison are on the Provincial Red List-Imperiled subspecies.	No for plains bison; Yes –for wood bison, with National Recovery Plan	British Columbia Wildlife Act (1996) General Status of Species in Canada (CESCC 2001); Provincial Blue List and Provincial Red List (British Columbia Conservation Data Centre 2000).	No for plains bison; Wood bison under National Recovery Plan.	Agricultural and forestry conflicts; Plains bison outside their original range.

Table 8.1 (continued)

Country/ State Province	Animal Classification		Protected and/or Wildlife Status	Long Term Conservation Goal	Key Statutes or Policies Affecting Conservation	Proposals for Restoration	Major Legislative and/or Policy Obstacles
	Wildlife	Domestic					
Manitoba	Yes for wood bison; No for plains bison.	Yes	Provincial Heritage Status-S1- Susceptible to Extirpation; Listed as “at Risk” by CESSC; Plains bison are not listed as “Wildlife” but are classed as Livestock; Wood bison are protected in the Chitek Lake area.	No for plains bison; Yes for wood bison, with National Recovery Plan.	Manitoba Wildlife Act (2004); Manitoba Agriculture, Food and Rural Initiatives (2003).	No for plains bison; Wood bison under National Recovery Plan.	Status of plains bison as “livestock”; Agricultural and forestry conflicts.
Sas- katche- wan	Yes	Yes	Provincial Heritage status - S3=Vulnerable; CESSC status as “may be at risk”; Bison are “Wildlife” but there are no open hunting seasons; Department of National Defense offers protection due to prohibition of trespass except by Cold Lake First Nations; First Nations have aboriginal hunting rights; protected in Buffalo Pound Provincial Park, Prince Albert and Grasslands National Parks; Nature Conservancy of Canada (NCC) Old Man on His Back Conservation Area.	No for plains bison except in National or Provincial Parks; Yes for wood bison, with National Recovery Plan.	Saskatchewan Wildlife Act (1998); The Wildlife Regulations, 1981; Saskatchewan Game Farm Policy 1998 includes captive bison; Range Access Agreement between CLFN and DND (2002); Saskatchewan Parks Act (1997); Cooperative Inter-Jurisdiction Plains Bison Management Strategy.	Plains bison in Grasslands National Park; Wood bison under National Recovery Plan.	Agriculture and forestry conflicts; Limited suitable habitat.
Northwest Territories	Yes	Yes	Both plains and wood bison are “Wildlife”; Wood bison are designated as in danger of becoming extinct; Some regulated hunting of wood bison is allowed in designated herds; Importation of plains bison prohibited.	Yes, wood bison in National Recovery Plan; Bison harvest is regulated under a co-management process; Hook Lake is managed under a specific Hook Lake Recovery Plan.	Northwest Territories Wildlife Act (1964) designated wood bison a protected species; Agency policies prevent plains bison ranches or introduction to the wild.	No	Conservation status of hybrid plains/ woods bison in WBNP.
Yukon	Yes	Yes	Both plains and wood bison are “Wildlife”; Wood bison are a protected species; Importation of plains bison prohibited.	Yes, wood bison in National Recovery Plan; Bison are managed on a sustained yield basis under a cooperative management plan.	Yukon Wildlife Act (2002); Agency policies prevent plains bison ranches or introduction to the wild.	No	

Table 8.1 (continued)

Country/ State Province	Animal Classification		Protected and/or Wildlife Status	Long Term Conservation Goal	Key Statutes or Policies Affecting Conservation	Proposals for Restoration	Major Legislative and/or Policy Obstacles
	Wildlife	Domestic					
Mexico	Yes	Yes	Appeared as extirpated in 1994; In 2002 red-list Janos bison were listed as endangered.	Not officially, however non-governmental conservation is emerging and proposing a long-term vision for conservation preserves.	Secretaria de Desarrollo Social, 1994-NOM-059-ECOL-1994. Secretaria de Medio Ambiente y Recursos Naturales-NOM-059-ECOL-2001.	Yes, Developing a National Recovery Plan.	Agriculture conflicts; Lack of suitable habitats: Small properties available; Economic and market obstacles; Lack of public interest: A developing wildlife conservation programme; Varied status of the Janos bison at the international border with New Mexico
Tribal and First Nations	Yes	Yes	Varies by tribe or First Nation; Most tribes with strong cultural histories protect bison for tribal use; The Intertribal Bison Cooperative has 57 member tribes that are actively pursuing bison management for cultural and commercial interests.	Yes, depending upon tribal conservation programmes; Some tribes are developing advanced game codes and sophisticated species restoration and management plans.	Varies but generally determined by Tribal Council and managed by Tribal Fish and Game Commissions; Intertribal Bison Cooperative was formed to encourage the restoration of bison; Cultural consideration is primary driver for legal and policy considerations by each tribe.	Yes	Variability of tribal government structure and function; Agriculture conflicts; Variable wildlife conservation and management infrastructure.

and protection of the Janos-Hildago bison herd is an example of this rising conservation interest. Bison in this specific population are protected by endangered species status under federal law. All other bison in Mexico are privately owned and maintained on fenced private property.

Over 93% of the bison in North America are privately owned and managed for commercial production (Chapter 7). Bison can be kept as domestic livestock in all of the U.S. These bison are privately owned and typically managed for meat production or breeding. In Alberta, Saskatchewan, and Manitoba, where bison are regulated as livestock, individuals in the private sector may own bison. In British Columbia, bison may be produced commercially, but a game-farming license is required. Commercial herds owned by individuals, corporations, or NGOs are managed independently, subject to market forces, and regulations governing animal health and trade. In the Yukon and Northwest Territories, existing policy prevents the establishment of plains bison ranches or their introduction into the wild. There is no unified conservation effort or regulatory framework that encourages or facilitates conservation of commercial bison as wildlife at national, state or provincial levels. The “laundering” of wild animals through captive-breeding operations and farms has not been detected in Canada or the U.S

8.3.2 Disease status

Early in the history of bison restoration, diseases were not considered very important and restoration efforts proceeded with limited concern for the transfer of pathogens. As a result of significant failures to guard against disease transfer and control during translocation, bison restoration projects today have to overcome some historic baggage.

With the development of an extensive and aggressive domestic animal disease control programme in North America during the mid to late 1900s, the implications of diseases to wildlife restoration has increased (Friend 2006). Furthermore, with the successful restoration of many wildlife species, and the subsequent increase in their distribution, these same diseases are now very important to the wildlife community (Wobeser 1994). Finally, increased globalisation and the high mobility of society are increasing the likelihood of pathogen transfer across continents, thereby increasing the vigilance of disease control programmes (Friend 2006). As a result, efforts to conduct bison restoration will have to consider the significance of diseases in restoration projects. For a comprehensive review of diseases significant to bison conservation, the reader should refer to Chapter 5 of this document. Unfortunately, disease issues often trump conservation interests, especially when the conservation actions are likely to come in direct conflict with powerful agricultural industries. This will necessitate the careful selection of source

stock, extensive testing and screening of source herds, health monitoring of herds, and regulatory involvement in the process of translocation (Table 8.2).

Successful restoration projects will need to navigate the animal health regulatory process necessary to permit translocation of bison and to accomplish the eventual establishment of healthy conservation herds in North America (see Chapter 5). The key disease categories that need to be considered in bison restoration are: Foreign Animal Disease (FAD) events, regulatory diseases (across international boundaries and within country jurisdictions), and diseases of significance to livestock, but not regulated. A foreign animal disease will cause significant impact to bison restoration and agricultural activities in any jurisdiction. A significant response network is already available to address FADs within countries, states, and provinces. This response network typically involves federal, state, and provincial agriculture, wildlife, and public health agencies. Any such event involving source bison, or on a restoration landscape, would halt a restoration project and stop movement of individuals from an infected source stock. A bison conservation effort is at risk when a bovine FAD arrives in any country, and a subsequent federal response is required to immediately stop movement of all affected animals. Regulatory diseases on the other hand are typically more manageable, with regulatory steps required to allow movement after health standards are met. Although they are significant, there are established protocols to test, manage, and even control many of these diseases. Each disease has its

own characteristics and subsequently the challenges of disease testing, management and control vary. There have been many historic efforts, some successful and some not, to control and eliminate these types of diseases in bison. This historic record is a good place to go to see what works and what does not.

The science behind wildlife disease issues is improving, but more work is needed (Friend 2006). Considerable research is needed to establish quarantine and testing protocols required to ensure the safe movement of animals. To be certain that restoration projects will not introduce new diseases, or exacerbate existing diseases, it is important to accurately and reliably establish the health background of source herds and of the wild and domestic animals within restoration areas. There will be many agricultural interests examining bison restoration efforts, so during a restoration project, utmost attention should be given to communicating the health prevention measures taken, and testing information obtained. It is likely that agricultural conflicts will be one of the major impediments to restoration, but embracing modern approaches, with careful monitoring of population health and integrating regulatory health officials into the projects from the beginning, can mitigate most disease issues. Restoration efforts should establish and maintain regular communication with state, provincial, and federal animal health regulators and other appropriate public health agencies. General communications should also be established with key animal health organisations, such as the U.S. Animal Health Association or Wildlife Disease Association, to ensure that the

best health information is being openly discussed and shared with affected groups and individuals.

Table 8.2 Some diseases that will or may have implications to bison restoration.

Disease	Restoration is Prevented	Significant Impediment	Medium Impediment	Locally Significant
Any FAD*	X			
Anthrax	X			
Bovine Tuberculosis	X			
BSE**	X			
Brucellosis		X		
MCF***		X		
JD****			X	
Respiratory Diseases (e.g. BVD, IBR, BRSV, PI3, Bacterial)			X	X
Endoparasites				X
Ectoparasites				X
Other Bacterial/Viral infections				X

* Foreign animal disease ** Bovine spongiform encephalopathy
 *** Malignant catarrhal fever **** Johne's disease.

Restoration projects that involve international transport of bison are subject to additional legal and policy considerations. For example, increased animal disease regulations due to any discovery and control of bovine spongiform encephalopathy (BSE) across the U.S.–Canadian or U.S.–Mexican borders will undoubtedly complicate trans-boundary movement of bison (APHIS, USDA 2007). Until these restrictions are eased there will be limited opportunity for international movement of bison despite any evidence that this disease actually exists in American bison. Restoration planning will need to include a thorough search of current international border restrictions related to disease control. Early discussions with animal health regulators will be essential to identify any disease regulations and specific testing requirements for transport of bison across an international boundary.

8.4 Legal and Policy Obstacles Hindering Conservation of Bison

Bison conservation and restoration intersects directly with many laws, rules, and policies within a complex social-economic-ecological matrix. Isenberg (2000) detailed the historical relationships of social and economic change to preservation of the bison at the turn of the century. Bison were caught in a vortex of social, economic, and ecological change on the Great Plains, and were nearly exterminated (Isenberg 2000). These changes remain the central themes for an ongoing modern Great Plains drama. The continued expansion of the human population (except in rural areas of the Great Plains, where it is declining), the dominant use of prairie grazing lands for domestic livestock, and the conversion of native prairie to cropland, have led to persistent competition between wild bison and humans for primary use of grassland habitats. However, intermixed among these agricultural and urbanising landscapes are relatively intact islands of suitable prairie habitat with potential for bison restoration. These remaining intact landscapes are typically a mix of private and public land and are characterised by a mosaic of land ownership, land management regimes, socio-economic interests and land use policies. Excluding disease status of bison (see above section), we have identified six principle obstacles that are major impediments to conservation of bison within this social-economic-ecological landscape. Although there are many other minor obstacles, most of these are site specific in nature and can be addressed without efforts to shape law/policy or public attitudes in a range wide scale.

The most significant legal and policy obstacles to wild bison restoration are indirectly derived from socio-economic concerns and persistent historical paradigms of bison management. The greatest impediment is social intolerance for a large grazing bovid that is perceived to compete with other interests adjacent to, or within, prospective prairie landscapes suitable for bison restoration. As a species, the biology, behavioural plasticity, and wide ecological scope of bison provide unlimited opportunity for restoration efforts with a high probability of success in recolonising available grassland habitats.

8.4.1.1 Confusing legal classification and status

There are relatively few states and provinces where conservation bison herds are legally classified as wildlife (see Table 8.1). Other states/provinces have mixed status for bison and there is some confusion relative to the legal authority or policies of other bison herds. Many states/provinces within the original range of bison have classified bison as domestic livestock and management authority is vested within agricultural agencies. In addition, many conservation herds are managed by federal agencies, such as the National Park Service (NPS) or U.S. Fish and Wildlife Service (USFWS) Refuge System, adding a federal layer of laws and policies upon bison. This confusing legal classification and status increases the difficulties in conserving the species in a comprehensive manner.

Privately owned bison herds do not enjoy legal status as wildlife. Some bison owned by private producers may have conservation value (e.g., good genetics), but management is principally production oriented. Several privately owned bison herds managed by NGOs are managed in an ecologically relevant manner, but are also not legally classified as wildlife. In Alaska, wood bison were not considered native wildlife for many years by the USFWS, but plains bison herds were established by the State of Alaska and managed as wildlife. Federally owned bison herds are typically managed as wildlife, although behind high fences, but they are usually not recognised as native wildlife by state authorities. This confusion in the legal status of bison is probably the single most important obstacle impeding ecological restoration and hindering a nationwide conservation strategy for this species.

8.4.1.2 Historical management policies

Adding to the confused legal status of bison is the consistent policy of establishing and managing bison behind high fences by state and federal agencies. This management paradigm, established in the early 1900s to protect the species, has persisted, further confusing the management policy framework and public attitude toward bison as a wildlife species. This confusing management approach to bison is not consistent with other wildlife and has produced the second most significant obstacle to ecological restoration. Few agencies or members of the public identify bison as native wildlife deserving the same status as other free-ranging wildlife. A public recognition for the need to manage bison as wildlife, in an ecologically sensitive way, is essential to successful restoration. Ecological restoration of bison will be hindered until this management paradigm shifts and social tolerance is developed to allow free-ranging bison on native prairie habitats.

8.4.1.3 Complex partnerships needed to manage large landscapes

Bison populations managed on public lands are considered as the core of the wild herds being managed to conserve the species for the future (Boyd 2003; Knowles *et al.* 1997). However, few public land management agencies have a sufficient land base to manage bison populations in a manner that allows for natural selection processes. Bison need large landscapes to allow natural movements and express appropriate ecological function. Unfortunately, most wild bison are being managed as small populations on relatively small areas by single agencies or tribes. Forging the partnerships to manage populations across multiple jurisdictions on large landscapes seems to limit existing conservation efforts. Building partnerships to manage wild bison, as a public trust resource by a coalition of private and public interests, while theoretically feasible, has been limited in practice.

The problems of governance and scale have been well discussed in the literature (Westley and Miller 2003; Wilke *et al.* 2008). There typically is a wide range of actors associated with the conservation of large landscapes and species with large spatial needs such as bison. It is easy to underestimate the complexity of ownership patterns on large landscapes and to miss identifying key actors on this conservation stage. Furthermore, different kinds of actors will have different rights, interests, and capacities, and will need to be approached in different ways (Wilke *et al.* 2008). The challenge of forming complex partnerships at the appropriate scale is formidable and often discourages efforts to consider large-scale initiatives.

8.4.1.1.4 Defining the social and economic value of wild bison

Many legal and policy changes necessary for the ecological restoration of bison are linked to social and economic factors. Agencies and conservationists need to identify the economic, social, and ecological benefits of restoring wild free-ranging bison, while protecting existing cultural and economic interests (Geist 2006). The value of restoring wild bison must be expressed in a manner that does not necessarily diminish the economic value of existing livestock and commercial bison markets managed under an agricultural paradigm. This may take creative approaches involving policy adjustments and paradigm shifts among cooperating agencies/private sectors that optimise complimentary land use strategies and mitigate identified conflicts. This process could be supported by tax incentives, payment for environmental services, ecotourism, incentives for landowner cooperation (e.g., Colorado's Ranching for Wildlife Program), extension services, and training for a new generation of landowners and managers.

8.4.1.1.5 Coordination of policies, rules, and regulations by government

Coordination of management policies, rules, and regulations (or the lack thereof) by various governments has also hindered bison conservation efforts. Because no single government agency owns or manages sufficiently large blocks of land to sustain free-ranging bison, cooperation between agencies is needed for restoration and conservation planning and implementation. Many agencies' missions are not readily compatible with cooperative management strategies needed for conservation of bison at large scales. Furthermore, many land management agencies have directed missions and goals that may not immediately support the types of policy changes required to manage for the conservation of bison. In addition to coordination among government agencies there is often a compelling need to coordinate with and among Tribal and private lands influenced by other policies and management objectives.

8.4.1.1.6 Agricultural conflicts among mixed land ownership

The most significant conflicts associated with restoring wild free-ranging bison are likely to be with agricultural neighbours living near conservation reserves. Establishing free-ranging wild bison herds in North America will undoubtedly lead to conflicts from crop damage, forage competition with livestock, mixing with livestock, possible interbreeding with cattle, disease issues, and damaging private property. These agricultural conflicts are not entirely uncommon with other large herbivores.

These six policy obstacles are quite common across international, state/provincial, and public/private jurisdictional boundaries within the original range of bison. Bison restoration must occur at sufficiently large landscape scales that few, if any, individual agencies will be able to implement an effective management programme on their own. Coordination of agency missions to conserve wild bison must in the long run be a negotiated process to ensure joint conservation goals can be established and implemented within the legal framework. In addition, conservation goals must be established to encourage privately owned populations of wild bison (as defined elsewhere in this document) to be managed over the course of many years in a manner that allows ranchers to build new markets that provide economic benefits for conserving the characteristics of ancestral bison herds.

Other obstacles to restoration include: long time scales, institutional resistance, funding, and conservation mission creep. Most large-scale conservation projects for long-lived mammals need to play out across long time scales. It is easy for conservation partners to fatigue, and for shifting political and social climates to make extended time scales problematic. Institutional resistance is inevitable within and among the cooperating agencies and private sector partners involved in a bison restoration project. Within agencies and organisations there is likely to be some internal resistance to various aspects of the project, so care will be needed to build reasonable consensus. Although many agency or private groups may support the concept of restoration, there is a fundamental need for funding and contribution from all critical partners. Finally, with every conservation programme, the implementation can creep off target or move beyond intended goals. This has a tendency to dismantle social and political support for a project by creating a different type of management or objective than was originally identified and agreed upon by stakeholders. For example as landscapes become larger, and some measure of success is achieved, there may be a tendency to move the conservation focus. Conservation and restoration strategies and planning efforts need to clearly articulate the conservation goal and be able to measure progress and identify critical benchmarks for meeting those goals.

8.5 Overcoming Obstacles to the Ecological Restoration of Bison

8.5.1 Disease management considerations

Animal health and disease issues can present significant obstacles to bison restoration efforts. The presence of regulated diseases in bison can prevent the transport of bison across jurisdictional boundaries and limits access to sources of bison. Potentially important sources of genetically reputable bison for restoration from WBNP and YNP are deemed unsuitable because of their disease status. However, recent research efforts are exploring methods of quarantining bison from these sources to determine if disease free status can be established for animals passing through strict quarantine procedures (Nishi *et al.* 2002b; 2006). The use of effective quarantine to release these genetic sources of bison could be extremely helpful for enhancing access to a broader source gene pool for restoration.

Before animals can be translocated for restoration, each state or province and international border that would be crossed by bison will require specific health tests. When designing specific restoration projects, it is essential to contact State/Provincial or Federal Veterinarians so that required disease testing is a clearly articulated. Appropriate regulatory veterinarian(s) have the expertise to establish which disease(s) require screening, and which approved test protocols and diagnostic laboratories are acceptable/required for health clearance for specific jurisdictions. These health approvals need to be obtained *before* transporting any bison across jurisdictional lines. Good health monitoring of the source herd can provide important information to support the testing carried out prior to transport. A good health-monitoring programme will identify existing diseases circulating among the source herd, and include background information regarding the presence or absence of regulated diseases.

Infectious disease is an emerging threat that conservationists may be ill equipped to manage (Woodroffe 1999). Despite these limitations there are several disease management models across the globe that could help support disease management planning in bison (Osofsky *et al.* 2005). Through careful planning, and research of existing disease management models, this issue can be substantially reduced in scope and impact.

8.5.2 Legal status and policy considerations

In order to address obstacles to ecological restoration of bison, it is important to identify the strategic components of a continental conservation plan. The IUCN BSG has provided this strategic framework and associated technical guidelines for bison conservation to help agencies and the public accomplish ecologically relevant conservation projects. This framework can assist in resolving issues of international status and overcome legal/policy obstacles from a strategic perspective. While this

continental wide strategy should be useful in advising some of the overarching legal and policy changes necessary to achieve conservation missions, federal state/provincial and local authorities will need to be involved, and supportive of significant local changes in policies, so that restoration projects can be accomplished.

For most bison restoration projects to advance, changes in laws and policy will be necessary, but they must be designed to encourage bison conservation in an ecologically relevant manner with due consideration of the potential socio-economic consequences to countries, state/provinces or local communities. Laws, rules, and policies of governments can impede conservation. However, they may be transformed into supportive frameworks if there is social acceptance and a high value associated with restoration goals. Comprehensive policies and laws need to be developed that promote ecosystem conservation, without being overly prescriptive. There will be a need for negotiation, compromise, and cooperation in the process of changing laws and policies. Such processes are interdisciplinary in nature, requiring integration of the disciplines of economics, law, ecology, and sociology to be successful (Wilkie *et al.* 2008).

8.5.2.1 Role of the non-governmental organisations

NGOs can play a key role advocating for the necessary changes to laws, rules, and policies that hinder restoration. NGOs can actively lobby for necessary legal/policy changes by federal, state or provincial governments to overcome identified obstacles. They can provide and secure or support government funding for conservation. Coalitions of NGOs and government agencies can be formed to advocate for specific conservation efforts. NGOs could also support the ecological, economic, cultural and spiritual interests of indigenous peoples with an interest in bison conservation. They can aid local community groups in negotiations and help these communities influence stewardship of natural resources in their area (Fraser *et al.* 2008). Finally, some NGOs could help to resolve international issues related to status and legal/policy obstacles associated with individual projects. While many agencies must operate within jurisdictional boundaries, NGOs can transcend these limitations and broker communication and cooperation among agencies.

The historic model of the American Bison Society (ABS), as a consortium of individuals and groups, is an example of how conservation organisations can play a powerful role in species restoration. The ABS advocated for the formation of bison preserves in the west and supported new wildlife policy and legislation to preserve a species at the brink of extinction. The Rocky Mountain Elk Foundation is an excellent example of a North American NGO employing land preservation and active advocacy to support conservation policies that create

suitable landscapes for wild elk. TNC is another conservation organisation that has worked effectively with private landowners and government to protect biodiversity and establish protected areas through the use of land purchase and easements. TNC has incorporated bison on several of these landscapes as a means of providing ecosystem services.

8.5.2.2 State/provincial and federal governance

It is vital that governments (both elected officials and government agencies) be engaged in policymaking and legislation that support bison conservation. Government agencies typically establish processes within their statutory authority to evaluate and approve appropriate policy changes, and recommend congressional and legislative changes, necessary to conduct conservation. It will be necessary to employ all of the instruments and processes of governments to modify policies or legal statutes affecting bison conservation at state, provincial, and federal levels. Government agencies can also direct public funding and staff resources to support implementation of a restoration project, and develop the necessary interagency agreements to achieve conservation goals. It is necessary that elected officials, as representatives of the people, approve relevant policies, and to develop a legislative framework that supports bison restoration, by empowering the appropriate agencies to implement management strategies for conserving bison as publicly owned wildlife. For example, opportunities for bison restoration could be increased by linking them to existing policies for land use planning for ecological integrity. This will require building public support for policy changes and acceptance by respective constituencies that these governments serve, by using, for example, extensive outreach, public advocacy and education. It will also require educating and influencing key politicians and government officials with critical decision making roles.

8.5.2.3 The private sector

There is substantial evidence of a massive change in land ownership and shifting economies taking place in the Great Plains and West, as well as some multiple-generation ranchers who are entrepreneurial and ready for change (Powers 2001). This shift in land ownership, economies, and visions brings opportunities to create a new paradigm for managing rangelands of high conservation value. Private landowners could have a strong voice influencing elected and agency officials of the need for policy changes that provide incentives for, and remove barriers to, bison conservation on private lands. Therefore, there is currently a substantial opportunity to engage landowners to petition government for change.

Privately owned bison managed on privately owned land typically present fewer regulatory obstacles than encountered

in restoring wild bison. However, private herds are typically managed under a private property decision framework, which may not lead to a bison herd of conservation value. It is difficult to blend private property rights with the public trust framework for wildlife without negotiation and compromise. For effective cooperation, private owners of bison, or bison habitat, would have to be willing to sacrifice certain rights and submit to public review and scrutiny of operations. Government partners would also need to be sensitive to private property rights and the economic value of those rights for individuals or corporations willing to engage in bison conservation. Effective cooperation should include creative incentives, financial or other, to encourage the private entrepreneur to engage in bison conservation. For example, conservation easements compensate land-owners for transferring specific property rights. As noted earlier, a system for certifying producers who follow conservation guidelines in managing their bison herds may also provide an incentive.

To increase opportunities for large-scale conservation of bison, there is a need for federal and state policy programmes that foster the creation of private (for-profit or non-profit) protected areas (PPAs). PPAs are one of the fastest growing forms of land and biodiversity conservation in the world (Mitchell 2005). However, unlike Australia and many countries in southern Africa, the U.S. and Canadian federal governments and state and provincial governments do not generally have policies specifically supporting the creation of PPAs. The IUCN has developed guidelines for, and explored policies and programmes that support, the creation of PPAs (Dudley 2008). The danger is that private bison reserves may quickly shift away from a conservation mission and devolve to “private game farms” for privately owned wildlife, for which most states have policies and regulations. In addition, private nature reserves may be vulnerable to change of ownership and subsequent shifts in their mission unless clear legal instruments are in place to protect conservation values. Clear guidelines for management and accountability for the long-term security of private protected areas is essential (Dudley 2008).

8.5.2.4 Indigenous peoples

Many protected landscapes and seascapes would not exist without the deeply rooted cultural and spiritual values held by the people that originally inhabited these places and who often continue to care for them (Mallarach 2008). Mallarach (2008) points out that safeguarding the integrity of traditional cultural and spiritual interactions with nature is vital to the protection, maintenance, and evolution of protected areas. Hence, protected landscapes and seascapes are the tangible result of the interaction of people and nature over time. In recent years there have been many important developments in conservation and protection of important landscapes on

indigenous peoples' land (Dudley 2008). Within the original range of bison, there are extensive Native-owned grassland and mountain foothills landscapes suitable for bison restoration. These tribal lands present great opportunities to restore bison in a culturally sensitive way, protecting the rights and interests of traditional landowners. IUCN has identified basic principles of good governance as they relate to protected areas overlapping with indigenous peoples' traditional lands. In addition, there is one group, the ITBC, whose defining mission is restoration of bison. Cooperation of tribes and tribal organisations is essential to the conservation and restoration of bison in North America and should be encouraged. Governments and NGOs in North America should examine and then modify current policy and legislation to support the traditional and cultural interests of indigenous peoples relevant to bison restoration.

There is significant variation in jurisdictional powers over tribal landscapes, ranging from sovereignty over the land to co-management with other governments. It is important to understand indigenous peoples' rights and their level of authority over landscapes when designing restoration and conservation plans for bison. It is equally important to understand the cultural traditions and spiritual connections between indigenous people and bison. Some of this information is traditional knowledge that can only be acquired through conversation with elders and tribal leaders.

8.5.2.5 Local communities and economies

One key ingredient of successful bison conservation is active stakeholder participation in the development and implementation of conservation programmes. Stakeholders include all people or groups of people who are affected by, or can affect, the conservation programme. On public lands it is particularly important to have local support (individuals, adjacent landowners and communities) for policy changes and new legislation, and to avoid backlash from the types of regulatory protection that might be necessary for a successful conservation initiative (Merenlender *et al.* 2004). For landscapes with mixed jurisdiction (public and private), it will be necessary to engage stakeholders by developing critical relationships, building mutual understanding and designing an appropriate co-management framework.

Restoring bison to mixed-use landscapes will involve addressing conflicts with neighbouring landowners. These neighbours need some assurance that when conflicts arise they will be addressed as restoration projects are implemented. Comprehensive restoration and management plans will be required to clearly articulate population goals and to identify how agricultural conflicts are going to be resolved. Ranch land neighbours, living on agriculture lands near restoration projects, pose a great challenge, but may also provide a significant open-space

buffer essential to the success of large-scale conservation efforts. Measures must be designed to appropriately manage the distribution of bison and address any trespass conflicts that arise. Other concepts to consider include the idea of wildlife damage insurance, economic incentives, and creative conservation-incentives to encourage and reward tolerance (Muchapondwa 2003).

Ecosystem services have been defined as "*the process by which the environment produces resources that we take for granted such as clean water, timber, pollination of plants, and habitat for fish and wildlife*" (Daly *et al.* 1997). Bison restoration and conservation programmes should consider assessing the value of ecosystem services associated with the development of a conservation strategy for bison. TNC has made significant investments in pursuing the valuation and marketing of ecosystem services as a conservation strategy and financing tool (Groves *et al.* 2008; Nelson *et al.* 2009). TNC, in collaboration with Stanford University and WWF, has developed a Natural Capital Project to better understand the economic values associated with natural systems (www.naturalcapitalproject.org). This project developed a tool known as InVEST (Integrated Valuation of Ecosystem Services and Tradeoffs) for quantifying ecosystem services for their inclusion in natural resource decision-making. They also established a "Swat Team" of ecosystem modellers and mappers who use InVEST to bring the valuation system into policy and decision-making for conservation projects (Groves *et al.* 2008). Approaches such as this may be useful in the valuation of ecosystem services associated with the conservation of large grassland landscapes and the role of bison as a keystone herbivore on those landscapes. We recommend further exploration of these emerging valuation tools and their application to the conservation and restoration of bison in North America.

In another novel programme, a coalition of NGOs, state and federal agencies, ranchers, and researchers has been developing a Pay-for-Environmental Services (PES) programme in Florida (Bohlen *et al.* 2009). This programme compensates cattle ranchers in Florida's northern everglades for providing water storage and nutrient retention on private lands. Key challenges to this programme include: identifying a buyer and defining the environmental service; agreeing upon approaches to quantify the service; reducing programme costs in light of current policies; and complex regulatory issues. Design of a PES programme requires navigating through a complex regulatory maze created by multiple state and federal agencies (Bohlen *et al.* 2009). This new model may provide an example for developing a PES on bison landscapes. In the case of bison restoration it will be challenging to meet the needs of multiple stakeholders, and to find the first entrepreneurial landowner willing start a new trend by participating.

Significant challenges lie ahead for the formulation of laws and policies about ecosystem services (Ruhl 2009). Some critical steps suggested by Ruhl (2009) include better definition of property rights, policies that prime the markets for ecosystem services, designing better governance institutions and instruments for these markets, and creative research to meet policy needs. Some governments are already engaged in this type of work, so interested readers are encouraged investigate programme and policy initiatives in their region (Freese et al. 2009). Furthermore, conservation organizations are encouraged to coordinate their activities with evolving government initiatives to more efficiently advance ecosystem-based conservation.

8.5.3 Coordination of agency missions, goals, regulations, and policies affecting bison conservation and restoration

There may be a need for new governance systems that will allow local communities, tribes, and governments to co-manage grassland reserves large enough to sustain bison. Political boundaries, agency policy, and legal jurisdictions need to be creatively blended to create a cooperative atmosphere for the successful establishment and co-management of new or expanded bison populations in the future. Accomplishing the coordination necessary to conduct effective conservation and ecological restoration will be formidable. However, the rewards for such effective coordination will go beyond the benefit of placing bison on the land, and could encourage much more opportunity to conserve other species associated with these landscapes.

It is likely that some type of standing co-management council or committee may be necessary to coordinate management of large landscapes with complex land ownership and affected local communities and economies. This committee should be structured and function to facilitate and maintain partnerships among the various government agencies, NGOs, landowners, and sportsmen or conservation groups that have interest in the project area. A co-management committee can encourage efficiencies in funding and coordinate restoration activities of the various stakeholders. A committee should include representatives from local stakeholders who are affected by the coordinated management effort. A recent announcement by the U.S. Department of the Interior (USDOI) of a new Bison Management Framework established a USDOI Bison Working Group to help coordinate bison management among the agencies. The working group provides an initial effort to coordinate many of the key federal agencies involved in bison conservation, but does not include non-government partners. This working group could become a new model for managing bison on multiple small-scale reserves as though it were one larger-scale population, creating an effective population of sufficient size to protect genetic and ecological integrity. In Montana (Northern Yellowstone Ecosystem) and Wyoming (Southern Yellowstone Ecosystem) interagency

bison or bison/elk management plans were created that defined a co-management strategy transcending state and federal jurisdictional boundaries (See chapter 5). Public participation in these processes was achieved through numerous public meetings where stakeholders were provided opportunities to comment on and influence a proposed co-management design. Through this process, information was provided to the stakeholders, and some degree of acceptance for proposed decisions was negotiated. The establishment of the Sturgeon River Plains Bison Council in Saskatchewan is another co-management example developed by local stakeholders affected by bison management on neighbouring federal lands. These examples represent contrasting models of top down versus bottom up approaches to bison conservation. By combining local (bottom-up) and national (top-down) approaches, better forms of governance can evolve, natural resources may be more effectively managed, and livelihoods can be improved (Fraser et al. 2008).

Detailed project-specific planning for ecological restoration (see Chapter 10 of this document) should be completed by agencies, NGOs and private partners involved in the project area prior to implementing any bison conservation project. The successful completion of the environmental evaluations required under national, state or provincial environmental law will be critical to the advancement of any bison restoration project involving public land. These environmental evaluations will require a public involvement process and should gather input from all affected stakeholders in a meaningful process. In addition to public involvement significant public education and outreach should be developed and implemented during all phases of a restoration project.

Technical support from science groups, such as the IUCN Bison Specialist Group, can provide the necessary technical guidance for science based conservation strategies at the local, state/province and continental scale. Guidance from this technical group can identify best management practices, and recommend policy and legislative changes necessary to support sound conservation and restoration initiatives. Additional guidance for ecosystem restoration efforts can be found through other IUCN publications (Clewel *et al.* 2005; IUCN 1998; Chapter 10).

8.5.4 Recommendations

Some fundamental legal and policy changes recommended to enhance bison restoration include:

- 1) Where social acceptance for wild bison can be attained, establish the legal status of bison as a native wildlife species through working with state/provincial/federal jurisdictions.
- 2) Modify current policies that prevent partnerships and co-management among agencies, private sector, and tribes.

- 3) Develop outreach to state and federal land management agencies encouraging land management agencies to consider bison in agency planning and policy development.
- 4) Reform current policies governing suitable bison landscapes to protect the core habitat conservation values as defined in Sanderson *et al.* (2008) and this document. This is to protect the core value of these landscapes for future ecological restoration pending socio-economic shifts favourable to bison restoration.
- 5) Develop outreach materials identifying social and economic benefits and ecosystem services associated with restoration of bison and prairie conservation efforts for local communities, the private sector and governments.
- 6) Create a decision framework, suitable for private conservation efforts, that encourages restoration strategies with an ecological emphasis.
- 7) Create policies or economic and conservation incentives that reward private landowners who manage for biodiversity including bison.
- 8) Establish necessary state and federal regulations and legal instruments to support valuation and compensation for ecosystem services.
- 9) Work with animal health organisations (IUCN Wildlife Health Specialist Group) and regulatory agencies to encourage bison friendly health regulations.
- 10) Identify and support necessary research and monitoring to cultivate a science-based but adaptive process for ecological restoration of bison.
- 11) Encourage economic and power structures that support sustaining local communities and lifestyles.
- 12) Make efforts to reform policy and legislation that impede the interests and rights of indigenous people to manage bison in a culturally sensitive manner.

8.5.5 Recent initiatives to conserve and restore bison

Sanderson *et al.* (2008) present a collective vision for the ecological restoration of bison in North America. From a series of meetings with various conservation organisations, government agencies, indigenous groups, bison ranchers and private landowners a “Vermejo Statement” was jointly written that describes what ecological restoration of bison might look like. Five key attributes were identified in this statement that create both opportunities and challenges for bison restoration, such as large scale, long term, inclusive, fulfilling, and ambitious efforts. Sanderson *et al.* (2008) explored a shared vision for wild bison restoration with 20, 50, and 100-year timelines. Specific initiatives were not described, but a range-wide priority setting

methodology resulted in a scorecard matrix with which to evaluate the conservation value of public and privately owned bison herds and a map of potential restoration areas. Significant changes in the landscape where bison once roamed are creating possibilities for bison restoration where few existed before (Freese *et al.* 2007; Sanderson *et al.* 2008).

8.5.5.1 United States

In the U.S., there are no specific federal efforts proposed to protect plains bison beyond the boundaries of existing national parks, monuments or wildlife refuges. The U.S. Forest Service (USFS) recently conducted an assessment of its management of national grasslands in Montana, North Dakota, Nebraska, South Dakota, and Wyoming and dismissed a proposed alternative to restore free-ranging bison (USDA Forest Service 2001).

The U.S. Secretary of the Interior recently announced a new management framework for improving the administration of the various bison herds on Federal Wildlife Refuges. The strategy will consider treating the various populations as a larger metapopulation, looking at ways to create and maintain gene flow, as well as protecting private alleles among these small populations by improving genetic management strategies. This framework also committed USDOJ agencies to expanding herd size if possible, and building cooperation with partners for the conservation of bison. In addition, comprehensive refuge plans are being reviewed to consider the feasibility of attempting bison restoration on large refuge landscapes, such as the Charles M. Russell National Wildlife Refuge.

Utah just completed a reintroduction of bison into the Book Cliffs area of East Central Utah. This is a joint effort between the State of Utah Department of Wildlife Resources and the Ute Indian Tribe. Bison were moved onto this land from the Ute tribal bison herd and the Henry Mountains. These bison are legally classified as wildlife and will be managed as a valued wildlife resource in Utah. A herd management plan has been approved where hunting programmes will regulate bison population size and distribution.

Public interest in wood bison restoration in Alaska has grown, and there is widespread state, national, and international support for restoring one or more populations in the state. There is also support among local communities in the areas being considered for wood bison restoration. A Wood Bison Restoration Advisory Group comprised of representatives of various state and national interests has recommended that Alaska pursue the reintroduction of wood bison at the three sites, which include the Minto Flats, Yukon Flats, and lower Innoko/Yukon River areas in interior and western Alaska. These areas have sufficient habitat to support from 500 to 2,000 or more bison each, depending on the location. In 2008, wood bison were transported from Elk Island National Park (EINP) to a temporary holding facility in Alaska, where they are being quarantined for 2 years prior to release in the wild.

Alaska Department of Fish and Game and USFWS are developing a special rule that will designate wood bison in Alaska as a nonessential experimental population (NEP) under section 10(j) of the U.S. Endangered Species Act, which lists wood bison as endangered. The federal rule will remove many of the regulatory requirements that normally apply to endangered species, allowing a high degree of management flexibility and providing protection against possible regulatory burdens and effects on other land uses. NEP status will help maintain and enhance public support for wood bison restoration. An alternative proposal to delist bison from the ESA is being considered, which would obviate concerns by the oil and gas sector about impacts of a new listed species on development opportunities. Wood bison in Alaska will be legally classified as wildlife and, after populations reach levels that can support a sustainable harvest, their numbers will be regulated in part through a hunting programme as outlined in cooperative management plans that will be developed for each area prior to each reintroduction.

8.5.5.2 Canada

There have been several Canadian national park proposals and public discussions to include plains bison in their native species management plans. These include management plans for Banff, Waterton, and Grasslands national parks in Alberta and Saskatchewan (Boyd 2003; see also Chapter 7). Waterton park determined that there was insufficient landscape available for free-ranging bison within the park. Prince Albert and Grasslands national parks already have established plains bison herds.

Bison in these herds are classified as federally managed wildlife and could be allowed to expand their range if coordinated management agreements can be negotiated with public and private landowners bordering these parks.

Canada has several large military reserves with suitable bison habitat. Restoration on military preserves is being discussed, but few detailed plans are currently available. Bison are protected on Department of National Defence Cold Lake/Primrose Air Weapons Range by virtue of prohibiting trespass, except for the Cold Lake First Nations, who can hunt with permission. Canadian Forces Base (CBF) Suffield is a 2,600 km² military reserve located in the Dry Mixed Grass Natural Sub-region of Alberta. It is used as a training area for military ground manoeuvres and it is a mostly intact native prairie landscape. CFB-Suffield has free-ranging populations of all indigenous large herbivores, except bison, for which the biological potential for restoration is highly favourable.

Canada's National Wood Bison Recovery Team was formed in 1973 and includes members from all relevant federal, provincial, and territorial governments, as well as academia. The draft national recovery strategy (H. Reynolds, personal communication, 1 March 2009) provides the following population and distribution objectives: 1) establish and maintain at least five genetically diverse populations of greater than 1,000 animals in each herd, 2) establish and maintain smaller free-ranging, disease-free herds where possible, and 3) establish and maintain at least two populations in each originally occupied ecological region.



8.5.5.3 Mexico

Since the original range of bison extended only a short distance in to the northern portion of Mexico, there are few suitable locations where they would be expected to successfully recolonise available habitats in their former range. The large grasslands of the Janos-Casas Grande in north-western Mexico is the best location for bison conservation efforts, and a large biosphere reserve is proposed for this area to protect free-ranging plains bison.

A recent series of stakeholder and science workshops held in this boundary area have identified conservation needs and potential strategies for advancing bison recovery in this boundary area of Mexico, including reintroducing a plains bison conservation herd in Mexico. In November 2009, 23 plains bison were translocated from Wind Cave National Park in South Dakota to TNC's Rancho El Uno Ecological Reserve located in the Janos Biosphere Reserve in Chihuahua State. The project is part of a national programme for recovery of priority species in Mexico and an international collaboration on wildlife and habitat conservation in North America. The U.S. National Park Service donated the bison to The Working Group for Recovery of Bison in Mexico (El Grupo de Trabajo para la Recuperación del Bisonte en México), which is led by the National Commission of Protected Natural Areas (la Comisión Nacional de Áreas Naturales Protegidas). These bison are the foundation stock for a breeding herd that will be used to repopulate other areas, with the ultimate goal of restoring the ecological role of bison in the grasslands of northern Mexico. The bison will provide opportunities for ecological research and will serve as a focal

species for educational outreach. Another potentially important area for the recovery of bison in Mexico is the Columbia Valley, in the State of Coahuila, where a privately owned herd moves over a very large area and is minimally managed. Bison were native to the state of Coahuila until the second half of the 19th Century.

8.5.5.4 Non-governmental organisations

TNC and NCC have played a lead role in North America in developing conservation programmes involving bison. TNC (eight herds) and NCC (one herd) already manage nine bison herds on grassland preserves in U.S. and Canada respectively. TNC is principally using bison as a native grazer and is considering adding bison to additional preserves in the U.S. and Canada. Specifically, the NCC is implementing a restoration strategy for the Old Man on His Back Conservation Area in Alberta, with a herd already established with bison from EINP (Freese *et al.* 2007).

In 2005, APF and WWF implemented a privately funded conservation effort restoring bison to the American Prairie Reserve in southern Phillips County, Montana. Plains bison were obtained from Wind Cave National Park. Under Montana regulations, they are currently classified as privately owned livestock, however, the Fish, Wildlife and Parks Commission has authority, under Montana law, to classify these bison as

Plate 8.1 Plains bison were reintroduced to the arid grasslands of the Janos Valley in northern Chihuahua State, Mexico in November 2009. The bison reside on Rancho El Uno Ecological Reserve, a property of The Nature Conservancy. Photo: Rurik List.



wildlife if APF agrees and if there is public support for such legal action. APF intends to purchase up to 405,000 hectares (one million acres) of land for a grassland preserve upon which wild bison would be allowed. In addition, the American Prairie Reserve leases adjacent BLM grazing allotments and recently modified these to change the class of livestock for these allotments from cattle to bison. Similarly, the USFWS has authority to establish bison on the Charles M. Russell Wildlife Refuge adjacent to the American Prairie Reserve. The combined efforts of these two agencies, and other conservation partners, could result in bison restoration on a very large native grassland habitat.

8.5.5.5 Tribal initiatives

Many tribal initiatives are also underway across North America. The ITBC was formed in 1990 and has 57 member tribes managing over 15,000 bison (<http://www.itbcbison.com/index.php>). Its stated goal is to restore bison to Indian Nations in a manner that is compatible with their spiritual and cultural beliefs and practices. Congress appropriated funding for tribal bison

programmes in June of 1991, and has approved appropriations for ITBC annually since then. This action offered renewed hope that the sacred relationship between Indian people and the “Buffalo” might not only be saved, but would, in time, flourish.

Specific initiatives include the Cheyenne River Sioux Tribe, which has started an 8,900-hectare Tribal Wildlife Refuge. The Rosebud Sioux Tribe has officially endorsed “The Million Acre Project” developed by the Great Plains Restoration Council centred on the Pine Ridge Indian Reservation in South Dakota (Freese *et al.* 2007). Another potential initiative is identified in a strategic plan being developed by the Lower Brule Sioux Tribe in South Dakota (Lower Brule Sioux Tribe 10 year strategic plan; Lower Brule Sioux Department of Wildlife, Fish, and Recreation). The Wind River Reservation in Wyoming is working on a management plan that would restore wild free-ranging bison to available habitat on that tribal landscape. The Fort Belknap Reservation in Montana has requested Yellowstone bison from the state/federal quarantine facility. A comprehensive evaluation of the restoration potential of North American tribal/first nation’s landscapes and continental conservation priority assessments for those landscapes has not been completed.

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9.1 Introduction and Principles

This chapter provides management and policy-relevant guidelines to foster bison conservation and full recovery. Conservation implies retaining desirable ecological, cultural, and genetic characteristics that currently exist, while full recovery implies a broader vision—bison populations inhabiting areas that permit full expression of natural behaviours and ecosystems functioning in ways similar to those of the past.

We focus on guidelines and principles that are broadly applicable, and we avoided highly specific, prescriptive recommendations. This approach requires managers and others to understand the basis for our guidelines, and to evaluate carefully how a guideline can best be implemented in a particular situation. We provide only brief reviews of the scientific basis for guidelines, and readers should refer to chapters four, five, and six in this volume for more comprehensive information on bison genetics, disease, and ecology.

A small set of overarching principles is the foundation for most of the guidelines in this chapter, and they provide a framework for developing and assessing conservation actions. These key principles are:

- 1) Maximize the number of bison in a population. Larger populations better retain natural variation, and are more resilient to ‘surprises’ or catastrophic events. Strive to achieve a ‘maximum sustainable’ rather than a ‘minimum viable’ population size.
- 2) Support and promote ‘wild’ conditions and behaviours. Where possible, provide an environment where bison are integral to community and ecosystem processes (Table 9.1). Behaviours and demographic processes should reflect natural selection, and active management interventions should be minimized. Wild bison herds use very large ranges.

Plate 9.1 *The bison is an interactive species. Here wolves are hunting and feeding on a plains bison they have killed and ravens are scavenging (middle photo). Top and middle photos: Douglas Smith, lower photo: Dwight Lutsey.*



Table 9.1 Ecosystem processes that bison can strongly influence. See Hobbs (1996); Knapp *et al.* (1999); Larter and Allaire (2007); and Truett *et al.* (2001).

Process	Description
Create patches	Grazing can produce a dynamic mosaic of vegetation patches that differ in seral stage and that differ due to variations in grazing intensity
Enhance nutrient cycling rates	Bison grazing can enhance nutrient turnover and change dominant system mode from detritus-decomposition to consumption-defecation
Enhance habitat quality	Bison grazing can increase habitat suitability for prairie dogs, pronghorn, and other species
Modify fire regimes	Bison consume fine fuels and create trails and trampled areas that reduce fire intensity and extent, and modify the effect of fire on vegetation heterogeneity
Create disturbances	Trampling and wallows create seedbeds for some species; localised tree stands that are not tightly clumped are susceptible to major damage by rubbing, horning, and thrashing of bison.
Stimulate primary production	Bison grazing removes senescent material from the sward and increases light penetration, nutrient availability, and growth
Disperse plant seeds	Bison transport seeds in leg fur and gut, and may enhance establishment (of native and exotic plants) via consumption, seed coat digestion, and defecation in nutrient-rich media.
Maintain floral diversity	Bison grazing can result in greater grass and forb species diversity
Support carnivores and scavengers	Bison are prey to some large carnivores, and bison carcasses can contribute to supporting scavengers.

- 3) Preserve genetic integrity and health. Maintain bison lineages and carefully evaluate all movements of bison between populations. Consider potential genetic consequences of all management actions, especially for small herds.
- 4) Routine assessment is central to science-based conservation of bison. Routine monitoring and evaluation of demographic processes, herd composition, habitat, and associated ecological processes are central to evaluating herd health and management efficacy. Assessments are necessary to anticipate or respond to conservation needs and sound data is the basis for informed management.

The scientific basis and rationale of principles for conserving bison is provided in the more detailed guidelines in this chapter

and other chapters that review bison ecology, genetics, and ecological restoration.

9.2 Guidelines for Population and Genetic Management

The general goals for population and genetic management are to achieve and sustain a population with a healthy level of genetic variation and a sex and age composition typical of viable wild bison populations. Management actions needed to achieve these goals will vary with the size, history, and circumstances of each particular population. In this section, we articulate more specific management objectives, summarise background information relevant to our recommendations (see also Chapter 6), and provide both general and specific guidelines.

In bison, loss of genetic variation is a concern primarily when the number of actively breeding animals or the founding population size is small. Our best estimates are that bison populations can generally be considered “not small” (for genetic purposes) when they exceed about 1,000 animals, the population has approximately equal numbers of bulls and cows, and the size of the population is stable. For the purposes of this report, the genetic objective is to attain a 90% probability of retaining 90% of selectively neutral genetic variation for 200 years. This objective is less stringent than some published objectives, and thus our estimates for sustainable population sizes are smaller than those that result from estimates based on more conservative criteria (Reed *et al.* 2003; Soule *et al.* 1986). In all populations, the rate of loss of genetic diversity is directly related to how rapidly individuals in a population replace themselves (generation time) and to the size of the breeding population. Most guidelines for genetic management in this document can be understood in the context of just these two factors.

Most populations are not uniform, but have genetic variation related to the spatial substructure of the population (Manel *et al.* 2003). Demographic and genetic substructure occurs at a large geographical scale due to traditional use of particular parts of a range (e.g., breeding range fidelity, seasonal ranges, calving areas) by segments of a population (e.g., bison in YNP; Christianson *et al.* 2005; Gardipee 2007; Gogan *et al.* 2005; Halbert 2003; Olexa and Gogan 2007). Within herds, bison are thought to form family groups (i.e., matrilineal groups, mother cows with their preparturient daughters) and these family groups constitute fine-scale population structuring. These types of population structure are important because they increase the likelihood that animal removals without plans to explicitly accommodate substructures of cows could disproportionately impact a particular segment of the population and result in a greater loss of genetic diversity than necessary. Removal strategies should be designed to accommodate the potential spatial structure of herds, and institute procedures that ensure

animals are proportionately removed from different population segments. This could potentially be accomplished by removing animals from different parts of the range.

A variety of factors can lead to increased rates of genetic diversity loss. After accounting for population size, the most important factors are likely to be non-random mating (i.e., a few bulls are responsible for siring most calves), skewed sex ratios, and large variation in population size.

9.2.1 Guidelines that apply to most conservation herds

Very few conservation herds will persist without the need for some form of population control. Many guidelines in this chapter were included with the specific intent to support development of informed population management plans. Many of the following guidelines apply to most conservation herds, and are likely to be included in comprehensive management plans for conservation herds:

- 1) Maintain a sex ratio with neither sex constituting more than 60% of the population. Ideally, the adult sex ratio will be slightly female biased (e.g., 55 cows per 100 animals), reflecting observations that mortality rates of males tend to be slightly greater than those for females. Avoiding a high ratio of females to males helps ensure participation in mating and transfer of genetic diversity by a larger number of bulls. In large populations, mating competition will likely be sufficient when there are 20 or more mature bulls (six years old and older) per 100 cows. Maintaining mating behaviour, as noted above, calls for a more equal sex ratio.
- 2) Avoid removing a significant proportion of the population. For populations subjected to population control actions, culling should be on a yearly, or every other year, schedule, rather than periodically at longer intervals. We cannot offer a definitive definition of 'significant', as the effects of population fluctuations will be greater as population size diminishes and varies with other circumstances. As a general guideline, we suggest limiting removals of animals to less than 30% of the population;
- 3) Avoid disproportionate removal of matrilineal female groups (mother cows and their preparturient daughters). More specifically, attempt to retain the older cows matrilineal groups;
- 4) Remove animals from all spatial segments of the population;
- 5) Emulate natural mortality patterns—higher mortality/removal rates for juveniles and old age classes (more than 15 years);
- 6) In small populations, consider actions that reduce variation in the breeding success among individuals. This could be

accomplished by reducing the opportunities for continued breeding by highly successful bulls.

- 7) Avoid human selection for market traits such as docility, carcass composition, body shape, or productivity, as such interventions contradict natural selection and conservation of genetic variability;
- 8) Routine supplemental feeding to increase productivity, or to support a population size that exceeds range carrying capacity, is discouraged for conservation herds;
- 9) Where practical, the full suite of natural limiting factors should be allowed to influence populations, including winter deprivation and predation. This will result in variable rates of reproduction and survival.

The need for active genetic management will vary with herd size, genetic composition, and management goals. In general, genetically diverse herds with more than 1,000 animals are unlikely to require active management to retain most of their genetic diversity for the next 200 years (Gross *et al.* 2006). Hedrick (2009) suggests a herd size of 2,000-3,000 to avoid inbreeding depression. In very small herds (fewer than about 250 animals), long-term genetic health will require occasional supplementation with genetic material from other herds. The exact number of animals needed to supplement a particular herd will vary with the genetic composition of the source and target herds, but a supplement of four to five breeding animals per decade should be sufficient for long-term herd genetic health (Wang 2004). In addition to the guidelines below, managers should follow the IUCN guidelines for translocation of wild animals between established herds, being especially careful about genetic purity (i.e., cattle genes and geographically appropriate sources of stock) and diseases (<http://www.kew.org/conservation/RSGguidelines.html>).

Active management to retain genetic variation (other than translocations) may be most important for intermediate-sized populations with about 250-750 animals because this is the size range where active management may prevent or greatly reduce the need for translocating animals to ensure long-term the genetic health of a herd (Gross *et al.* 2006). For conservation herds, the overall objective is to retain allelic diversity, which is the best indicator of the genetic resources available to the population. By contrast, genetic heterozygosity may be a better short-term indicator of the mating structure of the herd. In addition to the guidelines provided above, removal of young animals, prior to their first breeding, can significantly enhance the retention of genetic diversity (Gross *et al.* 2006). Removal of young animals to preserve genetic diversity may seem counterintuitive. Genetic material is lost only when animals in a population are replaced. Removal of young animals increases the length of the generation (replacement) interval, and this thereby prolongs the retention of genetic material.

9.2.2 Herd-level population and genetic management

For many conservation herds, the most frequent and contentious decisions will concern herd level management, especially population control. Key decisions address how many animals to maintain, which ones to remove, and how often to remove them, when to add animals, and where to source them. This section provides advice for active population management at the herd level—guidelines for establishing a new herd, maintaining the size of an existing herd, reducing the size of a herd that has become much too large, and how to deal with known genetic issues.

9.2.2.1 Soft release procedures

Bison may need to be moved to supplement an existing herd, or to establish a new herd. In such cases, the use of a “soft” release process should be considered in virtually all cases. Soft releases typically involve placing animals in a (usually large) holding facility prior to full release. Holding bison in a large pen may increase their tendency to remain in the area of release and establish some degree of site fidelity. American Prairie Foundation, for example, held bison for one month in a large corral prior to release on the American Prairie Reserve in Montana. An additional benefit of a soft release procedure is the effective quarantine and associated ability to monitor and more easily re-capture animals if any health issues become apparent.

9.2.3 Establishing a new herd

Establishing and maintaining related, isolated or semi-isolated herds (i.e., parental and one or more satellite herds) is critical to long-term species conservation in that multiple herds act to increase effective population size (N_e) and reduce the total loss of genetic variation over time (Lande and Barrowclough 1987). Furthermore, the maintenance of a unique genetic population in several small herds reduces the probability of accidental extinction, such as from a natural catastrophe by disease, and increases the opportunity for local adaptation (Franklin 1980; Lacy 1987). In theory, and under experimental conditions, several small groups (e.g., N_e about 50) may preserve more genetic diversity than a single herd with as many individuals as the smaller herds combined (Margan *et al.* 1998). Genetic drift within each related herd can be countered by the occasional movement of individuals between related herds (Mills and Allendorf 1996). Therefore, several moderately sized herds (i.e., more than 300 and fewer than 1,000 animals) of the same genetic stock can, if managed properly, act as a large metapopulation with an effective population size sufficient to impede genetic erosion (Lacy 1987). In this section, we articulate considerations for the establishment and maintenance of new bison herds from existing resources.

1. Source

Priority should be given to establishing satellite herds from extant conservation herds, within the respective original ranges for wood and plains bison, especially for those herds with unique genetic characteristics (Halbert 2003; Wilson and Strobeck 1999) and those which appear to be free of domestic cattle introgression (Ward *et al.* 1999; Halbert 2003; Halbert *et al.* 2005b). Beyond this, establishment of herds of mixed ancestry should be considered to maximise genetic diversity and the potential for adaptive response.

Although bison are likely to be more readily available from herds subjected to artificial selection and some level of domestication, we strongly recommend acquiring bison from “wild” herds not subjected to these influences.

2. Number of animals

Little specific information is available regarding appropriate foundation populations sizes. In general, a few (4-10) individuals should be sufficient to avoid very short-term inbreeding effects (Senner 1980). However, the loss of variation in such a small population will be substantial after the first few years (Nei *et al.* 1975) and additional bison should be imported over a period of several years to increase genetic variation. If the goal is to conserve or duplicate most of the genetic material in a source herd, many more animals are required. Shury *et al.* (2006) proposed a base of 200 “founder” animals to preserve most of the genetic variability in “re-established” wood bison herds.

3. Sex ratio

The initial imported bison should consist of approximately 50% of each sex, and the herd should be maintained with a balanced sex ratio to reduce inbreeding and maximise effective population size.

4. Breeding strategy

If a small number of bison are used to found a herd, and especially if additional bison are not brought into the new herd, breeding strategies to maximise the transfer of genetic diversity across generations should be considered (e.g., avoid excessive breeding by one or a few males). Appropriate genetic tools are available to accurately assign parentage in bison (Schnabel *et al.* 2000; Wilson *et al.* 2002), and these may be used to assist in captive breeding decisions by evaluating the breeding success of individual bulls and relatedness among calves.

5. Age composition and behaviour

Bison are social animals and the importance of social structure within a herd is critical to overall herd health and survival (McHugh 1958). We recommend establishing a new herd with both adult and sub-adult individuals to prevent disintegration of social structure and behavioural anomalies (e.g., foraging behaviour; Ralphs and Provenza 1999).

6. Maintenance number and growth rate

To minimise the loss of genetic variation and heterozygosity, and to maximise the probability of population survival, new herds should be allowed to grow as quickly as possible until the target herd size is attained (Nei *et al.* 1975). Bison herds can grow very quickly, doubling in size in as few as four years (see Chapter 6). Herds should then be maintained within an appropriate size range, which will likely be the maximum size possible within resource limits for herds with fewer than about 1,000 animals (Gross *et al.* 2006; Senner 1980). For small herds, fluctuations in population size can have a substantial negative impact on retention of genetic variation (Nei *et al.* 1975). Maintenance of population size is more important to population survival than is the founder population size and should, therefore, be given a high priority for small herds (Senner 1980).

7. Relationship between founders

Select unrelated individuals as founders for a new herd. Use appropriate genetic tools when available to establish relatedness between bison (Schnabel *et al.* 2000; Wilson *et al.* 2002).

8. Genetic variation and heterozygosity

Genetic evaluation should be carried out on the parental herd prior to establishment of a satellite herd, and repeated genetic evaluation of the satellite herd should be used to ensure that all the genetic variation from the parental herd are incorporated and maintained.

9. Disease

In general, do not use diseased bison to establish a new herd. Immune suppression in diseased individuals may lead to infection and spread of other diseases; further compromising herd establishment and health. One notable exception is the intentional creation of disease-free satellite herds from a diseased parental herd. In such cases, use extra precautions to prevent the spread of disease from bison to other wildlife during the initial disease elimination phase.

10. Monitoring success

Because it is expensive and time-consuming to establish bison herds, resources should be wisely invested to monitor bison herds and broader ecological effects of bison. Ideally, habitat characteristics should be monitored using a valid statistical process before bison are introduced. Herd composition, demographic parameters, and genetic structure, especially in the first few generations following herd establishment, should be monitored, along with ecosystem changes. Additional monitoring guidelines are provided below.

Trans-boundary transportation of bison to establish a new herd can introduce many administrative and regulatory considerations (Chapter 8). After an extended period of planning and negotiation, wood bison were transported from Canada to

Alaska in 2008. Personnel with the relevant agencies may be consulted for advice on undertaking such an enterprise.

9.2.4 Maintaining or manipulating existing herd size

When a bison herd appears in need of intervention to restore or improve genetic health and population viability, the first and most important activity is to thoroughly evaluate the current condition of the herd to avoid premature, unnecessary, or even damaging management decisions. *There are no simple cookbook instructions that can be applied to any bison herd.* The following list of baseline evaluations will help ensure that decisions are well informed:

1. Determine the history of the herd to provide insight into current levels of genetic variation and population structure. Try to determine:

- Number and origin of herd founders;
- Number and origin of any bison introduced following herd foundation (transfers);
- Historic records on population size, especially with regard to substantial changes over time.

2. Evaluate current population parameters to establish baseline measurements for future comparison and to detect attributes that may lead to changes in social structure or genetic variation.

Variables of interest include:

- Census population size
- Effective population size (N_e ; will not be possible in all cases and requires knowledge of breeding structure)
- Rate and direction of population size changes (e.g., is the herd expanding or contracting)
- Sex ratio
- Age structure

3. Note any indications of inbreeding within the herd, such as:

- Unusual phenotypic characters within the herd, especially any that have recently appeared;
- Recent decrease in recruitment rates;
- High rates of morphologically abnormal or non-motile sperm among breeding-age bulls;
- Relatively low levels of heterozygosity as compared with previous measurements or other bison herds of similar size and history (e.g., Halbert 2003; Wilson and Strobeck 1999).

4. Assess potential health problems in the herd, including:

- Presence of transmissible diseases, especially those which may influence population dynamics (e.g., BTB, brucellosis, MCF);
- Presence of disease agents in livestock species on nearby (especially adjacent) properties (e.g., cattle with JD, sheep carrying MCF).

5. Evaluate the overall genetic constitution of the herd by measuring:

- Unique variation (rare or private alleles) and levels of heterozygosity in comparison to other bison herds (Halbert 2003; Halbert *et al.* 2004; Wilson and Strobeck 1999);
- Within-herd changes in heterozygosity and genetic variation between generations (Halbert *et al.* 2004);
- Current breeding structure of the herd (e.g. number of males contributing to calf crop each year, relatedness among calves, presence of genetic subpopulations);
- Existing levels of domestic cattle introgression in both the mitochondrial (Polziehn *et al.* 1995; Ward *et al.* 1999) and nuclear genomes (Halbert *et al.* 2005b).

Using the data collected from the above evaluations, informed and sensible management plans can be implemented to best fit the needs of the target herd. To further assist in this process, demographic and genetic data can be used to model the effects of various management alternatives prior to actually implementing a definitive management plan (Gross *et al.* 2006; Halbert *et al.* 2005a).

9.2.5 Transferring bison between herds

To maintain long-term herd health, it will be necessary in some cases to transfer bison between herds (Table 9.2). The decision to transfer bison between herds, however, must be made with extreme caution with the following considerations:

1. Necessity of movement

Is there actual evidence of loss of genetic diversity or inbreeding to necessitate the transfer? In bison and other mammalian species, well intended but uninformed management decisions to transfer individuals among isolated groups have resulted in detrimental and irreversible effects, especially related to genetic integrity and disease.

2. Domestic cattle introgression

As discussed in Chapter 4, few bison herds appear to be free from domestic cattle introgression (Halbert 2003; Halbert *et al.* 2005b; Polziehn *et al.* 1995; Ward *et al.* 1999). Therefore, it is essential to understand both the historic and genetic evidence of domestic cattle introgression in the recipient and potential donor herds before considering a transfer. If the two herds are related, and especially if one is a satellite of the other, the total effect on introgression levels due to transfer will be negligible. Care should be taken to prevent the introduction of bison of unknown origin, or questionable history, into conservation herds. Furthermore, given our current levels of understanding, bison should not be transferred into the few existing herds which appear to contain no domestic cattle introgression, with the possible exception of transfers between parental and satellite herds (Hedrick 2009).

Table 9.2 Additional factors to be evaluated when considering transfers of bison between herds.

Number	When possible, the number of imported bison should be based on prior modelling estimates to maximize improvements in heterozygosity and genetic diversity while minimizing dilution of the native bison germplasm.
Sex	Importing a few new males into a herd can have a large, positive and rapid genetic and demographic impact. The same overall effects can be obtained when importing females, although the process will be somewhat slower. In some cases, it may also be worthwhile to consider any known genetic uniqueness of the mitochondrial genome and Y chromosome. For instance, prior to importing bison into the Texas State bison herd, it was noted that this herd contained a unique bison mitochondrial haplotype not known to occur in other bison herds (Ward 2000; Ward <i>et al.</i> 1999). Therefore, importing males into this herd was favoured over importing females, in part to prevent dilution of the unique native bison mitochondrial haplotype (Halbert <i>et al.</i> 2005a).
Age	The most rapid infusion of germplasm will be obtained by importing breeding-age animals. It may be desirable to choose bison that have already produced offspring to avoid potential issues of sterility or offspring abnormalities. Despite planning, genetic incompatibilities between extant and imported bison may still influence contributions of the imported bison to the calf crop.
Quarantine	Consider a quarantine of newly imported bison prior to release, especially when the recipient herd is at a high risk of extinction. This allows for an easier adjustment of the imported bison to their new environment, as well as early detection and treatment/removal for latent diseases.
Mating regime	Decide whether imported bison should have exclusive mating privileges for one or more years or compete with other potential breeders for access to cows. "Exclusive" matings can be used to increase genetic and demographic impacts. A fully competitive mating regimen permits extant bison to contribute to the gene pool and provides some protection in case of genetic incompatibility between the donor and recipient herds.

3. Relationship between herds

Given the observed genetic distinctions among extant bison herds (Halbert 2003; Wilson and Strobeck 1999), dilution of unique genetic characters (alleles) within the recipient herd should be considered when evaluating potential donor herds (Halbert *et al.* 2005a). Ideally, bison should be transferred between satellite or related herds to reduce the loss of rare variants.

4. Health and disease

All attempts should be made to prevent the spread of disease between bison herds. Even if the recipient and donor herds host the same disease, transfers of bison should be discouraged since disease strain variants between herds can lead to differences in disease progression or effects. Potential donor herds should be thoroughly tested (see Chapter 5 and section above) to evaluate the presence of pathogens.

Once the above factors have been evaluated, there are various other features that may influence the demographic and genetic effects of the transfer, including the number, age, and sex of the imported bison as well as frequency (single or multiple introductions) and duration of the transfers (permanent vs. transient transfers, e.g., for short-term breeding). Each situation will differ and a comprehensive review is not possible here given the large number of potential management scenarios. However, the general guidelines in Table 9.3 should be considered.

Table 9.3 Risk factors for disease.

Disease Risk Factors	Disease Examples (not all-inclusive)
History of pathogen in the region	Anthrax, parasites
Proximity to potentially infected populations (wildlife or livestock)	MCF, Bovine tuberculosis, brucellosis, John's disease, bovine viral diarrhoea, foreign animal diseases (e.g., Foot-and-Mouth Disease)
Weather patterns and environmental suitability	Anthrax, parasites
Presence/abundance of mechanical or biological vector(s)	Anaplasmosis, bluetongue, pink eye
Population density (increased infectious contacts)	Most infectious diseases (e.g., brucellosis, tuberculosis)
Season	Diseases with unique transmission patterns (e.g., brucellosis, bluetongue)
Nutritional and other environmental stress	Infectious diseases which capitalise on depressed immunity (e.g., respiratory viruses)
Geographic location/Climate	Hardy pathogens capable of surviving climate extremes

5. Number

The number of imported bison should be based on prior modelling estimates when possible, and should reflect the size of the population so that improvements in heterozygosity and genetic diversity are maximized with a minimum dilution of the native bison germplasm.

6. Sex

Importing a few males into a herd can have a large and rapid genetic and demographic impact. The same overall effects can be obtained when importing females, though the process will be somewhat slower. In some cases, it may also be worthwhile to consider any known genetic uniqueness of the mitochondrial genome and Y chromosome. For instance, prior to importing bison into the Texas State bison herd, it was noted that this herd contained a unique bison mitochondrial haplotype not known to occur in other bison herds (Ward et al 1999; Ward 2000). Therefore, importing males into this herd was favored over importing females, in part to prevent dilution of the unique native bison mitochondrial haplotype (Halbert et al. 2005a).

7. Age

Clearly the most rapid infusion of germplasm and improvement in herd viability will be obtained by importing breeding-age animals. In some cases, it may also be desirable to choose bison that have already produced offspring to avoid potential issues of sterility or offspring abnormalities. Even given the most well thought-out plans, however, genetic incompatibilities between native and imported bison may still influence the effectiveness of the imported bison in contributing to the calf crop.

8. Quarantine

A quarantine of newly imported bison should be considered prior to their release, especially when the recipient herd is at a high risk of extinction. Isolating the newly imported bison for some time will allow for an easier adjustment of the imported bison to their new environment and early detection and treatment/removal of latent diseases.

9. Mating regime

Should the imported bison have exclusive mating privileges for one or more years or should they be included with all other potential breeders to compete for breeding rights? An "exclusive" mating regimen allows for larger potential genetic and demographic impacts. However, a "competitive" mating regimen permits native bison to continue to contribute to the gene pool each year and provides some protection in case of genetic incompatibility between the donor and recipient herds.

9.2.6 Recovering small or threatened herds

Small populations (N_e less than 50, or a census size of fewer than about 150 animals), or larger populations which have undergone a recent and significant decrease in population size, are especially vulnerable to a loss of genetic variation, decreased fitness, and, ultimately, extinction (Gilpin and Soulé 1986). Persistently small populations are additionally susceptible to inbreeding, which can lead to an overall loss of heterozygosity and increase in rare, and often detrimental, genetic traits.

If a large population has undergone a recent reduction (=population bottleneck) in a short period of time (e.g., fewer than three generations), and is allowed to subsequently increase in size rapidly and without culling, the resulting population will probably suffer only small reductions in allelic variation and heterozygosity (Nei *et al.* 1975). The same is not true of the bottleneck effect in small populations, where the loss of allelic variation and heterozygosity tends to be much higher; in this case, extra measures must be taken to maximise the transfer of genetic diversity and minimise the loss of heterozygosity across generations.

Several strategies can be used to alter the breeding strategy of a small herd to maximise recruitment rates and genetic diversity in the calf crops. For instance, attempts can be made to randomise breeding. Bison are naturally polygamous breeders, and it may be necessary or desirable to implement a controlled mating scheme to ensure that a maximum number of males are breeding with the available females, and to maximise the transmission of genetic variation across generations. If semen viability or other reproductive barriers are an issue, artificial insemination may also be considered.

In some cases, altering the breeding strategy of a herd may not be sufficient to reverse the effects of small population size (e.g., Halbert *et al.* 2005a). In these cases, it may be necessary to import bison from other herds to improve recruitment rates and increase genetic variation. As the effects of importing bison into a small herd can be irreversible and even detrimental, the ultimate decision to implement this strategy should be made only after careful consideration, and as a last resort (all issues discussed in section 9.6.2 should be considered). Furthermore, options to maximise demographic and genetic impact (e.g., importing several males vs. a few females) should be considered in threatened herds.

9.2.7 Recovering herds from germplasm introgression

If a bison herd has had an influx of germplasm (genetic material) from an outside source, including another bison herd or a related bovid species, the ability to recover the germplasm of the original herd depends on: 1) the ability to detect bison containing introgressed fragments, and 2) the number of generations since the original introgression event. For instance, if two distinct bison herds are accidentally mixed, parentage testing would allow for post-mating segregation of the two herds and their offspring provided that the bison from each herd are distinguishable (e.g., identification tags or sufficient genetic differences) and that a limited number of generations have passed (fewer than three). If more than a few generations have elapsed since the initial introgression event, the introgressed segments will become dispersed throughout

the genome of the herd (hybrid swarm) and reconstitution of the original germplasm will not be possible (Allendorf *et al.* 2001). For example, low levels of domestic cattle introgression have been detected in many extant bison herds (Halbert 2003; Halbert *et al.* 2005b) and can be traced back to human-induced hybridisation of the two species over 100 years ago; in these cases, multiple domestic cattle fragments are dispersed so thoroughly throughout the genome that it is not possible to detect, much less remove, all introgressed fragments.

9.2.8 Herd size reduction

Bison have a high intrinsic reproductive rate and bison herds generally grow rapidly (see Chapter 6). Therefore, when resources are limited, bison herds often exceed the carrying capacity of their environment and begin to have negative impacts on other grazers and native plant species. As a result, most bison herds are subjected to some level of culling (=periodic removals) to maintain a suitable population size (Table 9.4). In extreme cases, it may be necessary to remove a large proportion of the population to meet management goals. For example, if bison have not been culled from a herd in several years, the herd may have nearly doubled in size, and it may threaten the survival of other species. In these cases, extreme caution should be taken to remove bison in a manner that will minimally influence herd and germplasm composition according to the following guidelines. Some discretion is needed in applying these guidelines. For example, it is important to avoid social disruption while simultaneously removing animals from all segments of the population. Managers must carefully evaluate their goals and the specific situation to achieve the best outcome (Table 9.4).

9.3 Behaviour: Mating System, Social Structure, and Movements

Bison behaviour is an index, or reflection, of the conditions experienced by individuals in a population, and behaviour is an emergent property of these conditions. For example, the intensity of competition for mates will be largely determined by population structure and density, and the ability of the herd to exploit environmental heterogeneity through foraging behaviours will be largely determined by population density and habitat characteristics. Vertebrates exhibit a remarkable ability to modify behaviour, including territorial defence, mating system, or seasonal movement pattern, in response to environmental factors (Lott 1984). Here, we describe desirable behaviours related to social structure, mating, foraging, and movements. Unlike population or genetic composition, behaviours can only rarely be manipulated directly, and behavioural “adjustments” must be accomplished by modifying other factors.

Table 9.4 Important considerations for culling bison herds. See section 9.2.8 for explanation.

Genetic diversity	When removing a large proportion of a herd, the primary threat to long-term preservation of the herd is a loss of genetic diversity that can be very difficult, if not impossible, to restore. Therefore, thorough genetic evaluation (e.g., section 9.2.3), is necessary before, during, and after planned large-scale herd reductions. The primary genetic considerations should be the overall maintenance of mitochondrial and nuclear diversity, such that the genetic architecture of the herd is maintained during and after the reduction period. Routine examination of culled animals during the reduction period will allow for detection—and hopefully correction—of “biased” removals, such as removal of a sibship or multigenerational family groups. Preferential removal of related individuals can lead to losses in genetic diversity and effective population size and should be avoided (Frankham 1995).
Herd composition	If, prior to removals, the herd has the desired composition, bison should be removed proportionally from all age and sex classes to avoid disruption of social behaviours and demographic structure. If the current herd structure is substantially different from that desired (e.g. section 9.2), animals may be preferentially removed from certain classes. In the case of disproportional removals, particularly care should be taken to assess and mitigate the potential effects of removals on social structure and genetic diversity.
Population substructure	Population substructure is likely important in many bison populations (see section 9.2). The presence of distinct subpopulations should be carefully evaluated prior to large-scale herd reductions and accommodated in planned reductions.
Time scale	Bison should be removed at regular intervals (rather than large, occasional events) to minimise potentially irreversible impacts on social structure and genetic diversity. The exact time period for removals will likely be different for each situation and will depend on such factors as total herd size, the total number of animals to be removed, and the resources available (e.g., facilities, manpower).
Assess effects of management actions	Before and after management actions are implemented, thorough genetic, health, and demographic monitoring is necessary to evaluate recovery efforts, and to detect the need for alternative management strategies. Small populations are especially sensitive to management changes, and comprehensive monitoring may be necessary for some time to ensure the recovery of such herds. Sections 9.2, 1, 9.2.3, and 9.5.2 summarise information that should be monitored to detect changes in a timely manner. Especially for small herds, the overall health of the herd should be continuously monitored to detect and treat any heritable or transmissible diseases that may impede recovery efforts.

9.3.1 Social structure and spacing

Bison are inherently gregarious and there are many historical observations of huge bison herds roaming across North America. Despite the enormous size of some bison aggregations, astute observers consistently reported a definable population structure where cows, calves, and immature males formed mixed-sex groups, and where large bulls tended to form separate, much smaller groups throughout much of the year. Groups of bulls are typically smaller than cow-dominated or mixed groups, and bison bulls have frequently been observed alone (Allen 1876; Berger and Cunningham 1994; Meagher 1973; Melton *et al.* 1989). In winter, the general pattern is one of smaller mixed groups, with group size increasing to large aggregations that peak in size during the summer breeding season and then rapidly diminishing (Berger and Cunningham 1994; Hornaday 1889).

The fundamental social group in bison is thought to consist of matrilineal groups (Green *et al.* 1989), although the persistence of these groups in populations that differ in size and ecological circumstances is poorly documented (e.g., McHugh 1958). These general patterns provide a basis for social behavioural guidelines:

- 1) Bison herds should have the capacity to exhibit seasonal changes in group size;
- 2) Average herd sizes will usually be smaller in mountains or mixed terrain than in open prairie;

- 3) Old bulls will be observed alone or in small groups during much of the year;
- 4) Persistence of matrilineal groups should be facilitated and activities that divide matrilineal groups should be avoided;
- 5) Activities (roundups, harvest, visitor disruptions, and so on) that disrupt social groupings should be avoided. Where unavoidable, implement carefully to minimize disruptions.

9.3.2 Foraging and movements

Hornaday (1889) described a highly nomadic foraging strategy, where plains bison seemed to wander somewhat aimlessly until they located favourable grazing conditions. Bison then grazed until a need for water motivated further movement. More recent studies of bison foraging have shown that they actively select more nutritious forages, and forage in a highly efficient manner that satisfies their nutritional needs and that frequently compliments diet selection by sympatric herbivores (Coppock *et al.* 1983; Hudson and Frank 1987; Larter and Gates 1991; Singer and Norland 1994; Wallace *et al.* 1995). Spatial variation in forage is produced by natural gradients in soil moisture, soil nutrients, fire, other disturbances, including foraging by bison. After massive wildfires swept along the Alaska Highway in NE British Columbia and the SW Yukon Territory during the early 1980s, bison continued extensive use of recovering areas 15 years later (Larter *et al.* 2007). Bison serve as an ecosystem

engineer, both responding to, and creating, heterogeneity. Bison traditionally exploited broad- and fine-scale variation in forages, for example, sometimes migrating long distances in response to snowfall or drought.

Guidelines to help preserve desirable behavioural patterns are as follows:

- 1) Allow bison to respond to differences and changes in the distribution, quality, and quantity of forages by moving within, and between, ecosystems;
- 2) Provide herd ranges that include a broad variety of habitats so that bison can exploit short-term (seasonal) and long-term (annual, multi-year) heterogeneity in forages from patch to landscape scales;
- 3) Bison herds should have the ability to create and respond to spatial variation in forage quality, quantity, and distribution that is the result of underlying variation in resources necessary for plant growth, to variation resulting from herbivore foraging (by bison, prairie dogs, and other species), and to variation resulting from environmental disturbances such as fire and flood;
- 4) Balance the advantages of larger population size against a need to avoid permanent habitat damage.

These guidelines suggest that bison should have access to very large areas in which they can exploit natural heterogeneity in forage abundance and quality. Fences and other impediments to movement should be minimised.

9.3.3 Mating behaviour

Differential reproduction resulting from mate competition is an important evolutionary process and, as such, it is crucial to allow bison to express natural mating behaviours. The following guidelines for population management support this goal:

- 1) The sex ratio of a population should be nearly equal, and in no case should either sex constitute more than 60% of the population;
- 2) A population should include about 50 mature and reproductively active males for every 100 cows (Gates 1996, unpublished data; Gates *et al.* 2005; Komers *et al.* 1992);
- 3) Allow interaction and fighting between bulls.

The ratio of mature males to cows will generally be lower than the overall sex ratio because males (bulls) achieve sexual maturity at a greater age than females (cows) and the mortality rate of males is higher than for females.

9.3.4 Limiting factors and natural selection

Chapter 6 described factors that were historically responsible for seasonal and periodic fluctuations in the size and distribution

of bison populations. These factors, and the population segments they tend to affect, are consistent with contemporary observations (Chapter 6; Gaillard *et al.* 1998).

General guidelines consistent with our understanding of “normal” demographic processes are:

- 1) Natural mortality rates should be highest for calves and the oldest age classes;
- 2) A “normal” range for calf survival is 40-90%, and calf survival should vary with winter severity, predation pressures, and forage availability;
- 3) Natural survival rates for prime-age adults will normally be about 95%;
- 4) Under good conditions (e.g., low density, mild winter, good forage production), pregnancy rates for three-year-old cows will be 70% or greater;
- 5) Under good conditions, pregnancy rates for prime-age cows (generally about 4-15 years old) will normally be 70-90% and some two-year-old cows (probably less than 5%) will produce calves;
- 6) Disease will generally lower reproductive performance.

9.4 Habitat and Biodiversity Management

Bison can, and usually will, significantly influence habitat and biological diversity, and bison are generally regarded as a foundation species and ecosystem engineers. This is especially true for ecosystems where bison are relatively abundant and range over large areas. Modern, small-horned bison have a long history as an integral part of two major ecosystems: the North American Great Plains (plains bison) and the sedge-meadow ecosystems of northern Canada and Alaska (wood bison).

Bison can profoundly affect ecosystem trophic structures, bio-geochemical cycling, species composition, and patterns of species diversity. Some major types of ecological processes that bison influence are summarised in Table 9.1, while a more detailed review is provided in Chapter 6.

Below we list guidelines for bison management that will help conserve biological diversity. Decisions on active bison management require knowledge of productivity, stocking rates, and movement patterns. Good sources of information for management of confined or semi-confined bison herds in western habitats are the USDA’s Natural Resource Conservation Service (NRCS) and its Field Office Technical Guides (<http://www.nrcs.usda.gov/technical/efotg/>). These documents provide information on primary productivity, recommended stocking rates, animal conversion units, and other information relevant to range management. The NRCS guides, however, focus on obtaining the maximum sustained yield of livestock. There is no comparable resource for biologists managing northern bison. For

northern bison herds, managers should review relevant literature and consult with biologists in boreal regions that support wood or plains bison populations. To enhance and conserve regional biological diversity, bison managers will need to consider local and regional issues, cultural and economic issues, and land use patterns. For example, if the conservation of prairie dogs and other species associated with short vegetation structure is desired, plains bison stocking rates should be higher than those recommended by the NRCS field guides.

The following guidelines can help promote conservation of biodiversity to a higher degree than is achieved in most livestock production systems.

- 1) Promote the movement and distribution of bison across the landscape in as-natural-a-fashion as possible, including the existence of sub-herds;
- 2) Manage for a mosaic of seral conditions and grazing intensities across a landscape. If particular conditions or seral stages are regionally rare, they should be favoured through management. This may contrast with traditional livestock grazing management that attempts to impose relatively uniform grazing pressure across an entire management unit and avoid areas of “overgrazing”;
- 3) Manage fire using the best available information on natural fire patterns for the region. Leave unburned areas as refugia for invertebrates and small mammals;
- 4) Restore and/or conserve prairie dogs and other grazers that interact with bison;
- 5) Where possible, restore or maintain native predators of bison, i.e., wolves and bears;
- 6) If mineral, food, or water supplements are necessary they should be provided in a way that creates habitat heterogeneity (as a point attractant rather than being distributed uniformly across the landscape);
- 7) Manage so that bison do not graze naturally inaccessible areas, for example isolated buttes and steep slopes, which increases landscape heterogeneity;
- 8) Leave carrion *in situ*.

9.5 Disease Guidelines: Considerations for Infected and Uninfected Herds

As all wildlife populations are hosts to a wide variety of natural pathogens, and these pathogens form an integral component of ecosystem health, we limit the focus of this section to:

- Pathogens that limit bison population recovery directly by reducing survival and/or reproduction, (demonstrating a bison population impact), and/or

- Pathogens that indirectly prevent bison recovery as they form threats to existing livestock and wildlife populations (e.g., so-called economic diseases).

In general, pathogens that fit the above categories are exotic (i.e., have spilled over from domestic livestock populations), such as bovine tuberculosis, brucellosis, bovine viral diarrhoea (BVD), and malignant catarrhal fever (MCF).

Wobeser (2002) outlined four general disease management philosophies: (1) prevention, (2) control, (3) eradication, and (4) the laissez-faire approach (do nothing). Preventative measures are those designed to inhibit the spread of disease to uninfected individuals or populations. For example, the Bison Control Area in the Northwest Territories is managed to prevent the movement of diseased bison from Wood Buffalo National Park (WBNP) to the Mackenzie Bison Sanctuary (Nishi *et al.* 2002c). Control measures reduce the frequency of occurrence or the effects of a disease within a population or contain the spread of the disease. Under this regime, a disease will normally persist indefinitely, requiring continued management. The Yellowstone National Park (YNP) cooperative bison management plan incorporates numerous control measures including test-and-slaughter of diseased bison, hazing of bison back into the park, vaccination, and radio telemetry of pregnant bison (NPS-USDOJ 2000). Total eradication of a disease is difficult and, in some cases, may not be possible given current technology and resources. Test-and-slaughter programmes, in concert with vaccination, may eradicate a disease from a captive population (Nishi *et al.* 2002c); however, these techniques are difficult to apply to free-ranging wildlife (Wobeser 2002). In larger populations, or over larger areas, intensive management, emphasising treatment and vaccination, may be inappropriate, unsustainable, or simply impractical (Woodruff 1999). In these circumstances, managing population size, structure, area of occupancy, or the risk of contact between host species or adjacent populations, could offer alternatives to more intensive interventions. Depopulation (=eradication) of an infected herd is a potential option; however, there may be considerable logistical challenges and conservation and policy issues including genetic conservation or salvage, cascading ecological effects, and public opposition (Nishi *et al.* 2002c; Wobeser 2002). Selection of a disease management approach depends on the rationale for management, whether the disease is already present in a population, the availability of funding, and the likelihood of success (Wobeser 2002). Managers should also understand the ecology and pathology of the disease, the dynamics of the pathogen-host relationship (Bengis *et al.* 2002; Wobeser 2002) and the risk to adjacent uninfected host populations, including bison.

Our disease recommendations focus on four disease control strategies: prevention, surveillance, management, and research. We recommend development of a disease management plan under the umbrella of a restoration programme plan that is

consistent with conservation programme goals and incorporates the expert counsel of wildlife veterinarians, epidemiologists, and other disease specialists. Disease management plans should be developed in a local context and involve considerable stakeholder participation.

9.5.1 Prevention

Thorough efforts should be made to prevent the introduction of exotic diseases into existing and future free-ranging bison populations. Introduction of novel pathogens into bison populations could occur by contact with free-ranging wildlife or through contact with captive wildlife or livestock (herein referred to as “potential disease sources”). As a general strategy, managers should strive to maintain population attributes that reduce the likelihood of disease establishment, or an increase in disease prevalence should a pathogen be introduced (Table 9.5). For example, animal density may influence disease transmission and nutritional status of animals. Habitat conditions (e.g., marshy areas for bluetongue or dry conditions for anthrax) and the presence or absence of predators can influence disease establishment or prevalence.

A disease risk assessment should be conducted for existing and future free-ranging bison populations. This risk assessment should include components of disease surveillance (in both the potential disease source and the population at risk) to determine what potential pathogens are involved, contact potential (to determine risk of disease transmission), potential consequences of disease transmission, recommended strategies to mitigate disease risk, and collateral impacts of these actions. Preventive actions may include prevention of dispersal between infected and at risk populations, habitat modification, and maintaining optimal population density, as well as understanding the history of pertinent diseases within the region.

The development of a clinical infectious disease involves a complex interaction between the host (bison), the agent (pathogen), and the environment (habitat). Alterations to any one of these factors may influence the ability of a disease to be introduced or established within a given population. Therefore, a thorough understanding of the biology of the host, agent, and environment is necessary to minimise the risk of introducing or amplifying non-native diseases.

9.5.2 Surveillance

The first step in managing diseases in a population is to determine if a pathogen is present, and if no infected animals are detected, the probability that

the disease is present, but at an undetectable level. Surveillance can also be used to determine the prevalence of a disease known to occur, and to monitor changes in its prevalence over time. Disease surveillance can be passive or active.

Passive, or opportunistic, surveillance would include disease testing of animals with clinical signs and/or those that are found dead or moribund. If a cause of death is not apparent, it may be prudent and informative to submit the entire carcass, where possible, for a full diagnostic necropsy to determine cause of death. Local management staff should be trained in basic necropsy techniques, and to correctly collect critical samples when it is not feasible to submit entire carcasses. Diagnostic evaluation is particularly important if human contact may have led to transmission of a zoonotic disease to an employee or a member of the public. If predators are present in the ecosystem, they may remove or compromise carcasses before they can be collected for investigation.

Active surveillance would include capturing animals and testing for diseases, or soliciting samples from hunters of hunted populations. Often, disease surveillance is performed by collecting serum from blood samples and testing these for antibodies to diseases of interest. It is important to remember that the presence of antibodies does not confirm disease in an animal, only exposure to the pathogen at some point in the past. However, one might infer that the pathogen of interest is present in a population based on positive serological results from individual animals. Additionally, most diagnostic tests have been developed for domestic livestock and their applicability in bison

Table 9.5 Potential management techniques appropriate for management objectives to passively manage, control, or eradicate disease.

Passive	Control	Eradication
Monitor herd for clinical signs of disease	All techniques under passive category	All techniques in passive and control categories
Implement movement restrictions from populations that are diseased or of unknown disease status	Manipulate population density to minimise spread of density-dependent diseases	Test and cull infected members of the population where scientifically founded and logistically feasible
Modify habitat to minimise congestion	Herd level treatment if feasible (rarely appropriate in free-ranging populations)	Combinations of vaccination, treatment or test and cull developed to rapidly eliminate disease
	Vaccination if available	Depopulation of host species followed by re-population with disease-free animals
	Implement temporal/spatial separation between infected and susceptible populations (wildlife or livestock).	Elimination of bison from affected areas

may not have been validated. Testing faeces for parasites or pathogens, such as *Mycobacterium avium pseudotuberculosis* (Mptb), may also be beneficial. Active sampling allows estimation of the population-level prevalence of the disease (as it can have greater statistical value because it is likely to be more random than passive sampling), although passive surveillance as a disease detection strategy may be more suitable for protected populations. High priorities for disease surveillance, based on human, wildlife, and livestock health considerations could include anthrax, bovine tuberculosis, brucellosis, BVD, JD, and MCF, among others. Finally, while foreign animal diseases, such as foot-and-mouth (FMD) disease or heartwater, are not highly likely to affect American bison populations, they should be on the “watch” list of potential diseases, since introduction of diseases such as FMD to North America would have significant economic impacts.

Non-specific signs of disease should be monitored and investigated, even though diagnostics are required to determine cause (e.g., poor condition could be due to age or habitat condition, parasitism, or JD, among other causes; Table 9.6).

9.5.3 Management

When a pathogen has been detected in a bison population, an evaluation should be made to determine if a disease management plan should be developed that is consistent with the goals for the bison population. Potential disease management objectives are: a) a passive approach where no actions, or at least no actions that manipulate animals, are taken to control the disease, b) a control strategy where actions are taken to limit disease prevalence, spread, or risk, or c) an eradication strategy where actions are taken to remove the disease from the population. All three strategies (Table 9.5) will likely involve monitoring disease prevalence (either actively or passively as defined above). Strategies used will also be influenced by the intensity of management within the herd. For example, management options, such as vaccination, would be more easily applied to a herd that is intensively managed with round-ups.

9.5.4 Research

Further research will be necessary to develop and implement tools for successful disease prevention, surveillance, and management. For example, many of the diagnostic tests commonly used in bison disease programmes were developed for use in the livestock industry and have not yet been validated in bison populations. Furthermore, key questions remain about the presence/absence and distribution of diseases in populations, and their potential effects on bison demography and genetics.

Table 9.6 Non-specific clinical signs of disease.

Loss of body condition	Abnormal behaviour
Abnormal exudates from body orifices	Isolation from the herd
Cloudy eyes	Abnormal loss of hair coat
Diarrhoea	Abortion
Abnormally poor hair coat	Lameness (multiple limb)
Somnolence	Abnormal interaction with humans
Unexpected/ abnormal mortality events	

Research should be designed to meet the needs of local managers, so that results can be applied in more general contexts. A limited list of some of the key disease research themes include:

- Diagnostics (specific to bison, with high sensitivity and specificity to detect a disease);
- Vaccination/immunology;
- Role of genetics in disease resistance;
- Disease epidemiology (e.g., transmission, demography) and risk analysis (spread of disease among and between wild and domestic hosts);
- Identification of emerging disease threats to bison in North America;
- Pathology;
- Effect of disease on population growth and viability (both indirect and direct effects).

Where research is needed for a particular disease surveillance or management question, bison managers are encouraged to work with federal, state, university, and private researchers to meet this need. An adaptive management approach will be necessary, especially when information about a specific disease is scarce.

9.5.5 Stakeholder involvement

In summary, bison populations should be managed to prevent the introduction and spread of diseases that directly, or indirectly, impact bison recovery. However, bison disease management strategies have been, and continue to be, controversial because the apparent solution to the disease problems (or “cure”) is often perceived to be worse than the disease itself. Extensive stakeholder involvement in disease management plans is absolutely critical to successful bison disease management; such management strategies have often failed without it. Typical stakeholders in bison disease



Plate 9.2 Meeting of stakeholders at Vermejo Park Ranch, IUCN Bison Specialist Group. Photo: John Gross.

management include state and federal agencies (animal health regulators, land management agencies, and wildlife agencies), landowners, livestock producers, conservation organisations, sportsmen’s organisations, and native people groups and organisations.

9.6 Active Management: Handling, Herding, Infrastructure

Bison differ substantially from cattle and they often respond poorly to handling that would be routine for cattle. Bison should be treated as wildlife and handled infrequently or preferably, not at all. When handling is absolutely necessary, suitable precautions must be observed, for example, old bulls (and cows) can be very dangerous and difficult to handle. Handling facilities designed especially for bison are needed to ensure the safety of both the animals and people that work with them.

The overarching principle is that to preserve the true, wild nature of bison, active management, through herding or other interventions, should be minimised. Handling bison can result in changes to bison behaviour and lead to management-based selection that, over time, alters genetic composition of the herd (Lott 1998). These changes can be irreversible and detrimental to conserving or restoring a “wild” stock. The general guidelines on preserving normal bison behaviour below are only an introduction. An understanding of the concepts of bison behaviour, practical experience, and perhaps, special training is required to handle bison well. We recommend consulting known experts for advice. Bison handling presents a greater challenge than handling domestic stock and managing for “wild” behaviour is a relatively new concept.

9.6.1 Handling

“Sure, you can herd bison ... anywhere they want to go.”

When active management of bison is necessary, use “calm animal” techniques based on an approach that adjusts human behaviour to fit the natural response of the animal, rather than the other way around (Grandin and Johnson 2004; Roberts 1996). This approach simplifies handling “wild” animals, and it reduces the tendency for managers to inadvertently remove ecologically desirable traits over time by selective culling.

Guidelines for handling bison are predicated on exploiting their natural instincts (Lott 1991). Bison are strongly motivated by food, by threat of predation, and by the need to maintain

social cohesion. Managers can exploit these tendencies: bison can be led with food, and lighter fencing is adequate if better foods are not detected across a fence. By appearing as a predator, managers can precipitate uncontrollable flight or even attack. Less aggressive techniques can be used to control bison movements while minimising risk and effort. Bison’s herding “instincts” prevail and groups of bison can be motivated to move simply by motivating the lead cow. By the same token, disrupting the established “pecking order” or cow-calf bonds in a herd stresses bison and makes them harder to handle.

Social cohesion in bison has important implications for handling. In the wild, herds of bison found food and fended off predators better than lone animals, and social communication provides important clues when handling bison. Potential danger signals include postures such as tails up, intense staring, snorting and pawing, and “growling” (by bulls) (Lee 1990a). More subtle signals can advertise anxiety, intent to move away, or willingness to follow.

It is easier to lead than to drive bison (Lee 1990b). Once trained to come to vehicles for food, bison will readily follow a vehicle to different parts of their home range, or they can be gathered for processing. Food dispensed at corrals during annual processing can motivate bison to move on their own toward corrals at the appropriate time the next year.

Predator-related behaviours of bison that handlers can use to their benefit include:

- 1) A tendency to interpret a direct approach or staring as a threat;

- 2) A tendency to flee if approached too closely, too swiftly, or too directly;
- 3) A tendency to drift away if approached slowly and tangentially;
- 4) Reduced intensity of response with repeated harmless encounters.

Implications of bison being attracted by food include:

- 1) The difficulty of fencing them away from good-quality food;
- 2) A tendency for bison to seek out the highest-quality forages in their home ranges;
- 3) The power of food, when properly managed, to amplify desired behaviour and reduce undesired behaviour.

Ways in which social cohesion can affect handling include:

- 1) The strong tendency for social groups to follow the lead animal's response;
- 2) The difficulty of separating cows from their young calves during processing;
- 3) The stress and disorientation that accompany disruption of social groups;
- 4) The ease of translocating and moving animals if social groups remain intact.

9.6.2 Fencing

Motivated bison can easily cross or destroy fences generally effective at constraining cattle. Bison-proof fences can be expensive, and if not carefully designed, may hinder passage by other wildlife. Efforts to reduce a bison's motivation to breach fences can greatly reduce the costs of fencing required to contain animals, and reduce adverse effects on other species.

Appropriate fence designs vary with circumstance, and a detailed discussion is beyond the scope of this chapter. More detailed recommendations and evaluations should be consulted before any construction begins (e.g., Butterfield 1990a; 1990b; Gates 2006). In general, a three-strand barbed-wire fence can hold bison that have been trained to avoid fences and that are not strongly motivated to cross the fence. High-tensile wire is more commonly used to build new bison fences or to reinforce existing ones. Some prefer net-wire fences, but depending on design, they can be formidable barriers to other animals that need passage. Electric fences, high tensile or otherwise, greatly increase the barrier effect to bison, and also condition them to avoid fences in general.

The need to allow passage for other wildlife affects fence design where deer, pronghorn, elk, (or other large ungulates) are present. High tensile fences with the bottom wire at least 51 cm (20") off the ground and the top wire 107-132 cm (42"-52") off the ground will constrain bison under most circumstances, while

still permitting deer and pronghorn to pass under the fence and most elk to jump over the fence (Karhu and Anderson 2003). A three-wire electric fence with the bottom and top wires 56 cm (22") and 107 cm (42") off the ground, respectively, offered better passage for deer, pronghorn, and elk than did two- or four-wire designs (Karhu and Anderson 2003). Gates (2006) provides additional details and recommendations that vary from those above (e.g., top wire 152 cm (60") above ground). Additional guidance should be obtained to ensure fencing meets the needs of any specific application.

Factors that can modify the effectiveness of fencing include:

- 1) Bison density; as density increases, more secure fencing may be required;
- 2) Deep snow-pack may require special design considerations;
- 3) Damage due to falling trees, big game, vandals, or bison;
- 4) Attractive food, or other objects, on the other side of a fence increases bison motivation to breach fences.

Factors that influence the effect of fences on deer, pronghorn, or elk include (Gates 2006):

- 1) Nutritional stress; adverse impacts increase during periods of nutritional stress;
- 2) Some fence designs (e.g., woven wire) have greater barrier effects than others;
- 3) Barrier effects that are only seasonal may not be evident when fences are built;
- 4) Poor designs may injure or kill animals or separate mothers from young;
- 5) Predators may kill big game more easily by chasing them against fences.

9.6.3 Corrals, pens, and chutes

Corrals and associated facilities for wild bison need to be more carefully designed and constructed than similar facilities for domestic livestock. Bison may not recognise standard fencing as a barrier. Young calves require special attention because they may run into solid gates or fences, although fences that are about 80% solid appear to prevent this (Lammers, personal communication). Fences and gates, with 30-40 cm (12"-16") planks spaced 10 cm (4") apart, effectively stop bison and can be easily climbed by wranglers. Open fences near the working chutes, even those that are very strong, often lead to injury and mortality. Totally solid fencing can be dangerous for people working animals from the ground if they need to escape crowded or charging animals.

Bison handling facilities must accommodate the strong social hierarchy and aggressive behaviours that bison exhibit.

Appropriate facilities usually include custom sized and constructed chutes and alleyways, crash gates, and chute crowding tubes. It is expensive to construct facilities safe for bison (and the people working with them), and we strongly recommend visiting facilities that have proven to be safe and effective. Highly credible facilities include those at YNP (Gardiner, Montana), the Baca Ranch (Colorado), Badlands National Park (South Dakota), and EINP (Alberta).

9.7 Modelling to Assess Bison Populations and Habitat

Computer models are routinely used to improve our understanding of bison population and disease dynamics, and to forecast probable genetic consequences resulting from particular management actions. In the future, we should expect even more widespread use of quantitative models, which can, and likely will, be used for a broad range of purposes. A detailed treatise on modelling is well beyond the scope of this plan. The main goals of this section are, therefore, to provide readers with the minimal background necessary to seriously consider the utility of using an existing model, or of constructing a new management-oriented model, and to provide sufficient insight to the modelling process, that they can reasonably evaluate the validity and usefulness of model results, or at least ask questions that will help resolve these issues.

For conservation purposes, population viability analysis (PVA) and population habitat viability assessment (PHVA) have become common, and important, approaches for assessing existing populations and for evaluating potential restoration or reintroduction projects. We restrict PVA and PHVA to analyses that employ quantitative modelling to assess the risk of extinction, or which attain a quantitative population threshold greater than extinction (“quasi-extinction”, from Ginzburg *et al.* 1982; Burgman *et al.* 1992; Ralls *et al.* 2002). Other thresholds for evaluation could include attaining a specified level of inbreeding depression or allelic diversity, or estimating the likelihood that a proposed introduction plan will result in establishment. Conclusions drawn from expert panels, committees, and other source of opinions, in the absence of a quantitative model, do not constitute a PVA (Reed *et al.* 2002). PHVA is a much broader process than PVA, and includes evaluation of geographical, social, regulatory, and ecological considerations that may significantly affect a species. The PHVA process includes a broad range of stakeholders and leads to specific recommendations for conserving a species in the area considered (<http://www.cbsg.org/cbsg/phva/index.asp>). Viability analysis is important to bison conservation because so many bison populations are small and clearly at risk, and because we have a rich knowledge of factors necessary to conduct credible and insightful evaluations.

The small size of many bison herds has raised concerns about retention of genetic diversity, and these concerns motivated detailed simulations to evaluate effects of management actions on retention of genetic variation in bison herds (Gross *et al.* 2006; Halbert *et al.* 2005; Wilson and Zittlau 2004). Other modelling studies have focused on brucellosis dynamics and its control in bison (Dobson and Meagher 1996; Gross *et al.* 1998; 2002; Peterson *et al.* 1991; Treanor *et al.* 2007) and on illustrating population dynamics of bison (Brodie 2008). All wildlife models are ultimately limited by data availability, and model results can be misleading when forecasts are presented with an apparent precision that is not justified by the underlying model assumptions, structure, or the accuracy of model parameters (Ralls *et al.* 2002; Reed *et al.* 2002). In general, the most appropriate use of simulation model results is to evaluate the merits of alternative management actions, rather than to define an absolute threshold population size. In particular, minimum critical population sizes may be sensitive to small errors in parameter estimates, or to the functional structure of strong environmental perturbations.

9.7.1 Guidelines for using computer simulations

The first critical step is to clearly define the objectives of the modelling exercise. If the intent is to evaluate management actions, the best objectives are quantitative, specific, time-bound, and consist of “treatment” variables (e.g., number of founders, number or proportion removed) that can reasonably be simulated by a computer model. A good objective must include the likelihood of achieving the desired results, the quantitative value of a threshold, and a time horizon. For example, a bison PVA used the genetic objective to achieve a 90% probability of retaining 90% of currently observed selectively neutral genetic heterozygosity for 200 years (Gross *et al.* 2006).

Below, we list steps that will be required to construct a computer model to support bison conservation. A number of recent treatises provide more detailed information about this process (we especially recommend Burgman *et al.* 1993; Bessinger and Westphal 1998; Bessinger and McCullough 2002; Hilborn and Mangel 1997). Although we list steps sequentially, most modelling exercises are iterative and involve simultaneously working through a number of these tasks and revisiting them as more information or insight becomes available.

1. Clearly articulate the objectives of the modelling exercise. It is essential to clearly identify a small, discrete set of “treatments” and “responses”.

- What management must be evaluated?
- What is the relevant time frame?
- What model outputs are to be evaluated?

2. Determine the required scope of model.

- Single or multiple species?
- Age or stage structured?
- One or more population units?
- Spatially homogeneous or with spatial structure?
- What is the geographical extent?
- Are animal-habitat feedbacks necessary?

3. Evaluate existing software and decide whether to use an existing programme or to construct a new model. Considerable time and money can be saved by using “off the shelf” software, such as RAMAS (<http://www.ramas.com/software.htm>), Vortex (Lacy 1993), ALEX (Possingham *et al.* 1992), or another modelling environment.

4. Collect necessary data and estimate model parameters. This can be a huge step. Data will be needed to estimate mean vital rates and realistic estimates of variance. Ecosystem or habitat models will require much additional information to determine carrying capacity and animal-ecosystem feedbacks. Most population-habitat models used for PVA will include catastrophes, estimates of variance in habitat carrying capacity, and specific assumptions on the form and process of density dependence.

5. Construct, calibrate, and run the model. Evaluate model results. Considerable effort may be required to understand and comprehensively evaluate model inputs, and to understand model results. Output from a simulation exercise usually includes huge quantities of data that will need to be reduced, summarised, and presented in an understandable form.

6. Package results in a digestible and understandable format. This is a vastly underappreciated problem, and it will be much easier if the model objectives were clear and concisely stated at the outset.

7. Ralls *et al.* (Table 25.4 in Ralls *et al.* 2002) provide a specific checklist for evaluating the quality of a PVA, and this checklist applies equally well to many additional conservation modelling exercises. They provide “yes-no” questions that focus on model objectives, model structure, data and parameter estimation, analysis of model outcomes, handling of model uncertainty, interpretation, and peer review. These criteria provide a sound framework for helping to ensure models are constructed and used in an appropriate fashion.

9.8 Conclusions

While many topics are addressed in this chapter, effective management of bison ultimately relies on the judicious application of common sense and good judgement. When bison have access to sufficient space and forage, and are left relatively undisturbed, they are more than fully capable of taking care of themselves. Nonetheless, most bison will not experience natural conditions that include wide-open spaces and intact predator communities, so we hope the guidelines provided will support science-based management programmes that lead to more effective conservation and restoration of bison. These guidelines focus on widespread common management issues—population management, disease, and genetic management. These guidelines and principles will ensure that key issues are addressed, and citations will help managers find more detailed information that may be necessary to accommodate specific situations.

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10.1 Introduction

During Pre-Columbia times, bison had the widest distribution of any large herbivore in North America, ranging from the arid grasslands of northern Mexico to the extensive meadow systems of Interior Alaska (Chapters 2 and 7). Following the arrival of Europeans, the species experienced unparalleled range contraction and collapse of populations in the wild, primarily during the late 19th Century (Isenberg 2000). Wild bison persisted in only two locations, south of Great Slave Lake in what is now Wood Buffalo National Park (about 300 individuals), and in the remote Pelican Valley in the Absaroka Mountains in the interior of Yellowstone National Park (YNP) (fewer than 30 individuals). The species was extirpated from the wild throughout the remainder of its original range. The American bison has achieved a remarkable numerical recovery, from approximately 500 at the end of the 19th Century to about half a million animals today, of which 93% now exist under captive commercial propagation (Chapter 7). However, Sanderson *et al.* (2008) estimate that bison occupy less than 1% of their original range.

Rarely do wildlife populations in North America achieve the full range of ecological interactions and social values existing prior to European settlement. The bison remains extirpated as wildlife and in the ecological sense from much of its original continental range. This is particularly true of the plains bison, for which few populations interact with the full suite of other native species and environmental limiting factors (Chapters 6 and 7). In the absence of committed action by governments (including aboriginal governments), conservation organisations, and perhaps the commercial bison industry, the conservation of bison as a wild species is far from secure. The main challenges were described in earlier chapters of this volume and are summarised by Freese *et al.* (2007). They include anthropogenic selection and other types of intensive management of captive herds, small population size effects, issues related to exotic diseases, introgression of cattle genes, management under simplified agricultural production systems, and associated with this, widespread ecological extinction as an interactive species.

Contemporary biological conservation is founded on the premise of maintaining the potential for ecological adaptation in viable populations in the wild (IUCN 2003; Secretariat of the Convention on Biological Diversity 1992; Soulé 1987), and maintaining interactive species (Soulé *et al.* 2003). Viability

relates to the capacity of a population to maintain itself without significant demographic or genetic manipulation by humans for the foreseeable future (Soulé 1987). For limiting factors, such as predation and seasonal resource limitation, adaptation requires interactions among species, between trophic levels, with physical elements of an ecosystem. These, and other interactions among individuals within a population (e.g., resource and mate competition), contribute to maintaining behavioural wildness, morphological and physiological adaptations, fitness, and genetic diversity. These factors enable a species to adapt, evolve, and persist in a natural setting without human support in the long term (Knowles *et al.* 1998).

Viable, wild populations of bison, subject to the full range of natural limiting factors, are of pre-eminent importance to the long-term conservation, global security, and continued evolution of the species as wildlife. However, the availability of extensive ecosystems capable of sustaining large, free-roaming, ecologically interactive bison populations is limited. This is particularly true in the original range of plains bison in the southern agriculture-dominated regions of the continent, given the historical post-European settlement patterns of industrial and post-industrial society. Social and political systems that provide space and environmental conditions where bison can continue to exist as wildlife and evolve as a species, are severely limited.

Innovative approaches need to be instigated in some locations to emulate, to the extent possible, the original ecological conditions, and to prevent domestication and small population-related deleterious effects such as those experienced by the European bison (Hartl and Pucek 1994; Prior 2005; Pucek *et al.* 2004). Currently, there is only one population of plains bison (YNP) and three populations of wood bison (Greater Wood Buffalo National Park, Mackenzie, and Nisling River) in North America that can be considered ecologically restored (thousands of individuals, large landscapes, all natural limiting factors present, minimal interference/management by humans).

The conservation of American bison as wildlife would be significantly enhanced by establishing additional large populations to achieve landscape scale ecological restoration. This will require effective collaboration among a variety of stakeholders, whereby local actions, based upon social and scientific information, are coordinated with wider goals for species and ecosystem conservation. The bison was an

ecologically dominant keystone species over much of its range. Thus the ecological integrity and diversity of ecosystems in which they occurred, whether defined historically or biologically, will depend on large-scale restoration of the bison.

10.2 Ecological Restoration

Ecological restoration provides a conceptual framework for bison restoration at medium to broad scales. It can be defined as the intentional process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed relative to a reference state or a trajectory through time (SERI and IUCN Commission on Ecosystem Management 2004). The goal of ecological restoration is an ecosystem that is resilient to perturbation, is self-sustaining with respect to structure, species composition and function, is integrated into large landscapes, and supporting sustainable human livelihoods. Many healthy ecosystems are a product of human endeavours over very long time periods. In many cases then, ecological restoration projects typically requires the participation of resource-dependant human communities, and have the potential to support ecologically sustainable economies in rural communities. Bison play important ecological roles (Chapter 6), as well as meaningful cultural and economic roles (Chapters 2 and 7). They are increasingly providing a viable alternative to grazing exotic domestic herbivores (Renecker *et al.* 1989).

Ecological restoration of bison: The re-establishment of a population of several thousand individuals of the appropriate sub-species, in an area of their original range, in which bison interact in ecologically significant ways with the fullest possible set of other native species and other biophysical elements of the landscape, and connect in meaningful ways with human communities, with minimal management interventions (adapted from Sanderson *et al.* 2008).

Sanderson *et al.* (2008) asserted that by sharing an inclusive, affirmative and specific vision and knowledge about bison and landscape conservation with a wide range of stakeholders, opportunities can be created to restore bison in ecologically effective herds roaming across extensive landscapes in all major habitats of their original range. Here we define the full, or ideal, ecological restoration of bison as the re-establishment of a population of several thousand individuals of the appropriate

sub-species, in an area of original range, in which bison interact in ecologically significant ways with the fullest possible set of other native species and biophysical elements of the landscape, with minimal management interventions. This is not to say that populations smaller than several thousand bison do not contribute to bison conservation, or to restoration of ecological processes (e.g., grazing, soil disturbance, decomposition, nutrient cycling, predation, scavenging; Chapter 6). However, some processes, such as migration and natural selection, may be absent or not function as completely at smaller scales (Chapter 9). Sanderson *et al.* (2008) provide specific criteria for ranking the contribution of bison herds to ecological restoration.

10.2.1 Geographic potential for ecological restoration

The Wildlife Conservation Society hosted a workshop in May 2006 at Vermejo Park Ranch, New Mexico that involved 28 people, including bison specialists, indigenous groups, bison producers, conservation organisations, and government and private land managers, from throughout North America. Among other objectives, participants worked to draft a vision for ecological recovery of the American bison, to develop a consensus hypothesis on major habitat types within the original range that would be useful for representative conservation planning, and to map areas for potential ecological recovery over the next 20, 50, and 100 years (Sanderson *et al.* 2008; also see Chapter 7). The methods used to achieve these objectives were similar to those pioneered for jaguars (Sanderson *et al.* 2002) and subsequently applied to other species (e.g., Thorbjarnarson *et al.* 2006) under the title of “range-wide priority-setting”.

A vision referred to as “The Vermejo Statement” was developed for the ecological future of the American bison (Sanderson *et al.* 2008):

“Over the next century, the ecological recovery of the North American bison will occur when multiple large herds move freely across extensive landscapes within all major habitats of their historic range, interacting in ecologically significant ways with the fullest possible set of other native species, and inspiring, sustaining and connecting human cultures.

This vision will be realised through a collaborative process engaging a broad range of public, private, and indigenous partners who contribute to bison recovery by:

- *Maintaining herds that meet the criteria for ecological recovery, as well as herds that contribute in some significant way to the overall vision, regardless of size,*
- *Managing herds for the long-term maintenance of health, genetic diversity, and integrity of the species,*
- *Restoring native ecosystems, ecological interactions, and species,*
- *Providing conservation incentives for bison producers, managers, and other stakeholders,*

“‘Ecosystem’ means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit” (Article 2 of the Convention on Biological Diversity).

- *Creating education, awareness and outreach programmes to public and policy-making constituencies,*
- *Building capacity among key stakeholder groups, and*
- *Working across international borders, where necessary.”*

Participants in the Vermejo workshop were asked to map areas

where “ecological recovery might be possible” over three time frames (20, 50, and 100 years), considering future trends in land use, economic development, demography, and climate. The resulting maps provide a subjective, visual hypothesis of the most promising places for ecological recovery (Sanderson *et al.* 2008). The maps illustrate that potential for ecological recovery exists throughout North America. Long-term opportunities are apparent across much of the original range of the plains bison, from private agricultural, state, and national grazing lands in northern Mexico and southern New Mexico, to the agriculture-dominated, mixed tenure landscapes of the Northern Great Plains. In northern regions of the continent, wood bison populations exceeding a thousand animals are already present in three large landscapes in Canada, and a new initiative will restore one or more populations in interior Alaska.

The kinds of large areas required to achieve ideal ecological restoration of bison are likely to be managed by several jurisdictions, and may also involve private landowners. Achieving agreement on restoring bison to such landscapes is challenging prospect, requiring principled, long-term development planning, soundly based on community-based conservation development praxis (see: Bopp and Bopp 2006, for practical guidelines for community development).

10.2.2 Principles for ecological restoration applicable to bison

Successful ecological restoration of bison as wildlife on multi-tenured landscapes requires careful assessment and collaborative planning. While some restoration projects will emerge from government and non-profit organisation initiatives, private landowners may initiate others. In many cases, assembling a sufficiently large landscape (tens or hundreds of thousands of hectares) for ecological restoration will require cooperation between public and private landowners.

“A functional conservation area maintains the focal species, communities, and/or systems, and their supporting ecological processes within their natural ranges of variability (i.e., the amount of fluctuation expected in biodiversity patterns and ecological processes under minimal or no influence from human activities)” (Poiani and Richter undated).

The American Bison Specialist Group considered documents published by IUCN and the Society for Ecological Restoration Science and the Policy Working Group, and drew upon the professional and practical experiences of its members, and other participants, to develop the following guiding principles for agencies and non-profit conservation organisations interested in ecological restoration of bison:

- 1) Goals concerning the management of land, water, and living resources, including bison restoration, are a matter of societal choice.
- 2) Ecological restoration of bison is an interdisciplinary and inclusive undertaking requiring the involvement of all relevant sectors of society and scientific disciplines.
- 3) Planning and management of ecological restoration projects should be decentralised to the lowest appropriate level, as close as possible to the human community within a local ecosystem, and supported by the highest levels of government policy.
- 4) All forms of relevant information, including scientific, indigenous and local knowledge, and innovations and practices, should be considered in planning and implementing bison restoration.
- 5) Understanding and addressing economic drivers is imperative for successful ecological restoration of bison, including:
 - a. Reducing market distortions that adversely affect conservation of bison as wildlife;
 - b. Developing incentives to promote conservation of ecologically functioning bison populations and their sustainable uses; and
 - c. To the extent possible, internalising the costs and benefits of managing bison as wildlife in an ecologically restored landscape.
- 6) Ecological restoration of bison should be undertaken at appropriate spatial and temporal scales, and should focus on restoring ecological structure, processes, functions, and interactions within a defined ecosystem.

- 7) Restored bison populations should be managed, to the extent possible, as an integral component of, and within the ecological limits of, an ecosystem.
- 8) Conserving bison and conserving landscapes through restoration of ecologically functioning bison populations are inseparable.
- 9) Adopting a long-term perspective on ecological restoration of bison, and an inclusive process, will open up conversations and foster partnerships and political will that might not otherwise be possible.
- 10) Ecological restoration of bison should serve both biodiversity conservation and ecologically sustainable use, and involve fair and equitable sharing of benefits among stakeholders.
- 11) Ecological restoration of bison should be fully incorporated into national and state/provincial biodiversity conservation strategies.
- 12) Inter-sectoral and inter-jurisdictional communication at all levels (between nations, government ministries, management agencies, organisations, communities, etc.) improves awareness and multi-party cooperation.

The bison has been a utility species for many cultures and communities since people first arrived on the North American continent about 12,000 years ago, with the exception of a 100-year period between the great contraction of the species (*circa* 1880; Flores 1994) and recent commercialisation (*circa* 1980; Renecker *et al.* 1989). Its utility is reflected in the current predominance of animals managed for private commercial captive propagation (about 93%), and the fact that all large (more than 1,000 animals) free-roaming populations are hunted. The IUCN Policy on Sustainable Use of Wild Living Resources (http://cmsdata.iucn.org/downloads/2000_oct_sust_use_of_wild_living_resources.pdf) and the principles on sustainable use developed by the IUCN Sustainable Use Specialist Group (IUCN SUSG Technical Advisory Committee 2001) apply to the ecological restoration of bison. The IUCN Policy on Sustainable Use provides that conservation of biodiversity is central to the IUCN's mission, which is to influence, encourage, and assist societies to conserve the integrity and diversity of nature, and to ensure that any use of natural resources is equitable and ecologically sustainable. The Policy considers that both consumptive uses (harvesting of animals and plants) and non-consumptive uses (maintaining cultural and aesthetic values of biological diversity) are important components of a sustainable development agenda supporting human livelihoods, while, at the same time, contributing to conservation. In addition, the IUCN Re-introduction Specialist Group (1998) offered important considerations to ensure local stakeholder and agency support for wildlife restoration projects.

Principles for Sustainable Use of Living Resources (IUCN Sustainable Use Specialist Group 2001):

1. Sustainable use will most likely be achieved with consideration of socio-political, economic, biological and user factors at the community, sub-national, national, and international levels.
2. Sustainable use is enhanced by supportive incentives, policies, laws and institutions at all levels of governance, and by effective linkages between them.
3. Local communities, and other parties who have management responsibility for wild living natural resources, must be supported by recognised rights and the means to manage the resources.
4. The contribution and needs of those who manage wild living natural resources must be appropriately reflected in the allocation of the benefits from the use of those resources.
5. Adaptive management, relying on an iterative process of timely and transparent feedback from socio-economic, resource and ecological monitoring, is essential for sustainable use.
6. Sustainability of living wild resource use is enhanced if traditional/local knowledge is taken into account.
7. Sustainable use of wild living resources is enhanced if managerial jurisdictions match ecological and socio-economic scales.
8. Subsidies that distort markets, promote habitat alteration or destruction, and unsustainable use of natural resources should be eliminated.

10.3 The “Ecosystem Approach” for Designing Ecological Restoration of Bison

The Ecosystem Approach (Shepherd 2004) is a strategy for integrated management of land, water, and living resources that promotes conservation and sustainable use in an equitable way. It is the primary framework for action under the Convention on Biological Diversity. The Ecosystem Approach puts people, and their natural resource use practices, at the centre of decision-making. Because of this, it can be used to seek an appropriate balance between conservation and use of biological diversity in areas where there are many resource users combined with important natural values.

Planning and implementing ecological restoration of bison may involve multi-tenured landscapes and is a complex undertaking that requires assessing biophysical and social components, evaluating and engaging stakeholders, considering economic conditions, and cultivating long-term partnerships. Ecological restoration planning is a dynamic process, best achieved incrementally, with ample opportunities for iteration and feedback. The following elements provide guidance for agencies, organisations and individuals interested in designing ecological restoration projects.

10.3.1 Defining the biological landscape and objectives

Ecological restoration of bison considers the species as an interactive element of an ecologically functioning restoration area that provides the size and distribution of habitats necessary to support a restored bison population. Defining a biological landscape for this purpose involves determining the size and refining the boundary of the area, identifying the resource requirements of bison and other focal elements including their spatial needs, and mapping the distribution of habitat resources (Loucks *et al.* 2004). These tasks can be achieved by a variety of processes including expert-driven workshops and local working groups aided by technical experts. For example, the IUCN/SSC Conservation Breeding Specialist Group (CBSG) has extensive experience managing conservation planning workshops using its signature processes, the Conservation Action Management Plan and Population and Habitat Viability Assessment (PHVA), to assist groups in developing species level action plans (www.cbsg.org/cbsg). A Landscape Cumulative Effects Simulator (ALCES®; Forem Technologies; www.alces.ca) is another software tool that is rapidly gaining acceptance by industry, government, and the public as an effective simulation tool for exploring sustainable resource and landscape management alternatives.

Whatever the decision support system is used, common to each process is the need to have stakeholders (conservation groups, wildlife biologists, relevant government agencies, and local private and public land managers) involved. Agreements are typically required on the size and boundaries of the ecosystem and the potential biological capacity of the area to meet the needs of bison restoration and other conservation and community objectives.

“Conservation landscape” refers to a spatial plan for a priority area that meets fundamental conservation objectives while addressing other socio-economic needs (Loucks *et al.* 2004).

10.3.2 Defining the social landscape, the main stakeholders, and cultivating partnerships

Large-scale ecological restoration involves multiple levels of social complexity, and typically involves more than one jurisdiction. The geographic potential for ecological restoration of bison in North America is illustrated in a general sense by Sanderson *et al.* (2008). Priority areas may be considered as having the potential to become conservation landscapes (*sensu* Loucks *et al.* 2004) that have ecological and social potential for restoration of bison in the intermediate to long term. Careful assessment and understanding of social, economic, legal, and political conditions within candidate landscapes is an essential preparatory step for planning and implementing restoration projects (Loucks *et al.* 2004; The Nature Conservancy 2005), particularly where community support and involvement is required (Child and Lyman 2005).

The priority areas identified by Sanderson *et al.* (2008) represent, in the collective opinion of a group of experts, a hypothesis of where the most promising places for ecological recovery exist, considering future land use trends, economic forces, human demography, and climate. Understanding the regional social-ecological system in such target areas is an important feature of effective conservation planning (Driver *et al.* 2003). In addition to assessing the biophysical capability of a candidate area, detailed assessments are required to define the human community within the ecosystem boundaries. Social landscape analysis (Field *et al.* 2003) provides a tool for understanding and mapping the human landscape. It requires collecting, analysing and mapping human demographic and economic data, and information on land development and ownership patterns and trends. Social landscapes consist of the demographic patterns of people (location, density, age and gender structure, industry and employment patterns, and governance boundaries) in relation to land and resources.

The types of socioeconomic data relevant for ecological restoration planning will vary among locations across the continent. However, certain information is relevant for all landscapes. Detailed and current information on land use, including land use maps, is critical for assessing the impacts of habitat loss and trends. Development plans and targets for important resource sectors (agriculture, energy, and transportation) provide the basis for evaluating impacts of foreseeable change over time. Spatial information on land ownership and management authorities contribute to the identification of stakeholders and assessment of conservation potential.

Loucks *et al.* (2004) provided the following list of socioeconomic variables useful for conservation planning. The list should be reviewed and customised for each project in consultation with local managers:

1. Current patterns of land and resource use:

- Major land and resource uses (including forest, water, wildlife use, agriculture, extraction);
- Development plans and projected changes in land and resource use;
- Existing zoning regulations;
- Major existing and planned infrastructure (roads, dams, etc.);
- Existing protected areas.

2. Governance and land/resource ownership and management:

- Political boundaries (provinces, districts);
- Land tenure (private, public, ancestral/communal areas);
- Agencies responsible for management of land/resource areas (e.g., forest, agriculture departments).

3. Population data:

- Human population density and growth;
- Population centres;
- Migration patterns (in- and out-migration);
- Social characteristics: income, ethnicity, indigenous areas;
- Economic data;
- Economic growth and loss areas;
- Land prices;
- Potential values and opportunities for ecological services;
- Potential for incorporating natural assets into the local economy.

4. Additional factors that affect biodiversity and potential for bison restoration:

- Access (e.g. roads, rivers, energy corridors, etc.);
- Trends in habitat conversion.

Bison occupy a distinct iconic status as wildlife with both indigenous and non-indigenous North Americans. The cultural and historic significance of bison is particularly important to many Native North Americans (Stephenson *et al.* 2001; Wyckoff and Dalquest 1997). In recent decades, bison have increased in value as private property in the form of livestock (Chapter 7). In the grasslands

of the continent, the cattle ranching culture and economy replaced a 10,000-year-old bison economy, and cattle ranching now occupies more than 95% of the Great Plains grasslands. The potential for restoration of plains bison at a meaningful ecological scale in this region therefore depends on support by people involved in this sector. Similarly, support from regulatory authorities, and harmonisation of policies and planning processes is necessary to ensure a feasible start, and sustainable outcomes of bison conservation projects.

To ignore or contradict cultural or local interests, or the authority of agencies, can generate unnecessary on-going resistance to conservation initiatives. An example of this is the concept

Stakeholders are people who will be impacted by the decisions; they have the knowledge to make the best decisions, and the power to implement or block decisions.

“Current conservation initiatives—parks, land conservation, regulatory programs—offer important contributions but provide solutions to only 10% of the problem. The remaining 90% exist at the interface of human populations and ecological systems” (Child and Lyman 2005).

of the “Buffalo Commons” or “re-bisoning” of the Great Plains proposed by Rutgers University geographers Frank and Deborah Popper (Popper and Popper 1987). The Popper’s predicted economic and human population declines in the Great Plains, now borne out by current trends (Forrest *et al.* 2004). The idea of replacing the cattle ranching culture with a Buffalo Commons created a firestorm of protest among agriculture-based communities in the region, and

continues to haunt discussions about bison conservation and ecological restoration. The general lesson learned from this case is that the ecological restoration of bison is not possible

anywhere without engaging stakeholders, their interests, mandates and aspirations, and developing local community and agency capacity to engage in sustainable ecological restoration.

Managing social-ecological systems requires an explicit approach that can serve as a vision for stakeholders (Knight *et al.* 2006). Conservation planners should avoid perceiving themselves as empiricists that operate outside, rather than within, social-ecological systems (Sayer and Campbell 2004). Clewell and Aronson (2006) discuss the major motivations or rationales for the restoration of ecosystems and their associated species. These include technocratic, biotic, heuristic, idealistic, and pragmatic rationales that often result in social conflicts. Restoration of bison and their native ecosystems is no exception, as a diversity of socioeconomic factors, from local to regional to international levels, is involved. Organisers wishing to initiate large scale ecological restoration projects are encouraged to become familiar with the theories and practices of community-based resource management (Child and Lyman 2005) and community development (Bopp and Bopp 2006), but more importantly, to include an experienced practitioner on the core development team.

Although bison restoration presents many challenges, it is important to remember that bison have historically provided many benefits to human societies and continue to do so today. In collaborative planning for ecological restoration, it is important to emphasise economic and social benefits, as well as those related to biodiversity conservation and ecosystem health.

Re-introduction: an attempt to re-establish bison in an area that was once part of its original range, but from which it was extirpated.

**Re-enforcement/Supplementation/
Augmentation:** Addition of individuals to an existing population of conspecifics.

Substitution: the introduction of a closely related species or sub-species, for subspecies that have become extinct in the wild and in captivity. The introduction occurs in suitable habitat within the extinct species or subspecies historical range (Seddon and Soorae 1999).

Source: IUCN Re-introduction Guidelines (Re-introduction Specialist Group 1998)

10.4 Guidelines for Planning and Implementing Ecological Restoration Projects for Bison

The IUCN Re-Introduction Specialist Group (1998) defines the purpose of a re-introduction in the following manner:

“The principle aim of a re-introduction should be to establish a viable, free-ranging population in the wild, of a species, subspecies or race, which has become globally or locally extinct, or extirpated, in the wild. It should be re-introduced within the species’ former natural habitat and range and should require minimal long-term management.”

Ecological restoration adds additional values to species’ reintroduction projects. It has as its goal, an ecosystem that is resilient and self-sustaining with respect to structure, species composition and function, as well as being integrated into the larger landscape and supporting sustainable human livelihoods (SERI and IUCN Commission on Ecosystem Management 2004). The following guidelines for planning and implementing an ecological restoration project for bison were adapted from the IUCN Re-introduction Guidelines (IUCN 1998). They are also informed by other key documents on conservation and restoration planning (Loucks *et al.* 2004; The Nature Conservancy 2005), community based natural resource management (Child and Lyman 2005), and community development planning (Bopp and Bopp 2006). They address biological and socio-economic needs for restoring bison as an interactive species within a restored ecosystem:

10.4.1.1 Feasibility assessment

- Sites for ecological restoration of bison should be within the original range of the appropriate sub-species of bison;
- For a re-introduction, there should be no remnant population of bison in order to prevent disease propagation, social disruption, introduction of alien genes, or disruptions to logistics;
- In some circumstances, a re-introduction or reinforcement may have to be made into an area that is fenced or otherwise delimited, but it should be within the sub-species’ original range and habitat;
- Ecological restoration may take place where the annual habitat and landscape requirements of more than 1,000 bison can be satisfied normally, without the need for supplementation, and a population of at least this number is likely to be sustained for the foreseeable future with minimum management intervention.
- The possibility of natural habitat change should be considered (e.g. forest succession, climate change);
- The effects of interactions of bison with other species in the ecosystem should be defined and considered in planning the restoration project;

- Legal, policy, political, and cultural constraints need to be evaluated to determine if mitigation is needed or possible;
- Determine if the factors causing decline can be eliminated or mitigated (e.g., diseases, over-hunting, over-collection, pollution, poisoning, competition with, or predation by, introduced species, habitat loss, adverse effects of earlier research or management programmes, competition with domestic livestock);
- Where the release site has been substantially degraded by human activity, a habitat restoration programme should be initiated before the reintroduction is carried out;
- A Population and Habitat Viability Assessment will aid in identifying significant environmental and population variables, and assessing their potential interactions, which can guide long-term population management;
- *A priori* agreement is desirable on population objectives, monitoring, and methods that will be used to manage population growth as the target population size is approached;
- Similarly, *a priori* agreement on range health objectives and range monitoring and management methods is desirable;
- Determine the availability of suitable stock, including subspecies or locally adapted forms, genetics (e.g. cattle genes), and absence of specific diseases of concern to conservation;
- A feasibility assessment should include determining if adequate funding is available to successfully complete the project.

10.4.1.2 Suitable release stock

- It is preferable that source animals come from wild populations, or captive stock that have been subjected to minimum management, such as selection for or against specific morphological traits;
- The source population should ideally be closely related genetically to the original native stock and show similar ecological characteristics (morphology, physiology, behaviour, habitat preferences) to the original sub-population;
- Use stock from a source population(s) that has tested negative for the presence of cattle gene markers, based on the best available technology;
- Stock must be guaranteed available on a regular and predictable basis, meeting specifications of the project protocol;
- Individuals should only be removed from a wild population after the effects of translocation on the donor population have been assessed and after it is certain that these effects will not be negative;
- If captive or artificially propagated stock is to be used, it must be from a population that has been soundly managed both demographically and genetically, according to the principles of contemporary conservation biology;

- Re-introductions should not be carried out merely because captive stocks exist, nor solely as a means of disposing of surplus stock;
- Prospective release stock, including stock that is a gift between governments, must be subjected to a thorough veterinary screening process for pathogens and exposure to pathogens before shipment from original source;
- If evidence of infection with any notable pathogen is found, the translocation should be stopped and a risk assessment conducted to determine the wisest action;
- Assess the presence of pathogens in wild and domestic species present in the re-introduction area;
- Minimise the risk of infection during transport by managing potential exposure to pathogens;
- Stock must meet all health regulations prescribed by the veterinary authorities of the recipient jurisdiction and adequate provisions must be made for quarantine if necessary;
- If vaccination is deemed appropriate prior to release this must be carried out allowing sufficient time for the required immunity to develop before the translocation.

10.4.1.3 Preparation and release

- Construct a multidisciplinary planning and management team(s) with access to expert technical advice for all phases of the programme;
- Establish short- and long-term goals and specific objectives, both for the bison population and for the habitat and biodiversity management, including success indicators and targets;
- Define monitoring programmes for evaluating how well goals and objectives are being met, and the adjustments that may be required. Each re-introduction should be a carefully designed experiment, with the capability to test methodology with scientifically collected data;
- Secure adequate funding for all phases of preparation and release;
- Monitor the health and survival of individuals;
- Secure appropriate veterinary expertise to ensure the health of released stock, including adequate quarantine arrangements, especially where stock is transported over long distances or crosses jurisdictional boundaries;
- Develop transport plans for delivery of stock to the site of reintroduction, with special emphasis on ways to minimise stress on the individuals during transport;
- Determine appropriate release strategies, including habituation of release stock to the project area, behavioural training, release techniques, and timing;
- Establish policies on interventions to manage parasites and pathogens;
- Establish, where necessary, a detailed containment programme that includes fence design and monitoring and protocols for dealing with escaped animals;

- Interventions (e.g., supplemental feeding, veterinary aid, horticultural aid) should only be undertaken if necessary to prevent catastrophic losses that risk extirpation, or a significant reduction in genetic diversity, particularly when the population is small;
- If fencing is required, use designs that allow for movement of other wildlife species (see Chapter 9 for specifications);
- Develop a conservation awareness programme for securing long-term support: professional training of individuals involved in the long-term programme, public relations through the mass media and in local community, and involvement, where possible, of local people in the programme.

- Measures for managing escaped or emigrating bison should be agreed to *a priori* with owners of adjacent lands;
- Approval by relevant government agencies and landowners, and coordination with national and international conservation organisations are necessary.

10.4.1.4 Socio-economic and legal requirements

The IUCN Guidelines for Re-Introductions (IUCN 1998) also provide measures for addressing socio-economic and legal requirements of re-introduction programmes. They have been adapted here for ecological restoration projects involving bison. Considering that ecological restoration projects require long-term commitments of financial and political support:

- Socio-economic studies are needed to assess impacts, costs and benefits of the restoration programme to local human populations and governments;
- A thorough assessment of attitudes of local people towards the proposed project is necessary to develop and secure long-term conservation of the restored population;
- The restoration programme should be fully understood, accepted, and supported by local communities and affected government agencies;
- Where the security of the re-introduced population is at risk from human activities, measures should be taken to minimise these in the programme area;
- The policies of affected government agencies (at all levels) on restoration and bison management should be assessed. This will include evaluating existing municipal, provincial, national, and international legislation and regulations, and if necessary negotiating new measures;
- Restoration projects must take place with the full permission and involvement of all relevant government agencies. This is particularly important in restoration programmes involving multi-tenure landscapes, such as in border areas, in areas involving more than one state, or where a re-introduced population can expand into other jurisdictions or onto adjacent private lands;
- As with other species of large herbivore (e.g. moose and elk), bison pose small, but manageable, risks of personal injury and property damage. These risks should be minimised and adequate provision made for awareness and, if necessary, compensation;
- If projects are situated adjacent to international or state boundaries, provisions should be made for monitoring or managing bison crossing the boundaries;

10.4.1.5 Monitoring, evaluation, and adaptation

The implementation of an ecological restoration project does not guarantee its objectives will be attained or its goals achieved. Outcomes of restoration projects involving complex systems can be unpredictable. Restored ecosystems are dynamic and require evaluation over many years. In large landscapes, a bison population may not mature demographically for 30 years or more following release from management control or following reintroduction (Gates *et al.* 2005; Larter *et al.* 2000). Environmental factors, such as sporadic drought, severe winters or predation effects, contribute to uncertainty of outcomes. Maintaining support for an ecological restoration project in the long term requires continuous evaluation of performance measures (indicators) that represent the ecological infrastructure and functioning of the ecosystem, and others that represent human community needs about sustaining culture and economy. Respect for both local and science-based knowledge, coupled with participatory processes, ensures the full and equitable engagement of the communities, and that the indicators selected, data collected, and decisions made, meet the needs of agencies and local communities.

The following guidelines for monitoring, evaluation and adaptation are offered:

- Post-release monitoring of a significant sample of individual bison is necessary to evaluate individual survival, health, reproduction, and movements, and to assess the causes and significance of unanticipated losses (e.g., copper or selenium toxicity, behavioural naivety to predators) during the initial years of a project;
- Demographic, ecological and behavioural studies of the population should be undertaken over the long term to monitor changes in population and distribution patterns;
- Habitat protection or restoration may be necessary to support population and biodiversity restoration goals;
- Publicity and documentation should be incorporated into every restoration project because published accounts are important for maintaining long-term support of a project. Regular public information releases and publications in scientific and popular literature are useful instruments;
- Monitoring all the costs and a full range of benefits (monetary and non-monetary) to provide documentation that shows the impacts of the project and that funding support is justified;

- Implement adaptive management procedures as needed. Adaptive management, as a restoration strategy, is essential because what happens at one stage in restoration informs or dictates what needs to happen next;
- Capacity building should be informed by results of the monitoring programme and targeted toward the highest priorities and weakest aspects of management.

10.5 Summary

The next 10-20 years present opportunities for conserving American bison as a wild species and restoring it as an important ecological presence in many North American ecosystems. Taking an ecosystem approach, which puts people and their natural resource use practices at the centre of decision-making, offers a paradigm for balancing the sometimes competing demands of bison conservation, the use of bison and biological diversity by people, and sustaining human communities in areas where there are many resource users combined with important natural values. To achieve ecological restoration at broad scales (large herds roaming across vast landscapes, at numerous locations) will require flexible approaches that can be adapted to a variety of legal and socio-economic conditions. Assembling large landscapes for conservation herds will typically involve several land tenure holders, potentially including public agencies, tribal

governments, non-profit private organisations, and for-profit corporations or individual entrepreneurs. Diverse mandates, interests, and incentives will influence how stakeholders choose to manage land and wildlife, including bison. Creative new approaches are needed for forging enduring partnerships among land tenure holders for cooperative undertakings. Strategies may range from top-down government programmes to bottom-up market-based or cultural-based initiatives. Progress towards large-scale restoration will require a much more supportive framework of government policies and significant investment by both public and private sectors. Awareness and substantial public support are necessary at both the local level where restoration occurs, and among national constituencies for whom the bison is an iconic component of North America's natural and cultural heritage. For ecological restoration of bison to be successful, careful assessment and understanding of biophysical, social, economic, legal, and political conditions are required for planning and implementation. This is particularly true where both community and agency support and involvement are required. This chapter provided guidelines for planning and implementing an ecological restoration project for bison, including feasibility assessment, selection of stock, preparation and release methods, assessing socio-economic and legal requirements, monitoring, evaluation, and adaptation.

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Appendix A North American conservation herds of bison and their managing authorities

Plains bison

State/Province	Site	Jurisdiction	Managing Authority
AB (Alberta)	Canadian Forces Base Wainwright	Federal-Canada	Department of National Defence
AB	Elk Island National Park	Federal-Canada	Parks Canada Agency
AB/SK (Saskatchewan)	Primrose Lake Air Weapons Range	Federal and Provincial	Department of National Defence; Saskatchewan Environment, Fish and Wildlife Branch
AB	Waterton Lakes National Park	Federal-Canada	Parks Canada Agency
AK (Alaska)	Wrangell-St. Elias National Park and Preserve-Chitina River	State	Alaska Department of Fish and Game
AK	Wrangell-St. Elias National Park and Preserve-Copper River	State	Alaska Department of Fish and Game
AK	Delta Junction State Bison Range	State	Alaska Department of Fish and Game
AK	Farewell Lake	State	Alaska Department of Fish and Game
AK	Popof Island	State	Alaska Department of Fish and Game; Shumagin Corporation
AZ (Arizona)	House Rock State Wildlife Area	State	Arizona Fish and Game Department
AZ	Raymond State Wildlife Area	State	Arizona Fish and Game Department
BC (British Columbia)	Pink Mountain Provincial Park	Provincial	British Columbia Ministry of Water, Land and Air Protection
CA (California)	U.S. Marine Corps Base Camp Pendleton	U.S. Military	U.S. Marine Corps
CA	Santa Catalina Island	NGO	Catalina Island Conservancy
CI (Chihuahua)	Rancho El Uno Ecological Reserve	Federal-Mexico	Comisión Nacional de Áreas Naturales Protegidas
CO (Colorado)	Daniels Park	Municipal	Denver Parks and Recreation
CO	Genesee Park	Municipal	Denver Parks and Recreation
CO	Medano-Zapata Ranch	NGO	The Nature Conservancy
CO	Rocky Mountain Arsenal	Federal-US	U.S. Fish and Wildlife Service
IA (Iowa)	Broken Kettle Grasslands	NGO	The Nature Conservancy
IA	Neal Smith National Wildlife Refuge	Federal-US	U.S. Fish and Wildlife Service
IL (Illinois)	Fermi National Accelerator Laboratory	Federal-US	U.S. Department of Energy

Plains bison *(continued)*

State/Province	Site	Jurisdiction	Managing Authority
KS (Kansas)	Konza Prairie Biological Station	State/NGO	Kansas State University, Division of Biology; The Nature Conservancy
KS	Maxwell Wildlife Refuge	State	Kansas Department of Wildlife and Parks
KS	Sandsage Bison Range & Wildlife Area	State	Kansas Department of Wildlife and Parks
KS	Smoky Valley Ranch	NGO	The Nature Conservancy
KY (Kentucky)	Land Between the Lakes National Recreation Area	Federal-US	USDA Forest Service
MB (Manitoba)	Riding Mountain National Park	Federal-Canada	Parks Canada Agency
MN (Minnesota)	Blue Mounds State Park	State	Minnesota Department of Natural Resources, Division of Parks and Recreation
MO (Missouri)	Prairie State Park	State	Missouri Department of Natural Resources
MT (Montana)	American Prairie Reserve	NGO	American Prairie Foundation
MT	National Bison Range	Federal-US	U.S. Fish and Wildlife Service
ND (North Dakota)	Cross Ranch Nature Preserve	NGO	The Nature Conservancy
ND	Sully's Hill National Game Preserve (new herd)	Federal-US	U.S. Fish and Wildlife Service
ND	Theodore Roosevelt National Park	Federal-US	U.S. National Parks Service
NE (Nebraska)	Fort Niobrara National Wildlife Refuge	Federal-US	U.S. Fish and Wildlife Service
NE	Fort Robinson State Park	State	Nebraska Game and Parks
NE	Niobrara Valley Preserve	NGO	The Nature Conservancy
NE	Sully's Hill herd at Ft. Niobrara (original herd)	Federal-US	U.S. Fish and Wildlife Service
NE	Wildcat Hills State Recreation Area	State	Nebraska Game and Parks
OK (Oklahoma)	Tallgrass Prairie Preserve	NGO	The Nature Conservancy
OK	Wichita Mountains National Wildlife Refuge	Federal-US	U.S. Fish and Wildlife Service
SD (South Dakota)	Badlands National Park	Federal-US	U.S. National Park Service
SD	Bear Butte State Park	State	South Dakota Game Fish and Parks Dept.
SD	Custer State Park	State	South Dakota Game Fish and Parks Dept.
SD	Ordway Prairie Preserve	NGO	The Nature Conservancy
SD	Lame Johnny Creek Ranch	NGO	The Nature Conservancy
SD	Wind Cave National Park	Federal-US	U.S. National Park Service
SK (Saskatchewan)	Buffalo Pound Provincial Park	Provincial	Saskatchewan Environment, Parks Branch
SK	Grasslands National Park	Federal-Canada	Parks Canada Agency

Plains bison *(continued)*

State/Province	Site	Jurisdiction	Managing Authority
SK	Old Man on His Back Conservation Area	NGO	Nature Conservancy of Canada
SK	Prince Albert National Park	Federal-Canada	Parks Canada Agency
TX (Texas)	Caprock Canyons State Park/ Texas State Bison Herd	State	Texas Parks and Wildlife Department
TX	Clymer Meadow Preserve	NGO / Private	The Nature Conservancy; Private rancher
UT (Utah)	Antelope Island State Park	State	Utah Division of Wildlife Resources, Division of Parks and Recreation
UT	Book Cliffs Recreation Area	State	Utah Division of Wildlife Resources
UT	Henry Mountains	State	Utah Division of Wildlife Resources
WI (Wisconsin)	Sandhill Wildlife Area	State	Wisconsin Department of Natural Resources
WY (Wyoming)	Bear River State Park	State	Wyoming State Parks and Historic Sites
WY	Grand Teton National Park/Nat. Elk Refuge	Federal/State	U.S. National Park Service; U.S. Fish & Wildlife Service; Wyoming Fish and Game Department
WY	Hot Springs State Park	State	Wyoming State Parks and Historic Sites
WY/MT	Yellowstone National Park	Federal/State	U.S. National Park Service; U.S. Forest Service, Montana Fish, Wildlife and Parks; Montana Department of Livestock

Wood bison

State/Province	Site	Jurisdiction	Managing Authority
AB (Alberta)	Elk Island National Park	Federal-Canada	Parks Canada Agency
AB	Hay-Zama Lakes Complex	Provincial	Government of Alberta, Fish and Wildlife Division
AB/ NWT (Northwest Territories)	Wood Buffalo National Park	Federal-Canada	Parks Canada Agency
AK (Alaska)	Portage Glacier	ENGO1	Alaskan Wildlife Conservation Center
BC (British Columbia)	Etthithun Lake	Provincial	British Columbia Department of Water, Lands and Air Protection
BC	Nordquist Flats	Provincial	British Columbia Department of Water, Lands and Air Protection
MB (Manitoba)	Chitek Lake	Provincial	Government of Manitoba, Department of Natural Resources; Waterhen First Nation
NWT	Mackenzie Bison Sanctuary	Territorial	Government of NW Territories, Resources, Wildlife and Economic Development
NWT	Nahanni	Territorial	Government of NW Territories, Resources, Wildlife and Economic Development
NWT	Slave River Lowlands	Territorial	Government of NW Territories, Resources, Wildlife and Economic Development
YT(Yukon Territories)	Aishihik	Territorial	Government of Yukon

Herds in the progress of establishment:

State/Province	Site	Jurisdiction	Managing Authority
AK (Alaska)	Minto Flats	State	Alaska Department of Fish and Game- currently held at Alaska Wildlife Conservation Center



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Conservation Genetics and North American Bison (*Bison bison*)

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The many millions of North American bison in the mid-19th century were reduced to near extinction by the middle 1880s. Plains bison, the subspecies found in the United States, were saved from extinction primarily by 5 private ranchers and the survival of a small herd in what is now Yellowstone National Park. This bottleneck resulted in the present-day plains bison population being descended from less than 100 founders. In addition, many conservation herds have cattle ancestry because of hybridization promoted by these ranchers in the late 1800s and early 1900s. Today, although there are around 500 000 plains bison in North America, only 4% (20 000) are in conservation herds. Only 1 conservation herd with no known ancestry from cattle has an effective population size of more than 1000. Here I review and evaluate this situation and provide recommendations for the reduction of cattle ancestry, avoidance of inbreeding depression, and maintenance of genetic variation in the conservation herds of bison.

Key words: *bison*, effective population size, genetic variation, hybridization, inbreeding, mtDNA

It is generally cited that 60 million North American bison (*Bison bison*), commonly known as buffalo, existed in the Great Plains until the early 1870s (Lott 2002). This estimate was based on the description of a large herd observed by Colonel R. I. Dodge in 1871 along the Arkansas River in Kansas. However, Shaw (1995), in evaluating the 3 approaches used to estimate the ancestral bison population size (direct observations, numbers killed, and environmental carrying capacity), concluded “one may assume with reasonable certainty that the bison population west of the Mississippi River at the close of the Civil War numbered in the millions, probably in the tens of millions. Any greater accuracy seems unlikely.”

It is known from historical and other records that bison ranged from the Arctic Circle and into northern Mexico and nearly across the continent (List et al. 2007; Sanderson et al. 2008). The bison in all this distribution were generally considered the plains bison subspecies (*B. b. bison*) except for the populations in northern Alberta and the Northwest Territories, which had the wood bison subspecies

(*B. b. athabascae*). Wood and plains bison have been described as morphologically different (COSEWIC 2004) although Geist (1991) suggested that this difference might be environmentally caused. However, van Zyll de Jong et al. (1995) found that plains bison raised in both plains and wood bison environments retained plains phenotypes and that wood bison raised in both plains and wood bison environments retained wood bison phenotypes, supporting a genetic basis for the morphological differences between the 2 subspecies.

In the early 1870s, very large numbers of bison were slaughtered, mainly for hides, but also for meat and sport. Further, this slaughter had negative effects on Indians living in buffalo country and was not generally discouraged by government officials. By the middle 1880s, bison were nearly extinct. Plains bison were saved from extinction in the late 1800s by 5 private herds established by ranchers and by a sixth herd at the New York Zoological Park. Altogether, these herds were established with less than 100 wild-caught founders (see below). In addition, a small remnant wild population survived in what is now Yellowstone National Park (NP). This population declined to an official estimate of 25 animals in 1902 (Meagher 1973). In other words, nearly all the present-day plains bison in the United States are descended from a founder population of 100 or less, and probably an effective founder number substantially less than 100, because of the small sizes of the herds in the initial generations (note: I will use the terms “population” and “herd” generally synonymously in this article).

In Canada, wild plains bison were extirpated around 1890 (Roe 1970). Plains bison herds were reestablished with animals from 4 of the 5 private herds that contributed to the recovery of plains bison in the United States (COSEWIC 2004). However, a preponderance of the ancestry in Canadian plains bison herds appears to be from the animals in the Pablo/Allard ranch herd that was shipped to Elk Island NP in 1907. A population of wood bison survived in the area that is now Wood Buffalo NP, Canada, and it reached a low of around 250 individuals by 1900 (Soper 1941). In 1963 and 1965, animals from Wood Buffalo NP were taken to Mackenzie Bison

Sanctuary and Elk Island NP to start new herds of wood bison. The Mackenzie and Elk Island herds were started with 16 and 11 animals, respectively (Wilson and Strobeck 1999)

A number of conservation issues face bison today. In 2002, it was estimated that there were approximately 500 000 plains bison but only 4% (20 000) were in herds managed for conservation, the remainder in herds used for commercial production (Freese et al. 2007). The number of plains bison in conservation herds has stayed relatively constant since the 1930s, whereas the number in commercial herds surpassed the number in conservation herds around 1980 and has grown exponentially since (Freese et al. 2007). There are around 10 700 wood bison today in Canada, both in free-ranging and captive conservation herds (Wilson G, personal communication). However, more than 6000 of these wood bison are in herds with either bovine tuberculosis or brucellosis and are isolated from disease-free conservation herds. In commercial herds, there is often artificial selection for domestication, particularly for ease of handling, and for meat production. In a number of the conservation herds, and nearly all the production herds, there is some cattle (*Bos taurus*) ancestry because of past artificial crossing of these 2 species. Freese et al. (2007) estimated that only 1.5% of the plains bison are free of domestic cattle ancestry. Much of the initial crossbreeding occurred on the private ranches that saved the bison because the ranchers wanted to improve cattle with commercially favorable traits found in bison. Finally, bison presently occupy less than 1% of their historical range, and because of this greatly reduced range and their greatly reduced number, Freese et al. (2007) and Sanderson et al. (2008) state that bison do not fulfill their previous ecological functions.

Although bison are an icon of conservation success, as indicated by their representation on the emblem of the US Department of Interior, their history and status are somewhat unusual for a conservation species. First, they are not listed as endangered or threatened, mainly because of their large overall numbers. The only exceptions are the wood bison, which are listed as threatened in Canada, and the Yellowstone herd of plains bison, which are under petition for listing as threatened. However, as stated above, only 20 000 bison are in conservation herds, and many of these have been affected by either interspecies hybridization with cattle or artificial selection. Second, in some jurisdictions, bison are not considered a wild animal but are treated as livestock (Freese et al. 2007). As a result, conservation of bison in the Yellowstone population and in Canadian populations have had additional management hurdles. Third, plains bison are the “only wild animal in the United States that is not allowed to live as a wild animal—live outside parks and refuges—anywhere in its original range” (Lott 2002). Finally, bison are the only conservation species (except for some fishes, such as salmon) that has been extensively selected for livestock-related traits, such as docility and meat production, which would be nonadaptive in a wild population. For example, 1

advertisement for bison ranchers promotes “bison people can get along with” and another promotes a bull with an unusually wide rump, “more rump and less hump,” as breeding stock (Lott 2002). These bison provide a potential threat of introducing nonadaptive ancestry if they are ever crossed into conservation populations.

However, it is clear that bison need to be managed as a conservation species because of the potential effects of the low initial numbers of founders, past bottlenecks in various herds, cattle hybridization in a number of conservation herds, artificial selection for nonadaptive traits, isolation of most conservation herds, and the observation of severe inbreeding depression in 1 conservation herd. From a conservation genetics perspective, it is important for bison to keep cattle ancestry at a very low level, avoid detrimental effects of inbreeding and selection for livestock-related traits, and retain sufficient genetic variation for future adaptation. Unfortunately, some of these objectives may be in conflict with each other and may require tradeoffs to achieve the best possible outcome. Although I will present some general information about wood bison and plains bison in Canada, the main thrust of this perspective will be on plains bison in the United States.

Cattle Ancestry in Bison

The first molecular genetic assay of cattle ancestry in bison was by Polziehn et al. (1995) who found cattle mitochondrial DNA (mtDNA) in 2 bison from a sample of 30 from the Custer State Park (CSP) herd in South Dakota. They surveyed 239 other bison in 8 different herds and found only bison mtDNA. Although the founding bison for the CSP herd were purchased from rancher James Philip, who had removed obvious hybrids from his herd, a previous owner of this herd was known to have had cattle–bison hybrids. In the CSP herd and other contemporary conservation herds with low amounts of cattle ancestry, individual bison with cattle ancestry identified by molecular markers have not been reported to be phenotypically different from bison without cattle ancestry, although there are 2 unpublished reports (Halbert N, Derr J, personal communication; Hedgecock D, personal communication) that show an average smaller size for bison with cattle mtDNA (see below).

The *Journal of Heredity* in 1914 published 2 seminal articles by breeders who crossed bison with cattle in efforts to incorporate favorable agricultural traits from bison into cattle, such as meat quality and quantity, hardiness, feed efficiency, and disease resistance (Boyd 1914; Goodnight 1914). The cross between these 2 species was difficult, and they could only cross bison bulls to domestic cows; the reciprocal cross was not possible because bison cows would not mate with domestic bulls (however, see below). From molecular genetic studies, it is estimated that bison and the ancestor of domestic cattle diverged approximately 1 million years ago (Verkaar et al. 2004; Nijman et al. 2008),

suggesting that some reproductive isolation would be expected between these 2 species.

From this first cross, all the offspring were female and there were no male offspring (again, see below). This observation is consistent with Haldane's rule, "When if the F_1 of two different animal races one sex is absent, rare or sterile, that sex is the heterozygous sex" (Haldane 1922). Boyd (1914) suggested that the lack of F_1 males was in part because the large size of male F_1 calves prevented them from passing through the cow's pelvis. However, Charles Goodnight, one of the ranchers that saved bison from extinction, thought that this was mistaken speculation because F_1 s, and even bison calves, were smaller than cattle calves, and they did not develop a hump until after birth (Dary 1974).

Figure 1a is a photograph of an F_1 cow from Boyd (1914), who stated that such F_1 cows, although often barren, were larger in size and produced more meat than cows from either parental species. From 1894 to 1915, Mossom Boyd had "102 successful impregnations of cows by buffalos; there were 63 abortions and 39 births. Of the 39 births, 6 were male, only 2 of which survived more than 24 h, and the one that became adult proved to be sterile" (Dary 1974). Starting initially with Boyd's animals, cattle-bison hybridization experiments were then carried out from 1916 to 1935 at an experimental station near Wainwright, Alberta. From 42 impregnations of domestic cows by bison bulls, 6 calves were born (2 males and 4 females), 20 calves were aborted or stillborn, and 16 cows died (Rorabacher 1970). Interestingly, bison cows and domestic bulls were also successfully crossed at Wainwright. From these crosses, there were 15 impregnations, resulting in 7 male births, 7 female births, and 1 stillbirth (Rorabacher 1970).

F_1 females could then be backcrossed to bison bulls, and nearly all these 75% bison ancestry offspring were females. Sometimes 75% bison ancestry bulls could be produced, but such offspring, although larger than the average bison bull, were often not fertile (Boyd 1914). Most of the backcrosses by these rancher-breeder were to domestic bulls so that commercially favorable bison characteristics could be introgressed into cattle. Figure 1b is a photograph of a bull that is 5/16 bison and 11/16 Hereford and that has a Hereford white face. Animals with a majority cattle ancestry were traditionally called cattelo and are now often called beefalo, a term that refers to animals with $\geq 5/8$ cattle ancestry. However, the development and history of the beefalo stock is complicated (Nichols 2007).

Genes with different modes of inheritance have different representations in the progeny of these crosses, and Table 1 gives the expected proportion of cattle ancestry for autosomes, mtDNA, and Y chromosomes. For the cross between bison bulls and domestic cows, the offspring have 50% autosomal cattle ancestry, 100% cattle mtDNA, and because there are generally no male offspring, 0% cattle Y ancestry. For the backcross progeny of a bison bull to F_1 cow, there is 25% autosomal cattle ancestry, again 100% mtDNA cattle, and 0% cattle Y ancestry. In other words,

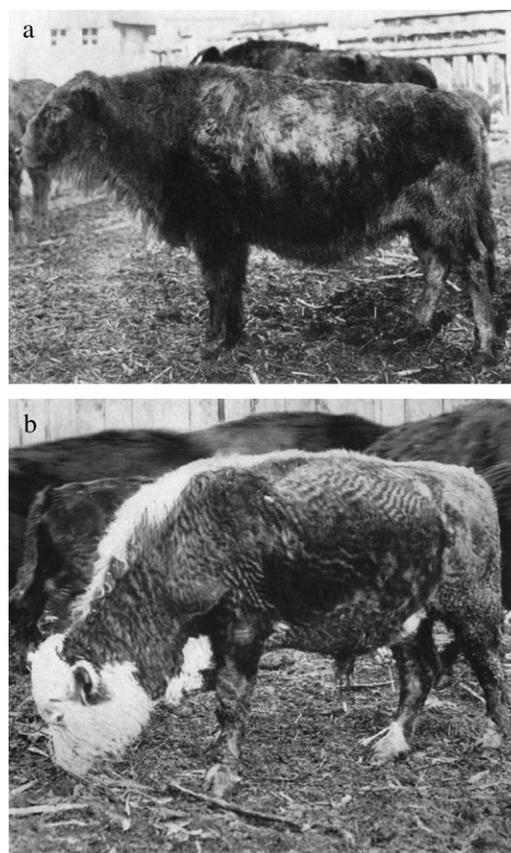


Figure 1. (a) F_1 hybrid cow offspring from a bison bull and a domestic polled Angus cow and (b) a bull that is 5/16 bison and 11/16 Hereford with a Hereford white face (Boyd 1914).

these first crosses result in a predicted excess of cattle mtDNA ancestry and a deficiency of cattle Y chromosomal ancestry compared with autosomal ancestry.

Table 2 summarizes the published estimates of cattle ancestry from 10 herds of plains bison and 3 herds of wood bison. As predicted, none of these herds, even those with cattle ancestry for autosomal genes and mtDNA, have any cattle ancestry from Y chromosome genes. Also, as predicted, the overall level of cattle mtDNA ancestry is higher than that for autosomal genes. As extreme examples, the herds from Santa Catalina Island (SCI) and Williams Ranch (WR) had mtDNA estimates of cattle ancestry of 44.9% (Vogel et al. 2007) and 100% (Ward et al. 1999), respectively, whereas estimates of cattle ancestry from autosomal genes for these 2 herds were 0.06% (SCI, Penedo C, personal communication) and 0% (WR, Halbert, Ward, et al. 2005), respectively.

The estimates for autosomal ancestry are the average of 14 independent, diagnostic loci for which cattle and bison have nonoverlapping sets of alleles (Halbert, Ward, et al. 2005). On the other hand, the estimate for mtDNA is for the D-loop and indicates ancestry of a single genetic unit, which as a result would be expected to have a much higher variance than the autosomal estimate. Although 5 of the 10

Table 1. The proportion of cattle ancestry from (a) interspecific crosses between bison and cattle and (b) for progeny of backcrosses to bison for genes on autosomes, mtDNA, and Y chromosomes

Cross	Male	×	Female	Cattle ancestry		
				Autosomal	mtDNA	Y
(a) Interspecies	Bison	×	Cattle	0.5	1.0	— (no male offspring)
	Cattle	×	Bison	—	— (no offspring)	—
(b) Backcross to bison	Bison	×	F ₁	0.25	1.0	0.0 (few males)
	F ₁ no males	×	Bison	—	— (no offspring)	—

plains bison herds have autosomal cattle ancestry, the average estimated ancestry is less than 1%.

Finally, the 3 wood bison herds do not appear to have any cattle ancestry, as would be expected if they are descended from the wild herd that survived. However, it appears that these wood bison populations hybridized with the large number of plains bison that were moved to Wood Buffalo NP from 1925 to 1928. In other words, it appears that these wood bison populations, and indeed all wood bison populations, are wood-plains hybrids and not pure wood bison (see discussion and data in Wilson and Strobeck 1999; COSEWIC 2004).

Understanding the difference in mtDNA and autosomal cattle ancestry and their modes of inheritance can be useful. If males are translocated from a herd with high mtDNA cattle ancestry and apparently low autosomal cattle ancestry, then the mtDNA ancestry would not be transmitted. For example, males from the Santa Catalina Island herd, if used in other herds, would not transmit cattle mtDNA.

Although conservation herds have been managed as pure bison, it has become clear in recent years that even conservation bison herds have some cattle ancestry resulting from the early experimental crosses. In a comprehensive survey of 11 federal conservation herds, Halbert and Derr (2007) used 14 diagnostic, nuclear microsatellite loci and mtDNA markers to estimate the amount of cattle ancestry

(Table 3). Seven of these herds had evidence of low amounts of nuclear cattle ancestry (average of 0.84%).

This cattle ancestry appears to be the result of early crosses between cattle and bison in combination with more recent movement of animals that has spread this ancestry between populations. For example, 5 of these populations have the cattle microsatellite allele BM4307-197 in frequencies ranging from 0.115 to 0.163. However, 4 of these populations, Badlands NP, Neal Smith National Wildlife Refuge (NWR), Theodore Roosevelt NP-S, and Theodore Roosevelt NP-N, were founded entirely or in part with animals from Fort Niobrara NP, the only other federal conservation herd where this allele was detected. The Fort Niobrara population was established in 1913 in part by animals from a private ranch (Halbert and Derr 2007). A likely explanation is that this cattle microsatellite allele was by chance in high frequency on the private ranch because of small population size and that the similar high frequency in all the 5 descendant herds reflected this initial high frequency. Similarly, cattle microsatellite allele BM7145-166 was found both in the National Bison Range herd and the Neal Smith NWR herd, which was partially founded from animals from the National Bison Range.

Only 4 of these federal conservation herds do not have detectable cattle ancestry (Grand Teton NP, Sully's Hill NGP, Yellowstone NP, and Wind Cave NP). However,

Table 2. Estimated cattle ancestry for autosomal genes, mtDNA, and Y chromosome genes for 10 plains bison herds and 3 wood bison herds (summarized from Ward et al. 1999, 2001; Halbert et al. 2004; Halbert, Ward, et al. 2005; Vogel et al. 2007; Penedo C, personal communication)

Subspecies	Herd name	Location	Cattle ancestry		
			Autosomal	mtDNA	Y
Plains	Antelope Island SP	Utah	0	0.011	0
	Custer SP	South Dakota	0.015	0.206	0
	Elk Island NP	Canada	0	0	0
	Finney GR	Kansas	0.018	0.038	0
	Henry Mountains	Utah	0	0	0
	Maxwell GR	Kansas	0.011	0.180	0
	National Bison Range	Montana	0.003	0.018	0
	Santa Catalina Island	California	0.006	0.449	—
	TSBH	Texas	0	0.167	—
	Williams Ranch	Texas	0	1.000	0
Wood	Elk Island NP	Canada	0	0	0
	Mackenzie Bison Sanctuary	Canada	0	0	0
	Wood Buffalo NP	Canada	0	0	0

SP, State Park; GR, Game Refuge; —, not evaluated. Elk Island NP has both subspecies in separate areas.

Table 3. Eleven federal bison herds and the estimated proportion of autosomal cattle ancestry for mtDNA and 4 cattle alleles and overall estimated cattle ancestry found in these herds (Halbert and Derr 2007)

Herd name	Location	Cattle mtDNA or allele					Cattle ancestry
		mtDNA	BM314-157	BM4307-197	BM7145-166	BMS2270-94	
Badlands NP	S Dakota	0	0	0.136	0	0.032	0.011
Fort Niobrara NWR	Nebraska	0	0	0.135	0	0	0.009
Grand Teton NP	Wyoming	0	0	0	0	0	0
National Bison Range	Montana	0.018	0	0	0.038	0	0.004
Neal Smith NWR	Iowa	0	0	0.135	0.016	0	0.010
Sully's Hill NGP	N Dakota	0	0	0	0	0	0
Theodore Roosevelt NP-N	N Dakota	0	0	0.163	0	0	0.011
Theodore Roosevelt NP-S	N Dakota	0	0	0.115	0	0	0.008
Wichita Mountains NWR	Oklahoma	0	0.090	0	0	0	0.006
Wind Cave NP	S Dakota	0	0	0	0	0	0
Yellowstone NP	Wyoming	0	0	0	0	0	0

NGP, National Game Preserve; N, north unit; S, south unit.

given other historical evidence, Halbert and Derr (2007) suggested that they are reasonably confident that the herds are free of cattle ancestry only for Yellowstone NP and Wind Cave NP, due to the large samples examined and the known ancestry of these populations. Because the Grand Teton NP population was partially founded from the Theodore Roosevelt NP herd, which has cattle ancestry (the rest of the population was descended from Yellowstone animals), they suggested that a larger sample from Grand Teton NP (39 animals were surveyed) might potentially uncover cattle ancestry. Likewise, a substantial proportion of the founders of the Sully's Hill NGP population came from herds with known cattle ancestry, such as Fort Niobrara NP (note that the current census number in the Sully's Hill population is only 35 females). Only 1 of these 11 populations, National Bison Range, had cattle mtDNA ancestry (1.8%) even though these populations were exhaustively sampled (except in Grand Teton NP). Although Y chromosome cattle ancestry was not specifically evaluated in these populations (except for the National Bison Range where it was 0%), from the results discussed above, it is assumed to be 0%.

As mentioned above, there are 2 unpublished reports that bison with cattle mtDNA have smaller body size than bison with bison mtDNA (Halbert N, Derr J, personal communication; Hedgecock D, personal communication). From these data, the lack of known phenotypic differences between bison with cattle and bison ancestry at particular genes may be because there has not been detailed study of the appropriate comparisons. In other words, it is possible that cattle ancestry in bison may have important undesirable phenotypic effects.

Inbreeding Depression

Determining inbreeding levels, and inbreeding depression, for individuals in which specific pedigrees are not known is difficult. However, given a thorough population sampling, detailed genetic information, and known mother-offspring

pairs, paternity can be inferred and accurate pedigrees from wild populations constructed (Pemberton 2008). To be confident of estimates of inbreeding and inbreeding depression, a detailed pedigree of at least several generations is generally required and reliable information on fitness measures, such as individual mortality, reproduction, and mating success, or of fitness surrogates, such as measurements of body size, is necessary.

The formerly large population size, and presumably large ancestral effective population size for bison, suggests that there was substantial detrimental genetic variation segregating in bison, assuming equilibrium. Further, the rapid reduction in population size from many millions to an effective founder number of less than 100 in plains bison suggests that some of these detrimental variants became fixed or increased in frequency by chance, resulting in a lowered population fitness (genetic load) and/or increased inbreeding depression (Hedrick 2005). In cattle, a longer time period of lower numbers during which they were domesticated and breeds developed may have allowed many detrimental variants to be purged. At this point, inbreeding depression has only been documented in the Goodnight herd (discussed below) and suggested for the population in Badlands NP (Berger and Cunningham 1994). However, this does not mean that it has not been present in other herds, only that it has not been demonstrated.

Charles Goodnight, one of the ranchers who worked to save bison from extinction in the late 1800s, began his herd with 5 wild-caught calves from Texas in the mid 1880s. Records indicate that his herd had 13 animals in 1887, 125 in 1910, and 200–250 in 1920s (Haley 1949). After Goodnight's death in 1929, the herd changed ownership several times, and in 1997, the remaining 36 animals were donated to Texas State Parks and Wildlife and moved to Caprock Canyons State Park (Halbert et al. 2004). These animals are now known as the Texas State Bison Herd (TSBH). The contemporary animals in this herd appear to be directly and exclusively descended from the bison herd originally assembled by Charles Goodnight. Six of the 36 bison

Table 4. The average age, natality (offspring per adult female), and early mortality from the first 6 years of the TSBH (Halbert, Grant, and Derr 2005) (*N* indicates sample size)

Year	Average age	Natality (<i>N</i>)	<1 Year mortality (<i>N</i>)
1997	3.56	0.19 (21)	0.75 (4)
1998	4.59	0.24 (17)	0.50 (4)
1999	5.35	0.73 (15)	0.64 (11)
2000	5.73	0.24 (17)	0.25 (4)
2001	6.23	0.62 (16)	0.30 (10)
2002	6.20	0.33 (15)	0.80 (5)
Average for TSBH		0.376 (101)	0.526 (38)
Other herds		0.560	0.042

donated in 1997 had cattle mtDNA, reflecting the crosses with cattle made by Goodnight (Halbert et al. 2004).

In 2002, the TSBH herd was still only 40 animals and had not shown any population growth. Other conservation herds have often had very rapid population growth, for example, the Badlands NP herd studied by Berger and Cunningham (1994) grew 10–20% per year. Table 4 gives the age, natality, and early mortality over the first 6 years of the TSBH (Halbert, Grant, and Derr 2005). Over this short time period, the average age in the herd increased by nearly 3 years, the natality rate (births per cow) was only 67% that in comparison herds, and the mortality in the first year was 12.5 times as high as other herds. This low natality and high early mortality explains the lack of growth of the population and its increasing age. In 2001, 15 of the 18 cows were pregnant but only 5 calves were born in 2002, and 4 of these died in the first year, so only 1 calf was produced for 15 cows. In addition, of 8 mature bulls (>3 years old) tested in 2000 for sperm motility and morphology, 4 had significant sperm abnormalities including low motility, bent tails, and detached heads (Halbert et al. 2004).

The TSBH was started from a small number of animals and is thought to have been through several bottlenecks during different owners and has had a small population size throughout most of its history. Although detailed records have been kept of this herd since 1997, there is no pedigree from earlier years from which to calculate inbreeding. As a general surrogate for these early records, we can compare the heterozygosity calculated by Halbert et al. (2004) for 54 microsatellite loci in 2001 in the TSBH (0.38) to the average in the Yellowstone and Theodore Roosevelt NP herds for the same loci (0.60). Using these estimates as the heterozygosity before and after genetic drift over a number of generations, a general estimate of the effect of small population size on heterozygosity in this population is

$$H_t = H_0 \prod_{i=1}^t \left(1 - \frac{1}{2N_{ei}}\right), \quad (1a)$$

where H_t is the heterozygosity in the t th generation and N_{ei} is the effective population size in the i th generation (Hedrick

2005). We can then assume that the overall effect on reducing heterozygosity is approximately

$$1 - f \approx \prod_{i=1}^t \left(1 - \frac{1}{2N_{ei}}\right)$$

and

$$f \approx 1 - \frac{H_t}{H_0}, \quad (1b)$$

where f is an estimate of the inbreeding coefficient. Therefore, assuming that $H_0 = 0.60$ and $H_t = 0.38$, the approximate level of inbreeding is $f \approx 0.367$. In other words, the reduced fitness observed in the TSBH appears to be equivalent to that expected from substantial inbreeding, on the order of 2 generations of full-sib mating (Hedrick 2005) although the loss of genetic variation probably took place unevenly over the last century (over 12 generations assuming a generation length of 8 years, see below).

In 2003, 3 bison bulls from Ted Turner's Vermejo Ranch in New Mexico were donated to the TSBH. The Vermejo Ranch herd is the only known private herd that does not appear to have cattle ancestry (Freese et al. 2007). Initial unpublished information suggests that the negative fitness effects in the TSBH have been overcome by this introduction (Swepston D, personal communication), a potential example of genetic rescue (Tallmon et al. 2004).

Genetic Variation

As general biological background related to understanding the amount of genetic variation in bison, we can use information on reproductive success from Berger and Cunningham (1994) and Wilson et al. (2002) in plains and wood bison, respectively. In plains bison, fecundity was highest for females aged 3–13 years, whereas the highest male success was for males aged 7–12 years (Berger and Cunningham 1994). Similarly, Wilson et al. (2002) found the highest success for females aged 3–12 years and the highest success for males aged 7–9 years. A general idea of generation length can be obtained as the average of these data on age of reproduction as approximately 8 years (or somewhat less if age-specific mortality is included). In addition, in both subspecies, the variance in reproductive success was significantly higher in males than females (Berger and Cunningham 1994; Wilson et al. 2002). Using the data from plains bison at Badlands NP, Berger and Cunningham (1994) estimated the ratio of effective population size (N_e) to census population size (N), N_e/N , as between 0.3 and 0.45 over different years and estimation approaches.

Before the identification of cattle ancestry in bison, the major conservation genetic concern in bison was the potentially low genetic variation, mainly because of low initial founder numbers but also because of subsequent bottlenecks and genetic isolation. For example, the 5 original ranch herds were each founded by a very small number of individuals. From the historical literature (Dary 1974;

Wilson and Strobeck 1999; Halbert, Ward, et al. 2005), it appears that the Goodnight herd (Texas) was descended from 5 founders, the Alloway–McKay herd (Canada) from 5 founders, the Dupree–Philip herd (South Dakota) from 6 or 7 founders, and the Pablo–Allard herd (Montana) from 6 founders. Although the Jones herd (Kansas and Oklahoma) appears to have had a number of founders, it is known to have contributed only 1 animal to the New York Zoological Gardens population and a small number of founders to other private herds. In other words, the total number of independent founders that these 5 herds contributed to the present population appears to be less than 50 and may have been only 30.

Although the wild Yellowstone herd is thought to have had substantial population numbers in some years, it had official census estimates of only 25–50 for the 16 years from 1896 to 1912 (Meagher 1973), suggesting a 2-generation bottleneck for this population. Further, the official estimates were only 25 in 1901, 1902, and 1907 and in 1902 only 22 were observed in the main herd (1 other animal was also observed). Because of these low numbers in the wild Yellowstone herd, 18 cows from the Pablo–Allard herd and 3 bulls from the Goodnight herd were introduced into a fenced area in Yellowstone NP in 1902 (Meagher 1973). In 4 of the first 5 years, only 2 of these males were present (1 died after the first year), and in 3 of the first 5 years, only 17 of the 18 females were present. Using a standard formula for effective population size (Hedrick 2005), the effective number of founders for this group is unlikely to be more than $N_e = 4N_f N_m / (N_f + N_m) = (4)(17)(2) / (17 + 2) = 7.2$. This population was kept separate from the wild population until 1915–1920 and later Meagher (1973) suggested that it constituted 60–70% of the ancestry of the total Yellowstone population. Thus, it appears that a majority of the Yellowstone ancestry may be descended from a small effective founder number of animals from the Pablo–Allard and Goodnight herds, which may have reduced overall genetic variation in the Yellowstone herd.

Wilson and Strobeck (1999) examined variation at 11 microsatellite loci in a number of herds and looked for correlations of genetic variation with founder number and number of founder sources and found a positive correlation between the number of founders and the average number of alleles. Halbert and Derr (2008) examined variation at 51 microsatellite loci in the 11 federal herds; Table 5 summarizes their results and information about the founding of these herds (average number of alleles is given rather than the standardized allelic richness because a very high proportion of nearly all the populations were sampled). For example, 2 of the herds with the highest genetic variation, National Bison Range and Yellowstone NP, had many founders and multiple founder sources. The Neal Smith herd also had high genetic variation but was only established recently, and so has not experienced much genetic drift. On the other hand, the lowest variation was observed in the Theodore Roosevelt NP-N, which was founded from 20 animals from the Theodore Roosevelt NP-S in 1962. The Sully's Hill herd, which also has low variation,

has a low census number and has been kept at a low number for many years.

Most of these federal herds have been managed separately except for the translocation of animals to establish new herds and infrequently to augment herds. In other words, many of them have independently undergone genetic drift over a number of generations so that some genetic differentiation between them would be expected. Halbert and Derr (2008) examined these herds for genetic differentiation using several different approaches and suggested that there are 5 different clusters (Table 5). Four of these clusters are single populations that show genetic differences from other herds, National Bison Range, Wichita Mountains, Wind Cave, and Yellowstone (average F_{ST} of 0.135). The other cluster (A) is composed of the 5 other populations that are connected by translocations and show lower differentiation between them (average F_{ST} of 0.065). The 2 other herds from Grand Teton and Neal Smith do not fit well into these categories, presumably because of their founding history from several sources.

Conservation Genetic Perspective and Recommendations

Cattle Ancestry in Bison

Much of the focus of conservation genetics in bison in recent years has been to identify herds with cattle ancestry (Halbert, Ward, et al. 2005; Halbert and Derr 2007). For example, Halbert and Derr (2007) suggested “the apparent success of the bison recovery efforts over the past 150 years is threatened by domestic cattle introgression. Hybrid species do not have taxonomic status and are not protected by the Endangered Species Act (ESA).” However, in Canada, only wood bison are listed as threatened, and the only petition for listing as threatened in the United States is for the Yellowstone herd of plains bison, and neither of these show evidence of cattle ancestry. Further, there does not appear at present to be an official policy to provide guidelines for dealing with hybrids under the US ESA (Allendorf et al. 2004), so how the ESA would be applied to bison with cattle ancestry is not clear.

As discussed above, in the federal herds that have cattle ancestry, the level appears quite low, less than 1%. Turning this around, it appears that more than 99% of the ancestry in these bison herds is from bison. Except for the 2 unpublished reports of the effect of cattle mtDNA on bison body size, animals with molecular evidence of cattle ancestry have not been identified as being morphologically, behaviorally, or in other phenotypic ways different than bison without identified cattle ancestry. Reducing cattle ancestry from <1% to 0% may not have a substantial positive impact on bison fitness. On the other hand, cattle ancestry could be different in kind than ancestry in most other hybridization situations because cattle were domesticated up to 10 000 years ago (Bruford et al. 2003). Since then, cattle have been selected for agricultural traits, making their ancestry potentially very detrimental in a wild species such as bison.

Table 5. Eleven federal bison herds (for abbreviations, see Table 3) and the number of founders, number of founder sources, and years of introduction for them (Halbert and Derr 2007)

Herd	Founder			Census	H_E	Number of alleles	Cluster
	Number	Sources	Years				
Badlands NP	73	3	1963, 1983	875	0.578	4.56	A
Fort Niobrara NWR	21	4	1913–1952	380	0.595	4.40	A
Grand Teton NP	32	2	1948, 1964	600	0.561	4.08	—
National Bison Range	50	7	1908–1984	350	0.647	5.00	6
Neal Smith NWR	33	3	1996–1998	63	0.639	4.96	—
Sully's Hill NGP	19	5	1919–1997	35	0.566	3.62	A
Theodore Roosevelt NP-N	20	1	1962	312	0.522	3.56	A
Theodore Roosevelt NP-S	29	1	1956	371	0.582	4.30	A
Wichita Mountains NWR	17	2	1907, 1940	600	0.652	4.85	2
Wind Cave NP	20	2	1913, 1916	350	0.591	4.16	1
Yellowstone NP	46 ^a	3	1902	3000	0.625	4.84	7

Also given is the current census estimate (total number of individuals), level of heterozygosity (H_E), and average number of alleles for 51 microsatellite loci and cluster number from STRUCTURE analysis (Halbert and Derr 2008) (— not in cluster).

^a About 25 from the surviving wild population.

In general, hybridization between endangered species and common related species is considered to be a potential threat to endangered species (Rhymer and Simberloff 1996; Allendorf et al. 2001). However, the greatest threat is thought to be from high levels of contemporary mating between an endangered species and a related nonendangered species. The cattle ancestry in conservation herds of bison is not the result of contemporary mating but is the result of artificial crosses, mostly made 100 or more years ago. Crossing cattle with bison is difficult, even in containment, and there is no evidence that crosses between these species occur naturally.

The low level of autosomal cattle ancestry in conservation herds of bison suggests that either the initial level when no more cattle ancestry was introduced was low or selection has resulted in a decline of cattle ancestry over time. There does not seem to be an imminent danger for the swamping of the bison gene pool by cattle ancestry. Although there are no temporal data on cattle ancestry in conservation herds of bison, it is entirely possible that the level of cattle ancestry is declining over time. If there is detrimental cattle ancestry, such as cattle mtDNA that appears to reduce body size, maintaining a large effective population size (so genetic drift is not important) would allow selection to reduce this detrimental ancestry without further human intervention.

For estimation of cattle ancestry, the microsatellite loci (and mtDNA D-loop) are appropriate and probably reflect neutral differences between the genomes of bison and cattle. However, it is important to put the estimate of <1% autosomal cattle ancestry from these markers in perspective. First, bison and cattle probably share more than 99% of their DNA sequence, as do other closely related species. In other words, the <1% cattle ancestry is probably <1% different from bison, or it results in <0.01% difference in the genomes of conservation herds with and without cattle ancestry.

Second, from the known cattle ancestry (Halbert, Ward, et al. 2005; Halbert and Derr 2007), there does not appear to be evidence that specific regions of the cattle genome have been positively selected in bison. In fact, the distribution of cattle regions in bison appears consistent with that expected by chance due to genetic drift (Halbert N, Derr J, personal communication). Even the very high cattle mtDNA ancestry in the Santa Catalina and Williams Ranch herds may be a chance effect of genetic drift.

How did the proportion of autosomal cattle ancestry become so low in bison herds with cattle ancestry? If backcrosses to bison occurred over multiple generations (as shown for 1 generation in Table 1), then the autosomal ancestry is reduced by half each generation. Or the expected cattle ancestry for t generations of backcrossing is $(1/2)^t$. For 6 and 7 generations of backcrossing, the cattle ancestry would be reduced to 1.56% and 0.78%. This is not inconsistent with what has been observed. Or, if additional purebred bison were added to the herd, then this would decrease the level of cattle ancestry as well. Perhaps instead of this scenario, some of the cattle regions of the genome may have been selected against resulting in a decline in their frequency over time.

With these caveats, several recommendations about reduction of cattle ancestry in conservation bison herds seem reasonable.

- (1) Bison from populations with evidence of cattle ancestry should not be introduced into populations with no evidence of cattle ancestry.
- (2) Introduction of animals from herds with no evidence of cattle ancestry into herds with cattle ancestry is appropriate when surplus animals are available. This could, for example, result in a decrease of inbreeding depression, an increase of genetic variation, or even genetic swamping of cattle ancestry. In addition, excess animals from these herds without evidence of cattle

ancestry could be used to establish new conservation herds by public and private stakeholders.

- (3) Translocation between herds with similar levels of cattle ancestry is potentially appropriate because this would not increase the overall level of cattle ancestry. However, to make sure that herds have similar levels of cattle ancestry, a more accurate estimate of cattle ancestry, based on more microsatellite loci or perhaps single nucleotide polymorphisms, is recommended. In addition, further detailed examination of the potential phenotypic effects of cattle ancestry in bison is recommended.
- (4) Reduction of cattle ancestry by culling animals with known cattle mtDNA is generally appropriate and could eliminate cattle mtDNA from herds. However, such culling should not be assumed to reduce the nuclear cattle ancestry because the mtDNA and nuclear cattle ancestries are not expected to be associated, that is, to be in linkage disequilibrium. In herds with high cattle mtDNA levels, great care should be taken to retain bison variation at nuclear loci if there is selective culling to reduce cattle mtDNA.
- (5) Reduction of the frequency of specific nuclear cattle alleles from a population by culling is also possible, but it is likely that cattle ancestry will remain at other unidentified genetic regions in these herds.

Avoiding Inbreeding Depression and Maintaining Genetic Variation

Although some population sizes of the conservation bison herds are not small, these numbers should be compared with the very high numbers present 150 years ago. When the total number for plains bison was in the many millions and there was generally gene flow throughout the subspecies, there presumably was high variation for genes having detrimental, neutral, and advantageous effects. It is not known whether the variation today reflects this historic variation. Examination of museum or historic samples before the great bison decline, from 1850 or earlier, could be used to compare the present-day variation with ancestral variation. For example, if the variation at neutral loci or sites is lower today than historically, this may indicate significant bottleneck effects and a consequent potential for increase in some detrimental variants.

As discussed above, the TSBH has substantially lowered fitness for several different traits. Although no other herds have as low genetic variation as the TSBH, the Neal Smith herd, for example, has relatively low heterozygosity. The amount of variation in other isolated conservation herds, besides the federal herds, may also potentially be low.

Although Halbert and Derr (2008) identified 5 different clusters with substantial differentiation between them, it is likely that these differences have been generated primarily by genetic drift since the founding of the herds. It is possible that some of the differences reflect ancestral differences present in bison herds before their near extinction, although

the large ancestral population size and high amounts of ancestral gene flow make this unlikely.

Several general recommendations on inbreeding depression and genetic variation for the conservation bison herds seem reasonable if considered in balance with the previous recommendations on reducing cattle ancestry:

- (1) In order to minimize inbreeding depression and maintain genetic variation in populations, regular exchange between bison populations is recommended. It appears that natural bison populations were composed of large, intermixing groups, and reestablishment of this situation is recommended. Of course, considerations beyond genetics, such as disease transfer, different state laws on bison, and success of translocated animals, must also be considered.
- (2) Monitoring of fitness-related traits, such as mortality, natality, and mating success is recommended so that fitness levels (and adaptation) can be documented.
- (3) Individual herds or clusters should have an effective population size of 1000 (census number of 2000–3000) to avoid inbreeding depression and maintain genetic variation. If it is not possible to have this primary herd in 1 location, then it could be in 2 or 3 locations with significant genetic exchange between them. Note that this is larger than any of the plains bison herds except for Yellowstone NP and any of the wood bison herds except for Wood Buffalo NP and Mackenzie Bison Sanctuary in Canada.
- (4) Identified differentiated populations (clusters) should be replicated with at least one other physically separated population with an effective population size of 1000. If it is not possible to have this replicated population in 1 location, then it could be in 2 or 3 locations with significant genetic exchange between them.
- (5) Pedigrees of the populations should be established. The molecular data already collected could form the basis of identifying paternity and potentially other relationships in these pedigrees. In addition, from these data, the contemporary effective population size N_e and the ratio of N_e to the census number, N_e/N , could be estimated.
- (6) Estimation of effective population size in recent generations using analysis of linkage disequilibrium and variance in allele frequency, and past effective population size using sequence data, is recommended (Schwartz et al. 2007).
- (7) Estimation of the ancestral level of genetic variation from museum samples or other historical samples is recommended. This should help identify genetic patterns over space that were present before the great reduction in bison numbers and large changes in allele frequency that may have occurred due to the changes in population numbers.
- (8) There is no justification to select for preservation of specific rare bison microsatellite alleles in populations. Selection for the increase of the frequency of specific rare alleles has been shown to have a significantly greater cost than benefit because of the loss in genetic variation in the rest of the genome (Hedrick and Miller 1994).

Acknowledgments

I wish to acknowledge the attendees of the Bison Genetics Workshop at Nebraska City, Nebraska, in September 2008, for introducing me to many aspects of bison genetics. I particularly wish to acknowledge the research and publications of Jim Derr, Natalie Halbert, and their colleagues, who have contributed enormously to the understanding of bison genetics. Specific thanks to Natalie Halbert and Greg Wilson, who answered my questions about plains and wood bison, respectively. Thanks also to Scott Baker, Jim Derr, Rich Fredrickson, Natalie Halbert, Dennis Hedgecock, Robin Waples, Greg Wilson, and Jim Womack for comments on the manuscript.

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Corresponding Editor: C. Scott Baker

From: [Stephen Torbit](#)
To: [Anna Munoz](#)
Subject: More Bison Stuff
Date: Monday, February 29, 2016 1:33:00 PM

So, after looking at his emails, he has some good but very detailed questions for Lee and she has done a good job addressing his questions. I am sure we can expect more from him.

On the Bison Range Concept Issues.

1. The National Bison Range bison herd does contain some very valuable genetic material, material that is important to include in bison conservation planning at a regional or national scale. We have known and acknowledged for some time (Dratch and Gogan, 2010) of the important contribution that NBR bison can make to overall bison conservation. Accordingly, FWS has worked over the last several years to expand to numerous refuge locations (Rocky Mountain Arsenal, Ft. Niobrara and Sully's Hill) to expand both the numbers and enhance the conservation of NBR bison.
2. In this time of transition, we will continue to assess the status of our FWS bison meta-population and address appropriate opportunities to ensure genetic conservation of the NBR line of bison. We believe we have made considerable progress in ensuring the future of NBR bison and their genetic resources, but we will look to validate that progress over the next several months.

Stephen C. Torbit
Assistant Regional Director
Science Applications
U.S. Fish and Wildlife Service
134 Union Blvd.
Lakewood, Colorado 80228
303-236-4602 – Office
720-626-7504 – Cell

Conversation Contents

DCN: 062487 - National Bison Range - Lake County Attorney

/30. DCN: 062487 - National Bison Range - Lake County Attorney/1.1 DTS
062487 NBR Lake County Attorney.pdf

Betsy_Matten@fws.gov

From: Betsy_Matten@fws.gov
Sent: Mon Feb 29 2016 14:37:31 GMT-0700 (MST)
To: Maureen_Gallagher@fws.gov, Mike_Blenden@fws.gov,
Will_Meeks@fws.gov
Subject: DCN: 062487 - National Bison Range - Lake County
Attorney
Attachments: DTS 062487 NBR Lake County Attorney.pdf

Per RD's Office--Prepare response with consensus from Solicitor's office by 3/30.

Will Meeks <will_meeks@fws.gov>

From: Will Meeks <will_meeks@fws.gov>
Sent: Mon Feb 29 2016 16:40:53 GMT-0700 (MST)
To: "Betsy_Matten@fws.gov" <Betsy_Matten@fws.gov>
"Maureen_Gallagher@fws.gov"
CC: <Maureen_Gallagher@fws.gov>, "Mike_Blenden@fws.gov"
<Mike_Blenden@fws.gov>
Subject: Re: DCN: 062487 - National Bison Range - Lake County
Attorney

We shouldn't need near the time. Let's shoot for a draft by the 11th.

Routing should be:
Blenden
Maureen
Will
SOL (I'll get a name)
Anna
RD

Thanks.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

> On Feb 29, 2016, at 2:37 PM, "Betsy_Matten@fws.gov" <Betsy_Matten@fws.gov>
wrote:

>

> Per RD's Office--Prepare response with consensus from Solicitor's office by 3/30.

> <DTS 062487 NBR Lake County Attorney.pdf>



Meeks, Will <will_meeks@fws.gov>

Meeting Notes, Feb. 5

Noreen Walsh <noreen_walsh@fws.gov>
To: "King, Jeff" <jeff_king@fws.gov>
Cc: Will Meeks <Will_Meeks@fws.gov>

Tue, Mar 1, 2016 at 8:09 PM

Hi Jeff,

Thanks for sharing these notes. They are not entirely accurate from my point of view, but this is so long and detailed it will take me some time to go through them.

Has something happened that might make you concerned we are not planning to continue supporting the NBR staff as we discussed on February 5?

Thank you,

Noreen

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
[Quoted text hidden]

<2_5_16 NBR Transfer Meeting Notes.docx>

From: [Cynthia Martinez](#)
To: [Tony A. Schoonen](#)
Cc: [Dan Ashe](#)
Subject: Re: Bison Range
Date: Saturday, March 05, 2016 11:14:02 AM

Hi Tony,

Sure thing. I'll try to anticipate some of the questions you might get and send it your way.

Cynthia

> On Mar 5, 2016, at 9:04 AM, Tony A. Schoonen <tony@boone-crockett.org> wrote:

>

> Thanks Dan!

>

> Hi Cynthia! Do you have a one pager or something that outlines the purpose of this transfer to BIA and why the USFWS would be supportive of that move?

>

> The Bison Range is in our backyard so to speak (the Club helped establish and pay for the refuge in 1908) so I am sure folks will be calling and I like to make sure we have our facts straight

>

> On the polar bear last I heard things are moving which is goo thanks for asking!

>

> Thanks

>

> Tony

>

> Sent from my iPhone

>

> On Mar 3, 2016, at 7:58 PM, Dan Ashe <d_m_ashe@fws.gov<mailto:d_m_ashe@fws.gov>> wrote:

>

> Hello Tony. No, we are not considering a "transfer" to the Confederated Salish-Kootenai Tribes (CSKT). We are in discussions, and do support, the concept of transferring the National Bison Range to the Bureau of Indian Affairs (BIA) to be held "in trust" for the CSKT people. It would be managed by the CSKT for the original purposes (bison conservation).

>

> Cynthia Martinez, National Wildlife Refuge System Chief, is a good contact and I've copied her with this message.

>

> Best.

>

> Dan.

>

> P.S. -- how's it going with the polar bear?

>

> Dan Ashe

> Director, U.S. Fish and Wildlife Service

>

>

>

> On Mar 3, 2016, at 12:05 PM, Tony A. Schoonen <tony@boone-crockett.org<<mailto:tony@boone-crockett.org>>> wrote:

>

> Hi Dan

>

> We are getting some calls about transferring the bison range to the Kootenai Salish. Is that in play? If so can you put me in touch with someone who can send me a brief summary of what is going on?

>

> Thanks

>

> Tony

United States Senate

WASHINGTON, DC 20510-7020

March 8, 2016

Mr. Dan Ashe
Director
United States Fish and Wildlife Service
1849 C Street NW, Room 3331
Washington, DC 20240-0001

Dear Director Ashe:

Enclosed is a letter I have received from Marvin L. Plenert, former Regional Director of the Pacific Northwest Region for the Fish and Wildlife Service.

I would appreciate your reviewing this situation and providing answers to Mr. Plenert's concerns. Please send your reply directly to Mr. Plenert, and send a copy of your response to me.

Thank you for your cooperation and assistance.

My best wishes to you.

Sincerely,

A handwritten signature in black ink that reads "Harry Reid". The signature is written in a cursive, flowing style with a large initial "H" and "R".

HARRY REID
United States Senator

March 1, 2016

Honorable Harry Reid

United States Senate
Washington, D C 20510
Dear Senator Reid;

I am writing to urge you to do everything within your power to prevent the Fish and Wildlife Service (FWS) from achieving an ill-conceived proposal to abandon its inherent responsibilities and objectives to the American People. The proposal I'm referring to, is a recently released document by the FWS, offering support for legislation to remove the 108 year old crown jewel refuge, the National Bison Range (NBR) in Montana from the National Wildlife Refuge System (NWRS) and place it "in trust" as an Indian Reserve. A copy of the announcement from the Mountain-Prairie States Regional Director Noreen Walsh is attached # (1).

By this proposed action there is no doubt that the FWS leadership in both Washington D C and Denver Colorado are shirking their inherent Federal responsibilities, thereby putting the entire NWRS under siege and in jeopardy. The passage of the National Wildlife Refuge System Administrative Act (NWRSA) in 1966 and subsequent amendments by Congress provided the authority, guidelines and directions for the FWS to administer a network of lands and waters as a cohesive system. Congress also made it very clear that there should never be any attempt to establish a second refuge system by delegating its authorities or transferring units or responsibilities to any other entity.

The proposal to transfer the NBR out of the NWRS has exposed the lack of integrity and dishonesty of FWS Director Dan Ashe and disputes his earlier assurances as noted in the attached # (2) September 16, 2011 letter to former Assistant Secretary of the Interior Nathaniel Reed, in which Director Ashe states the Service will not "turn over" management of the NBR or any other refuge to the Confederated Salish-Kootenai Tribes (CSKT) or any other non-service entity. Under any future annual funding agreement (AFA), the NBR will remain a unit of the NWRS, managed by the Service under direct guidance of the Service on-site refuge manager. No inherently Federal functions will be contracted to the CSKT. Ashe also stated that before a new AFA is signed and reported to Congress that an environmental assessment (EA) laying out alternatives will be prepared in order to seek public review and comment on the draft document. The FWS did keep their word and an EA was released for review in September, 2014, marking the first time the public was given an opportunity to review and comment on the negotiated agreement with the CSKT. Despite Director Ashe's assurances reviewers of the latest negotiated AFA discovered it laden with inherent

Federal functions. Apparently the comments received by the FWS did not support their proposed alternative of ceding management to the CSKT. The entire process has been pigeonholed, with no follow up to those who commented on the EA, and hence 17 months later the transfer was proposed.

The FWS efforts to acquiesce to the CSKT's request for an AFA that would turn over management of the NBR to them has failed over a period now approaching 20 years at tremendous cost to the FWS and tax payers, as well as the enormous adverse impacts on dedicated professional refuge staff members. The primary reason for failure is that the CSKT has made no secret of their intentions and demands to take over complete control and full ownership of the NBR land. See attached CSKT mission statement # (3).

The impasse has apparently led to the current FWS proposed transfer of the NBR. It must also be noted that all negotiations and discussions on AFA's by the FWS and CSKT over the fate of the NBR have been conducted in secrecy behind closed doors, with not one iota of public input or involvement. If the American Public or true owners of the NWRS had been involved, the failed AFA attempts could have been avoided, as well as the lawsuits that were filed and lost by the FWS because of failure to follow or comply with legal mandates.

The NBR a hallmark refuge was established by President Theodore Roosevelt at the express order of congress. The legislation required the U S Government to purchase a reserve within the Flathead Indian Reservation with Federal monies at an appraised market value for the express purpose of preserving the nearly extinct population of American bison. In 1971 the initial payment to the Tribes was brought before the Indian claims court. That tribunal made a final judgement requiring the Government to make an additional payment of around \$23 million for the land again. Certainly the public has paid for the acquisition of the NBR and for 108 years invested heavily in its infrastructure of roads, fences, corrals and buildings, including office-visitor center. Today the NBR draws over 220,000 visitors each year to view wildlife in natural settings. The economic effects of its presence and the recreation brought over \$975,000 in local expenditures and more then \$19,100.00 in non-resident spending in 2011. The economic effect of the NBR was calculated to be \$13.89 for every dollar of budget expenditure by the NBR.

During my 32 years as a FWS employee and another 22 years in retirement I have personally been involved with the management, protection and enhancement of the NWRS, and worked diligently to ensure a strong and vital conservation system for all to enjoy, I therefore, strongly oppose this dangerous precedent setting action by the FWS, which is apparently being done to resolve the dilemma presented by intransigent positions of the FWS and CSKT. The NWRS today consists of nearly 600 units and totals more then 150 million acres, and represents the worlds largest most diverse collection of public lands set aside specifically for the conservation of fish, wildlife and plants, all managed by the FWS as a cohesive unit.

Senator, The refuge system needs your help and that of your colleagues to emphatically refuse to support any proposed legislation that would transfer the NBR or any other unit of the NWRS to the CSKT or any other non-service entity. This iconic 108 year old refuge or any other refuge should never be bargained away to appease the political or self-serving economic interests of non-service entities. Our collective efforts should be spent to preserve the integrity of the NWRS for all Americans from current and future threats.

With your help this ridiculous proposal can be put to bed. Thank you for your consideration on this request, and I look forward to hearing from you.

Sincerely,

Marvin L Plenert

[Redacted]

Phone

[Redacted]

Email

[Redacted]



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington, D.C. 20240



SEP 16 2011

In Reply Refer To:
FWS/D/ 049519

Mr. Nathaniel P. Reed
P.O. Box 1213
Hobe Sound, Florida 33475

Nat

Dear Mr. Reed:

Thank you for our conversation today and your support and your interest in the National Bison Range (NBR). The U. S. Fish and Wildlife Service (Service) is currently negotiating with the Confederated Salish and Kootenai Tribes (CSKT) for a new Annual Funding Agreement (AFA) to involve the CSKT in the operations and maintenance of the National Bison Range and other units of the NBR Complex that lie within the Flathead Reservation. Before a new AFA is signed and reported to Congress, the Service will prepare an Environmental Assessment, and will seek public review and comment on the draft document.

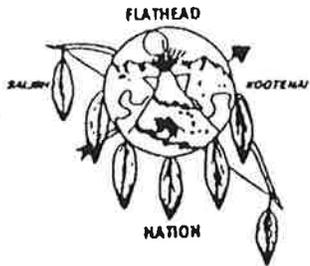
The Service cannot and will not "turn over" management of NBR or any other Refuge to the CSKT or any other non-Service entity. Under any future AFA, NBR will remain a unit of the National Wildlife Refuge System, managed by the Service under direct guidance of the Service's on-site Refuge Manager. No inherently federal functions will be contracted to the CSKT. The CSKT has extremely strong cultural, historic, and geographic ties to the NBR and the NBR bison herd, and will work with us through its highly professional Natural Resources Department. Any future AFA will uphold both the letter and spirit of both the Refuge Administration Act, as amended, and the Tribal Self-Governance Act. These laws are not mutually exclusive. We are confident that a strong partnership, with Service and CSKT employees working together, under direction of the Refuge Manager, is the best way to continue managing the NBR to achieve the Refuge's purposes and the mission of the National Wildlife Refuge System.

Thanks again for your time today and continued interest in this issue. If you have any questions, please call me at 202-208-4545.

Sincerely,

Daniel M. Ashe
Director

THE CONFEDERATED SALISH AND
KOOTENAI TRIBES,
THE SOVEREIGN PEOPLE OF THE
FLATHEAD INDIAN RESERVATION



VISION

The traditional principles and values that served our people in the past are imbedded in the many ways we serve and invest in our people and communities, in the ways we have regained and restored our homelands and natural resources, in the ways we have built a self-sufficient society and economy, in the ways we govern our Reservation and represent ourselves to the rest of the world and in the ways we continue to preserve our right to determine our own destiny.

MISSION

Our mission is to adopt traditional principles and values into all facets of tribal operations and service. We will invest in our people in a manner that ensures our ability to become a completely self-sufficient society and economy. We will strive to regain ownership and control of all lands within our reservation boundaries. And we will provide ^{FWS-001386} sound

enhance natural resources and ecosystems.

Developed by Strategic Planning Committee, March 1996

Adopted by Tribal Council, May 1996

Fwd: Discussion with the CSKT about the National Bison Range
Wednesday, March 2, 2016 5:56 PM Mark as Unread

From: "Marvin Plenert" <[REDACTED]>
To: [REDACTED]

--- On Fri, 2/5/16, Bill West <[REDACTED]> wrote:

> From: Bill West <[REDACTED]>
> Subject: Fwd: Discussion with the CSKT about the National Bison Range
> To: "Bill West" <[REDACTED]>
> Date: Friday, February 5, 2016, 5:46 PM
> FYI New
> direction-----
> Forwarded message -----
> From: Noreen
> Walsh <noreen_walsh@fws.gov>
> Date: Fri, Feb 5, 2016 at 4:12 PM
> Subject: Discussion with the CSKT about the National Bison
> Range
> To:
>
> Dear
> Mountain-Prairie Region, I want to inform
> you of a discussion the Service started today with the
> Confederated Salish and Kootenai Tribes (CSKT) regarding the
> National Bison Range. Many of you know that we have been
> working with the CSKT for about 20 years on the idea of a
> partnership at the National Bison Range that would be
> outlined in an Annual Funding Agreement which would allow
> them to manage and implement some of the activities on the
> refuge. This process has required much time and effort on
> the part of many, and despite valiant efforts all around,
> the parties have been unable to come to terms on a
> mutually-acceptable agreement. In an effort to
> achieve the best, long-term solution for our many
> conservation priorities, the specific conservation goals of
> the National Bison Range, and to support the principles of
> Indian self-determination there was a discussion today with
> the CSKT about the potential for the Service to support
> legislation that would transfer the lands comprising the
> National Bison Range to be held in trust by the United
> States for the CSKT. I wanted you all
> to know why we entered into these discussions. The
> National Bison Range was established in 1908 within the
> boundaries of the Flathead Reservation, home of the CSKT,
> for the express purpose of conserving the American bison
> during a time when the species was on the verge of

> extinction. Since then, the Service as well as our
> federal, state, and tribal partners have made great strides
> in conserving bison and re-establishing herds throughout
> their historic range. Also, while we have desired a
> meaningful partnership with CSKT at the National Bison
> Range, a mutually-acceptable agreement has been elusive.
> Given that we are today in a much better place regarding the
> future of bison, that we have much work to do on
> landscape-scale conservation efforts, and that we want to
> strengthen our partnership with the CSKT, we believe that
> now is the right time to investigate the possibility of
> transferring the refuge, which was long ago carved out of
> tribal lands, into trust for the benefit of the CSKT.
> Such a proposal
> would require Congressional approval and therefore, at this
> point, we don't know if or when such a transfer would
> occur. Today was our first discussion with the CSKT about
> the idea. As we go forward, my pledge is to ensure that
> wherever the discussion leads us, the talented and
> committed staff of the National Bison Range are taken care
> of. To this end, Will Meeks, Mike Blenden, and I spent the
> afternoon at the Refuge where we talked about the ideas
> under discussion. In our conversations, I emphasized that
> they will all remain valued employees of the Service,
> regardless of the outcome of these discussions.
> I know that many
> of you will have thoughts and questions about this idea.
> This was not an easy decision to come by, nor one that was
> taken lightly, but in the end, I believe that this is a good
> path for the Service, the CSKT, and for the conservation of
> our fish and wildlife resources. As always, I value
> your feedback and questions. Noreen
>
> Noreen WalshRegional
> DirectorMountain-Prairie RegionU. S.
> Fish and Wildlife
> Service
>
>
>
>

From: [Meeks, Will](mailto:Meeks_Will)
To: [Amy Thornburg](mailto:Amy_Thornburg)
Subject: Fwd: NBR appraisal
Date: Wednesday, March 09, 2016 8:08:03 AM

----- Forwarded message -----

From: **Greg Langer** <greg_langer@fws.gov>
Date: Thu, Feb 18, 2016 at 9:30 AM
Subject: RE: NBR appraisal
To: Marvin Plenert <marvplenert@yahoo.com>
Cc: Anna Munoz <anna_munoz@fws.gov>, Will Meeks <will_meeks@fws.gov>

Mr. Plenert.

- 1) Date of the last appraisal/effective date of value is: October 10, 2012
- 2) Value of Appraisal is: \$12,220,000
- 3) Most recent Revenue Sharing payment is: \$21,693.00 (both Lake & Sanders Counties)
- 4). The Revenue sharing appraisal includes permanent buildings, roads and fences.

If you need anything else, please let me know.

Greg Langer
Realty Chief, R6
134 Union Blvd
Lakewood, CO 80228
303-236-8130 Office
720-320-8943 Cell

-----Original Message-----

From: Marvin Plenert [mailto:marvplenert@yahoo.com]
Sent: Tuesday, February 16, 2016 6:04 PM
To: greg_langer@fws.gov
Subject: NBR appraisal

Would you please send me the current appraised value of the NBR. Does this include total infrastructure. such as buildings roads, fences etc. or only land?

Also how many dollars were given to the County last year, in lieu of taxes?

Thanks

Marvin L Plenert

--

Will Meeks
U.S. Fish and Wildlife Service
ARD - R6 NWRS and PFFW
w (303) 236-4303
c (720) 541-0310

From: Meeks, Will
To: [Amy Thornburg](mailto:Amy.Thornburg)
Subject: Fwd: Revised Media Statement
Date: Wednesday, March 09, 2016 8:08:41 AM

----- Forwarded message -----

From: Will Meeks <will_meeks@fws.gov>
Date: Sat, Feb 6, 2016 at 11:45 AM
Subject: Fwd: Revised Media Statement
To: Mike Blenden <mike_blenden@fws.gov>
Cc: Maureen Gallagher <maureen_gallagher@fws.gov>

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0319 (c)

Begin forwarded message:

From: "Munoz, Anna" <anna_munoz@fws.gov>
Date: February 6, 2016 at 10:29:59 AM MST
To: Noreen Walsh <noreen_walsh@fws.gov>, Will Meeks
<will_meeks@fws.gov>
Subject: Revised Media Statement

Hi Noreen,

I wanted to let you know that we received the following media statement edits from Brian Upton last night (in bold and underlined). The previous version stated that "the lands comprising the NBR would be transferred into a federal trust for the benefit of CSKT." HQ is good with the changes but I wanted to make sure that you're aware. If you have any questions or comments, please let me know. Thus far, there have been no media inquiries.

The U.S. Fish and Wildlife Service (Service) has initiated discussions with the Confederated Salish and Kootenai Tribes (CSKT) regarding the **return of the lands comprising the National Bison Range to once again be held in federal trust** for the benefit of the CSKT. This begins a new phase in a longstanding

relationship between the Service and CSKT in the conservation of the land, bison, and other natural resources comprising the National Bison Range. The Service believes now is the right time to begin the transition into trust of a refuge long ago carved out of tribal lands. This is an ongoing process that will require Congressional approval.

Anna

--

Will Meeks
U.S. Fish and Wildlife Service
ARD - R6 NWRS and PFFW
w (303) 236-4303
c (720) 541-0310

From: [Meeks, Will](#)
To: [Amy Thornburg](#)
Subject: Fwd: Meeting with Noreen and Will on Monday
Date: Wednesday, March 09, 2016 8:09:38 AM

----- Forwarded message -----

From: **Mike Blenden** <mike_blenden@fws.gov>
Date: Wed, Jan 27, 2016 at 4:53 PM
Subject: Fwd: Meeting with Noreen and Will on Monday
To: will_meeks@fws.gov

FYI

Sent from my iPhone

Begin forwarded message:

From: Jeff King <jeff_king@fws.gov>
Date: January 27, 2016 at 4:01:58 PM MST
To: "Blenden, Mike" <mike_blenden@fws.gov>
Subject: **Re: Meeting with Noreen and Will on Monday**

Yes. I changed my flight. Arrive mid morning on Monday.

Thanks

jk

Sent from my iPhone

On Jan 27, 2016, at 4:00 PM, Blenden, Mike <mike_blenden@fws.gov> wrote:

Jeff, Are you able to be here by 5:00 p.m. Monday assuming weather cooperates?

Mike

----- Forwarded message -----

From: **Blenden, Mike** <mike_blenden@fws.gov>
Date: Tue, Jan 26, 2016 at 3:59 PM
Subject: Meeting with Noreen and Will on Monday
To: Jeff King <jeff_king@fws.gov>

Jeff,

Noreen would like to meet with all of us at in her conference room 5:00 p.m. next Monday, the same day you will be travelling to the project leader's meeting. She wants to talk about the upcoming meeting on February 5 in D.C. concerning NBR/AFA/CSKT/DOI that Will talked to us about a week ago.

Please plan your travel accordingly or modify your already planned travel (more likely) so we can meet with her. This seems pretty urgent. Thanks for your flexibility and let me know if this just can't work.

Mike

--

Michael Blenden
Refuge Supervisor - Montana, Wyoming and Utah
134 Union Boulevard
Lakewood, CO 80228
303-236-4306

Too often we...enjoy the comfort of opinion without the discomfort of thought.

John F. Kennedy

--

Michael Blenden
Refuge Supervisor - Montana, Wyoming and Utah
134 Union Boulevard
Lakewood, CO 80228
303-236-4306

Too often we...enjoy the comfort of opinion without the discomfort of thought.

John F. Kennedy

--

Will Meeks
U.S. Fish and Wildlife Service
ARD - R6 NWRS and PFFW
w (303) 236-4303
c (720) 541-0310

From: [Meeks, Will](#)
To: [Amy Thornburg](#)
Subject: Fwd: NBR BP (10-2-2015).docx
Date: Wednesday, March 09, 2016 8:10:43 AM
Attachments: [NBR BP \(10-2-2015\).docx](#)

Possible withhold??

----- Forwarded message -----

From: **Martinez, Cynthia** <cynthia_martinez@fws.gov>
Date: Fri, Oct 2, 2015 at 8:41 AM
Subject: Fwd: NBR BP (10-2-2015).docx
To: Will Meeks <will_meeks@fws.gov>

----- Forwarded message -----

From: **A Alvarez** <aeric_alvarez@fws.gov>
Date: Fri, Oct 2, 2015 at 10:19 AM
Subject: NBR BP (10-2-2015).docx
To: Cynthia_Martinez <Cynthia_Martinez@fws.gov>

Cynthia,

Here is the cleaned up BP on NBR. Please let me know if you want this uploaded into the BP DTS database or if you just want to be the one to have the copies.

Thanks,
Eric

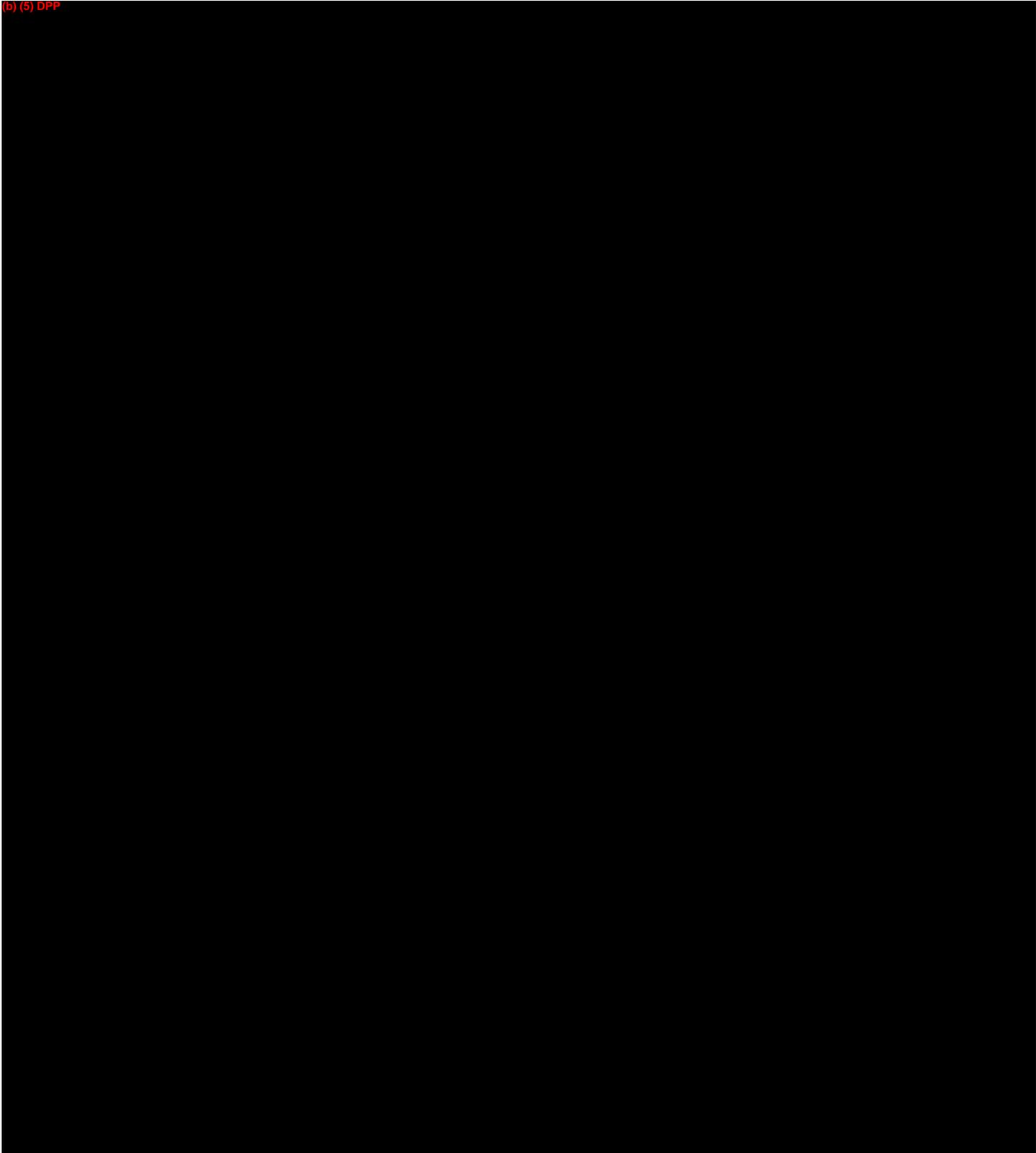
--

Will Meeks
U.S. Fish and Wildlife Service
ARD - R6 NWRS and PFFW
w (303) 236-4303
c (720) 541-0310

INFORMATION MEMORANDUM FOR THE SECRETARY

DATE: September 28, 2015
FROM: Director, U.S. Fish and Wildlife Service
SUBJECT: (b) (5) DPP

(b) (5) DPP



(b) (5) DPP [Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

From: [Meeks, Will](#)
To: [Amy Thornburg](#)
Subject: Fwd: update NBR staff
Date: Wednesday, March 09, 2016 8:10:20 AM

----- Forwarded message -----

From: **Will Meeks** <Will_Meeks@fws.gov>
Date: Tue, Nov 10, 2015 at 8:15 AM
Subject: RE: update NBR staff
To: Mike Blenden <mike_blanden@fws.gov>

Sure. Just coordinate calendars.

Will Meeks

U.S. Fish and Wildlife Service

Mountain Prairie Region

Assistant Regional Director

National Wildlife Refuge System

303-236-4303 (w)

720-541-0310 (c)

From: Blenden, Mike [mailto:mike_blanden@fws.gov]
Sent: Tuesday, November 10, 2015 7:51 AM
To: Will Meeks
Subject: update NBR staff

Will,

Jeff asked a couple of days ago if we could get on the phone with the NBR staff and update them on the AFA. I told him I didn't know of any news but I wasn't sure either. He feels it would just be good for them to hear something from us. Are you available?

--

Michael Blenden

Refuge Supervisor - Montana, Wyoming and Utah

134 Union Boulevard

Lakewood, CO 80228

303-236-4306

Too often we...enjoy the comfort of opinion without the discomfort of thought.

John F. Kennedy

--

Will Meeks

U.S. Fish and Wildlife Service

ARD - R6 NWRS and PFFW

w (303) 236-4303

c (720) 541-0310

From: [Volesky, Mike](#)
To: Noreen_Walsh@fws.gov
Date: Wednesday, March 09, 2016 1:46:43 PM

Hi Noreen,

Been meaning to send you a note letting you know, I think opening the door to transferring the NBR to CSKT is smart, bold, and the right thing to do. I'm sure you've heard from some who disagree. Keep up the good work.

Mike

From: [Noreen Walsh](#)
To: ["Volesky, Mike"](#)
Subject: RE:
Date: Wednesday, March 09, 2016 3:17:00 PM

Mike, hope all is well with you. You are right: we're hearing from some who disagree.....
Thanks for your note – it really means a lot.

Best,
Noreen

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Volesky, Mike [mailto:mvolesky@mt.gov]
Sent: Wednesday, March 09, 2016 1:46 PM
To: Noreen_Walsh@fws.gov
Subject:

Hi Noreen,

Been meaning to send you a note letting you know, I think opening the door to transferring the NBR to CSKT is smart, bold, and the right thing to do. I'm sure you've heard from some who disagree. Keep up the good work.

Mike

Conversation Contents

Fw: Mazzoni Letter to Ashe

Attachments:

/29. Fw: Mazzoni Letter to Ashe/1.1 Personal Correspondence - NBR Ashe 2016.docx

Marvin Plenert <marvplenert@yahoo.com>

From: Marvin Plenert <marvplenert@yahoo.com>
Sent: Wed Mar 09 2016 18:56:32 GMT-0700 (MST)
To: Ralph Webber <ralphwebber@frontier.com>
Subject: Fw: Mazzoni Letter to Ashe
Attachments: Personal Correspondence - NBR Ashe 2016.docx

Here is letter to Ashe regarding the NBR from Mazzoni

b(6)

February 26, 2016

Mr. Dan Ashe, Director
U.S. Fish and Wildlife Service
1849 C. Street
Washington, D.C. 20240

Dear Dan:

You may not remember me. I believe the last time we met was nearly eighteen years ago in Albuquerque, New Mexico, while I was serving as the Assistant Regional Director for Refuges and Wildlife in Region 2. As a retired, forty-year employee of the Fish and Wildlife Service (Service), dedicated to the management and protection of units of the National Wildlife Refuge System (NWRS), I was stunned recently to learn that the Service, under your leadership, supports legislation that would “transfer lands comprising the National Bison Range to be held in trust by the United States” for the Confederated Salish-

Kootenai Tribes (CSKT) in Montana.....as announced in Regional Director Noreen Walsh's memorandum to the refuge field folks in the Mountain-Prairie Region.

That decision contravenes your earlier assurances in a September 16, 2011 letter to former Assistant Secretary of the Interior Nathaniel Reed, in which you stated, "The Service cannot and will not 'turn over' management of NBR or any other refuge to CSKT or any other non-Service entity. Under any future AFA, NBR will remain a unit of the National Wildlife Refuge System under direct guidance of the Service's on-site Refuge Manager. You went on to say, "We are confident that a strong partnership, with the Service and CSKT employees, working together, under the direction of the Refuge Manager, is the best way to continue managing the NBR to achieve the Refuge's purposes, and the mission of the National Wildlife Refuge System."

That statement was a clear, unambiguous expression of your commitment to protect the NBR and other units of the NWRS and not allow it or other refuges to be bargained away to appease the political, economic, or other self-serving interests of non-Service entities. Refuge field folks and retirees felt reassured and applauded this clear statement of your dedication

to preserving the ultimate integrity of the NWRS from such future threats.

The recent pronouncements by Service sources, notably Regional Director Walsh and Chief of Refuges Cynthia Martinez, to try to rationalize this radical departure from your earlier position are seen by many as contrived.

To suggest that the NBR should be relinquished because bison are no longer endangered, and, therefore, the refuge no longer serves its purpose, objectives and contribution to the NWRS, ignores its historical place in American history, the role this herd continues to play in the effort to preserve natural bison populations and the total values of the refuge, as clearly defined by Congress in the Refuge Improvement Act. We're talking about a viable, fully successful, fully functional national wildlife refuge that maintains a herd of genetically unique and diverse bison in carefully maintained and artfully managed natural habitat for the education and enjoyment of future generations of all Americans. And it has done so for 108 years!

The examples being given to suggest that this action is not precedent-setting are simply not comparable. Some are former

migratory waterfowl easement areas that permanently lost their water supply, another is the former Mescalero fish hatchery, which was closed for two years due to severe weather damages before being turned over to a tribe from among several tribes whose commercial and recreational fishing programs it was originally built to support! Please, don't insult our intelligence.

Your spoke persons have said that any proposed legislation to place the NBR in trust for the CSKT would be unique to that refuge, and not affect any other refuge. Yet, the Service has identified 37 or 38 refuges as available for tribal negotiations for Annual Funding Agreements (on a Federal Register List that may, at any time, be added to by tribal or Bureau of Indian Affairs request).

The Service's track record for successfully negotiating AFAs is not good. Its' efforts to respond to the CSKT's demands at NBR have repeatedly failed over a period now approaching 20 years, at tremendous cost to the Service (and, ultimately, the tax payers who fund its programs) and with enormous adverse impacts on professional refuge staff members. It failed quite simply because the Service couldn't acquiesce to the demands of the tribe to take over complete control and management of the refuge under existing law. In the absence of any apparent

resistance from the Secretary of the Interior, or the agency tasked with the responsibility for protecting and managing the refuge in trust for the American public, it now appears that a sympathetic Congress will likely do what the tribes couldn't. And we are to believe that this can't happen again on any of those 37 or 38 other refuges, including the sixteen refuges in Alaska? Theodore Roosevelt will roll over in his grave!

Also, I'm not at all clear on what you mean when you say that implementing landscape conservation strategies "...is how the day to day work of the agency needs to be done from now on....". You seem to be implying that traditional refuge establishment and management is no longer valid, and that that helps justify the disposal of the NBR and, presumably, other so-called "stand alone refuges". What ever happened to the NWRS objective of preserving a diversity of American wildlife and wildlife habitats, as we strive to fulfill our commitments under the several Migratory Bird Treaties, Cities, the Endangered Species Act, among many other National and International commitments?

Also, how does your newly discovered strategy fit the Desert, Kofa and Cabeza Prieta NWRs in the Southwest?

Geographically they are not connected. Their Desert Bighorn Sheep populations are also not connected in any physical sense. Yet, collectively they helped and continue to help

preserve Desert Bighorn Sheep and the critical habitat they depend upon. Each of them is quite large, and their biota unique and diverse, although not fully achieving the “landscape scale” found in the Alaska refuges or the current expressed concepts of the Landscape Conservation program.

While I recognize that you are institutionalizing landscape conservation thinking in a way that hasn’t been done in the past (and I applaud that), the concept is not new to the Service.

It’s that kind of thinking that drove the Prairie Pothole protection efforts in the mid-West; it’s what drove the Service from very early on to protect critical migratory waterfowl migration and wintering habitats within the context of their flyways; it’s what led early pioneers of the agency to establish three, distinct bison herds on refuges in Oklahoma, Nebraska and Montana to help ensure the continued survival of natural bison populations; it’s what influenced Ed Crozier and his refuge planning team in Region 3 during the 70’s to broaden the scope of individual refuge planning to include what he called the “area of ecological concern”. It’s what influenced me when I initiated a refuge master planning effort at the Malheur refuge during that period, with the strategy to incorporate the entire Harney Basin in our planning considerations, since many of the migratory waterfowl and other water bird populations

we were dealing with on the refuge were and are highly dependent upon private lands adjacent to the refuge. (I never got to complete that planning effort due to my later move to Alaska, but I do understand that the current refuge manager, much to his credit, has actively and successfully pursued that concept with the local community).

It's a concept that would have helped make the Service's earlier Private Lands Initiative more successful (and refuges potentially more effective) had it been universally tied closely to refuges, as it was in Regions 1 and 3

My point is: recognize that the concept or strategies that you now promote has been at work and germinating for decades...perhaps nearly as long as the NBR and the other early conservation areas were established; and finally, as you look at the forest, don't overlook the fact that a fully functioning forest is made up of individual trees...all with a purpose, and all contributing to the whole.

When established in 1908, the NBR was one of 52 Theodore Roosevelt preserves that formed the precursor to what later evolved into the National Wildlife Refuge System, which, along

with lands preserved within the National Park and National Forest Systems, formed a national land conservation legacy that has been held in trust and managed by the federal government for the benefit of all Americans ever since. It is a wildlife habitat protection system unrivaled by any other Nation in the World, with its' over 560 refuges now representing and protecting the enormous range of wildlife and wildlife habitat diversity found in our fifty states and territorial areas.

Protecting that legacy challenges every generation, with the most serious being those schemes that would remove individual refuges or portions of refuges from federal stewardship and national public ownership. As a former Refuge Manager and refuge administrator at the Regional level, I am fully aware of the range of threats refuges have faced throughout their history. I also learned that the first line of defense against such threats is those responsible for protecting and managing the Refuge System. I always felt that responsibility very strongly while I served the Refuge System, and felt confident that that sense of responsibility was shared by my superiors within the Service and the Department.

The NBR was my first refuge as a manager. I put my heart and soul into this beautiful and highly productive area. I learned a lot in the process, including a full understanding of the multiple benefits it provided to the community, the region and, yes, to the Nation. I'm proud of my tenure there, and the efforts of one of the finest, most dedicated refuge staffs I've ever encountered. It will break my heart if this wonderful area is taken out of the Refuge System and reduced to serving the singular interests of only two Indian tribes – whatever they might choose those interests to mean, and whoever they might choose those interests to serve.

An author writing of natural area values in general recently said that what people come to love, they want protected. The American people love their National Park System, their National Forest System, and, yes, their National Wildlife Refuge System. The American public expects, and has a right to expect that their refuges will be protected within the Refuge System. If you doubt the veracity of that statement, then I suggest you place the question of whether any fully functioning unit of the Refuge System should be turned over to a non-Service entity before the American public.

I acknowledge that this letter is probably an exercise in futility...that the proposal to move the NBR out of the refuge system has likely moved far beyond your control...if you every had it. I'm convinced that if that transfer does occur, those who care about the future integrity of the Refuge System, and its history, will soon come to regret it.

Sincerely,

Joseph P. Mazzone, Sr.

Cc: Sally Jewell, Secretary of the Interior

Jim Kurth, Deputy Director

Noreen Walsh, Regional Director

Cynthia Martinez, Chief, NWRS

From: [Meeks, Will](#)
To: [Amy Thornburg](#)
Subject: Fwd: NBR Comms Materials
Date: Wednesday, March 09, 2016 8:08:15 AM

----- Forwarded message -----

From: **Will Meeks** <Will_Meeks@fws.gov>
Date: Mon, Feb 8, 2016 at 3:37 PM
Subject: RE: NBR Comms Materials
To: Maureen Gallagher <maureen_gallagher@fws.gov>

Yeah, I just forgot until now. I may have to figure out a good time for this.

Will Meeks

U.S. Fish and Wildlife Service

Mountain Prairie Region

Assistant Regional Director

National Wildlife Refuge System

303-236-4303 (w)

720-541-0310 (c)

From: Gallagher, Maureen [mailto:maureen_gallagher@fws.gov]
Sent: Monday, February 08, 2016 3:15 PM
To: Will Meeks
Subject: Re: NBR Comms Materials

sorry missed this one until now. Friday was a little crazy.

Maureen Gallagher

Deputy Assistant Regional Director

Refuges and Partners for Fish and Wildlife

Mountain Prairie Region

134 Union Blvd
Lakewood, CO
303/236/4304
303/236/4792 fax

On Thu, Feb 4, 2016 at 7:10 PM, Will Meeks <will_meeks@fws.gov> wrote:

See 2/8 call that I am supposed to host. When you visit with RMT, indicate to them to allow me to communicate this with refuge leadership in the region. Can you set up that call?
Thanks.

Will Meeks

U.S. Fish and Wildlife Service

Mountain-Prairie Region

Assistant Regional Director

National Wildlife Refuge System

303-236-4303 (w)

720-541-0310 (c)

Begin forwarded message:

From: "Munoz, Anna" <anna_munoz@fws.gov>
Date: February 4, 2016 at 4:19:39 PM MST
To: Noreen Walsh <noreen_walsh@fws.gov>, Matt Hogan <Matt_Hogan@fws.gov>, Will Meeks <will_meeks@fws.gov>, Maureen Gallagher <Maureen_gallagher@fws.gov>, Cynthia Martinez <cynthia_martinez@fws.gov>, Shaun Sanchez <shaun_sanchez@fws.gov>, Betsy Hildebrandt <Betsy_Hildebrandt@fws.gov>, Martin Kodis <Martin_Kodis@fws.gov>, Stephen Torbit <stephen_torbit@fws.gov>
Subject: NBR Comms Materials

Hi All,

Attached is the latest version of the comms materials for NBR. If you have any edits, comments, or questions, please let me know ASAP.

Thanks,

Anna

Anna Muñoz

Assistant Regional Director - External Affairs

U.S. Fish and Wildlife Service

134 Union Blvd.

Lakewood, CO 80228

Office: 303-236-4510

Cell: 720-648-2542

Fax: 303-236-3815

anna_munoz@fws.gov

--

Will Meeks

U.S. Fish and Wildlife Service

ARD - R6 NWRS and PFFW

w (303) 236-4303

c (720) 541-0310

From: [George Waters](mailto:George.Waters@fws.gov)
To: d.m.ashe@fws.gov; stephen.guertin@fws.gov; robert.dreher@fws.gov
Cc: cynthia.martinez@fws.gov; [Brian Upton](mailto:Brian.Upton@fws.gov); roslyn.sellars@fws.gov
Subject: meeting request
Date: Friday, March 11, 2016 11:11:45 AM

Director Ashe, Deputy Director Guertin, Associate Director Dreher – As you may know, I represent the Confederated Salish and Kootenai Tribes of the Flathead Reservation, here in DC. I am so sorry to have missed the meeting you all had with Tribal Chairman Vernon Finley and attorney Brian Upton on February 5 regarding the National Bison Range. Unfortunately, I was out of the country at the time. I understand it was a very positive meeting.

Dan Ashe directed us (CSKT) to follow up with Cynthia Martinez and Brian Upton has been in contact with her as well as with Hilary Thomkins, Barry Roth and others and we have met with members of the Montana Congressional delegation.

Next Thursday and Friday, March 17 and 18, a large delegation from the Tribal Council (6 members including the Chairman) are coming to Washington, DC to make the rounds on the Hill with staff of the MT delegation and staff to the committees of jurisdiction. We had also hoped to meet with Chief Martinez. As I understand it, she is at Midway Island in the Pacific this week and is attending a national conference next week. Her staff won't be able to speak with her until Monday but believe she is out of pocket on Thursday and unlikely to be available on Friday either. We do have a meeting at DOI next Friday at 10:00am. Might your schedules allow for a meeting after that? We could also meet later on Friday. We want to make sure we are coordinated at the policy level and our elected officials would very much like to meet you all. Thank you.

*George Waters, President
George Waters Consulting Service
505 Capitol Court, NE, Suite 200
Washington, DC 20002
(202) 544-3044
(202) 544-3044 Fax
(202) 316-7851 Cell*

From: [Dan Ashe](#)
To: [George Waters](#)
Cc: stephen_guertin@fws.gov; robert_dreher@fws.gov; cynthia_martinez@fws.gov; [Brian Upton](#); roslyn_sellars@fws.gov
Subject: Re: meeting request
Date: Friday, March 11, 2016 11:22:22 AM

Hello George. It is possible that I will be available to meet on Friday afternoon. I've copied Roslyn Sellars who can work with you to see what may be possible.

Thanks.

Dan.

Dan Ashe
Director, U.S. Fish and Wildlife Service

On Mar 11, 2016, at 11:11 AM, George Waters <george@georgewaters.com> wrote:

Director Ashe, Deputy Director Guertin, Associate Director Dreher – As you may know, I represent the Confederated Salish and Kootenai Tribes of the Flathead Reservation, here in DC. I am so sorry to have missed the meeting you all had with Tribal Chairman Vernon Finley and attorney Brian Upton on February 5 regarding the National Bison Range. Unfortunately, I was out of the country at the time. I understand it was a very positive meeting.

Dan Ashe directed us (CSKT) to follow up with Cynthia Martinez and Brian Upton has been in contact with her as well as with Hilary Thomkins, Barry Roth and others and we have met with members of the Montana Congressional delegation.

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*George Waters, President
George Waters Consulting Service
505 Capitol Court, NE, Suite 200
Washington, DC 20002*

(202) 544-3044
(202) 544-3044 Fax
(202) 316-7851 Cell

Conversation Contents

DCN: 062597 - National Bison Range Request for Technical Drafting Assistance

Attachments:

/28. DCN: 062597 - National Bison Range Request for Technical Drafting Assistance/1.1 BisonRange.draft.revised.02262016 - PRE-DECISIONAL DRAFT (1) (1).docx
/28. DCN: 062597 - National Bison Range Request for Technical Drafting Assistance/1.2 Note to Reviewers.doc

Betsy_Matten@fws.gov

From: Betsy_Matten@fws.gov
Sent: Mon Mar 14 2016 08:27:00 GMT-0600 (MDT)
To: Maureen_Gallagher@fws.gov, Mike_Blenden@fws.gov, Will_Meeks@fws.gov
Subject: DCN: 062597 - National Bison Range Request for Technical Drafting Assistance
Attachments: BisonRange.draft.revised.02262016 - PRE-DECISIONAL DRAFT (1) (1).docx Note to Reviewers.doc

Please review the Note to Reviewer and the document and then let me know if there are changes that need to be made or if I can surname this for Will.

Betsy

NOTE TO REVIEWERS

Senator Jon Tester Request for Technical Drafting Assistance National Bison Range

- Senator Jon Tester (D-MT) requested the Department provide technical drafting assistance for legislative language that would transfer the lands comprising the National Bison Range unit of the National Wildlife Refuge System to the Confederated Salish and Kootenai Tribes of the Flathead Reservation, to be held in trust by the Secretary of the Interior for the benefit of the Confederated Salish and Kootenai Tribes (CSKT).
- The language attached has been reviewed by the Solicitor's Office and would:
 - Transfer the lands from the Refuge System by the Secretary of the Interior to be held in trust for the benefit of the Tribes and shall be part of the Flathead Indian Reservation.
 - Transfer other property (buildings, structures, etc.)
 - Lays out management responsibilities to include: care and maintenance of bison, conservation of natural resources on the lands, and maintenance of a visitor's center for provide for public visitation and education.
- Please review and surname as soon as possible. The surname route is as follows:
 - R6 (16-Surname through DTS)
 - AEA-CLA (16-Surname through DTS)
 - ANRS (16-Surname through DTS)
 - AEA-DAEA (16-Surname through DTS)
 - AEA (16-Surname through DTS)
 - D (16-Surname through DTS)
 - FW (16-Surname through DTS)
 - CLA (2-Appropriate Action)
- Once the internal review process is complete, CLA will share the approved draft text with the Department's Office of Congressional and Legislative Affairs (OCL) to finish the review process through DOI, OMB, etc. OCL will then transmit the cleared language to Senator Tester's office.
- Any questions or concerns should be directed to Roya Mogadam in Congressional and Legislative Affairs at 703-358-2128.

Conversation Contents

Fwd: DTS 062597 NBR

"Matten, Betsy" <betsy_matten@fws.gov>

From: "Matten, Betsy" <betsy_matten@fws.gov>
Sent: Mon Mar 14 2016 09:46:12 GMT-0600 (MDT)
To: Maureen Gallagher <maureen_gallagher@fws.gov>, Will Meeks <will_meeks@fws.gov>, Mike Blenden <mike_blenden@fws.gov>
Subject: Fwd: DTS 062597 NBR

FYI on the National Bison Range Request for Technical Drafting Assistance I sent out this morning.....

----- Forwarded message -----

From: Kristine Martin <kristine_martin@fws.gov>
Date: Mon, Mar 14, 2016 at 9:33 AM
Subject: DTS 062597 NBR
To: Betsy Matten <betsy_matten@fws.gov>

Anna asked for Noreen to Surname via email, which she has done so nothing for NWRS to do. I've closed it for you.

Kristine Martin

Executive Assistant – Office of the Regional Director

U.S. Fish & Wildlife Service

Mountain Prairie Region

134 Union Blvd, Rm 400

Lakewood, CO 80228

303-236-7920 Office

303-236-8295 FAX

FWS-001919

Kristine_martin@fws.gov

--

Betsy M. Matten, Administrative Officer
U.S. Fish and Wildlife Service, Region 6
National Wildlife Refuge System
134 Union Blvd.
Lakewood, CO 80228
303-236-4307
Betsy_Matten@fws.gov

"Gallagher, Maureen" <maureen_gallagher@fws.gov>

From: "Gallagher, Maureen" <maureen_gallagher@fws.gov>
Sent: Tue Mar 15 2016 11:38:47 GMT-0600 (MDT)
To: "Matten, Betsy" <betsy_matten@fws.gov>
CC: Will Meeks <will_meeks@fws.gov>, Mike Blenden <mike_blenden@fws.gov>
Subject: Re: DTS 062597 NBR

If I understood Will correctly yesterday, Noreen has already commented which leaves us off the hook.

Maureen Gallagher
Deputy Assistant Regional Director
Refuges and Partners for Fish and Wildlife
Mountain Prairie Region
134 Union Blvd
Lakewood, CO
303/236/4304
303/236/4792 fax

On Mon, Mar 14, 2016 at 9:46 AM, Matten, Betsy <betsy_matten@fws.gov> wrote:
FYI on the National Bison Range Request for Technical Drafting Assistance I sent out this morning.....

----- Forwarded message -----

From: **Kristine Martin** <kristine_martin@fws.gov>
Date: Mon, Mar 14, 2016 at 9:33 AM

Subject: DTS 062597 NBR

To: Betsy Matten <betsy_matten@fws.gov>

Anna asked for Noreen to Surname via email, which she has done so nothing for NWRS to do. I've closed it for you.

Kristine Martin

Executive Assistant – Office of the Regional Director

U.S. Fish & Wildlife Service

Mountain Prairie Region

134 Union Blvd, Rm 400

Lakewood, CO 80228

303-236-7920 Office

303-236-8295 FAX

Kristine_martin@fws.gov

--

Betsy M. Matten, Administrative Officer

U.S. Fish and Wildlife Service, Region 6

National Wildlife Refuge System

134 Union Blvd.

Lakewood, CO 80228

303-236-4307

Betsy_Matten@fws.gov

"Matten, Betsy" <betsy_matten@fws.gov>

From: "Matten, Betsy" <betsy_matten@fws.gov>

FWS-001921

Sent: Tue Mar 15 2016 14:25:49 GMT-0600 (MDT)
To: "Gallagher, Maureen" <maureen_gallagher@fws.gov>
CC: Will Meeks <will_meeks@fws.gov>, Mike Blenden <mike_blenden@fws.gov>
Subject: Re: DTS 062597 NBR

Yes, Noreen surnamed the DTS and made these comments.....

(b) (5) DPP



So, Kris closed the DTS--nothing more for us to do.
Betsy

On Tue, Mar 15, 2016 at 11:38 AM, Gallagher, Maureen <maureen_gallagher@fws.gov> wrote:

If I understood Will correctly yesterday, Noreen has already commented which leaves us off the hook.

Maureen Gallagher
Deputy Assistant Regional Director
Refuges and Partners for Fish and Wildlife
Mountain Prairie Region
134 Union Blvd
Lakewood, CO
303/236/4304
303/236/4792 fax

On Mon, Mar 14, 2016 at 9:46 AM, Matten, Betsy <betsy_matten@fws.gov> wrote:
FYI on the National Bison Range Request for Technical Drafting Assistance I sent out this morning.....

----- Forwarded message -----

From: **Kristine Martin** <kristine_martin@fws.gov>
Date: Mon, Mar 14, 2016 at 9:33 AM
Subject: DTS 062597 NBR
To: Betsy Matten <betsy_matten@fws.gov>

Anna asked for Noreen to Surname via email, which she has done so nothing for NWRS to do. I've closed it for you.

Kristine Martin

FWS-001922

Executive Assistant – Office of the Regional Director

U.S. Fish & Wildlife Service

Mountain Prairie Region

134 Union Blvd, Rm 400

Lakewood, CO 80228

303-236-7920 Office

303-236-8295 FAX

Kristine_martin@fws.gov

--

Betsy M. Matten, Administrative Officer

U.S. Fish and Wildlife Service, Region 6

National Wildlife Refuge System

134 Union Blvd.

Lakewood, CO 80228

303-236-4307

Betsy_Matten@fws.gov

--

Betsy M. Matten, Administrative Officer

U.S. Fish and Wildlife Service, Region 6

National Wildlife Refuge System

134 Union Blvd.

Lakewood, CO 80228

303-236-4307

Betsy_Matten@fws.gov

United States Senate

WASHINGTON, DC 20510-7020

March 8, 2016

Mr. Dan Ashe
Director
United States Fish and Wildlife Service
1849 C Street NW, Room 3331
Washington, DC 20240-0001

Dear Director Ashe:

Enclosed is a letter I have received from Marvin L. Plenert, former Regional Director of the Pacific Northwest Region for the Fish and Wildlife Service.

I would appreciate your reviewing this situation and providing answers to Mr. Plenert's concerns. Please send your reply directly to Mr. Plenert, and send a copy of your response to me.

Thank you for your cooperation and assistance.

My best wishes to you.

Sincerely,

A handwritten signature in black ink that reads "Harry Reid". The signature is written in a cursive, flowing style.

HARRY REID
United States Senator

March 1, 2016

Honorable Harry Reid

United States Senate
Washington, D C 20510
Dear Senator Reid;

I am writing to urge you to do everything within your power to prevent the Fish and Wildlife Service (FWS) from achieving an ill-conceived proposal to abandon its inherent responsibilities and objectives to the American People. The proposal I'm referring to, is a recently released document by the FWS, offering support for legislation to remove the 108 year old crown jewel refuge, the National Bison Range (NBR) in Montana from the National Wildlife Refuge System (NWRS) and place it "in trust" as an Indian Reserve. A copy of the announcement from the Mountain-Prairie States Regional Director Noreen Walsh is attached # (1).

By this proposed action there is no doubt that the FWS leadership in both Washington D C and Denver Colorado are shirking their inherent Federal responsibilities, thereby putting the entire NWRS under siege and in jeopardy. The passage of the National Wildlife Refuge System Administrative Act (NWRSA) in 1966 and subsequent amendments by Congress provided the authority, guidelines and directions for the FWS to administer a network of lands and waters as a cohesive system. Congress also made it very clear that there should never be any attempt to establish a second refuge system by delegating its authorities or transferring units or responsibilities to any other entity.

The proposal to transfer the NBR out of the NWRS has exposed the lack of integrity and dishonesty of FWS Director Dan Ashe and disputes his earlier assurances as noted in the attached # (2) September 16, 2011 letter to former Assistant Secretary of the Interior Nathaniel Reed, in which Director Ashe states the Service will not "turn over" management of the NBR or any other refuge to the Confederated Salish-Kootenai Tribes (CSKT) or any other non-service entity. Under any future annual funding agreement (AFA), the NBR will remain a unit of the NWRS, managed by the Service under direct guidance of the Service on-site refuge manager. No inherently Federal functions will be contracted to the CSKT. Ashe also stated that before a new AFA is signed and reported to Congress that an environmental assessment (EA) laying out alternatives will be prepared in order to seek public review and comment on the draft document. The FWS did keep their word and an EA was released for review in September, 2014, marking the first time the public was given an opportunity to review and comment on the negotiated agreement with the CSKT. Despite Director Ashe's assurances reviewers of the latest negotiated AFA discovered it laden with inherent

Federal functions. Apparently the comments received by the FWS did not support their proposed alternative of ceding management to the CSKT. The entire process has been pigeonholed, with no follow up to those who commented on the EA, and hence 17 months later the transfer was proposed.

The FWS efforts to acquiesce to the CSKT's request for an AFA that would turn over management of the NBR to them has failed over a period now approaching 20 years at tremendous cost to the FWS and tax payers, as well as the enormous adverse impacts on dedicated professional refuge staff members. The primary reason for failure is that the CSKT has made no secret of their intentions and demands to take over complete control and full ownership of the NBR land. See attached CSKT mission statement # (3).

The impasse has apparently led to the current FWS proposed transfer of the NBR. It must also be noted that all negotiations and discussions on AFA's by the FWS and CSKT over the fate of the NBR have been conducted in secrecy behind closed doors, with not one iota of public input or involvement. If the American Public or true owners of the NWRS had been involved, the failed AFA attempts could have been avoided, as well as the lawsuits that were filed and lost by the FWS because of failure to follow or comply with legal mandates.

The NBR a hallmark refuge was established by President Theodore Roosevelt at the express order of congress. The legislation required the U S Government to purchase a reserve within the Flathead Indian Reservation with Federal monies at an appraised market value for the express purpose of preserving the nearly extinct population of American bison. In 1971 the initial payment to the Tribes was brought before the Indian claims court. That tribunal made a final judgement requiring the Government to make an additional payment of around \$23 million for the land again. Certainly the public has paid for the acquisition of the NBR and for 108 years invested heavily in its infrastructure of roads, fences, corrals and buildings, including office-visitor center. Today the NBR draws over 220,000 visitors each year to view wildlife in natural settings. The economic effects of its presence and the recreation brought over \$975,000 in local expenditures and more then \$19,100.00 in non-resident spending in 2011. The economic effect of the NBR was calculated to be \$13.89 for every dollar of budget expenditure by the NBR.

During my 32 years as a FWS employee and another 22 years in retirement I have personally been involved with the management, protection and enhancement of the NWRS, and worked diligently to ensure a strong and vital conservation system for all to enjoy, I therefore, strongly oppose this dangerous precedent setting action by the FWS, which is apparently being done to resolve the dilemma presented by intransigent positions of the FWS and CSKT. The NWRS today consists of nearly 600 units and totals more then 150 million acres, and represents the worlds largest most diverse collection of public lands set aside specifically for the conservation of fish, wildlife and plants, all managed by the FWS as a cohesive unit.

Senator, The refuge system needs your help and that of your colleagues to emphatically refuse to support any proposed legislation that would transfer the NBR or any other unit of the NWRS to the CSKT or any other non-service entity. This iconic 108 year old refuge or any other refuge should never be bargained away to appease the political or self-serving economic interests of non-service entities. Our collective efforts should be spent to preserve the integrity of the NWRS for all Americans from current and future threats.

With your help this ridiculous proposal can be put to bed. Thank you for your consideration on this request, and I look forward to hearing from you.

Sincerely,

Marvin L Plenert

b(6)

Phone b(6)

Email b(6)



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington, D.C. 20240



SEP 16 2011

In Reply Refer To:
FWS/D/ 049519

Mr. Nathaniel P. Reed
P.O. Box 1213
Hobe Sound, Florida 33475

Nat

Dear Mr. Reed:

Thank you for our conversation today and your support and your interest in the National Bison Range (NBR). The U. S. Fish and Wildlife Service (Service) is currently negotiating with the Confederated Salish and Kootenai Tribes (CSKT) for a new Annual Funding Agreement (AFA) to involve the CSKT in the operations and maintenance of the National Bison Range and other units of the NBR Complex that lie within the Flathead Reservation. Before a new AFA is signed and reported to Congress, the Service will prepare an Environmental Assessment, and will seek public review and comment on the draft document.

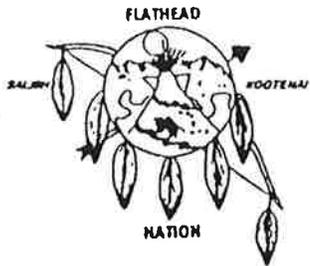
The Service cannot and will not "turn over" management of NBR or any other Refuge to the CSKT or any other non-Service entity. Under any future AFA, NBR will remain a unit of the National Wildlife Refuge System, managed by the Service under direct guidance of the Service's on-site Refuge Manager. No inherently federal functions will be contracted to the CSKT. The CSKT has extremely strong cultural, historic, and geographic ties to the NBR and the NBR bison herd, and will work with us through its highly professional Natural Resources Department. Any future AFA will uphold both the letter and spirit of both the Refuge Administration Act, as amended, and the Tribal Self-Governance Act. These laws are not mutually exclusive. We are confident that a strong partnership, with Service and CSKT employees working together, under direction of the Refuge Manager, is the best way to continue managing the NBR to achieve the Refuge's purposes and the mission of the National Wildlife Refuge System.

Thanks again for your time today and continued interest in this issue. If you have any questions, please call me at 202-208-4545.

Sincerely,

Daniel M. Ashe
Director

THE CONFEDERATED SALISH AND
KOOTENAI TRIBES,
THE SOVEREIGN PEOPLE OF THE
FLATHEAD INDIAN RESERVATION



VISION

The traditional principles and values that served our people in the past are imbedded in the many ways we serve and invest in our people and communities, in the ways we have regained and restored our homelands and natural resources, in the ways we have built a self-sufficient society and economy, in the ways we govern our Reservation and represent ourselves to the rest of the world and in the ways we continue to preserve our right to determine our own destiny.

MISSION

Our mission is to adopt traditional principles and values into all facets of tribal operations and service. We will invest in our people in a manner that ensures our ability to become a completely self-sufficient society and economy. We will strive to regain ownership and control of all lands within our reservation boundaries. And we will provide ^{FWS-001422} sound

enhance natural resources and ecosystems.

Developed by Strategic Planning Committee, March 1996

Adopted by Tribal Council, May 1996

Fwd: Discussion with the CSKT about the National Bison Range
Wednesday, March 2, 2016 5:56 PM Mark as Unread

From: "Marvin Plenert" <b(6)>
To: b(6)

--- On Fri, 2/5/16, Bill West <b(6)> wrote:

> From: Bill West <b(6)>
> Subject: Fwd: Discussion with the CSKT about the National Bison Range
> To: "Bill West" <b(6)>
> Date: Friday, February 5, 2016, 5:46 PM
> FYI New
> direction-----
> Forwarded message -----
> From: Noreen
> Walsh <noreen_walsh@fws.gov>
> Date: Fri, Feb 5, 2016 at 4:12 PM
> Subject: Discussion with the CSKT about the National Bison
> Range
> To:
>
> Dear
> Mountain-Prairie Region, I want to inform
> you of a discussion the Service started today with the
> Confederated Salish and Kootenai Tribes (CSKT) regarding the
> National Bison Range. Many of you know that we have been
> working with the CSKT for about 20 years on the idea of a
> partnership at the National Bison Range that would be
> outlined in an Annual Funding Agreement which would allow
> them to manage and implement some of the activities on the
> refuge. This process has required much time and effort on
> the part of many, and despite valiant efforts all around,
> the parties have been unable to come to terms on a
> mutually-acceptable agreement. In an effort to
> achieve the best, long-term solution for our many
> conservation priorities, the specific conservation goals of
> the National Bison Range, and to support the principles of
> Indian self-determination there was a discussion today with
> the CSKT about the potential for the Service to support
> legislation that would transfer the lands comprising the
> National Bison Range to be held in trust by the United
> States for the CSKT. I wanted you all
> to know why we entered into these discussions. The
> National Bison Range was established in 1908 within the
> boundaries of the Flathead Reservation, home of the CSKT,
> for the express purpose of conserving the American bison
> during a time when the species was on the verge of

> extinction. Since then, the Service as well as our
> federal, state, and tribal partners have made great strides
> in conserving bison and re-establishing herds throughout
> their historic range. Also, while we have desired a
> meaningful partnership with CSKT at the National Bison
> Range, a mutually-acceptable agreement has been elusive.
> Given that we are today in a much better place regarding the
> future of bison, that we have much work to do on
> landscape-scale conservation efforts, and that we want to
> strengthen our partnership with the CSKT, we believe that
> now is the right time to investigate the possibility of
> transferring the refuge, which was long ago carved out of
> tribal lands, into trust for the benefit of the CSKT.
> Such a proposal
> would require Congressional approval and therefore, at this
> point, we don't know if or when such a transfer would
> occur. Today was our first discussion with the CSKT about
> the idea. As we go forward, my pledge is to ensure that
> wherever the discussion leads us, the talented and
> committed staff of the National Bison Range are taken care
> of. To this end, Will Meeks, Mike Blenden, and I spent the
> afternoon at the Refuge where we talked about the ideas
> under discussion. In our conversations, I emphasized that
> they will all remain valued employees of the Service,
> regardless of the outcome of these discussions.
> I know that many
> of you will have thoughts and questions about this idea.
> This was not an easy decision to come by, nor one that was
> taken lightly, but in the end, I believe that this is a good
> path for the Service, the CSKT, and for the conservation of
> our fish and wildlife resources. As always, I value
> your feedback and questions. Noreen
>
> Noreen WalshRegional
> DirectorMountain-Prairie RegionU. S.
> Fish and Wildlife
> Service
>
>
>
>

From: [Munoz, Anna](#)
To: [Noreen Walsh](#); [Matt Hogan](#)
Cc: [Will Meeks](#)
Subject: Fwd: DCN: 062622 - Former RD has asked Congressional help in stopping the Service transferring National Bison range to CKST
Date: Wednesday, March 16, 2016 10:21:41 AM
Attachments: [20160316190230.pdf](#)

FYI - Not sure if Cynthia or Jim have seen this letter given that they are at the North American but I wanted you to be aware of it in the event that it comes up.

Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

----- Forwarded message -----

From: <denise_sanchez@fws.gov>
Date: Wed, Mar 16, 2016 at 10:13 AM
Subject: DCN: 062622 - Former RD has asked Congressional help in stopping the Service transferring National Bison range to CKST
To: anna_munoz@fws.gov

Note: Former Regional Director has written to his Senator asking for congressional intervention on the National Bison Range. Charisa has assigned to HQ ANRS and sent an FYI copy to Noreen and Matt in R6 and and looped in AEA-CLA .

From: [Blenden, Mike](#)
To: [Jeff King](#)
Subject: Lake County questions
Date: Thursday, March 17, 2016 9:43:30 AM
Attachments: [Lake County letter draft.docx](#)
[lake county inquiries 20160317090409.pdf](#)

Hi Jeff,

Attached are three recent letters from Lake County asking about refuge lands within the county after the February meeting with CSKT and Service Director about NBR transfer to CSKT. They came hear so I took a stab at preparing a response but wanted you to see it and add anything you think is needed and check for accuracy. See that attached draft.

Please take a look and give me any suggestions by next Wednesday, March 23 if possible.

Thanks for your help.

Mike

--

Michael Blenden
Refuge Supervisor - Montana, Wyoming and Utah
134 Union Boulevard
Lakewood, CO 80228
303-236-4306
303-710-7934 cell

Too often we...enjoy the comfort of opinion without the discomfort of thought.
John F. Kennedy

OFFICE OF THE LAKE COUNTY ATTORNEY

LAKE COUNTY COURTHOUSE

106 Fourth Avenue East
Polson, Montana 59860-2183
Phone (406) 883-7245
Fax (800) 878-9735

STEVEN N. ESCHENBACHER
COUNTY ATTORNEY

CIVIL DEPUTY COUNTY ATTORNEY
WALTER E. CONGDON

CHIEF CRIMINAL DEPUTY COUNTY ATTORNEY
JAMES LAPOTKA

DEPUTY COUNTY ATTORNEY
BENJAMIN R. ANCIAUX
MOLLY OWEN

March 9, 2016

U.S. Fish & Wildlife Service
Mountain-Prairie Region Office
134 Union Blvd
Lakewood, CO 80228

National Bison Range
58355 Bison Range Rd
Charlo, MT 59824

SUBJECT: REFUGES IN LAKE COUNTY MONTANA

Ladies & Gentlemen:

We recently inquired about the status and process regarding the National Bison Range property. We understand that Ninepipes Refuge is managed by that facility.

Concurrently, please advise us as to the management of the other two Refuges in Lake County, Pablo and Swan, and their long term management and operation. We need a copy of the plan for their operation or future in light of the Bison Range discussion.

It would be helpful to understand if those facilities operate independent of the Bison Range facility, or if they are dependant.

We look to cooperating with your agency in making or revising your plan and EIS for these facilities. We will help review your plan in respect to Lake County's growth policy consistency, and recreation opportunities and wildlife habitat in this area.

Very truly yours,



Walter E. Congdon
Civil Deputy Lake County Attorney

cc: Lake County Commissioners
bcc

OFFICE OF THE LAKE COUNTY ATTORNEY

LAKE COUNTY COURTHOUSE

106 Fourth Avenue East
Polson, Montana 59860-2183
Phone (406) 883-7245
Fax (800) 878-9735

STEVEN N. ESCHENBACHER
COUNTY ATTORNEY

CIVIL DEPUTY COUNTY ATTORNEY
WALTER E. CONGDON

CHIEF C

ORNEY



Feb. 22, 2016

U.S. Fish & Wildlife Service
Mountain-Prairie Region Office
134 Union Blvd
Lakewood, CO 80228

**SUBJECT: NATIONAL BISON RANGE RECORD OF DECISION (ROD)
PROTEST OF DECISION**

Dear Sir or Madam:

The Dept. of Interior, U.S. Fish and Wildlife service indicated in early February, 2016 that a transfer of the National Bison Range to the Confederated Salish and Kootenai Tribes was a plan or proposal that U.S.F.W.S. was submitting to the local Tribal government for consideration.

Lake County received no notice of this action until the press release and also has had no opportunity to comment upon this action. To our knowledge no consistency review of this action or plan has occurred regarding local land use plans. This protest is based upon 42 USC 4332 which provides for creation of a NEPA document on proposals for actions significantly affecting the quality of the human environment, and consideration of alternatives.

We are also concerned that a Record of Decision may have been entered without considering the inventory and planning requirements of 43 USC 1701 and 1712. These concerns include recreational opportunity, socio-economic impacts, tax base, wildlife, environment, and mitigation options.

If a R.O.D. or NEPA process has not been completed or commenced, consider this letter our request for copies of the work done thus far and a statement of our desire to cooperate in completing consideration of various options for this facility. We desire to fully explore alternatives and mitigation activities.

Very truly yours,



Walter E. Congdon
Civil Deputy Lake County Attorney

cc: Lake County Commissioners
Sanders County Commissioners

OFFICE OF THE LAKE COUNTY ATTORNEY

LAKE COUNTY COURTHOUSE

106 Fourth Avenue East
Polson, Montana 59860-2183
Phone (406) 883-7245
Fax (800) 878-9735

STEVEN N. ESCHENBACHER
COUNTY ATTORNEY

CIVIL DEPUTY COUNTY ATTORNEY
WALTER E. CONGDON

CHIEF CRIMINAL DEPUTY COUNTY ATTORNEY
JAMES LAPOTKA

DEPUTY COUNTY ATTORNEY
BENJAMIN R. ANCIAUX
MOLLY OWEN

Feb. 16, 2016

U.S. Fish & Wildlife Service
Mountain-Prairie Region Office
134 Union Blvd
Lakewood, CO 80228

**SUBJECT: ENVIRONMENTAL ASSESSMENT REPORT – NATIONAL BISON RANGE
– MONTANA**

The United States Fish & Wildlife Service recently broached the subject of a transfer of the National Bison Range to the Confederated Salish and Kootenai Tribes Tribal government in Montana. This was determined by visits and e-mails on Feb. 5, 2016, published in the Missoulian newspaper February 14, 2016.

Please provide Lake County with a copy of the Environmental Assessment Report ordered by the Federal Court about three years ago, and copies of the notices sent to local government units regarding participation in the same, and any subsequent Environmental Assessment Report.

Very truly yours,



Walter E. Congdon
Civil Deputy Lake County Attorney

cc: Commissioners
Sanders County Attorney

bcc

From: [Morris, Charisa](#)
To: [Dan Ashe](#); [Stephen Guertin](#); [Jim Kurth](#)
Subject: Fwd: DCN: 062622 - Former RD has asked Congressional help in stopping the Service transferring National Bison range to CKST
Date: Thursday, March 17, 2016 3:39:03 PM
Attachments: [20160316190230.pdf](#)

FYI

----- Forwarded message -----

From: <Nikki_Randolph@fws.gov>
Date: Wed, Mar 16, 2016 at 10:59 AM
Subject: DCN: 062622 - Former RD has asked Congressional help in stopping the Service transferring National Bison range to CKST
To: charisa_morris@fws.gov

Former Regional Director has written to his Senator asking for congressional intervention on the National Bison Range. I have assigned yo HQ ANRS and sent an FYI copy to Noreen and Matt in R6 and and looped in AEA-CLA .

--

Charisa_Morris@fws.gov | Chief of Staff, Office of the Director | U.S. Fish & Wildlife Service | 1849 C Street NW, Room 3348 | Washington, DC 20240 | (202) 208-3843 | For urgent matters, please dial cell: 301-875-8937

United States Senate

WASHINGTON, DC 20510-7020

March 8, 2016

Mr. Dan Ashe
Director
United States Fish and Wildlife Service
1849 C Street NW, Room 3331
Washington, DC 20240-0001

Dear Director Ashe:

Enclosed is a letter I have received from Marvin L. Plenert, former Regional Director of the Pacific Northwest Region for the Fish and Wildlife Service.

I would appreciate your reviewing this situation and providing answers to Mr. Plenert's concerns. Please send your reply directly to Mr. Plenert, and send a copy of your response to me.

Thank you for your cooperation and assistance.

My best wishes to you.

Sincerely,

A handwritten signature in black ink that reads "Harry Reid". The signature is written in a cursive, flowing style.

HARRY REID
United States Senator

March 1, 2016

Honorable Harry Reid

United States Senate
Washington, D C 20510
Dear Senator Reid;

I am writing to urge you to do everything within your power to prevent the Fish and Wildlife Service (FWS) from achieving an ill-conceived proposal to abandon its inherent responsibilities and objectives to the American People. The proposal I'm referring to, is a recently released document by the FWS, offering support for legislation to remove the 108 year old crown jewel refuge, the National Bison Range (NBR) in Montana from the National Wildlife Refuge System (NWRS) and place it "in trust" as an Indian Reserve. A copy of the announcement from the Mountain-Prairie States Regional Director Noreen Walsh is attached # (1).

By this proposed action there is no doubt that the FWS leadership in both Washington D C and Denver Colorado are shirking their inherent Federal responsibilities, thereby putting the entire NWRS under siege and in jeopardy. The passage of the National Wildlife Refuge System Administrative Act (NWRSA) in 1966 and subsequent amendments by Congress provided the authority, guidelines and directions for the FWS to administer a network of lands and waters as a cohesive system. Congress also made it very clear that there should never be any attempt to establish a second refuge system by delegating its authorities or transferring units or responsibilities to any other entity.

The proposal to transfer the NBR out of the NWRS has exposed the lack of integrity and dishonesty of FWS Director Dan Ashe and disputes his earlier assurances as noted in the attached # (2) September 16, 2011 letter to former Assistant Secretary of the Interior Nathaniel Reed, in which Director Ashe states the Service will not "turn over" management of the NBR or any other refuge to the Confederated Salish-Kootenai Tribes (CSKT) or any other non-service entity. Under any future annual funding agreement (AFA), the NBR will remain a unit of the NWRS, managed by the Service under direct guidance of the Service on-site refuge manager. No inherently Federal functions will be contracted to the CSKT. Ashe also stated that before a new AFA is signed and reported to Congress that an environmental assessment (EA) laying out alternatives will be prepared in order to seek public review and comment on the draft document. The FWS did keep their word and an EA was released for review in September, 2014, marking the first time the public was given an opportunity to review and comment on the negotiated agreement with the CSKT. Despite Director Ashe's assurances reviewers of the latest negotiated AFA discovered it laden with inherent

Federal functions. Apparently the comments received by the FWS did not support their proposed alternative of ceding management to the CSKT. The entire process has been pigeonholed, with no follow up to those who commented on the EA, and hence 17 months later the transfer was proposed.

The FWS efforts to acquiesce to the CSKT's request for an AFA that would turn over management of the NBR to them has failed over a period now approaching 20 years at tremendous cost to the FWS and tax payers, as well as the enormous adverse impacts on dedicated professional refuge staff members. The primary reason for failure is that the CSKT has made no secret of their intentions and demands to take over complete control and full ownership of the NBR land. See attached CSKT mission statement # (3).

The impasse has apparently led to the current FWS proposed transfer of the NBR. It must also be noted that all negotiations and discussions on AFA's by the FWS and CSKT over the fate of the NBR have been conducted in secrecy behind closed doors, with not one iota of public input or involvement. If the American Public or true owners of the NWRS had been involved, the failed AFA attempts could have been avoided, as well as the lawsuits that were filed and lost by the FWS because of failure to follow or comply with legal mandates.

The NBR a hallmark refuge was established by President Theodore Roosevelt at the express order of congress. The legislation required the U S Government to purchase a reserve within the Flathead Indian Reservation with Federal monies at an appraised market value for the express purpose of preserving the nearly extinct population of American bison. In 1971 the initial payment to the Tribes was brought before the Indian claims court. That tribunal made a final judgement requiring the Government to make an additional payment of around \$23 million for the land again. Certainly the public has paid for the acquisition of the NBR and for 108 years invested heavily in its infrastructure of roads, fences, corrals and buildings, including office-visitor center. Today the NBR draws over 220,000 visitors each year to view wildlife in natural settings. The economic effects of its presence and the recreation brought over \$975,000 in local expenditures and more then \$19,100.00 in non-resident spending in 2011. The economic effect of the NBR was calculated to be \$13.89 for every dollar of budget expenditure by the NBR.

During my 32 years as a FWS employee and another 22 years in retirement I have personally been involved with the management, protection and enhancement of the NWRS, and worked diligently to ensure a strong and vital conservation system for all to enjoy, I therefore, strongly oppose this dangerous precedent setting action by the FWS, which is apparently being done to resolve the dilemma presented by intransigent positions of the FWS and CSKT. The NWRS today consists of nearly 600 units and totals more then 150 million acres, and represents the worlds largest most diverse collection of public lands set aside specifically for the conservation of fish, wildlife and plants, all managed by the FWS as a cohesive unit.

Senator, The refuge system needs your help and that of your colleagues to emphatically refuse to support any proposed legislation that would transfer the NBR or any other unit of the NWRS to the CSKT or any other non-service entity. This iconic 108 year old refuge or any other refuge should never be bargained away to appease the political or self-serving economic interests of non-service entities. Our collective efforts should be spent to preserve the integrity of the NWRS for all Americans from current and future threats.

With your help this ridiculous proposal can be put to bed. Thank you for your consideration on this request, and I look forward to hearing from you.

Sincerely,

Marvin L Plenert

b(6)

Phone b(6)

Email b(6)



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington, D.C. 20240



SEP 16 2011

In Reply Refer To:
FWS/D/ 049519

Mr. Nathaniel P. Reed
P.O. Box 1213
Hobe Sound, Florida 33475

Nat

Dear Mr. Reed:

Thank you for our conversation today and your support and your interest in the National Bison Range (NBR). The U. S. Fish and Wildlife Service (Service) is currently negotiating with the Confederated Salish and Kootenai Tribes (CSKT) for a new Annual Funding Agreement (AFA) to involve the CSKT in the operations and maintenance of the National Bison Range and other units of the NBR Complex that lie within the Flathead Reservation. Before a new AFA is signed and reported to Congress, the Service will prepare an Environmental Assessment, and will seek public review and comment on the draft document.

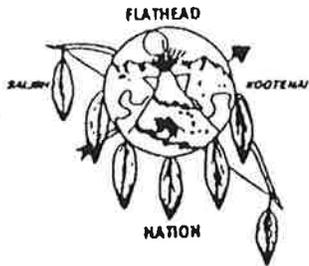
The Service cannot and will not "turn over" management of NBR or any other Refuge to the CSKT or any other non-Service entity. Under any future AFA, NBR will remain a unit of the National Wildlife Refuge System, managed by the Service under direct guidance of the Service's on-site Refuge Manager. No inherently federal functions will be contracted to the CSKT. The CSKT has extremely strong cultural, historic, and geographic ties to the NBR and the NBR bison herd, and will work with us through its highly professional Natural Resources Department. Any future AFA will uphold both the letter and spirit of both the Refuge Administration Act, as amended, and the Tribal Self-Governance Act. These laws are not mutually exclusive. We are confident that a strong partnership, with Service and CSKT employees working together, under direction of the Refuge Manager, is the best way to continue managing the NBR to achieve the Refuge's purposes and the mission of the National Wildlife Refuge System.

Thanks again for your time today and continued interest in this issue. If you have any questions, please call me at 202-208-4545.

Sincerely,

Daniel M. Ashe
Director

THE CONFEDERATED SALISH AND
KOOTENAI TRIBES,
THE SOVEREIGN PEOPLE OF THE
FLATHEAD INDIAN RESERVATION



VISION

The traditional principles and values that served our people in the past are imbedded in the many ways we serve and invest in our people and communities, in the ways we have regained and restored our homelands and natural resources, in the ways we have built a self-sufficient society and economy, in the ways we govern our Reservation and represent ourselves to the rest of the world and in the ways we continue to preserve our right to determine our own destiny.

MISSION

Our mission is to adopt traditional principles and values into all facets of tribal operations and service. We will invest in our people in a manner that ensures our ability to become a completely self-sufficient society and economy. We will strive to regain ownership and control of all lands within our reservation boundaries. And we will provide ^{FWS-001433} sound

enhance natural resources and ecosystems.

Developed by Strategic Planning Committee, March 1996

Adopted by Tribal Council, May 1996

Fwd: Discussion with the CSKT about the National Bison Range
Wednesday, March 2, 2016 5:56 PM Mark as Unread

From: "Marvin Plenert" <b(6)>
To: b(6)

--- On Fri, 2/5/16, Bill West <b(6)> wrote:

> From: Bill West <b(6)>
> Subject: Fwd: Discussion with the CSKT about the National Bison Range
> To: "Bill West" <b(6)>
> Date: Friday, February 5, 2016, 5:46 PM
> FYI New
> direction-----
> Forwarded message -----
> From: Noreen
> Walsh <noreen_walsh@fws.gov>
> Date: Fri, Feb 5, 2016 at 4:12 PM
> Subject: Discussion with the CSKT about the National Bison
> Range
> To:
>
> Dear
> Mountain-Prairie Region, I want to inform
> you of a discussion the Service started today with the
> Confederated Salish and Kootenai Tribes (CSKT) regarding the
> National Bison Range. Many of you know that we have been
> working with the CSKT for about 20 years on the idea of a
> partnership at the National Bison Range that would be
> outlined in an Annual Funding Agreement which would allow
> them to manage and implement some of the activities on the
> refuge. This process has required much time and effort on
> the part of many, and despite valiant efforts all around,
> the parties have been unable to come to terms on a
> mutually-acceptable agreement. In an effort to
> achieve the best, long-term solution for our many
> conservation priorities, the specific conservation goals of
> the National Bison Range, and to support the principles of
> Indian self-determination there was a discussion today with
> the CSKT about the potential for the Service to support
> legislation that would transfer the lands comprising the
> National Bison Range to be held in trust by the United
> States for the CSKT. I wanted you all
> to know why we entered into these discussions. The
> National Bison Range was established in 1908 within the
> boundaries of the Flathead Reservation, home of the CSKT,
> for the express purpose of conserving the American bison
> during a time when the species was on the verge of

> extinction. Since then, the Service as well as our
> federal, state, and tribal partners have made great strides
> in conserving bison and re-establishing herds throughout
> their historic range. Also, while we have desired a
> meaningful partnership with CSKT at the National Bison
> Range, a mutually-acceptable agreement has been elusive.
> Given that we are today in a much better place regarding the
> future of bison, that we have much work to do on
> landscape-scale conservation efforts, and that we want to
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> transferring the refuge, which was long ago carved out of
> tribal lands, into trust for the benefit of the CSKT.
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> would require Congressional approval and therefore, at this
> point, we don't know if or when such a transfer would
> occur. Today was our first discussion with the CSKT about
> the idea. As we go forward, my pledge is to ensure that
> wherever the discussion leads us, the talented and
> committed staff of the National Bison Range are taken care
> of. To this end, Will Meeks, Mike Blenden, and I spent the
> afternoon at the Refuge where we talked about the ideas
> under discussion. In our conversations, I emphasized that
> they will all remain valued employees of the Service,
> regardless of the outcome of these discussions.
> I know that many
> of you will have thoughts and questions about this idea.
> This was not an easy decision to come by, nor one that was
> taken lightly, but in the end, I believe that this is a good
> path for the Service, the CSKT, and for the conservation of
> our fish and wildlife resources. As always, I value
> your feedback and questions. Noreen
>
> Noreen WalshRegional
> DirectorMountain-Prairie RegionU. S.
> Fish and Wildlife
> Service
>
>
>
>

From: [Ralph](#)
To: jim_kurth@fws.gov
Cc: cynthia_martinez@fws.gov; noreen_walsh@fws.gov
Subject: Fwd: NBR Issue: Meet the NWR System
Date: Sunday, March 20, 2016 12:51:11 PM

Jim,

It has been a long time. I believe our last meeting was on an eve just prior to going out on an excursion to Wapato Lake. That was a very good day! Note that I'm forwarding you a letter sent to Dan yesterday covering the National Bison Range issue. Refuge Chief Martinez and Regional Director Walsh have been cc on it as well. Please don't take the letter personally as it is very difficult for me to be at odds with leadership of an organization that over the years has defined the principles of resource stewardship and set the standard of excellence for others to follow. As important as the Service has been to me, I must confess that the National Wildlife Refuge System is my first love and will always be first and foremost in my heart. That being said, I and many other former colleagues feel the Refuge System is currently being threatened and is in need of support and protection. It is with that thought in mind that we must respectfully challenge the decisions being made by this current Directorate.

Please contact me if you would like to discuss the matter further.

Take Care,

Ralph

Begin forwarded message:

From: Ralph <ralphwebber@frontier.com>
Date: March 19, 2016 3:26:10 PM MDT
To: Ralph Webber <ralphwebber@frontier.com>
Subject: NBR Issue: Meet the NWR System

Director Ashe,

It has been several years now but you and I met either in Portland, at NCTC, or at Tualatin River National Wildlife Refuge, a station that I directed during its stages of development and one where I oversaw its management for 16 years as the Refuge Manager. Our meeting is foggy to me so I certainly don't expect you to remember the time or place of our meeting either, but I do recall it was prior to you becoming Director of the Service. That said, I assume it is okay to refer to you as Dan instead of Director Ashe? Dan, it was a difficult decision, but after 35 years of being an employee of the Service and managing stations of the Refuge System I found it time to hand over the reins and move to northwest Montana, not far from the National Bison Range. Be rest assured that my fire and passion for the National Wildlife Refuge System has not strayed and has stayed the course into retirement. This brings us to the primary purpose and reason for contacting you, that being the seeking of sponsorship legislation to transfer all lands and management of the National Bison Range to the Confederated Salish and Kootenai Tribes.

Over the last several weeks I've been in close contact with many former colleagues and friends to discuss and take action on the Bison Range issue. We are all deeply troubled and concerned, and quite frankly, finding it difficult to follow the thinking behind your leadership decisions and those of the directorate. How can a Director of the Service send a letter to Assistant Secretary Reed in 2011 stating that management of the Bison Range or any other refuge will not be turned over to the Tribes or any other non-Service entity, and 5 years later, seek congressional sponsorship for its removal from the System? How can the Service not prepare a Comprehensive Conservation Plan for the Bison Range with full public scoping and participation as mandated under the Refuge Improvement Act and the National Environmental Policy Act? As one of the alternatives, the significance of a transfer action alone would most certainly require a full blown Environment Impact Statement. Finally, how can the Service release a publication almost one year to the day that features its front and back covers with the National Bison Range as an iconic flagship of the Refuge System and historic symbol of the west, and one year later propose its removal from the Refuge System? Dan, take note of the final passage of that publication which states, "Providing a healthy and complete National Wildlife Refuge System, as envisioned by past generations of conservationists, would stand as a treasured testament to the nation's ability to pass on a lasting natural legacy to future generations." I think you will agree that the key words to this statement are "healthy and complete".

We are all aware of the failures encompassing the nearly 20 years of effort to partner with the Tribes under a functioning Annual Funding Agreement, but the surgical removal of a refuge unit of the System will do nothing more than instigate fragmentation, and thereby threaten the very integrity of that System. The seriousness of this entire matter is underscored by the fact that it will set precedent with profound implications to all of our federal Refuges and National Parks. To put it bluntly, what is being proposed is simply unethical and is not in the best interest of our nation. Please spare me the arguments that have been used for the Bison Range transfer as they insult the intelligence of current and former employees of the Service, especially those that are most knowledgeable with the Refuge System.

I want you to know that I have the utmost respect for the men and woman who serve the fish and wildlife resources under the emblem of the greatest conservation agency in the world, that being the Fish and Wildlife Service. That is why I ask that you help me understand your leadership thinking on this issue. I can only hope you have some silver bullet strategy up your sleeve to keep the System whole and are not just playing out the role of a good soldier. Bring this issue full circle and provide us with a decision we can all be proud of and one that will demonstrate the importance of what the Refuge System means to you. We need to know you are in our corner with full intent of protecting and conserving the greatest network of lands and waters on the planet. Please don't disappoint the people you serve, especially the American people who truly own the National Wildlife Refuge System.

Thank you for your time and consideration of this matter. I look forward to

hearing from you.

Sincerely,

Ralph D. Webber
431 N Milnor Lake Road
Troy, Montana 59935
(406) 295-5952
ralphwebber@frontier.com

From: [Noreen Walsh](#)
To: [Matt Hogan](#); [Will Meeks](#); [Anna Munoz](#)
Subject: Fwd: NBR Issue: Meet the NWR System
Date: Sunday, March 20, 2016 1:06:41 PM

FYI

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

Begin forwarded message:

From: Ralph <ralphwebber@frontier.com>
Date: March 20, 2016 at 12:50:49 PM MDT
To: <jim_kurth@fws.gov>
Cc: <cynthia_martinez@fws.gov>, <noreen_walsh@fws.gov>
Subject: Fwd: NBR Issue: Meet the NWR System

Jim,

It has been a long time. I believe our last meeting was on an eve just prior to going out on an excursion to Wapato Lake. That was a very good day! Note that I'm forwarding you a letter sent to Dan yesterday covering the National Bison Range issue. Refuge Chief Martinez and Regional Director Walsh have been cc on it as well. Please don't take the letter personally as it is very difficult for me to be at odds with leadership of an organization that over the years has defined the principles of resource stewardship and set the standard of excellence for others to follow. As important as the Service has been to me, I must confess that the National Wildlife Refuge System is my first love and will always be first and foremost in my heart. That being said, I and many other former colleagues feel the Refuge System is currently being threatened and is in need of support and protection. It is with that thought in mind that we must respectfully challenge the decisions being made by this current Directorate.

Please contact me if you would like to discuss the matter further.

Take Care,

Ralph

Begin forwarded message:

From: Ralph <ralphwebber@frontier.com>
Date: March 19, 2016 3:26:10 PM MDT
To: Ralph Webber <ralphwebber@frontier.com>
Subject: NBR Issue: Meet the NWR System

Director Ashe,

It has been several years now but you and I met either in Portland, at NCTC, or at Tualatin River National Wildlife Refuge, a station that I directed during its stages of development and one where I oversaw its management for 16 years as the Refuge Manager. Our meeting is foggy to me so I certainly don't expect you to remember the time or place of our meeting either, but I do recall it was prior to you becoming Director of the Service. That said, I assume it is okay to refer to you as Dan instead of Director Ashe? Dan, it was a difficult decision, but after 35 years of being an employee of the Service and managing stations of the Refuge System I found it time to hand over the reins and move to northwest Montana, not far from the National Bison Range. Be rest assured that my fire and passion for the National Wildlife Refuge System has not strayed and has stayed the course into retirement. This brings us to the primary purpose and reason for contacting you, that being the seeking of sponsorship legislation to transfer all lands and management of the National Bison Range to the Confederated Salish and Kootenai Tribes.

Over the last several weeks I've been in close contact with many former colleagues and friends to discuss and take action on the Bison Range issue. We are all deeply troubled and concerned, and quite frankly, finding it difficult to follow the thinking behind your leadership decisions and those of the directorate. How can a Director of the Service send a letter to Assistant Secretary Reed in 2011 stating that management of the Bison Range or any other refuge will not be turned over to the Tribes or any other non-Service entity, and 5 years later, seek congressional sponsorship for its removal from the System? How can the Service not prepare a Comprehensive Conservation Plan for the Bison Range with full public scoping and participation as mandated under the Refuge Improvement Act and the National Environmental Policy Act? As one of the alternatives, the significance of a transfer action alone would most certainly require a full blown Environment Impact Statement. Finally, how can the Service release a publication almost one year to the day that features its front and back covers with the National Bison Range as an iconic flagship of the Refuge System and historic symbol of the west, and one year later propose its removal from the Refuge System? Dan, take note of the final passage of that publication which states, "Providing a healthy and complete National Wildlife Refuge System, as envisioned by past generations of conservationists, would stand as a treasured testament to the nation's ability to pass on a lasting natural legacy to future generations." I think you will agree that the key words to this statement are "healthy and complete".

We are all aware of the failures encompassing the nearly 20 years of effort to partner with the Tribes under a functioning Annual Funding Agreement, but the surgical removal of a refuge unit of the System

will do nothing more than instigate fragmentation, and thereby threaten the very integrity of that System. The seriousness of this entire matter is underscored by the fact that it will set precedent with profound implications to all of our federal Refuges and National Parks. To put it bluntly, what is being proposed is simply unethical and is not in the best interest of our nation. Please spare me the arguments that have been used for the Bison Range transfer as they insult the intelligence of current and former employees of the Service, especially those that are most knowledgeable with the Refuge System.

I want you to know that I have the utmost respect for the men and woman who serve the fish and wildlife resources under the emblem of the greatest conservation agency in the world, that being the Fish and Wildlife Service. That is why I ask that you help me understand your leadership thinking on this issue. I can only hope you have some silver bullet strategy up your sleeve to keep the System whole and are not just playing out the role of a good soldier. Bring this issue full circle and provide us with a decision we can all be proud of and one that will demonstrate the importance of what the Refuge System means to you. We need to know you are in our corner with full intent of protecting and conserving the greatest network of lands and waters on the planet. Please don't disappoint the people you serve, especially the American people who truly own the National Wildlife Refuge System.

Thank you for your time and consideration of this matter. I look forward to hearing from you.

Sincerely,

Ralph D. Webber
431 N Milnor Lake Road
Troy, Montana 59935
(406) 295-5952
ralphwebber@frontier.com

From: [Munoz, Anna](#)
To: [Noreen Walsh](#); [Matt Hogan](#); [Will Meeks](#)
Subject: Fwd: DIRECTOR SURNAMED: Draft Bison Range Legislative Language
Date: Tuesday, March 22, 2016 12:27:28 PM
Attachments: [BisonRange.draft.revised.03182016 - PRE-DECISIONAL DRAFT \(2\).docx](#)

FYI

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

----- Forwarded message -----

From: **Mogadam, Roya** <roya_mogadam@fws.gov>
Date: Tue, Mar 22, 2016 at 12:10 PM
Subject: Fwd: DIRECTOR SURNAMED: Draft Bison Range Legislative Language
To: Anna Munoz <anna_munoz@fws.gov>

FYI

----- Forwarded message -----

From: **Mogadam, Roya** <roya_mogadam@fws.gov>
Date: Tue, Mar 22, 2016 at 8:37 AM
Subject: Re: DIRECTOR SURNAMED: Draft Bison Range Legislative Language
To: Dominic Maione <dominic_maione@ios.doi.gov>
Cc: Martin Kodis <martin_kodis@fws.gov>, Angela Gustavson <Angela_Gustavson@fws.gov>

Morning Dominic-

Just got the surname from FW and there were no changes. Again, attached is the final cleared (D and FW) draft language.

As a reminder, on the call we said we would try to provide this language to the Senate and House this week if possible.

Please let me know what you need from us to move this through the final process.

-Roya

On Mon, Mar 21, 2016 at 2:46 PM, Mogadam, Roya <roya_mogadam@fws.gov> wrote:

Hi Dominic-

Please see attached for the draft legislative language for the transfer of the National Bison Range. This version has been surnamed by the Director. We are **still waiting for FW surname** but it is likely this version will remain unchanged. This version has been reviewed by DOI-SOL.

I will send you the final FW surnamed version once I hear back from their office.

Please let me know if you need anything else from us,

-Roya

--

Roya Mogadam
Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Roya_Mogadam@fws.gov
703-358-2128

--

Roya Mogadam
Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Roya_Mogadam@fws.gov
703-358-2128

--

Roya Mogadam
Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Roya_Mogadam@fws.gov
703-358-2128

From: [Will Meeks](#)
To: [Jeff King](#)
Subject: Fwd: NBR LETTER
Date: Monday, March 28, 2016 8:21:39 PM
Attachments: [Untitled attachment 00240.htm](#)
[Final letter to Ashe National Bison Range March 2016-signed.pdf](#)

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

Begin forwarded message:

From: bob streeter <rgstreeter@gmail.com>
Date: March 28, 2016 at 8:57:37 AM MDT
To: "Kurth, Jim" <jim_kurth@fws.gov>, <Cynthia_martinez@fws.gov>, Noreen Walsh <Noreen_Walsh@fws.gov>, <Will_meeks@fws.gov>, Mike Blenden <Mike_Blenden@fws.gov>
Subject: NBR LETTER
Reply-To: <rgstreeter@gmail.com>

Dear FWS Refuge Leadership,

Our Retirees Association Board, after more than a month of deliberating, fact-finding, reviewing our charter & more deliberating, decided unanimously to send an "Alert" to our membership (it is on our website) about what is happening with the NBR, and to express our opinion to the Director. I wanted you all to be aware of our actions.

We know that all of you have the best interests of the Service and the National Wildlife Refuge System in mind, as do we, the ol' geezers. We offer any assistance we may bring to the table as this issue moves on. Stay strong for our wildlife resources, stay strong for the "Outfit," & our folks!

Cheers, Bob Streeter, Association Chair

--

Sent from Gmail Mobile



Association of Retired U.S. Fish and Wildlife Service Employees
698 Conservation Way
Shepherdstown, WV 25443

<http://fwsretirees.org/>

March 25, 2016

Mr. Dan Ashe
U.S. Fish and Wildlife Service
Washington, D.C.

Dear Dan

The Board of Directors of the Association of U.S. Fish & Wildlife Service Retirees wishes to go on record as opposing the proposed Service action to remove the National Bison Range (NBR) from the National Wildlife Refuge System. It is our belief that such action would result in a 'slippery slope' that would likely impact other Fish and Wildlife facilities to the detriment of the Service as the World leader in the conservation and management of this Nation's natural resources.

We recognize that priorities must be set for allocation of scarce resources. We also recognize that the Service cannot manage all lands within the System to the fullest extent with limited financial and personnel resources. However, the NBR is part of a System, governed by the National Wildlife Refuge System Administrative Act of 1966 and various amendments including the National Wildlife Refuge System Improvement Act of 1997. It is part of the rich heritage of the Service. Each refuge has an intrinsic value as part of the System, and not just a commodity to be disposed of when it becomes difficult or of lesser priority to manage.

Besides its historical importance to the NWRS, the bison gene pool is unique. It is the reason the refuge was established, and it should be preserved. In addition, the refuge provides nearly pristine habitat for native bird populations, as well as outstanding visitation and educational opportunities for the public. It is part of the heritage that our Association has pledged to help preserve. The Service purchased these lands for all Americans to enjoy. The Board is gravely concerned that the proposed transfer is precedent-setting for future dealings with other tribal, state or even military organizations wishing to acquire and/or manage federal lands. This is a huge precedence for the NWRS, for wildlife conservation, for public use, and for the agency's heritage.

Our Association, with the accumulated depth of experience of our members, stands ready to assist in any way as this issue moves towards resolution. We are first and foremost members of the Service family and care deeply about our heritage and the resources we work to conserve.

Sincerely,

A handwritten signature in black ink that reads "Robert G. Streeter".

Robert G. Streeter, Ph.D.
Board Chair

cc: Secretary Jewel
Fish and Wildlife Service Directorate

Chairman, FWS Retirees Association
929 Coho Run, Fort Collins, CO 80524-8329
970-222-0383 or chair@fwsretirees.org

FWS-001444

From: [Martinez, Cynthia](#)
To: [Cathey Willis](#)
Subject: Fwd: Follow-up
Date: Wednesday, March 30, 2016 11:36:18 AM
Attachments: [BisonRange.draft.revised.02262016 - PRE-DECISIONAL DRAFT.docx](#)

----- Forwarded message -----

From: **Martinez, Cynthia** <cynthia_martinez@fws.gov>
Date: Mon, Feb 29, 2016 at 1:56 PM
Subject: Follow-up
To: Brian Upton <brianu@cskt.org>

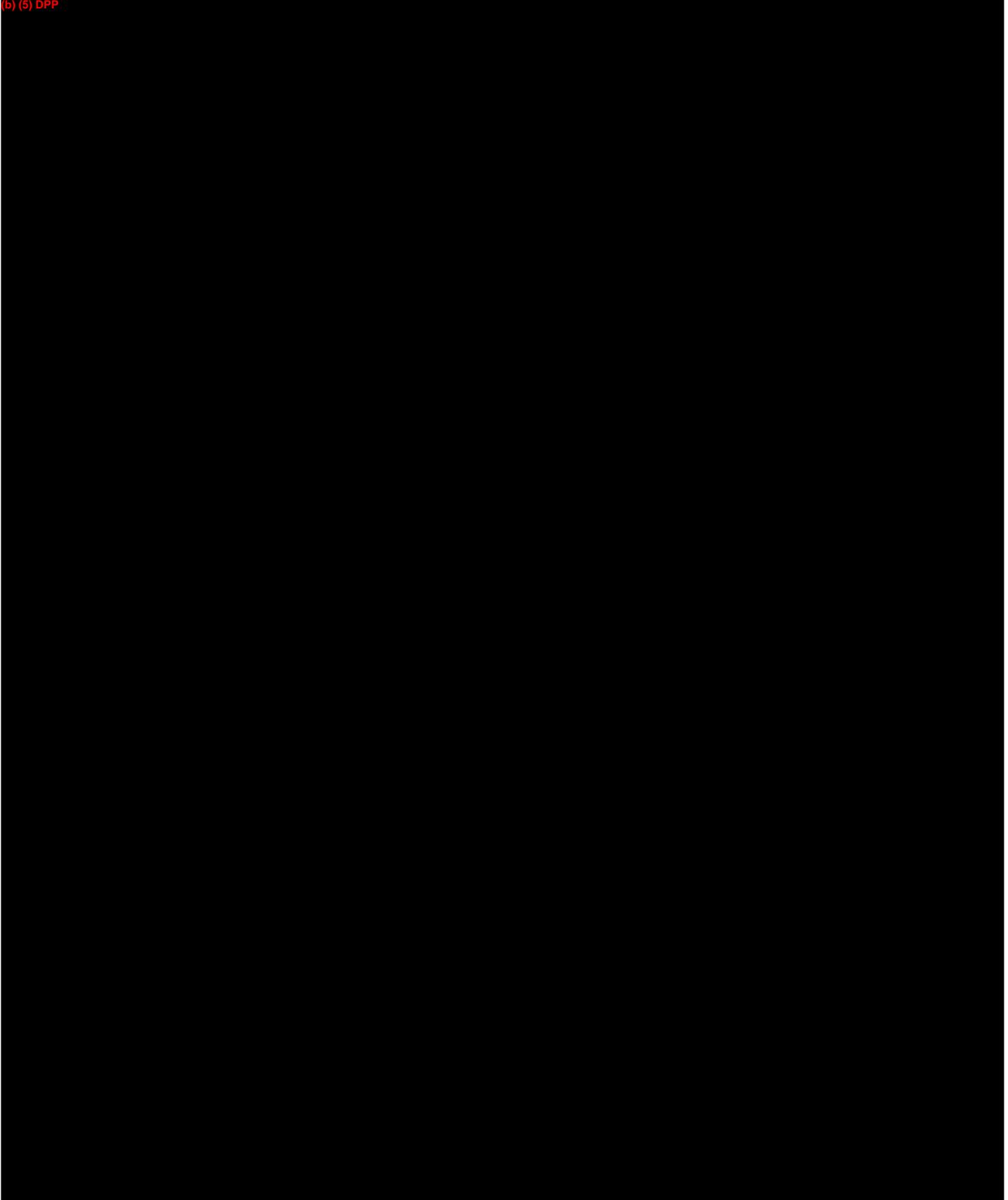
Brian,

Per our conversation.

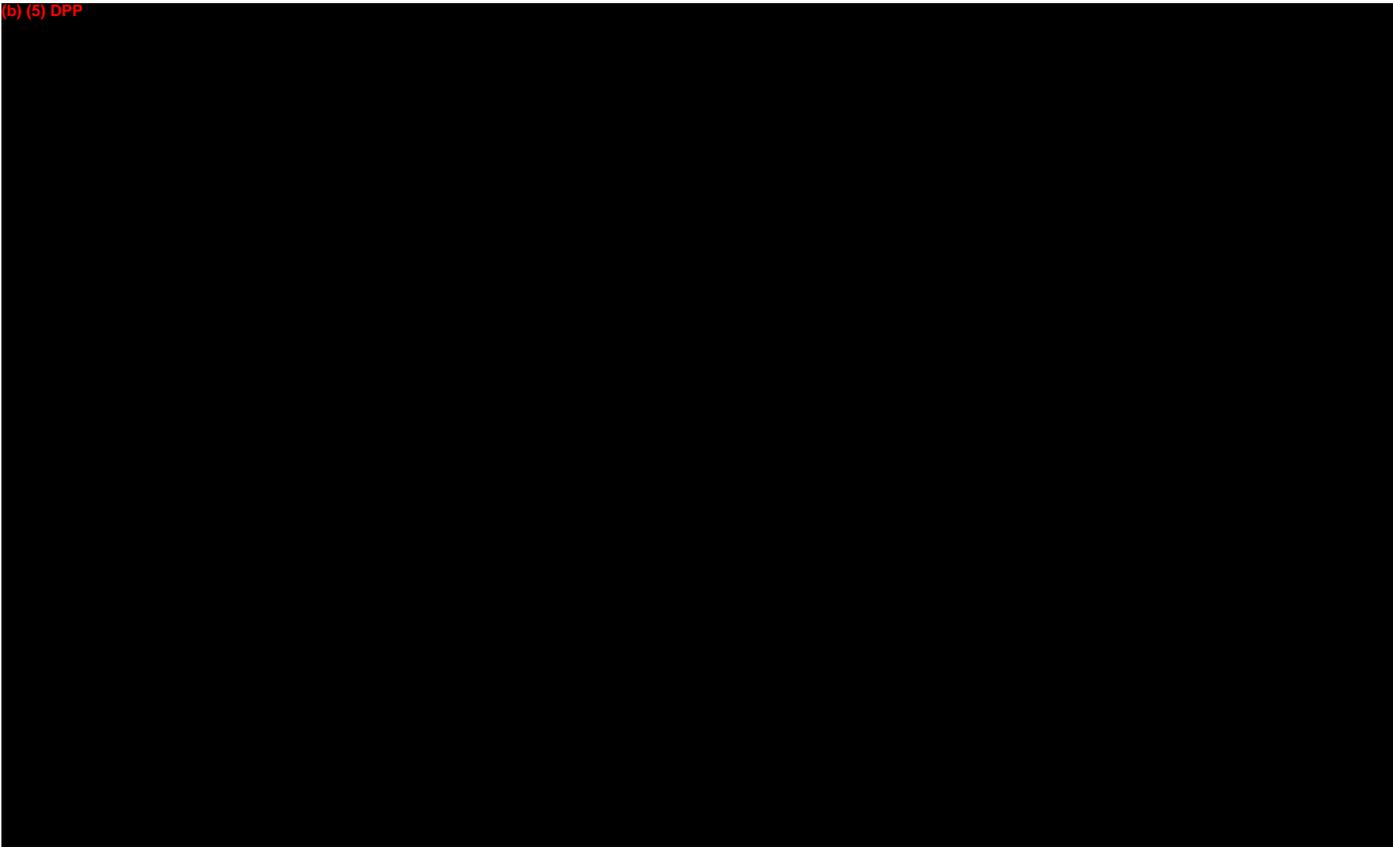
Thanks,
Cynthia

PRE-DECISIONAL DRAFT

(b) (5) DPP



(b) (5) DPP



DRAFT

Conversation Contents

Lake County Response

Attachments:

/19. Lake County Response/1.1 062487_Lake County_NBR Response.docx

"Matten, Betsy" <betsy_matten@fws.gov>

From: "Matten, Betsy" <betsy_matten@fws.gov>
Sent: Fri Apr 01 2016 11:16:35 GMT-0600 (MDT)
To: Mike Blenden <mike_blenden@fws.gov>
Subject: Lake County Response
Attachments: 062487_Lake County_NBR Response.docx

--

Betsy M. Matten, Administrative Officer
U.S. Fish and Wildlife Service, Region 6
National Wildlife Refuge System
134 Union Blvd.
Lakewood, CO 80228
303-236-4307
Betsy_Matten@fws.gov



United States Department of the Interior



FISH AND WILDLIFE SERVICE Mountain-Prairie Region

IN REPLY REFER TO:

FWS/R6/062487

Mail Stop 60130

MAILING ADDRESS:

Post Office Box 25486

Denver Federal Center

Denver, Colorado 80225-0486

STREET LOCATION:

134 Union Boulevard

Lakewood, Colorado 80228-1807

Walter E. Congdon, Civil Deputy Lake County Attorney

Office of the Lake County Attorney

106 Fourth Avenue East

Polson, Montana 59860-2183

Dear Mr. Congdon:

Thank you for your letter dated February 22, 2016, regarding the future of the National Bison Range and associated properties administered by the U.S. Fish and Wildlife Service (Service) in Lake County, Montana.

On February 5, 2016, the Service spoke with the Confederated Salish/Kootenai Tribes (CSKT) expressing support for transferring management of the National Bison Range to the tribes and held in trust by the Bureau of Indian Affairs. This discussion was limited to the National Bison Range and does not include transferring the management of Pablo, Nine-Pipe or any other properties under Service administration in Lake County, Montana. Legislation would be required to implement this transfer.

The Service recognizes that there was no prior public outreach to Lake County or any other entities including the CSKT regarding this conversation with the tribe on February 5, 2016. However, unless explicitly exempted by Congress, the action will be subject to the National Environmental Policy Act (NEPA) if legislation is passed directing transfer of management.

You requested a copy of the environmental assessment that was ordered by the court approximately three years ago. To clarify, on September 28, 2010, the court rescinded the second annual funding agreement based on procedural grounds centering on our compliance with NEPA. In November 2010, the CSKT requested that we enter into government-to-government negotiations for a third annual funding agreement. Soon afterwards, the Service initiated an environmental assessment analyzing alternatives to achieve such an agreement. It was designed to fully comply with NEPA, avoiding procedural deficiencies identified by the court in 2010. The following is a link to the *Draft Environmental Assessment for a Draft Annual Funding Agreement*: <http://www.fws.gov/bisonrange/AFA-2014/index.html>

I appreciate your interest in cooperatively planning the future of the National Bison Range. If you need further information, please contact me at (303) 236-7920 or the Assistant Regional Director for the National Wildlife Refuge System in the Mountain-Prairie Region, Will Meeks, at (303) 236-4303.

Sincerely,

Regional Director

cc: Jeff King

FWS-001874

OFFICE OF THE LAKE COUNTY ATTORNEY

LAKE COUNTY COURTHOUSE

106 Fourth Avenue East
Polson, Montana 59860-2183
Phone (406) 883-7245
Fax (800) 878-9735

STEVEN N. ESCHENBACHER
COUNTY ATTORNEY

CHIEF CRIMINAL DEPUTY COUNTY ATTORNEY
JAMES LAPOTKA

CIVIL DEPUTY COUNTY ATTORNEY
WALTER E. CONGDON

DEPUTY COUNTY ATTORNEY
BENJAMIN R. ANCIAUX
MOLLY OWEN

Feb. 22, 2016

U.S. Fish & Wildlife Service
Mountain-Prairie Region Office
134 Union Blvd
Lakewood, CO 80228

**SUBJECT: NATIONAL BISON RANGE RECORD OF DECISION (ROD)
PROTEST OF DECISION**

Dear Sir or Madam:

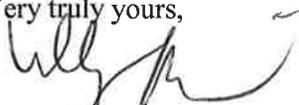
The Dept. of Interior, U.S. Fish and Wildlife service indicated in early February, 2016 that a transfer of the National Bison Range to the Confederated Salish and Kootenai Tribes was a plan or proposal that U.S.F.W.S. was submitting to the local Tribal government for consideration.

Lake County received no notice of this action until the press release and also has had no opportunity to comment upon this action. To our knowledge no consistency review of this action or plan has occurred regarding local land use plans. This protest is based upon 42 USC 4332 which provides for creation of a NEPA document on proposals for actions significantly affecting the quality of the human environment, and consideration of alternatives.

We are also concerned that a Record of Decision may have been entered without considering the inventory and planning requirements of 43 USC 1701 and 1712. These concerns include recreational opportunity, socio-economic impacts, tax base, wildlife, environment, and mitigation options.

If a R.O.D. or NEPA process has not been completed or commenced, consider this letter our request for copies of the work done thus far and a statement of our desire to cooperate in completing consideration of various options for this facility. We desire to fully explore alternatives and mitigation activities.

Very truly yours,



Walter E. Congdon
Civil Deputy Lake County Attorney

cc: Lake County Commissioners
Sanders County Commissioners



United States Department of the Interior

FISH AND WILDLIFE SERVICE Mountain-Prairie Region



IN REPLY REFER TO:

FWS/R6/062487

Mail Stop 60130

MAILING ADDRESS:

Post Office Box 25486

Denver Federal Center

Denver, Colorado 80225-0486

STREET LOCATION:

134 Union Boulevard

Lakewood, Colorado 80228-1807

Walter E. Congdon, Civil Deputy Lake County Attorney
Office of the Lake County Attorney
106 Fourth Avenue East
Polson, Montana 59860-2183

APR 7 2016

Dear Mr. Congdon:

We have received your letter dated February 22, 2016, regarding the future of the National Bison Range and associated properties administered by the U.S. Fish and Wildlife Service (Service) in Lake County, Montana. You have styled your letter as a protest pursuant to the National Environmental Policy Act (NEPA) based on your apparent conclusion that a decision has been made. At the outset, I want to clarify that there has been no final decision, and no proposal for action. The only activities that have occurred thus far have been discussions with the Confederated Salish and Kootenai Tribes (CSKT) about the future of the National Bison Range, which could include a legislative solution.

The Service had a discussion on February 5, 2016, and has had subsequent conversations with the CSKT since then about the possibility of the Service supporting legislation that would transfer the lands comprising the National Bison Range. This discussion was limited to the National Bison Range; there was no discussion of transferring the management of Pablo, Nine-Pipe or any other properties under Service administration in Lake County, Montana. Moreover, because legislation would be required to accomplish any transfer of the National Bison Range, there is no certainty as to when, or even if, any action would occur. If legislation is proposed directing transfer of the National Bison Range the Service will comply with applicable laws as directed by Congress.

Your letter also requests "copies of the work done thus far" and a request to be involved as a cooperating agency. We are interpreting this as a request for a copy of the environmental assessment that was begun in 2010. The following is a link to the *Draft Environmental Assessment for a Draft Annual Funding Agreement*: <http://www.fws.gov/bisonrange/AFA-2014/index.html>.

I appreciate your interest in the National Bison Range. If you need further information, please contact me at (303) 236-7920 or the Assistant Regional Director for the National Wildlife Refuge System in the Mountain-Prairie Region, Will Meeks, at (303) 236-4303.

Sincerely,

Deputy Regional Director

cc: Jeff King

Conversation Contents

Response to Lake County Attorney on NBR

Attachments:

/16. Response to Lake County Attorney on NBR/1.1 062487_Response to Lake County Attorney_NBR.pdf

"Matten, Betsy" <betsy_matten@fws.gov>

From: "Matten, Betsy" <betsy_matten@fws.gov>
Sent: Fri Apr 08 2016 07:54:22 GMT-0600 (MDT)
To: Mike Blenden <mike_blenden@fws.gov>, Jeff King <Jeff_King@fws.gov>
Subject: Response to Lake County Attorney on NBR
Attachments: 062487_Response to Lake County Attorney_NBR.pdf

Mike and Jeff,
Matt signed the response to Lake County yesterday and the letter will go out in today's mail. A copy of the response is attached.
Betsy

--

Betsy M. Matten, Administrative Officer
U.S. Fish and Wildlife Service, Region 6
National Wildlife Refuge System
134 Union Blvd.
Lakewood, CO 80228
303-236-4307
Betsy_Matten@fws.gov



United States Department of the Interior

FISH AND WILDLIFE SERVICE Mountain-Prairie Region



IN REPLY REFER TO:

FWS/R6/062487

Mail Stop 60130

MAILING ADDRESS:

Post Office Box 25486

Denver Federal Center

Denver, Colorado 80225-0486

STREET LOCATION:

134 Union Boulevard

Lakewood, Colorado 80228-1807

Walter E. Congdon, Civil Deputy Lake County Attorney
Office of the Lake County Attorney
106 Fourth Avenue East
Polson, Montana 59860-2183

APR 7 2016

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I appreciate your interest in the National Bison Range. If you need further information, please contact me at (303) 236-7920 or the Assistant Regional Director for the National Wildlife Refuge System in the Mountain-Prairie Region, Will Meeks, at (303) 236-4303.

Sincerely,

Deputy Regional Director

cc: Jeff King

From: [Jeff King](#)
To: [Mike Blenden](#); [Will Meeks](#)
Subject: CSKT meeting with Lake County commissioner
Date: Wednesday, April 20, 2016 8:32:50 AM

Just a heads up that I heard last night that the Lake County commissioners are meeting with the CSKT tribal council today. One of the items on the agenda is NBR.

If I hear anything I will let you know.

Thanks,

jk
Sent from my iPad

From: [Stephen Torbit](#)
To: [Will Meeks](#)
Subject: FW: NBR bison
Date: Thursday, April 21, 2016 3:33:00 PM

Here is the updated assessment from Lee on NBR genetic management. Pretty good summary I think.

(b) (5) DPP



Stephen C. Torbit
Assistant Regional Director
Science Applications
U.S. Fish and Wildlife Service
134 Union Blvd.
Lakewood, Colorado 80228
303-236-4602 – Office
720-626-7504 – Cell

From: Jones, Lee [mailto:lee_c_jones@fws.gov]
Sent: Tuesday, April 05, 2016 11:32 PM
To: Stephen Torbit
Subject: NBR bison

Hi Steve,

Although this is a preliminary estimate, it looks like we have conserved about 92-95% of the known alleles at NBR in the RMA, NSM or SHNGP herds. Given the small size of these satellite herds, this number is higher than I expected, but it is possible that the Wind Cave and Wichita Mountains animals at RMA contribute to this apparent large amount of overlap. Although the actual microsatellite alleles may be the same between the Wichita and NBR bison, we cannot assume that the foundation or origin (or surrounding genetic material) is the same, and should therefore exclude those animals from the analysis. When I get back to the office, I will exclude those individuals to get a better estimate, but I suspect it will still be in the 87-90% ballpark.

I recommend that we essentially combine the 2 proposals I made in the earlier email to you and Will. Based on random sampling, it takes about 125 NBR bison to capture about 95% of measureable diversity. We did some selection in establishing the satellite populations, but we did also select about 30 at random. First, I suggest that we ensure conservation of each NBR private allele, plus we select a few animals that contain any genetics that have not yet been captured in the satellite herds. I also suggest that we select as many additional animals at random from the NBR herd as we think we can handle, including some adults, in an effort to capture diversity that we cannot measure with the microsatellites. If we could get even 50 or 60 bison from NBR moved to a new location, we would have a decent chance of conserving the majority of the total diversity in the herd.

Although I haven't seen the data, Elk Island bison may have significant genetic overlap with NBR bison since they also came from the Pablo-Allard herd. If for some reason it becomes

problematic to get NBR bison translocated to another Refuge, we could consider Elk Island as a possible alternative source of this genetic foundation.

I'll touch base with you when I return on the 18th, but hopefully this information is helpful in the meantime. I think 50 or 60 bison sounds like a perfect new low density, low intensity bison herd....Thanks, Lee

Lee C. Jones
USFWS-Wildlife Health office
10 E. Babcock, Rm 105
Bozeman, MT 59715
Office: 406.587.2169
Cell: 406.600.8405
Fax: 406.587.9098
lee_c_jones@fws.gov

From: [Scott Aikin](#)
To: cynthia_martinez@fws.gov
Cc: d_m_ashe@fws.gov; jim_kurth@fws.gov
Subject: Bison Range update
Date: Friday, April 29, 2016 8:12:47 AM

Just wanted to follow up on yesterday's discussion I had with you. I spoke with Brian Upton, CSKT tribal attorney yesterday afternoon and he indicated that Chairman Finley may be coming to town next week to visit the MT delegation. If this occurs, they will likely coordinate a meeting with us connected to this visit. I'll keep you up to date as to this possibility.

(b) (5) DPP
[Redacted content]

On a completely side note, I heard on the news this morning that Congress approved the Bison as the national mammal awaiting President's approval. Interesting synergy and ironic in this instance.

I'm flying home this morning but will be in Rapid City SD next week for grizzly bear tribal consultations. If the Tribe does come into town next week, I'll work to be available via conference call should they meet with us.

Thanks and have a great weekend,

Scott Aikin, U.S.Fish & Wildlife Service
National Native American Programs Coord.
(C) 202-285-3411
(O) 360-604-2531

From: [George Waters](#)
To: [Sellars, Roslyn](#)
Cc: [Dan Ashe](#); [cynthia_martinez@fws.gov](#); [robert_dreher@fws.gov](#); [scott_aikin@fws.gov](#); [hallison_putnam@fws.gov](#); [betsy_hildebrandt@fws.gov](#); [shaun_sanchez@fws.gov](#); [noreen_walsh@fws.gov](#); [will_meeks@fws.gov](#); [anna_munoz@fws.gov](#); [stephen_quertin@fws.gov](#); [charisa_morris@fws.gov](#); [Michael Black](#)
Subject: Requestd meeting for next week with Confederated Salish and Kootenai Tribes of the Flathead Reservation
Date: Friday, April 29, 2016 5:18:47 PM

Roslyn and FWS Folks – I am following up on conversations that the Brian Upton from the Confederated Salish and Kootenai Tribes of the Flathead Reservation has had with some of you relative to where things stand on the introduction of the National Bison Range legislation. We have some congressional meetings next Thursday and were hoping to then update you all on Friday (May 6). Attending from CSKT will be Tribal Attorneys Brian Upton and Shane Morigeau as well as Chairman Vernon Finley and I. (I understand third hand that Scott Aiken would like to join in via speakerphone and that he is available either before 10:30am (EST) or after 1:30pm (EST) on Friday.) Can we find a time for next Friday that works for you all? Thanks

George

Ps – sorry to cast such a wide net on the cc list. Just using the names that were including in the cc list for the last meeting.

*George Waters, President
George Waters Consulting Service
505 Capitol Court., NE
Suite 200
Washington, DC 20002
(202) 544-3044
(202) 544-3155 fax
george@georgewaters.com*

Conversation Contents

Fwd: Google Alert - "Bison Range"

Will Meeks <will_meeks@fws.gov>

From: Will Meeks <will_meeks@fws.gov>
Sent: Wed May 04 2016 13:31:05 GMT-0600 (MDT)
To: Mike Blenden <mike_blenden@fws.gov>
Subject: Fwd: Google Alert - "Bison Range"

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

Begin forwarded message:

From: Anna Munoz <anna_munoz@fws.gov>
Date: May 4, 2016 at 12:50:10 PM MDT
To: Noreen Walsh <noreen_walsh@fws.gov>, will_meeks@fws.gov
Subject: Fwd: Google Alert - "Bison Range"

FYI

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service
134 Union Blvd.
Lakewood, CO 80228
Office: [303-236-4510](tel:303-236-4510)
Cell: [720-648-2542](tel:720-648-2542)

Begin forwarded message:

From: Google Alerts <googlealerts-noreply@google.com>

Date: May 4, 2016 at 10:25:17 AM MDT
To: <anna_munoz@fws.gov>
Subject: Google Alert - "Bison Range"

"Bison Range"

As-it-happens update · May 4, 2016

NEWS

National **Bison Range**: An investment in Montana

Helena Independent Record

The National **Bison Range** has been investing in Montana for years while hosting 200,000 visitors per year, with 83 percent of those guests being ...

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Helena Independent Record

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[Send Feedback](#)

From: [Jones, Lee](#)
To: [Stephen Torbit](#)
Subject: National Bison Range transfer in the news
Date: Thursday, May 05, 2016 2:46:10 PM

Just FYI,

Not sure if you've seen this yet, but this popped up yesterday. http://helenair.com/news/opinion/national-bison-range-an-investment-in-montana/article_1cda1cd8-ba53-53cb-98b7-73c4a3d857ee.html

Lee C. Jones
Wildlife Health office
USFWS-Natural Resource Program Center
10 E. Babcock, Rm 105
Bozeman, MT 59715
Office: 406.587.2169
Cell: 406.600.8405
Fax: 406.587.9098
lee_c_jones@fws.gov

From: [Blenden, Mike](#)
To: [Jeff King](#)
Subject: Lake County letter
Date: Monday, May 16, 2016 1:21:54 PM

Jeff,

Did you get a letter dated April 11, 2016 from Walter Congdon, Civil Deputy Lake County Attorney?

We just received one from him saying we didn't respond to his April 11 letter. We don't have one here and I'm just checking bases to see if you may have it. I was just going to call him unless you have a better idea.

Thanks,

Mike

--

Michael Blenden
Refuge Supervisor - Montana, Wyoming and Utah
134 Union Boulevard
Lakewood, CO 80228
303-236-4306
303-710-7934 cell

Too often we...enjoy the comfort of opinion without the discomfort of thought.
John F. Kennedy

Conversation Contents

Response to Mr. Plenert

Attachments:

/12. Response to Mr. Plenert/1.1 062622_Response to Mr. Plenert_NBR.pdf

"Matten, Betsy" <betsy_matten@fws.gov>

From: "Matten, Betsy" <betsy_matten@fws.gov>
Sent: Wed May 18 2016 14:44:25 GMT-0600 (MDT)
To: Mike Blenden <mike_blenden@fws.gov>
Subject: Response to Mr. Plenert
Attachments: 062622_Response to Mr. Plenert_NBR.pdf

I uploaded the response into DTS earlier this afternoon. The final letter may not look the same as HQ may still make changes. Who knows.

Betsy

--

Betsy M. Matten, Administrative Officer
U.S. Fish and Wildlife Service, Region 6
National Wildlife Refuge System
134 Union Blvd.
Lakewood, CO 80228
303-236-4307
Betsy_Matten@fws.gov

Mr. Marvin Plenert

b(6)

Dear Mr. Plenert:

I am writing in response to your inquiry to Senator Harry Reid concerning the U.S. Fish and Wildlife Service's (Service) expression of support for potential legislation transferring the National Bison Range into trust for the benefit of the Confederated Salish and Kootenai Tribes (CSKT). The Service recognizes your concern and passion for the National Wildlife Refuge System (System) and offers the following observations.

While the National Bison Range has been around for more than a century, the Service considers the proposed transfer as a very unique situation whereby a refuge was established wholly within a Reservation boundary for a narrowly defined purpose – conservation of bison at a time when they were on the verge of extinction. Since then, the Service along with our federal, state, and tribal partners have made great strides in conserving bison, and we expect this conservation success story to continue under this proposal.

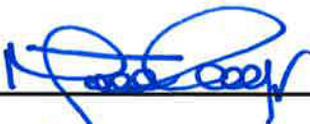
It is the Service's expectation that any legislation regarding the transfer of lands comprising the National Bison Range will include provisions to ensure these lands are managed in accordance with the original purpose of the refuge as well as provide public access. The Service considers the CSKT to be experienced land and resource managers that have a long-standing track record of successful wildlife conservation.

I take my responsibilities for the System to heart. You are well aware of my loyalty to that part of the Service. Although you may not agree with the Service on the National Bison Range, I hope you acknowledge that if we are to continue to successfully achieve the mission of the Service, we must make hard decisions to focus our energies and allocate our limited resources to meet our country's greatest conservation challenges.

Sincerely,

Director

cc: Senator Harry Reid



5-18-16

Approved: Deputy Regional Director

Date

Conversation Contents

FW: PRESS RELEASE: Lawsuit Tackles National Bison Range Giveaway

Ryan Moehring <ryan_moehring@fws.gov>

From: Ryan Moehring <ryan_moehring@fws.gov>
Sent: Mon May 23 2016 09:36:04 GMT-0600 (MDT)
To: Will Meeks <will_meeks@fws.gov>, Anna Munoz <anna_munoz@fws.gov>, Maureen Gallagher <maureen_gallagher@fws.gov>, Mike Blenden <mike_blenden@fws.gov>
Subject: FW: PRESS RELEASE: Lawsuit Tackles National Bison Range Giveaway

FYI

Thanks,

Ryan

Ryan Moehring

Public Affairs (ND, SD, WY, MT)

U.S. Fish and Wildlife Service

Mountain-Prairie Region

303-236-0345

----- Forwarded message -----

From: **Public Employees for Environmental Responsibility (PEER)** <info@peer.org>
Date: Mon, May 23, 2016 at 7:59 AM
Subject: PRESS RELEASE: Lawsuit Tackles National Bison Range Giveaway
To: Ryan Moehring

Having trouble with images or links? [Click here](#) and also try adding us

(info@peer.org) to your address book.

For Immediate Release: Monday, May 23, 2016

Contact: Kirsten Stade (240) 247-0296

LAWSUIT TACKLES NATIONAL BISON RANGE GIVE-AWAY LEGISLATION Agency Failed to Conduct Mandatory Environmental Analysis when Submitting Bills

Washington, DC — The U.S. Fish & Wildlife Service has not done the environmental analysis required by law before sponsoring legislation to turn the National Bison Range over to local tribes, according to a federal lawsuit filed today by Public Employees for Environmental Responsibility (PEER). The suit aims to force FWS to ascertain potential impacts before proceeding any further with the first major surrender of a national wildlife refuge in American history.

In February, FWS announced that it was pursuing legislation to transfer Montana's National Bison Range, often called the Crown Jewel of the National Wildlife Refuge System, to the Confederated Salish and Kootenai Tribes (CSKT). As described in emails and other records PEER has obtained, the bill would –

- Give the entire refuge, its buildings (including a new \$650,000 maintenance facility) and prized bison herd totaling nearly \$100 million in value to the CSKT without any compensation. Ironically, federal taxpayers had previously paid twice to purchase the refuge's 18,000 acres;
- Contain no requirement that the CSKT maintain the Bison Range as a refuge or admit the public. The refuge attracts more than 200,000 visitors each year, the vast majority (83%) come from out-of-state or abroad and pump an estimated \$12.5 million into the local economy; and
- Make no provision for the fate of the Range's unique bison herd, considered by many as vital to the future of the bison –now the nation's official mammal – as a healthy native species.

“The law requires federal agencies to think through the environmental consequences of proposals before launching them,” stated PEER Senior Counsel Paula Dinerstein, who brought the litigation that struck down a joint management plan FWS developed with the CSKT in 2010 for its failure to comply with the same statute at the heart of the new suit.

“The inability or unwillingness of the Service to do its homework on the Bison Range has kept this century-old refuge in political limbo for more than a decade.”

The suit also takes the Service to task for failing to ever develop a conservation plan for the Bison Range despite a statutory mandate dating back to 1997 that it do so. Virtually every one of the other 560 national wildlife refuges has such a plan to guide their

operations to best accomplish their purpose.

Joining the PEER suit as co-plaintiffs are former refuge managers and employees of the Bison Range and top FWS officials with a combined over 280 years of experience, as well as a leading citizen activist.

“The Bison Range is a major ecological asset that is being tossed away without consideration,” Dinerstein added, noting that the National Bison Range is the 10th most visited refuge among the 563 NWRs nationwide, creating an estimated 169 jobs in Montana. “If we succeed, this lawsuit will not only keep the National Bison Range as a wildlife refuge but also restore its crown jewel luster.”

###

[Read the PEER suit](#)

[Meet the co-plaintiffs](#)

[See Freedom of Information Act record summary](#)

[View legislative NEPA requirement](#)

[Look at National Bison Range transfer plan](#)

* To unsubscribe from future emails, go to <http://org.salsalabs.com/o/823/unsubscribe.jsp>. To update your information (including action and donation history), log into your online PEER account <https://org.salsalabs.com/o/823/profile/login.jsp>

empowered by Salsa

From: [Blenden, Mike](#)
To: [Jeff King](#)
Subject: Fwd: DCN: FWSPM00143 - National Bison Range
Date: Wednesday, May 25, 2016 6:46:21 AM
Attachments: [Incoming_PM00143.pdf](#)

Jeff - FYI - Mike

----- Forwarded message -----

From: <kandi_baaske@fws.gov>
Date: Tue, May 24, 2016 at 2:16 PM
Subject: DCN: FWSPM00143 - National Bison Range
To: Maureen_Gallagher@fws.gov, Mike_Blenden@fws.gov, Will_Meeks@fws.gov

Please respond or distribute as necessary.

--

Michael Blenden
Refuge Supervisor - Montana, Wyoming and Utah
134 Union Boulevard
Lakewood, CO 80228
303-236-4306
303-710-7934 cell

Too often we...enjoy the comfort of opinion without the discomfort of thought.
John F. Kennedy

NEW PM 00143

NATIONAL Bison Range MAY 23 2016

b(6)

RL AA

May 6, 2016

The Honorable Michael Bennet
United States Senate
Washington, D. C. 20510

Dan Ashe, Director FWS

Dear Senator Bennett:

Dear Director Ashe

It has come to my attention that the U. S. Fish and Wildlife Service (Service) through Director Dan Ashe is proposing to transfer the National Bison Range National Wildlife Refuge (Range) located near Moiese, Montana in the Flathead Indian Reservation to the Confederated Salish and Kootenai Tribes (Tribes). This National Wildlife Refuge should remain under the management of the U. S. Fish and Wildlife Service. These lands should not be given to the Tribes not should they be managed my the Tribes under any circumstances.

The Range is located within the boundary of the Flathead Indian Reservation, but when established in 1908, the Tribes were payed for the Land. They were further paid again in 1971 when the U. S. Court of Claims awarded the Tribes over \$22 million, some of which was payment again for the Range. The Range consists of about 18,800 acres all of which has been managed for the benefit of approximately 350 bison and other wildlife. The public is also welcome to visit the Range on a year around basis.

In 2005 and again in 2008, the Tribes and the Range entered into an "Annual Funding Agreement" where by the Tribes and Service had joint management of the area. This was proposed because of the passage of the Self-Governance Act. The Service cancelled the first and the courts cancelled the second. There was poor management, poor cooperation and out right hostility by the Tribes.

In 2014, the Service produced a Draft Environmental Assessment for another Annual Funding Agreement that was for a five year period. This draft EA was never completed. There was considerable opposition to the proposed action of having the Tribes manage the Range. This was based on the past history of the other AFAs, and the fact that a number of laws prohibited the Service from allowing others to manage the Range. (i. e. National Wildlife Refuge System Administrative Act of 1966 as well as the National Wildlife System Improvement

Act of 1997 and other laws relating to the operation of the National Wildlife Refuge System precludes such agreements.)

I do support working with the Tribes as directed under the Self-Determination Act of 1994 as well as the Self-Government Act. However, I strongly object to the Tribes managing or owning the lands of the National Bison Range.

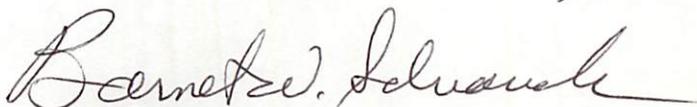
What I do support is the following. There is great opportunity to assist the Tribes to develop another Bison Sanctuary within the Flathead Indian Reservation boundary. The Service could assist with the land purchase if needed, provide guidance for the development of this new operation, provide bison to stock the area, and serve as mentors as desired by the Tribes for all the operations as the Service personnel have unique knowledge for this type of operation. The Service could also provide assistance as needed to develop a visitor/interpretative center concerning the bison and history related to native Americans.

Over the years, the National Bison Range has provide bison to Native Americans to start their own herds. These ventures have never been successful. It would be poor judgement to give the Bison Range to the Tribes, but it would be wise to assist them in development of their own.

It is my understanding the only Congress has the right to transfer the National Bison Range to the Tribes. It is my request that Congress ensures that the Bison Range remains under the ownership of the Federal Government and continues to be managed by the U. S. Fish and Wildlife Service.

While these lands are located in Montana, this is a National issue. Your support of Colorado as well as our nation is greatly appreciated. I look forward to hearing from your office concerning this issue.

Sincerely yours,



Barnet W. Schranck



Copies of this letter provided to: Sec. of Interior Sally Jewell, Mt. Senators Jon Tester and Steve Daines, Mt. Representative Ryan Zinke, FWS Director Dan Ashe and Region 6 Regional Director Noreen Walsh

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From: [New Breast, Ira](#)
To: [Stephen Torbit](#)
Subject: NBR Conference Call
Date: Wednesday, May 25, 2016 7:58:12 AM

Hi Steve,

Cynthia Martinez, Megan Reed are putting together a call on June 6th regarding the Moeise Bison Range and CSKT.

Not sure if you are still the Chair for the Work Group. May be of interest to you.

IRA

From: [New Breast, Ira](#)
To: [Stephen Torbit](#)
Subject: Re: NBR Conference Call
Date: Thursday, May 26, 2016 11:17:33 AM

Will do.

IRA

On Thu, May 26, 2016 at 1:04 PM, Stephen Torbit <stephen_torbit@fws.gov> wrote:

Let me know details please.

Sent from my iPhone

> On May 25, 2016, at 7:58 AM, New Breast, Ira <ira.newbreast@bia.gov> wrote:

>

> Hi Steve,

>

> Cynthia Martinez, Megan Reed are putting together a call on June 6th regarding the Moeise Bison Range and CSKT.

>

> Not sure if you are still the Chair for the Work Group. May be of interest to you.

>

> IRA

From: [New Breast, Ira](#)
To: [Stephen Torbit](#)
Subject: Re: NBR Conference Call
Date: Tuesday, June 07, 2016 6:01:33 AM

Touching base.

Our conference call has been cancelled. No re-schedule to date.

IRA

On Thu, May 26, 2016 at 1:17 PM, New Breast, Ira <ira.newbreast@bia.gov> wrote:
Will do.

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Sent from my iPhone

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> Moeise Bison Range and CSKT.
>
> Not sure if you are still the Chair for the Work Group. May be of interest to you.
>
> IRA

From: [New Breast, Ira](#)
To: [Stephen Torbit](#)
Subject: Re: NBR Conference Call
Date: Tuesday, June 07, 2016 9:45:25 AM

I didn't plan on attending. The last train for WV leaves at 7 pm. I leave town about 5:30.

If I hear any more on the call I'll holler.

IRA

On Tue, Jun 7, 2016 at 10:28 AM, Stephen Torbit <Stephen_Torbit@fws.gov> wrote:

OK thanks. Are you going to the National Mammal reception for bison on the 23rd?

Stephen C. Torbit

Assistant Regional Director

Science Applications

U.S. Fish and Wildlife Service

134 Union Blvd.

Lakewood, Colorado 80228

303-236-4602 – Office

720-626-7504 – Cell

From: New Breast, Ira [mailto:ira.newbreast@bia.gov]

Sent: Tuesday, June 07, 2016 6:02 AM

To: Stephen Torbit

Subject: Re: NBR Conference Call

Touching base.

Our conference call has been cancelled. No re-schedule to date.

IRA

On Thu, May 26, 2016 at 1:17 PM, New Breast, Ira <ira.newbreast@bia.gov> wrote:

Will do.

IRA

On Thu, May 26, 2016 at 1:04 PM, Stephen Torbit <stephen_torbit@fws.gov> wrote:

Let me know details please.

Sent from my iPhone

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>

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>

> IRA

Conversation Contents

Fwd: Google Alert - cskt

Will Meeks <will_meeks@fws.gov>

From: Will Meeks <will_meeks@fws.gov>
Sent: Fri Jun 10 2016 13:51:41 GMT-0600 (MDT)
To: Jeff King <jeff_king@fws.gov>, Mike Blenden <mike_blenden@fws.gov>
Subject: Fwd: Google Alert - cskt

Just found this out. Hot off the press

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

Begin forwarded message:

From: Anna Munoz <anna_munoz@fws.gov>
Date: June 10, 2016 at 1:49:39 PM MDT
To: Noreen Walsh <noreen_walsh@fws.gov>, Matt Hogan <matt_hogan@fws.gov>, will_meeks@fws.gov, Cynthia Martinez <cynthia_martinez@fws.gov>, Roya Mogadam <roya_mogadam@fws.gov>, Gavin Shire <gavin_shire@fws.gov>, seth_willey@fws.gov
Subject: Fwd: Google Alert - cskt

FYI - Looks like CSKT has released their draft legislation and announced their Bison Range Working Group.

Sent from my iPad

Begin forwarded message:

From: Google Alerts <googlealerts-noreply@google.com>
Date: June 10, 2016 at 1:05:47 PM MDT

To: <anna_munoz@fws.gov>

Subject: Google Alert - cskt



cskt

As-it-happens update · June 10, 2016

NEWS

CSKT announces formation of Bison Range Working Group

Missoula Independent (blog)

As the Indy wrote earlier this month, FWS surprised the tribes this spring when federal officials offered to pass the refuge into a trust and allow **CSKT** to ...



[Comment now on restoring Bison Range land to Tribes - Valleyjournal](#)

[Full Coverage](#)



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From: [Will Meeks](#)
To: Stephen_Torbit@fws.gov
Subject: Fwd: Google Alert - cskt
Date: Thursday, June 16, 2016 9:08:37 AM

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

Begin forwarded message:

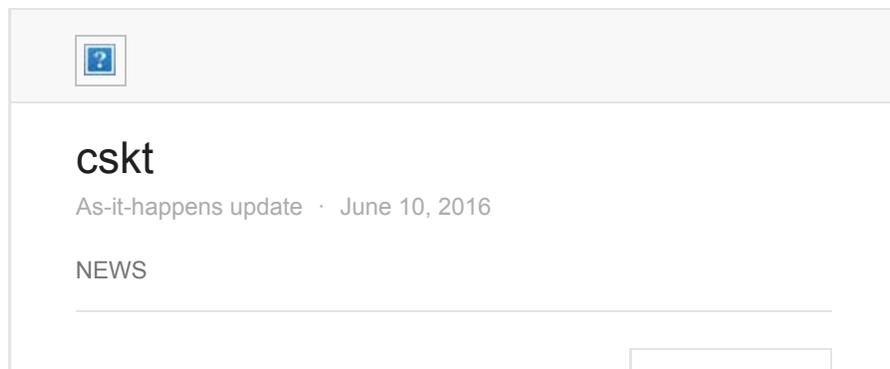
From: Anna Munoz <anna_munoz@fws.gov>
Date: June 10, 2016 at 1:49:39 PM MDT
To: Noreen Walsh <noreen_walsh@fws.gov>, Matt Hogan <matt_hogan@fws.gov>, will_meeks@fws.gov, Cynthia Martinez <cynthia_martinez@fws.gov>, Roya Mogadam <roya_mogadam@fws.gov>, Gavin Shire <gavin_shire@fws.gov>, seth_willey@fws.gov
Subject: Fwd: Google Alert - cskt

FYI - Looks like CSKT has released their draft legislation and announced their Bison Range Working Group.

Sent from my iPad

Begin forwarded message:

From: Google Alerts <googlealerts-noreply@google.com>
Date: June 10, 2016 at 1:05:47 PM MDT
To: <anna_munoz@fws.gov>
Subject: Google Alert - cskt



CSKT announces formation of Bison Range Working Group

Missoula Independent (blog)

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[Comment now on restoring Bison Range land to Tribes - Valleyjournal Full Coverage](#)



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From: [Noreen Walsh](#)
To: [Dave Heffernan](#)
Bcc: [Dan Ashe](#)
Subject: RE: National Bison Range transfer
Date: Thursday, June 16, 2016 1:43:40 PM

Hello Dave,

We never connected when you returned from vacation (or maybe you found Costa Rica to your liking and did not return??). I would still value the chance to talk with you. Is there a good time for you and a number at which I could give you a call?

Best regards,

Noreen

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920

-----Original Message-----

From: Dave Heffernan [<mailto:deheffer248@yahoo.com>]
Sent: Friday, February 19, 2016 2:24 PM
To: Noreen Walsh
Subject: Re: National Bison Range transfer

Noreen, thanks for responding! We are vacationing in Costa Rica(:), I'll call you when we return the end of March. Hang in there!!! Dave :)

Sent from my iPad

> On Feb 19, 2016, at 10:49 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>

> Hello Dave,

>

> Thank you for your thoughtful note. I would value the opportunity to
> talk with you directly if you have the time. You can reach me at 303
> 236 7920, or I would be glad to call you.

>

> Best regards,

>

> Noreen

>

>

>

> Noreen Walsh

> Regional Director

> Mountain-Prairie Region

> U. S. Fish and Wildlife Service

>

>> On Feb 18, 2016, at 11:47 AM, Dave Heffernan <deheffer248@yahoo.com> wrote:

>>

>> Hi Noreen. We worked together briefly in Atlanta before I transferred
>> to Denver-Refuges in 2000 and subsequently retired in 2003. My wife
>> Catherine and I still reside near Conifer just off of Hwy. 285. I was
>> glad when you were selected the RD for Region 6 as your reputation is
>> a good one. I received a copy of your all-employees memo (not
>> shocking in this day, is it :) concerning the issue of simply
>> transferring the National Bison Range to local CSK tribes since
>> previous efforts to "co-manage" were ineffective. I have no doubt you
>> are very familiar with that whole issue, and I for one do not envy
>> you the position you find yourself in. Careers have been greatly
>> impacted in several cases over this issue, and unfortunately politics
>> seems to oftentimes rule instead of good sound science as well as the
>> future of the Refuge System itself. I'm sure you are aware that I and
>> many others in my situation would be much opposed to the idea of
>> transferring the Bison Range, or any other unit of the NWRS, unless
>> it made sound biological and scientific sense, and would make the
>> Refuge System stronger in the long run. As I said, I do not envy you
>> the position you are in, these are potentially dangerous waters. I
>> would simply encourage you to continue doing what YOU believe is the
>> right thing to do on the part of our resources, and then do your best
>> to take each day as it unfolds. Thanks for listening, I wish you all
>> the best in your position, and pray to the Good Lord that He blesses
>> you with good and honest advisers. Sincerely, Dave Heffernan (retired
>> after 35 years of service with the Refuge System :)

>>

>> Sent from my iPad



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Washington, D.C. 20240

In Response Reply to:
FWS/ANRS/062622

JUN 16 2016

The Honorable Debra Feinstein
United States Senate
Washington D.C. 20510

Dear Senator Feinstein:

Thank you for your letter of June 2, 2016, regarding your constituent, Mr. Joseph Mazzoni, concerns with the U.S. Fish and Wildlife Service's (Service) expression of support for potential legislation transferring the National Bison Range into trust for the benefit of the Confederated Salish and Kootenai Tribes (CSKT). The Service recognizes your concern and passion for the National Wildlife Refuge System (Refuge System) and offers the following observations.

President Theodore Roosevelt established the National Bison Range in 1908 within the boundaries of the Flathead Indian Reservation, home of the CSKT. The Service considers this potential transfer of administration a unique situation because the National Bison Range was established wholly within a Reservation boundary for a narrowly defined purpose, the conservation of bison at a time when they were on the verge of extinction. The Service, along with our federal, state and tribal partners, has made great strides in conserving bison, and we expect this conservation success story will continue under this proposal.

The Service would support legislation that included provisions to ensure these lands are managed in accordance with the original purpose of the National Bison Range as well as provide public access. The Service considers the CSKT to be experienced land and resource managers that have a long history of successful wildlife conservation. We have confidence the CSKT will maintain the high conservation standards that have been established at the National Bison Range, preserving its conservation legacy.

I take my responsibilities for the Refuge System seriously and although you may not agree with the Service's position, I hope you acknowledge that if the Service is to continue achieving our mission, we must make difficult decisions to focus our limited resources on our country's greatest conservation challenges.

Sincerely,

Director



United States Senate

WASHINGTON, DC 20510-0504

<http://feinstein.senate.gov>

June 2, 2016

U.S. Fish and Wildlife Services
1849 C Street, NW
Washington, D.C. 20240

To whom it may concern:

I write to bring your attention to the enclosed constituent correspondence my office received from Mr. Joseph Mazzone, a former Refuge Manager of the National Bison Range, so that you may be aware of the concerns raised.

I ask that you send the Fish and Wildlife Services' response to my office so that we may forward it to the constituent. Please email a copy of this response to Tamara Gilden of my staff at tamara_gilden@feinstein.senate.gov.

If you need any further information or assistance from my staff, please contact Tamara Gilden at tamara_gilden@feinstein.senate.gov or (202) 224-3841.

Best Regards,

A handwritten signature in blue ink that reads "Dianne Feinstein". The signature is stylized and cursive.

Dianne Feinstein
United States Senator

DF/tg

b(6)

February 17, 2016

Senator Diane Feinstein

United States Senate

Washington, D.C. 20510-0504

Dear Senator Feinstein:

As a retired, forty-year employee of the U.S. Fish and Wildlife Service (FWS), dedicated to the management and protection of units of the National Wildlife Refuge System (NWRS), I was stunned recently to learn that my former agency is proposing to support legislation that would “transfer lands comprising the National Bison Range to be held in trust by the United States” for the Confederated Salish-Kootenai Tribes (CSKT) in Montana. A copy of that announcement from FWS Mountain-Prairie Region Regional Director Noreen Walsh is attached. The refuge is referenced later in this letter as the NBR.

This proposal contravenes earlier assurances from FWS Director Dan Ashe in a September 16, 2011 letter to former Assistant Secretary of the Interior Nathaniel Reed in which Director Ashe states, "The Service cannot and will not 'turn over' management of NBR or any other Refuge to CSKT or any other non-Service entity. Under any future AFA, NBR will remain a unit of the National Wildlife Refuge System, managed by the Service under direct guidance of the Service's on-site Refuge Manager. " He goes on in that letter to say, "We are confident that a strong partnership, with Service and CSKT employees working together, under the direction of the Refuge Manager, is the best way to continue managing the NBR to achieve the Refuge's purposes and the mission of the National Wildlife Refuge System." A copy of that letter is also enclosed.

I am writing to urge you to do everything within your power to prevent this proposal for legislating the removal of the NBR from the NWRS from becoming a reality. In so doing, you will be sending a strong message that this iconic 108 year old refuge, or any other fully successful, fully functional unit of the NWRS will not be bargained away to appease the political or self-serving economic interests of non-Service entities, but rather preserving the ultimate integrity of the NWRS from such future threats.

Established by Congress in 1908, the NBR was one of 52 Theodore Roosevelt preserves that formed the precursor to what later evolved into the National Wildlife Refuge System, which, along with lands preserved within the National Park and National Forest Systems, formed a national land conservation legacy that has been held in trust and managed by the federal government for the benefit of all Americans ever since. It is a wildlife habitat protection system unrivaled by any other Nation in the World, with over 560 refuges now representing and protecting the enormous range of wildlife and wildlife habitat diversity found in our fifty States and territorial areas.

Protecting that legacy challenges every generation, with the most serious proposals those that would remove individual refuges or portions of refuges from federal stewardship and national public ownership. As a former Refuge Manager and refuge administrator at the regional level, I am fully aware of the range of threats refuges have faced throughout their history. I have also learned that the bulwark against those threats is ultimately the Congress and the various laws it enacts to ensure that the many values enshrined in the National Wildlife Refuge System are protected for future generations ...and its legacy preserved.

As a former Refuge Manager in charge of the National Bison Range, I'm also fully aware of its multiple public benefits. In addition to developing and managing one of the most diverse, natural herds of American Bison (whose genetics demonstrate valuable unique characters that are carefully managed in coordination with other FWS protected herds in Nebraska and Oklahoma), the refuge hosted over 100,000 visitors during my tenure...a figure that now exceeds 200,000. These are people and their families who come from all over the Nation and many other countries to see bison and other refuge wildlife in their natural habitats; a valuable and enjoyable learning experience for future leaders and other citizens of America.

It's also a mecca for outdoor photographers , who have the opportunity to pursue their hobby or profession in a proximity to wildlife rarely available elsewhere.

Throughout much of its history the refuge has enjoyed an extensive relationship with local and regional schools at all levels for research and environmental education opportunities, both on and off the refuge, with universities from as far away

as Western Washington bringing their classes for educational interactions with professionally trained refuge staff.

The refuge has also participated in cooperative environmental and wildlife health research programs associated with the University of Montana and other noted universities. Over the years it has provided surplus big game animals to the State of Montana for the re-establishment of native big game populations, including Rocky Mountain elk, big horn sheep and pronghorn antelope. Bison from the NBR have been used to improve genetic diversity in several other State and federally owned herds. They have also been used to begin limited new populations of bison in Colorado and Iowa, and have been donated to the CSKT Tribes on many occasions for food and other products (including two previous attempts by the Tribes to develop their own bison herd).

This refuge, along with many other units of the NWRS, has a long history of involving other groups and interests in assisting in the planning of and contributing to specific aspects of the management of individual refuges through the authority and use of cooperative agreements. They offer a very practical and legal opportunity to develop mutually beneficial partnerships

that contribute to the purpose of each refuge and the mission of the NWRS without abrogating the FWS's legal authorities and responsibilities under the law to manage units of the NWRS. The CSKT rejected this approach, and chose to pursue their interests through an Annual Funding Agreement (AFA), as provided for in the Indian Self Determination Act.

The FWS efforts to respond to the CSKT's request for an AFA that would involve them in the management of the NBR have repeatedly failed over a period now approaching 20 years, at tremendous cost to the Service and with enormous adverse impacts on professional refuge staff members. The fundamental reason is that 1) the tribe has made no secret of their desire to take over full ownership and control of the refuge (read their mission statement, also attached), and 2) Congressional law requires that refuges remain in the NWRS and be managed by the FWS. This impasse has now led to the current FWS incredible proposal to transfer the NBR out of the NWRS!

My hope is that, with your help and that of your colleagues, the Congress will emphatically refuse to support any proposed

legislation that would transfer the NBR or any other unit of the NWRS to the CSKT or any other non-Service entity.

Further, my hope is that the FWS will then decide to take a realistic approach to involving the CSKT in the management of the NBR by developing an annual cooperative agreement that clearly defines how the tribe can contribute to the objectives of the refuge and the mission of the NWRS, in a demonstrable manner, that is cost-effective for the FWS and maintains the authority and responsibility of the FWS for management of the refuge.

I enjoyed a good working relationship with the CSKT when I was the Refuge Manager at the NBR, and I see no reason why that kind of a mutually supportive relationship can't be continued...so long as each parties' expectations are truly realistic and consistent with applicable law.

Thank you for considering my request. I look forward to hearing from you.

Sincerely,

From: [Mike Blenden](#)
To: [Will Meeks](#)
Subject: NBR suggestion
Date: Friday, June 17, 2016 6:28:03 AM

Yesterday the staff brought up the problem of them being constantly asked about many aspects of the possible transfer. County commissioners, news media, community members, etc. are asking. I think it would be helpful to work with them and Anna to develop a list of talking points or responses to questions they frequently hear so they can provide local responses to at least some of the questions they hear. Maybe we can discuss with Jeff today.

Sent from my iPad

From: [Will Meeks](#)
To: [Anna Munoz](#)
Subject: Fwd: NBR suggestion
Date: Friday, June 17, 2016 6:42:08 AM

Thoughts

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

Begin forwarded message:

From: Mike Blenden <mike_blenden@fws.gov>
Date: June 17, 2016 at 6:28:00 AM MDT
To: Will Meeks <will_meeks@fws.gov>
Subject: NBR suggestion

Yesterday the staff brought up the problem of them being constantly asked about many aspects of the possible transfer. County commissioners, news media, community members, etc. are asking. I think it would be helpful to work with them and Anna to develop a list of talking points or responses to questions they frequently hear so they can provide local responses to at least some of the questions they hear. Maybe we can discuss with Jeff today.

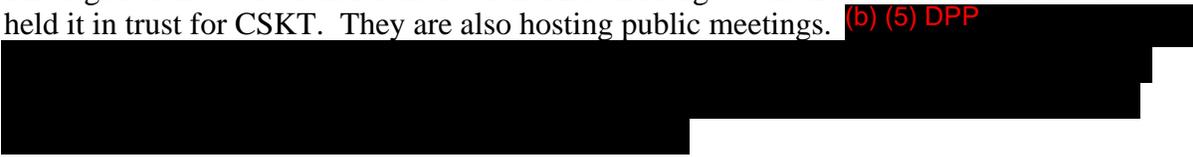
Sent from my iPad

From: [Meeks, Will](#)
To: [FW6 Refuge Employees](#)
Subject: Inadvertent Omission
Date: Friday, June 17, 2016 8:05:32 AM

All,

Thank you for the opportunity to discuss the realignment plan with you yesterday. I hope it clarified where we are in the process and the timeline.

I want to bring attention to an important omission on my part. Inadvertently I failed to mention the National Bison Range status and potential future. Recently the Confederated Salish and Kootenai Tribes (CSKT) prepared draft legislation and released it to the public. The legislation would transfer the National Bison Range to the Bureau of Indian Affairs to be held in trust for CSKT. They are also hosting public meetings. (b) (5) DPP

A large black rectangular redaction box covers several lines of text in the email body.

(b) (5) DPP

A large black rectangular redaction box covers several lines of text in the email body.

Thanks for understanding, and I'm sorry to have not brought it up yesterday.

Have a good weekend.

--

Will Meeks
U.S. Fish and Wildlife Service
ARD - R6 NWRS and PFFW
w (303) 236-4303
c (720) 541-0310

From: [Munoz, Anna](#)
To: [Will Meeks](#)
Subject: Re: NBR suggestion
Date: Friday, June 17, 2016 10:45:04 AM

Let's add this to our meeting this afternoon.

On Friday, June 17, 2016, Will Meeks <will_meeks@fws.gov> wrote:

Thoughts

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

Begin forwarded message:

From: Mike Blenden <mike_blenden@fws.gov>
Date: June 17, 2016 at 6:28:00 AM MDT
To: Will Meeks <will_meeks@fws.gov>
Subject: NBR suggestion

Yesterday the staff brought up the problem of them being constantly asked about many aspects of the possible transfer. County commissioners, news media, community members, etc. are asking. I think it would be helpful to work with them and Anna to develop a list of talking points or responses to questions they frequently hear so they can provide local responses to at least some of the questions they hear. Maybe we can discuss with Jeff today.

Sent from my iPad

--

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

From: [Will Meeks](#)
To: [Mike Blenden](#); [Jeff King](#)
Cc: [Anna Munoz](#)
Subject: Talking points
Date: Friday, June 17, 2016 12:20:05 PM

Spoke to Anna (cc'd) and she'd be happy to help with talking points for staff. Can you two send 5-6 common questions so she can craft the response for you?

Thanks.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

From: [Dave Heffernan](#)
To: [Noreen Walsh](#)
Subject: Re: National Bison Range transfer
Date: Friday, June 17, 2016 1:46:53 PM

Hi Noreen, thanks for getting back to me! I'll contact you next week to try to set up a time that works for both of us, I promise!! Looking forward to it, Dave

Sent from Dave

> On Jun 16, 2016, at 1:43 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>

> Hello Dave,

>

> We never connected when you returned from vacation (or maybe you found
> Costa Rica to your liking and did not return??). I would still value the
> chance to talk with you. Is there a good time for you and a number at
> which I could give you a call?

>

> Best regards,

>

> Noreen

>

>

>

> Noreen Walsh

> Regional Director

> Mountain-Prairie Region

> U. S. Fish and Wildlife Service

> 303 236 7920

>

> -----Original Message-----

> From: Dave Heffernan [<mailto:deheffer248@yahoo.com>]

> Sent: Friday, February 19, 2016 2:24 PM

> To: Noreen Walsh

> Subject: Re: National Bison Range transfer

>

> Noreen, thanks for responding! We are vacationing in Costa Rica(:), I'll
> call you when we return the end of March. Hang in there!!! Dave :)

>

> Sent from my iPad

>

>> On Feb 19, 2016, at 10:49 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>>

>> Hello Dave,

>>

>> Thank you for your thoughtful note. I would value the opportunity to
>> talk with you directly if you have the time. You can reach me at 303
>> 236 7920, or I would be glad to call you.

>>

>> Best regards,

>>

>> Noreen

>>

>>

>>
>> Noreen Walsh
>> Regional Director
>> Mountain-Prairie Region
>> U. S. Fish and Wildlife Service
>>
>>> On Feb 18, 2016, at 11:47 AM, Dave Heffernan <deheffer248@yahoo.com>
> wrote:
>>>
>>> Hi Noreen. We worked together briefly in Atlanta before I transferred
>>> to Denver-Refuges in 2000 and subsequently retired in 2003. My wife
>>> Catherine and I still reside near Conifer just off of Hwy. 285. I was
>>> glad when you were selected the RD for Region 6 as your reputation is
>>> a good one. I received a copy of your all-employees memo (not
>>> shocking in this day, is it :) concerning the issue of simply
>>> transferring the National Bison Range to local CSK tribes since
>>> previous efforts to "co-manage" were ineffective. I have no doubt you
>>> are very familiar with that whole issue, and I for one do not envy
>>> you the position you find yourself in. Careers have been greatly
>>> impacted in several cases over this issue, and unfortunately politics
>>> seems to oftentimes rule instead of good sound science as well as the
>>> future of the Refuge System itself. I'm sure you are aware that I and
>>> many others in my situation would be much opposed to the idea of
>>> transferring the Bison Range, or any other unit of the NWRS, unless
>>> it made sound biological and scientific sense, and would make the
>>> Refuge System stronger in the long run. As I said, I do not envy you
>>> the position you are in, these are potentially dangerous waters. I
>>> would simply encourage you to continue doing what YOU believe is the
>>> right thing to do on the part of our resources, and then do your best
>>> to take each day as it unfolds. Thanks for listening, I wish you all
>>> the best in your position, and pray to the Good Lord that He blesses
>>> you with good and honest advisers. Sincerely, Dave Heffernan (retired
>>> after 35 years of service with the Refuge System :)
>>>
>>> Sent from my iPad

From: [Noreen Walsh](#)
To: [Will Meeks](#)
Subject: RE: NBR - all employee
Date: Friday, June 17, 2016 4:17:05 PM

Can you be on the phone from SLC? If so that is fine, no need to change any plans

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Will Meeks [mailto:Will_Meeks@fws.gov]
Sent: Friday, June 17, 2016 4:15 PM
To: Noreen Walsh
Subject: NBR - all employee

Noreen,

It just dawned on me that I was going to arrive in Salt Lake City early to head out to Bear River on the 27th.

I'm happy to arrange if you preferred I did the presentation in person here in the RO. Any preference on your part?

Thanks.

Will Meeks
U.S. Fish and Wildlife Service
Mountain Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

From: [Will Meeks](#)
To: [Jeff King](#)
Cc: [Mike Blenden](#)
Subject: NBR Bison
Date: Tuesday, June 21, 2016 11:28:39 AM

Jeff,

Due to potential/pending legislation please do not make any commitments on bison transfers from the herd for this year. We need to have a strategy in place and should have that conversation soon.

Thanks.

P.S. I understand we "were served" in the PEER lawsuit. More on that next week when I learn more.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

From: [Jeff King](#)
To: [Amy Lisk](#); [Laura King](#)
Subject: Fwd: NBR Bison
Date: Tuesday, June 21, 2016 1:41:09 PM

Thanks

jk

Sent from my iPhone

Begin forwarded message:

From: Will Meeks <will_meeks@fws.gov>
Date: June 21, 2016 at 11:28:33 AM MDT
To: Jeff King <jeff_king@fws.gov>
Cc: Mike Blenden <mike_blenden@fws.gov>
Subject: NBR Bison

Jeff,

Due to potential/pending legislation please do not make any commitments on bison transfers from the herd for this year. We need to have a strategy in place and should have that conversation soon.

Thanks.

P.S. I understand we "were served" in the PEER lawsuit. More on that next week when I learn more.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

From: [Munoz, Anna](#)
To: [Noreen Walsh](#); [Matt Hogan](#); [Will Meeks](#)
Subject: Fwd: Bison Range story on MT Public Radio
Date: Wednesday, June 22, 2016 11:14:27 AM
Attachments: [MtPR 6-13-16 NBR story \(color\).pdf](#)

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

----- Forwarded message -----

From: **Brian Upton** <brianu@cskt.org>
Date: Wed, Jun 22, 2016 at 10:49 AM
Subject: Bison Range story on MT Public Radio
To: cynthia_martinez@fws.gov, shaun_sanchez@fws.gov, betsy_hildebrandt@fws.gov,
anna_munoz@fws.gov, scott_aikin@fws.gov
Cc: mike.black@bia.gov, sharee.freeman@bia.gov

I know that you are probably getting copies of the Montana print stories concerning the Tribes' draft NBR restoration legislation, but I wasn't sure whether you are also getting things from media outlets such as Montana Public Radio. In case you haven't already seen it, here is a June 13th piece from MtPR that discusses the proposed restoration/transfer, as well as the litigation. The story addresses some different angles than most of the media we've seen thus far. It also includes notice that CSKT is accepting public comments on the Tribes' draft legislation, so that is good.

The audio is a bit hard to hear at times, so it's probably best to read the online print version of the story (which also includes a screenshot of one of the plaintiffs' Facebook page that is discussed in the news piece).

Here is a link: [Fight Brewing Over Proposed Transfer Of National Bison Range | MTPR](#). I'm also attaching a PDF of the story in case that's easier.

I wasn't sure who all I should send this to, so please forward on as you see fit.

Thanks,

BU



[Donate \(http://mtpr.org/donate-mtpr\)](http://mtpr.org/donate-mtpr)



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Fight Brewing Over Proposed Transfer Of National Bison Range

By AMY MARTIN • JUN 13, 2016

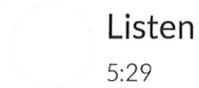
[Twitter \(http://twitter.com/intent/tweet?url=http%3A%2F%2Fwww.tinyurl.com%2Fjo79a5p&text=Fight%20Brewing%20Over%20](http://twitter.com/intent/tweet?url=http%3A%2F%2Fwww.tinyurl.com%2Fjo79a5p&text=Fight%20Brewing%20Over%20)



(http://mediad.publicbroadcasting.net/p/kufm/files/styles/x_large/public/201606/National-Bison-Range-02_Amy-Martin.jpg)

After more than 100 years of federal control, the lands of the National Bison Range may be returned to the Confederated Salish and Kootenai Tribes.

AMY MARTIN



Listen

5:29

Fight Brewing Over Proposed Transfer Of National Bison Range

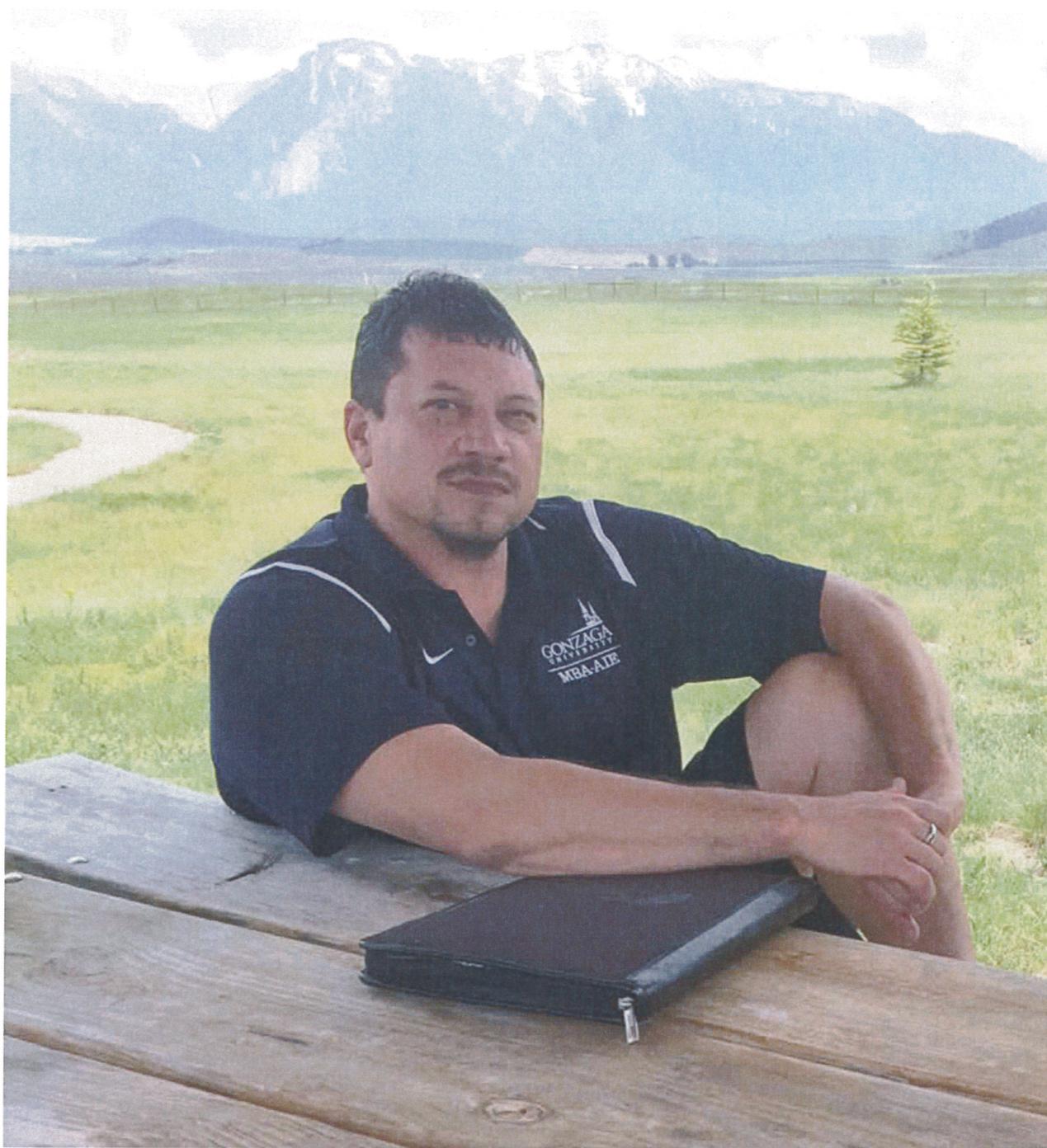
Support this stream
at mtp.org



After more than 100 years of federal control, the lands of the National Bison Range may be returned to the Confederated Salish and Kootenai Tribes. Last week, the tribes released draft legislation that would transfer authority over the range (<http://mtp.org/post/draft-bill-would-transfer-bison-range-tribal-control>) from the U.S. Fish and Wildlife Service to the CSKT.

At the top of Ravalli* Hill, about 40 miles north of Missoula, you can look right into the National Bison Range from an overlook on the side of Highway 93. You can't always see bison from that spot, but on the day I met Rich Janssen, head of the natural resources department for the Confederated Salish and Kootenai Tribes, we got lucky.

"..seeing the mighty bison, the American bison, commonly called buffalo by the Europeans, Q'wey Q'way in the Salish language."



http://mediad.publicbroadcasting.net/p/kufm/files/styles/x_large/public/201606/Rich-Janssen-CSKT_Amy-Martin.jpg

Rich Janssen is head of the Natural Resources Department for the Confederated Salish and Kootenai Tribes.

CREDIT AMY MARTIN

Tourists making the trek between Glacier National Park and Yellowstone were stopping to photograph the herd, including the red calves who hopped about while their moms grazed.

"Yeah, that's a prehistoric animal that thrives, and is very hearty, and obviously was not driven to extinction like they tried, and you can see how well they're doing right now," Janssen says. "It's pretty neat to see that animal walking along the side hills of the Bison Range, that you see them grazing, nonchalantly."

In the Hellgate Treaty of 1855, the United States promised the Flathead Reservation would be the permanent homeland for the Salish, Kootenai and Pend d'Oreille people. But in 1908, the federal government carved 18,000 acres out of the reservation to form the National Bison Range. Since the mid-1990s, the tribes have been seeking a larger role in the management of the range. And this past February, the U.S. Fish and Wildlife Service signaled their willingness to return control of the lands to the tribes.

"You know the time is now, it's a long time coming for this to happen and I'm pretty proud to say that I'm going to be part of history," says Janssen.

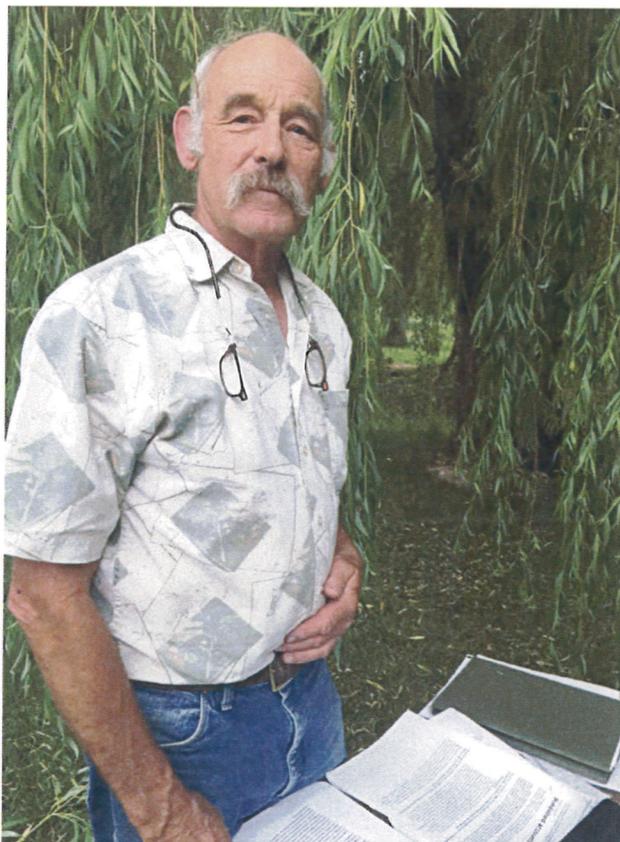
Last week, the CSKT released a draft of a bill which would return the range to its pre-1908 status as part of the reservation (<http://bisonrangeworkinggroup.org/wp-content/uploads/2016/06/CSKT-Draft-NBR-Bill-6-6-16.pdf>). The bill would continue bison conservation and public access, while giving the tribes management authority. Janssen says his department is more than ready.

"Our wildlife program is top-notch. I would put our wildlife program, our department, at any level of any other wildlife program within the state. Even nationally. We have the tools and the capabilities to manage this bison range in perpetuity, and I think when that occurs, this will undoubtedly improve what you see at the bison range at this time."

But not everyone supports the proposed transfer. Skip Palmer worked in the maintenance department at the National Bison Range for 16 years.

"Loved it. How could a person not love it? You know, you're working with wildlife. I spent 16 years basically, amongst other things, chasing bison on horseback. Round 'em up every year."

Palmer is one of 10 co-plaintiffs in a lawsuit filed by the group Public Employees for Environmental Responsibility, or PEER.



http://mediad.publicbroadcasting.net/p/kufm/files/styles/x_large/public/201606/Skip-Palmer_Amy-Martin.jpg

Skip Palmer worked in the maintenance department at the National Bison Range for 16 years. He's a plaintiff in the lawsuit seeking to prevent transfer of the Bison Range to CSKT management.

CREDIT AMY MARTIN

(http://www.peer.org/assets/docs/nwr/5_23_16_PEER-Bison_Range_Complaint.pdf) He says PEER (<http://www.peer.org/>) is opposed to transferring control to the tribes for several reasons, including his fear that the land will not remain a bison range.

"There's nothing out there at this point that tells the tribe we want a guarantee from you that you're going to keep it a bison range ... nope, no guarantee.

The draft legislation proposed by the tribes (<http://bisonrangeworkinggroup.org/wp-content/uploads/2016/06/CSKT-Draft-NBR-Bill-6-6-16.pdf>) states that the lands will be managed "solely for the bison, wildlife and other natural resources".

Palmer: "I don't care what they said."

Martin: "You don't believe them?"

Palmer: "No."

Palmer says he joined the PEER lawsuit because he believes legislation should not even be proposed unless a full environmental impact statement is completed first.

"They're introducing something that's illegal. It shouldn't go to Congress because it's illegal to even get that point."

The courts will decide whether or not an environmental impact statement is required: that question may come down to technicalities of who is proposing the legislation – the Fish and Wildlife Service, or the tribes.

Rachel Carrol-Rivas (<http://mtpr.org/term/Rachel-Carrol-Rivas>) of the Montana Human Rights Network (<http://mhrn.org>) says opposition to the transfer of the bison range did not begin with environmental concerns, but rather, with racial fear.

"There's a history of anti-Indian sentiment and active organizing in this community and on these issues."

Carrol-Rivas says the Montana Human Rights Network documented this history in a report from January 2000 called "Drumming Up Resentment." (<http://www.mhrn.org/publications/specialresearchreports/DrummingUp.pdf>)

"And a lot of it centered on the anti-Indian movement against the Confederated Salish and Kootenai tribe particularly. And touched on the early stages of the opposition to the National Bison Range and that continues to be a concern for us."

Carrol-Rivas says the anti-Indian movement in the Flathead Valley is not as strong as it once was, but that it tends to get re-ignited when the tribes make advancements like the Flathead water compact, or this proposed transfer.

Paula Dinerstein, lead counsel for PEER, doesn't buy it.

"I think groups are suggesting that because they don't want to deal with the merits of the case, they want to scream racism instead, and I don't think there's any basis for it," Dinerstein said.

Martin: "Well one of the plaintiffs in the lawsuit, Skip Palmer, on his Facebook page right now has a white power symbol."

Dinerstein: "Well, I don't know anything, I haven't seen his Facebook page, but I do know Mr. Palmer, and I know he has worked very closely with tribal people who are employed at the range."



http://mediad.publicbroadcasting.net/p/kufm/files/styles/x_large/public/201606/Skip-Palmer-Facebook-Screen-Capture-06-09-16.jpg

A screen capture from June 9, 2016 of a Facebook post shared by Skip Palmer, one of the plaintiffs in the lawsuit seeking to prevent the transfer of the National Bison Range to the Confederated Salish & Kootenai Tribes.

Palmer actually left the National Bison Range in part over employment disputes that stemmed from sharing management duties with the tribes.

The Montana Human Rights Network says other plaintiffs have ties to anti-Indian groups as well.

Back at the overlook, however, the visitors who have stopped to watch the bison seem to be less concerned with who is in charge of the land, and more interested in the animals themselves – and not only the bison.

"We're not used to seeing signs that say 'danger, rattlesnakes,'" Jane Heppell said. She and Bob Heppell are from Norfolk, England.

"People are always going to object about something anyway," Bob Heppell says, "but give them chance to have a go, and good luck to them, that's what I say."

The CSKT have formed a Bison Range Working Group (<http://bisonrangeworkinggroup.org/>) to support the proposed transfer. They are accepting comments on their draft legislation through June 24. The lawsuit by PEER is currently pending in federal court.

****an earlier version of this story mis-identified the Bison Range overlook's location as atop Evaro hill. We regret the error.***

TAGS: [NATIONAL BISON RANGE \(/TERM/NATIONAL-BISON-RANGE\)](#) [BISON \(/TERM/BISON\)](#)

[CONFEDERATED SALISH AND KOOTENAI TRIBES \(/TERM/CONFEDERATED-SALISH-AND-KOOTENAI-TRIBES\)](#)

[U.S. FISH & WILDLIFE SERVICE \(/TERM/US-FISH-WILDLIFE-SERVICE\)](#)

[RICH JANSSEN \(/TERM/RICH-JANSSEN\)](#) [HELLGATE TREATY \(/TERM/HELLGATE-TREATY\)](#)

From: [Noreen Walsh](#)
To: [Dan Ashe \(d.m.ashe@fws.gov\)](mailto:Dan.Ashe@d.m.ashe@fws.gov)
Subject: FW: National Bison Range transfer
Date: Wednesday, June 22, 2016 3:03:00 PM

fyi

-----Original Message-----

From: Dave Heffernan [<mailto:deheffer248@yahoo.com>]
Sent: Friday, June 17, 2016 1:44 PM
To: Noreen Walsh
Subject: Re: National Bison Range transfer

Hi Noreen, thanks for getting back to me! I'll contact you next week to try to set up a time that works for both of us, I promise!! Looking forward to it, Dave

Sent from Dave

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> Noreen

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> Noreen Walsh

> Regional Director

> Mountain-Prairie Region

> U. S. Fish and Wildlife Service

> 303 236 7920

>

> -----Original Message-----

> From: Dave Heffernan [<mailto:deheffer248@yahoo.com>]

> Sent: Friday, February 19, 2016 2:24 PM

> To: Noreen Walsh

> Subject: Re: National Bison Range transfer

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> Noreen, thanks for responding! We are vacationing in Costa Rica(:),

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From: [Dave Heffernan](#)
To: [Noreen Walsh](#)
Subject: Re: National Bison Range transfer
Date: Thursday, June 23, 2016 1:04:21 PM

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From: [Noreen Walsh](#)
To: "[Dave Heffernan](#)"
Subject: RE: National Bison Range transfer
Date: Thursday, June 23, 2016 5:27:00 PM

Thanks Dave, how does late Wednesday the 29th look for you? Say 4 pm?

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
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From: [Dave Heffernan](#)
To: [Noreen Walsh](#)
Subject: Re: National Bison Range transfer
Date: Thursday, June 23, 2016 7:42:33 PM

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Subject: Re: National Bison Range transfer
Date: Friday, June 24, 2016 6:25:46 AM

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From: [Dave Heffernan](#)
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Date: Friday, June 24, 2016 8:55:58 AM

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Conversation Contents

Fwd: laura_king@fws.gov has shared something with you

"King, Laura" <laura_king@fws.gov>

From: "King, Laura" <laura_king@fws.gov>
Sent: Fri Jun 24 2016 14:47:40 GMT-0600 (MDT)
To: Anna Munoz <anna_munoz@fws.gov>, Will Meeks <will_meeks@fws.gov>, Mike Blenden <mike_blenden@fws.gov>, Jeff King <jeff_king@fws.gov>
Subject: Fwd: laura_king@fws.gov has shared something with you

Here are some Op-eds that were published this week in our local newspaper, the Valley Journal. Gale Decker is one of our Lake County Commissioners. I'll forward these local articles about the NBR proposal when I see them.

Just an FYI.

Laura

Laura King, Refuge Program Specialist

U.S. Fish and Wildlife Service, Division of Refuge Planning
58355 Bison Range Rd.
Moiese, MT 59824
phone, 406-644-2211, ext. 210
fax, 406-644-2661

<http://www.valleyjournal.net/Article/15614/Oppose-Bison-Range-transfer>

<http://www.valleyjournal.net/Article/15613/Draft-Bison-Range-bill-fails-to-address-county-impact#.V22Y9fa3CrU.email>

From: [Will Meeks](#)
To: [Blenden, Mike](#)
Cc: [Jeff King](#)
Subject: Re: NBR Bison
Date: Friday, June 24, 2016 8:43:15 PM

That is true. Need to consider some genetic stuff likely too.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

On Jun 24, 2016, at 7:59 AM, Blenden, Mike <mike_blenden@fws.gov> wrote:

Will,

Just to clarify, Jeff shouldn't make commitments on transfer of surplus bison but I think he should continue to make preparations for the annual roundup/sale/donation for this fall. There is a lot of advance preparation. Agreed?

Mike

On Tue, Jun 21, 2016 at 11:28 AM, Will Meeks <will_meeks@fws.gov> wrote:

Jeff,

Due to potential/pending legislation please do not make any commitments on bison transfers from the herd for this year. We need to have a strategy in place and should have that conversation soon.

Thanks.

P.S. I understand we "were served" in the PEER lawsuit. More on that next week when I learn more.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

--

Michael Blenden
Refuge Supervisor - Montana, Wyoming and Utah
134 Union Boulevard
Lakewood, CO 80228
303-236-4306
303-710-7934 cell

Too often we...enjoy the comfort of opinion without the discomfort of thought.
John F. Kennedy

From: [Noreen Walsh](#)
To: [Will Meeks](#)
Subject: Good morning...
Date: Monday, June 27, 2016 8:37:10 AM

Apologies if this topic never got to you.....if so, all my fault.....but I think we talked about it....

I was trying to use the AEM today to have a 10 min overview of where we are and why with NBR. I was going to give a brief comment and turn it over to you. Will you be on the phone?

Noreen

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

From: [Will Meeks](#)
To: [Noreen Walsh](#)
Subject: Re: Good morning...
Date: Monday, June 27, 2016 9:10:35 AM

I will be and will add to your comments. I will go off of your cue.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

> On Jun 27, 2016, at 8:37 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>

> Apologies if this topic never got to you.....if so, all my
> fault.....but I think we talked about it....

>

> I was trying to use the AEM today to have a 10 min overview of where
> we are and why with NBR. I was going to give a brief comment and turn
> it over to you. Will you be on the phone?

>

> Noreen

>

> Noreen Walsh

> Regional Director

> Mountain-Prairie Region

> U. S. Fish and Wildlife Service

From: [Noreen Walsh](#)
To: [Will Meeks](#)
Subject: RE: Good morning...
Date: Monday, June 27, 2016 9:15:34 AM

Awesome, thank you.

Barbara had a panicked look in her eye..... :)

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920

-----Original Message-----

From: Will Meeks [mailto:will_meeks@fws.gov]
Sent: Monday, June 27, 2016 9:11 AM
To: Noreen Walsh
Subject: Re: Good morning...

I will be and will add to your comments. I will go off of your cue.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

> On Jun 27, 2016, at 8:37 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>

> Apologies if this topic never got to you.....if so, all my

> fault.....but I think we talked about it....

>

> I was trying to use the AEM today to have a 10 min overview of where

> we are and why with NBR. I was going to give a brief comment and turn

> it over to you. Will you be on the phone?

>

> Noreen

>

> Noreen Walsh

> Regional Director

> Mountain-Prairie Region

> U. S. Fish and Wildlife Service

From: [Caramanian, Lori](#)
To: [Will Meeks](#)
Cc: [Munoz, Anna](#); [Reed, Megan](#); [Cynthia Martinez](#); [Stephen Torbit](#); [Dana Jacobsen](#)
Subject: Re: National Bison Range Team Call
Date: Monday, June 27, 2016 9:54:28 AM

We can use my number. (b) (5) CIP [REDACTED] passcode (b) (5) CIP [REDACTED]. I'll also send a meeting invite.

On Mon, Jun 27, 2016 at 9:22 AM, Will Meeks <will_meeks@fws.gov> wrote:
Will someone set up the call with call-in info?

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

On Jun 27, 2016, at 9:21 AM, Munoz, Anna <anna_munoz@fws.gov> wrote:

I am also available from 1-2 PM ET/11-12 MT.

Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

On Mon, Jun 27, 2016 at 8:48 AM, Caramanian, Lori
<lori.caramanian@sol.doi.gov> wrote:

1-2 works for me. I think we only need 30 minutes or less.

On Mon, Jun 27, 2016 at 7:21 AM, Will Meeks <will_meeks@fws.gov>
wrote:

I may be available then. It's a pretty good chance, but I will be on the road in UT.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

On Jun 27, 2016, at 6:09 AM, Reed, Megan <megan_reed@fws.gov>

wrote:

Good Morning,

Cynthia's availability has changed today. She is available from 1-2PM EST.

Megan

On Mon, Jun 27, 2016 at 6:59 AM, Reed, Megan

<megan_reed@fws.gov> wrote:

Good Morning Anna,

Cynthia has availability today from 1:30-4:00PM EST.

Megan

On Fri, Jun 24, 2016 at 11:34 AM, Munoz, Anna

<anna_munoz@fws.gov> wrote:

I'm pretty much free all day on Monday (famous last words). I'm also looping in Megan Reed, Cynthia's Special Assistant as Cynthia is on travel right now and Megan may be able to provide more insights regarding her availability.

Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

On Fri, Jun 24, 2016 at 9:12 AM, Caramanian, Lori

<lori.caramanian@sol.doi.gov> wrote:

Hi, all--I want to make sure we try to touch base on a call soon. Are folks available on Monday?

On Wed, Jun 22, 2016 at 1:51 PM, Munoz, Anna

<anna_munoz@fws.gov> wrote:

Hi Lori,

Although these "transition team" calls have been discussed and scheduled, no calls have taken place to date. The one and only call to be scheduled was subsequently cancelled due to availability issues. As you are aware, we are in the process of trying to find another date for a call. We'd welcome your perspective on how we might best proceed given the pending litigation.

Thanks,
Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

On Wed, Jun 22, 2016 at 1:44 PM, Caramanian, Lori
<lori.caramanian@sol.doi.gov> wrote:

Good afternoon--

As I think most of you know, I'm the attorney
that has been assigned to handle the PEER
lawsuit on the National Bison Range. The DOJ
attorney forwarded this to me earlier today.

(b) (5) ACP

and I'd like to
schedule a call on it asap.

Thanks, Lori

----- Forwarded message -----

From: **Nesbitt, Tanya (ENRD)**
<Tanya.Nesbitt2@usdoj.gov>
Date: Wed, Jun 22, 2016 at 10:42 AM
Subject: FW: National Bison Range Team Call
To: "Caramanian, Lori"
<lori.caramanian@sol.doi.gov>

ATTORNEY-CLIENT PRIVILEGED
COMMUNICATION/ATTORNEY WORK PRODUCT

Hi Lori,

(b) (5) ACP

(b) (5) ACP

Thanks.

From: Brian Upton [mailto:brianu@cskt.org]
Sent: Wednesday, June 22, 2016 12:28 PM
To: Nesbitt, Tanya (ENRD)
<TNesbitt@ENRD.USDOJ.GOV>
Subject: FW: National Bison Range Team Call

Tanya,

Below is the invitation I'd mentioned to you. I'll just hold off on responding altogether until I hear back from you.

Thanks,
BU

From: Reed, Megan [mailto:megan_reed@fws.gov]
Sent: Tuesday, June 21, 2016 11:41 AM
To: Cynthia Martinez; Shaun Sanchez; Anna Munoz; Michael Black; Scott Aikin; Will Meeks; Ira New Breast; Helen Riggs; brianu@cskt.org; Stephen Torbit
Cc: Charisa Morris
Subject: National Bison Range Team Call

Good Afternoon,

I am writing on behalf of Cynthia Martinez, Chief, National Wildlife Refuge System, to schedule a National Bison Range Team Call. Here is a Doodle poll for you to please fill out with

your availability:

<http://doodle.com/poll/ezmicv5qu4mz83pu>

When selecting times available, please be sure the correct time zone is listed for you in the top right corner.

Have a great day!

Megan

--

Megan Davis Reed || *Special Assistant*

External Affairs & National Wildlife Refuge System

U.S. Fish and Wildlife Service

1849 C Street NW, Room 3351

Washington, DC 20240

Office: 202-219-3898

--

Lori Caramanian

U.S. Department of the Interior

Office of the Solicitor, Rocky Mountain Region

755 Parfet St, Suite 151

Lakewood, CO 80215

303-445-0604

--

Lori Caramanian

U.S. Department of the Interior

Office of the Solicitor, Rocky Mountain Region
755 Parfet St, Suite 151
Lakewood, CO 80215
303-445-0604

--

Megan Davis Reed || *Special Assistant*
External Affairs & National Wildlife Refuge System
U.S. Fish and Wildlife Service
1849 C Street NW, Room 3351
Washington, DC 20240
Office: 202-219-3898

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Megan Davis Reed || *Special Assistant*
External Affairs & National Wildlife Refuge System
U.S. Fish and Wildlife Service
1849 C Street NW, Room 3351
Washington, DC 20240
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--

Lori Caramanian
U.S. Department of the Interior
Office of the Solicitor, Rocky Mountain Region
755 Parfet St, Suite 151
Lakewood, CO 80215
303-445-0604

--

Lori Caramanian
U.S. Department of the Interior
Office of the Solicitor, Rocky Mountain Region
755 Parfet St, Suite 151
Lakewood, CO 80215
303-445-0604

From: [Jeff King](#)
To: [Noreen Walsh](#); [Will Meeks](#)
Subject: Nbr update
Date: Monday, June 27, 2016 10:37:14 AM

Noreen and Will. Thanks for the nbr update during the all employee call today. I would like to request a call with the NBR staff to address more specific questions that they may have. Let me know a date and time that works for both of you.

Thanks

jk

Sent from my iPhone

From: [Noreen Walsh](#)
To: [Jeff King](#)
Cc: [Will Meeks](#); [Stephanie Potter](#); [Matt Hogan](#)
Subject: Re: Nbr update
Date: Monday, June 27, 2016 2:17:06 PM

Thanks Jeff. I'm happy to do that as soon as it works for all. Will and I are at Bear River the next two days. We should be able to schedule something after that. I'm copying Stephanie Potter, our new executive assistant, who can help with scheduling.
Noreen

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

> On Jun 27, 2016, at 10:37 AM, Jeff King <jeff_king@fws.gov> wrote:
>
> Noreen and Will. Thanks for the nbr update during the all employee
> call today. I would like to request a call with the NBR staff to
> address more specific questions that they may have. Let me know a date
> and time that works for both of you.
>
> Thanks
>
> jk
>
> Sent from my iPhone

From: [Noreen Walsh](#)
To: [Will Meeks](#)
Subject: Re: Good morning...
Date: Monday, June 27, 2016 2:22:47 PM

Really well done this morning Will - thank you for your well spoken comments and for being available while traveling.

Noreen

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

> On Jun 27, 2016, at 9:10 AM, Will Meeks <will_meeks@fws.gov> wrote:

>

> I will be and will add to your comments. I will go off of your cue.

>

> Will Meeks

> U.S. Fish and Wildlife Service

> Mountain-Prairie Region

> Assistant Regional Director

> National Wildlife Refuge System

> 303-236-4303(w)

> 720-541-0310 (c)

>

>> On Jun 27, 2016, at 8:37 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>>

>> Apologies if this topic never got to you.....if so, all my

>> fault.....but I think we talked about it....

>>

>> I was trying to use the AEM today to have a 10 min overview of where

>> we are and why with NBR. I was going to give a brief comment and turn

>> it over to you. Will you be on the phone?

>>

>> Noreen

>>

>> Noreen Walsh

>> Regional Director

>> Mountain-Prairie Region

>> U. S. Fish and Wildlife Service

From: [Will Meeks](#)
To: [Noreen Walsh](#)
Subject: Re: Good morning...
Date: Monday, June 27, 2016 4:17:25 PM

No problem being available. Yes, we had talked about it. :)

Thanks for the kind words. I was hopeful you thought it was "OK."

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

> On Jun 27, 2016, at 2:22 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>
> Really well done this morning Will - thank you for your well spoken
> comments and for being available while traveling.

>
> Noreen
>
> Noreen Walsh
> Regional Director
> Mountain-Prairie Region
> U. S. Fish and Wildlife Service

>
>> On Jun 27, 2016, at 9:10 AM, Will Meeks <will_meeks@fws.gov> wrote:

>>
>> I will be and will add to your comments. I will go off of your cue.

>>
>> Will Meeks
>> U.S. Fish and Wildlife Service
>> Mountain-Prairie Region
>> Assistant Regional Director
>> National Wildlife Refuge System
>> 303-236-4303(w)
>> 720-541-0310 (c)

>>
>>> On Jun 27, 2016, at 8:37 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>>>
>>> Apologies if this topic never got to you.....if so, all my
>>> fault.....but I think we talked about it....

>>>
>>> I was trying to use the AEM today to have a 10 min overview of where
>>> we are and why with NBR. I was going to give a brief comment and turn
>>> it over to you. Will you be on the phone?

>>>
>>> Noreen
>>>
>>> Noreen Walsh
>>> Regional Director
>>> Mountain-Prairie Region

>>> U. S. Fish and Wildlife Service

From: [Noreen Walsh](#)
To: [Will Meeks](#)
Subject: Re: Good morning...
Date: Monday, June 27, 2016 4:46:23 PM

I recall it was in relation to the download from frank D but it took me a few minutes to recall that

> On Jun 27, 2016, at 4:17 PM, Will Meeks <will_meeks@fws.gov> wrote:

>

> No problem being available. Yes, we had talked about it. :)

>

> Thanks for the kind words. I was hopeful you thought it was "OK."

>

> Will Meeks

> U.S. Fish and Wildlife Service

> Mountain-Prairie Region

> Assistant Regional Director

> National Wildlife Refuge System

> 303-236-4303(w)

> 720-541-0310 (c)

>

>> On Jun 27, 2016, at 2:22 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>>

>> Really well done this morning Will - thank you for your well spoken

>> comments and for being available while traveling.

>>

>> Noreen

>>

>> Noreen Walsh

>> Regional Director

>> Mountain-Prairie Region

>> U. S. Fish and Wildlife Service

>>

>>> On Jun 27, 2016, at 9:10 AM, Will Meeks <will_meeks@fws.gov> wrote:

>>>

>>> I will be and will add to your comments. I will go off of your cue.

>>>

>>> Will Meeks

>>> U.S. Fish and Wildlife Service

>>> Mountain-Prairie Region

>>> Assistant Regional Director

>>> National Wildlife Refuge System

>>> 303-236-4303(w)

>>> 720-541-0310 (c)

>>>

>>>> On Jun 27, 2016, at 8:37 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>>>>

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>>>> we are and why with NBR. I was going to give a brief comment and turn

>>>> it over to you. Will you be on the phone?

>>>>

>>>> Noreen
>>>>
>>>> Noreen Walsh
>>>> Regional Director
>>>> Mountain-Prairie Region
>>>> U. S. Fish and Wildlife Service

From: stephanie_potter@fws.gov
To: [Will Meeks](#); [Jeff King](#)
Subject: Conference call with NBR staff
Start: Monday, July 25, 2016 2:30:00 PM
End: Monday, July 25, 2016 3:00:00 PM
Location: RD office or 1-866-613-9547 passcode 92085018

> On Jun 27, 2016, at 10:37 AM, Jeff King <[HYPERLINK "mailto:jeff_king@fws.gov"jeff_king@fws.gov](mailto:jeff_king@fws.gov)> wrote:

>

> Noreen and Will. Thanks for the nbr update during the all employee

> call today. I would like to request a call with the NBR staff to

> address more specific questions that they may have. Let me know a date

> and time that works for both of you.

>

> Thanks

>

> jk

From: stephanie_potter@fws.gov
To: [Will Meeks](#); [Jeff King](#)
Subject: Conference call with NBR staff

> On Jun 27, 2016, at 10:37 AM, Jeff King <[HYPERLINK "mailto:jeff_king@fws.gov"jeff_king@fws.gov](mailto:jeff_king@fws.gov)> wrote:

>

> Noreen and Will. Thanks for the nbr update during the all employee

> call today. I would like to request a call with the NBR staff to

> address more specific questions that they may have. Let me know a date

> and time that works for both of you.

>

> Thanks

>

> jk

From: [Dave Heffernan](#)
To: [Noreen Walsh](#)
Subject: Re: National Bison Range transfer
Date: Wednesday, June 29, 2016 10:31:52 AM

Hi Noreen. Best bet for me today would be my cellphone at b(6). Will look for your call around 4 if that still works for you. Dave

Sent from Dave

> On Jun 24, 2016, at 6:25 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>

> I will give you a call then - thanks Dave!

>

>> On Jun 23, 2016, at 7:42 PM, Dave Heffernan <deheffer248@yahoo.com> wrote:

>>

>> We'll make it work. My home phone is b(6), cell is b(6). Look forward to talking with you!

Dave

>>

>> Sent from Dave

>>

>>> On Jun 23, 2016, at 5:27 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>>>

>>> Thanks Dave, how does late Wednesday the 29th look for you? Say 4 pm?

>>>

>>>

>>>

>>>

>>> Noreen Walsh

>>> Regional Director

>>> Mountain-Prairie Region

>>> U. S. Fish and Wildlife Service

>>> 303 236 7920

>>>

>>> -----Original Message-----

>>> From: Dave Heffernan [<mailto:deheffer248@yahoo.com>]

>>> Sent: Thursday, June 23, 2016 1:04 PM

>>> To: Noreen Walsh

>>> Subject: Re: National Bison Range transfer

>>>

>>> Hi again, Noreen. Is there a time next week when we can talk? This week is

>>> already shot with grandkids visits, etc, and we head to Alaska the week

>>> after for much of July. What do you think? Dave

>>>

>>> Sent from Dave

>>>

>>>> On Jun 17, 2016, at 1:43 PM, Dave Heffernan <deheffer248@yahoo.com>

>>>> wrote:

>>>>

>>>> Hi Noreen, thanks for getting back to me! I'll contact you next week

>>>> to try to set up a time that works for both of us, I promise!! Looking

>>>> forward to it, Dave

>>>>

>>>> Sent from Dave

>>>>

>>>>> On Jun 16, 2016, at 1:43 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>>>>>

>>>>> Hello Dave,

>>>>>

>>>>> We never connected when you returned from vacation (or maybe you
>>>>> found Costa Rica to your liking and did not return??). I would still
>>>>> value the chance to talk with you. Is there a good time for you and
>>>>> a number at which I could give you a call?

>>>>>

>>>>> Best regards,

>>>>>

>>>>> Noreen

>>>>>

>>>>>

>>>>>

>>>>> Noreen Walsh

>>>>> Regional Director

>>>>> Mountain-Prairie Region

>>>>> U. S. Fish and Wildlife Service

>>>>> 303 236 7920

>>>>>

>>>>> -----Original Message-----

>>>>> From: Dave Heffernan [<mailto:deheffer248@yahoo.com>]

>>>>> Sent: Friday, February 19, 2016 2:24 PM

>>>>> To: Noreen Walsh

>>>>> Subject: Re: National Bison Range transfer

>>>>>

>>>>> Noreen, thanks for responding! We are vacationing in Costa Rica(:),
>>>>> I'll call you when we return the end of March. Hang in there!!! Dave
>>>>> :)

>>>>>

>>>>> Sent from my iPad

>>>>>

>>>>>> On Feb 19, 2016, at 10:49 AM, Noreen Walsh <noreen_walsh@fws.gov>

>>>>> wrote:

>>>>>>

>>>>>> Hello Dave,

>>>>>>

>>>>>> Thank you for your thoughtful note. I would value the opportunity
>>>>>> to talk with you directly if you have the time. You can reach me at
>>>>>> 303

>>>>>> 236 7920, or I would be glad to call you.

>>>>>>

>>>>>> Best regards,

>>>>>>

>>>>>> Noreen

>>>>>>

>>>>>>

>>>>>>

>>>>>> Noreen Walsh

>>>>>> Regional Director

>>>>>> Mountain-Prairie Region

>>>>>> U. S. Fish and Wildlife Service

>>>>>>

>>>>>>> On Feb 18, 2016, at 11:47 AM, Dave Heffernan

>>>>>>> <deheffer248@yahoo.com>

>>>>>>> wrote:

>>>>>>>
>>>>>>> Hi Noreen. We worked together briefly in Atlanta before I
>>>>>>> transferred to Denver-Refuges in 2000 and subsequently retired in
>>>>>>> 2003. My wife Catherine and I still reside near Conifer just off of
>>>>>>> Hwy. 285. I was glad when you were selected the RD for Region 6 as
>>>>>>> your reputation is a good one. I received a copy of your
>>>>>>> all-employees memo (not shocking in this day, is it :) concerning
>>>>>>> the issue of simply transferring the National Bison Range to local
>>>>>>> CSK tribes since previous efforts to "co-manage" were ineffective.
>>>>>>> I have no doubt you are very familiar with that whole issue, and I
>>>>>>> for one do not envy you the position you find yourself in. Careers
>>>>>>> have been greatly impacted in several cases over this issue, and
>>>>>>> unfortunately politics seems to oftentimes rule instead of good
>>>>>>> sound science as well as the future of the Refuge System itself.
>>>>>>> I'm sure you are aware that I and many others in my situation would
>>>>>>> be much opposed to the idea of transferring the Bison Range, or any
>>>>>>> other unit of the NWRS, unless it made sound biological and
>>>>>>> scientific sense, and would make the Refuge System stronger in the
>>>>>>> long run. As I said, I do not envy you the position you are in,
>>>>>>> these are potentially dangerous waters. I would simply encourage
>>>>>>> you to continue doing what YOU believe is the right thing to do on
>>>>>>> the part of our resources, and then do your best to take each day
>>>>>>> as it unfolds. Thanks for listening, I wish you all the best in
>>>>>>> your position, and pray to the Good Lord that He blesses you with
>>>>>>> good and honest advisers. Sincerely, Dave Heffernan (retired after
>>>>>>> 35 years of service with the Refuge System :)

>>>>>>>
>>>>>>> Sent from my iPad

>>

From: [Morris, Charisa](#)
To: [Noreen Walsh](#); [Matt Hogan](#); [Cynthia Martinez](#); [Shaun Sanchez](#); [Scott Aikin](#)
Subject: Fwd: Tribal Bison Range Leaves Many Uncertainties
Date: Wednesday, June 29, 2016 11:53:24 AM

FYI

----- Forwarded message -----

From: **Sellars, Roslyn** <roslyn_sellars@fws.gov>
Date: Wed, Jun 29, 2016 at 11:04 AM
Subject: Fwd: Tribal Bison Range Leaves Many Uncertainties
To: "Morris, Charisa" <Charisa_Morris@fws.gov>, Nikki Randolph <Nikki_Randolph@fws.gov>, "Hancock, Donnise L" <Donnise_Hancock@fws.gov>

FYI
Roslyn

----- Forwarded message -----

From: **Robert E. Rutkowski** <r_e_rutkowski@att.net>
Date: Wed, Jun 29, 2016 at 9:30 AM
Subject: Tribal Bison Range Leaves Many Uncertainties
To: Mitch McConnell <Elizabeth_Strimer@mccconnell.senate.gov>, Paul Ryan <connect@messages.speaker.gov>, Harry Reid <David_Krone@reid.senate.gov>
Cc: exsec@ios.doi.gov, Secretary_jewell@ios.doi.gov, Dan_Ashe@fws.gov

Senator Mitch McConnell
RUSSELL SENATE OFFICE BUILDING
WASHINGTON DC 20510
Phone: (202) 224-2541

Senator Harry Reid
Democratic Leader
RUSSELL SENATE OFFICE BUILDING
Washington, DC 20510

Speaker Paul Ryan
Office of the Speaker
H-204 The Capitol
Washington, DC 20515
Phone: (202) 225-4000
Fax: (202) 225-5117

The Hon. Nancy Pelosi
Democratic Leader
United States Capitol
Washington, DC 20515

Re: Tribal Bison Range Leaves Many Uncertainties

Dear Congressional Leadership:

A plan to take over the National Bison Range being circulated by local tribes raises more questions than it answers while digging big legal pitfalls. Once the refuge is handed over to the Confederated Salish and Kootenai Tribes (CSKT) there is no guarantee that the public will have access, that it will operate as a refuge or that its bison herd will remain.

The CSKT began circulating a mock-up of legislation earlier this month after the U.S. Fish & Wildlife Service indicated that it would sponsor or support legislation authorizing the first major surrender of a national wildlife refuge in American history. PEER has sued the Service because it ignored statutory requirements that it conduct an environmental analysis prior to making any such proposal.

Besides lacking enforceable assurances that the CSKT would operate National Bison Range as a refuge, admit the public or keep the bison, the CSKT draft would allow the land to be used for "other purposes," preclude any legal challenges about conflicting uses and preclude application of federal or state law.

Under the tribes' plan, the CSKT could turn the Bison Range into an auto race track, gravel mine or casino and there would be absolutely no recourse.

Montana's congressional delegation should press the Service to do a thorough analysis of what the loss of the refuge system's Crown Jewel would mean, including the loss of this unique and vital herd for the future of the national mammal.

Besides the large unresolved question marks, the CSKT draft would also –

- Leave U.S. taxpayers on the hook to make further payments, even after giving away properties valued at more than \$100 million, to the CSKT;
- Cast a legal cloud over the title of 4,834 privately-held land parcels (consisting of nearly 500,000 acres) within the boundaries of the Flathead Indian Reservation by giving the CSKT a legal claim on all lands within the reservation; and
- Suspend application of the National Environmental Policy Act on any action taken affecting the Bison Range, thus precluding any further environmental analyses, while also precluding any legal actions against the government regarding management of the Bison Range, either pre- or post-transfer.

Why should American taxpayers owe more money to the Tribes after giving them the entire Bison Range and every asset on it? Note the fiscal strain on the already cash-starved National Wildlife Refuge System. The Montana delegation should take a very hard look at this incredibly one-sided proposal and demand that the Service provide a full accounting of its implications before taking another step.

Thank you for the opportunity to bring these remarks to your attention.

Yours sincerely,
Robert E. Rutkowski

cc:
Dan Ashe
Director, U.S. Fish and Wildlife Service
1849 C Street, N.W.
Washington, D.C. 20240
Dan_Ashe@fws.gov

Sally Jewell, Secretary
Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240
Email: exsec@ios.doi.gov, Secretary_jewell@ios.doi.gov

2527 Faxon Court
Topeka, Kansas 66605-2086
P/F: 1 785 379-9671
E-mail: r_e_rutkowski@att.net

Re: PEER letter:
http://www.peer.org/assets/docs/6_29_16_PEER_congress_ltr_CSKT_takeover_plan.pdf

--

Charisa_Morris@fws.gov | Chief of Staff, Office of the Director | U.S. Fish & Wildlife
Service | 1849 C Street NW, Room 3348 | Washington, DC 20240 | (202) 208-3843 | For urgent matters, please
dial cell: 301-875-8937

From: [Noreen Walsh](#)
To: [Dave Heffernan](#)
Subject: Re: National Bison Range transfer
Date: Wednesday, June 29, 2016 12:17:47 PM

Thanks Dave. I think I should be out of my last meeting by then. I will call at the number you gave below.

> On Jun 29, 2016, at 10:31 AM, Dave Heffernan <deheffer248@yahoo.com> wrote:

>

> Hi Noreen. Best bet for me today would be my cellphone at b(6) . Will look for your call around 4 if that still works for you. Dave

>

> Sent from Dave

>

>> On Jun 24, 2016, at 6:25 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

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>> I will give you a call then - thanks Dave!

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>>> On Jun 23, 2016, at 7:42 PM, Dave Heffernan <deheffer248@yahoo.com> wrote:

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>>> Sent from Dave

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>>>> On Jun 23, 2016, at 5:27 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>>>>

>>>> Thanks Dave, how does late Wednesday the 29th look for you? Say 4 pm?

>>>>

>>>>

>>>>

>>>>

>>>> Noreen Walsh

>>>> Regional Director

>>>> Mountain-Prairie Region

>>>> U. S. Fish and Wildlife Service

>>>> 303 236 7920

>>>>

>>>> -----Original Message-----

>>>> From: Dave Heffernan [<mailto:deheffer248@yahoo.com>]

>>>> Sent: Thursday, June 23, 2016 1:04 PM

>>>> To: Noreen Walsh

>>>> Subject: Re: National Bison Range transfer

>>>>

>>>> Hi again, Noreen. Is there a time next week when we can talk? This week is

>>>> already shot with grandkids visits, etc, and we head to Alaska the week

>>>> after for much of July. What do you think? Dave

>>>>

>>>> Sent from Dave

>>>>

>>>>> On Jun 17, 2016, at 1:43 PM, Dave Heffernan <deheffer248@yahoo.com>

>>>>> wrote:

>>>>>

>>>>> Hi Noreen, thanks for getting back to me! I'll contact you next week

>>>>> to try to set up a time that works for both of us, I promise!! Looking
>>>>> forward to it, Dave
>>>>>
>>>>> Sent from Dave
>>>>>
>>>>>> On Jun 16, 2016, at 1:43 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:
>>>>>>
>>>>>> Hello Dave,
>>>>>>
>>>>>> We never connected when you returned from vacation (or maybe you
>>>>>> found Costa Rica to your liking and did not return??). I would still
>>>>>> value the chance to talk with you. Is there a good time for you and
>>>>>> a number at which I could give you a call?
>>>>>>
>>>>>> Best regards,
>>>>>>
>>>>>> Noreen
>>>>>>
>>>>>>
>>>>>>
>>>>>> Noreen Walsh
>>>>>> Regional Director
>>>>>> Mountain-Prairie Region
>>>>>> U. S. Fish and Wildlife Service
>>>>>> 303 236 7920
>>>>>>
>>>>>> -----Original Message-----
>>>>>> From: Dave Heffernan [<mailto:deheffer248@yahoo.com>]
>>>>>> Sent: Friday, February 19, 2016 2:24 PM
>>>>>> To: Noreen Walsh
>>>>>> Subject: Re: National Bison Range transfer
>>>>>>
>>>>>> Noreen, thanks for responding! We are vacationing in Costa Rica(:),
>>>>>> I'll call you when we return the end of March. Hang in there!!! Dave
>>>>>> :)
>>>>>>
>>>>>> Sent from my iPad
>>>>>>
>>>>>>> On Feb 19, 2016, at 10:49 AM, Noreen Walsh <noreen_walsh@fws.gov>
>>>>>>> wrote:
>>>>>>>>
>>>>>>>> Hello Dave,
>>>>>>>>
>>>>>>>> Thank you for your thoughtful note. I would value the opportunity
>>>>>>>> to talk with you directly if you have the time. You can reach me at
>>>>>>>> 303
>>>>>>>> 236 7920, or I would be glad to call you.
>>>>>>>>
>>>>>>>> Best regards,
>>>>>>>>
>>>>>>>> Noreen
>>>>>>>>
>>>>>>>>
>>>>>>>>
>>>>>>>> Noreen Walsh
>>>>>>>> Regional Director
>>>>>>>> Mountain-Prairie Region

>>>>>>> U. S. Fish and Wildlife Service

>>>>>>>

>>>>>>> On Feb 18, 2016, at 11:47 AM, Dave Heffernan

>>>>>>> <deheffer248@yahoo.com>

>>>>>>> wrote:

>>>>>>>

>>>>>>> Hi Noreen. We worked together briefly in Atlanta before I
>>>>>>> transferred to Denver-Refuges in 2000 and subsequently retired in
>>>>>>> 2003. My wife Catherine and I still reside near Conifer just off of
>>>>>>> Hwy. 285. I was glad when you were selected the RD for Region 6 as
>>>>>>> your reputation is a good one. I received a copy of your
>>>>>>> all-employees memo (not shocking in this day, is it :) concerning
>>>>>>> the issue of simply transferring the National Bison Range to local
>>>>>>> CSK tribes since previous efforts to "co-manage" were ineffective.
>>>>>>> I have no doubt you are very familiar with that whole issue, and I
>>>>>>> for one do not envy you the position you find yourself in. Careers
>>>>>>> have been greatly impacted in several cases over this issue, and
>>>>>>> unfortunately politics seems to oftentimes rule instead of good
>>>>>>> sound science as well as the future of the Refuge System itself.
>>>>>>> I'm sure you are aware that I and many others in my situation would
>>>>>>> be much opposed to the idea of transferring the Bison Range, or any
>>>>>>> other unit of the NWRS, unless it made sound biological and
>>>>>>> scientific sense, and would make the Refuge System stronger in the
>>>>>>> long run. As I said, I do not envy you the position you are in,
>>>>>>> these are potentially dangerous waters. I would simply encourage
>>>>>>> you to continue doing what YOU believe is the right thing to do on
>>>>>>> the part of our resources, and then do your best to take each day
>>>>>>> as it unfolds. Thanks for listening, I wish you all the best in
>>>>>>> your position, and pray to the Good Lord that He blesses you with
>>>>>>> good and honest advisers. Sincerely, Dave Heffernan (retired after
>>>>>>> 35 years of service with the Refuge System :)

>>>>>>>

>>>>>>> Sent from my iPad

>

From: [Hagener, Jeff](#)
To: [Noreen Walsh](#)
Subject: FW: National Bison Range comments
Date: Wednesday, June 29, 2016 12:29:19 PM
Attachments: [Bison Range Comments with Letterhead.FINAL.pdf](#)

FYI

From: Tom France [mailto:france@nwf.org]
Sent: Tuesday, June 28, 2016 2:56 PM
To: Tom France
Subject: National Bison Range comments

Over the years, the Confederated Salish and Kootenai Tribes have been a valued ally and a leading voice for conservation in Indian Country. For the last 20 years, the CSKT have been working for co-management of the 12,000 acre national bison range, which is wholly surrounded by the Flathead Indian Reservation. It has been a slow and difficult struggle.

Earlier this year, the U.S. Fish and Wildlife Service abruptly announced that they were no longer interested in co-management. Instead, FWS urged the tribes to seek legislation transferring the bison range from the national wildlife refuge system to the BIA to hold in trust for CSKT to manage. Since this announcement the tribes have been working with the Montana congressional delegation to introduce a bill to this end.

In an effort to move this process along, the tribes have posted a draft bill and invited public comment. <http://bisonrangeworkinggroup.org/wp-content/uploads/2016/06/CSKT-Draft-NBR-Bill-6-6-16.pdf>

Attached are comments on the draft that NWF has sent to the CSKT. While NWF supports a strong refuge system, we support transferring the NBR to the Salish and Kootenai for many reasons. We believe the Tribes will do a great job of managing the Bison Range and will strengthen the educational and interpretive programs around bison and their importance to Native American Tribes across the country.

Please let me know if you have questions or comments.

Tom France

Regional Executive Director
National Wildlife Federation
240 N. Higgins
Missoula, MT 59802
france@nwf.org
406-541-6706 (O)
406-396-5085 (C)



June 24, 2016

Vernon Finley, Chairman
Confederated Salish and Kootenai Tribes
P.O. Box 278
Pablo, MT 59855

Comments on Draft Legislation to Restore the National Bison Range
To the Confederated Salish and Kootenai Tribes

Dear Chairman Finley:

The National Wildlife Federation (NWF) has reviewed the proposed legislation drafted by the Confederated Salish and Kootenai Tribes that would restore the lands of the National Bison Range to federal trust ownership of the Confederated Salish and Kootenai Tribes.

<http://bisonrangeworkinggroup.org/wp-content/uploads/2016/06/CSKT-Draft-NBR-Bill-6-6-16.pdf>

NWF supports moving forward with introducing the draft bill in the Congress and endorses its adoption into federal law. Over the last forty years, NWF has been a close observer of the exceptional wildlife stewardship provided by CSKT on the Flathead Reservation. This extensive track record gives us confidence that CSKT will manage the bison and other wildlife of the National Bison Range in a highly professional manner.

Because of the Tribes' cultural and historical connection to bison, we believe CSKT has the background to do an even to a *better* job than current managers of the refuge. No one can tell the story of bison conservation with more passion or authenticity than Native Americans. This close bond with bison is what also gives us complete confidence that conservation of this herd will be a foremost consideration. Moreover, the transfer legislation clearly commits the Tribes to manage the bison and other wildlife for conservation purposes. We believe that providing the Tribes with the opportunity to tell the bison conservation story from their viewpoint is one of the most attractive aspects of this land transfer.

NWF offers its support for this important legislation with the understanding that it is a completely unique situation and should not in any way be construed as a precedent regarding other federal properties. We are pleased to see the proposed legislation makes that explicit. There

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The National Wildlife Federation, Northern Rockies, Prairies & Pacific Region

www.nwf.org/Northern-Rockies-and-Pacific-Region

FWS-001545

are several factors that make this situation one of a kind. In particular, it's important to understand that the National Bison Range lies completely within the Flathead Indian Reservation, on lands acquired from the tribe by the U.S. government with minimal compensation. In addition, Tribal members played a critical role in preserving the bison that made up the original herd.

We are also pleased to see that the legislation stipulates that public use of the Bison Range will continue. CSKT has a strong track record of allowing public access on nearly all tribal lands and conservation areas. It's plain to us that the Tribes look forward to the opportunity to showcase their longstanding relationship with bison to the public.

We believe it is helpful that CSKT has proposed a two-year "transition" period designed to ensure that change occurs in as seamless a manner as possible. This will ensure that management differences experienced by the public are minimal.

In sum, NWF has worked closely with CSKT land managers and biologists for several decades and we have complete confidence in their natural resource and wildlife management abilities. The fact that the location of the Bison Range is in the midst of a tribal reservation, coupled with the long tribal history associated with the creation and conservation of this bison herd, can only lead us to conclude that the tribe will be excellent stewards of these bison, as well as other wildlife.

With best regards,

A handwritten signature in blue ink that reads "Tom France". The signature is fluid and cursive, with the first name being more prominent.

Tom France
Regional Executive Director

A handwritten signature in black ink that reads "Garrit Voggesser". The signature is more stylized and less legible than the one above it.

Garrit Voggesser
Director, Tribal Lands Program

From: [Noreen Walsh](#)
To: [Hagener, Jeff](#)
Subject: Re: National Bison Range comments
Date: Wednesday, June 29, 2016 12:30:52 PM

Thanks for sharing Jeff.

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

On Jun 29, 2016, at 12:29 PM, Hagener, Jeff <JHagener@mt.gov> wrote:

FYI

From: Tom France [<mailto:france@nwf.org>]
Sent: Tuesday, June 28, 2016 2:56 PM
To: Tom France
Subject: National Bison Range comments

Over the years, the Confederated Salish and Kootenai Tribes have been a valued ally and a leading voice for conservation in Indian Country. For the last 20 years, the CSKT have been working for co-management of the 12,000 acre national bison range, which is wholly surrounded by the Flathead Indian Reservation. It has been a slow and difficult struggle.

Earlier this year, the U.S. Fish and Wildlife Service abruptly announced that they were no longer interested in co-management. Instead, FWS urged the tribes to seek legislation transferring the bison range from the national wildlife refuge system to the BIA to hold in trust for CSKT to manage. Since this announcement the tribes have been working with the Montana congressional delegation to introduce a bill to this end.

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Please let me know if you have questions or comments.

Tom France
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406-396-5085 (C)

<Bison Range Comments with Letterhead.FINAL.pdf>

From: [Noreen Walsh](#)
To: [Will Meeks](#); [Anna Munoz](#); [Cynthia Martinez](#); [Jim Kurth](#); [Dan Ashe](#); [Matt Hogan](#); [Stephen Torbit](#)
Subject: Fwd: National Bison Range comments
Date: Wednesday, June 29, 2016 12:31:29 PM
Attachments: [Untitled attachment 00755.htm](#)
[Bison Range Comments with Letterhead.FINAL.pdf](#)

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

Begin forwarded message:

From: "Hagener, Jeff" <JHagener@mt.gov>
Date: June 29, 2016 at 12:28:41 PM MDT
To: Noreen Walsh <noreen_walsh@fws.gov>
Subject: FW: National Bison Range comments

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Sent: Tuesday, June 28, 2016 2:56 PM
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Tom France

Regional Executive Director

National Wildlife Federation

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Missoula, MT 59802

france@nwf.org

406-541-6706 (O)

406-396-5085 (C)



June 24, 2016

Vernon Finley, Chairman
Confederated Salish and Kootenai Tribes
P.O. Box 278
Pablo, MT 59855

Comments on Draft Legislation to Restore the National Bison Range
To the Confederated Salish and Kootenai Tribes

Dear Chairman Finley:

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NWF supports moving forward with introducing the draft bill in the Congress and endorses its adoption into federal law. Over the last forty years, NWF has been a close observer of the exceptional wildlife stewardship provided by CSKT on the Flathead Reservation. This extensive track record gives us confidence that CSKT will manage the bison and other wildlife of the National Bison Range in a highly professional manner.

Because of the Tribes' cultural and historical connection to bison, we believe CSKT has the background to do an even to a *better* job than current managers of the refuge. No one can tell the story of bison conservation with more passion or authenticity than Native Americans. This close bond with bison is what also gives us complete confidence that conservation of this herd will be a foremost consideration. Moreover, the transfer legislation clearly commits the Tribes to manage the bison and other wildlife for conservation purposes. We believe that providing the Tribes with the opportunity to tell the bison conservation story from their viewpoint is one of the most attractive aspects of this land transfer.

NWF offers its support for this important legislation with the understanding that it is a completely unique situation and should not in any way be construed as a precedent regarding other federal properties. We are pleased to see the proposed legislation makes that explicit. There

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FWS-001551

are several factors that make this situation one of a kind. In particular, it's important to understand that the National Bison Range lies completely within the Flathead Indian Reservation, on lands acquired from the tribe by the U.S. government with minimal compensation. In addition, Tribal members played a critical role in preserving the bison that made up the original herd.

We are also pleased to see that the legislation stipulates that public use of the Bison Range will continue. CSKT has a strong track record of allowing public access on nearly all tribal lands and conservation areas. It's plain to us that the Tribes look forward to the opportunity to showcase their longstanding relationship with bison to the public.

We believe it is helpful that CSKT has proposed a two-year "transition" period designed to ensure that change occurs in as seamless a manner as possible. This will ensure that management differences experienced by the public are minimal.

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With best regards,



Tom France
Regional Executive Director



Garrit Voggesser
Director, Tribal Lands Program

From: [Noreen Walsh](#)
To: [Will Meeks](#); [Anna Munoz](#); [Cynthia Martinez](#); [Jim Kurth](#); [Dan Ashe](#); [Matt Hogan](#); [Stephen Torbit](#)
Subject: Fwd: National Bison Range comments
Date: Wednesday, June 29, 2016 12:32:06 PM
Attachments: [Untitled attachment 02037.htm](#)
[Bison Range Comments with Letterhead.FINAL.pdf](#)

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

Begin forwarded message:

From: "Hagener, Jeff" <JHagener@mt.gov>
Date: June 29, 2016 at 12:28:41 PM MDT
To: Noreen Walsh <noreen_walsh@fws.gov>
Subject: FW: National Bison Range comments

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FWS-001555

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With best regards,



Tom France
Regional Executive Director



Garrit Voggesser
Director, Tribal Lands Program

From: [Noreen Walsh](#)
To: [Dave Heffernan](#)
Subject: Re: National Bison Range transfer
Date: Wednesday, June 29, 2016 3:34:09 PM

Dave, 4 PM still works but I did get out of my meeting early so if you want me to call earlier let me know

> On Jun 29, 2016, at 10:31 AM, Dave Heffernan <deheffer248@yahoo.com> wrote:

>

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>>>> Noreen Walsh

>>>> Regional Director

>>>> Mountain-Prairie Region

>>>> U. S. Fish and Wildlife Service

>>>> 303 236 7920

>>>>

>>>> -----Original Message-----

>>>> From: Dave Heffernan [<mailto:deheffer248@yahoo.com>]

>>>> Sent: Thursday, June 23, 2016 1:04 PM

>>>> To: Noreen Walsh

>>>> Subject: Re: National Bison Range transfer

>>>>

>>>> Hi again, Noreen. Is there a time next week when we can talk? This week is

>>>> already shot with grandkids visits, etc, and we head to Alaska the week

>>>> after for much of July. What do you think? Dave

>>>>

>>>> Sent from Dave

>>>>

>>>>> On Jun 17, 2016, at 1:43 PM, Dave Heffernan <deheffer248@yahoo.com>

>>>>> wrote:

>>>>>

>>>>> Hi Noreen, thanks for getting back to me! I'll contact you next week

>>>>> to try to set up a time that works for both of us, I promise!! Looking
>>>>> forward to it, Dave
>>>>>
>>>>> Sent from Dave
>>>>>
>>>>>> On Jun 16, 2016, at 1:43 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>>>>>>
>>>>>> Hello Dave,
>>>>>>
>>>>>> We never connected when you returned from vacation (or maybe you
>>>>>> found Costa Rica to your liking and did not return??). I would still
>>>>>> value the chance to talk with you. Is there a good time for you and
>>>>>> a number at which I could give you a call?

>>>>>>
>>>>>> Best regards,
>>>>>>
>>>>>> Noreen
>>>>>>
>>>>>>
>>>>>>
>>>>>> Noreen Walsh
>>>>>> Regional Director
>>>>>> Mountain-Prairie Region
>>>>>> U. S. Fish and Wildlife Service
>>>>>> 303 236 7920

>>>>>>
>>>>>> -----Original Message-----
>>>>>> From: Dave Heffernan [<mailto:deheffer248@yahoo.com>]
>>>>>> Sent: Friday, February 19, 2016 2:24 PM
>>>>>> To: Noreen Walsh
>>>>>> Subject: Re: National Bison Range transfer

>>>>>>
>>>>>> Noreen, thanks for responding! We are vacationing in Costa Rica(:),
>>>>>> I'll call you when we return the end of March. Hang in there!!! Dave
>>>>>> :)

>>>>>>
>>>>>> Sent from my iPad
>>>>>>
>>>>>>> On Feb 19, 2016, at 10:49 AM, Noreen Walsh <noreen_walsh@fws.gov>
>>>>>> wrote:

>>>>>>>
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>>>>>>>
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>>>>>>> to talk with you directly if you have the time. You can reach me at
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>>>>>>>
>>>>>>> Noreen Walsh
>>>>>>> Regional Director
>>>>>>> Mountain-Prairie Region

>>>>>>> U. S. Fish and Wildlife Service

>>>>>>>

>>>>>>> On Feb 18, 2016, at 11:47 AM, Dave Heffernan

>>>>>>> <deheffer248@yahoo.com>

>>>>>>> wrote:

>>>>>>>

>>>>>>> Hi Noreen. We worked together briefly in Atlanta before I
>>>>>>> transferred to Denver-Refuges in 2000 and subsequently retired in
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>>>>>>>

>>>>>>> Sent from my iPad

>

From: [Dave Heffernan](#)
To: [Noreen Walsh](#)
Subject: Re: National Bison Range transfer
Date: Wednesday, June 29, 2016 3:44:28 PM

Anytime is ok.

Sent from Dave

> On Jun 29, 2016, at 3:34 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>

> Dave, 4 PM still works but I did get out of my meeting early so if you
> want me to call earlier let me know

>

>> On Jun 29, 2016, at 10:31 AM, Dave Heffernan <deheffer248@yahoo.com> wrote:

>>

>> Hi Noreen. Best bet for me today would be my cellphone at **b(6)**. Will look for your call around 4 if that still works for you. Dave

>>

>> Sent from Dave

>>

>>> On Jun 24, 2016, at 6:25 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>>>

>>> I will give you a call then - thanks Dave!

>>>

>>>> On Jun 23, 2016, at 7:42 PM, Dave Heffernan <deheffer248@yahoo.com> wrote:

>>>>

>>>> We'll make it work. My home phone is **b(6)**, cell is **b(6)**. Look forward to talking with you! Dave

>>>>

>>>> Sent from Dave

>>>>

>>>>> On Jun 23, 2016, at 5:27 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

>>>>>

>>>>> Thanks Dave, how does late Wednesday the 29th look for you? Say 4 pm?

>>>>>

>>>>>

>>>>>

>>>>>

>>>>> Noreen Walsh

>>>>> Regional Director

>>>>> Mountain-Prairie Region

>>>>> U. S. Fish and Wildlife Service

>>>>> 303 236 7920

>>>>>

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>>>>>>>
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>>>>>>> Noreen Walsh
>>>>>>> Regional Director
>>>>>>> Mountain-Prairie Region
>>>>>>> U. S. Fish and Wildlife Service

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>>>>>>> good and honest advisers. Sincerely, Dave Heffernan (retired after
>>>>>>> 35 years of service with the Refuge System :)

>>>>>>>
>>>>>>> Sent from my iPad
>>

From: [Dale Ferguson](#)
To: [Noreen Walsh](#)
Subject: Re: The Bison Range
Date: Monday, July 04, 2016 10:18:48 PM

Hi, again, Noreen:

On February 9th, 2016, I sent you a copy of my letter to our Montana Congressmen reacting to your February 5th proposal about transferring the National Bison Range to the CSKT. I suggested moving the Bison Range off the Reservation (see below).

Your 4th paragraph said, "Such a proposal would require Congressional approval and therefore, at this point, we don't know if or when such a transfer would occur."

On 2-19-16, I got a call from Sophie Miller in Senator Daines' office acknowledging receipt of my proposal! He likes the idea.

On June 17th, I sent my comments to the Tribes "Bison Range Working Group" per their request for public input. It is a slightly edited version of my Feb. 9th letter. A cc also went to Daines' office. On June 19th Sophie replied with, "Thank you very much for sending this. Would greatly appreciate your remaining in touch on this topic with additional developments you believe our office should be aware of."

It appears that as long as the Bison Range is within the boundaries of the Flathead Indian Reservation, the Tribes will try to control it, PEER will continue to oppose them, and FWS will have to deal with both of them. Moving the Bison Range outside the Reservation, should resolve this conflict and force their lawyers to find another source of income. The present Range is really just a government-operated ranch.

Also, the bison would benefit by having another place where the species can be preserved.

Except for your "Thank you" reply and the call from Daines' office I haven't received any feedback from anyone else. One of my friends thought I may get some hate mail, but none so far.

What do YOU think? Would moving the Range make your job easier?

Dale Ferguson

From: [Noreen Walsh](#)
Sent: Tuesday, February 09, 2016 12:05 PM
To: [Dale Ferguson](#)
Subject: RE: The Bison Range

Dear Mr. Ferguson,

I received your email below. Thank you for sharing it with me.

Sincerely,

Noreen Walsh

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Dale Ferguson [mailto:**b(6)**]
Sent: Tuesday, February 09, 2016 11:57 AM
To: noreen_walsh@fws.gov
Subject: The Bison Range

Hi, Noreen,

You may be interested in the following, which I sent to all three of our Congressmen:

In today's Missoulian (Feb 9, 2016) is an article, "Bison Range could move to tribes." This is a proposal that is long overdue. About ten years ago, or more, someone suggested in a letter to the editor that we move the National Bison Range off the Flathead Reservation, split the herd and give the present facilities to the Tribes.

Surely, somewhere in Montana, are a few square miles of Federal land that would make a suitable bison range. Then we maybe could have a real wildlife refuge. By no stretch of the imagination could the present Range be called a wildlife refuge. The bison are herded, fenced, and even have their own Medicare program.

The Tribes claim that their heritage qualifies them to manage Bison. OK, let them demonstrate it! They could also use the additional jobs.

Public Employees for Environmental Responsibility (PEER) has strongly opposed any tribal involvement at the Bison Range. In my opinion, based on some of their past comments, they are really concerned about their jobs. Splitting the herd should solve that problem, and maybe PEER and the Tribes could compete to see who is more environmentally responsible.

Because this proposal requires the approval of Congress, I'm asking you to do whatever is necessary to make it happen.

When this idea was first proposed, I wrote to your predecessor, but never received a response. May I have one from you?

Dale P. Ferguson

b(6)

b(6)



From: [Munoz, Anna](#)
To: [Will Meeks](#)
Subject: Fwd: FYI: House Natural Resources Minority Staff Trip to NBR
Date: Tuesday, July 05, 2016 6:36:12 PM

FYI - Matt is a staffer with HNR.

Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

----- Forwarded message -----

From: **Mogadam, Roya** <roya_mogadam@fws.gov>
Date: Thu, Jun 30, 2016 at 12:48 PM
Subject: FYI: House Natural Resources Minority Staff Trip to NBR
To: Anna Munoz <anna_munoz@fws.gov>

Hey Anna-

Matt Strickler reached out to me this morning about planning a trip to NBR over the summer. I am waiting for him to give me a call to get some additional details but wanted to flag for you all.

-Roya

--

Roya Mogadam
Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Roya_Mogadam@fws.gov
703-358-2128

From: [Brian Upton](#)
To: cynthia_martinez@fws.gov; will_meeks@fws.gov; anna_munoz@fws.gov; Jeff_King@fws.gov
Cc: shane.morigeau@cskt.org; george@georgewaters.com
Subject: CSKT public meeting on draft NBR restoration legislation
Date: Monday, July 11, 2016 10:03:56 AM
Attachments: [Public Meeting 7-12-16 Agenda.pdf](#)
[Public Meeting 7-12-16 comment form\(front&back\).pdf](#)

Hi Cynthia, Will, Anna, and Jeff,

I'm attaching copies of the agenda and comment form for CSKT's public meeting on the Tribes' draft NBR restoration legislation tomorrow. We have hired a great facilitator with decades of experience (Virginia Tribe), and I think she will do a really good job.

I thought you all may be interested in seeing the attached documents, but I didn't want to clutter others' email boxes unnecessarily so please forward this on to others as you see fit.

Thanks,
BU

Confederated Salish & Kootenai Tribes

PUBLIC MEETING on DRAFT NATIONAL BISON RANGE RESTORATION LEGISLATION Salish Kootenai College – Johnny Arlee and Victor Charlo Theater July 12, 2016 7:00 - 9:00 PM

AGENDA

- Welcome and introductions – Virginia Tribe (meeting facilitator)
- How the workshop is structured – Virginia Tribe
 - Session objectives
 - Presentation and discussion stations
 - Roles and “ground rules” for productive conversation
 - Web streaming of the session
 - Timeline tonight
- Presentation on CSKT’s Draft Legislation - Shane Morigeau and Brian Upton, CSKT Legal Department
- Discussion stations with Tribal officials and staff:
 - Information available
 - Comment forms – how/where to submit your comments

Thanks for your time and comments tonight!

Confederated Salish & Kootenai Tribes

Draft National Bison Range Restoration Legislation
July 12, 2016 Public Meeting

Comment Form

Name (please print) _____

Email or Mailing Address (optional) _____

Representation (if any) _____

It would be helpful to have your responses to the following:

1. What is most important to you about management of the Bison Range?
2. What new opportunities do you see for the Bison Range?
3. What changes would you propose for the draft legislation?
4. Additional comments and/or questions:

Please submit this comment in designated boxes located throughout the meeting facility. If you have additional comments after this meeting, or if you would like to submit your comment later, please go to the following CSKT website, where you can submit a comment: bisonrangeworkinggroup.org. You can also email comments directly to BisonRangeWorkingGroup@gmail.com. The draft legislation can also be found on the CSKT website.

You may submit this comment form to any Tribal staff, or leave in any of the designated boxes, at the July 12th public meeting held by the Confederated Salish and Kootenai Tribes.

To submit a comment on the Confederated Salish and Kootenai Tribes' draft National Bison Range restoration legislation after the July 12th meeting, you can go to the website established by CSKT: www.bisonrangeworkinggroup.org and fill out/submit a comment on the form provided there. Or you can simply email a comment to: BisonRangeWorkingGroup@gmail.com. **The comment period closes on Friday, July 15, 2016.**

Please note: Any comments submitted for this record become property of the Confederated Salish and Kootenai Tribes and may be shared with others, including, but not limited to, governmental officials or conservation groups. Please be aware of this when submitting your comment.

This public meeting is being held by the Confederated Salish and Kootenai Tribes, who will review and summarize the comments. The Montana Congressional delegation offices are not sponsors of the July 12th meeting, nor is the U.S. Fish & Wildlife Service. For anyone who may wish to contact Montana Congressional delegation offices, they may be reached as follows:

Congressman Ryan Zinke
U.S. House of Representatives
Washington, D.C. 20515
phone: (202) 225-3211
website (*includes email contact information*): <https://zinke.house.gov/>

Senator Jon Tester
United States Senate
Washington, D.C. 20510
phone: (202) 224-2644
website (*includes email contact information*): <http://www.testersenate.gov/>

Senator Steve Daines
United States Senate
Washington, D.C. 20510
phone: (202) 224-2651
website (*includes email contact information*): <https://www.daines.senate.gov/>

From: [Munoz, Anna](#)
To: [Noreen Walsh](#); [Matt Hogan](#)
Cc: [Will Meeks](#)
Subject: Fwd: CSKT public meeting on draft NBR restoration legislation
Date: Monday, July 11, 2016 10:05:47 AM
Attachments: [Public Meeting 7-12-16 Agenda.pdf](#)
[Public Meeting 7-12-16 comment form\(front&back\).pdf](#)

FYI

----- Forwarded message -----

From: **Brian Upton** <brianu@cskt.org>
Date: Monday, July 11, 2016
Subject: CSKT public meeting on draft NBR restoration legislation
To: cynthia_martinez@fws.gov, will_meeks@fws.gov, anna_munoz@fws.gov,
Jeff_King@fws.gov
Cc: shane.morigeau@cskt.org, george@georgewaters.com

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Thanks,
BU

--

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

Confederated Salish & Kootenai Tribes

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July 12, 2016 Public Meeting

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United States Senate
Washington, D.C. 20510
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website (*includes email contact information*): <https://www.daines.senate.gov/>

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To: [Mike Blenden](#); [Jeff King](#)
Subject: Fwd: CSKT public meeting on draft NBR restoration legislation
Date: Monday, July 11, 2016 12:20:20 PM
Attachments: [Untitled attachment 01004.htm](#)
[Public Meeting 7-12-16 Agenda.pdf](#)
[Public Meeting 7-12-16 comment form\(front&back\).pdf](#)
[Untitled attachment 01007.htm](#)

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

Begin forwarded message:

From: Brian Upton <brianu@cskt.org>
Date: July 11, 2016 at 10:03:00 AM MDT
To: <cynthia_martinez@fws.gov>, <will_meeks@fws.gov>, <anna_munoz@fws.gov>, <Jeff_King@fws.gov>
Cc: <shane.morigeau@cskt.org>, <george@georgewaters.com>
Subject: CSKT public meeting on draft NBR restoration legislation

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Senator Jon Tester
United States Senate
Washington, D.C. 20510
phone: (202) 224-2644
website (*includes email contact information*): <http://www.testersenate.gov/>

Senator Steve Daines
United States Senate
Washington, D.C. 20510
phone: (202) 224-2651
website (*includes email contact information*): <https://www.daines.senate.gov/>

From: [Anna Munoz](#)
To: [Noreen Walsh](#); [Matt Hogan](#); will_meeks@fws.gov; [Cynthia Martinez](#); [Shaun Sanchez](#); [Roya Mogadam](#); stephen_torbit@fws.gov
Subject: Fwd: Google Alert - "Bison Range"
Date: Wednesday, July 13, 2016 5:20:15 AM

FYI - info on last night's NBR mtg. I found the Tom McDonald quote to be a bit confusing both in terms of composition and content. Will try to follow up w/ CSKT today.

Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service
[134 Union Blvd.](#)
[Lakewood, CO 80228](#)
Office: [303-236-4510](tel:303-236-4510)
Cell: [720-648-2542](tel:720-648-2542)

Begin forwarded message:

From: Google Alerts <googlealerts-noreply@google.com>
Date: July 13, 2016 at 2:38:26 AM MDT
To: <anna_munoz@fws.gov>
Subject: Google Alert - "Bison Range"



"Bison Range"

As-it-happens update · July 13, 2016

NEWS

[Dozens attend meeting on National **Bison Range** transfer plan](#)
The Missoulian
Legal attorneys Shane Morigeau and Brian Upton presented a brief outline of the draft bill, which would restore the management of the **bison range** to ...

[CSKT holds public meeting to discuss **bison range** transfer](#) - NBC Montana
[National **Bison Range** legislation receives public input](#) - ABC FOX Montana News
[Full Coverage](#)

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From: [Noreen Walsh](#)
To: [Anna Munoz](#)
Subject: RE: Google Alert - "Bison Range"
Date: Wednesday, July 13, 2016 7:33:00 AM

Thanks Anna. You are right; that comment is curious.

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Anna Munoz [mailto:anna_munoz@fws.gov]
Sent: Wednesday, July 13, 2016 5:20 AM
To: Noreen Walsh; Matt Hogan; will_meeks@fws.gov; Cynthia Martinez; Shaun Sanchez; Roya Mogadam; stephen_torbit@fws.gov
Subject: Fwd: Google Alert - "Bison Range"

FYI - info on last night's NBR mtg. I found the Tom McDonald quote to be a bit confusing both in terms of composition and content. Will try to follow up w/ CSKT today.

Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service
[134 Union Blvd.](#)
[Lakewood, CO 80228](#)
Office: [303-236-4510](tel:303-236-4510)
Cell: [720-648-2542](tel:720-648-2542)

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From: Google Alerts <googlealerts-noreply@google.com>
Date: July 13, 2016 at 2:38:26 AM MDT
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"Bison Range"

As-it-happens update · July 13, 2016

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From: [Anna Munoz](#)
To: [Noreen Walsh](#); [Matt Hogan](#); will_meeks@fws.gov; stephen_torbit@fws.gov; [Cynthia Martinez](#); [Shaun Sanchez](#); [Roya Mogadam](#)
Subject: Fwd: Google Alert - "Bison Range"
Date: Wednesday, July 13, 2016 8:29:21 PM

Both are worth a read but the second link provides specific quotes from the Congressional delegation.

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service
[134 Union Blvd.](#)
[Lakewood, CO 80228](#)
Office: [303-236-4510](tel:303-236-4510)
Cell: [720-648-2542](tel:720-648-2542)

Begin forwarded message:

From: Google Alerts <googlealerts-noreply@google.com>
Date: July 13, 2016 at 6:38:27 PM MDT
To: <anna_munoz@fws.gov>
Subject: Google Alert - "Bison Range"



"Bison Range"

As-it-happens update · July 14, 2016

NEWS

[Tribal leaders say **Bison Range** management change won't set a precedent](#)

KBZK Bozeman News

Attorneys drafting legislation to switch management of the National **Bison Range** to the Confederated Salish and Kootenai Tribes say they've written ...

Flag as irrelevant

[Montana Delegation Reserving Judgement On Proposed **Bison Range** Transfer](#)

MTPR

"I look forward to reviewing the comments and better understanding the impacts of transferring the management of

the **bison range** to the CSKT."



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From: [Munoz, Anna](#)
To: [Will Meeks](#)
Subject: Re: FYI: House Natural Resources Minority Staff Trip to NBR
Date: Thursday, July 14, 2016 10:42:31 AM

Spoke to Roya this morning. The staffer would like to visit NBR sometime in August. How would you like to proceed?

Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

On Tue, Jul 5, 2016 at 6:35 PM, Munoz, Anna <anna_munoz@fws.gov> wrote:
FYI - Matt is a staffer with HNR.

Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

----- Forwarded message -----

From: **Mogadam, Roya** <roya_mogadam@fws.gov>
Date: Thu, Jun 30, 2016 at 12:48 PM
Subject: FYI: House Natural Resources Minority Staff Trip to NBR
To: Anna Munoz <anna_munoz@fws.gov>

Hey Anna-

Matt Strickler reached out to me this morning about planning a trip to NBR over the summer. I am waiting for him to give me a call to get some additional details but wanted to flag for you all.

-Roya

--

Roya Mogadam
Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Roya_Mogadam@fws.gov
703-358-2128

1

From: [Will Meeks](#)
To: [Munoz, Anna](#)
Subject: Re: FYI: House Natural Resources Minority Staff Trip to NBR
Date: Thursday, July 14, 2016 10:57:38 AM

I say to have me help schedule it. I'd like, at the very least, Mike Blenden to go. Maybe you want to attend?? Roya??

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

On Jul 14, 2016, at 11:42 AM, Munoz, Anna <anna_munoz@fws.gov> wrote:

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Anna Muñoz
Assistant Regional Director - External Affairs
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Roya Mogadam
Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Roya_Mogadam@fws.gov
703-358-2128

From: [Munoz, Anna](#)
To: [Will Meeks](#)
Subject: Re: FYI: House Natural Resources Minority Staff Trip to NBR
Date: Thursday, July 14, 2016 11:09:40 AM

I have to travel somewhere (SD, DC, UT) during the first 3 weeks of August, so I'm out. I'll see if Roya might be able to swing it. She's scheduled to start driving out here on 8/22 but she might be available prior to that. Marty is going to kill me. I'll have to buy him a couple of drinks in AK before I ask. Are you going to try to go?

Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

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Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

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Anna Muñoz
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Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
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To: Anna Munoz <anna_munoz@fws.gov>

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--

Roya Mogadam
Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Roya_Mogadam@fws.gov
703-358-2128

From: [Will Meeks](#)
To: [Munoz, Anna](#)
Subject: Re: FYI: House Natural Resources Minority Staff Trip to NBR
Date: Thursday, July 14, 2016 11:17:48 AM

Only if I have to.

Traveling three weeks in Aug. Sports and school starts. Cindy will kill me.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

On Jul 14, 2016, at 12:09 PM, Munoz, Anna <anna_munoz@fws.gov> wrote:

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Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

On Thu, Jul 14, 2016 at 10:57 AM, Will Meeks <will_meeks@fws.gov> wrote:

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Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

On Jul 14, 2016, at 11:42 AM, Munoz, Anna <anna_munoz@fws.gov> wrote:

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Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

On Tue, Jul 5, 2016 at 6:35 PM, Munoz, Anna

<anna_munoz@fws.gov> wrote:

FYI - Matt is a staffer with HNR.

Anna

Anna Muñoz
Assistant Regional Director - External Affairs
U.S. Fish and Wildlife Service, Mountain-Prairie Region
Office: 303-236-4510
Cell: 720-648-2542

----- Forwarded message -----

From: **Mogadam, Roya** <roya_mogadam@fws.gov>

Date: Thu, Jun 30, 2016 at 12:48 PM

Subject: FYI: House Natural Resources Minority Staff Trip to NBR

To: Anna Munoz <anna_munoz@fws.gov>

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-Roya

--

Roya Mogadam
Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Roya_Mogadam@fws.gov

703-358-2128

From: b(6)
To: Noreen_walsh@fws.gov
Cc: will_meeks@fws.gov; matt_hogan@fws.gov; anna_munoz@fws.gov; mountainprairie@fws.gov; dan_ashe@fws.gov; sally_jewel@doi.gov; jeff_king@fws.gov; Laura_king@fws.gov
Date: Friday, July 15, 2016 1:20:02 PM

Dear Ms. Walsh,

I want to express my great disappointment in your conduct as a public servant.

I commented on the National Bison Range Draft Environmental Assessment for the AFA between the USFWS and the Confederated Salish and Kootenai Tribes (CSKT). I have come to realize that those comments are now irrelevant because of the memo of February 5, 2016 regarding the “start of discussions with Indian Affairs and the CSKT about the potential for the Service to support legislation that would transfer the lands comprising the National Bison Range in Montana to be held in trust by the U.S. for the benefit of the CSKT”.

Recently, a draft proposal for legislation was made available by the CSKT for comment and the CSKT held a public meeting on the issue. I realize that this is being done by the CSKT and not organized by the USFWS. However, since I assume you would think I was concerned about the Bison Range as I made the effort to make comments on the draft EA, and since I have yet to receive any feedback on my comments, I am quite displeased that you did not contact me about the comment period for the draft legislation. I know my contact information is on file with your office due to my comments on the draft EA.

I feel this is a breach of my public trust in my public servants. Please make an effort in the future to be responsible to all whom you serve.

Pat Jamieson

b(6)

From: [Blenden, Mike](#)
To: [Steve Kallin](#); [Jeff King](#); [Bill West](#)
Subject: Fwd: FW: HNR staffer to visit MT and WY in August
Date: Friday, July 15, 2016 4:00:21 PM
Attachments: [Untitled attachment 00749.htm](#)
[Western Recess Trip Proposal D2.docx](#)

Gentlemen,

I will be working with you (I'm alerting Bill, just in case.) and External Affairs to coordinate this venture. Stay tuned for more.

Mike

----- Forwarded message -----

From: **Will Meeks** <Will_Meeks@fws.gov>
Date: Fri, Jul 15, 2016 at 12:18 PM
Subject: FW: HNR staffer to visit MT and WY in August
To: Mike Blenden <mike_blenden@fws.gov>
Cc: Maureen Gallagher <maureen_gallagher@fws.gov>

Mike,

As discussed, I will be unable to accompany him. Please plan on it.

Contact Anna/Roya for specifics.

Will Meeks

U.S. Fish and Wildlife Service

Mountain Prairie Region

Assistant Regional Director

National Wildlife Refuge System

303-236-4303 (w)

720-541-0310 (c)

From: Anna Munoz [mailto:anna_munoz@fws.gov]
Sent: Friday, July 15, 2016 9:02 AM
To: Noreen Walsh; Matt Hogan; will_meeks@fws.gov; michael_thabault@fws.gov
Cc: Nicole Alt; Roya Mogadam; matt_kales@fws.gov
Subject: HNR staffer to visit MT and WY in August

Good Morning!

Matt Strickler, House Natural Resources Committee Staffer, is planning a trip to MT and WY during the last week of August and would like to visit some of our refuges and meet with Service staff (and others) regarding National Bison Range, GRSG, wolves, and grizzly bear.

Please see the attached itinerary and start thinking about who you would like to have meet with Matt at his various stops/proposed meetings.

As luck would have it, this visit falls during Roya's first week and she has already offered to help staff this visit.

We can discuss specifics when I return from AK, but I wanted to get this on your radar now so we can start planning.

Thanks,

Anna

Anna Muñoz

Assistant Regional Director - External Affairs

U.S. Fish and Wildlife Service

134 Union Blvd.

Lakewood, CO 80228

Office: [303-236-4510](tel:303-236-4510)

Cell: [720-648-2542](tel:720-648-2542)

Begin forwarded message:

From: "Mogadam, Roya" <roya_mogadam@fws.gov>
Date: July 15, 2016 at 7:17:21 AM MDT
To: Anna Munoz <anna_munoz@fws.gov>
Subject: Fwd: trip draft

Lets talk about this more...

-Roya

----- Forwarded message -----

From: **Strickler, Matt** <Matt.Strickler@mail.house.gov>
Date: Fri, Jul 15, 2016 at 9:06 AM
Subject: trip draft
To: "Mogadam, Roya" <roya_mogadam@fws.gov>

--

Matthew J. Strickler
Senior Policy Advisor
US House of Representatives
Committee on Natural Resources
H2-186 Ford HOB
Washington, DC 20515
(202) 225-6065

--

Roya Mogadam

Division of Congressional and Legislative Affairs

U.S. Fish and Wildlife Service

5275 Leesburg Pike
Falls Church, VA 22041-3803

Roya_Mogadam@fws.gov

703-358-2128

--

Michael Blenden
Refuge Supervisor - Montana, Wyoming and Utah
134 Union Boulevard
Lakewood, CO 80228
303-236-4306
303-710-7934 cell

Too often we...enjoy the comfort of opinion without the discomfort of thought.
John F. Kennedy

Western Recess Trip Proposal
Matt Strickler

Monday, August 29: Depart DCA, arrive MSO. Meet with USFWS staff and Confederated Salish-Kootenai Tribes at National Bison Range, St. Ignatius, MT. Overnight with friends in St. Ignatius.

Tuesday, August 30: Depart St. Ignatius, meet in AM with USFWS/BLM/USDA staff, Bozeman, MT– Topic: greater sage grouse. Depart Bozeman. Meet in PM with NPS/USFWS staff, Yellowstone National Park – Topic: GYE. Overnight in Gardiner, MT/Yellowstone NP.

Wednesday, August 31: Tour Yellowstone NP with NPS/USFWS staff. Topic: gray wolves, etc. Overnight in West Yellowstone/Yellowstone, NP.

Thursday, September 1: Depart Yellowstone NP, meet in AM with NPS/USFWS staff in Grand Teton NP – Topic: grizzly bears, etc. Field trip in PM with Tom Mangelsen. Overnight with family in Jackson, WY.

Friday, September 2: Meet in AM with USFWS staff at National Elk Refuge, Jackson, WY. Overnight with family in Jackson, WY.

Saturday -Sunday, September 3-4: Personal travel.

Monday, September 5: Depart JAC, arrive DCA.

From: [Sanchez, Denise](#)
To: [Anna Munoz](#); [Barbara Boyle](#); [Bruce Decker](#); [casey_stemler](#); [Clint Riley](#); [Doug Fruge](#); [Gavin Shire](#); [Kathleen Dennis](#); [Larry Gamble](#); [Matt Hogan](#); [Matt Kales](#); [Matthew Trott](#); [Michael Thabault](#); [Noreen Walsh](#); [Robert Segin](#); [Ryan Moehring](#); [Stephen Torbit](#); [Tom Chart](#); [Will Meeks](#); [Maureen Gallagher](#); [Gregory Gerlich](#); [Nicole Alt](#); [Connie YoungD](#); [Amy Thornburg](#); [Serena baker](#); [Charisa Morris](#); [Chris Tollefson](#); [Marjorie Nelson](#)
Subject: Headquarters Report 7.15.2016
Date: Friday, July 15, 2016 4:00:46 PM
Attachments: [WO Report Final 07.15.16 doc2 \(1\).docx](#)

Thanks much.

--
Denise Sanchez | Public Affairs Assistant
USFWS Mountain-Prairie Region External Affairs
134 Union Blvd, Lakewood, CO 80228
denise_sanchez@fws.gov | 303-236-2985

<http://www.fws.gov/mountain-prairie>



Flickr - Photos linked in this email.

WEEKLY REPORT
REGION 6, FISH AND WILDLIFE SERVICE
July 21 – August 3

Executive Summary and Implementation Update

Nothing to report

10 Calendar Days Ahead

Nothing to report

TBD

Nothing to report

30-60 Day Look Ahead

Repeat: The Wyoming Game and Fish Department and the FWS continue to plan for a reintroduction of the endangered black-footed ferret on July 26, 2016 (at the conclusion of the Western Fish and Wildlife Association Meeting). This reintroduction will take place near Meeteetse, Wyoming, at the site where the last 18 animals were captured in 1981. These animals founded a long term captive rearing and reintroduction program across twelve states, Mexico, and Canada. This location will be the 27th reintroduction site established since 1991 in cooperation with many partners. Two private ranches will be the focus of limited invitation activities, although several public activities are planned in the town itself. FWS Director Dan Ashe is scheduled to attend.

Items of note

New: On July 9, 2016 the Bratten Coulee Fire burned 353 acres on Charles M. Russell NWR and adjacent private land. Staff from Sand Creek, Jordan, and Ft. Peck NWR stations responded. The fire, which was mostly on private land, was contained on July 10 with assistance from 1.25-1.75 inches of rain received over the weekend.

Refuge fire staff has been assisting on a number of wildfires in the region including Observation Pass fire in Montana, Cold Springs and Hayden Pass fires in Colorado. A crew from North Dakota is on a severity detail in Nevada due to the extreme fire potential there. The Governor of South Dakota has issued an emergency fire declaration for 13 counties so that state resources can be used as necessary.

New: The Baca NWR has detected a potential for sylvatic plague in the prairie dog colony on the refuge. In the nearby Great Sand Dunes National park several prairie dogs were located that have apparently died from the plague. One dead prairie dog was located on the Baca refuge while dusting of the burrows was being conducted by Colorado Parks and Wildlife. Testing of

this deceased prairie dog is being conducted to determine if it was in fact plague that caused the mortality.

As a precaution to visitors and staff, warnings have been given to avoid the prairie dog town and steps have been taken to protect any nearby facilities from this potential threat. As we get more information we will pass along.

Update: The Confederated Salish and Kootenai Tribes held a public information meeting in Pablo, Montana on the evening of July 12, 2016. Approximately 90 people attended. The purpose of the meeting was to provide the Montana Congressional delegation public feedback on the proposal to transfer management of the National Bison Range to the tribes.

Repeat: The proposed Power Company of Wyoming's (PCW) Chokecherry-Sierra Madre Wind Energy Project (CCSM) encompasses approximately 250,000 acres southwest of Rawlins in Carbon County, Wyoming. On April 29, 2016, the FWS opened a 60-day public comment period for a Draft Environment Impact Statement (DEIS) for the potential issuance of eagle take permits for Phase I of that project. Unfortunately, some outreach materials contained an error in the email address provided for public comments. The error was corrected June 9, 2016, by enabling both email addresses to accept comments. To ensure all public comments are received, the FWS will be reopening the public comment period for two weeks, and asking that any comments sent to that incorrect email address before June 9, 2016 be resubmitted.



Conversation Contents

NBR Op-Ed

Ryan Moehring <ryan_moehring@fws.gov>

From: Ryan Moehring <ryan_moehring@fws.gov>
Sent: Sat Jul 16 2016 15:33:49 GMT-0600 (MDT)
To: Anna Munoz <anna_munoz@fws.gov>, Will Meeks <will_meeks@fws.gov>
CC: Mike Blenden <mike_blenden@fws.gov>
Subject: NBR Op-Ed

http://billingsgazette.com/news/opinion/guest/guest-opinion-keep-bison-range-under-public-management/article_71135367-e84d-5bef-be16-c319aa517898.html

Thanks,

Ryan

Ryan Moehring

Public Affairs

U.S. Fish and Wildlife Service

Mountain-Prairie Region

303-236-0345

[Web](#) | [Facebook](#) | [Twitter](#) | [Flickr](#) | [YouTube](#)

From: [Will Meeks](#)
To: [Mike Blenden](#); [Jeff King](#)
Subject: 7/25 call with RD
Date: Tuesday, July 19, 2016 12:21:50 PM

Mike/Jeff,

Are there any specific topics you would like Noreen to address on the scheduled call for next Monday? Outside an update, of course.

Thanks.

Will Meeks
U.S. Fish and Wildlife Service
Mountain Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

From: [Will Meeks](#)
To: [Noreen Walsh](#)
Cc: [Matt Hogan](#)
Bcc: will_meeks@fws.gov
Subject: Call with NBR
Date: Thursday, July 21, 2016 9:22:02 AM

Noreen, for the call tomorrow with NBR, I offer a few ideas to consider. These are offered from Mike Blenden and Jeff may provide a couple more??

Do you have others in mind? How would you like the flow of the call to go?

1. What happens if legislation isn't introduced this month?
2. Status check in accommodating NBR employees in case of transfer?
3. How does the regional Refuge realignment efforts relate to staff and or a future of the NBR (in the event of no legislation)?

Will Meeks
U.S. Fish and Wildlife Service
Mountain Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

From: [Noreen Walsh](#)
To: [Will Meeks](#)
Cc: [Matt Hogan](#)
Subject: Re: Call with NBR
Date: Friday, July 22, 2016 6:55:57 AM

Sure thing

On Jul 22, 2016, at 6:54 AM, Will Meeks <will_meeks@fws.gov> wrote:

Bad choice of words on my part. We have a bunch of questions and I have some ideas. (I think that's better).

May I call you on your cell phone upon completion of the MBCF call?

Matt, would you like to be included? If so, I can send out a Conf line number.

Thanks.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

On Jul 21, 2016, at 8:26 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

Just saw this.

They aren't ideas so much as questions! I'm guessing you have some recommendations. Look forward to talking in the morning.

Thanks Will.

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Will Meeks [mailto:Will.Meeks@fws.gov]
Sent: Thursday, July 21, 2016 9:22 AM
To: Noreen Walsh
Cc: Matt Hogan

Subject: Call with NBR

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1. What happens if legislation isn't introduced this month?
2. Status check in accommodating NBR employees in case of transfer?
3. How does the regional Refuge realignment efforts relate to staff and or a future of the NBR (in the event of no legislation)?

Will Meeks
U.S. Fish and Wildlife Service
Mountain Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

From: [Will Meeks](#)
To: [Matt Hogan](#)
Subject: Re: Call with NBR
Date: Friday, July 22, 2016 6:58:05 AM

There are two calls.

The first one is just between Noreen and me (you?) to discuss a strategy.

We will then decide if we need to call Jeff directly. The planned call with his staff is scheduled for 9 am Mountain.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

On Jul 22, 2016, at 6:56 AM, Matt Hogan <matt_hogan@fws.gov> wrote:

What time is the call?

On Jul 22, 2016, at 6:54 AM, Will Meeks <will_meeks@fws.gov> wrote:

Bad choice of words on my part. We have a bunch of questions and I have some ideas. (I think that's better).

May I call you on your cell phone upon completion of the MBCF call?

Matt, would you like to be included? If so, I can send out a Conf line number.

Thanks.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

On Jul 21, 2016, at 8:26 PM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

Just saw this.

They aren't ideas so much as questions! I'm guessing you have some recommendations. Look forward to talking in the morning.

Thanks Will.

*Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service
303 236 7920*

From: Will Meeks [mailto:Will.Meeks@fws.gov]
Sent: Thursday, July 21, 2016 9:22 AM
To: Noreen Walsh
Cc: Matt Hogan
Subject: Call with NBR

Noreen, for the call tomorrow with NBR, I offer a few ideas to consider. These are offered from Mike Blenden and Jeff may provide a couple more??

Do you have others in mind? How would you like the flow of the call to go?

1. What happens if legislation isn't introduced this month?
2. Status check in accommodating NBR employees in case of transfer?
3. How does the regional Refuge realignment efforts relate to staff and or a future of the NBR (in the event of no legislation)?

Will Meeks
U.S. Fish and Wildlife Service
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720-541-0310 (c)

From: [Bulletin Intelligence](#)
To: Interior@BulletinIntelligence.com
Subject: U.S. Department of the Interior News Briefing for Monday, July 25, 2016
Date: Monday, July 25, 2016 5:01:03 AM

U.S. DEPARTMENT OF THE INTERIOR NEWS BRIEFING

Mobile version and searchable archives available at interior.bulletinintelligence.com. Please [contact](#) Public Affairs with subscription requests, questions or comments.

DATE: MONDAY, JULY 25, 2016 7:00 AM EDT

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DOI in the News:

HEATWAVE STOKES CALIFORNIA WILDFIRE. [ABC World News Tonight](#) (7/23, story 5, 1:25, Llamas, 14.63M) reported hundreds of been forced to evacuate their homes given a fast-moving wildfire that has broken out north of Los Angeles, which has burned eleven thousand acres and is only 10 percent contained at the moment. ABC's Phillip Mena stated that "45,000 homes could be in the danger zone" and that "Three hundred firefighters on the ground and choppers attacking this blaze from above," with massive flames "producing plumes of smoke, cloaking much of the city."

The [CBS Evening News](#) (7/23, story 5, 1:20, Ninan, 11.17M) added the fire broke out at the "height of the heatwave," which is also blamed for fueling it.

In addition, [NBC Nightly News](#) (7/23, story 4, 2:00, Snow, 16.61M) reported the fire doubled in size today and that it's "glowing ridges [could be] seen up to 50 miles away," raining smoke and ask "for miles in every direction."

A more than 1,100-word [Los Angeles Times](#) (7/23, Stevens, Nelson, 4.09M) analysis also reports that officials have indicated 1,500 homes are currently under threat from the fire, which is being fueled by what officials say is "excessive heat, low humidity, extreme dry fuels that have not burned for several decades, and very rugged terrain." The Times also indicates the fire continues to be fanned by "gusts of up to 40 mph." Los Angeles County Fire Department public information officer Richard Lincon said, "There's a great possibility that the fire will increase in size."

In separate coverage, [Los Angeles Times](#) (7/23, Funke, 4.09M) indicated the fire had burned one structure, while the [AP](#) (7/25, Antczak) reports that fires are "out of control," also threatening homes on the scenic coast and "a sanctuary for exotic animals." According to the AP, the South Coast Air Quality Management District has warned of unhealthy air quality levels.

Meanwhile, [Reuters](#) (7/23, Whitcomb) reports fire crews are struggling to contain the fire given the terrain and that shelters have been set up for evacuated residents.

The [Christian Science Monitor](#) (7/23, Beck, 459K) also reports experts are saying the fire is showing unusual behavior, growing rapidly because of the dry conditions. UC Berkeley fire ecology and management expert Max Moritz said, "We're going to have a critically dry and flammable situation late in the season this year ... This is not even close to the peak of the season."

Additional coverage of wildfires was provided by the [Los Angeles \(CA\) Times](#) (7/24, Evans, 4.09M).

Crews Fighting Fire In Dinosaur National Monument. The [Denver Post](#) (7/24, 956K) reports that "fire crews from Dinosaur National Monument and various other agencies are responding to a fire just north of the Yampa Bench Road, about 2 miles west of Haystack Rock, according a news release from the National Park Service." According to the article, "the fire, called the Bench fire, was first spotted by a lookout in the Road Top Fire Tower after a storm moved through the eastern part of the monument Friday."

CONSERVATIONISTS PUSH BACK AGAINST ATTEMPTS TO SELL PUBLIC LANDS. The [Milwaukee Journal Sentinel](#) (7/23, 696K) reports that "as the U.S. political process heats up this summer with national conventions for the major parties, a coalition of conservation groups is pushing back against attempts to sell public lands." According to the article, "more than 30 national and state-level sportsmen organizations, representing millions of hunters and anglers, sent letters to the Republican and Democratic Platform Committees last week encouraging them to support America's public lands." The letter stated, "We do not believe it would be constructive to include broad directives to transfer federal lands to state or

local control, sell federal lands to private interests, or otherwise liquidate the national interest in federal land management. These kinds of directives do a disservice to the American people and especially to America's hunters and anglers. These proposals do not advance the goal of finding meaningful ways to balance competing interests and preserve our national public land heritage for future generations."

Additional coverage of the Republican party platform was provided by the [Denver \(CO\) Post](#) (7/23, 956K) and [Outside](#) (7/22, 2.5M).

U.S. FILES COMPLAINT TO RECOVER ACOMA WAR SHIELD. The [Santa Fe New Mexican](#) (7/23, 39K) reports that "the U.S. is seeking to recover an Acoma Pueblo war shield that came up for sale earlier this year in Paris." According to the article, "the EVE auction house withdrew the shield from the May 30 sale after lobbying by the tribe and U.S. government officials, including Interior Secretary Sally Jewell." The U.S. attorney for New Mexico has "filed a complaint for forfeiture, a civil action to condemn the shield to the benefit of the U.S."

PHILADELPHIA MAYOR INTERVENES IN PEBBLES TAX CREDIT MATTER. [Real Deal \(FL\)](#) (7/23) reports that "the mayor of Philadelphia interceded to help Coral Gables-based developer Peebles Corp. win a national historic designation for a city-owned property and an associated tax credit for redeveloping it." The NPS has "rejected an application by Peebles Corp. for national historic designation of the building, a former courthouse, because the company's proposed redevelopment would alter too much of the building's interior." Philadelphia Mayor Jim Kenney has sent "a letter to Interior Secretary Sally Jewell to request a meeting with her."

LAND TRANSFERS BENEFIT RIVER RAISIN NATIONAL BATTLEFIELD PARK, DETROIT RIVER INTERNATIONAL WILDLIFE REFUGE. The [Monroe \(MI\) Evening News](#) (7/24, 50K) reports that "nearly 70 acres of land north of the Port of Monroe has been transferred to two entities to support the City of Monroe's master plan." In 2013, "the Port of Monroe transferred 33 acres of land to the National Parks Service to expand the River Raisin National Battlefield Park, which was the site of the Battle of the River Raisin during the War of 1812." The NPS "just recently accepted the transfer." Also, "35 acres of land was transferred to the U.S. Fish and Wildlife Service to expand the Detroit River International Wildlife Refuge."

REWARD OFFERED IN CONNECTION WITH OWL'S SHOOTING DEATH NEAR SANTA FE. The [AP](#) (7/22, 2.13M) reports that "a reward of up to \$5,000 is being offered for information leading to the arrest and conviction of those responsible for the fatal shooting of a burrowing owl near Santa Fe." The BLM and FWS are "investigating the case." The Humane Society and Humane Society Wildlife Land Trust are offering the reward.

Additional coverage was provided by the [Albuquerque \(NM\) Journal](#) (7/22, 234K), the [Washington \(DC\) Times](#) (7/22, 257K), and the [Humane Society of the United States](#) (7/22, 52K).

ADDITIONAL COVERAGE OF SECRETARY JEWELL'S UTAH VISIT. Additional coverage of Interior Secretary Sally Jewell's visit to Utah was provided by the [St. George & Southern Utah Independent](#) (7/24).

ADDITIONAL COVERAGE: WILDLIFE REFUGE RENAMED TO HONOR BILLY FRANK JR. Additional coverage that Interior Secretary Sally Jewell attended the celebration at the renamed Billy Frank Jr. Nisqually National Wildlife Refuge was provided by the [Nisqually Valley \(WA\) News](#) (7/22, 60K).

ADDITIONAL COVERAGE OF INTERIOR-EPA SPENDING BILL. Additional coverage of the Interior-EPA spending bill was provided by the [Silver City \(NM\) Daily Press](#) (7/23).

ADDITIONAL COVERAGE: WRIGHT BUILDING PLACED ON WORLD HERITAGE WAITING LIST. Additional coverage of the consideration of ten Frank Lloyd Wright-buildings by the U.N.'s World Heritage Committee was provided by the [Pittsburgh Post-Gazette](#) (7/23, Hopey, 533K).

America's Great Outdoors:

National Park Service:

NPS DIRECTOR JARVIS DISCUSSES CHALLENGES FACING NPS AS IT CELEBRATES

CENTENNIAL. [Voice of America](#) (7/22, 74K) reports that as the NPS celebrates its centennial, NPS Director Jonathan Jarvis talked about “his time with the service” in an interview. He said, “For the last 100 years, the National Park Service has been charged by the U.S. government to manage the very best of America; the very best places that represent both our natural and cultural heritage. So, to be part of this organization and to be in the directorship is really a lifelong dream for me.” Looking forward to the future, Jarvis also talked about the challenges that the park service faces, including climate change and financial support.

Additional coverage of the Centennial was provided by [USA Today 10best](#) (7/19, 149K), the [Great Falls \(MT\) Tribune](#) (7/24, 92K), the [Baltimore \(MD\) Sun](#) (7/24, 1.01M), the [Deseret \(UT\) News](#) (7/23, 543K), the [Detroit Free Press](#) (7/23, 1.02M), the [Marin \(CA\) Independent Journal](#) (7/22, 52K), the [Augusta \(VA\) Free Press](#) (7/23, 280), the [Oregonian](#) (7/23, 823K), the [Greene County \(PA\) Observer-Reporter](#) (7/23, 88K), the [Florence \(SC\) Morning News](#) (7/23, 93K), the [Parsippany \(NJ\) Patch](#) (7/22, 424), the [New Richmond \(WI\) News](#) (7/22, 15K), [The Madison County \(NY\) Courier](#) (7/23), [Uexpress](#) (7/25, 62K), and the [Christian Science Monitor](#) (7/24, 459K).

NPS DIRECTOR JARVIS HONORED WITH SAFE WATER AWARD. The [Chadds Ford \(PA\) Live](#) (7/22) reports that “the 2016 Stroud Award for Freshwater Excellence (the SAFE Water Award) will be presented to the National Park Service and its director, Jonathan B. Jarvis.” Jarvis will “receive the award during the annual Water’s Edge gala to be held on Nov. 3 at Longwood Gardens in Kennett Square, according to a Stroud Water Research Center press release.”

RISING VISITORSHIP PUTS STRAIN ON NATIONAL PARKS. [Christian Science Monitor](#) (7/24, Wilkinson, 459K) reports that visitor traffic has increased in America’s national parks, and that Yellowstone National Park had more than 4 million visits for the first time in 2015, with 2016 poised to break that record. Yellowstone park superintendent Dan Wenk said, “The question many are asking, is can Yellowstone escape from being loved to death? My answer is yes, I believe it can. But Yellowstone won’t be saved if we stay on the same course.” The Christian Science Monitor also reports on Latino representation among visitors, the rise of foreign visitors, and the role of parks in local economies.

NPS ADAPTING TO CLIMATE CHANGE AT ASSATEAGUE ISLAND NATIONAL SEASHORE. [NBC Nightly News](#) (7/23, story 9, 2:15, Snow, 16.61M) reported climate change is affecting the Assateague Island National Seashore off the coast of Maryland, as “storms, winds, and currents” have been “pushing the island westward,” forcing the US National Parks Service (NPS) to rethink its management plan to adapt for the next 50 years.

WASHINGTON MONUMENT CLOSED DUE TO ELEVATOR PROBLEMS. The [AP](#) (7/23, 2.13M) reports that “officials say the Washington Monument will be closed until at least Tuesday due to elevator problems.” The NPS “says in a statement that a mechanical failure occurred Saturday morning before the monument opened.” The park service “says that no visitors were in the monument at the time and no staff members were affected.”

Additional coverage was provided by the [Washington \(DC\) Post](#) (7/23, Schmelzer, Smith, Cox, 9.18M), the [Washington \(DC\) Post](#) (7/23, Press, 9.18M), the [Washington \(DC\) Times](#) (7/23, 257K), the [Minneapolis \(MN\) Star Tribune](#) (7/23, 1.27M), [Philly \(PA\)](#) (7/23, 731K), the [Daily Mail](#) (7/23, Press, 4.57M), and [WTTG-TV Washington \(DC\)](#) Washington (7/23, 19K).

NPS, DELAWARE NORTH LOOK TO RESOLVE YOSEMITE NATIONAL PARK TRADEMARKS DISPUTE. [National Parks Traveler](#) (7/23, 989) reports that “talks between the National Park Service and DNC Parks and Resorts at Yosemite are under way to see if a resolution might be possible over who holds trademarks to The Ahwahnee Hotel, Curry Village, and other iconic properties in Yosemite National Park.” According to the article, “a federal judge presiding over the trademark battle has given the two sides until August 4 to deliver a status update on their progress.” The article says that “initially, the

lawyers thought an agreement on guidelines for mediation could be reached by July 21, but then sought another extension, until August 4, and the judge approved that new date on Thursday.”

RANCHERS WANT TO INTERVENE IN LAWSUIT OVER CATTLE AT POINT REYES NATIONAL SEASHORE. [National Parks Traveler](#) (7/24, 989) reports that “ten ranchers whose livelihoods are tied to grazing lands on Point Reyes National Seashore in California have asked to be allowed to intervene in a lawsuit seeking to force the National Park Service to conduct rigorous environmental impact studies on how cattle affect the seashore’s natural resources.” According to the article, “among the ranchers is Kevin Lunny, who had run an oyster farm at Drakes Estero in the national seashore until the National Park Service refused to extend his lease beyond 2012.” The article says that “in asking to intervene in the matter, the ranchers maintain, in part, that the Park Service can’t adequately represent their interests in the case because ‘the NPS is charged with representing the public interest.’”

DUNES PAVILION WORK HALTED. The [Merrillville \(IN\) Post-Tribune](#) (7/24, 74K) reports that “the Indiana Department of Natural Resource’s plans to have Pavilion Partners begin renovation work on the interior of the pavilion at Indiana Dunes State Park this fall appears to be in jeopardy because the project has not yet been approved by the National Park Service.” According to the article, “the state park has received grant money through the federal Land and Water Conservation Fund Act, which stipulates that land in the program be open for public use in perpetuity, and any changes in that land use require review by the National Park Service.” Dan Bortner, director of the DNR’s Division of State Parks and Reservoirs, said that “DNR officials are working with the National Park Service and expect to move forward with plans for renovation of the pavilion and construction of an adjacent banquet center.”

DOG HELPING TO PROTECT WILDLIFE IN GLACIER NATIONAL PARK. The [AP](#) (7/24, 2.13M) reports that “the dog bark patrol is on the job at Glacier National Park, notifying wildlife managers and herding mountain goats and bighorn sheep to keep them away from strangers.” According to the article, “Glacier natural resource program manager Mark Biel says a dog named Gracie has been trained not to come in contact with the wild animals and to avoid hazing or harassing the wildlife.”

FOSSIL CYCAD NATIONAL MONUMENT WAS LOST TO EXPLOITATION, NEGLECT. The [Washington Times](#) (7/23, Tupper, 257K) reports on the former Fossil Cycad National Monument in South Dakota, which was closed after being “spoiled by fossil collectors who exploited it and federal bureaucrats who neglected it.” The Times says the “story of the monument’s birth and death” is an “important lesson” for those who care about the areas under the care of the National Park Service. Archeologist George Wieland, who had played a major role in the park’s founding, himself took more than 1,000 cycadeoid fossils from the site for the Yale Peabody Museum of Natural History. In 1929, a visiting National Park Service employee found that all above-ground fossils had been taken “and there was little to justify the site’s continued status as a national monument.” In 1957, Fossil Cycad National Monument was abolished by an act of Congress and the land was turned over to the Bureau of Land Management.

ACTING SUPERINTENDENT TO JOIN OLYMPIC NATIONAL PARK. The [Peninsula \(WA\) Daily News](#) (7/24, 41K) reports that “a Department of the Interior attorney will serve as acting superintendent of Olympic National Park beginning Monday.” Rachel Spector will “serve for four months while park Superintendent Sarah Creachbaum is on special assignment.” Creachbaum is “serving in with the U.S. Fish and Wildlife Service in Alaska as part of her year-long participation in the National Park Service’s Senior Executive Service (SEC) candidate development program.”

ADDITIONAL COVERAGE: PUBLIC LANDS WELCOME POKÉMON GO PLAYERS. Additional coverage that the NPS is welcoming Pokémon Go players was provided by [The Guardian \(UK\)](#) (7/22, Perry, 3.74M) and [CTV News \(CAN\)](#) (7/22, 74K).

ADDITIONAL COVERAGE: REPORT SAYS BADLANDS PARK EMPLOYEE TOOK SICK BUFFALO CALF. Additional coverage of the investigation into the death of a bison calf at Badlands National Park was provided by the [Washington \(DC\) Post](#) (7/22, Rein, 9.18M) and the [Huffington Post](#) (7/22, D'angelo, 367K).

ADDITIONAL COVERAGE OF BEAR CAM. Additional coverage of the bear cam was provided by

[WKRN-TV](#) Nashville, TN (7/22, 174K) and [WLOX-TV](#) Biloxi, MS (7/22, 52K).

WESTENBERG: VOYAGEURS NATIONAL PARK IS MINNESOTA'S CROWN JEWEL. In a [Minneapolis Star Tribune](#) (7/24, 1.27M) feature, Kerri Westenberg writes on her experience at Minnesota's Voyageurs National Park, which got its name from the French Canadian voyageurs "who paddled birchbark canoes through the area's maze of lakes and streams in the late 1700s and early 1800s." Westenberg says that Voyageurs National Park, "with its sweep of history, pristine forests and abundant waters, is the crown jewel in the Park Service's Minnesota treasure trove, the largest and most prestigious of the lands we share with the rest of America."

NPS' FUNDING FOR LGBT ARTIST DISHONORS LEGACY OF ART ENVIRONMENT FOUNDER. In a [Life Site News](#) (7/22, 12K) op-ed, Rev. Thomas Littleton says the trust Americans place in the National Parks Service "now be misplaced due to an activist culture within all federal agencies," citing the creation of Stonewall Inn as the first National Monument to LGBT rights as evidence NPS has been "quietly transformed from within by activist appointees and a pro-LGBT hiring policy drafted for federal agencies." Littleton discusses the NPS' funding of Paradise Gardens Park and Museum partly due to interest in a Georgian artist named Martin, and says, "Unknown to us, the NPS had been interested in Martin's work BECAUSE of his homosexual history and not in spite of it," and says the use of Paradise Gardens "as a platform for celebrating LGBT heritage" actually dishonors the Christian legacy of Rev. Howard Finster, creator of the Paradise Gardens art environment.

Fish and Wildlife Service:

NEW WATER RULES ANNOUNCED TO PROTECT ENDANGERED SOUTH FLORIDA SPARROW.

The [Miami Herald](#) (7/22, 762K) reports that "facing one of the worst nesting years on record, federal wildlife and water managers Friday announced new measures to protect the Cape Sable seaside sparrow and hasten Everglades restoration." According to the article, "under the new guidelines, the 915-square-mile area just north of the Tamiami Trail could hold more water during wet years, like the one that just left the state saturated, caused the number of sparrow nests to plummet and led to toxic algae blooms along the Treasure Coast." The article says that "the plan also speeds up the schedule for moving more water down the L-29 canal into Everglades National Park and Florida Bay — which suffered a massive summer seagrass die-off — as federal regulators try to strike a balance between restoration and conservation."

Additional coverage was provided by the [Lakeland \(FL\) Ledger](#) (7/22, 159K) and the [Sunshine State \(FL\) News](#) (7/23, 3K).

NATIVE AMERICAN GROUP OPPOSES REMOVAL OF GRIZZLIES FROM ENDANGERED SPECIES LIST.

[Wyoming Public Radio](#) (7/22) reports that "a national Native American conservation group says grizzly bears shouldn't be removed from the Endangered Species List, but instead should expand the bear's range onto tribal lands." Ben Nuvamsa, a spokesman for Guardians of Our Ancestor's Legacy or GOAL, "said the grizzly plays an intricate role in the belief systems of many tribes." Nuvamsa recently met with FWS Director Dan Ashe "to express tribal frustration with the delisting plan." However, "he added that neither the feds nor Wyoming Game and Fish have given much consideration to the group's proposal to expand the bear's range onto tribal lands."

PUBLIC INPUT SOUGHT ON PLANS FOR MICHIGAN SHOOTING RANGE. The [AP](#) (7/22, 2.13M) reports that "officials are seeking public comment on a plan for a new shooting range in Michigan's northern Lower Peninsula." The FWS "says an environmental assessment of the proposed range in Grand Traverse County's Union Township is available for public comment through July 30." The Michigan Department of Natural Resources has "proposed the range with funding from the Fish and Wildlife Service's Wildlife Restoration Act."

FWS RECOGNIZES EFFORT TO RESTORE LOUISIANA BLACK BEAR. The [Monroe \(LA\) News Star](#) (7/24, 130K) reports that "Maria Davidson, Large Carnivore Program Manager for the Louisiana Department of Wildlife and Fisheries (LDWF), has been recognized by the U.S. Fish and Wildlife Service (USFWS) for her work in the recovery of the Louisiana Black Bear." Davidson, "along with Deborah Fuller and David Soileau of USFWS, have been named 2015 Recovery Champions for the USFWS's Region 4."

According to the article, “the trio earned the distinction because of their efforts in restoring the species and having it removed from the Endangered Species list in April of this year.”

BERKSHIRE NATIONAL FISH HATCHERY CELEBRATING 100TH ANNIVERSARY. The [Pittsfield \(MA\) Berkshire Eagle](#) (7/23, 57K) reports that “the Berkshire National Fish Hatchery in Hartsville-New Marlborough is celebrating its 100th anniversary this year.”

ADDITIONAL COVERAGE: FWS TO OPEN MORE WILDLIFE REFUGES TO HUNTERS. Additional coverage that the FWS “plans to expand hunting and fishing opportunities at 13 national wildlife refuges across nine states” was provided by [Take Part](#) (7/23, 167K).

ADDITIONAL COVERAGE: LESSER PRAIRIE CHICKEN REMOVED FROM LIST. Additional coverage of the removal of the lesser prairie chicken was provided by the [Tri-State Livestock News \(SD\)](#) (7/22) and the [Topeka \(KS\) Capital-Journal](#) (7/23, 107K).

BAUM: FWS’ SERVHEEN IS “MANIACAL CZAR” AGAINST GRIZZLIES. In a [Daily Inter Lake \(MT\)](#) (7/17, 51K) op-ed, former aerospace engineer Bill Baum says that he took an early retirement and moved to Denver, Colorado “in order to help save the grizzly bear from the likes of Dr. Chris Servheen of US Fish and Wildlife.” Baum criticizes Servheen’s support for delisting the grizzly Endangered Species Act, and criticizes wildlife biologists who also disagreed with Servheen, but would not stand against him, according to Baum. Baum was “appalled to learn their careers come first in importance to them and they would not stand up to this maniacal czar of grizzly bear monitoring, controls and recovery.” Baum also says Servheen was “too established with his cohorts/superiors like current USFW Director Dan Ashe and Secretary of the Interior Sally Jewell in Washington, D.C., or their predecessors on the staff of Presidents George H.W. Bush, Bill Clinton, George W. Bush and, currently, Barack Obama,” to successfully oppose.

Bureau of Land Management:

WILKS RANCH SETTLES FENCE TRESPASS DISPUTE WITH BLM. The [AP](#) (7/23, 2.13M) reports that “a dispute between the owners of a Montana ranch company and the federal government has been settled, but some people are still not happy about it.” Wilks Ranch Montana Ltd. has “agreed to repair damage caused when fences were put up on federal land that destroyed trees and vegetation.” The company said “it will also reimburse the Bureau of Land Management about \$70,000 to cover costs for the inquiry and a survey.” However, “Doug Krings, of Central Montana Outdoors, said someone should have been cited for trespass on the ranch in the Durfee Hills area, and the landowners should have been treated the same as hunters who cross boundaries and trespass on other peoples’ land.”

Additional coverage was provided by the [Bozeman \(MT\) Daily Chronicle](#) (7/23, 54K), the [Washington \(DC\) Times](#) (7/23, 257K), and [KECI-TV Missoula \(MT\)](#) Missoula, MT (7/24, 1K).

US Geological Survey:

SCIENTIFIC INTEGRITY INCIDENTS RATTLE USGS. [eos.org](#) (7/22) reports that “scientific integrity incidents” at a USGS lab have “rattled the agency,” following a DoI OIG report last month that found “the full extent of the impacts are not yet known but, nevertheless, that they will be serious and far ranging.” According to the report, employees at the inorganic section of the survey’s Energy Geochemistry Laboratory in Colorado “improperly manipulated mass spectrometer data.” Projects potentially affected include toxic metals analysis the Everglades ecosystem and in Alaska, and an analysis of uranium in Grand Canyon National Park. USGS Deputy Director Bill Werkheiser said the damage from misconduct “is relatively well contained,” but that the issue threatens the agency’s reputation for producing “high-quality defensible science” and “goes counter to [USGS] standards.”

Securing America’s Energy Future:

Offshore Energy Development:

OBAMA ADMINISTRATION TO HOLD OFFSHORE DRILLING LEASE SALE ONLINE. [The Hill](#) (7/22, Cama, 884K) reports that “the Obama administration is banning environmental activist protesters from an offshore drilling lease sale next month.” According to the article, “the auction, scheduled for Aug. 24 in New Orleans, will be webcast, and the public will not be allowed in the venue, a change from the tradition of the Bureau of Ocean Energy Management (BOEM) and its predecessors.” The article says that “the decision came after a boisterous lease sale in March, in which hundreds of protesters at the Mercedes-Benz Superdome yelled over announcements, stormed the stage and tried unsuccessfully to shut down the event, according to the New Orleans Times-Picayune.”

Additional coverage was provided by the [Fuel Fix \(TX\)](#) (7/22, 7K), the [Washington \(DC\) Examiner](#) (7/25, 378K), [Wired](#) (7/22, 3.31M), [Offshore Magazine](#) (7/22, 129K), [ETF Daily News](#) (7/24, 2K), [Rigzone](#) (7/22, 11K), [Oil Price](#) (7/22, 10K), [Splash 24/7 \(SGP\)](#) (7/24), and [PennEnergy](#) (7/22, 128).

NEW JERSEY FISHERMEN OPPOSE LOSS OF UNDERSEA SAND HILL. The [Asbury Park \(NJ\) Press](#) (7/22, Radel, 356K) reports on controversy over Army Corps of Engineers (ACE) plans to take sand from an underwater sand hill for a sand replenishment project on the Jersey beach, which is opposed by fishermen, who say that “Tampering with these sand beds, which are long-established fishing areas, could reshape the fishing communities at the Shore.” Boat captain Capt. Dale Steinart said, “It’s always a bad idea to destroy a ridge. You know, the government is worried about overfishing but they have no problem destroying a fishing habitat.” ACE would need to request permission from the Bureau of Ocean Energy Management before taking the sand. Department of Environmental Protection (DEP) is “adamant” the sand is needed to repair damage from hurricane sandy. A DEP spokesperson said, “What’s at stake is protection of lives, homes, businesses and infrastructure, as well as many thousands of jobs and billions of dollars in tourism revenues.”

NEW ORLEANS MAN PLEADS GUILTY TO FALSELY CLAIMING \$26,000 IN BP OIL SPILL. The [AP](#) (7/23) reported US Attorney Kenneth Polite “says in a Friday news release that 26-year-old Kevin Richard fraudulently claimed he was a cook for New Orleans Paddlewheels Inc. at the time of the 2010 BP oil spill, which disrupted many Gulf Coast businesses and caused job losses.” But, Polite “says, Richard was not a cook for New Orleans Paddlewheels,” and “his false claim led to him illegally getting \$26,000 in settlement money.” Polite pleaded guilty Thursday with sentencing set for October 27.

ADDITIONAL COVERAGE OF BOEM’S NEW FINANCIAL AND RISK MANAGEMENT REQUIREMENTS. Additional coverage of BOEM’s new financial assurance and risk management requirements was provided by [Law360](#) (7/22, 41K) and [JD Supra](#) (7/22, 3K).

Onshore Energy Development:

DISPUTE OVER DRILLING IN LANDS SCARED TO TRIBE. In an over 3,300-word article, [E&E Publishing](#) (7/22, Gilmer, Subscription Publication, 705) reported on the dispute over drilling in the Badger-Two Medicine region, which “holds the headwaters of Badger Creek and the South Fork of the Two Medicine River and is central to” the Blackfeet Nation’s creation story. The area was heavily leased 30 years ago, but the tribe and environmentalists argue “government officials failed to consult with the Blackfeet Nation or fully consider the impacts to the mostly untrammled area.” While Interior Secretary Sally Jewell previously “announced that the most contentious oil and gas lease was canceled, setting the stage for permanent protection of the Badger-Two Medicine,” driller Solenex LLC is challenging Jewell’s decision. “Solenex sees itself as an innocent party being punished for government officials’ own mistakes” and argues “that Interior does not have authority to cancel leases if the lessee has done nothing wrong.”

JUDGE APPROVES PEABODY SELF-BONDING CHALLENGES. [Law360](#) (7/22, 41K) reports that “a Missouri bankruptcy judge has allowed environmental groups to resume their efforts to prove that bankrupt Peabody Energy Corp. cannot continue to self-bond for mining operation cleanups.” U.S. Bankruptcy Judge Barry S. Schermer has “granted the Environmental Law & Policy Center and the Western Organization of Resource Councils’ motion asking that he lift the automatic bankruptcy stay and allow them to file amended citizen complaints with the Office of Surface Mining Reclamation and Enforcement regarding Peabody’s self-bonding capabilities in Illinois, Indiana and Wyoming.”

ADDITIONAL COVERAGE OF COAL LEASING MORATORIUM. Additional coverage of the coal leasing moratorium was provided by [CleanTechnica](#) (7/22, 16K).

ADDITIONAL COVERAGE OF MOAB MASTER LEASING PLAN. Additional coverage of the Moab Master Leasing Plan was provided by [Natural Gas Intelligence](#) (7/22, Subscription Publication).

REFORM OF COAL LEASING POLICIES URGED. In an op-ed for the [Deseret \(UT\) News](#) (7/25, 543K), Julian Carr, CEO of Discrete, argues that “our federal coal leasing system is broken and outdated.” According to Carr, “coal companies tear up our lands, put up no trespassing signs and then pay us pennies on the dollar for the coal they sell.” Carr writes that “instead of subsidizing coal extraction that pollutes our air, water and land and tweaks our climate, we should invest that money in renewable energies — wind, solar and geothermal and efficiency technologies — and also spend it retraining laid off coal workers so we can employ them in the smart energy economy of the future.”

Renewable Energy:

CONFUSION, DISAPPOINTMENT AFTER NYSERDA POSTPONES OFFSHORE WIND FARM VOTE. [Newsday \(NY\)](#) (7/23, Harrington, 1.25M) reports that a “late-night decision” by the New York State Energy Research and Development Authority (NYSERDA) to cancel last Wednesday’s scheduled Long Island Power Authority trustee meeting when a vote “on a 90-megawatt wind-farm proposal by developer Deepwater Wind in the federal Rhode Island wind-energy area 30 miles from Montauk Point” was to take place has “prompted confusion and rancor” from offshore wind farm proponents. The “unprecedented” decision to delay the vote “disappointed Long Island environmentalists and at least one East End official.”

WIND OPPONENTS CRITICIZED AS “WILLFULLY” PROMOTING DISINFORMATION. Katharine Kollins writes in her column for the [Knoxville \(TN\) News Sentinel](#) (7/24, 216K) that the rise in wind energy “has also been accompanied by a growth of misinformation around the wind industry” that “willfully ignore[s] the best available information in an effort to create fear around projects.” Kollins goes on to debunk such claims about the costs, use of space, and avian impacts of wind.

MASSACHUSETTS URGED TO TAKE THE LEAD IN OFFSHORE WIND. George Bachrach, president of the Environmental League of Massachusetts, and Louis J. Antonellis, president of IBEW Local 103 write in an op-ed in the [Boston Globe](#) (7/23, 1.14M) that Boston hosting the US-China Climate Summit in 2017 “presents an extraordinary international opportunity for the city and Massachusetts to show the world our leadership on climate.” Bachrach and Antonellis highlight leadership in building efficiency but urge lawmakers to “pass an energy bill that provides 2,000 megawatts of offshore wind power,” which would “make Boston the center of a new national industry.”

Empowering Native American Communities:

ANGLERS TO PROTEST TRIBAL CLOSURE OF LOWER SKOKOMISH RIVER. The [Olympian \(WA\)](#) (7/24, 74K) reports that “recreational anglers are planning a protest Saturday near the Skokomish River, angry over the tribe opting to close a section of the river to non-tribal anglers.” Earlier this year, the Interior Department “issued a legal opinion that the portion of the river running along the Skokomish Tribe’s reservation is part of the reservation and is under control of the tribe.”

Additional coverage was provided by the [Kitsap \(WA\) Sun](#) (7/24, 59K).

SENECA-CAYUGA ELECTION DELAYED AGAIN. The [Native American Times](#) (7/22, 337) reports that “a Bureau of Indian Affairs court is delaying an already rescheduled Seneca-Cayuga election.” On Wednesday, Magistrate Tom Walker “ruled to postpone a reconvened General Council meeting of the Seneca-Cayuga Nation.”

ADDITIONAL COVERAGE: JUDGE REJECTS CHALLENGE TO MECOOPDA INDIAN TRIBE CASINO. Additional coverage of Justice Frederick J. Scullin fuling “against a request made by Butte County, California, to block a proposed casino for the Mechoopda Indian Tribe of Chico Rancheria on a

parcel of land somewhere near the City of Chico” was provided by the [Indian Country Today Media Network](#) (7/22, 42K).

Tackling America’s Water Challenges:

DELTA TUNNELS PLAN ENTERS CRITICAL PHASE. The [Sacramento \(CA\) Bee](#) (7/24, Kasler and Sabalow, 481K) reports that California Gov. Jerry Brown’s “proposed \$15.5 billion re-engineering of the troubled Sacramento-San Joaquin Delta is heading into a critical phase over the next year that could well decide if the project comes to fruition.” On Tuesday, the State Water Resources Control Board “begins months of grueling public hearings on the details of Brown’s plan to burrow a pair of massive tunnels beneath the heart of the Delta.” And “as the hearings plow forward, project planners will be scrambling to surpass another major milestone: securing a declaration from two U.S. regulatory agencies that the tunnels could operate without violating the Endangered Species Act.”

Additional Coverage: Court Rules In California’s Favor On Delta Property Rights. Additional coverage that “California officials don’t have to pay property owners to access their land to conduct preliminary testing before deciding whether to move forward with a \$15.7 billion plan to build two giant water tunnels that would supply drinking water for cities and irrigation for farmers” was provided by the [Oroville \(CA\) Mercury-Register](#) (7/21, 1K), the [Los Angeles \(CA\) Times](#) (7/22, Walton, Grad, 4.09M), and [KQED-FM San Francisco \(CA\)](#) San Francisco (7/21, 40K).

KLAMATH RIVER DAM REMOVAL COULD BEGIN IN LESS THAN FOUR YEARS. [KOB-TV](#) Medford, OR (7/22) reports that “the clock is ticking on the future of four dams on the Klamath River.” According to the article, “efforts to take it out could begin in less than 4 years.” Pacific Power’s Tim Hemstreet said, “People are hopeful that can happen by 2020. But it’s a process that will take, frankly, whatever time it needs to take.”

FLATHEAD WATER COMPACT SURVIVES CHALLENGE. The [Flathead \(MT\) Beacon](#) (7/22, 15K) reports that “the proposed Flathead water compact can proceed toward settlement with the U.S. government, while Montana employees and board members can be held liable for possible damages under the contentious water rights agreement, according to a Lake County district court judge.” Judge James Manley “issued partial summary judgments July 18 that sided with the State of Montana and Confederated Salish and Kootenai Tribes on the Flathead Indian Reservation, while also ruling in favor of opponents regarding one aspect of the water compact.” According to the article, “Manley agreed with a group of irrigators who said a provision in the compact violated the Montana Constitution because it provided immunity to the state, or its agents or employees, without a two-thirds vote in the 2015 Montana Legislature.” But “the judge also determined that the provision can be removed from the water compact without voiding the entire agreement, which aims to permanently settle the tribes’ water rights and is currently seeking congressional approval in Washington, D.C.”

PADRE DAM WATER DISTRICT AWARDED FUNDING FOR WATER RECYCLING. The [San Diego Union-Tribune](#) (7/22, 523K) reports that “Padre Dam Municipal Water District has been awarded \$4.5 million from a federal agency to use toward its water recycling efforts.” According to the article, “the money is part of more than \$30 million in funding through the United States Department of the Interior’s Bureau of Reclamation for seven projects in California that will provide clean water and promote both water and energy efficiency.”

DRINKING WATER TEMPORARILY UNAVAILABLE AT LITTLE WOOD CAMPGROUND. The [Twin Falls \(ID\) Times-News](#) (7/23, 73K) reports that the BOR “closed the well that supplies drinking water to Little Wood Campground due to health concerns.” According to the article, “during a recent inspection, a water sample tested positive for coliform bacteria,” and “further testing is necessary to confirm the well is safe.” Ryan Newman, manager of Reclamation’s Upper Snake Field Office, said, “Public safety is our primary concern. We are working to assure all health concerns are addressed in a timely manner.”

FUNDING BILL FOR COLORADO CONDUIT ADVANCES IN SENATE. In an editorial, the [Pueblo \(CO\) Chieftain](#) (7/23, 72K) reports legislation offering funding options for a drinking water pipeline from Lake

Pueblo advanced in the Senate last week, and commends sponsoring Sen. Cory Gardner and co-sponsor Sen. Michael Bennet for advancing the bill. The proposed 130-mile conduit would take fresh water east to Lamar, serving 40 communities along its route. The Chieftain says, “We share in the optimism for the long-awaited pipeline project and express our appreciation to Sens. Gardner and Bennet for helping to move the conduit, estimated to cost up to \$400 million, forward.”

ADDITIONAL COVERAGE: FEDERAL AGENCIES THREATENED WITH LAWSUIT OVER FISH PARASITES. Additional coverage that “commercial fishing and conservation groups announced Thursday they may file a lawsuit to compel federal agencies to do more to protect juvenile coho salmon in the Klamath River” was provided by the [Klamath Falls \(OR\) Herald And News](#) (7/22, 45K).

ADDITIONAL COVERAGE: YOUTH PROTESTERS MARCH TO RAISE AWARENESS ABOUT KLAMATH RIVER WATER QUALITY. Additional coverage that “on July 18, a group of over two dozen youth, including teens from the Yurok and Hoopa Valley Tribes, organized three protests demanding a thorough clean up of the polluted Klamath Strait Drain in Klamath County, Oregon” was provided by [Bay Area \(CA\) Indymedia](#) (7/22, 2K).

O'TOOLE: DOA, DOI COLLABORATION JUST ONE STEP TO SUSTAINING THE COLORADO RIVER. In a [Montrose \(CO\) Press](#) (7/24, 17K) op-ed, Pat O'Toole reports that closer collaboration between Department of Agriculture and DoI drought resiliency programs “was welcomed” by those who depending on the Colorado River, and says the Colorado “is the lifeblood of the Southwest.” O'Toole says a successful water strategy should include “a ‘portfolio’ of water supply enhancements and improvements,” such as “water reuse, recycling, conservation, water-sensitive land use planning, and water system improvements.” O'Toole praises USDA Secretary Tom Vilsack and Interior Secretary Sally Jewell for their collaboration, but says it is “just one of many critical steps required” to develop lasting solutions.

Top National News:

OBAMA MAKES CASE AGAINST TRUMP IN CBS INTERVIEW. In an interview which aired on CBS' Face The Nation on Sunday, the President made a case against Donald Trump and expressed confidence in Hillary Clinton. The President argued that Trump's campaign rhetoric undermines American values, and that his suggestion that he might not defend a NATO ally that was attacked by Russia shows that he is not prepared for the presidency. On the other hand, Obama called Clinton “supremely capable” of taking over the job in January. Media coverage of the President's comments is very light, however, with relatively little print and online coverage and only one network news broadcast – the CBS Evening News – covering the interview Sunday evening.

The [New York Times](#) (7/24, Davis, Subscription Publication, 14.18M) says the CBS interview was the first in a series of appearances this week during which the President will seek to counter Trump, “unite Democrats around Hillary Clinton's candidacy and persuade independent voters to back her as well.” According to aides, in “media interviews and a prime-time televised speech scheduled for Wednesday...the president will defend his economic and foreign policy record, arguing that the nation is safer and more prosperous because of them – and that Mrs. Clinton is best positioned to protect them.”

In the interview with [CBS' Face The Nation](#) (7/24, Dickerson, 4.61M), the President argued that Trump's “divisive rhetoric” on Muslims and terrorism is “ultimately helping do ISIL's work,” [Politico](#) (7/24, Herb, 1.96M) reported. The President told CBS, “If we start engaging in the kinds of proposals that we've heard from Mr. Trump or some of his surrogates like Mr. [Newt] Gingrich, where we start suggesting that we would apply religious tests to who could come in here, that we are screening Muslim Americans differently than we would others, then we are betraying that very thing that makes America exceptional.” In “another dig at Trump,” the President said, “One of the best ways of preventing it is making sure that we don't divide our own country, that we don't succumb to fear, that we don't sacrifice our values and that we send a very strong signal to the world and to every American citizen that we're in this together.” The [Huffington Post](#) (7/24, Nelson, 367K) reported that the President said Trump is “undermining America's values with his campaign rhetoric.”

The President also said on [CBS' Face The Nation](#) (7/24, Dickerson, 4.61M) that Trump's claim that he "wouldn't necessarily come to the aid of a NATO ally attacked by Russia shows the Republican isn't ready for the Oval Office," [Bloomberg Politics](#) (7/24, Dorning, 529K) reports. The President argued that "Trump's willingness to cast doubt on the US's 'solemn commitment' while allies are anxious over Putin's posture 'is an indication of the lack of preparedness that he has been displaying when it comes to foreign policy.'" The [AP](#) (7/24, Taylor) quotes the President as saying, "There is a big difference between challenging our European allies to keep up their defense spending, particularly at a time when Russia's been more aggressive, and saying to them, 'You know what? We might not abide by the central tenant of the most important alliance in the history of the world.'"

According to the [Washington Times](#) (7/24, Richardson, 257K), the President argued that "recent terrorist attacks" do not "confirm the bleak outlook painted by Republican presidential nominee Donald Trump." The President also [said](#) (7/24, Dickerson, 4.61M) that "the American people are significantly more safe now than they were before all the work that we've done since 9/11. So, maintaining that perspective I think is absolutely critical, and trying to fan fears simply to score political points I think is not in the best interest of the American people." [Asked](#) (7/24, Dickerson, 4.61M) why he stopped using the phrase "radical Islam" after the 2008 presidential race, the President said, "This is an interesting example of where something that shouldn't be an issue gets magnified. ... The reason that I haven't used the particular phrase 'radical Islam' on a regular basis is because in talking to Muslim allies, in talking to the Muslim-American community here, that was being heard as if we were ascribing to crazy groups like ISIL or Al Qaeda the mantle of Islam."

The President also told [CBS' Face The Nation](#) (7/24, Dickerson, 4.61M) that Trump's nomination "says something about what's happened to the Republican Party over the course of the last eight, 10, 15 years. If you think about what a Bob Dole or a Jim Baker or a Howard Baker or a Dick Lugar or a Colin Powell stood for, they were conservative. They were concerned about limited government and balancing budgets and making sure we had a strong defense. But they also understood that our system of government requires compromise, that Democrats weren't the enemy, that the way our government works requires us to listen to each other."

In its report on the interview, the [CBS Evening News](#) (7/24, story 3, 1:25, Pelley, 11.17M) showed the Face The Nation host John Dickerson asking the President about his supporters claims in 2008 that if he "runs the presidency like his campaign, he's going to be in good shape," and why that is not true for Trump, "who has run a pretty remarkable campaign beating 16 other politicians." The President was shown saying, "In 2008 I don't think they were referring merely to the fact that I had won. We were really, really organized. We had a great culture that-- there wasn't a whiff of scandal to how we approached getting elected. We told the truth. I do think that the body of work of a person matters."

The [AP](#) (7/24, Taylor) reported that the President also argued that Hillary Clinton "is supremely capable of taking over the reins of power in January," adding that "he believes there has never been candidate better prepared for the presidency." [Politico](#) (7/24, Herb, 1.96M) quoted the President as saying, "She's not always flashy. And there are better speechmakers. ... But she knows her stuff. And more than anything, that is what is ultimately required to do a good job in this office." [Asked](#) on [CBS' Face The Nation](#) (7/24, Dickerson, 4.61M) how Clinton compared to Presidents Eisenhower or George H.W. Bush, Obama said, "I said 'more prepared.' I didn't say they were, you know, chopped liver. I mean, you know, heading up the Allied Forces is pretty good training for the presidency, and I'm huge admirers of both Eisenhower and Herbert Walker Bush. In fact, I think that George H. W. Bush is one of the most underrated presidents we've had and I think he is a really good man. But the skill sets that Hillary has are similar to many of the skill sets that they had – experience in government, experience in working with a wide range of people, solving big, difficult problems, familiarity with the world."

The President also [discussed](#) Clinton's use of a private email server while she was secretary of state, saying, "I think she would acknowledge she made a mistake, but what I also think is true is that if you've been in the public eye for decades at if highest levels of scrutiny, folks are going to find some mistakes you make. I've made mistakes." The President added that "the consistency with which she has devoted her life to trying to make sure that kids get health care and a good education and that families are getting

a fair break if they're working hard and that America upholds its best traditions of foreign policy, on the big stuff, she's gotten it right."

The [Washington Times](#) (7/24, Richardson, 257K) reports that in the interview, the President also "painted an optimistic picture about the state of the country, saying his team is 'operating at peak level.'" The President told CBS, "I feel as if I'm a better president than I've ever been. ... That the experience has made me sharper, clearer about how to get stuff done." In addition, the President told [CBS' Face The Nation](#) (7/24, Dickerson, 4.61M) that he is "'more hopeful' today about the state of race relations in the country than he was growing up, pointing to outrage over videos of police shootings." The President said, "So in a lot of ways, I would feel more hopeful. ... Ironically, I think precisely because things have gotten better, what I've heard from younger Africans Americans is more shock about these images and the videos from Minnesota or Baton Rouge."

Trump campaign manger Paul Manafort responded to the President's comments on [ABC's This Week](#) (7/24, Stephanopoulos, 6.61M), arguing that the President "should be the one to be ashamed of what's going on in the world. The growth of ISIS occurred as a direct result of the policies that he and Secretary Clinton established when they took office in 2009. The world is an unsafe place today because of his failed leadership, not because of anything Donald Trump has done." Donald Trump Jr. also took issue with the President's criticism, telling [CNN's State Of The Union](#) (7/24, 420K), "If you look at what's going on in this country it's a disaster. ... If President Obama wants to go on the air and say look at the America we live in, it's so phenomenal today versus eight years ago, I don't think I know an American that believes that to be the case. We are in a mess and we have to finally acknowledge that."

WASSERMAN SCHULTZ OUT AT DNC IN WAKE OF EMAIL LEAK. All three broadcast networks opened Sunday evening with the news that Rep. Debbie Wasserman Schultz (D-FL) will step down as Democratic National Committee chair effective at the end of this week's convention – an event where her role had already been significantly sidelined in the wake of leaked emails indicating DNC support for Hillary Clinton over Sen. Bernie Sanders in the presidential race. While the networks cast the resignation in very negative terms, print and online reports are more nuanced, with some stating that by getting the controversial Wasserman Schultz out of the way, the Clinton campaign is more likely to have the smooth convention it hopes for. Donna Brazile will become interim DNC chair.

[ABC World News](#) (7/24, lead story, 3:45, Muir, 14.63M) reported, "The Democratic National Convention hasn't even started, and we already have our first major controversy." ABC (Vega) added, "This is supposed to be about party unity. Instead, this is the exact opposite. On the eve of the Democratic convention, tonight, a bombshell" resignation intended to "blunt the controversy hanging over Clinton's convention." [NBC Nightly News](#) (7/24, lead story, 3:00, Holt, 16.61M) also said that "on the eve of their big convention, the Democratic party has been rocked by a bombshell. ... The turmoil is rapidly eroding the unity that Democrats were hoping to project this week."

The [CBS Evening News](#) (7/24, lead story, 3:20, Pelley, 11.17M) said, "There's breaking news here tonight, and not the kind that Hillary Clinton wants. A new email scandal" that "has cost the chairman of the DNC her job." CBS (Cordes) added, "Wasserman Schultz was already a lightning rod for Bernie Sanders supporters even before these hacked emails were made public. And so now, with Democratic officials desperate" to bring them "into the fold and unify the party in advance of the convention, the decision was made that she had to go. Wasserman Schultz announced her resignation just one day after introducing Clinton and her new running mate in Miami."

[USA Today](#) (7/24, Przybyla, 6.31M) says the announcement came in the wake of "the growing controversy" over the leaked emails "that at times depicted staffers favoring" Clinton over Sanders. The [New York Times](#) (7/24, Martin, Rappeport, Subscription Publication, 14.18M) reports that Wasserman Schultz "was meeting with advisers behind closed doors at a hotel here, a day before the party's convention was set to begin, and had faced growing calls for her resignation over the weekend." In a statement, she said, "I know that electing Hillary Clinton as our next president is critical for America's future. I look forward to serving as a surrogate for her campaign in Florida and across the country to ensure her victory."

[Bloomberg Politics](#) (7/24, Epstein, 529K) says the resignation “capped several hours of fast-moving developments as thousands of Democrats streamed into Philadelphia” and “comes days comes after Democrats delighted in watching Republican infighting disrupt the GOP’s convention in Cleveland,” and the [Miami Herald](#) (7/24, Mazzei, 762K) called the resignation “a stunning development that capped a whirlwind 48 hours for party leaders.”

The [Washington Post](#) (7/24, Gearan, Phillip, 9.18M) says Clinton campaign officials “argued that she had become a lightning rod because of the hacked emails,” according to a source. The [AP](#) (7/24, Thomas, Lucey) similarly says Wasserman Schultz “has been a lightning rod throughout the presidential campaign for criticism from the party’s more liberal wing.” The [Los Angeles Times](#) (7/24, Memoli, 4.09M) says the resignation “culminated a series of steps by the Clinton campaign to sideline her – first by appointing a new party executive last month to run the party’s operations, then by taking away her speaking role at the convention and removing even the simple task of gaveling the convention in and out of session.”

[Politico](#) (7/24, Strauss, Caputo, 1.96M) reports President Obama said in a statement, “For the last eight years, Chairwoman Debbie Wasserman Schultz has had my back. This afternoon, I called her to let her know that I am grateful.” Clinton said, “I am grateful to Debbie for getting the Democratic Party to this year’s historic convention in Philadelphia, and I know that this week’s events will be a success thanks to her hard work and leadership. There’s simply no one better at taking the fight to the Republicans than Debbie.”

E.J. Dionne writes in his [Washington Post](#) (7/24, 9.18M) column that “before the controversy...could dominate the early part of the convention, Clinton’s campaign moved quickly” to obtain Wasserman Schultz’s resignation. The [Washington Times](#) (7/24, Morton, 257K) reports Clinton gave Wasserman Schultz “a soft landing by announcing that she would join the Clinton campaign.”

The [New York Times](#) (7/24, Alcindor, Subscription Publication, 14.18M) reports that Sanders supporters were “energized” by the resignation. Sanders said, “Debbie Wasserman Schultz has made the right decision for the future of the Democratic Party. While she deserves thanks for her years of service, the party now needs new leadership that will open the doors of the party and welcome in working people and young people. The party leadership must also always remain impartial in the presidential nominating process, something which did not occur in the 2016 race.” [Reuters](#) (7/24, Whitesides) says “lingering bitterness from the heated primary campaign” between Clinton and Sanders “erupted” following the email leak.

[Politico](#) (7/24, Herb, 1.96M) reports Sanders had called on Wasserman Schultz to resign earlier Sunday. On [NBC’s Meet The Press](#) (7/24, Todd, 5.27M), Sanders said, “This really does not come as a shock to me or my supporters. There is no question but the DNC was on Secretary Clinton’s side since day one. The time is now Debbie Wasserman Schultz to step aside.” Sanders added he would not reconsider his support for Clinton in the wake of the report: “No, no, no. We’re going to do everything we can to protect working families in this country.”

On [ABC’s This Week](#) (7/24, Stephanopoulos, 6.61M), Sanders said, “I think I told you a long time ago that the DNC was not running a fair operation. That they were supporting Secretary Clinton.” Sanders added that Wasserman Schultz “should resign. Period.” On [NBC Nightly News](#) (7/24, story 3, 1:25, Holt, 16.61M), Chuck Todd said, “Talking with Sanders’ campaign manager earlier today, he said the best way to unify the party has just happened: the Debbie Wasserman Schultz resignation. They finally got some retribution. They got her resignation.”

Dan Balz writes in the [Washington Post](#) (7/24, 9.18M) that the DNC’s covert support for Clinton “is not totally surprising, because Clinton is the institutional choice of the Democrats and because DNC members are the party’s establishment. But the national committee’s role is to maintain strict neutrality during the primaries, and the emails indicate that did not happen.”

The [Washington Times](#) (7/24, Dinan, 257K), [The Hill](#) (7/24, Hellmann, 884K), [Roll Call](#) (7/24, 61K), and the [Huffington Post](#) (7/24, Fang, 367K) are among the other outlets reporting on the resignation.

CNN Suspends Agreement With Brazile; Granholm In Mix To Be Permanent Successor. [Politico](#) (7/24, Gold, 1.96M) reports that CNN has suspended Brazile's contributor agreement as she prepares to become interim chair. The [Detroit Free Press](#) (7/24, Spangler, 1.02M) reports that former Michigan governor Jennifer Granholm is said to be in the running as a permanent replacement for Wasserman Schultz. However, the [Detroit News](#) (7/24, 434K) reports Granholm said Sunday that she was not pursuing the job.

Clinton Campaign: "Russian State Actors" Orchestrated Hack To Aid Trump. The [Wall Street Journal](#) (7/24, Torry, Meckler, Subscription Publication, 6.27M) reports Clinton campaign manager Robby Mook faulted "Russian state actors" for hacking and leaking the emails. He told CNN, "I don't think it's coincidental that the emails were released on the eve of our convention." The [Washington Post](#) (7/24, Hamburger, Nakashima, 9.18M) says Mook "accused the Russian government of orchestrating the release of damaging Democratic Party records in order to help" Trump, an "extraordinary charge came as some national security officials have been growing increasingly concerned about possible efforts by Russia to meddle in the election."

The [New York Times](#) (7/24, A1, Sanger, Subscription Publication, 14.18M) says in a report headlined "As Democrats Gather, A Russian Subplot Raises Intrigue" that while "roving the source of a cyberattack is difficult...all the forensic evidence points toward Russian intelligence agencies as the perpetrators of the theft of the national committee emails."

On [CNN's State Of The Union](#) (7/24, Tapper, 420K), Mook said, "What's disturbing to us is that...experts are telling us that Russian state actors broke into the DNC, stole these emails, and other experts are now saying that the Russians are releasing these emails for the purpose of actually helping Donald Trump. I don't think it's coincidental that these e-mails were released on the eve of our convention here. And that's disturbing." On [ABC's This Week](#) (7/24, Stephanopoulos, 6.61M), Mook repeated his claim and added, "It was concerning that Donald Trump changed the Republican platform last week to what some would regard as pro-Russian. ... I think what is troubling is how he's praised Putin." On [Fox News Sunday](#) (7/24, Wallace), Clinton campaign chief strategist Joel Benenson similarly said, "Most experts on cyber security say this is a hack by bad actors in concert with Russia."

However, the Trump campaign was quick to discount these claims. Campaign chief Paul Manafort said on [ABC's This Week](#), "It's pure obfuscation on the part of the Clinton campaign. What they don't want to talk about is what's in those emails. And what's in those emails show that it was a clearly rigged system." On [CNN's State Of The Union](#) (7/24, Tapper, 2.4M), Donald Trump Jr. said, "That exactly goes to show you what the DNC and what the Clinton camp will do. They will lie and do anything to win."

[ABC World News](#) (7/24, story 2, 1:10, Muir, 14.63M) said that the allegation, if true, "would make the Watergate scandal look minor by comparison." The [CBS Evening News](#) (7/24, story 9, 1:50, Pelley, 11.17M) also briefly reported that the Clinton campaign says "they're hearing from experts" that Russians may have conducted the hacks "to help Donald Trump."

Brazile Says "Insensitivity" And "Stupidity" Must Be Addressed, More Leaks To Come. On [ABC's This Week](#) (7/24, Stephanopoulos, 6.61M), Brazile said, "As vice chair, I went over yesterday to see the Sanders campaign. I apologized. I think the allegations, the emails, the insensitivity, the stupidity needs to be addressed. And we are going to address it." Brazile added, "This is not just a one-day leak. There will be a substantial number of emails that I understand will be leaked over the next couple of days, weeks, months. Because it was not a one-month breach or a two-month breach."

Emails Show DNC's Use Of Obama To Woo Big Fundraisers. The [Washington Post](#) (7/24, Gold, 9.18M) looks at how the emails "show how the party has tried to leverage its greatest weapon – the president – as it entices wealthy backers to bankroll the convention and other needs. At times, DNC staffers used language in their pitches to donors that went beyond what lawyers said was permissible under White House policy designed to curtail the perception that special interests have access." White House officials said President Obama's "attendance at DNC events is well within the law and the administration's own ethics policies."

More Than 1,000 Sanders Supporters March In Philadelphia. The [New York Times](#) (7/24, Gabriel, Subscription Publication, 14.18M) reports that “a large, impassioned crowd” of Sanders supporters, “chanting ‘Hell, no, D.N.C., we won’t vote for Hillary,’” marched on the convention site Sunday, “promising a week in which the party’s divisions will be on vivid display in the streets.” The Times says more than 1,000 demonstrators turned out for “the first of what are expected to be many Sanders rallies during the convention.” The [Chicago Sun-Times](#) (7/24, Sfondeles, 877K) quotes some Illinois Sanders delegates about the leak. One said, “It’s similar to Watergate. The break in and playing games, that’s wrong. And the whole idea is very Donald Trump-ish.”

CBS NEWS BATTLEGROUND TRACKER POLL: TRUMP NOW LEADS CLINTON 42%-41%. On its website, [CBS News](#) (7/24, Salvanto, 3.67M) reported that a CBS News Battleground Tracker Poll of 2,131 combined voters in eleven states – Colorado, Florida, Iowa, Michigan, North Carolina, New Hampshire, Nevada, Ohio, Pennsylvania, Virginia, and Wisconsin – taken July 22-23, shows Donald Trump received “a small boost in support across the battleground states coming out of his convention. he is at 42 percent support now, up from 40 percent heading in, and it now pushes him slightly ahead of Hillary Clinton, who remains unchanged at 41 percent.”

[The Hill](#) (7/24, Savransky, 884K) reported that in the poll, “55 percent of Republicans said Trump’s message at the convention made them feel hopeful, and about 40 percent said it made them feel enthusiastic. Among independents, 32 percent said it made them feel hopeful, and 25 percent said it made them feel enthusiastic,” while “another 32 percent of independents said they felt scared. Among Democrats, 63 percent said what they saw and heard from the GOP nominee at the convention made them feel scared.”

Clinton Camp Confident Trump Bid To Expand Map Is Futile. Asked on [ABC’s This Week](#) (7/24, Stephanopoulos, 6.61M) about Donald Trump’s campaign’s plans to expand the battleground map from 12 to 20 states to include traditionally Democratic states like Connecticut, Michigan, Nevada, New Mexico, Oregon and Wisconsin, Hillary Clinton’s campaign manager, Robby Mook, said, “I welcome Donald Trump to spend time in states like Connecticut. I think families there understand what a threat he is not only to our community, the fabric of our American community, but also to our national security and our economy. The voters in those states are going to resoundingly reject Donald Trump. So, I welcome him to spend his time there. We’re focused on the states that we think are the real battleground. We’re very confident in states like Pennsylvania, Ohio, and Florida we have a competitive operation.”

Editorial Wrap-Up:

NEW YORK TIMES. “When Health Insurers Merge Consumers Often Lose.” The [New York Times](#) (7/25, Subscription Publication, 14.18M) editorializes, “A wave of mergers in many sectors of the economy over the last several decades has significantly reduced competition and hurt consumers,” which is why lawsuits filed last week by the Justice Department “and state attorneys general in federal court challenging two big health insurance mergers were so important.” The proposed Aetna/Humana and Anthem/Cigna mergers “are the culmination of a series of deals in the health care industry that have reduced the number of insurers and caused the consolidation of hospitals and doctors’ practices everywhere.”

“New York City Policing Reform, Derailed.” The [New York Times](#) (7/25, Subscription Publication, 14.18M) editorializes in favor of two proposed New York City bills “to protect civilians from being harassed and unlawfully searched.” The bills “require officers to identify and explain themselves when they stop people, and to make sure people know when they can refuse to be searched.” But City Council Speaker Melissa Mark-Viverito “essentially derailed” them, saying “she had quietly struck a compromise with the Police Department to adopt some, but not all,” of the components. The Times says the measures need to have the force of law.

“Nursing Home Residents Still Vulnerable To Abuse.” The [New York Times](#) (7/25, Subscription Publication, 14.18M) says in an editorial that pending federal rules on nursing home standards “fail to hold nursing homes truly accountable to patients, their families or the law.” The Times says the proposed

rule “should have banned pre-dispute arbitration clauses in nursing home contracts. Instead, they basically condone them as long as these homes take some legalistic steps to explain and disclose the clauses and do not make signing them a condition of admission.”

WASHINGTON POST. “Clinton Should Offer A Stark Contrast From The GOP’s Dystopian Vision.”

The [Washington Post](#) (7/24, 9.18M) says in an editorial that this week, Democrats must present “facts that belie Mr. Trump’s fear-mongering rhetoric.” And Hillary Clinton “should recognize in her convention speech the very real pain some Americans are suffering” and “offer actual, substantive proposals to help spur growth and alleviate economic and social inequality.”

“The Wrong Way To Fight Disease.” The [Washington Post](#) (7/24, 9.18M) says in an editorial that congressional inaction has led to federal, state, and local public health agencies scrambling to find resources to mount an adequate response to the Zika virus. The Post says Congress acted irresponsibly by recessing without appropriating money to fight Zika. The Post adds the current system for financing public health emergencies is flawed, because politicians do not respond as rapidly to health threats as they do to natural disasters. The Post endorses a proposal by Rep. Rosa DeLauro (D-CT) to create a \$5 billion public health emergency fund that would be ready for rapid and flexible response when epidemics break out.

“The Fairfax County School Board’s Failure On Transgender Protections.” The [Washington Post](#) (7/24, 9.18M) editorializes that the Fairfax County, Virginia school board “took a step backward last Tuesday by refusing to review regulations that would have helped enforce its policy protecting transgender students and staff.” Although the school board has had a nondiscrimination policy protecting transgender students and staff for more than a year, it has tabled discussion of amending its school handbook to add a clear enforcement clause for the rule. The Post says that by moving away from its previously expressed standard, “Fairfax is failing to live up to its own example.”

WALL STREET JOURNAL. “ObamaCare And Big Insurance.” The [Wall Street Journal](#) (7/24, Subscription Publication, 6.27M) editorializes that it is odd that the Justice Department is filing a lawsuit to block the Anthem-Cigna and Humana-Aetna mergers because increased consolidation in the health insurance industry is a direct result of the Affordable Care Act. The Journal argues that the ACA is predicated on the notion that larger entities in the insurance industry are more effective than a system with smaller players, and that the DOJ antitrust lawsuit is thus a classic example of politicians being most enraged by the problems they themselves have caused.

“International Olympic Dopes.” In an editorial, the [Wall Street Journal](#) (7/24, Subscription Publication, 6.27M) says the IOC’s decision not to ban the entire Russian Olympic team from the games in Rio was likely the result of intimidation by Russian President Vladimir Putin.

Big Picture:

HEADLINES FROM TODAY’S FRONT PAGES.

Wall Street Journal:

[Democrats Seek Unity With Ouster Of Party Official](#)
[Clinton To Take Command Of A Changed Democratic Party](#)
[As China Lets Yuan Depreciate, Other Nations Take Note](#)
[How Much Oil Is In Storage? Take A Guess](#)

New York Times:

[Debbie Wasserman Schultz To Resign DNC Post](#)
[As Democrats Gather, A Russian Subplot Raises Intrigue](#)
[IOC Forces Russians To Prove They Have A Drug-Free Past](#)
[Yahoo Cuts \\$4.8 Billion Deal To Sell Core Business To Verizon](#)
[Years Before Truck Rampage In Nice, Attacker Wasn’t ‘Living In The Real World’](#)
[Kabul Bombing Adds New Layers Of Agony For Afghanistan’s Hazaras](#)

[Tesla's Chief Sticks To Mission Despite A Series Of Setbacks](#)

Washington Post:

[Turkish Lawyers Allege Detainee Abuse](#)
[DNC Chair Pushed Out Over Email Leak](#)
[IOC Decides Not To Ban Full Russian Team From Rio Olympics](#)
[Planning Care For Zika Babies Challenges US Health Officials](#)
[Clinton Campaign Says Russians Are Behind DNC Document Leak](#)
[DNC's Plight Began Long Before Leak](#)

Financial Times:

[Goldman Blamed For Role In BHS Deal](#)
[Italy Finance Minister Rejects Banks Bail-In](#)

Washington Times:

[Democrats Line Up Insiders As Speakers](#)
[Democrats Lose Chair On Eve Of Convention](#)
[Battle Of Mosul Seen As Ploy For US Elections](#)
[Two Female Officers Advance In Bid To Join Green Berets](#)
[Northwest Passage: A New Frontier](#)

Story Lineup From Last Night's Network News:

ABC: DNC-Chair Resignation; DNC-Emails; DNC Chair Resignation-Trump; West Coast Wildfires; Severe Weather; Weather Forecast; Connecticut Plane Crash; Russian Olympians-Doping; Germany-Refugee Attack; Dallas Airport-Security Breach; College Football Player Deaths.
CBS: DNC-Chair Resignation; DNC-Hillary Clinton; DNC-President Obama; DNC-Trump; Political Polls; West Coast Wildfires; Germany-Shooting Rampage; Russian Olympians-Doping; DNC-Coverage.
NBC: DNC-Chair Resignation; DNC-Trump; DNC-Analysis; DNC-Security; West Coast Wildfires; Russian Olympians-Doping; Alzheimer's Developments; Verizon-Yahoo Purchase; Hacking Threats.

Network TV At A Glance:

2016 Politics – 29 minutes, 05 minutes
West Coast Wildfires – 6 minutes, 00 seconds
Russian Olympians-Doping – 3 minutes, 00 seconds

Story Lineup From This Morning's Radio News Broadcasts:

CBS: DNC-Chair Resignation; DNC-Email Investigation Comments; Hillary Clinton-RNC Comments; Severe Weather-Excessive Heat Warnings; West Coast Wildfires; Texas-Hot Car Child Death; Dallas Cowboys Bus-Accident Deaths; Germany Music Festival Explosion.
NPR: DNC-Chair Resignation; California Wildfires; Russian Olympians-Doping; Severe Weather-Excessive Heat Warnings; US Coast Guard Search-Fake Distress Calls; China-G20 Finance Meeting; Verizon-Yahoo Purchase.
FOX: Germany Music Festival Explosion; Germany Shooting Rampage-Questioning; DNC-Chair Resignation; DNC-Republican Chair Response; Severe Weather-Heat Warnings.

Washington Schedule:

TODAY'S EVENTS IN WASHINGTON.

White House:

PRESIDENT OBAMA — No public scheduled events.

VICE PRESIDENT BIDEN — No public scheduled events.

US Senate: Senate on recess from 15 Jul – 6 Sep

US House: 1:30 PM GOP Rep. Mac Thornberry off camera press roundtable on trip to Iraq and Afghanistan – House Armed Services Committee Chairman Republican Rep. Mac Thornberry hosts off-

camera press roundtable to discuss his recent trip to Afghanistan and Iraq and the readiness issues facing the military Location: Rm 2212 Rayburn House Office Bldg., Washington, DC
armedservices.house.gov <https://twitter.com/HASCRpublicans>

Other: 9:15 AM Foundation for Defense of Democracies discussion on ‘The Third Lebanon War’ – ‘The Third Lebanon War: The Coming Clash Between Hezbollah and Israel in the Shadow of the Iran Nuclear Deal’ Foundation for Defense of Democracies discussion, with Carnegie Endowment for Middle East Peace Visiting Scholar Joseph Bahout, and FDD Vice President for Research Jonathan Schanzer, Senior Fellow Tony Badran, and Senior Advisor Brig. Gen. Yakov Shaharabani Location: FDD, 1800 M St NW, Washington, DC www.defenddemocracy.org <https://twitter.com/FollowFDD>

3:00 PM IACHR Executive Secretary finalists speak at Open Society Foundations – Open Society Foundations roundtable with the five finalist for Executive Secretary of the Inter-American Commission on Human Rights – Renzo Pomi (Uruguay), Elizabeth Abi-Mershed (U.S.), Paulo Abrao (Brazil), Michael Reed-Hurtdao (Colombia), and Lisa Shoman (Belize) Location: Open Society Foundations, 1730 Pennsylvania Ave., Washington, DC <http://www.opensocietyfoundations.org/>
<https://twitter.com/OpenSociety>

6:00 PM Young America’s Foundation Annual National Conservative Student Conference – Young America’s Foundation Annual National Conservative Student Conference. Speakers include former House Speaker Newt Gingrich, former Reps. Rick Santorum and Allen West, former U.S. Treasurer Bay Buchanan, Lt. Col. (Ret.) Oliver North, Heritage Foundation President Jim DeMint, Clare Boothe Luce Policy Institute Program Director Laurel Conrad, Princeton University Professor Robert George, Family Research Council Senior Fellow Cathy Ruse, Libre Initiative spokeswoman Rachel Campos-Duffy, talk show host Ben Shapiro, bloggers Matthew Walsh and Robert Spencer, and authors Dinesh D’Souza, David French, Kate Obenshain, Dr Burt Folsom, Katie Pavlich, and Jared Meyer Location: George Washington University, Washington, DC www.yaf.org <https://twitter.com/yaf>

Last Laughs:

LATE NIGHT POLITICAL HUMOR.

Jimmy Fallon: “Of course, last night was the end of the Republican National Convention, and now it’s the time for the Republicans to sit back, reflect and say, ‘Well, that was weird.’”

Jimmy Fallon: “The Republican National Convention came to a close last night, as Donald Trump formally accepted his nomination for president. Although I thought it was a little much that they did it by Paul Ryan giving him a rose.”

Jimmy Fallon: “Donald Trump released some of his remarks ahead of his big speech last night and presented himself as the champion of the forgotten men and women of our country. Then he said, ‘And if you don’t believe me, just look at all the has-beens that appeared on ‘Celebrity Apprentice.’”

Jimmy Fallon: “And earlier this week, Trump’s son, Eric, gave a big speech of his own, where he told the crowd to vote for his dad, because he’s the candidate who doesn’t need the job. Then he said, ‘Speaking of people who don’t need jobs, how about another round of applause for me and my brother Don Jr.’”

Jimmy Fallon: “I saw that ‘Earth, Wind and Fire’ tweeted that the convention’s use of their song ‘September’ was unauthorized. Not because they disagree with the Republican Party’s policies – they disagree with the Republican Party’s dancing.”

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From: [Will Meeks](#)
To: [Mike Blenden](#); [Jeff King](#)
Subject: FW: NWRA position on National Bison Range (NWR) proposed legislation
Date: Monday, July 25, 2016 8:09:15 AM

Will Meeks
U.S. Fish and Wildlife Service
Mountain Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

From: Viker, David [mailto:david_viker@fws.gov]
Sent: Monday, July 25, 2016 7:54 AM
To: Polly Wheeler; Scott Kahan; Mitch Ellis; Aaron Archibeque; Charles Blair; Sharon Marino; Will Meeks; Kim Trust; Kevin Foerster; Brett Hunter; Maureen Gallagher; Thomas Harvey; Tom Worthington; Sarena Selbo
Subject: NWRA position on National Bison Range (NWR) proposed legislation

I just saw this morning for the first time ...<http://refugeassociation.org/2016/07/national-bison-range/> ...
pasted below

July 20, 2016

Dear Supporters,

On June 10, 2016, the Confederated Salish and Kootenai Tribes (CSKT) released draft legislation that would transfer the National Bison Range in Montana from the U.S. Fish and Wildlife Service to the Secretary of the Interior to be held in trust for the tribe.

As the only nonprofit organization with a mission that includes “protecting, enhancing and expanding the National Wildlife Refuge System,” we cannot support the removal of a wildlife refuge from the System without a specific companion action that adds habitat of equal or greater value into the System. We believe that a transfer of the National Bison Range without such compensatory additions to the Refuge System would have the effect of creating an unintended precedent that would threaten the integrity of our nation’s only system of federal lands devoted specifically to wildlife. For these reasons, the National Wildlife Refuge Association cannot support the draft legislation as written.

If the proposed legislation were changed to ensure no net loss of habitat to the Refuge System, we would be willing to re-evaluate our position.

In addition, the Refuge Association remains supportive of the use of Annual Funding Agreements (AFAs) as an instrument for collaborative management by Department of the Interior bureaus and tribes. If the proposal is not amended to include the addition of lands to the System, we urge the Service and the tribe to return to an AFA and to pursue any further proposals for management changes through established public processes.

The tribe has requested comments on the draft legislation, which we will provide; however, until the fundamental issue of the impact of the proposed transfer without compensatory additions on the integrity of the Refuge System is addressed and reconciled, all other concerns — including funding implications to the Refuge System, future public access, and transfers of property — are secondary.

Meanwhile, we would like to share with our supporters our core beliefs with regard to this proposal:

We believe that historically the CSKT has played an essential role in the conservation and recovery of the American bison, and that the tribe has a vital role to play in the future management of the National Bison Range. The refuge was purchased from the Flathead Indian Reservation, and these lands hold special significance to the CSKT. When President Theodore Roosevelt worked with Congress to create the refuge in 1908, the iconic American bison had been nearly eradicated from the planet. Since 1908, the Service's investment in the National Bison Range has been instrumental in the species recovery, and this success holds a special significance both as an outstanding achievement and as a point of pride in the Refuge System's key role in recovering our newly designated national mammal. As a result, both the tribe and the Service have special connection to this place.

We believe that any proposal to transfer the National Bison Range must not be used as an open door to other divestments. Other legislative proposals to transfer parts of the Vieques National Wildlife Refuge in Puerto Rico to the territory for development, and to transfer management authority of lands at the Desert National Wildlife Refuge in Nevada to the Department of Defense, have occurred in the past several months.

We believe that strong science and public dialogue bring about the best solutions to the complex issues facing wildlife today, and that any proposal to transfer land out of the Refuge System must include a public process that includes sufficient analysis and review, consistent with the National Wildlife Refuge System Administration Act.

We believe that collaborative relationships between the Service and tribes are not only legally mandated but also essential to conservation success. There are many examples of successful collaboration, and in this context AFAs have been shown to be a demonstrated and fundamental tool for defining roles and creating a collaborative framework. Landscape-scale conservation to support wide-ranging wildlife like bison can only be successful through collaborative partnerships that engage many voices and interests to achieve common goals, and AFAs support these partnerships in achieving their common goals.

We believe that the genetics of the National Bison Range herd should continue to play an important role in the Department of the Interior's overall bison management plan.

The issues raised by a potential transfer of the National Bison Range are complex. Ultimately, we must all come together to address the needs of the Refuge System, the CSKT and our national mammal, the American bison.

Our goal is always to protect the integrity of the National Wildlife Refuge System and ensure that any action is in the best interest of America's wildlife. The National Wildlife Refuge Association has long been committed to collaborative conservation strategies, and we believe our role is to help find the path forward that unites seemingly disparate points of view towards shared efforts to conserve wildlife and the habitat on which they depend. We look forward to continued dialogue on this topic and to working with both the Department of the Interior and the tribe.

From: [Noreen Walsh](#)
To: [Dan Ashe](#); [Jim Kurth](#)
Subject: Fwd: NWRA position on National Bison Range (NWR) proposed legislation
Date: Monday, July 25, 2016 8:43:11 AM

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

Begin forwarded message:

From: Will Meeks <will_meeks@fws.gov>
Date: July 25, 2016 at 7:59:45 AM MDT
To: Noreen Walsh <noreen_walsh@fws.gov>, Matt Hogan <Matt_Hogan@fws.gov>, Anna Munoz <anna_munoz@fws.gov>
Subject: Fwd: NWRA position on National Bison Range (NWR) proposed legislation

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303(w)
720-541-0310 (c)

Begin forwarded message:

From: "Viker, David" <david_viker@fws.gov>
Date: July 25, 2016 at 7:53:58 AM MDT
To: Polly Wheeler <polly_wheeler@fws.gov>, Scott Kahan <scott_kahan@fws.gov>, Mitch Ellis <Mitch_Ellis@fws.gov>, Aaron Archibeque <aaron_archibeque@fws.gov>, Charles Blair <charles_blair@fws.gov>, Sharon Marino <Sharon_Marino@fws.gov>, Will Meeks <Will_Meeks@fws.gov>, Kim Trust <kim_trust@fws.gov>, Kevin Foerster <kevin_foerster@fws.gov>, Brett Hunter <brett_hunter@fws.gov>, Maureen Gallagher <maureen_gallagher@fws.gov>, Thomas Harvey <thomas_harvey@fws.gov>, Tom Worthington <tom_worthington@fws.gov>, Sarena Selbo <sarena_selbo@fws.gov>
Subject: NWRA position on National Bison Range (NWR) proposed legislation

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We believe that historically the CSKT has played an essential role in the conservation and recovery of the American bison, and that the tribe has a vital role to play in the future management of the National Bison Range. The refuge was purchased from the Flathead Indian Reservation, and these lands hold special significance to the CSKT. When President Theodore Roosevelt worked with Congress to create the refuge in 1908, the iconic American bison had been nearly eradicated from the planet. Since 1908, the Service’s investment in the National Bison Range has been instrumental in the species

recovery, and this success holds a special significance both as an outstanding achievement and as a point of pride in the Refuge System's key role in recovering our newly designated national mammal. As a result, both the tribe and the Service have special connection to this place.

We believe that any proposal to transfer the National Bison Range must not be used as an open door to other divestments. Other legislative proposals to transfer parts of the Vieques National Wildlife Refuge in Puerto Rico to the territory for development, and to transfer management authority of lands at the Desert National Wildlife Refuge in Nevada to the Department of Defense, have occurred in the past several months.

We believe that strong science and public dialogue bring about the best solutions to the complex issues facing wildlife today, and that any proposal to transfer land out of the Refuge System must include a public process that includes sufficient analysis and review, consistent with the National Wildlife Refuge System Administration Act.

We believe that collaborative relationships between the Service and tribes are not only legally mandated but also essential to conservation success. There are many examples of successful collaboration, and in this context AFAs have been shown to be a demonstrated and fundamental tool for defining roles and creating a collaborative framework. Landscape-scale conservation to support wide-ranging wildlife like bison can only be successful through collaborative partnerships that engage many voices and interests to achieve common goals, and AFAs support these partnerships in achieving their common goals.

We believe that the genetics of the National Bison Range herd should continue to play an important role in the Department of the Interior's overall bison management plan.

The issues raised by a potential transfer of the National Bison Range are complex. Ultimately, we must all come together to address the needs of the Refuge System, the CSKT and our national mammal, the American bison.

Our goal is always to protect the integrity of the National Wildlife Refuge System and ensure that any action is in the best interest of America's wildlife. The National Wildlife Refuge Association has long been committed to collaborative conservation strategies, and we believe our role is to help find the path forward that unites seemingly disparate points of view towards shared efforts to conserve wildlife and the habitat on which they depend. We look forward to continued dialogue on this topic and to working with both the Department of the Interior and the tribe.

From: [Will Meeks](#)
To: [Noreen Walsh](#)
Cc: [Matt Hogan](#); nanette_seto@fws.gov; [Anna Munoz](#); stephen_torbit@fws.gov
Subject: Fwd: Bison Range comments
Date: Wednesday, July 27, 2016 1:17:11 PM
Attachments: [Untitled attachment_00166.htm](#)
[Public-Comment-Responses-July-2016.pdf](#)

I have not reviewed these yet.

Will Meeks
U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

Begin forwarded message:

From: "Hogan, Kelly" <kelly_hogan@fws.gov>
To: Will Meeks <will_meeks@fws.gov>, Maureen Gallagher
<maureen_gallagher@fws.gov>, Mike Blenden <mike_blenden@fws.gov>
Subject: **Bison Range comments**

Just FYI if you haven't seen the CSKT's response to comments.

K

Responses of the Confederated Salish and Kootenai Tribes to Public Comments on the Tribes' Draft "National Bison Range Transfer and Restoration Act of 2016"

The Confederated Salish and Kootenai Tribes have collected over 150 comments on the Tribes' draft "National Bison Range Transfer and Restoration Act of 2016". These comments were solicited through the Bison Range Working Group website, which was established by the Tribes to notify the public of the draft legislation and to collect public comments, as well as through a public meeting held in Pablo, Montana on July 12, 2016. The comment period opened on June 10, 2016, was extended beyond its original closing date of June 24th, and closed on July 15, 2016.

The total number of comments received during that period was 153. Several individuals submitted more than one comment; the number of unique individuals/organizations that submitted comments is 145. Of those, approximately 76 commenters supported the Tribes' draft legislation, approximately 55 commenters opposed it, and 14 commenters presented questions or concerns without supporting or opposing the proposed legislation.

All of these comments have been posted on the Bison Range Working Group website (www.bisonrangeworkinggroup.org). To respect commenters' privacy, their email addresses, physical addresses (other than city/state), and phone numbers have been redacted from the comments prior to posting.

Below are a number of comments, concerns and questions that were raised in the public comments, along with responses from the Tribes. In the responses, the Confederated Salish and Kootenai Tribes are referred to as "Tribes", the draft National Bison Range Transfer and Restoration Act of 2016 is referred to as the "Act", the National Bison Range is referred to as "Bison Range", the Flathead Indian Reservation is referred to as "Reservation", and the U.S. Fish & Wildlife Service is referred to as "FWS" or the "Service".

1) Precedent

Comment: Some commenters expressed concern that passage of the Act would set a precedent for conveyance of other federal lands or facilities. One commenter asserted that "[g]iving ownership of the NBR to the CSK Tribe would by definition set a precedent of giving a federal wildlife refuge to a non-governmental entity." Other commenters pointed out that the Bison Range "is a completely unique situation and should not in any way be construed as a precedent regarding other federal properties."

Response: The Act directly addresses the issue of precedent. As a matter of law, Section 4(i) of the Act would prohibit the interpretation of the Act as a precedent. This section reads as follows:

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As a practical matter, the facts surrounding the history of the National Bison Range do not lend themselves to creating a precedent for other situations. Unlike most federal properties, the Range is located in the center of an Indian Reservation that was reserved by Treaty, on lands which the Tribes never consented to convey. Underscoring this uniqueness is the fact that the lands were the subject of a federal judicial decision holding that the lands had been unconstitutionally taken within the meaning of the Fifth Amendment of the U.S. Constitution (*see Confederated Salish and Kootenai Tribes of the Flathead Reservation, Montana v. United States*, 437 F.2d 458, 485 (1971)). The history of how Tribal members had initially brought the ancestors of the Range’s bison herd to the Flathead Indian Reservation makes the Bison Range situation even more unique and unlike that of any other federal property or facility. Further distinguishing this situation are the Tribes’ two prior Tribal Self-Governance agreements, under which they had assisted with National Bison Range operations in 2005-06 and 2008-2010.

While one commenter expressed concern that the Act would create a precedent for “giving” a federal wildlife refuge to a “non-governmental entity”, the Confederated Salish and Kootenai Tribes are a federally-recognized tribal government and so the Act could create no precedent for a transfer to a non-governmental entity.

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Comment: Several commenters asked about public access. One commenter asked whether the Tribes might impede access through “exorbitant entry fees”. Another commenter asked whether fishing access would continue. At least one individual asked whether a person would be required to have a Tribal recreation permit in order to access the Bison Range.

Response: The Tribes have always agreed that public access must be required under the draft legislation, and this has been a key factor in FWS’ support for the Bison Range restoration concept. Continued public access would be required by Section 4(d) of the Act. Fishing access would also continue under the Tribes’ management. As a practical matter, the Tribes already provide public access to most Tribal lands on the Flathead Indian Reservation, so continued access at the National Bison Range would be consistent with the Tribes’ current and past practices. This existing public access to Tribal lands includes fishing access. Public access at the Bison Range would continue to be guided by conservation and public safety considerations.

Maintaining reasonable entry fees would support the Tribes’ interests in public education and visitor experiences at the Bison Range, whereas exorbitant fees would undermine those priorities.

The Bison Range would continue to be subject to its own fee structure. Access would therefore not depend on whether a person had a Tribal recreation permit.

3) **Additional access points**

Comment: Some commenters inquired about additional access points to the National Bison Range, and several individuals suggested an entrance off Highway 93 and/or at the top of Ravalli Hill.

Response: The Tribes do not currently have plans for new points of access to the National Bison Range. However, the Tribes may consider such access points if there was reason to believe that they would improve the visitor experience while still protecting the Range’s natural resources.

The Tribes have developed, and currently maintain, the existing Ravalli Hill scenic turnout interpretive area on Highway 93, on Tribally-owned land adjacent to the Bison Range. The public generally considers, and uses, this site as a public access Bison Range viewing area. The U.S. Fish & Wildlife Service considers the public access viewing from this site when it estimates annual overall public uses and visitation of the National Bison Range. Use of this Tribally-owned and managed site will not change in the future, but may be considered for expanded visitor experiences and interpretation.

4) Interpretive opportunity

Comment: Some commenters said that the proposed Bison Range restoration would allow for improved interpretive opportunities through greater incorporation of the Tribes’ cultural and historical ties to the land, bison, and other natural resources found at the Range.

Response: The Tribes agree that the proposed Bison Range restoration would greatly expand the Tribes’ ability to incorporate aspects of Tribal historical and cultural connections to the Range’s land, bison and other natural resources. Based upon comments, as well as past feedback from the public, the Tribes believe that many people would welcome such interpretive additions.

5) Funding

Comment: Several commenters asked how the Tribes would fund operation of the Bison Range, and a couple of commenters questioned whether the Tribes may charge higher admittance fees.

Response: Under the Act, after the two-year transition period provided for in Section 4(e) of the Act (and addressed in item #7 of these responses), the Tribes would fund annual operations of the Bison Range – the federal government would no longer fund them. The Tribal Council is committed to funding the Bison Range at a degree that will maintain or exceed its current level of operation. Some portions of Bison Range operations may be able to be performed or addressed through existing staff in the Tribes’ Natural Resources, Lands, or Maintenance departments. The Tribes would likely assess the current bookstore concession at the Bison Range visitor center to evaluate for expanded opportunities related to visitor needs and expectations, which could also assist with meeting annual funding needs.

Maintaining or increasing the current level of visitation would be one part of the budget planning process, and would dovetail with planning for public education opportunities, which are a priority for the Tribes. As stated above, maintaining reasonable entry fees would be essential to supporting the Tribes’ interests in public education and visitor experiences at the Bison Range, whereas exorbitant fees would undermine those priorities.

6) **Past compensation**

Comment: Several commenters alleged that the Tribes had been paid twice for the land upon which the National Bison Range was established, and one commenter claimed that the Tribes were paid over \$22,200,000 for the land. Some commenters asked whether the Tribes would repay the United States for the National Bison Range lands and improvements.

Response: Some of these comments appear to confuse amounts identified in the federal Court of Claims’ 1971 decision *Confederated Salish and Kootenai Tribes of the Flathead Reservation, Montana v. United States*, 437 F.2d 458 (1971). In that decision, the court held that the Tribes had not consented to the federal taking of numerous lands within the Flathead Indian Reservation, among them the National Bison Range. The court further held that the United States, in its eminent domain acquisition of the land for the National Bison Range, had not paid the Tribes fair market value for the land, thereby violating the Fifth Amendment of the U.S. Constitution. The decision concerned many properties within the Flathead Indian Reservation; the National Bison Range was just one part of those lands.

The court used 1912 fair market value prices to determine what the United States should have paid the Tribes when it had taken the land for the Bison Range, as well as other Reservation lands. While the decision awarded the Tribes \$6,066,668.78, plus interest, for all of the lands which were the subject of the court case, only a small portion of that amount was for the National Bison Range (less than \$250,000). Some commenters are apparently referring to this court-ordered payment of fair market value as being a “second payment” to the Tribes when, in fact, it simply required the United States to remedy the fact that it had never paid the Tribes the constitutionally-required “just compensation” for the taking of the land.

While the draft Act does not specifically provide for repayment of these funds, it does provide the federal government with savings that would exceed such a repayment amount within one or two years of Tribal operation of the Range – and far exceed such an amount over the course of several years, let alone decades. Since the federal government would no longer be expending its annual level of \$700,000-\$1,000,000 on Bison Range management, it would save that amount each year through Tribal funding of the Bison Range - while still benefitting from the same conservation management and public access requirements in the Act.

It is important to remember that, when the United States took the land for the National Bison Range, the Tribes also suffered injuries, including access prohibitions and restrictions, which have never been compensated by the United States.

7) **Transition period**

Comment: One commenter expressed a belief that the Tribes could fund Bison Range operations on their own during the transition period, and would not need funding from the Interior Department. Another commenter stated that the draft legislation could be revised to increase the level of transition period funding.

Response: Both the Tribes and the U.S. Fish & Wildlife Service agree that it would be in the best interest of the natural resources involved for the two governments to cooperate in transitioning from federal to tribal management of the Bison Range. Section 4(e) of the Act provides for a transition period of two (2) years, during which the Interior Secretary would be directed to cooperate in, and assist with, the transition from federal to Tribal management. Such cooperation could take the form of: funding; transfer of equipment or personal property; assignment of staff via Intergovernmental Personnel Act agreements; or other assistance. This part of the legislation reflects the fact that both parties are equally interested in caring for the natural resources at issue. A smooth transition at the Range is in the public interest.

8) **Genetics**

Comment: Several commenters mentioned the genetic values of the National Bison Range’s bison herd, and expressed concern that such values continue to be safeguarded.

Response: The professionals at the Tribes’ Natural Resources Department fully appreciate and value the genetic characteristics and values of the bison herd at the National Bison Range. From a broader perspective, those genetic characteristics are a scientific representation of the uniqueness of this particular herd and its cultural and historic value to the Tribes. The Tribes would continue to manage this bison herd with this genetic value in mind.

9) **Weed control/management**

Comment: Several commenters mentioned the importance of weed control and management.

Response: The Tribes recognize the importance of controlling and managing invasive/noxious weeds. The Tribes currently devote a great deal of resources to weed control on the Reservation, having spent over \$545,000 during the period of fiscal years 2012-2016. Under the National Bison Range’s existing management plan, which the Tribes helped develop, weed management projects are identified as high priority. Under Tribal management of the Bison Range, the Tribes would continue this prioritization.

10) **Restoration of land to Indian Tribes**

Comment: Several commenters expressed blanket opposition to the concept of restoring land to Indian tribes. Comments included such statements as:

- “Given the logic being used here, all non Indians [*sic*] should be moving out of the country and returning all lands back to the Native Americans.”
- “Dangerous precedent to begin ‘giving back’ land to tribes”
- “we cannot undo the past”

Response: The Tribes believe that the Act should be evaluated on the merits of its own unique facts and history. While some individuals may oppose any sort of land transfer to a tribal government, or to Indians in general, such opposition does not have support in the law nor does it make for sound policy development.

11) Sentiments towards Indians and Indian tribes

Comment: A number of commenters expressed animosity towards Indians or tribes generally, without reference to the draft Act. Examples include:

- “leave the Bison Range in Federal hands the Indians lazy bastards will just screw it up” [*sic*]
- “I, like so many taxpaying residents of Montana, am getting tired of the tribes demanding things to which you are not entitled.” [*sic*]
- “I think it’s time that reservations be abolished [*sic*], tribal members fully assimilated into American society as a whole, including paying their fair share of taxes.”
- “Tell the minority people who live in this country to get off their ass, get an education or trade and make a living like the rest of us have done or are doing! . . . The sacrifices that have been made by white people for 240 years are what has made this country great.” [*sic*]
- Native Americans “exhibit no motivation to lift themselves out of poverty or ignorance.”
- “. . . DON’T give the Indians control of any and all wildlife species on OUR land.” and
- “Indian tribes and their members are just unable and unwilling to properly protect a species like the bison.”

Response: Comments that derive from racist beliefs or bigotry are outside the scope of these responses, but obviously have little value in any objective evaluation of the Tribes’ draft legislation.

Some of these comments reflect a mistaken belief that Indian people do not pay taxes. While members of federally-recognized tribes are not subject to some taxes, such as state income taxes if the tribal member both resides and works within his/her own Indian reservation, tribal members are subject to many state and federal taxes, including federal income tax.

12) Changing the name of the National Bison Range

Comment: Several commenters addressed the potential for the name of the National Bison Range to be changed, as provided in Section 4(d) of the draft legislation. Two commenters suggested new names for the facility, such as “Big Medicine Range”, or naming it after the Pend d’Oreille man who first brought the bison to the Flathead Indian Reservation from east of the Continental Divide. One commenter indicated he would not want to see the name changed.

Response: While no official discussion on this issue has taken place yet, the Tribes see value, as some commenters suggested, in possibly renaming the National Bison Range to reflect historical or cultural aspects of the Range. The draft legislation does not require renaming of the National Bison Range, but would recognize the Tribes’ ability to do so.

13) Senior Passes/Golden Age Passports

Comment: Several commenters asked whether Senior Passes or Golden Age Passports would still be honored by the Tribes if the National Bison Range were restored to federal trust ownership for the Tribes.

Response: Senior Passes and Golden Age Passports are lifetime passes issued by the federal government for entry into various federal facilities such as National Parks and National Wildlife Refuges (*see* <http://store.usgs.gov/pass/senior.html>). The Tribal Council has not yet considered whether it would continue to honor such passes. However, providing low-cost services or programs for elders is common within the Tribal government.

14) National Environmental Policy Act (NEPA)

Comment: A couple of commenters made references to the National Environmental Policy Act (NEPA), including assertions of its application to this comment period.

Response: The public comments solicited and received by the Confederated Salish and Kootenai Tribes are not subject to the provisions of NEPA which, by its own terms, applies to major federal (not tribal) actions.

15) Hunting

Comment: One commenter asked whether hunting would be allowed on the Bison Range.

Response: Although hunting is allowed on some National Wildlife Refuges, public hunting is not currently allowed on the National Bison Range, although there are periodic “management hunts” used for population control of certain animals. The Tribes do not envision changes to this.

16) Ninepipe and Pablo Refuges

Comment: One commenter asked who would manage the Ninepipe and Pablo National Wildlife Refuges.

Response: The Ninepipe and Pablo Refuges are both located on land held in trust by the federal government for the Confederated Salish and Kootenai Tribes, and are both currently administered by FWS as part of the National Bison Range Complex. The Act would not affect management of either the Ninepipe or Pablo Refuges. FWS would continue to manage both, although they would likely be administered out of another refuge, such as Lost Trail or Benton Lake Refuges. Changing administrative headquarters for a refuge is not a new concept. The Lost Trail National Wildlife Refuge has been removed and added to the National Bison Range Complex in the past.

The Ninepipe and Pablo Refuges were both originally established as refuges after years of Tribal requests for the federal government to designate them as bird conservation areas. In 1921, the federal government finally agreed and President Warren Harding issued Executive Orders designating both Ninepipe and Pablo as refuges. In 1948,

Congress approved the purchase by the federal government from the Tribes of perpetual easements for use of Ninepipe and Pablo for refuge purposes.

17) Cooperative opportunities

Comment: One commenter saw opportunity in the draft legislation for Tribal cooperation with state & federal programs such as Montana Conservation Corps (MCC).

Response: The Tribes appreciate this suggestion and note that nothing in the draft legislation would preclude or hinder such cooperation. The Tribes have a long and extensive history of cooperating with other governments and entities in the pursuit of conservation management, including at the National Bison Range.

18) Shared management track record

Comment: One commenter asserted that past shared management at the National Bison Range had “failed”.

Response: The last Tribal Self-Governance agreement at the National Bison Range was very successful. Both the Tribes and the U.S. Fish & Wildlife Service were pleased with the constructive relationship that they jointly built at the Bison Range under their 2008-2010 partnership. However, unlike past Tribal Self-Governance agreements, under the Act the Tribes would be the sole manager of the Range – there would not be shared management between Tribal and federal governments. This would not, however, preclude continued cooperation between the two governments.

19) Tribal preference in hiring

Comment: One commenter expressed concern about the Tribes’ “preferential hiring practices”.

Response: Under Tribal law, the Tribes have adopted hiring preferences for Tribal members and other members of federally-recognized Indian tribes. This is consistent with federal law. However, the Tribes also hire many non-Indian and non-Tribal member employees. Under the Tribes’ last partnership agreement at the National Bison Range, the Tribes hired and employed some non-Indian staff, including the manager of the Tribes’ Bison Range staff.

20) Separate bison herd

Comment: One commenter suggested that the Tribes start a bison herd of their own, on Tribal land, while leaving the National Bison Range a National Wildlife Refuge.

Response: Starting its own herd elsewhere on the Reservation would not reunite the Tribes with either the land that had been taken from its Reservation or the bison herd which Tribal members had helped make possible. Nor would this approach of separate herds address the issue of how the Tribes could partner with the U.S. Fish & Wildlife Service at the National Bison Range. This partnership question has consumed a great deal of Tribal and federal resources over the last 22 years, since the passage of the Tribal

Self-Governance Act. The Act would resolve that question by restoring the Bison Range to federal trust ownership for the Tribes.

21) Revising financial assistance to Counties

Comment: One commenter suggested that the Tribes’ draft legislation could either lengthen the time period for phasing out the Refuge Revenue Sharing payments to Sanders and Lake Counties, or increase the amount of such payments to those Counties.

Response: The Tribes appreciate this suggestion, and share the concern of easing any transition in the Counties’ budgets. The Tribes have considered alternatives to the provisions in Section 4(f) of the draft Act, and have discussed alternatives with both Sanders and Lake Counties. Those discussions may result in changes to this part of the draft legislation.

22) U.S. Fish & Wildlife Service motives

Comment: One commenter questioned the motives of the U.S. Fish & Wildlife Service in supporting the proposed Bison Range restoration, and asserted disbelief that the FWS support arose from either concern for tribal self-governance or conserving limited federal resources.

Response: The Tribes cannot speculate as to the reasoning behind FWS support for the Tribes’ proposed legislation. However, FWS Director Dan Ashe has stated in correspondence that

[t]he plain fact is, the Salish-Kootenai are very capable managers. They can manage [the National Bison Range] and this herd. They very much want to do this. The land will be held in trust, by the BIA, on behalf of the CSKT, for the original purposes, so it will be protected, in perpetuity.

. . . There is only one reason that I am supporting this: It is the right thing to do! And sometimes, doing the right thing is scary. But as Martin Luther King taught us, “It is never the wrong time to do the right thing.”

Director Ashe’s statement above finds support in the recently-revised FWS Native American Policy, which talks about furthering “the United States’ and the Department of the Interior’s trust responsibility to federally recognized tribes to protect, conserve, and use tribal reserved, treaty guaranteed, or statutorily identified resources.”

23) Bison Range Working Group

Comment: One commenter asked which parties constituted the Bison Range Working Group.

Response: The Working Group currently consists informally of the comments submitted on the Working Group website established by the Tribes. The Tribes have met with conservation group representatives to discuss our draft legislation, and the Tribes expect to continue this discussion now that public comments have been received and posted.

The Tribes have also met with the Lake and Sanders County Commissions, and expect to continue that dialogue as well. Depending on future discussions/participation, the Working Group may become a more formalized body.

24) **Herd Capacity**

Comment: Some commenters asked about bison population management and culled bison.

Response: Surplus wildlife and removal of bison or other wildlife are addressed in the National Bison Range’s existing management plan. Bison would continue to be culled as necessary to maintain the genetic diversity of the herd and the carrying capacity of the range. The Tribes would manage the culled bison via auction, similar to the current program. The Tribes are always open to suggestions and idea regarding disposition of culled bison and may consider other options in the future.

From: [Stephen Torbit](#)
To: [Lee Jones](#)
Subject: FW: Bison Range comments
Date: Thursday, July 28, 2016 9:20:29 AM
Attachments: [Untitled attachment 00088.htm](#)
[Public-Comment-Responses-July-2016.pdf](#)

FYI, I have not even looked at these yet.

Stephen Torbit Ph.D.
ARD - Science Applications
Region 6
Fish and Wildlife Service
Office: 303-236-4602
Cell: 720-626-7504
stephen_torbit@fws.gov

From: Will Meeks [mailto:will_meeks@fws.gov]
Sent: Wednesday, July 27, 2016 1:17 PM
To: Noreen Walsh
Cc: Matt Hogan; nanette_seto@fws.gov; Anna Munoz; stephen_torbit@fws.gov
Subject: Fwd: Bison Range comments

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U.S. Fish and Wildlife Service
Mountain-Prairie Region
Assistant Regional Director
National Wildlife Refuge System
303-236-4303 (w)
720-541-0310 (c)

Begin forwarded message:

From: "Hogan, Kelly" <kelly_hogan@fws.gov>
To: Will Meeks <will_meeks@fws.gov>, Maureen Gallagher
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Comment: Some commenters inquired about additional access points to the National Bison Range, and several individuals suggested an entrance off Highway 93 and/or at the top of Ravalli Hill.

Response: The Tribes do not currently have plans for new points of access to the National Bison Range. However, the Tribes may consider such access points if there was reason to believe that they would improve the visitor experience while still protecting the Range’s natural resources.

The Tribes have developed, and currently maintain, the existing Ravalli Hill scenic turnout interpretive area on Highway 93, on Tribally-owned land adjacent to the Bison Range. The public generally considers, and uses, this site as a public access Bison Range viewing area. The U.S. Fish & Wildlife Service considers the public access viewing from this site when it estimates annual overall public uses and visitation of the National Bison Range. Use of this Tribally-owned and managed site will not change in the future, but may be considered for expanded visitor experiences and interpretation.

4) **Interpretive opportunity**

Comment: Some commenters said that the proposed Bison Range restoration would allow for improved interpretive opportunities through greater incorporation of the Tribes’ cultural and historical ties to the land, bison, and other natural resources found at the Range.

Response: The Tribes agree that the proposed Bison Range restoration would greatly expand the Tribes’ ability to incorporate aspects of Tribal historical and cultural connections to the Range’s land, bison and other natural resources. Based upon comments, as well as past feedback from the public, the Tribes believe that many people would welcome such interpretive additions.

5) **Funding**

Comment: Several commenters asked how the Tribes would fund operation of the Bison Range, and a couple of commenters questioned whether the Tribes may charge higher admittance fees.

Response: Under the Act, after the two-year transition period provided for in Section 4(e) of the Act (and addressed in item #7 of these responses), the Tribes would fund annual operations of the Bison Range – the federal government would no longer fund them. The Tribal Council is committed to funding the Bison Range at a degree that will maintain or exceed its current level of operation. Some portions of Bison Range operations may be able to be performed or addressed through existing staff in the Tribes’ Natural Resources, Lands, or Maintenance departments. The Tribes would likely assess the current bookstore concession at the Bison Range visitor center to evaluate for expanded opportunities related to visitor needs and expectations, which could also assist with meeting annual funding needs.

Maintaining or increasing the current level of visitation would be one part of the budget planning process, and would dovetail with planning for public education opportunities, which are a priority for the Tribes. As stated above, maintaining reasonable entry fees would be essential to supporting the Tribes’ interests in public education and visitor experiences at the Bison Range, whereas exorbitant fees would undermine those priorities.

6) **Past compensation**

Comment: Several commenters alleged that the Tribes had been paid twice for the land upon which the National Bison Range was established, and one commenter claimed that the Tribes were paid over \$22,200,000 for the land. Some commenters asked whether the Tribes would repay the United States for the National Bison Range lands and improvements.

Response: Some of these comments appear to confuse amounts identified in the federal Court of Claims’ 1971 decision *Confederated Salish and Kootenai Tribes of the Flathead Reservation, Montana v. United States*, 437 F.2d 458 (1971). In that decision, the court held that the Tribes had not consented to the federal taking of numerous lands within the Flathead Indian Reservation, among them the National Bison Range. The court further held that the United States, in its eminent domain acquisition of the land for the National Bison Range, had not paid the Tribes fair market value for the land, thereby violating the Fifth Amendment of the U.S. Constitution. The decision concerned many properties within the Flathead Indian Reservation; the National Bison Range was just one part of those lands.

The court used 1912 fair market value prices to determine what the United States should have paid the Tribes when it had taken the land for the Bison Range, as well as other Reservation lands. While the decision awarded the Tribes \$6,066,668.78, plus interest, for all of the lands which were the subject of the court case, only a small portion of that amount was for the National Bison Range (less than \$250,000). Some commenters are apparently referring to this court-ordered payment of fair market value as being a “second payment” to the Tribes when, in fact, it simply required the United States to remedy the fact that it had never paid the Tribes the constitutionally-required “just compensation” for the taking of the land.

While the draft Act does not specifically provide for repayment of these funds, it does provide the federal government with savings that would exceed such a repayment amount within one or two years of Tribal operation of the Range – and far exceed such an amount over the course of several years, let alone decades. Since the federal government would no longer be expending its annual level of \$700,000-\$1,000,000 on Bison Range management, it would save that amount each year through Tribal funding of the Bison Range - while still benefitting from the same conservation management and public access requirements in the Act.

It is important to remember that, when the United States took the land for the National Bison Range, the Tribes also suffered injuries, including access prohibitions and restrictions, which have never been compensated by the United States.

7) **Transition period**

Comment: One commenter expressed a belief that the Tribes could fund Bison Range operations on their own during the transition period, and would not need funding from the Interior Department. Another commenter stated that the draft legislation could be revised to increase the level of transition period funding.

Response: Both the Tribes and the U.S. Fish & Wildlife Service agree that it would be in the best interest of the natural resources involved for the two governments to cooperate in transitioning from federal to tribal management of the Bison Range. Section 4(e) of the Act provides for a transition period of two (2) years, during which the Interior Secretary would be directed to cooperate in, and assist with, the transition from federal to Tribal management. Such cooperation could take the form of: funding; transfer of equipment or personal property; assignment of staff via Intergovernmental Personnel Act agreements; or other assistance. This part of the legislation reflects the fact that both parties are equally interested in caring for the natural resources at issue. A smooth transition at the Range is in the public interest.

8) **Genetics**

Comment: Several commenters mentioned the genetic values of the National Bison Range’s bison herd, and expressed concern that such values continue to be safeguarded.

Response: The professionals at the Tribes’ Natural Resources Department fully appreciate and value the genetic characteristics and values of the bison herd at the National Bison Range. From a broader perspective, those genetic characteristics are a scientific representation of the uniqueness of this particular herd and its cultural and historic value to the Tribes. The Tribes would continue to manage this bison herd with this genetic value in mind.

9) **Weed control/management**

Comment: Several commenters mentioned the importance of weed control and management.

Response: The Tribes recognize the importance of controlling and managing invasive/noxious weeds. The Tribes currently devote a great deal of resources to weed control on the Reservation, having spent over \$545,000 during the period of fiscal years 2012-2016. Under the National Bison Range’s existing management plan, which the Tribes helped develop, weed management projects are identified as high priority. Under Tribal management of the Bison Range, the Tribes would continue this prioritization.

10) **Restoration of land to Indian Tribes**

Comment: Several commenters expressed blanket opposition to the concept of restoring land to Indian tribes. Comments included such statements as:

- “Given the logic being used here, all non Indians [*sic*] should be moving out of the country and returning all lands back to the Native Americans.”
- “Dangerous precedent to begin ‘giving back’ land to tribes”
- “we cannot undo the past”

Response: The Tribes believe that the Act should be evaluated on the merits of its own unique facts and history. While some individuals may oppose any sort of land transfer to a tribal government, or to Indians in general, such opposition does not have support in the law nor does it make for sound policy development.

11) Sentiments towards Indians and Indian tribes

Comment: A number of commenters expressed animosity towards Indians or tribes generally, without reference to the draft Act. Examples include:

- “leave the Bison Range in Federal hands the Indians lazy bastards will just screw it up” [*sic*]
- “I, like so many taxpaying residents of Montana, am getting tired of the tribes demanding things to which you are not entitled.” [*sic*]
- “I think it’s time that reservations be abolished [*sic*], tribal members fully assimilated into American society as a whole, including paying their fair share of taxes.”
- “Tell the minority people who live in this country to get off their ass, get an education or trade and make a living like the rest of us have done or are doing! . . . The sacrifices that have been made by white people for 240 years are what has made this country great.” [*sic*]
- Native Americans “exhibit no motivation to lift themselves out of poverty or ignorance.”
- “. . . DON’T give the Indians control of any and all wildlife species on OUR land.” and
- “Indian tribes and their members are just unable and unwilling to properly protect a species like the bison.”

Response: Comments that derive from racist beliefs or bigotry are outside the scope of these responses, but obviously have little value in any objective evaluation of the Tribes’ draft legislation.

Some of these comments reflect a mistaken belief that Indian people do not pay taxes. While members of federally-recognized tribes are not subject to some taxes, such as state income taxes if the tribal member both resides and works within his/her own Indian reservation, tribal members are subject to many state and federal taxes, including federal income tax.

12) Changing the name of the National Bison Range

Comment: Several commenters addressed the potential for the name of the National Bison Range to be changed, as provided in Section 4(d) of the draft legislation. Two commenters suggested new names for the facility, such as “Big Medicine Range”, or naming it after the Pend d’Oreille man who first brought the bison to the Flathead Indian Reservation from east of the Continental Divide. One commenter indicated he would not want to see the name changed.

Response: While no official discussion on this issue has taken place yet, the Tribes see value, as some commenters suggested, in possibly renaming the National Bison Range to reflect historical or cultural aspects of the Range. The draft legislation does not require renaming of the National Bison Range, but would recognize the Tribes’ ability to do so.

13) Senior Passes/Golden Age Passports

Comment: Several commenters asked whether Senior Passes or Golden Age Passports would still be honored by the Tribes if the National Bison Range were restored to federal trust ownership for the Tribes.

Response: Senior Passes and Golden Age Passports are lifetime passes issued by the federal government for entry into various federal facilities such as National Parks and National Wildlife Refuges (see <http://store.usgs.gov/pass/senior.html>). The Tribal Council has not yet considered whether it would continue to honor such passes. However, providing low-cost services or programs for elders is common within the Tribal government.

14) National Environmental Policy Act (NEPA)

Comment: A couple of commenters made references to the National Environmental Policy Act (NEPA), including assertions of its application to this comment period.

Response: The public comments solicited and received by the Confederated Salish and Kootenai Tribes are not subject to the provisions of NEPA which, by its own terms, applies to major federal (not tribal) actions.

15) Hunting

Comment: One commenter asked whether hunting would be allowed on the Bison Range.

Response: Although hunting is allowed on some National Wildlife Refuges, public hunting is not currently allowed on the National Bison Range, although there are periodic “management hunts” used for population control of certain animals. The Tribes do not envision changes to this.

16) Ninepipe and Pablo Refuges

Comment: One commenter asked who would manage the Ninepipe and Pablo National Wildlife Refuges.

Response: The Ninepipe and Pablo Refuges are both located on land held in trust by the federal government for the Confederated Salish and Kootenai Tribes, and are both currently administered by FWS as part of the National Bison Range Complex. The Act would not affect management of either the Ninepipe or Pablo Refuges. FWS would continue to manage both, although they would likely be administered out of another refuge, such as Lost Trail or Benton Lake Refuges. Changing administrative headquarters for a refuge is not a new concept. The Lost Trail National Wildlife Refuge has been removed and added to the National Bison Range Complex in the past.

The Ninepipe and Pablo Refuges were both originally established as refuges after years of Tribal requests for the federal government to designate them as bird conservation areas. In 1921, the federal government finally agreed and President Warren Harding issued Executive Orders designating both Ninepipe and Pablo as refuges. In 1948,

Congress approved the purchase by the federal government from the Tribes of perpetual easements for use of Ninepipe and Pablo for refuge purposes.

17) Cooperative opportunities

Comment: One commenter saw opportunity in the draft legislation for Tribal cooperation with state & federal programs such as Montana Conservation Corps (MCC).

Response: The Tribes appreciate this suggestion and note that nothing in the draft legislation would preclude or hinder such cooperation. The Tribes have a long and extensive history of cooperating with other governments and entities in the pursuit of conservation management, including at the National Bison Range.

18) Shared management track record

Comment: One commenter asserted that past shared management at the National Bison Range had “failed”.

Response: The last Tribal Self-Governance agreement at the National Bison Range was very successful. Both the Tribes and the U.S. Fish & Wildlife Service were pleased with the constructive relationship that they jointly built at the Bison Range under their 2008-2010 partnership. However, unlike past Tribal Self-Governance agreements, under the Act the Tribes would be the sole manager of the Range – there would not be shared management between Tribal and federal governments. This would not, however, preclude continued cooperation between the two governments.

19) Tribal preference in hiring

Comment: One commenter expressed concern about the Tribes’ “preferential hiring practices”.

Response: Under Tribal law, the Tribes have adopted hiring preferences for Tribal members and other members of federally-recognized Indian tribes. This is consistent with federal law. However, the Tribes also hire many non-Indian and non-Tribal member employees. Under the Tribes’ last partnership agreement at the National Bison Range, the Tribes hired and employed some non-Indian staff, including the manager of the Tribes’ Bison Range staff.

20) Separate bison herd

Comment: One commenter suggested that the Tribes start a bison herd of their own, on Tribal land, while leaving the National Bison Range a National Wildlife Refuge.

Response: Starting its own herd elsewhere on the Reservation would not reunite the Tribes with either the land that had been taken from its Reservation or the bison herd which Tribal members had helped make possible. Nor would this approach of separate herds address the issue of how the Tribes could partner with the U.S. Fish & Wildlife Service at the National Bison Range. This partnership question has consumed a great deal of Tribal and federal resources over the last 22 years, since the passage of the Tribal

Self-Governance Act. The Act would resolve that question by restoring the Bison Range to federal trust ownership for the Tribes.

21) Revising financial assistance to Counties

Comment: One commenter suggested that the Tribes’ draft legislation could either lengthen the time period for phasing out the Refuge Revenue Sharing payments to Sanders and Lake Counties, or increase the amount of such payments to those Counties.

Response: The Tribes appreciate this suggestion, and share the concern of easing any transition in the Counties’ budgets. The Tribes have considered alternatives to the provisions in Section 4(f) of the draft Act, and have discussed alternatives with both Sanders and Lake Counties. Those discussions may result in changes to this part of the draft legislation.

22) U.S. Fish & Wildlife Service motives

Comment: One commenter questioned the motives of the U.S. Fish & Wildlife Service in supporting the proposed Bison Range restoration, and asserted disbelief that the FWS support arose from either concern for tribal self-governance or conserving limited federal resources.

Response: The Tribes cannot speculate as to the reasoning behind FWS support for the Tribes’ proposed legislation. However, FWS Director Dan Ashe has stated in correspondence that

[t]he plain fact is, the Salish-Kootenai are very capable managers. They can manage [the National Bison Range] and this herd. They very much want to do this. The land will be held in trust, by the BIA, on behalf of the CSKT, for the original purposes, so it will be protected, in perpetuity.

. . . There is only one reason that I am supporting this: It is the right thing to do! And sometimes, doing the right thing is scary. But as Martin Luther King taught us, “It is never the wrong time to do the right thing.”

Director Ashe’s statement above finds support in the recently-revised FWS Native American Policy, which talks about furthering “the United States’ and the Department of the Interior’s trust responsibility to federally recognized tribes to protect, conserve, and use tribal reserved, treaty guaranteed, or statutorily identified resources.”

23) Bison Range Working Group

Comment: One commenter asked which parties constituted the Bison Range Working Group.

Response: The Working Group currently consists informally of the comments submitted on the Working Group website established by the Tribes. The Tribes have met with conservation group representatives to discuss our draft legislation, and the Tribes expect to continue this discussion now that public comments have been received and posted.

The Tribes have also met with the Lake and Sanders County Commissions, and expect to continue that dialogue as well. Depending on future discussions/participation, the Working Group may become a more formalized body.

24) **Herd Capacity**

Comment: Some commenters asked about bison population management and culled bison.

Response: Surplus wildlife and removal of bison or other wildlife are addressed in the National Bison Range’s existing management plan. Bison would continue to be culled as necessary to maintain the genetic diversity of the herd and the carrying capacity of the range. The Tribes would manage the culled bison via auction, similar to the current program. The Tribes are always open to suggestions and idea regarding disposition of culled bison and may consider other options in the future.

From: [Martin, Kristine](#)
To: [Denise Sanchez](#)
Subject: Fwd: Noreen's calendar
Date: Friday, July 31, 2015 10:48:49 AM

----- Forwarded message -----

From: **Will Meeks** <will_meeks@fws.gov>
Date: Thursday, July 30, 2015
Subject: Noreen's calendar
To: Kristine Martin <kristine_martin@fws.gov>

Kris,

Can you get me on Noreen's calendar (30 minutes) to brief her on CSKT and the Bison Range at her earliest convenience? Thanks.

Will Meeks
U.S. Fish and Wildlife Service
Mountain Prairie Region
Assistant Regional Director
National Wildlife Refuge System and
Partners for Fish and Wildlife Program
303-236-4303 (w)
720-541-0310 (c)

--

Kristine Martin
Office of the Regional Director
Mountain-Prairie Region
U.S. Fish & Wildlife Service
303-236-7920 Phone
303-236-8295 FAX
kristine_martin@fws.gov

From: [Kristine Martin](#)
To: [Denise Sanchez](#)
Subject: RE: Noreen's calendar
Date: Monday, August 03, 2015 9:54:00 AM

Thanks for all your extra effort to help out! Pretzels come from King Soopers. See you tomorrow!

v/r

Kris Martin

From: Sanchez, Denise [mailto:denise_sanchez@fws.gov]
Sent: Friday, July 31, 2015 11:50 AM
To: Martin, Kristine
Subject: Re: Noreen's calendar

Scheduled.

See you Monday!! Oh, I won't be here..... see you Tuesday.

Things have gone fine - I think...

Hey, I need to know where you get Matt's prezels, love them - want to buy some :)

Hope you had fun - have a safe trip home.

On Fri, Jul 31, 2015 at 10:48 AM, Martin, Kristine <kristine_martin@fws.gov> wrote:

----- Forwarded message -----

From: Will Meeks <will_meeks@fws.gov>
Date: Thursday, July 30, 2015
Subject: Noreen's calendar
To: Kristine Martin <kristine_martin@fws.gov>

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Can you get me on Noreen's calendar (30 minutes) to brief her on CSKT and the Bison Range at her earliest convenience? Thanks.

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U.S. Fish and Wildlife Service
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303-236-4303 (w)
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--

Kristine Martin
Office of the Regional Director
Mountain-Prairie Region
U.S. Fish & Wildlife Service
303-236-7920 Phone
303-236-8295 FAX
kristine_martin@fws.gov

--

Denise Sanchez | Administrative Assistant
USFWS Mountain-Prairie Region External Affairs
134 Union Blvd, Lakewood, CO 80228
denise_sanchez@fws.gov | 303-236-2985

<http://www.fws.gov/mountain-prairie>



Flickr - Photos linked in this email.

Conversation Contents

Discussion with the CSKT about the National Bison Range

Noreen Walsh <noreen_walsh@fws.gov>

From: Noreen Walsh <noreen_walsh@fws.gov>
Sent: Fri Feb 05 2016 16:12:44 GMT-0700 (MST)
To: FW6 All Employees <fw6_all_employees@fws.gov>
Subject: Discussion with the CSKT about the National Bison Range

Dear Mountain-Prairie Region,

I want to inform you of a discussion the Service started today with the Confederated Salish and Kootenai Tribes (CSKT) regarding the National Bison Range. Many of you know that we have been working with the CSKT for about 20 years on the idea of a partnership at the National Bison Range that would be outlined in an Annual Funding Agreement which would allow them to manage and implement some of the activities on the refuge. This process has required much time and effort on the part of many, and despite valiant efforts all around, the parties have been unable to come to terms on a mutually-acceptable agreement.

In an effort to achieve the best, long-term solution for our many conservation priorities, the specific conservation goals of the National Bison Range, and to support the principles of Indian self-determination there was a discussion today with the CSKT about the potential for the Service to support legislation that would transfer the lands comprising the National Bison Range to be held in trust by the United States for the CSKT.

I wanted you all to know why we entered into these discussions. The National Bison Range was established in 1908 within the boundaries of the Flathead Reservation, home of the CSKT, for the express purpose of conserving the American bison during a time when the species was on the verge of extinction. Since then, the Service as well as our federal, state, and tribal partners have made great strides in conserving bison and re-establishing herds throughout their historic range. Also, while we have desired a meaningful partnership with CSKT at the National Bison Range, a mutually-acceptable agreement has been elusive. Given that we are today in a much better place regarding the future of bison, that we have much work to do on landscape-scale conservation efforts, and that we want to strengthen our partnership with the CSKT, we believe that now is the right time to investigate the possibility of transferring the refuge, which was

long ago carved out of tribal lands, into trust for the benefit of the CSKT.

Such a proposal would require Congressional approval and therefore, at this point, we don't know if or when such a transfer would occur. Today was our first discussion with the CSKT about the idea. As we go forward, my pledge is to ensure that wherever the discussion leads us, the talented and committed staff of the National Bison Range are taken care of. To this end, Will Meeks, Mike Blenden, and I spent the afternoon at the Refuge where we talked about the ideas under discussion. In our conversations, I emphasized that they will all remain valued employees of the Service, regardless of the outcome of these discussions.

I know that many of you will have thoughts and questions about this idea. This was not an easy decision to come by, nor one that was taken lightly, but in the end, I believe that this is a good path for the Service, the CSKT, and for the conservation of our fish and wildlife resources.

As always, I value your feedback and questions.

Noreen

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

Serena Baker <serena_baker@fws.gov>

From: Serena Baker <serena_baker@fws.gov>
Sent: Fri Feb 05 2016 16:20:49 GMT-0700 (MST)
To: Noreen Walsh <noreen_walsh@fws.gov>, Will Meeks <will_meeks@fws.gov>, Mike Blenden <mike_blenden@fws.gov>
Subject: FW: Discussion with the CSKT about the National Bison Range

Hello Noreen, Will, and Mike,

I can't even imagine the tough spot you all were in today, while fielding some difficult questions for

which we may not yet have answers, and that can stir emotions even higher. What I do know about each of you, is that you will do what you absolutely believe is the right thing for everyone involved, and that the Refuge, employees, and resources involved are in the very best of hands.

Hang in there! We're behind you 100%!

Serena Baker

From: Noreen Walsh [mailto:noreen_walsh@fws.gov]
Sent: Friday, February 05, 2016 4:13 PM
To: FW6 All Employees
Subject: Discussion with the CSKT about the National Bison Range

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As always, I value your feedback and questions.

Noreen

Noreen Walsh

Regional Director

Mountain-Prairie Region

U. S. Fish and Wildlife Service

Mike Blenden <mike_blenden@fws.gov>

From: Mike Blenden <mike_blenden@fws.gov>
Sent: Fri Feb 05 2016 17:34:49 GMT-0700 (MST)
To: Serena Baker <serena_baker@fws.gov>
Subject: Re: Discussion with the CSKT about the National Bison Range

Thank you Serena! Very kind and thoughtful. Will and Noreen made me proud. The staff

took it well and as expected but it was a hard day.

Sent from my iPhone

On Feb 5, 2016, at 4:20 PM, Serena Baker <serena_baker@fws.gov> wrote:

Hello Noreen, Will, and Mike,

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As always, I value your feedback and questions.

Noreen

Noreen Walsh

Regional Director

Mountain-Prairie Region

U. S. Fish and Wildlife Service

"Shinn, Kevin" <kevin_shinn@fws.gov>

From: "Shinn, Kevin" <kevin_shinn@fws.gov>
Sent: Sat Feb 06 2016 14:08:47 GMT-0700 (MST)
To: Mike Blenden <mike_blenden@fws.gov>
Subject: Fwd: Discussion with the CSKT about the National Bison Range

Mike,

So what is going to happen to Lost Trail and the WMD in all this? Can you give me some insight so I can fill Beverly and Bob in.

Thanks

----- Forwarded message -----

From: **Noreen Walsh** <noreen_walsh@fws.gov>
Date: Fri, Feb 5, 2016 at 4:12 PM
Subject: Discussion with the CSKT about the National Bison Range
To: FW6 All Employees <fw6_all_employees@fws.gov>

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Noreen

Noreen Walsh
Regional Director
Mountain-Prairie Region
U. S. Fish and Wildlife Service

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Kevin J. Shinn

Manager/Federal Wildlife Officer
Lost Trail NWR/NW Montana WMD
406-858-2216 Office
406-260-5192 cell

Mike Blenden <mike_blenden@fws.gov>

From: Mike Blenden <mike_blenden@fws.gov>
Sent: Sat Feb 06 2016 15:23:45 GMT-0700 (MST)
To: "Shinn, Kevin" <kevin_shinn@fws.gov>
Subject: Re: Discussion with the CSKT about the National Bison Range

Kevin,

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Thanks for asking.

Mike

Sent from my iPad

On Feb 6, 2016, at 2:08 PM, Shinn, Kevin <kevin_shinn@fws.gov> wrote:

Mike,

So what is going to happen to Lost Trail and the WMD in all this? Can you give me some insight so I can fill Beverly and Bob in.

Thanks

----- Forwarded message -----

From: **Noreen Walsh** <noreen_walsh@fws.gov>

Date: Fri, Feb 5, 2016 at 4:12 PM

Subject: Discussion with the CSKT about the National Bison Range

To: FW6 All Employees <fw6_all_employees@fws.gov>

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Mike Blenden <mike_blenden@fws.gov>

From: Mike Blenden <mike_blenden@fws.gov>
Sent: Sat Feb 06 2016 15:24:20 GMT-0700 (MST)
To: Jeff King <jeff_king@fws.gov>
Fwd: Discussion with the CSKT about the National Bison

Subject: Range

FYI - Mike

Sent from my iPad

Begin forwarded message:

From: Mike Blenden <mike_blenden@fws.gov>
Date: February 6, 2016 at 3:23:45 PM MST
To: "Shinn, Kevin" <kevin_shinn@fws.gov>
Subject: Re: Discussion with the CSKT about the National Bison Range

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Jeff King <jeff_king@fws.gov>

From: Jeff King <jeff_king@fws.gov>
Sent: Sat Feb 06 2016 16:09:47 GMT-0700 (MST)
To: Mike Blenden <mike_blenden@fws.gov>
CC: Kevin Shinn <Kevin_Shinn@fws.gov>
Subject: Re: Discussion with the CSKT about the National Bison Range

Mike. Please call me about this email string.

Thanks

jk

Sent from my iPhone

On Feb 6, 2016, at 3:24 PM, Mike Blenden <mike_blenden@fws.gov> wrote:

FYI - Mike

Sent from my iPad

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"Blenden, Mike" <mike_blenden@fws.gov>

From: "Blenden, Mike" <mike_blenden@fws.gov>
Sent: Wed Aug 24 2016 15:43:14 GMT-0600 (MDT)
To: Barney Email b(6) [REDACTED]
Subject: Fwd: Discussion with the CSKT about the National Bison Range

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Michael Blenden
Refuge Supervisor - Montana, Wyoming and Utah
134 Union Boulevard
Lakewood, CO 80228
303-236-4306
303-710-7934 cell

Too often we...enjoy the comfort of opinion without the discomfort of thought.
John F. Kennedy