

CHAPTER 3—Alternatives



USFWS

Partnerships at work in the Rocky Mountain Front Conservation Area.

The purpose of this chapter is to describe the management alternatives considered for the Benton Lake National Wildlife Refuge Complex, Montana. Alternatives are different approaches to management that are designed to achieve the refuge complex purposes, vision, and goals; the mission of the Refuge System; and the mission of the Service. Alternatives are developed to address the substantive issues, concerns, and problems identified by the Service, the public and other partners during public scoping, and throughout the development of the draft CCP.

Alternatives A–C for the refuge complex, as described below, apply to all units of the refuge complex (two refuges, one wetland management district, three conservation areas). In addition, it was found that a separate analysis would be conducted, and that a broader range of alternatives would be devel-

oped, for just Benton Lake Refuge because the issues that applied to this refuge were more complex. The alternatives that are specific to Benton Lake Refuge do not apply to the rest of the refuge complex. However, they are extensions of alternatives A, B, and C that would apply to the entire refuge complex (see table 4). Chapter 7 describes the analysis for Benton Lake Refuge and how the proposed action relates to the refuge complex.

Table 4. Each Benton Lake National Wildlife Refuge Complex-level alternative is linked to one or more alternatives for Benton Lake National Wildlife Refuge, Montana.

Refuge Complex Alternative	A	B	C
Benton Lake Refuge Alternative	A1	B1, B2	C1, C2

3.1 Development of Alternatives for the Refuge Complex

The Service assessed the planning issues identified in chapters 2 and 7, the existing biological conditions described in chapters 4 and 7, and external relationships affecting the refuge complex. This information contributed to the development of alternatives; as a result, each alternative presents different approaches for meeting long-term goals. More alternatives were developed and analyzed for Benton Lake Refuge in chapter 7. Each alternative was evaluated according to how well it would advance the vision and goals of the refuge complex and the Refuge System and how it would address the planning issues.

Several planning elements came out of this assessment. Approaches for meeting long-term goals have been grouped under each planning element. These have been carried across each alternative to help in comparing alternatives. Approaches for meeting long-term goals are also addressed under elements common to all alternatives.

Long-term goals, planning elements, and their accompanying planning issues from chapter 2 are as follows:

LANDSCAPE CONSERVATION GOAL

- Elements common to all alternatives
- Climate change: climate change
- Preserving intact landscapes: agricultural conversion, development, water quality, wildlife management

HABITAT GOAL

- Elements common to all alternatives
- Grasslands: invasive plants, nonnative plants and noxious weeds; loss of ecological processes
- Wetlands and riparian areas: invasive plants, nonnative plants and noxious weeds; loss of ecological processes, fisheries management

- Forests and woodlands: invasive plants, nonnative plants and noxious weeds; loss of ecological processes

WILDLIFE GOAL

- Elements common to all alternatives
- Species of concern: invasive plants, nonnative plants and noxious weeds; wildlife management; fisheries management
- Migratory birds: wildlife management

CULTURAL RESOURCES GOAL

- Elements common to all alternatives

VISITOR SERVICES GOAL

- Elements common to all alternatives
- Visitor services: wildlife management, fisheries management, visitor services, nonwildlife-dependent uses and nomenclature

ADMINISTRATION GOAL

- Elements common to all alternatives
- Staff and funding: operations

VISITOR AND EMPLOYEE SAFETY AND RESOURCE PROTECTION GOAL

- Elements common to all alternatives
- Visitor and employee safety: visitor services, nonwildlife-dependent Uses, operations
- Resource protection: nonwildlife-dependent Uses, operations

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

- No alternatives were considered and eliminated from detailed study.

3.2 Elements Common to All Alternatives

There are some consistencies in the three alternatives. This section identifies the following key elements that will be included in the CCP, regardless of the alternative selected:

- The Service would make sure that management of the refuge complex complies with all Federal laws and regulations that provide direction for managing units of the Refuge System.
- Attempts to control invasive species would be made through an integrated pest management (IPM) approach that includes biological, chemical, and mechanical treatment methods.
- Cultural resources would be provided equal protection and management. New cultural resources would be documented and protected as they are discovered.
- Research efforts would be conducted internally, or generated externally, to help reach management objectives.
- Wildlife and habitat inventory, monitoring, and research efforts would be conducted.
- Surveillance for key wildlife diseases such as botulism and West Nile virus would occur as needed.
- Strong and diverse partnerships would be promoted to help meet objectives and achieve complex goals. These partnerships, among other things would help link protected areas, leverage financial resources and increase community support, and preserve the rural way of life.
- A coordination of activities, monitoring, and collaboration with industrial, commercial, or agri-

cultural development interests would continue to protect existing and potential Service interests.

- Water rights throughout the refuge complex would be supported.
- Sagebrush-steppe habitat would continue to be protected through conservation easements, fee title acquisition, and land exchanges or donations. On fee-title lands, mechanical methods for tree removal, fire, and grazing would be used to rejuvenate sagebrush-steppe habitat. Work with landowners through Partners for Fish and Wildlife to support and manage sagebrush-steppe habitat would continue.
- Fishing would continue at some units of the refuge complex in accordance with State regulations.
- Recreational trapping would continue to be allowed on waterfowl production areas in the district, with the exception of the H2-O and Sands WPAs, in accordance with State seasons and regulations. No recreational trapping at Swan River Refuge would be authorized; however, trapping by special use permit would continue for wildlife and infrastructure management purposes only.
- Facilities, infrastructure, vehicles, and other equipment would continue to be supported in good working condition to achieve management goals. Fences in the refuge complex that serve no management purpose would continue to be removed.

3.3 Alternative A (Current Management— No Action)

Alternative A is the no-action alternative, which represents the current management of the refuge complex. This alternative provides the baseline against which to compare the other alternatives. It also fulfills the requirement in NEPA that a no-action alternative be addressed in the analysis process.

Management activity being conducted by the Service would remain the same. The Service would not develop any new management, restoration, or education programs at the refuge complex. Current habitat and wildlife practices that help migratory species and other wildlife would not be expanded or changed. Habitat management within the ref-

uge complex would continue to focus, primarily, on helping migratory birds, especially during breeding. Other species would be considered through land protection programs and partnerships (for example, grizzly bear and bull trout). Staff would continue monitoring, inventory, and research activities at their current level. Money and staff levels would remain the same with little change in overall trends. Programs would follow the same direction, emphasis, and intensity as they do now.

CLIMATE CHANGE

Baseline monitoring of habitat conditions that could potentially be related to the effects of climate change would continue. Existing weather stations and stream gauges would be supported. Staff would continue to collaborate with the USGS to obtain climate-related information.

Climate change stressors would be addressed primarily through preservation of large blocks of functional land that have natural processes that maximize resiliency. The refuge complex would work cooperatively with partners to improve condition of landscapes to increase resiliency, and seek other opportunities to work with partners to address climate change issues including restoration projects on Service-interest lands. Efforts would be made throughout the refuge complex to restore grasslands, forests, and wetlands and prevent conversion to enhance carbon sequestration.

Attempts would be made to reduce the carbon footprint of existing facilities. Activities would include weatherproofing facilities, upgrading furnaces, doors, and windows. These would be modest improvements to facilities and increased use of Webinars and other virtual meeting devices to reduce the carbon footprint from traveling. A major project to reduce the carbon footprint was completed December 2009, through the American Recovery and Reinvestment Act. The project included the installation of a 10 kilowatt wind generator and three photovoltaic panels at the headquarters building.

PRESERVING INTACT LANDSCAPES

Conservation of intact, native landscapes would remain a high priority. The mechanisms to conserve valuable lands for wildlife would include, but not be limited to, pursuing easements, land exchanges, donations, and limited fee title purchases of wetland, riparian, forest, sagebrush-steppe, and grassland habitats.

Refuge complex staff would continue to build relationships and work with private landowners that are interested in easements, annually inspect easements and follow up with easement holders when questions or concerns arise.

Refuge complex staff would also continue to engage in activities (such as educational tours and outreach) that build support for meeting acreage goals for habitat protection.

In 2011, the ability to preserve intact landscapes increased significantly within the refuge complex. The project area for the Rocky Mountain Front Conservation Area was expanded to 918,000 acres from 560,000 acres and the total easement acquisition goals were increased from 170,000 acres to 295,000 acres. The Blackfoot Valley Conservation Area was also expanded from 165,000 acres to a new boundary encompassing 824,024 acres with a new easement acquisition goal of 103,500 acres. In addition, a new conservation area was established in the Swan Valley with a goal of protecting 10,000 acres with easements and up to 1,000 acres in fee title.

GRASSLANDS

At present, a high priority is placed on the preservation and management of native grasslands. Within currently authorized areas, conservation easements are regularly used to protect native grasslands from conversion. Easements are proactively monitored and enforced. Easement contacts, evaluations and preliminary acquisition work, are supported by a



Jeff Van Tine

Haystack Butte in the Rocky Mountain Front Conservation Area.

shared Partners for Fish and Wildlife and realty full-time position. Other easement programs (Farmers Home Administration, grassland, wetland) outside of the conservation areas are administered, but there is little to no time to cultivate interests for acquisition.

Fee-title native grasslands are managed to sustain grassland health, composition, and native plant diversity. This is done by emulating historical disturbance regimes such as fire, grazing, treatment of invasive species using IPM, “early detection, rapid response” (EDRR), and proper periods of rest.

Tame grasslands are managed to support stands in a productive condition using a rotational management system to sustain the longevity of the grass stand. Grassland health is assessed using species composition, vigor, and litter accumulation. When tame grass stands degrade to the point when reseeding is the only viable choice, careful consideration is given to establishing native versus tame grass species.

Nonnative tree plantings in grasslands (shelterbelts) are present, but not actively managed.

Monitoring of grasslands occurs across the refuge complex in varying degrees of intensity, and with a focus on adaptive management.

WETLANDS AND RIPARIAN AREAS

Wetlands on private land are also protected with easements. The Service is currently conducting landscape-level analysis to rank wetland resources based on their importance to breeding waterfowl, which may be expanded to other priority wetland-dependent birds in the future. This prioritization would help identify the highest priority wetland resources in the district for future protection. Currently, wetland easements outside of the conservation areas are administered, but there is little to no time to cultivate interests for acquisition.

Many of the wetlands on fee title lands in the refuge complex are subject to natural flooding and drying cycles. However, where the capability exists, natural runoff is impounded or supplemental water is pumped into wetlands. In these wetlands, water is managed to extend the natural flooding cycle in the spring, summer, and fall, to provide consistent wetland habitat from year-to-year and flood wetlands more deeply than the original basin. Water-level management would continue to be accomplished with existing water control structures.

Where feasible, wetland vegetation is managed using prescribed fire, grazing, and haying. Wetland vegetation is also managed to reduce or end invasive

species. Treatment of invasive species using IPM and EDRR would continue.

Throughout the refuge complex, wetlands are created, enhanced, and restored. Wetland creation occurs when a wetland is created where it did not occur before. Wetland restoration occurs when a wetland basin was present historically, but has been drained or altered. Restoration returns the wetland to as close to its functional, historical condition as possible. Enhancement means a wetland has been modified to hold water longer or more deeply than the natural basin. Enhancements may occur in combination with restoration.

Before 2000, wetland enhancement, creation, and restoration projects were all done within the refuge complex. However, wetland restoration is currently the highest priority and wetlands are rarely enhanced or created. Less than 50 acres of wetlands have been created by the Service within the refuge complex over the last 5 years and only on private land with conservation easements.

Most riparian areas in the refuge complex are on private land. The focus would be on working with private landowners to better manage and improve health and vigor of these important and biologically diverse areas through conservation easements and partnerships. The riparian areas on fee-title lands are mostly treated with rest and protection.

FORESTS AND WOODLANDS

Forest and woodland habitat occurs on the Swan River Refuge and the Blackfoot WPA. At present, active timber management within the refuge complex is limited. A timber harvest plan is required and must be approved by the Service before commercial timber harvest is permitted on private lands protected with conservation easements.

SPECIES OF CONCERN

Staff would continue to informally check and document federally listed species on refuge complex lands, such as grizzly bear and bull trout. Refuge complex staff would consult with the Endangered Species Program before implementing any management action that may affect listed species. Conservation easements would continue to be used as a strategy to protect landscape-level habitat and wildlife linkage corridors.

Staff would also continue to check and document other species of concern as needed. Recent examples include black tern breeding and foraging monitoring that has been conducted on parts of the district. Reintroduction efforts for trumpeter swans have been

conducted for several years in the Blackfoot Valley. Within the Swan Valley, common loon breeding surveys have been conducted by MFWP.

MIGRATORY BIRDS

Most of the support for migratory birds would continue to be accomplished through habitat management to provide nesting, resting, brood-rearing, and migration habitat.

Staff would continue to annually take part in population level or landscape-level monitoring of migratory birds such as the breeding bird survey, annual midwinter waterfowl survey, prairie pothole breeding waterfowl survey, mourning dove survey, and pre-season waterfowl banding.

More measures to support migratory birds would continue, including the implementation of seasonal closures on Service-owned lands to reduce disturbance to migratory birds during nesting season, limited predator removal, and supporting a limited number of artificial nesting structures.

VISITOR SERVICES

Visitor service programs throughout the refuge complex are administered based on the type of unit (such as a national wildlife refuge or waterfowl production area) and the policies and regulations that establish the guidelines for the appropriate use of each unit type.

National wildlife refuges are encouraged to provide wildlife-dependent recreation where feasible and compatible with the purpose of the refuge. Wildlife-dependent recreation is defined as a use of a Refuge System unit involving hunting, fishing, wildlife observation and photography, environmental education and interpretation. Other activities may be allowed, such as boating, to facilitate compatible wildlife-dependent recreation.

Waterfowl production areas are open to migratory bird hunting, upland gamebird hunting, big game hunting, fishing, and trapping subject to the provisions of State laws and regulations. All forms of hunting or entry on all or any part of individual areas may be temporarily suspended by posting on occasions of unusual or critical conditions of, or affecting land, water, vegetation, or wildlife populations. The Sands WPA in Hill County and the H2-O WPA in Powell County would remain closed to hunting in accordance with property deed restrictions.

Priority public uses for the Benton Lake Refuge are described in chapter 7.

Hunting

Hunting programs in the refuge complex would not change. No new areas, expansions of season, and no new species would be open to hunting. Only approved nontoxic shot would be used or possessed while hunting upland gamebirds and migratory gamebirds on refuges and waterfowl production areas within the refuge complex. The Benton Lake and Swan River Refuges would continue to limit migratory bird hunting to no more than 40 percent of the refuge. These restrictions make sure that habitat without disturbance is available for migrating birds. Commercial outfitting in support of hunting would continue to be prohibited. See chapter 7 for information on Benton Lake Refuge hunting actions across alternatives.

BENTON LAKE WETLAND MANAGEMENT DISTRICT

Migratory gamebird, upland gamebird, and big game hunting on waterfowl production areas throughout the district would continue. Approximately 14,127 acres of upland and wetland habitat would continue to be available for hunting. The Sands WPA in Hill County and the H2-O WPA in Powell County would remain closed to hunting in accordance with property deed restrictions.

BLACKFOOT VALLEY, ROCKY MOUNTAIN FRONT, AND SWAN VALLEY CONSERVATION AREAS

Hunting access on lands under easement is controlled by the private landowner. Some landowners may choose to enroll in block management program administered by the State.



Carmen Luna / USFWS

SWAN RIVER NATIONAL WILDLIFE REFUGE

Hunting of migratory gamebirds including ducks, geese, coots, and swans (by permit only) would continue in designated areas of the refuge with approximately 40 percent of refuge lands open to hunting. Upland game, big game, and guided hunting would continue to be prohibited on the refuge.

Wildlife Observation and Photography

Wildlife observation and photography opportunities would continue to be provided throughout the refuge complex, and would be supported by providing observation blinds, supporting an up-to-date bird species list for the refuges, and allowing the public the opportunity to use portable viewing and photography blinds through the issuance of special use permits. Seasonal closures to protect sensitive wildlife areas and reduce disturbance to fish and wildlife would be supported. Dogs would continue to be required to be leashed and remain on designated roads and trails, except in the hunt area during hunting season. Commercial photography requests would be evaluated on a case-by-case basis and authorized through special use permit. No new facilities for observing and photographing wildlife (such as observation decks, trails, auto tour routes, and photography blinds) would be developed, but existing facilities would be supported. See chapter 7 for wildlife observation and photography actions across the alternatives for Benton Lake Refuge.

BENTON LAKE WETLAND MANAGEMENT DISTRICT

Waterfowl production areas would be open to wildlife observation and photography year round. No conflicts are currently occurring to suggest seasonal closures would be necessary. Foot traffic, including hiking, cross-country skiing, and snowshoeing, would be permitted throughout the waterfowl production areas. Equestrian use would continue to be prohibited, and bicycle use would continue to be restricted to roads open to vehicular traffic. Boating would continue to be permitted in accordance with state regulations.

SWAN RIVER NATIONAL WILDLIFE REFUGE

Bog Road would continue to provide wildlife-viewing opportunities and access to the interior of the refuge. The existing observation platform, informational kiosk, and interpretive panel would continue to be supported and provide opportunity for wildlife observation and photography. The entire refuge, with the exception of the information kiosk and wildlife viewing platform, would continue to be closed to all public access from March 1 through July 15. Foot-traffic, including cross-country skiing and snowshoeing, would continue to be authorized north

of Bog Road between July 16 and the end of February. Equestrian and bicycle use would continue to be prohibited. The use of boats on Swan River would continue to support wildlife viewing, photography, and fishing opportunities. State “no wake” regulations would continue to be enforced and a Federal no-wake regulation would not be established.

Environmental Education and Interpretation

The environmental education program would continue to be opportunistic, as time and staff allow. Staff would take part in offsite special events and activities to bring the refuge complex message to large numbers of people, and participation in these events would continue as time and staff allow. Tasks would be performed as collateral assignments and no specific specialists are assigned to environmental education or interpretation programs on the refuge complex, nor is growth in this area expected. Interpretive panels, brochures, factsheets, Web sites, and maps would be updated as money allows. No new facilities or programs would be developed. Geocaching would continue to be prohibited; however, virtual geocaching would be authorized if requested. See chapter 7 for environmental education and interpretation actions across the alternatives for Benton Lake Refuge.

BENTON LAKE WETLAND MANAGEMENT DISTRICT

Waterfowl production areas would remain open for environmental education and interpretation. Area schools would continue to visit waterfowl production areas to study birds, wetland wildlife, and water quality. Staff would continue to host several on and offsite events attracting more than 250 attendees annually.

A facility at the H2-O WPA would continue to provide on-site education within the Blackfoot Valley, and an interpretive display would continue to be available at the north parking area of the Blackfoot WPA.

SWAN RIVER NATIONAL WILDLIFE REFUGE

An interpretive kiosk, updated in 2011, would continue to provide interpretive information to the visiting public. There would continue to be limited outreach and environmental education programs and minimal resources to update signs and brochures.

BENTON LAKE WETLAND MANAGEMENT DISTRICT

Cross-country skiing and snowshoeing on waterfowl production areas would continue to be authorized in support of wildlife-dependent recreation. Equestrian and bicycle use would continue to be restricted to public roads open to vehicular traffic. Boating

would continue to be permitted in accordance with state regulations. Waterfowl production areas, with the exception of the H2-O and Sands WPAs, would remain open to recreational trapping in accordance with State seasons and regulations.

SWAN RIVER NATIONAL WILDLIFE REFUGE

The entire refuge, with the exception of the information kiosk and wildlife viewing platform, would continue to be closed to all public access from March 1 through July 15. Cross-country skiing and snowshoeing would continue to be authorized between July 16 and the end of February. Equestrian and bicycle use would continue to be prohibited. The use of boats on Swan River would continue to support wildlife viewing, photography, and fishing opportunities. State “no wake” regulations would continue to be enforced and a Federal no-wake regulation would not be established. No recreational trapping would be authorized; however, trapping by special use permit would continue for wildlife and infrastructure management purposes only.

STAFF AND FUNDING

Current staff consists of 9.5 full-time employees. Temporary, term, and seasonal employees are used to supplement staff as money allows. Capacity for active management is constrained by limited staff and money. Current staff levels are insufficient to meet program mandates, resulting in limited management on some units. More staff would be acquired as money became available through the Refuge Operations Needs System (RONS).

VISITOR AND EMPLOYEE SAFETY

Employee and visitor safety would continue to be emphasized in all operations throughout the refuge complex. Currently, only one dual-function officer exists within the refuge complex. Efforts would be made to replace the recently vacated full-time law enforcement position to promote visitor and employee safety.

Potential for employees and visiting public to encounter insects, venomous snakes, mosquitoes (West Nile virus), extreme heat, cold, wind, all contribute to possible injury or illness. More signage warning visitors of these potential hazards may be considered.

RESOURCE PROTECTION

One dual-function law enforcement officer would continue to provide quality public use experiences, and protect habitat resources on fee-title and easement lands. Efforts to replace recently vacated full-time law enforcement officer would occur.

3.4 Alternative B

Management efforts would focus on supporting the resiliency and sustainability of native grasslands, forests, shrublands, and unaltered wetlands throughout the refuge complex by emulating natural processes. Prescribed fire, grazing, and other management techniques would be used to replicate historical disturbance factors. Where feasible, restoration of native uplands would occur.

For altered wetlands where water management capability exists, management efforts would focus on minimizing the effects of drought periods of the northern Great Plains and Rocky Mountains. Management would be active and intensive to keep these wetland conditions in a consistent state for wildlife using artificial flooding and drawdowns. Management would be active and intensive to support consistency for wildlife using tools such as artificial flooding, drawdowns, fire, rest, and grazing.

Changes in the refuge complex’s research and monitoring, staff, operations, and infrastructure would likely be required to achieve this alternative’s goals and objectives. The success of these efforts and programs would depend on added staff, research, and monitoring programs, operations money, infrastructure, and new and expanded partnerships.

Please refer to chapter 7 for more details on the Benton Lake Refuge alternatives (B1,B2) linked to this alternative.

ACTIONS SAME AS ALTERNATIVE A

Management actions would be the same as under alternative A for preserving intact landscapes, grassland habitat management, wetland and riparian habitat management, and environmental education and interpretation.

CLIMATE CHANGE

Management actions would be the same as alternative A, plus staff would take part in all aspects of the GNLCC and PPPLCC to understand climate change impacts locally, improve the condition of the landscape and increase resiliency.

Increasing resiliency on Service lands and addressing climate change stressors would be accomplished through active monitoring, adaptive management and, where feasible, using management practices that emulate natural processes. Data acquired from other sources would be used to analyze or check for climate change effects.

FORESTS AND WOODLANDS

Active forest management would be increased to support resiliency and sustainability by emulating natural processes. Natural fire regimes would be emulated with prescribed fire, which may require some thinning or fuel reduction before burning. Silvicultural practices may be used to decrease the spread of insects or disease and support or increase carbon sequestration.

SPECIES OF CONCERN

Management actions would be the same as alternative A, and the effects of management actions on other species of concern that are not threatened or endangered would be assessed before implementation.

MIGRATORY BIRDS

Habitat management actions and seasonal closures would be the same as alternative A, plus the migratory bird monitoring program would be expanded. Indicator species would be used to provide feedback for evaluating the success of management actions and to help achieve national and State migratory bird goals. The migratory bird program and its objectives would be periodically reviewed to figure out whether efforts are still a priority for the refuge complex; if not, efforts would be discontinued.

A limited number of artificial nesting structures would be supported based on a specific species need and only when other habitat management options have been exhausted.

VISITOR SERVICES

Hunting

The Service would explore opportunities for increased hunting on two fee-title refuges within the refuge complex. Decisions and details related to the above hunting elements, as well as other possible hunting season framework changes, would be evaluated against wildlife and human disturbance thresholds.

The Service would also increase regulatory hunting signage (for example, closed to hunting area signs, nontoxic shot required signs) and interpretive materials (for example, an updated and more comprehensive complex hunting leaflet, hunting factsheets) in an effort to reduce unintentional hunting violations throughout the refuge complex.

Management actions would vary across alternatives for the Benton Lake Refuge (see chapter 7).

Wildlife Observation and Photography

SWAN RIVER NATIONAL WILDLIFE REFUGE

Management actions would be the same as alternative A, except foot traffic, including hiking, cross-country skiing, and snowshoeing, would be restricted to designated roads and trails. Public access would be available year-round at the parking lot, informational kiosk, wildlife observation platform, and Bog Road trail, and seasonally during waterfowl hunting season, when the hunting area north of Bog Road would be open to public use.

STAFF AND FUNDING

Same as alternative A, plus the Service would add to the refuge complex's current staff 4.0 permanent, full-time positions to achieve the goals and supporting objectives: 1 law enforcement officer, 1.0 maintenance worker, 1.5 wildlife refuge specialist, and 0.5 generalist.

VISITOR AND EMPLOYEE SAFETY

Same as A, plus efforts would be expanded to provide dependable and improved communication throughout the complex.

RESOURCE PROTECTION

Management actions would be the same as alternative A, and special emphasis would be placed on preventative law enforcement efforts to make sure compliance with regulations. In addition, cooperative law enforcement efforts would be pursued to improve relationships with other law enforcement entities.

3.5 Alternative C (Proposed Action)

Emphasis would be placed on achieving self-sustaining systems with long-term productivity. Management efforts would focus on supporting and restoring ecological processes, including natural communities and the dynamics of the ecosystems of the northern Great Plains and northern Rocky Mountains in relationship to their geomorphic landscape positioning. Conservation of native landscapes would be a high priority accomplished by protecting habitats from conversion using a combination of partnerships, easements and fee-title lands, and through active management and proactive enforcement of easements. Management actions, such as prescribed fire, grazing, and invasive species control, would be used to support the resiliency and sustainability of Service-owned lands throughout the refuge complex.

Whenever possible, habitat conditions would be allowed to fluctuate with climatically driven wet and dry cycles, which are essential for long-term productivity. The success of these efforts and programs would depend on added staff, research, and monitoring programs, operations money, infrastructure, and new and expanded partnerships.

ACTIONS SAME AS ALTERNATIVE B

Management actions would be the same as alternative B for forest and woodland habitat management, species of concern, hunting, and visitor and employee safety.

CLIMATE CHANGE

Management actions would be the same as alternative A, plus more stations and gauges to check

climate change would be installed. The refuge complex would vigorously take part in all aspects of the GNLCC and PPPLCC as available to field stations. Use of scaled-downed climate change models would be applied to habitat objectives and determining land preservation priorities to a greater degree than alternatives A and B. Refuge complex staff would actively take part in, and cooperate with, data acquisition, monitoring, and analyzing management actions in respect to climate change.

The complex would also pursue installation of another photovoltaic system to support the expanded headquarters office.

PRESERVING INTACT LANDSCAPES

Management actions would be the same as alternatives A and B, plus the refuge complex would actively pursue opportunities for cooperative landscape-level monitoring of new and expanded conservation areas. This would include active participation in applying the principles of SHC to continually refine and focus landscape-level conservation priorities. In addition, new areas and partnership opportunities would be explored within the refuge complex to establish more conservation areas and increase the opportunities for landowners to take part in conservation easement programs.

GRASSLANDS

Management actions would be the same as alternative A, plus, where feasible, degraded tame grass stands across the complex would be prioritized and planted back to native grass species. Starting with those in native grasslands, all nonnative tree plantings would be removed across the complex.

Formal monitoring of grasslands would be focused on native prairie with an emphasis on adaptive management. Restoration of habitats (native grass planting and tree removal) would be formally monitored to evaluate success. Opportunities for cooperative landscape-level monitoring would be actively pursued in new and expanded conservation areas. Monitoring of tame grasslands would be minimal and informal.

WETLANDS AND RIPARIAN AREAS

Management actions would be the same as alternative A, except management treatments such as grazing and fire may be used to mimic historical disturbances and support sustainability and resiliency when natural flooding and drying cycles allow. More treatments for invasive species may be applied.

Formal monitoring of wetlands would focus on wetland health and sustainability through adaptive management. Monitoring would track long-term trends in wetland cycles, health, and wildlife use. For restoration efforts, monitoring would be especially important to figure out if systems are recovering.

MIGRATORY BIRDS

Management actions would be the same as alternative B, plus monitoring efforts within conservation area boundaries as part of SHC would be expanded. Artificial nesting structures would be phased out.

VISITOR SERVICES

Wildlife Observation and Photography

Management actions would be the same as alternative B, plus potential for more walking trails throughout the refuge complex would be evaluated and a park ranger would be hired to help support and expand wildlife observation and photography infrastructure and opportunities.

Environmental Education and Interpretation

Same as alternatives A and B, plus programming would be increased and expanded to enhance public knowledge and understanding of restoration efforts, unique habitat and wildlife values and attributes, and landscape-scale conservation programs. Efforts would be made to promote and educate the public about the new and expanded easement programs and to reach out and tap into available resources, especially in Great Falls.



Dr. Thomas G. Barnes / USFWS

Silver sagebrush is an important habitat component for sage-grouse.

STAFF AND FUNDING

Same as alternative B, plus the Service would add 2.0 permanent, full-time positions to achieve the goals and support objectives: 1 full-time park ranger (one person working half time on the refuge complex, half time at Benton Lake Refuge exclusively), and 1 full-time supervisory biologist.

RESOURCE PROTECTION

Management actions would be the same as alternative B, except replacing a full-time law enforcement officer position, that was part of the refuge complex in fiscal year (FY) 2009, would have high priority. The recently expanded Rocky Mountain Front and Blackfoot Valley Conservation Areas and the newly established Swan Valley Conservation Area would need more inspection and enforcement. In addition, more opportunities for easement protection may be established during the life of this plan.

3.6 Summary of the Alternatives' Actions and Consequences

Table 5 summarizes all aspects of management of the refuge complex under alternatives A–C. Actions and impacts for Benton Lake Refuge can be found in chapter 7.

Table 5. Summary of the actions and consequences of the management alternatives for the Benton Lake National Wildlife Refuge Complex, Montana..

<i>Alternative A (current management—no action)</i>	<i>Alternative B</i>	<i>Alternative C (proposed action)</i>
<p>Landscape Conservation Goal. Actively pursue and continue to foster relationships within the Service, other agencies, organizations, and private partners to protect, preserve, manage, and restore the functionality of the diverse ecosystems within the working landscape of the refuge complex..</p>		
Climate change—actions		
<ul style="list-style-type: none"> ■ Do baseline monitoring of habitat conditions. ■ Support existing weather stations. ■ Collaborate with USGS to obtain information. ■ Minimally take part in GNLCC and PPPLCC ■ Preserve large blocks of land that have functioning natural processes. ■ Reduce carbon footprint of facilities. 	<ul style="list-style-type: none"> ■ Same as alternative A, plus: ■ Actively take part in GNLCC and PPPLCC. ■ Address climate change stressors through management that emulates natural processes and increased monitoring feedback. 	<ul style="list-style-type: none"> ■ Same as alternative A, plus: ■ Install more weather stations to watch climate change. ■ Vigorously take part in GNLCC and PPPLCC. ■ Use scaled-downed climate change models to a greater extent. ■ Actively take part in data acquisition, monitoring, and analysis related to climate change. ■ Install photovoltaic system to support headquarters office expansion.
Climate change—environmental consequences		
<p>Utility and scope of baseline data limited. Monitoring water usage will protect water rights. Opportunities to collaborate on climate change issues limited. Preventing habitat conversion through easements would increase resiliency to climate change. Protection and restoration of habitats would support or improve carbon sequestration. Modest reduction in carbon footprint.</p>	<p>Same as alternative A, plus increased opportunities to collaborate on climate change issues and connection to complex improved. Increased ability to detect climate change effects at the local level.</p>	<p>Same as alternative A, plus expanded monitoring can be tied to regional and national trends. Collaboration on climate change issues with LCCs and partners maximized. Resiliency to climate change in habitats maximized through greater prevention of habitat conversion. Greatest reduction in carbon footprint.</p>
Preserving intact landscapes—actions		
<ul style="list-style-type: none"> ■ Place conservation of intact landscapes as a high priority. ■ Continue to build relationships with private landowners. ■ Engage in outreach. 	<ul style="list-style-type: none"> ■ Same as alternative A. 	<ul style="list-style-type: none"> ■ Same as alternative A, plus: ■ Pursue opportunities for cooperative landscape-level monitoring of conservation areas. ■ Use SHC principles to continually refine landscape-level conservation priorities.

Table 5. Summary of the actions and consequences of the management alternatives for the Benton Lake National Wildlife Refuge Complex, Montana..

<i>Alternative A</i> (current management—no action)	<i>Alternative B</i>	<i>Alternative C (proposed action)</i>
Preserving intact landscapes—environmental consequences		
<p>Transitional zones of valley floors to montane forests would be preserved and help fish and wildlife resources and enhance the resiliency of the ecosystem.</p> <p>Protecting large, intact blocks of native habitat, including wildlife corridors in the conservation areas, would help trust species and wide-ranging species.</p> <p>Existing conservation partnerships would support working landscapes in which fish and wildlife resources coexist with the ranching community, forestry, and other agricultural operations.</p> <p>Current staff and money may not be able to fully carry out easement programs.</p>	Same as alternative A.	Same as alternative A, plus a greater help to trust resources by actively applying SHC.
<p>Habitat Goal. Actively conserve, restore, and manage upland and wetland habitats across the northern prairies and intermountain valleys of the refuge complex, through management strategies that perpetuate the integrity of ecological communities. .</p>		
Grasslands—actions		
<ul style="list-style-type: none"> ■ Place high priority on preservation and management of native grasslands. ■ Use easements to protect native grasslands from conversion. ■ Manage fee-title native grasslands to sustain grassland health, composition, and native plant diversity. ■ Manage tame grasslands with a rotational management system. ■ Provide limited monitoring. 	Same as alternative A.	Same as alternative A, plus: <ul style="list-style-type: none"> ■ Rank degraded tame grass stands and plant back to native species. ■ Remove all nonnative tree plantings. ■ Focus formal monitoring on native prairie and restoration efforts. ■ Pursue cooperative landscape-level monitoring in conservation areas.

Table 5. Summary of the actions and consequences of the management alternatives for the Benton Lake National Wildlife Refuge Complex, Montana..

<i>Alternative A (current management—no action)</i>	<i>Alternative B</i>	<i>Alternative C (proposed action)</i>
Grasslands—environmental consequences		
<p>Potential for protecting great expanses of native prairie to reduce soil erosion, support water quality, effectively sequester carbon, and increase resiliency and resistance to disturbance. Management is assumed to increase the health of native prairie, but monitoring feedback would be limited. Native prairies would have varying levels of invasion by nonnative species.</p> <p>Productivity of tame grass would be sustained, but would be less diverse and provide habitat for fewer trust species than native prairies.</p>	<p>Same as alternative A.</p>	<p>Same as alternative A, plus more acres of native prairie would be protected through reallocation of complex resources.</p> <p>Tame grass replanted to native species should have increased diversity, replenished soil, improved nutrient cycles. Replanting native species is more expensive and difficult than replanting to tame grass.</p> <p>Removal of nonnative tree plantings would restore contiguous grassland and reduce the negative effects of fragmentation, depredation, and parasitism to grassland-dependent migratory birds. There may be a decrease in the diversity of migratory and resident bird species, which depend on planted tree habitats, but other nearby habitats are available.</p> <p>Increased monitoring would improve management effectiveness and grassland health.</p>
Wetlands and riparian areas—actions		
<ul style="list-style-type: none"> ■ Create, enhance, and restore wetlands. ■ Impound natural runoff or pump supplemental water into wetlands to extend the natural flooding cycle and to provide consistent wetland habitat year to year. ■ Manage vegetation with prescribed fire, grazing, haying, and herbicides. ■ Watch water quantity and quality. 	<p>Same as alternative A.</p>	<p>Same as alternative A, except:</p> <ul style="list-style-type: none"> ■ Use grazing and fire to mimic historical disturbances and support resiliency when natural flooding and drying cycles allow. ■ Apply more treatments for invasive plants. ■ Watch wetland health, recovery, and sustainability through adaptive management.

Table 5. Summary of the actions and consequences of the management alternatives for the Benton Lake National Wildlife Refuge Complex, Montana..

<i>Alternative A</i> (current management—no action)	<i>Alternative B</i>	<i>Alternative C (proposed action)</i>
Wetlands and riparian areas—environmental consequences		
<p>Extended drying periods would help remove the salts and selenium that can build up during wet cycles.</p> <p>After a few years of stable water levels, emergents would decline and sites would eventually revert to open water.</p> <p>Prescribed fire, mowing, and herbicide applications to consume litter, rejuvenate vegetation, or control exotic species may only be possible when wetland basins are sufficiently dry. While this may limit the ability to control invasive plants, the wet–dry cycle may act as a natural control by favoring native vegetation adapted to this cycle and by changing conditions that no longer favor invasive plants.</p> <p>During drier periods, extensive mudflat areas would likely attract large numbers of shorebirds and other species that could feed on invertebrates.</p> <p>Reducing invasive wetland vegetation would improve habitat for wetland-dependent wildlife. Native wildlife has evolved to use native vegetation for feeding, nesting, and hiding cover; nonnative vegetation is often a poor substitute.</p> <p>Where natural runoff was impounded or supplemental water diverted or pumped, the natural drying cycle would be reduced or ended. These wetlands would have more predictable flooding cycles. Flooding and holding water in a basin above the natural level creates a wetland where the water is deeper, and likely holds water longer, than would normally occur. It would also likely expand the extent of the wetland basin, essentially creating a bigger wetland.</p> <p>Wetlands that were impounded or receive supplemental water would provide a breeding opportunity for waterbirds and other wetland-dependent wildlife almost every year.</p> <p>Sustained flooding, with shortened or absent drying cycles, may negatively affect productivity by disrupting plant and invertebrate cycles, which may reduce the quality of food and cover.</p> <p>Selenium would likely increase and nonnative plants would increase, which would likely lower values.</p>	<p>Same as alternative A.</p>	<p>Same as alternative A, plus more focus on invasive plants should reduce the negative effects such as monotypic stands, reduced native plant diversity, and lower productivity.</p>

Table 5. Summary of the actions and consequences of the management alternatives for the Benton Lake National Wildlife Refuge Complex, Montana..

<i>Alternative A (current management—no action)</i>	<i>Alternative B</i>	<i>Alternative C (proposed action)</i>
Forests and woodlands—actions		
<ul style="list-style-type: none"> ■ Conduct minimal forest management. ■ Approve a timber harvest plan before commercial timber harvest on easement lands. 	<ul style="list-style-type: none"> ■ Same as alternative A, plus: ■ Use prescribed fire and silvicultural practices to manage forests. 	<ul style="list-style-type: none"> ■ Same as alternative B.
Forests and woodlands—environmental consequences		
Forests may be less vigorous and more susceptible to stand-replacing fires or disease and insect outbreaks.	Introducing fire would help natural ecosystem processes and reduce the chance of catastrophic fire. A reduction in stand density (silviculture) would increase forest health, reduce the vulnerability to insects and disease and increase carbon sequestration. There would be reduced chance of catastrophic wildfire and insect and disease outbreaks that could potentially destroy culturally significant trees.	Same as alternative B.
<p>Wildlife Goal. Support diverse and sustainable continental, regional, and local populations of migratory birds, native fish, species of concern, and other indigenous wildlife of the northern prairies and intermountain valleys of northern Montana..</p>		
Species of concern—actions		
<ul style="list-style-type: none"> ■ Informally watch and document Federally threatened and endangered species. ■ Consult with Endangered Species program as needed. ■ Use conservation easements to protect habitat for species of concern. ■ Watch and document other species of concern as needed. 	<ul style="list-style-type: none"> ■ Same as alternative A, plus: ■ More formally assess the effects of management actions on species of concern before implementation. 	<ul style="list-style-type: none"> ■ Same as alternative B.
Species of concern—environmental consequences		
<p>Monitoring and considering species of concern in management decisions would not only help the individual species but would also help make sure that there is ecosystem health and biodiversity.</p> <p>Considering species of concern in management decisions may affect public use because area or seasonal closures may be necessary.</p>	Same as alternative A, plus considering and monitoring more species of concern in management decisions would help more species and also help make sure that there is ecosystem health and biodiversity to a greater degree than alternative A.	Same as alternative B.

Table 5. Summary of the actions and consequences of the management alternatives for the Benton Lake National Wildlife Refuge Complex, Montana..

<i>Alternative A (current management—no action)</i>	<i>Alternative B</i>	<i>Alternative C (proposed action)</i>
Migratory birds—actions		
<ul style="list-style-type: none"> ■ Support migratory bird populations through effective habitat management. ■ Take part in annual population and landscape level surveys. ■ Carry out seasonal closures on fee-title lands to reduce disturbance to migratory birds during nesting season. ■ Conduct limited predator removal. ■ Support a limited number of artificial nesting structures. 	<ul style="list-style-type: none"> ■ Same as alternative A, except: ■ Increase monitoring and use indicator species to provide feedback for evaluating the success of management actions to help achieve national and State migratory bird goals. ■ Use artificial nesting structures only when other habitat is not available. 	<ul style="list-style-type: none"> ■ Same as alternative B, except: ■ Increase monitoring in conservation areas. ■ Gradually phase out the use of artificial nesting structures.
Migratory birds—environmental consequences		
<p>Population and landscape level studies help inform management by providing a larger context for evaluating success.</p> <p>By establishing seasonal closures on fee-title lands subject to frequent disturbance, the negative effects of human-caused disturbance would be reduced and the reproductive success of migratory birds protected.</p> <p>Predator removal and nest structures likely help migratory birds, but are not monitored.</p>	<p>Same as alternative A, plus choosing migratory bird species that can serve as indicators for evaluating management actions would provide information to help staff make adjustments to management and engage others at a landscape level. This could result in greater benefits to migratory birds such as higher nest success.</p>	<p>Same as alternative B, plus increased efforts to watch conservation areas would provide more information to target land protection that helps high-priority migratory birds.</p> <p>Since none of the nesting structures are for bird species whose populations are in decline or that cannot find other habitat options, the removal of the structures would not affect target species.</p>
<p>Visitor Services Goal. Provide opportunities for visitors of all abilities to enjoy wildlife-dependent recreation on Service-owned lands and increase knowledge and appreciation for the refuge complex’s ecological communities and the mission of the National Wildlife Refuge System.</p>		
Visitor Services: Hunting—actions		
<ul style="list-style-type: none"> ■ Benton Lake Wetland Management District—continue migratory gamebird, upland game, and big game hunting on Waterfowl production areas, except continue closure of the Sands and H2-O WPAs to hunting in accordance with property deed restrictions. ■ Blackfoot Valley, Rocky Mountain Front, and Swan Valley CAs—landowners continue to decide hunting opportunity on conservation easements. ■ Swan River Refuge—continue hunting of migratory gamebirds in designated areas on no more than 40% of refuge lands, and continue to prohibit hunting of upland game, bird, big game, and guided hunting. 	<ul style="list-style-type: none"> ■ Same as alternative A, plus: ■ Explore opportunities to increase hunting at Benton Lake and Swan River refuges. ■ Increase the number of regulatory signs and informational materials. 	<ul style="list-style-type: none"> ■ Same as alternative B.

Table 5. Summary of the actions and consequences of the management alternatives for the Benton Lake National Wildlife Refuge Complex, Montana..

<i>Alternative A (current management—no action)</i>	<i>Alternative B</i>	<i>Alternative C (proposed action)</i>
Visitor Services: Hunting—environmental consequences		
<ul style="list-style-type: none"> ■ Benton Lake Wetland Management District—annually, approximately 1,350 visits to the district for hunting would be expected. ■ Swan River Refuge—annually, approximately 100 visitor use-days would be expected for waterfowl hunting. 	<p>Same as alternative A, plus hunting may increase on the refuges and unintentional violations should decrease.</p>	<p>Same as alternative B.</p>
Visitor Services: Wildlife observation and photography—actions		
<ul style="list-style-type: none"> ■ Support existing observation blinds, bird species lists, and portable viewing and photography blinds. ■ Support seasonal closures to protect sensitive wildlife areas and reduce disturbance to fish and wildlife. ■ Evaluate commercial photography requests on a case-by-case basis and authorize through special use permit. ■ Benton Lake Wetland Management District—open waterfowl production areas to wildlife observation and photography. ■ Swan River Refuge—provide wildlife-viewing opportunities and access to the interior of the refuge via Bog Road; and support the existing observation platform, kiosk, and interpretive panel. 	<p>Same as alternative A.</p>	<p>Same as alternative A, plus:</p> <ul style="list-style-type: none"> ■ Evaluate the opportunity for added walking tours throughout the refuge complex. ■ Hire a park ranger to support increased wildlife observation and photography infrastructure opportunities.

Table 5. Summary of the actions and consequences of the management alternatives for the Benton Lake National Wildlife Refuge Complex, Montana..

<i>Alternative A</i> (current management—no action)	<i>Alternative B</i>	<i>Alternative C (proposed action)</i>
Visitor Services: Wildlife observation and photography—environmental consequences		
<p>Annual visitation to the refuge complex for wildlife observation and photography would remain similar to existing visitation rates: 8,230 visits/year and 490 visits/year, respectively.</p> <ul style="list-style-type: none"> ■ Benton Lake Wetland Management District—wildlife observation and photography would account for 580 and 50 annual visits, respectively. ■ Blackfoot Valley, Rocky Mountain Front, and Swan Valley CAs—private landowners would control public access to easement lands. ■ Swan River Refuge—the refuge would remain a popular destination point while traveling through Swan Valley due to Bog Road and associated wildlife-viewing opportunities, cross-country skiing, and snowshoeing; annual visitation is expected to be approximately 400 visits for wildlife observation and 40 visits for photography. 	Same as alternative A.	Same as alternative A, plus increased disturbance from wildlife would be possible. More staff and resources would be required to manage the increased public use. Significant increases in public use would be possible, as well as, increased participation and visitation and improved visitor experience.
Visitor Services: Environmental education and interpretation—actions		
<ul style="list-style-type: none"> ■ Continue the opportunistic environmental education program as time and staff allow. ■ Update interpretive panels, brochures, factsheets, Web sites, and maps as money allows. ■ Benton Lake Wetland Management District—keep waterfowl production areas open for environmental education and interpretation, staff would host several on and offsite events attracting more than 250 attendees annually. 	Same as alternative A.	Same as alternative A, plus: <ul style="list-style-type: none"> ■ Increase programming to enhance public knowledge and understanding of the restoration efforts and the emphasis on landscape-scale conservation. ■ Hire park ranger to support environmental education and interpretive programming.

Table 5. Summary of the actions and consequences of the management alternatives for the Benton Lake National Wildlife Refuge Complex, Montana..

<i>Alternative A (current management—no action)</i>	<i>Alternative B</i>	<i>Alternative C (proposed action)</i>
Visitor Services: Environmental education and interpretation—environmental consequences		
<p>Activities would continue at current rate of approximately 1,765 visits/year for environmental education programs on and offsite occur on the refuge complex.</p> <ul style="list-style-type: none"> ■ Benton Lake Wetland Management District—activities would continue at current rate of approximately 100 participants annually. ■ Swan River Refuge—less than 10 visits per year. 	<p>Same as alternative A.</p>	<p>Same as alternative A, plus increased programming would enhance public knowledge, understanding of restoration efforts, and emphasis on landscape-scale conservation efforts through easement programs.</p> <p>Community engagement would increase, especially in Great Falls, from educational efforts including field exploration kits, workshops for teachers, special events, job shadows, and Web site and other social networking tools.</p>
<p>Administration Goal. Provide facilities, strategically allocate staff, and effectively use and develop funding sources, partnerships, and volunteer opportunities to maintain the long-term integrity of habitats and wildlife resources of the refuge complex.</p>		
Staff and funding—actions		
<ul style="list-style-type: none"> ■ Support current staff of 9.5 full-time employees. ■ Supplement staff with temporary, term, and seasonal employees as money allows. ■ Acquire more staff as money becomes available through RONS. 	<p>Same as alternative A, plus:</p> <ul style="list-style-type: none"> ■ Add 4.0 staff: 1 full-time law enforcement officer, 1.0 FTE maintenance worker in the district, 1.5 FTE wildlife refuge specialist, and 0.5 FTE generalist. 	<p>Same as alternative B, plus:</p> <ul style="list-style-type: none"> ■ Add 2.0 FTEs: 1 FTE park ranger (one person working half time on the refuge complex, half time at Benton Lake Refuge exclusively), 1 FTE supervisory biologist.
Staff and funding—environmental consequences		
<p>Special emphasis would be placed on the management, and some monitoring, of the wetland and grassland habitats as well as on preserving intact landscapes throughout the refuge complex. Money and staff would be allocated accordingly with the greatest concentration of operations and maintenance money (more than \$160,000) going toward water level management at Benton Lake Refuge (pumping electrical expense, managing water delivery, pump house and structures and ditch maintenance).</p> <p>Under this alternative, staff and money to manage the preservation of intact landscapes would not be expected to grow significantly. Without significant base money increases or help from other programs, it would be extremely difficult to adequately manage the efforts toward preserving intact landscapes.</p>	<p>Other complex priorities may see shifts of operations money and personnel to accomplish management objectives at the Benton Lake Refuge. During intense water level management years, money and staff would predominately go toward habitat restoration efforts at the Benton Lake Refuge (see alternatives B1 and B2, chapter 7). Without significant base money increases, it would be not be possible to carry out the landscape preservation efforts.</p>	<p>Other complex priorities may see increases in the availability of operations money made available for work elsewhere in the complex from implementing alternatives C1 or C2 at Benton Lake refuge. Following the initial decommissioning or changing of the system, money would be distributed to other programs within the refuge complex such as preserving intact landscapes, grassland restoration, and visitor services.</p>

Table 5. Summary of the actions and consequences of the management alternatives for the Benton Lake National Wildlife Refuge Complex, Montana..

<i>Alternative A</i> (current management—no action)	<i>Alternative B</i>	<i>Alternative C (proposed action)</i>
Visitor and Employee Safety and Resource Protection Goal. Provide for the safety, security, and protection of visitors, employees, natural and cultural resources, and facilities throughout the refuge complex.		
Visitor and employee safety—actions		
<ul style="list-style-type: none"> ■ Continue to emphasize employee and visitor safety in all operations. ■ Assign one collateral duty law enforcement officer to promote visitor and employee safety. ■ Consider more signage warning visitors of potential hazards. 	Same as alternative A, plus expand efforts to provide dependable and improved communication throughout the complex.	Same as alternative B.
Visitor and employee safety—environmental consequences		
Because of a historical issue with dead zones for radio and cell phone coverage in remote parts of the refuge complex, the potential exists for someone to be stranded, injured or in need of aid with no way of contacting immediate help.	The safety of visitors and employees would be increased.	Same as alternative B.
Resource protection—actions		
<ul style="list-style-type: none"> ■ Continue to assign one dual-function law enforcement officer to protect habitat resources on fee-title and easement lands. ■ Replace recently vacated full time officer. 	Same as alternative A, plus: <ul style="list-style-type: none"> ■ Place special emphasis on preventative law enforcement efforts to comply with regulations. ■ Pursue cooperative law enforcement efforts and improve relationships with other law enforcement entities. 	Same as alternative B, plus: <ul style="list-style-type: none"> ■ Place higher priority on replacing previous full-time law enforcement officer.
Resource protection—environmental consequences		
The presence of law enforcement officers on the refuge complex would result in greater compliance with regulations.	Same as alternative A, plus officers would increase efforts to educate the public about rules and regulations, leading to increased compliance and resulting in less resource damage.	Same as alternative B, plus there would be more resource protection due to an added law enforcement officer.

