Glossary

accessible—Pertaining to physical access to areas and activities for people of different abilities, especially those with physical impairments.

A.D.—Anno Domini, "in the year of the Lord."

adaptive resource management (ARM)—The rigorous application of management, research, and monitoring to gain information and experience necessary to assess and change management activities. It is a process that uses feedback from research, monitoring, and evaluation of management actions to support or change objectives and strategies at all planning levels. It is also a process in which the Service carries out policy decisions within a framework of scientifically driven experiments to test predictions and assumptions inherent in management plans. Analysis of results helps managers decide whether current management should continue as is or whether it should be modified to achieve desired conditions.

alternative—Reasonable way to solve an identified problem or satisfy the stated need (40 CFR 1500.2); one of several different means of accomplishing refuge and district purposes and goals and contributing to the National Wildlife Refuge System mission ("Draft Fish and Wildlife Service Manual" 602 FW 1.5).

amphibian—Class of cold-blooded vertebrates that includes frogs, toads, and salamanders.

annual—Plant that flowers and dies within 1 year of germination.

baseline—Set of critical observations, data, or information used for comparison or a control.

bioaccumulation—The accumulation within living organisms of toxic substances occurring in the environment.

biological control—Organisms or viruses used to control invasive plants or other pests.

biological diversity, biodiversity—Variety of life and its processes including the variety of living organisms, the genetic differences among them, and the communities and ecosystems in which they occur ("Fish and Wildlife Service Manual" 052 FW 1.12B). The National Wildlife Refuge System's focus is on indigenous species, biotic communities, and ecological processes.

biotic—Pertaining to life or living organisms; caused, produced by, or comprising living organisms.

breeding habitat—Environment used by migratory birds or other animals during the breeding season.

canopy—Layer of foliage, generally the uppermost layer, in a vegetative stand; mid-level or understory vegetation in multilayered stands. Canopy closure (also canopy cover) is an estimate of the amount of overhead vegetative cover.

CCP—See comprehensive conservation plan.

CFR—See Code of Federal Regulations.

CO_2—Carbon dioxide.

Code of Federal Regulations (CFR)—Codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government. Each volume of the CFR is updated once each calendar year.

compact—Montana House bill 717–Bill to Ratify Water Rights Compact.

compatibility determination—See compatible use.

compatible use—Wildlife-dependent recreational use or any other use of a refuge or district that, in the sound professional judgment of the Director of the U.S. Fish and Wildlife Service, will not materially interfere with or detract from the fulfillment of the mission of the National Wildlife Refuge System or the purposes of the refuge or district ("Draft Fish and Wildlife Service Manual" 603 FW 3.6). A compatibility determination supports the selection of compatible uses and identified stipulations or limits necessary to make sure there is compatibility.

comprehensive conservation plan (CCP)—Document that describes the desired future conditions of the refuge or district and provides long-range guidance and management direction for the refuge manager to accomplish the purposes of the refuge or district, contribute to the mission of the National Wildlife Refuge System, and meet other relevant mandates ("Draft Fish and Wildlife Service Manual" 602 FW 1.5).

concern—See issue.

cool-season grasses—Grasses that begin growth earlier in the season and often become dormant in summer; grasses that germinate at lower temperatures. Examples of cool-season grasses in the refuge complex are western wheatgrass, needle and thread, and green needlegrass.

conservation—Management of natural resources to prevent loss or waste; actions may include preservation, restoration, and enhancement.

conservation easement—Perpetual agreement entered into by a landowner and the Service by which a landowner gives up or sells one or more of the rights on their property for conservation purposes, with terms set by the Service. In return for a single lump-sum payment, the landowner agrees not to drain, burn, level, or fill habitats covered by the easement. Conservation easements generally prohibit the cultivation of grassland and wetland habitats while still permitting the landowner traditional grazing uses. A single-habitat conservation easement is often referred to as either a wetland easement or a grassland easement.

coordination area—Wildlife management area made available to a State by a "cooperative agreement between the United States Fish and Wildlife Service and the State fish and game agency pursuant to section 4 of the Fish and Wildlife Coordination Act (16 U.S.C. 664); or (B) by long-term leases or agreements pursuant to the Bankhead–Jones Farm Tenant Act (50 Stat. 525; 7 U.S.C. 1010 et seq.)." States manage coordination areas, but they are part of the National Wildlife Refuge System. CCPs are not required for coordination areas.

cover, cover type, canopy cover—Present vegetation of an area; also see canopy.

cultural resources—Remains of sites, structures, or objects used by people in the past.

dense nesting cover (DNC)—Composition of grasses and forbs that allows for a dense stand of vegetation that protects nesting birds from the view of predators, usually consisting of one to two species of wheatgrass, alfalfa, and sweetclover.

district—See wetland management district.

district purpose—See purpose of the refuge.

disturbance—Significant alteration of habitat structure or composition from natural causes such as wildfire or human-caused activities and development such as timber harvest and road building.

DNC—See dense nesting cover.

drawdown—A manipulated water level in an impoundment that allows for the natural drying-out cycle of a wetland.

duck, dabbling—Duck that mainly feeds on vegetable matter by upending on the water surface or by grazing and only rarely dives.

duck, diving—Duck that mainly feeds by diving through the water.

EA—See environmental assessment.

ecosystem—Dynamic and interrelating complex of plant and animal communities and their associated nonliving environment; a biological community, together with its environment, functioning as a unit. For administrative purposes, the U.S. Fish and Wildlife Service has designated 53 ecosystems covering the United States and its possessions. These ecosystems generally correspond with watershed boundaries and their sizes and ecological complexity vary.

ecotype—Subspecies or race that is especially adapted to a particular set of environmental conditions.

emergent—Plant rooted in shallow water and having most of the vegetative growth above water such as cattail and hardstem bulrush.

endangered species, Federal—Plant or animal species listed under the Endangered Species Act of 1973, as amended, that is in danger of extinction throughout all or a significant part of its range.

endangered species, State—Plant or animal species in danger of becoming extinct or extirpated in a particular State within the near future if factors contributing to its decline continue; species with a population at a critically low level or having habitat that has been degraded or depleted to a significant degree.

environmental assessment (EA)—Concise public document, prepared in compliance with the National Environmental Policy Act, that briefly discusses the purpose and need for an action and alternatives to such action and that provides sufficient evidence and analysis of effects to determine whether to prepare an environmental impact statement or finding of no significant impact (40 CFR 1508.9).

evapoconcentration—Concentration of chemical constituents in a liquid due to evaporative processes.

extinction—Complete disappearance of a species from the earth; no longer existing.

extirpation—Extinction of a population; eradication of a species within a specified area.

°F—Temperature in degrees Fahrenheit.

fauna—Vertebrate and invertebrate animals in an area.

Federal trust resource—Resource managed by one entity for another who holds the ownership. The Service holds in trust many natural resources for the people of the United States of America because of Federal acts and treaties; examples are species listed under the Endangered Species Act, migratory birds protected by international treaties, and native plant or wildlife species found on a national wildlife refuge.

Federal trust species—Species where the Federal Government has primary jurisdiction including federally endangered or threatened species, migratory birds, anadromous fish, and certain marine mammals.

fee title—Acquisition of most or all of the rights to a tract of land.

Federal land—Public land owned by the Federal Government including lands such as national wildlife refuges, national forests, and national parks.

flora—Plant species in an area.

forb—Broad-leaved herbaceous plant; seed-producing annual, biennial, or perennial plant that does not develop persistent woody tissue but dies down at the end of the growing season.

fragmentation—Alteration of a large block of habitat that creates isolated patches of the original habitat interspersed with a variety of other habitat types; process of reducing the size and connectivity of habitat patches, making movement of individuals or genetic information between parcels difficult or impossible.

ft—Feet, length measure.

full-time equivalent (FTE)—One or more job positions with tours of duty that, when combined, equate to one person employed for the standard Government work-year.

Geographic Information System (GIS)—Computer system capable of storing and manipulating spatial data; set of computer hardware and software for analyzing and displaying spatially referenced features (such as points, lines and polygons) with nongeographic attributes such as species and age.

GIS—See Geographic Information System.

glyphosate—Glyphosate N–(phosphonomethyl) glycine; broad-spectrum systemic herbicide used to kill invasive plants, especially perennials. Glyphosate inhibits an enzyme involved in the synthesis of the amino acids tyrosine, tryptophan, and phenylalanine; absorbed through foliage and translocated to growing points, it is only effective on actively growing plants and is not effective as a preemergence herbicide.

goal—Descriptive, open-ended, and often broad statement of desired future conditions that conveys a purpose but does not define measurable units ("Draft Fish and Wildlife Service Manual" 620 FW 1.5).

gpm—Gallons per minute, waterflow.

grassland tract—Contiguous area of grassland that is not fragmented.

GS—General schedule pay rate schedule for certain Federal positions.

habitat—Suite of existing environmental conditions required by an organism for survival and reproduction; place where an organism typically lives and grows.

habitat type, vegetation type, cover type—Land classification system based on the concept of distinct plant associations.

hemimarsh—Emergent phase of a seasonal or semipermanent wetland where the ratio of open-water area to emergent vegetation cover is about 50:50 and vegetation and open-water areas are highly interspersed.

hydroperiod—Period during which soils, waterbodies, and sites are wet.

impoundment—Body of water created by collection and confinement within a series of levees or dikes, creating separate management units although not always independent of one another.

Improvement Act—National Wildlife Refuge System Improvement Act of 1997.

in—Inch.

indigenous—Originating or occurring naturally in a particular place.

integrated pest management (IPM)—Methods of managing undesirable species such as invasive plants; education, prevention, physical or mechanical methods of control, biological control, responsible chemical use, and cultural methods.

"interseed"—Mechanical seeding of one or several plant species into existing stands of established vegetation.

introduced species—Species present in an area due to intentional or unintentional escape, release, dissemination, or placement into an ecosystem because of human activity.

invasive species—Species that is nonnative to the ecosystem under consideration and whose introduction causes, or is likely to cause, economic or environmental harm or harm to human health.

inviolate sanctuary—Place of refuge or protection where animals and birds may not be hunted.

issue—Any unsettled matter that requires a management decision; for example, a Service initiative, opportunity, resource management problem, a threat to the resources of the unit, conflict in uses, public concern, or the presence of an undesirable resource condition ("Draft Fish and Wildlife Service Manual" 602 FW 1.5).

lek—An elevated patch of grassland used by male grouse to display and challenge one another to attract females; the elevation not only provides a clear view to interested female grouse, but it also enables the males to spot predators at a distance.

management alternative—See alternative.

management plan—Plan that guides future land management practices on a tract of land.

migration—Regular extensive, seasonal movements of animals between their breeding regions and wintering regions; to pass periodically from one region or climate to another for feeding or breeding.

migratory bird—Bird species that follows a seasonal movement from its breeding grounds to its win-

tering grounds; includes waterfowl, shorebirds, raptors, and songbirds.

mission—Succinct statement of purpose or reason for being.

mitigation—Measure designed to counteract an environmental effect or to make an effect less severe.

mixed-grass prairie—Transition zone between tallgrass prairie and shortgrass prairie dominated by grasses of medium height that are about 2–4 feet tall; soils are not as rich as in the tallgrass prairie and moisture levels are less.

monitoring—Collecting information to track changes of selected parameters over time.

national wildlife refuge (NWR)—Designated area of land, water, or an interest in land or water within the National Wildlife Refuge System but does not include coordination areas; listing of all units of the Refuge System is in the current Annual Report of Lands Under Control of the U.S. Fish and Wildlife Service.

National Wildlife Refuge System (Refuge System)—Various categories of areas administered by the Secretary of the Interior for the conservation of fish and wildlife including species 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, and waterfowl production areas.

National Wildlife Refuge System Improvement Act of 1997 (Improvement Act)—Set administrative policy for all refuges and units in the National Wildlife Refuge System; defined a unifying mission for the Refuge System; established the legitimacy and appropriateness of the six priority public uses (hunting, fishing, wildlife observation, photography, environmental education, and interpretation); established a formal process for determining appropriateness and compatibility; established the responsibilities of the Secretary of the Interior for managing and protecting the Refuge System; required a comprehensive conservation plan for each unit by the year 2012; amended portions of the Refuge Recreation Act and National Wildlife Refuge System Administration Act of 1966.

native species—Species that, other than as a result of an introduction, historically occurred or currently occurs in a specific ecosystem.

neotropical migrant, migratory bird—Bird species that breeds north of the United States and Mexican border and winters primarily south of this border.

NEPA—National Environmental Policy Act.

nest success—Chance that a nest will hatch at least one egg.

nongovernmental organization—Group that is not comprised of Federal, State, tribal, county, city, town, local, or other governmental entities.

North American Waterfowl Management Plan—Recognized that the recovery and perpetuation of waterfowl populations depends on restoring wetlands and associated ecosystems throughout the United States and Canada; established cooperative international efforts and joint ventures comprised of individuals, corporations, conservation organizations, and local, State, Provincial, and Federal agencies drawn together by common conservation objectives.

noxious weed—Plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products), livestock, poultry, or other interests of agriculture, irrigation, navigation, natural resources of the United States, public health, or the environment.

NRCS—Natural Resources Conservation Service.

NWR—See national wildlife refuge.

objective—Concise target statement of what will be achieved, how much will be achieved, when and where it will be achieved, and who is responsible for the work; derived from goals and provides the basis for determining management strategies; should be attainable, time specific, and stated quantitatively to the extent possible (if cannot be stated quantitatively, may be stated qualitatively) ("Draft Fish and Wildlife Service Manual" 602 FW 1.5).

palustrine—Relating to a system of inland, nontidal wetlands characterized by the presence of trees, shrubs, and emergent vegetation (vegetation that is rooted below water but grows above the surface); palustrine wetlands range from permanently saturated or flooded land to land that is wet only seasonally.

Partners in Flight Program—Western Hemisphere program designed to conserve neotropical migratory birds and officially endorsed by many Federal and State agencies and nongovernmental organizations; also known as the Neotropical Migratory Bird Conservation Program.

partnership—Contract or agreement entered into by two or more individuals, groups of individuals, organizations, or agencies in which each agrees to furnish a part of the capital or some in-kind service such as labor for a mutually beneficial enterprise.

patch—Area distinct from that around it; distinguished from its surroundings by environmental conditions.

perennial—Lasting or active through the year or through many years; waterbody that holds water year-round; plant species that has a lifespan of more than 2 years.

planning team—Group of individuals that prepares the comprehensive conservation plan; interdisciplinary in membership and function; generally consists of a team leader, refuge manager, biologist, staff specialists or other representatives of Service programs, ecosystems or regional offices, and State partner wildlife agencies as needed.

planning team leader—Professional planner or natural resource specialist knowledgeable of the requirements of National Environmental Policy Act and who has planning experience; manages the refuge planning process and makes sure that there is compliance with applicable regulatory and policy requirements.

planning unit—National wildlife refuge or wetland management district, or an ecologically or administratively related refuge complex, or a distinct unit of a refuge; may include lands outside refuge or district boundaries.

plant community—Assemblage of plant species unique in its composition that occurs in particular locations under particular influences; reflection or integration of the environmental influences on the site such as soil, temperature, elevation, solar radiation, slope, aspect, and rainfall; denotes a general kind of climax plant community such as ponderosa pine or bunchgrass.

preferred alternative—Alternative selected to becomes the final plan; it can be the proposed action, the no-action alternative, another alternative, or a combination of actions and alternatives described in the draft CCP and environmental analysis document.

prescribed fire—Skillful application of fire to natural fuel under specified conditions such as weather, fuel moisture, and soil moisture that allows confinement of the fire to a predetermined area and produces the intensity of heat and rate of spread to accomplish planned benefits to one or more objectives of habitat management, wildlife management, or hazard reduction.

pristine—Typical of original conditions.

private land—Land owned by a private individual, a group of individuals, or a nongovernmental organization.

private landowner—Individual, group of individuals, or nongovernmental organization that owns land.

private organization—Nongovernmental organization.

priority public use—One of six uses authorized by the National Wildlife Refuge System Improvement Act of 1997 to have priority if found to be compatible with a refuge or district's purposes; hunting, fishing, wildlife observation, photography, environmental education, and interpretation; also see wildlife-dependent recreational use.

proposed action—Alternative proposed to best achieve the purpose, vision, and goals of a refuge or district (contributes to the Refuge System mission, addresses the significant issues, and is consistent with principles of sound fish and wildlife management).

protohistoric—Pertaining to the transition period between prehistory and the earliest recorded history.

public—Individuals, organizations, and groups; officials of Federal, State, and local government agencies; Indian tribes; and foreign nations (may include anyone outside the core planning team); anyone who may or may not have shown an interest in Service issues and those who do or do not realize that Service decisions may affect them.

public domain, reserved from—See reserved from public domain.

public involvement or scoping—Process that offers affected and interested individuals and organizations an opportunity to become informed about and to express their opinions on Service actions and policies; in the process, these views are studied thoroughly and thoughtful consideration is given to public views when shaping decisions for refuge and district management.

purpose of the refuge, district—Reason for establishment and management of a national wildlife refuge or wetland management district that is specified in or derived from the law, proclamation, Executive order, agreement, public land order, donation document, or administrative memorandum establishing authorization or expansion of a refuge, refuge unit, refuge subunit, or district ("Draft Fish and Wildlife Service Manual" 602 FW 1.5).

raptor—Carnivorous bird such as a hawk, falcon, or vulture that feeds wholly or chiefly on meat taken by hunting or on carrion (dead carcasses).

Reclamation—Bureau of Reclamation.

redd—The spawning area or nest of trout or salmon.

refuge—See national wildlife refuge.

Refuge Operations Needs System—National database that contains the unfunded operational needs of each refuge and district; projects included are those required to carry out approved plans and meet goals, objectives, and legal mandates.

refuge purpose—See purpose of the refuge.

Refuge System—See National Wildlife Refuge System.

refuge use—Activity on a refuge, except administrative or law enforcement activity, carried out by or under the direction of an authorized Service employee.

reserved from public domain—Public land placed into permanent reserved status, such as a national wildlife refuge, that is not held in private ownership.

resident species or wildlife—Species inhabiting a given locality throughout the year; nonmigratory species.

resilience—the ability of system to recover from a disturbance or change without significant loss and return to a given ecological state

rest—Free from biological, mechanical, or chemical manipulation in reference to Service lands.

restoration—Management emphasis designed to move ecosystems to desired conditions and processes such as healthy upland habitats and aquatic systems.

riparian area, habitat, corridor—Area that transitions from a terrestrial to aquatic ecosystem including streams, lakes, wet areas, and adjacent plant communities and their associated soils that have free water at or near the surface; land and its vegetation immediately adjoining and directly influenced by a stream.

RLGIS—Refuge Lands Geographic Information System.

RONS—See Refuge Operations Needs System.

"round-outs"—Odd shapes and holes of non-Federal land within the boundary of Refuge System units that are straightened, or made whole, by the purchase of land tracts.

runoff—Water from rain, melted snow, or agricultural or landscape irrigation that flows over the land surface into a waterbody.

SAMMS—See Service Asset Maintenance Management System.

scoping—Process of obtaining information from the public for input into the planning process.

sediment—Material deposited by water, wind, and glaciers.

senior water rights—Rights to water that were legally filed earlier than junior (more recent) water rights, having precedence.

Service—See U.S. Fish and Wildlife Service.

Service Asset Maintenance Management System—National database that contains the unfunded maintenance needs of each refuge and district; projects include those required to support existing equipment and buildings and to correct safety deficiencies for the implementation of approved plans and to meet goals, objectives, and legal mandates.

sheet flow—The overland flow of water, typically from precipitation to lower elevation areas.

shelterbelt—Single to multiple rows of trees and shrubs planted around cropland or buildings to block or slow down the wind.

shorebird—Suborder of birds (*Charadrii*) such as a plover or snipe that frequents the seashore or mudflat areas.

spatial—Relating to, occupying, or having the character of space.

special use permit—Special authorization from the refuge manager for any service, facility, privilege, or product of the soil provided at the Service's expense and not usually available to the public through authorizations in Title 50 CFR or other public regulations ("Refuge Manual" 5 RM 17.6).

species of concern—Species, while not falling under the definition of special status species, that is of management interest by virtue of being Federal trust species such as migratory birds, important game species, or significant keystone species; species that has a documented or clear population decline, a small or restricted population, or dependence on restricted or vulnerable habitats.

stand—Homogenous area of vegetation with more or less uniform soils, landform, and vegetation.

stepdown management plan—Specific plan that provides the details necessary to carry out management strategies identified in the comprehensive conservation plan ("Draft Fish and Wildlife Service Manual" 602 FW 1.5).

strategy—Specific action, tool, or technique or combination of actions, tools, and techniques used to meet unit objectives ("Draft Fish and Wildlife Service Manual" 602 FW 1.5).

submergent—Vascular or nonvascular plant adapted to grow in water, either rooted or nonrooted, that lies entirely beneath the water surface except for flowering parts in some species.

System—See National Wildlife Refuge System.

threatened species, Federal—Species listed under the Endangered Species Act of 1973, as amended, that is likely to become endangered within the foreseeable future throughout all or a significant part of its range.

threatened species, State—Species likely to become endangered in a particular State within the near future if factors contributing to population decline or habitat degradation or loss continue.

trust resource—See Federal trust resource.

trust species—See Federal trust species.

U.S.C.—United States Code.

USDA—United States Department of Agriculture.

U.S. Fish and Wildlife Service (Service, USFWS)—Part of U.S. Department of the Interior; principal Federal agency responsible for conserving, protecting, and enhancing fish and wildlife and their habitats for the continuing benefit of the American people. The Service manages the National Wildlife Refuge System comprised of national wildlife refuges and waterfowl production areas. The Service runs national fish hatcher-

ies and ecological service field stations, enforces Federal wildlife laws, manages migratory bird populations, restores national significant fisheries, conserves and restores wildlife habitat such as wetlands, administers the Endangered Species Act, oversees the Federal aid program that distributes millions of dollars in excise taxes on fishing and hunting equipment to State wildlife agencies, and helps foreign governments with their conservation efforts.

USFWS—See U.S. Fish and Wildlife Service.

U.S. Geological Survey (USGS)—Federal agency in the U.S. Department of the Interior whose mission is to provide reliable scientific information to describe and understand the earth; reduce loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.

ungulate—Hoofed mammal.

vision statement—Concise statement of the desired future condition of a planning unit, based primarily on the Refuge System mission, specific refuge or district purposes, and other relevant mandates ("Draft Fish and Wildlife Service Manual" 602 FW 1.5).

volatilize—To cause a solid or liquid to be changed into a vapor. This is the means by which selenium is transferred from sediment to the air, thereby reducing levels in the wetland

wading birds—Birds having long legs that enable them to wade in shallow water such as egret, great blue heron, black-crowned night-heron, and bittern.

waterbird—Birds that depend on aquatic habitats to complete portions of their life cycles.

waterfowl—Category of birds that groups ducks, geese, and swans.

watershed—Geographic area within which water drains into a particular river, stream, or waterbody.

wetland—Land transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water.

wetland management district—Land that the Refuge System acquires with Federal Duck Stamp money for restoration and management, primarily as prairie wetland habitat critical to waterfowl and other wetland birds.

WG—Wage grade schedule, pay rate schedule for certain Federal positions.

wildfire—Free-burning fire requiring a suppression response; all fire other than prescribed fire that occurs on wildlands.

wildland fire—Wildfire or prescribed fire that occurs in undeveloped land.

wildlife-dependent recreational use—Use of a refuge or district involving hunting, fishing, wildlife observation, photography, environmental education, or interpretation; also see priority public use.

wildlife management—Practice of manipulating wildlife populations either directly through regulating the numbers, ages, and sex ratios harvested or indirectly by providing favorable habitat conditions and alleviating limiting factors.

woodland—Open stands of trees with crowns not usually touching, generally forming 25–60 percent cover.

WPA—Waterfowl production area.

Appendix A

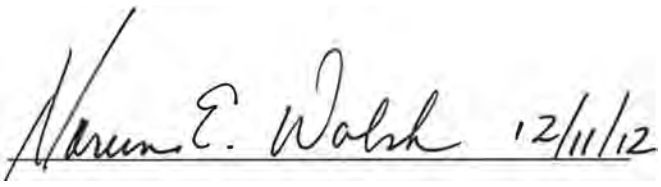
Environmental Compliance

Environmental Action Statement

U.S. Fish and Wildlife Service, Region 6
Lakewood, Colorado

Within the spirit and intent of the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act and other statutes, orders, and policies that protect fish and wildlife resources, I have established the following administrative record.

I have determined that the action of implementing the "Comprehensive Conservation Plan—Benton Lake National Wildlife Refuge Complex" is found not to have significant environmental effects, as determined by the attached "finding of no significant impact" and the environmental assessment as found with the draft comprehensive conservation plan.



Noreen Walsh — Date
Regional Director, Region 6
U.S. Fish and Wildlife Service
Lakewood, Colorado

W. Dean Rundle — Date
Refuge Supervisor, Region 6
U.S. Fish and Wildlife Service
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Matt Hogan — Date
Assistant Regional Director, Region 6
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Kathleen A. Burchett — Date
Project Leader
Benton Lake National Wildlife Refuge Complex
U.S. Fish and Wildlife Service
Great Falls, Montana

Finding of No Significant Impact

U.S. Fish and Wildlife Service, Region 6
Lakewood, Colorado

Introduction

This finding of no significant impact provides the basis for management decisions for the final comprehensive conservation plan and environmental assessment for the Benton Lake National Wildlife Refuge Complex, Montana. The comprehensive conservation plan was prepared along with an environmental assessment in compliance with the National Environmental Policy Act and relevant planning policies. We worked closely with Montana Fish, Wildlife & Parks. Other Federal, State and local agencies, tribal governments, nongovernmental organizations, and individuals contributed input to the plan.

Issues and Alternatives

During scoping, the Service and our conservation partners identified declining wetland health and selenium contamination at the Benton Lake National Wildlife Refuge as one of the most critical issues needing to be addressed in the comprehensive conservation plan. As a result of these scoping efforts, it was determined that a separate analysis would be conducted, and a broader range of alternatives would be developed, for Benton Lake Refuge due to the complexity of the issues. Two separate alternative analyses were completed for the refuge complex to determine their effectiveness in achieving the refuge complex purposes and their impacts on the human environment. The two analyses include:

1. overall management of the Benton Lake National Wildlife Refuge Complex
2. overall management of Benton Lake National Wildlife Refuge

Overall Refuge Complex Management

Alternative A, the "no-action" alternative, would continue current management.

Alternative B focuses 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.

Alternative C places emphasis 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

Benton Lake National Wildlife Refuge

The Service developed and analyzed five alternatives to address the management of Benton Lake National Wildlife Refuge to improve health and sustainability. Alternatives A, B1, B2, C1 and C2 describe different processes for achieving desired conditions found in the refuge management objectives.

Alternative A, the "no-action" alternative, would continue current management.

Alternative B1 proposes to intensively manage wetland impoundments to improve health over current conditions, yet provide for wetland-dependent wildlife habitat and recreation (waterfowl hunting) every year at consistent levels. Efforts would be made to improve wetland health and sustainability for individual wetland units through short-term drying

rotations, prescriptive management treatments, and working in the Lake Creek and Muddy Creek watersheds to reduce selenium inputs to the refuge. Drying rotations may be extended if necessary to achieve wetland health objectives. Managing grasslands and other wildlife-dependent public uses (upland game-bird hunting, environmental education, interpretation, wildlife observation, and photography) would be a secondary focus.

Alternative B2 proposes to intensively manage wetland units to improve health over current conditions, yet provide for wetland-dependent wildlife habitat and recreation more often than would occur naturally. Efforts would be made to improve wetland health and sustainability through an initial, basin-wide dry period to "reset" the system, prescriptive management treatments, and work in the Lake Creek and Muddy Creek watersheds to reduce selenium inputs to the refuge. When wetland health has improved sufficiently, pumping may be incrementally reintroduced and reevaluated annually. Managing grasslands and other wildlife-dependent public uses (upland game-bird hunting, environmental education, interpretation, wildlife observation, and photography) on the refuge would occur as resources allow, primarily during the initial, basin-wide dry period.

Alternative C1 would focus on the refuge as a whole, with emphasis on restoring the health and long-term sustainability of the wetland basin, to support a wide diversity of migratory birds and a variety of wildlife-dependent recreation. This would be accomplished by reintroducing the full extent and variability of the natural wet-dry cycles, prescriptive management treatments and working in the Lake Creek watershed to reduce selenium inputs to the refuge. The wetland basin would receive only natural runoff and wetland basin infrastructure (for example, ditches, dikes, and water control structures) could be modified or removed only if necessary to achieve wetland health objectives. The pumphouse and all water rights would be supported. As the wetland basin is restored and becomes self-sustaining, more resources would be directed toward managing and restoring upland grasslands, providing other wildlife-dependent public uses (upland game-bird hunting, environmental education, interpretation, wildlife observation, and photography), and providing support for conservation easement acquisition in the complex.

In alternative C2, management would focus on the refuge as a whole, with particular emphasis on restoring the long-term sustainability of the wetland basin, to support a wide diversity of migratory birds and wildlife-dependent recreation. This would be accomplished by reintroducing the full extent and variability of the natural wet–dry cycle, removing water management infrastructure (for example, ditches, dikes, and water control structures), prescriptive management treatments, working in the Lake Creek watershed to reduce selenium inputs to the refuge, and decommissioning the pumphouse. As the wetland basin is restored and becomes self-sustaining, more resources would be directed toward managing and restoring upland grasslands, providing other wildlife-dependent public uses (upland game-bird hunting, environmental education, interpretation, wildlife observation, and photography), and providing support for conservation easement acquisition in the refuge complex.

Public Involvement and Outreach

The scoping period began on August 18, 2008, with the publication of a notice of intent in the Federal Register (FR73 (160): 48237–38). Before this, and early in the preplanning phase, we outlined a process that would be inclusive of diverse stakeholder interests and would involve a range of activities for keeping the public informed and ensuring meaningful public input. Information was distributed through news releases, planning updates, and a series of public meetings. During the initial scoping period, we received 60 written responses, including letters from five nongovernmental organizations and two agencies.

Comments on the Draft Plan and EA

A notice of availability for the draft CCP and EA was published in the Federal Register on March 30, 2012 (FR77 (62): 19309–11) announcing the availability of the draft CCP and EA, our intention to hold public meetings, and a request for comments. During the public review the Service held four public meetings April 17-19, 2012, in Great Falls, Choteau, Ovando and Condon, Montana. Public participation in these meetings, and in the CCP review process, was strong with meetings attended by more than 57 participants. In addition to the oral comments recorded at the meetings, 51 emails and letters were received. The majority of comments indicated support for the overall direction of the refuge complex, but comments specific to the management of the Benton Lake National Wildlife Refuge varied widely.

Structured Decisionmaking Process

In response to public input during review the draft CCP and EA, and pursuant to the National Wildlife Refuge System Improvement Act of 1997, the Service collaborated with Montana Fish, Wildlife & Parks in a structured decisionmaking (SDM) process to develop a consensus alternative for the Benton Lake National Wildlife Refuge that achieves refuge goals and objectives, and addresses key management issues such as water management, watershed concerns, selenium treatments, invasive species management, and public use.

SDM is a process used by natural resource management agencies to address complex issues and involves a facilitated discussion among, and between,

agency representatives to consider science, management, and policy questions in an effort to develop a consensus-based solution to an issue. Key concepts of SDM include making decisions based on clearly articulated fundamental objectives, dealing explicitly with uncertainty, and responding transparently to legal mandates and public preferences or values in decisionmaking.

Decision

Based on this assessment and comments received, I have selected the following preferred alternatives:

- a slightly modified alternative C for overall refuge complex management
- a selected management direction for Benton Lake National Wildlife Refuge which is a hybridization of alternatives C1 and B1

These preferred alternatives were selected because they best meet the purposes for which the Benton Lake National Wildlife Refuge Complex units were established and are preferable to the "no-action" alternatives in light of physical, biological, economic, and social factors. These preferred alternatives will achieve a reasonable balance between significant resource management issues, the refuge complex purposes, National Wildlife Refuge System mission, management policies of the Service, and the interests and perspectives of all stakeholders.

Alternative C for the refuge complex was revised from the proposed action after our consideration of many comments received from agencies, other stakeholder organizations, the public during the comment period, and the selection of the management direction for Benton Lake National Wildlife Refuge.

Revisions to the key management actions of alternative C for overall refuge complex management include:

- climate change actions revised to the same actions as alternative B
- tame grass conversion and tree removal reduced from 850 acres and 25 miles, respectively, to 400 acres and 3.5 miles over the life of the plan

The proposed action alternative C1 for Benton Lake Refuge was revised after our consideration of many comments received from agencies, other stakeholder organizations, and the general public during the comment period. Revisions to the proposed action were completed following the SDM process with Montana Fish, Wildlife & Parks.

Benton Lake Refuge wetland units will be managed to focus on the importance of restoring the health and long-term sustainability of the wetland basin and will include efforts within the Lake Creek and Muddy Creek watersheds to reduce selenium inputs to the refuge. Some health and sustainability improvements may occur slower than in the proposed alternative to accommodate wildlife-dependent recreation, such as waterfowl hunting. Flexible water management will occur, which will affect the amount, duration, and location of artificially provided water (pumped water) within the wetland basin. Management will strive to provide some waterfowl hunting and fall and spring migration habitat in at least 11 out of 15 years and basin-wide drawdowns in no more than 4 out of 15 years (with no more than 3 consecutive years of basin-wide drying). An adaptive resource management approach will be applied that may modify these wet and dry cycles to ensure progress toward achieving habitat objectives. Wetland basin infrastructure may be modified to enhance water conservation and efficient delivery. The pumphouse and all water rights will be regularly exercised and maintained. Managing grasslands and other wildlife-dependent public uses (upland game-bird hunting, environmental education, interpretation, wildlife observation, and photography) on the refuge will occur as resources allow.

Key actions of the selected management direction are the same as for the refuge complex for climate change; preserving intact landscapes; invasive species; partnerships for conservation; landscape threats and conflicts; forests and woodlands; sagebrush-steppe; species of concern; migratory birds; wildlife disease; inventory, monitoring and research; archaeological and historic sites; fishing; trapping; and visitor and employee safety.

Revisions to key management actions from the proposed action include:

- Tame grass conversion and tree removal will be reduced from 728 acres and 19 miles, respectively, to up to 207 acres and up to 3.5 miles over the life of the plan.
- Pumping will occur more often in order to strive to provide waterfowl hunting and fall and spring migration habitat 11 out of 15 years.
- The timing, duration, location, and quantity of pumped water will be flexible; and the refuge will strive to provide at least two units flooded in 11 out of 15 years in the fall.
- Wetland units will be subject to a rotational treatment.
- Complete basin wide drawdowns may occur in 4 out of 15 years—but in no more than 3 consecutive years—and may be extended under consultation with Montana Fish, Wildlife & Parks.
- Annual water management plans for the refuge will be developed and shared with the public that outline the previous year's accomplishments and the goals and objectives of the current year.

- Wetland and upland management will be focused on an adaptive approach which includes a monitoring component to aid in decisionmaking.
- The upland game bird hunting season will not be extended beyond the waterfowl seasonal closure of November 30, and the State youth pheasant hunting season will be implemented.
- Additional wildlife viewing opportunities will be implemented, including the establishment of grassland bird observation and interpretive trails.
- Personnel, water management efforts, electricity expenses, and monitoring efforts will increase.
- Over the life of the plan, total costs for water level management, pumping, operations, maintenance, prescriptive habitat treatment, grassland restoration, and monitoring are estimated at $2 million.

FINDING AND BASIS FOR DECISION

I find that the preferred alternatives are not major Federal actions that would significantly affect the quality of the human environment within the meaning of Section 102(2) (C) of the National Environmental Policy Act of 1969. Accordingly, the preparation of an environmental impact statement on the proposed actions is not required.

The following is a summary of anticipated environmental effects. The implementation of the preferred alternatives will:

- not adversely impact endangered or threatened species or their habitat while also enhancing or protecting many corridors and linkage areas;
- increase the sustainability and resiliency of each refuge unit and improve the ability to adjust to the uncertainty of climate change;
- improve the coordination of the complex with the GNLCC and PPPLCC to improve our understanding of the local impacts from climate change;
- reduce threats from development and subsequent fragmentation by protecting wetland and grassland habitat through the acquisition of conservation easements and, depending upon resource allocation to the management of Benton Lake Refuge, strive to protect up to 170,000 acres within the Crown of the Continent project area;
- preserve working landscapes in private ownership while simultaneously protecting grassland and wetland habitats;
- not adversely impact archaeological or historical resources;
- improve wetland health, productivity, and sustainability throughout the refuge complex and especially at Benton Lake Refuge, where selenium accumulation and the threat to breeding birds will be reduced;
- improve grassland habitat throughout the refuge complex with special emphasis on the protection of native grassland, management of native prairie (12,420 acres), removal of nonnative tree plantings (up to 3.5 acres), and the management of degrading tame grasslands (up to 400 acres);
- improve the resiliency and sustainability of forest and woodland habitats in the refuge complex;
- protect or improve sagebrush-steppe habitat (2,500 acres) within the refuge complex;
- preserve all refuge complex water rights;
- provide a balance between resource protection and wildlife-dependent recreational opportunities without negatively impacting natural resources;
- maintain or increase the opportunity for fishing (no net change), wildlife observation (increase 25 percent), photography (increase 25 percent), environmental education (increase 25 percent), and interpretation (increase 25 percent) over the life of the plan;
- slightly decrease the amount of hunting (decrease 15 percent) opportunities over the life of the plan in order to significantly improve the wetland health of Benton Lake, address selenium toxicity, and improve productivity;
- potentially increase staffing by 7.8 FTEs including: a full-time law enforcement officer, a full-time maintenance worker, a 1.5 full-time refuge operations specialist, a 0.5 full-time generalist, a full-time park ranger (visitor services), a full-time supervisory biologist, a 0.8 full-time seasonal biological technician, and two 0.5 permanent biological technicians;
- not have a disproportionately high or adverse human health or environmental effect on minority or low-income populations.

The State of Montana has been notified and given the opportunity to review the comprehensive conservation plan and associated environmental assessment.

Noreen Walsh Date
Regional Director, Region 6
U.S. Fish and Wildlife Service
Lakewood, Colorado

Appendix B

Compatibility Determinations

B.1 Refuge Complex Name and Dates Established

Benton Lake National Wildlife Refuge Complex:

- Benton Lake National Wildlife Refuge—November 21, 1929
- Benton Lake Wetland Management District—1975
- Swan River National Wildlife Refuge—May 14, 1973

Establishing and Acquisition Authorities:

16 U.S.C. § 715(d),
Migratory Bird Conservation Act 1929
16 U.S.C. § 718(c),
Migratory Bird Hunting and Conservation Stamp of 1934
16 U.S.C. § 661–667e,
Fish and Wildlife Coordination Act of 1934
16 U.S.C. § 742(a–j),
Fish and Wildlife Act of 1956
16 U.S.C. § 718d(b),
Small Wetlands Acquisition Program 1958
25 U.S.C. § 488,
Consolidated Farm and Rural Development Act of 1985

B.2 Refuge Complex Purposes

The establishing and acquisition authorities set out the purposes for each unit of the refuge complex, as described below.

Benton Lake National Wildlife Refuge

- As "a refuge and breeding ground for migratory birds."
- Executive Order 5228, November 21, 1929
- For "use as an inviolate sanctuary, or for any other management purpose, for migratory birds."
- Migratory Bird Conservation Act

Benton Lake Wetland Management District

- 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
- For "any other management purpose, for migratory birds."
- Migratory Bird Conservation Act
- For "conservation purposes."
- Consolidated Farm and Rural Development Act

Swan River National Wildlife Refuge

- For "use as an inviolate sanctuary, or for any other management purpose, for migratory birds"
- Migratory Bird Conservation Act

National Wildlife Refuge System Mission

The mission of the Refuge 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.

B.3 Description of Uses

The following uses are evaluated for compatibility within the refuge complex:

- Hunting

- Fishing
- Wildlife observation and photography
- Environmental education and interpretation
- Cooperative farming, haying, and grazing
- Commercial filming, audio recordings, and still photography
- Research and monitoring
- Special one-time events
- Virtual geocaching
- Dry lot for up to 4 horses

Hunting

The refuge complex's hunting program will be driven by its compatibility with wildlife population objectives and the availability of water during the hunting season. In addition to the site-specific regulations mentioned below, the State hunting regulations apply to all Service-owned lands in the refuge complex. Hunters may only possess and use Service-approved, nontoxic shot loads on Service-owned lands, and vehicle travel and parking is restricted to public roads, pullouts, and parking areas. The refuge complex Web site and public use brochures provide guidance onsite-specific regulations. The general hunting regulations are available from MFWP.

The CCP proposes to continue the hunting uses described for each unit below. In addition, the Service will increase regulatory hunting signage (for example, closed to hunting area signs, nontoxic shot required signs) and interpretive materials (for ex ample, an updated and more comprehensive refuge complex hunting leaflet, hunting factsheets) to reduce unintentional hunting violations throughout the refuge complex.

Benton Lake National Wildlife Refuge

Public hunting of migratory gamebirds including ducks, geese, coot, swan (by permit only) and upland gamebirds including pheasant, sharp-tailed grouse, and gray partridge is permitted in designated areas of the refuge.

Big game hunting and hunting rabbits or any other wildlife species, including furbearers is not be permitted on Benton Lake Refuge.

Benton Lake Wetland Management District

Except for the Sands WPA in Hill County and H2-O WPA in Powell County, all waterfowl production areas within the district are open to hunting of migratory gamebirds, upland game, and big game. Approximately 14,127 acres of upland and wetland habitat are available for hunting. Unless otherwise noted, all Service lands open to hunting are subject to State hunting regulations and seasons.

Swan River National Wildlife Refuge

Hunting of migratory gamebirds including ducks, geese, and coots is permitted in designated areas of the refuge.

Upland gamebird hunting, big game hunting, and guided hunting is not permitted on the refuge.

Availability of Resources

Existing programs such as current refuge directional signs and brochures are occasionally updated with available resources. Maintenance of access roads, parking, hunting and information kiosks, and public use signs is closely tied to Service As set Maintenance Management System funding. The refuge complex's base money will fund the update and printing of existing and new brochures.

More law enforcement staff and resources will be required (1) to manage significant changes to the hunting program to reduce disturbance to wildlife and habitat, (2) carry out and encourage preventative law enforcement efforts, and (3) to check compliance with public use and hunting regulations.

Anticipated Impacts of Use

The hunting program on Service lands in the refuge complex will continue to provide hunters ample quality hunting opportunities without materially detracting from the mission of the Refuge System or the establishing purposes of the refuge complex lands. Public use brochures and the refuge complex's Web site will be kept up to date and made readily available to hunters. Hunter success and satisfaction will continue to be monitored through random contacts with hunters in the field and in the refuge complex office.

The National Wildlife Refuge System Act of 1966, other laws, and the Service's policy permit hunting on a national wildlife refuge when it is compatible with the purposes for which the refuge was established and acquired. As practiced on the refuge complex, hunting does not pose a threat to the wildlife populations. By its very nature, hunting creates a disturbance to wildlife and directly affects the individual animals being hunted. Hunting will be designed and monitored to offer a safe and quality program and to keep adverse effects within acceptable limits.

Although hunting directly affects the hunted species and may indirectly disturb other species, limits on harvest and access for recreational hunting will make sure that populations do not fall to unsustain-

able levels. Closed areas on the refuge complex provide sanctuary to migratory birds during the hunting season.

Other effects from hunting activity include conflicts with individuals participating in wildlife-dependent, priority public uses such as wildlife observation and photography. This could decrease the visitors' satisfaction during the hunting season.

Public Review and Comment

This Compatibility Determination was presented for public review as part of the 30-day public comment period for the Draft Comprehensive Conservation Plan and Environmental Assessment for the Benton Lake National Wildlife Refuge Complex.

Determination

Hunting is a compatible use on the refuge complex.

Stipulations Necessary for Compatibility

- Hunters will be required to use approved non-toxic shot for migratory bird and upland game-bird hunting on Service-owned lands.
- Vehicles will be restricted to county and public roads and parking areas in the refuge complex.
- Signage, news releases, open-houses, and brochures will be used to provide hunters information on where and how to hunt on the refuge complex to make sure there is compliance with public use regulations.

Justification

Hunting is a form of wildlife-dependent recreation and is identified as a priority public use in the Improvement Act. Based on anticipated biological effects described above and in the EA, the Service has found that hunting within the refuge complex will not interfere with the purposes for which the refuges and district were established. Limiting access and monitoring the use could help limit any adverse effects. Except for the H2–O and Sands WPAs, all lands and waters within the wetland management district will be open to hunting in accordance with the Migratory Bird Hunting and Conservation Stamp Act, under which they were acquired.

Mandatory 15-year Reevaluation Date: 2027

Fishing

This use will be a continuation of the historic activity of noncommercial fishing. Public use areas such as parking and fishing areas, as well as interpretive panels, signs, kiosks, and other structures may be installed and supported to facilitate this program. Areas on the refuge complex that are seasonally sensitive to migratory birds will remain closed to public entry and use. Only selected areas of the refuge complex will be open to fishing. Special refuge regulations governing fishing will be available in refuge brochures.

The CCP proposes the fishing uses described for each unit below in accordance with State regulations. The CCP does not call for the implementation of any new fishing programs, however, opportunities may be expanded with more purchases of waterfowl production areas within the district.

Benton Lake National Wildlife Refuge

The main part of the refuge offers no fishing opportunities due to a lack of sport fish. The Pump House Unit of the refuge is open for fishing.

Benton Lake Wetland Management District

Lands acquired as waterfowl production areas are open to fishing subject to the provisions of State laws and regulations. Fishing 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 fish and wildlife populations.

Fishing on waterfowl production areas through out the district is permitted. Known game fish populations exist at the Arod Lakes, H2–O, Upsata Lake, and Blackfoot WPAs. At the Arod Lakes and Upsata Lake WPAs, walk-in access will be permitted year-round. On Arod Lakes WPA, vehicle access to Middle and Round Lakes is permitted January 2 until April 1.

Swan River National Wildlife Refuge

Fishing is permitted on portions of the Swan River that flow through the refuge year-round.

Availability of Resources

The refuge complex has the administrative and management staff to support its fishing program.

Anticipated Impacts of Use

Temporary disturbance of wildlife may occur near fishing activity. Fishing will temporarily decrease the fish population until natural reproduction or stocking replenishes the population. Frequency of use is directly dependent upon fish populations and their feeding activity. When fish populations are high and active, public use will increase. Minimal disturbance to ground nesting birds may occur from anglers walking along rivers and streams. Littering can also become a problem. No long-term negative impacts to resources are anticipated.

Public Review and Comment

This Compatibility Determination was presented for public review and comment as part of the 30-day public comment period for the Draft Comprehensive Conservation Plan and Environmental Assessment for Benton Lake National Wildlife Refuge Complex.

Determination

Fishing is a compatible use on the Benton Lake and Swan River Refuges and waterfowl production areas in the district in accordance with State regulations.

Stipulations Necessary for Compatibility

- Vehicles will be restricted to county and public roads and parking areas on the waterfowl production areas.
- Use of motorized boats is prohibited on the Benton Lake Refuge, except the Swan River where no-wake regulations are in effect.
- Boats, fishing equipment, and all other personal property must be removed at the end of each day.

Justification

Fishing is a form of wildlife-dependent recreations and is identified as a priority public use in the Improvement Act. Based on the biological effects ad dressed above and in the EA, the Service has found that fishing will not interfere with the purposes for establishment of the refuges and waterfowl production areas within the refuge complex. Current staffing levels and monetary resources are adequate. Special refuge regulations are in place to reduce negative impacts to refuge habitat and wildlife.

Mandatory 15-year Reevaluation Date: 2027

Wildlife Observation and Photography

A variety of habitats and many species of wildlife throughout the refuge complex provide observation and photography opportunities year-round. The Benton Lake Refuge received most of the visitation.

Wildlife observation and photography opportunities will continue to be provided throughout the refuge complex, and will be supported by providing observation blinds, supporting an up-to-date bird species list for the refuges in the refuge complex, and allowing the public the opportunity to use portable viewing and photography blinds through the issuance of special use permits. These activities may take place on foot, bicycle, automobile, horse, cross-country skis and snowshoes.

Facilities exist on the Benton Lake and Swan River Refuges that support these activities by bringing visitors closer to wildlife: Boardwalk Nature Trail, Swan River Overlook, Sharp-tailed Grouse Observation Blind, Benton Lake Refuge photography blind, and Prairie Marsh Wildlife Drive. Modifications and relocations may occur to the existing facilities and auto tour routes to accommodate restoration activities to the wetland basin at the Benton Lake Refuge. New facilities for observing and photographing wildlife (such as observation decks, trails, auto tour routes, and photography blinds) may be developed.

The CCP proposes to continue wildlife observation and photography on the following units of the refuge complex as described below.

Benton Lake National Wildlife Refuge

The Prairie Marsh Wildlife Drive will provide year-round wildlife-viewing and photography opportunities via auto, foot, cycling, snowshoes, or cross-country skis. Hazardous road conditions will occasionally require periodic closures.

Lower Marsh Road will continue to be avail able to vehicles, hiking, and bicycling for wildlife- viewing and photography opportunities from July 15 until the opening day of waterfowl-hunting season. Rough road conditions prevent the use of recreational vehicles, vehicles towing trailers, and large vehicles.

Facilities providing more opportunities for wildlife observation and photography include the Unit 1 Photographic Blind and the Boardwalk Nature Trail with spotting scope and interpretive panels. More opportunities for wildlife observation and photography by means of temporary blinds year-round on Prairie Marsh Wildlife Drive will be provided.

Blinds in other selected areas may be provided as well through SUP.

The Sharp-Tailed Grouse Blind will continue to be available to the public by reservation on weekends during April and May. The grouse blind provides a highly sought-after opportunity for visitors to observe and photograph the courting rituals of sharp-tailed grouse. Another blind may be installed at another lek location due to extreme interest in this opportunity exceeding current availability.

Foot traffic, including hiking, cross country skiing, and snowshoeing, for wildlife observation and photography is also permitted throughout the hunt area during hunting season. At other times of the year, public use is limited to the designated roads and trails described above.

All facilities and infrastructure may be altered in location or experience periodic closures to accommodate modifications to existing infrastructure in support of basin wide restoration efforts.

Benton Lake Wetland Management District

Wildlife observation and photography opportunities are available year-round on 23 waterfowl production areas. Most visitors view wildlife from public roads.

Swan River National Wildlife Refuge

Swan River Refuge is a popular destination point for visitors traveling through the Swan Valley. The existing observation platform, kiosk, and interpretive panels will continue to be supported and provide opportunity for wildlife observation and photography. Bog Road, which provides access to the interior of the refuge, will be supported as a walking trail which will allow foot traffic, including hiking, cross country skiing, and snowshoeing.

Availability of Resources

Sufficient resources are available to administer, manage and check the use. Infrastructure exists on the refuge complex to support these activities. Observation areas are placed in areas that provide consistent wildlife viewing opportunity with minimum disturbance to wildlife. The construction and maintenance of roadways, kiosks, observation platforms, and trails, as well as law enforcement activities to make sure that visitors comply with refuge regulations while conducting these activities, are the principle expenses associated with wildlife observation and photography. Resources are available within the existing staffing and budget allocations of the refuge complex. An extra park ranger, law enforcement officer, and maintenance worker, as proposed in the comprehensive conservation plan, will enhance public opportunities for these uses and improve quality and quantity of opportunities.

Anticipated Impacts of the Use

Short-term effects may include the temporary dis placement of birds and other wildlife to adjacent habitats during the initial positioning and removal of portable blinds, cameras, and other equipment. Some birds will be flushed from foraging or resting habitats by the approach of people on trails. However, the area impacted by these disturbances is small compared to the overall habitat area available. Disturbance caused by these uses is not anticipated to cause wildlife to leave or abandon the refuge, and all areas are available to wildlife for undisturbed use during closed hours.

Winter activities, such as cross-country skiing, and snowshoeing, will have no effect on nesting birds and little effect on vegetation. Winter disturbance to resident wildlife is temporary and minor. Hiking during the breeding season, when confined to open trails and roads will have little or no effect on wildlife. Equestrian use on the Benton Lake Refuge is restricted to roadways to prevent spread of weeds, erosion from hoof action, and trampling disturbance to wildlife. Bicycling is restricted to roadways open to vehicular traffic to reduce disturbance to wildlife.

Disturbance resulting from wildlife observation and photography programs is deemed to be biologically in- significant. No long-term effects are expected if recommended stipulations are followed. The proposed uses, including development of facilities to support those uses, will foster public appreciation and understanding of the prairie ecosystem and the importance of refuge and district habitats for wildlife conservation.

Public Review and Comment

This Compatibility Determination was presented for public review and comment as part of the 30-day public comment period for the Draft Comprehensive Conservation Plan and Environmental Assessment for Benton Lake National Wildlife Refuge Complex.

Determination

Wildlife observation and noncommercial photography are compatible uses on the Benton Lake and Swan River Refuges and waterfowl production areas in the district.

Stipulations Necessary for Compatibility

- A special use permit will be issued to all individuals using blinds for photography and observation within the complex.. A total of five special use permits will be issued in any given year on any unit of the refuge complex for the use of small observation blinds on a first-come-first-served basis. If the number of requests for blinds exceeds five, the permitting process will be revisited and modified as necessary. Visitors using permanent or portable observation and photography blinds will be provided with information on proper use and etiquette of these structures to reduce disturbance to wildlife and their natural environments and other refuge complex visitors.

- Blinds will be erected and removed daily.

- Blind location will be decided by complex staff and may be limited to areas next to public access roads.

- Refuge complex staff must be notified before arrival at the refuge for observation and photography.

- Refuge complex staff will decide if, when, where and for how long access may be allowed to photograph at individual areas.

- Seasonal closures to protect sensitive wildlife areas and reduce disturbance to fish and wildlife will be supported.

- Non-Service vehicles will be restricted to county and public access roads in the refuge complex.

- Viewing areas will be designed to reduce disturbance effects on wildlife and all refuge resources while providing a good opportunity to view wild life in their natural environments.

- On the Benton Lake and Swan River Refuges, foot traffic (hiking, cross-country skiing and snowshoeing) will be permitted only on designated trails, roads open to motorized vehicles, and in the refuge hunt area during the refuge hunting season.

- On the Benton Lake Refuge, equestrian use will be restricted to roadways open to motorized vehicles year-round and prohibited on all other units of the refuge complex.

- On the Benton Lake Refuge and the district, bicycling will be restricted to designated trails and roadways open to motorized vehicles.

Justification

Wildlife observation and photography are a form of wildlife-dependent recreation and are identified as priority public uses in the Improvement Act. These uses, including existing and future enhanced pro grams as prescribed in the Comprehensive Conservation Plan for the Benton Lake National Wildlife Refuge Complex are compatible with the purposes, and with the mission of the Refuge System. These uses are not only justified but are encouraged by the National Wildlife Refuge Improvement Act of 1997. Wildlife observation and photography can instill, in citizens of all ages, a greater appreciation for wildlife and its habitat. This appreciation may extend to the Refuge System and other conservation agencies.

Disturbance from wildlife observation and photography is not expected to adversely impact wild life populations. Most wildlife observation is confined to within a set distance from existing roadways, and in some locations, the infrastructure helps to concentrate public use in areas that can allow wildlife observation and photography opportunities at safe distances that reduce disturbance to wildlife.

Based on anticipated biological effects described above and in the environmental assessment produced for the refuge complex, the Service has found that wildlife observation and noncommercial photography within the refuge complex will not interfere with the purposes for which the refuges and district were established. Limiting access and monitoring the uses could help limit any adverse effects.

Mandatory 15-year Reevaluation Date: 2027

Environmental Education and Interpretation

The refuge complex provides opportunity for student field trips on an “as-arranged” basis. Temporary and impromptu outdoor classrooms may be established or used in wetland and riparian habitats, however, seasonal closures may occur to avoid impacts to threatened and endangered species or sensitive habitats.

Interpretive panels and auto tour brochures pro vide users on Benton Lake and Swan River Refuges information about habitat, wildlife, management actions, and activities along the Boardwalk Nature Trail, the Swan River Overlook, and other inter-

pretive kiosks is passive in nature from self-guided opportunities, interpretive panels, brochures, Web sites, and tear-sheets.

The CCP proposes to continue environmental education and interpretation and add the following to improve these programs:

- The Service will expand the opportunities for environmental education and interpretation to foster appreciation and understanding of the Refuge System and the resources of the refuge complex.
- More interpretive panels may be developed for the refuge complex.
- More accessible observation sites will be developed in the refuge complex.
- The mammal, reptile and amphibian lists will be updated for the refuge complex and a brochure will be developed.
- Refuge complex staff may take part in offsite special events and activities to bring the refuge complex message to large numbers of people as time and staff allow.
- Interpretive panels, brochures, tear-sheets, Web sites, and maps will be updated.
- Many of the proposed actions are contingent on hiring a visitor services park ranger to develop and carry out these programs

Benton Lake National Wildlife Refuge

The refuge offers joint-sponsored outdoor education courses with the MFWP, including a Youth Water fowl Hunting Clinic and the Becoming an Outdoor Woman series.

Partnership with the Great Falls Public School provides the opportunity for all third graders in the Great Falls Public School system to come to the refuge and learn about natural resources. This highly popular activity includes more than 850 students annually. Refuge staff provides information about the refuge and education specialists from the GFPS perform onsite activities and learning modules.

Refuge staff takes part in the annual Montana Envirothon Event in Lewistown, Montana, The event attracts student teams from all across Montana while they compete for the opportunity to represent Montana at the National Envirothon Competition. Refuge staff helps students learn about fish and wildlife resources and the habitat they depend on. More than 200 students and teachers take part in the annual event. As time allows, the refuge will continue to collaborate with other school groups to provide tours, teach science, and work together on monitoring projects.

Refuge staff recently took part in the STEM Expo hosted in Great Falls, Montana. This annual event invigorates the community and students in the areas of science, technology, engineering, and math. Staff have the opportunity to reach more than 550 children, teachers, and parents.

Greater emphasis will occur with interpretive panels and maps to explain (1) the purpose and importance of conserving, managing, and restoring healthy functioning ecosystems, (2) the importance of natural hydroperiods in wetlands, and (3) changes to public use regulations and access areas to accommodate changes in wetland and water management. In addition, environmental education curriculum may be adapted to reflect changes in habitat from restoration efforts as well.

Benton Lake Wetland Management District

The waterfowl production areas will remain open for environmental education and interpretation. Staff will provide occasional onsite educational visits on the waterfowl production areas. A facility exists on the H2–O WPA to provide onsite education within the Blackfoot Valley. Interpretive displays will continue to be available on the north and south parking areas of the Blackfoot WPA.

The Upsata Lake WPA may offer more onsite interpretive and environmental education opportunities. In addition, cooperative efforts with University of Montana in Missoula may further develop opportunities.

Swan River National Wildlife Refuge

An interpretive kiosk is located on the refuge.

Availability of Resources

Environmental education and interpretation activities, directional signs, and brochures will be mainly supported by annual operations money and other sources such as grants, regional project proposals, and challenge cost-share agreements to enhance programming.

New facilities and the maintenance of existing facilities will occur as visitor facility enhancement projects.

Anticipated Impacts of the Use

The use of the refuge complex for onsite activities for environmental education or interpretation may

impose a short-term, low-level effect on the immediate and surrounding area. Effects may include trampling of vegetation and temporary disturbance to nearby wildlife species during the activities. Development and implementation of interpretive and education programs will have minimal and biologically insignificant impacts on refuge complex resources.

Refuge complex brochures, interpretive panels, and other educational materials will continue to be updated as needed. Features such as the auto tour route and accessible observation sites will continue to provide access to the many sights and sounds of the refuge complex.

The Service will continue to promote a greater public understanding and appreciation of the refuge complex resources, programs, and issues through interpretive, outreach, and environmental educational programs. Establishing and engaging with a Friends group and other local groups, the Service will continue to provide environmental education and interpretation both on and off Service lands. Presentations, both on and off Service lands, will be provided to refuge visitors, school groups, and organizations, allowing the Service to reach a broader audience. Onsite presentations will be managed to reduce disturbance to wildlife, habitat, and cultural resources.

Public Review and Comment

This Compatibility Determination was presented for public review and comment as part of the 30-day public comment period for the Draft Comprehensive Conservation Plan and Environmental Assessment for Benton Lake National Wildlife Refuge Complex.

Determination

Environmental education and interpretation are compatible uses on the Benton Lake and Swan River Refuges and waterfowl production areas in the district.

Stipulations Necessary for Compatibility

- Onsite activities will be held where minimal effect on wildlife and habitats will occur.
- The Service will review new environmental education and interpretation activities to make sure these activities meet program objectives and are compatible.
- All motor vehicles associated with these uses will remain on designated roads open to vehicular traffic.
- Staff will check use patterns and will make adjustments in timing, location, and duration of activities as needed to limit disturbance to wildlife and habitat.

Justification

Environmental education and interpretation are forms of wildlife-dependent recreation and are priority public uses of the National Wildlife Refuge System. Environmental Education and interpretation will increase public awareness and appreciation of the significant wildlife and habitat values of the refuge complex, and the Refuge System. It is anticipated that such appreciation and understanding will foster increased public support for the Refuge System and conservation of America's wildlife re sources.

Based on anticipated biological effects described above and in the environmental assessment produced for the refuge complex, the Service has found that environmental education and interpretation on the refuge complex will not interfere with the purposes for which the refuges and district were established. Limiting access and monitoring the uses could help limit any adverse effects.

Mandatory 15-year Reevaluation Date: 2027

Cooperative Farming, Haying, and Grazing

The Service will continue to use cooperative farming and prescriptive livestock grazing and haying as management tools throughout the refuge complex. These tools will be used to meet habitat objectives, control vegetative litter, promote native plant production and diversity, control the spread of invasive plant species, and help convert disturbed grasslands back to native plant species.

The district currently uses cooperative farming and haying as tools to manage upland habitats, including control of invasive plant species and cat tails. In the past, these techniques were also used on Benton Lake Refuge. The CCP approves use of cooperative farming and haying to manage habitats. Furthermore, the CCP establishes goals and objectives for specific habitat types where cooperative farming and haying may be used. The refuge complex will improve the monitoring and research programs for vegetation and wildlife to assess habitat and wildlife population responses to cooperative farming and haying.

The refuge complex currently uses prescriptive livestock grazing as a tool to manage a variety of uplands and seasonal wetlands. Fencing and control ling livestock is the responsibility of the cooperating rancher. The Service provides instruction and guidance within the special use permit for placement of fences, water tanks, and livestock supplements to make sure that sensitive habitats or refuge complex assets are protected. Temporary electric fencing is used. Current forage conditions, habitat objectives, and available water will decide stocking rates in each grazing unit. The CCP allows prescriptive livestock grazing to meet habitat objectives. Furthermore, the CCP establishes goals and objectives for specific habitat types where prescriptive livestock grazing may be used. The refuge complex will improve the monitoring and research programs for vegetation and wildlife to assess habitat and wildlife population responses to prescriptive livestock grazing. Different grazing rates and management strategies will be investigated to figure out the best methods for meeting habitat goals and objectives.

Availability of Resources

Existing resources will be sufficient to administer the farming, haying, and grazing programs at cur rent levels. These programs will continue to be conducted through special use permits or cooperative farming agreements, which reduce the need for staff time and Service assets to complete work.

Anticipated Impacts of the Use

The cooperative farming and haying program and prescriptive livestock-grazing program will be used to meet habitat- and species-specific goals and objectives identified in the CCP. These programs are intended to support and enhance habitat conditions to help a wide variety of migratory birds and other wildlife that use the refuge complex. Minimal negative effects are expected. Control of invasive plant species through these programs will be a long-term benefit.

Some wildlife disturbance may occur during farming operations and some animals may be temporarily displaced. Wildlife will receive the short-term benefit of standing crops or stubble for food and shelter and the long-term benefit of having cropland or other poor-quality habitat converted to native grasses or DNC. In addition, restoration of cropland to grassland cover will prevent soil erosion, improve water quality, and the need for chemical use.

Some trampling of areas by livestock may occur around watering areas or mineral licks. If fences are not supported, it may be difficult to meet habitat objectives. It is anticipated that grazing will be in a mosaic pattern with some areas more intensively grazed than others in certain years. Grazing, as well as fire, is known to increase the nutrient cycling of nitrogen and phosphorous (Hauer and Spencer 1998, McEachern et al. 2000). Hoof action may break up mats of clubmoss and allow native plant seeds to be come established. Cattle grazing may also increase the risk of invasive plants getting established. In addition, the presence of livestock may be disturbing to some wildlife species and some public users. The long-term benefits of this habitat management tool should outweigh the short-term negative effects.

Public Review and Comment

This Compatibility Determination was presented for public review and comment as part of the 30-day public comment period for the Draft Comprehensive Conservation Plan and Environmental Assessment for Benton Lake National Wildlife Refuge Complex.

Determination

Cooperative farming, haying, and grazing as a habitat management tools will be compatible uses on the Benton Lake and Swan River Refuges and waterfowl production areas in the district.

Stipulations Necessary for Compatibility

- To make sure there is consistency with management objectives, the Service will require general and specific conditions for each farming, haying, or grazing permit.

- Only areas that have a prior crop history, an invasive plant problem, or decadent DNC will be included in the farming and haying program. To reduce effects on nesting birds and other wild life, the staff will determine and incorporate any needed timing constraints on the permitted activity into the cooperative farming agreement or special use permit. For example, haying will not be permitted on Service lands until after July 15 to avoid destroying bird nests on the management unit unless the complex staff deems it necessary to hay earlier to control invasive plants or restore grasslands.

- The cooperative farming agreement or special use permit will specify the type of crop to be planted. Farming permittees will be required to use Service-approved chemicals that are less detrimental to wildlife and the environment.

- Control and confinement of livestock are the responsibility of the permittee, but the Service will decide where fences, water tanks, and livestock supplements will be placed within the management unit. Temporary electric fence may be used to keep livestock within grazing cells as well as to protect sensitive habitat areas and refuge complex assets such as water control structures. Cooperators will be required to remove fences at the end of the grazing season.

Justification

Some habitat management needs to occur to support and enhance habitat for migratory birds and other wildlife. When properly managed and monitored, prescriptive farming and haying are options that can be used to improve wildlife cover and restore disturbed habitats to desirable grassland cover. Prescriptive livestock grazing can rejuvenate native grasses and help control the spread of some invasive plant species. Each of these tools can be controlled and the results will be monitored (for example, vegetation monitoring) so that adjustments in the programs can be made to meet habitat goals and objectives.

Using the assistance of local cooperators is a cost-effective method for accomplishing habitat objectives. The long-term benefits of habitat restoration and management far outweigh the short-term effects caused by cooperative farming, haying, and grazing.

Mandatory 10-year Reevaluation Date: 2022

Commercial Filming, Audio Recording, and Still Photography

Commercial motion pictures and audio recordings are defined as the digital or film recording of a visual image or sound recording by a person, business, or other entity for a market audience, such as for a documentary, television, feature film, advertisement, or similar project. It does not include news coverage or amateur or visitor use. Commercial photography is de fined a visual recording (motion or still) by firms or individuals (other than news media representatives) who intend to distribute their photographic content for money or other consideration. This includes the creation of educational, entertainment, or commercial enterprises as well as advertising audiovisuals for the purpose of paid product or services, publicity, and commercially oriented photo contests.

Benton Lake National Wildlife Refuge Complex provides tremendous opportunities for commercial filming and photography of migratory birds and other wildlife. Each year, the refuge complex staff receives an average of two requests to conduct commercial filming or photography on Service lands. Refuge complex staff review requests for commercial photography, motion pictures, and audio recordings, and issue a special use permit if the request is approved. Each request is evaluated on an individual basis, using several DOI, USFWS, and National Wildlife Refuge System policies (for example, 43 CFR Part 5, 50 CFR 27.71, 8 RM 16).

Evaluation criteria will include, but not be limited to, the following:

- Commercial photography, motion pictures, and audio recordings must (1) show a means to in crease public appreciation and understanding of wildlife or natural habitats, (2) enhance public knowledge, appreciation, and understanding of the Refuge System, or (3) facilitate outreach and education goals of the refuge complex. Failure to show any of these criteria results in a special use permit being denied.

- Activities that cause undue disturbance to wild life or their habitat are not approved. The degree and type of disturbance are carefully weighed when evaluating a request.

- Requests that will conflict with other management programs or will impair existing wildlife-dependent recreational uses are not approved.

- If staffing or logistics make it impossible for the refuge complex to check the activity, this may cause the request to be denied, depending on the specific circumstances.

Availability of Resources

The commercial filming, audio recording, and still photography uses are administered with current re sources. Administrative costs for review of applications, issuance of special use permits, and staff time to conduct compliance checks may be offset by a fee system designated for the agencies within the DOI.

Anticipated Impacts of Use

Wildlife filmmakers and photographers tend to create the greatest disturbance of all wildlife observers (Dobb 1998, Klein 1993, Morton 1995). While observers frequently stop to view wildlife, photographers

are more likely to approach the animals (Klein 1993). Even a slow approach by photographers tends to have behavioral consequences to wildlife (Klein 1993). Photographers often remain close to wildlife for extended periods in an attempt to habituate the subject to their presence (Dobb 1998). Furthermore, photographers with low-power lenses tend to get much closer to their subjects (Morton 1995). This usually results in increased disturbance to wildlife as well as habitat including the trampling of plants. Handling of animals and disturbing vegetation (such as cutting plants and removing flowers) or cultural artifacts is prohibited on Service lands.

Issuance of special use permits with strict guide lines and follow-up by refuge complex staff for compliance help to reduce or avoid these effects. Permittees who do not follow the stipulations of their special use permits could have their permits revoked, and further applications for filming or photographing on refuge complex lands will be denied.

Public Review and Comment

This Compatibility Determination was presented for public review and comment as part of the 30-day public comment period for the Draft Comprehensive Conservation Plan and Environmental Assessment for Benton Lake National Wildlife Refuge Complex.

Determination

Commercial filming, audio recording, and still photography will be compatible uses on the Benton Lake and Swan River Refuges and waterfowl production areas in the district.

Stipulations Necessary for Compatibility

- Commercial filming or still photography must (1) show a means to extend public appreciation and understanding of wildlife or natural habitats, (2) enhance education, appreciation, and understanding of the Refuge System, or (3) facilitate out reach and education goals of the refuge complex. Failure to show any of these criteria will result in a special use permit being denied.

- All commercial filming requires a special use permit that will (1) describe conditions that protect the refuge complex's values, purposes, resources, and public health and safety, and (2) prevent unreasonable disruption of the public's use and enjoyment of the refuge complex. Such conditions may be, but are not limited to: specifying road conditions when access will not be allowed, establishing time limitations, and identifying routes of access. These conditions are identified to prevent excessive disturbance to wildlife, damage to habitat or refuge complex infrastructure, or conflicts with other visitor services or management activities.

- The special use permit stipulates that imagery produced on refuge complex lands will be made available for use in environmental education and interpretation, outreach, internal documents, or other suitable uses. In addition, any commercial products must include proper credits to the refuge complex, the Refuge System, and the Service.

- Still photography requires a special use permit (with specific conditions as outlined above) if one or more of the following occurs:

  - it takes place at locations where or when members of the public are not allowed

  - it uses models, sets, or prop that are not part of the location's natural or cultural resources or administrative facilities

  - the Service incurs added administrative costs to check the activity

  - the Service needs to provide management and oversight to avoid impairment of the resources and values of the site, limit resource damage, or decrease health and safety risks to the visiting public

  - the photographer intends to intentionally manipulate vegetation to create a shot, for example, cutting vegetation to create a blind

- To reduce the impact on Service lands and re sources, the refuge complex staff will make sure that all commercial filmmakers and commercial still photographers (regardless of whether a special use permit is issued) comply with policies, rules, and regulations. The staff will watch and assess the activities of all filmmakers, audio re corders, and still photographers.

Justification

Commercial filming, audio recording, and still photography are economic uses that must contribute to the achievement of the refuge complex purposes, mission of the National Wildlife Refuge System, or the mission of the Service. Providing opportunities for these uses should result in an increased public awareness of the refuge complex's ecological importance as well as advancing the public's knowl-

edge and support for the Refuge System and the Service. The stipulations outlined above and conditions imposed in the special use permits issued to commercial filmmakers, audio recorders, and still photographers will make sure that these wildlife-dependent activities occur with minimal adverse effects to resources or visitors.

Mandatory 10-year reevaluation date: 2022

Research and Monitoring

The refuge complex allows research and monitoring on a variety of biological, physical, and social issues and concerns to address management information needs or other issues. Studies are conducted by Federal, State, and private entities, including the USGS, State and private universities such as the University of Montana, and independent researchers and contractors.

Each year, the refuge complex issues special use permits for biological and physical research studies. Five to ten requests are received each year. Priority is given to studies that contribute to the enhancement, protection, preservation, and management of the refuge complex's native plant, fish, and wildlife populations and their habitats. Research applicants must submit a proposal that outlines the objectives of the study; justification for the study; detailed study methods and schedule; and potential impacts on wildlife and habitat, including short and long-term disturbance, injury, or mortality. This includes a description of measures the researcher will take to reduce disturbances or impacts; a personnel required and their qualifications and experience; status of necessary permits (scientific collecting permits, endangered species permits, etc.); costs to the refuge complex and refuge complex staff time requested, if any; and anticipated progress reports and end products, such as reports or publications. Refuge staff will review research permit applications and issue special use permits if approved.

Evaluation criteria for the issuance of special use permits will include, but not be limited to, the following:

- Research that will contribute to specific management issues, the purposes of the refuge complex, or the mission of the National Wildlife Refuge System will be given higher priority over other requests.
- Research that will conflict with other ongoing research, monitoring, or management programs will not be approved.
- Research projects that can be conducted off-complex lands are less likely to be approved.
- Research that causes undue disturbance or is intrusive are likely not to be approved. The degree and type of disturbance will be carefully weighed when evaluating a research request.
- Research evaluation will determine if any effort has been made to reduce disturbance through study design, including adjusting location, timing, number of permittees, study methods, and number of study sites.
- If staffing or logistics make it impossible for staff to check researcher activity in a sensitive area, the request will likely be denied.
- Length of the project will be considered and agreed-upon before approval. Projects will be reviewed annually and an annual progress report will be required.
- To reduce disturbance to wildlife, researchers will not be permitted in closed areas, unless specifically authorized. Vehicular access will only be permitted on roads and trails normally open to the public.

Availability of Resources

The refuge complex uses existing staff to issue special use permits for research projects that occur on the complex. Currently, staff resources are deemed adequate to manage this use at anticipated levels. Review of the permit application, drafting and issuing the special use permit, and compliance assessments use an average of 3 hours of staff time per permit. Access points, vehicles, miscellaneous equipment, and limited logistical support may be avail able at the refuge complex at the refuge complex manager's discretion. Temporary housing located on the refuge complex may be available for use by re searchers while studying refuge complex resources, at the refuge complex manager's discretion.

Anticipated Impacts of Use

Some degree of disturbance is expected with all re search activities, since researchers may use Service roads or enter areas that are closed to the public, in addition, some research may require collection of samples or handling of wildlife. Research activities may disturb fish and wildlife and their habitats. For example, the presence of researchers can cause waterfowl to flush from resting and feeding areas, cause disruption of birds and other wildlife on nests

or breeding areas, or increase predation on individual nests and individual animals as predators follow human scent or trails. Efforts to capture animals can cause disturbance, injury, or death to groups of wildlife or to individuals. To wildlife, the energy cost of disturbance may be appreciable in terms of disruption of feeding, displacement from preferred habitat, and the added energy expenditure to avoid disturbance. Sampling activities can cause compaction of soils and the trampling of vegetation, the establishment of temporary foot trails through vegetation beds, and disruption of bottom sediments in wetlands. The removal of vegetation or sediments by core sampling methods can cause increased localized turbidity and disrupt nontarget plants and animals. Installation of posts, equipment platforms, collection devices, and other research equipment may present a hazard to heavy equipment opera tors if these items are not adequately marked and removed at the right times or upon completion of the project. Minimal impact on refuge wildlife and habitats is expected with research studies on the refuge complex because special use permits will include conditions to make sure that impacts to wildlife and habitats are kept to a minimum.

Public Review and Comment

This Compatibility Determination was presented for public review and comment as part of the 30-day public comment period for the Draft Comprehensive Conservation Plan and Environmental Assessment for Benton Lake National Wildlife Refuge Complex.

Determination

Research and monitoring will be compatible uses on the Benton Lake and Swan River Refuges and waterfowl production areas in the district.

Stipulations Necessary for Compatibility

- Extremely sensitive wildlife habitats and species will be sufficiently protected from disturbance by limiting research activities in these areas. All refuge complex rules and regulations will be followed unless otherwise exempted by refuge complex management. Projects will be reviewed annually and annual progress reports will be submitted.

- Refuge complex staff will use the above criteria for evaluating and determining whether to approve a proposed study. If research methods are found to have potential effects on habitat or wild life, it must be shown that the research was necessary for conservation management of resources on the refuge complex. Measures to reduce potential effects will be developed and included as part of the study design, these will be conditions on the special use permit.

- Refuge complex staff will check research activities for compliance with conditions of the special use permit. At any time, refuge complex staff may accompany the researchers to determine potential effects. Staff may decide that approved re search and special use permits be terminated due to observed effects. The refuge manager will also have the ability to cancel a special use permit if the researcher was out of compliance or to make sure there is wildlife and habitat protection.

- Before conducting investigations, researchers will obtain a special use permit from the refuge complex that contains specific stipulations related to when, where, and how the research will be conducted. The refuge complex manager keeps the choice to prohibit research which causes undo harm or disturbance or which does not contribute to the purposes of the refuge complex or the mission of the Refuge System.

- Refuge staff will use the criteria for evaluating a special use permit application for research, as outlined above under “Description of Use”, when determining whether to approve a proposed study on the refuge. If proposed research methods are determined to have potential impacts on refuge complex resources, it must be shown that the research is necessary for refuge complex resource conservation management. Measures to reduce potential impacts will need to be developed and included as part of the study design. In addition these measures will be listed as conditions on the special use permit.

- Specific stipulations in the special use permit will vary by research project, but will be designed to reduce impacts to wildlife and their habitats and to make sure visitors, researchers, and refuge complex staff are safe.

- Refuge complex staff will check research activities for compliance with conditions of the special use permit. At any time, refuge complex staff may accompany the researchers. The refuge complex manager may decide that the approved re search and special use permit be terminated due to noncompliance with permit conditions or due to observed disturbance to wildlife or habitat.

- Researchers must possess all applicable State and Federal permits for the capture and possession of protected species, for conducting regulated activities in wetlands, and for any other regulated activities.

- Researchers will promptly submit findings, such as annual status reports and a final report, to the refuge complex manager for inclusion in the decision-making and management process.

- To reduce potential safety hazards, researchers must clearly mark posts, equipment platforms, fencing materials, and other equipment left unattended. Such items shall be promptly removed upon completion of the research.

- Research involving collections will be extremely restricted. Collections will be limited to type or voucher specimens only and require preapproval by the refuge manager and include verification of compliance with all State and Federal collection permits and requirements.

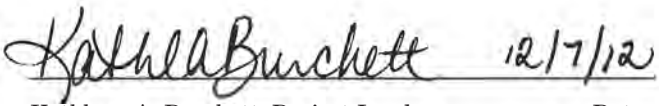
Justification

Research and monitoring activities will not materially interfere with, or detract from, the purposes of the refuge complex or from the mission of the National Wildlife Refuge System. Research by third parties plays an integral role in refuge complex management by providing the information needed to manage the refuge complex on a sound scientific basis and provides scientific evidence as to whether the refuge complex is functioning as intended. Investigations into the biological, physical, archeological, and social components of the refuge complex provide a means to analyze the effects of management actions, impacts from internal and external forces, and ongoing natural processes. The results of research projects contribute to the understanding, enhancement, protection, preservation, and management of the refuge complex's wildlife populations and their habitats.

Mandatory 10-year Reevaluation Date: 2022

B.4 Signatures

Submitted by:

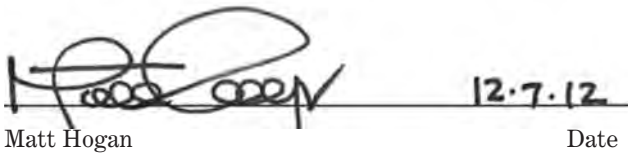


Kathleen A. Burchett, Project Leader — Date
Benton Lake National Wildlife Refuge Complex
Great Falls, Montana

Reviewed by:

W. Dean Rundle, Refuge Supervisor — Date
U.S. Fish and Wildlife Service
Mountain–Prairie Region
National Wildlife Refuge System
Lakewood, Colorado

Approved by:



Matt Hogan — Date
Assistant Regional Director
U.S. Fish and Wildlife Service
Mountain–Prairie Region
National Wildlife Refuge System
Lakewood, Colorado

Appendix C

Intra-Service Section 7 Biological Evaluation

Originating Person: Kathleen A. Burchett Date Submitted: December 6, 2012

Telephone Number: 406-727-7400 Ext. 222

1. **Service Program and Geographic Area or Station Name**:
   Benton Lake NWR Complex

2. **Flexible Funding Program (e.g. Joint Venture, etc) if applicable**: N/A

3. **Location**: Location of the project including County, State and TSR (township, section & range):
   The refuge complex oversees management of 28 units (2 refuges, 1 wetland management district containing 23 waterfowl production areas, and 3 conservation areas) and administers 216 easements within the Refuge System:

   - Benton Lake National Wildlife Refuge (refuge) was established in 1929 and consists of 12,383 fee-title acres and 76.88 acres of right-of-way easement. It is located in Cascade County on the northern Great Plains, 50 miles east of the Rocky Mountains and 12 miles north of Great Falls, Montana.

   - Benton Lake Wetland Management District (district) was established in 1975. It includes 12 counties: Cascade, Chouteau, Glacier, Hill, Lewis and Clark, Liberty, Pondera, Powell, Teton, Toole, Lake and Missoula. The district includes 23 waterfowl production areas, and 4 distinct easement programs. This district covers the largest geographical area of any in the United States.

   - Blackfoot Valley Conservation Area (CA) was established in 1995 and expanded in 2011. This conservation easement program has the potential to protect up to 103,500 acres in the Blackfoot Valley by buying conservation easements on private land within the 824,024-acre project area located in Lewis and Clark, Powell, Teton, and Missoula counties.

   - Rocky Mountain Front CA was established in 2005 and expanded in 2011. This conservation easement program has the potential to protect up to 295,000 acres in the Rocky Mountain Front

   - (Front) by buying conservation easements on private land within the 918,000-acre project area in Teton, Pondera, and Lewis and Clark counties.

   - Swan River National Wildlife Refuge was established in 1973 and consists of 1,568.81 acres. Located in the Swan Valley. The refuge is in Lake County, 38 miles southeast of Creston, Montana.

   - Swan Valley CA was established in 2011. This conservation area has the potential to protect up to 10,000 acres in the Swan Valley by buying conservation easements on private land, and up to 1,000 acres in fee-title land next to the Swan River Refuge. The 187,400-acre project area includes Lake and Missoula counties.

4. **Species/Critical Habitat**: List federally endangered, threatened, proposed, and candidate species or designated or proposed critical habitat that may occur within the action area.

   Key federally listed species that occur in the refuge complex include the threatened bull trout, grizzly bear, water howellia and Canada lynx (Table 1). Candidate species that occur on the refuge complex include greater sage-grouse, Sprague's pipit and wolverine. The piping plover, pallid sturgeon, black-footed ferret and arctic grayling are all species that are listed under the ESA, but they are either no longer present on refuge complex lands or the Service's management strategies are not expected to affect them.

Federally listed endangered, threatened, and candidate animal species within the Benton Lake National Wildlife Refuge Complex, Montana

Species	*Status*	*Benton Lake National Wildlife Refuge*	*Swan River National Wildlife Refuge*	*Benton Lake Waterfowl Management District*	*Blackfoot Valley Conservation Area*	*Rocky Mountain Front Conservation Area*	*Swan Valley Conservation Area*
Pallid Sturgeon* (*Scaphirhynchus albus*)	Listed Endangered			X			
Black-footed Ferret* (*Mustela nigripes*)	Listed Endangered			X		X	
Bull trout (*Salvelinus confluentus*)	Listed Threatened, Critical Habitat		X	X	X		X
Arctic grayling* (*Thymallus arcticus*)	Candidate Species			X	X	X	X
Grizzly Bear (*Ursus arctos*)	Listed Threatened		X	X	X	X	X
Canada Lynx (*Lynx Canadensis*)	Listed Threatened, Critical Habitat		X	X	X	X	X
Piping Plover* (*Charadrius melodus*)	Listed Threatened			X			
Water howellia (*Howellia aquatilis*)	Listed Threatened		X				X
Sprague's Pipit (*Anthus spragueii*)	Candidate Species	X		X		X	
Greater sage-grouse* (*Centrocercus urophasianus*)	Candidate Species			X			

Federally listed endangered, threatened, and candidate animal species within the Benton Lake National Wildlife Refuge Complex, Montana

Species	*Status*	*Benton Lake National Wildlife Refuge*	*Swan River National Wildlife Refuge*	*Benton Lake Waterfowl Management District*	*Blackfoot Valley Conservation Area*	*Rocky Mountain Front Conservation Area*	*Swan Valley Conservation Area*
Wolverine (*Gulo gulo*)	Candidate Species		X	X	X	X	X

*historically occurred within the complex

Bull Trout

Bull trout are a cold-water fish of relatively pristine stream and lake habitat in the Pacific Northwest of the United States. Bull trout need the coldest water temperatures of any northwest salmonid, and they need the cleanest stream substrates for spawning and rearing. These trout need complex habitats: streams with riffles and deep pools, undercut banks, and lots of large logs. In addition, bull trout need connections from main river, lake, and even ocean habitats to headwater streams for annual spawning and feeding migrations.

For listing purposes, the Service divided the range of bull trout into distinct population segments consisting of 27 recovery units. The Blackfoot River and Swan River watersheds lie within the Clark Fork River Recovery Unit and the Upper Clark Fork Recovery Subunit. Within this subunit, both the Swan River and Blackfoot River watersheds have been identified as core recovery areas (USFWS 2002a). The watersheds also have multiple stream reaches identified as critical habitat within the Clark Fork River Basin (USFWS 2010b).

Within the Blackfoot River watershed, bull trout densities are very low in the upper Blackfoot River, but increase downstream of the North Fork. Streams that appear to be particularly important for the spawning of migratory bull trout include Monture Creek, the north fork Blackfoot River, Copper Creek, Gold Creek, Dunham Creek, Morrell Creek, the west fork Clearwater River, and the east fork Clearwater River. Bull trout spawner abundance is indexed by the number of identifiable female bull trout nesting areas (redds). Data show that Monture Creek has an upward trend from 10 redds in 1989 to an average of 51 redds in subsequent years (Pierce et al. 2008). The North Fork also shows an upward trend from 8 redds in 1989 to an average of 58 redds between 1989 and 2008. The Copper Creek drainage (including Snowbank Creek) has experienced a resurgence of bull trout redds from 18 in 2003 to 117 in 2008, since the 2003 Snow Talon Fire. The total number of redds counted in these three streams (Monture Creek, North Fork, and Copper Creek) increased from 39 in 1989 to 217 in 2000. With the onset of drought, bull trout redd counts then declined to 147 in 2008. These changes are attributed to protective regulations first enacted in 1990, restoration actions in spawning streams during the 1990s, and a period of sustained drought between 2000 and the present (Pierce et al. 2008).

Within the Swan watershed, the bull trout population has remained strong. The Swan Lake population is stable, because fish can access about 150 miles of quality tributary spawning habitat. Most other bull trout populations are declining, because of habitat degradation, but many of the Swan Valley's tributary streams are in good to excellent condition. Continuous, identifiable female bull trout nesting areas (redd) count history dating to 1982 is available for bull trout for four index streams in the Swan River watershed (MFWP 2009). Bull trout may have reached equilibrium in this system at a population level of about 2,000 adults and the current trend appears stable. The total redd count was 598 in 2008, representing roughly 2,000 adults in the spawning run. Given that some adults do not spawn every year, the total adult population is likely more than 2,500 adult bull trout.

One of the biggest threats to bull trout survival is increased development, which exacerbates temperature problems, increases nutrient loads, decreases bank stability, alters in-stream and riparian habitat, and changes hydrologic response of affected watersheds.

Canada Lynx

The Canada Lynx Recovery Outline categorized lynx habitat and occurrence within the contiguous United States as (1) core areas, (2) secondary areas, and (3) peripheral areas. Core areas are defined as the areas with the strongest long-term evidence of the persistence of lynx populations. Core areas have both persistent verified records of lynx occurrence over time and recent evidence of reproduction. Six core areas and one provisional core area are identified within the contiguous United States (Nordstrom et al. 2005). The Blackfoot and Swan watersheds contain lands designated in the Northern Rocky Mountain–Northeastern Idaho Core Area, which supports the highest density lynx population in the northern Rocky Mountain region of the lynx's range. It acts as a source for lynx and provides connectivity to other parts of the lynx's range in the Rocky Mountains, particularly in the Yellowstone area (Federal Register 2009).

The Swan River and Blackfoot River watersheds are a stronghold for the Canada lynx in the northern Rocky Mountains. Based on ongoing research in these watersheds, lynx populations appear stable, although low reproductive rates are characteristic of this population. Since 1998, more than 80 lynx have been monitored in this area, providing information on habitat use, reproduction, mortality, and movement. This research has shown that these watersheds contain some of the best remaining habitat for lynx in the continental United States. Large, intact spruce–subalpine fir forests above 4,000 feet in this area provide quality habitat for lynx and for snowshoe hares, the primary lynx food source. Regenerating forest stands are often used as foraging habitat during the snow-free months while older, multistoried stands serve as denning and year-round habitat (Blackfoot Challenge 2005).

Grizzly Bear

Grizzly bears are currently listed as a federally threatened species in the Northern Continental Divide Ecosystem (USFWS 2011a). This ecosystem is an area of the northern Rocky Mountains with large blocks of protected public land containing some of the most pristine and intact environments found in the contiguous United States. Despite dramatic losses of habitat throughout North America, the grizzly bear has supported a presence in Montana and occurs in parts of the Blackfoot and Swan watersheds and along the Rocky Mountain Front.

The Northern Continental Divide Ecosystem supports the largest population (765 individuals) of grizzly bears in the lower 48 States. In 2003 and 2004, 29 individual grizzly bears were confirmed in the Blackfoot River watershed and 45 grizzly bears were confirmed in the Swan Valley watershed. The USGS estimates that at least 40 bears are present during all or part of the year in the Blackfoot River watershed (USGS 2004) with 61 present in the Swan Valley.

Lakes, ponds, fens and spring-fed creeks, common in parts of the Swan River and Blackfoot River valley floors, provide excellent bear habitat. Additionally, the vegetation found along certain reaches of both rivers and their tributaries provide bears with cover, food, and natural movement corridors.

Supporting linkage areas is important to the continued survival of the grizzly bear. The grizzly bear has an increased risk of extinction, because the population consists of a limited number of individuals that live in several distinct populations geographically isolated from one another. Small populations are less able to absorb losses caused by random environmental, genetic and demographic changes (Servheen et al. 2001).

Linkage zones are areas between separated populations that provide adequate habitat for low densities of individuals to exist and move between isolated populations. The resulting exchange of genetic material helps support demographic vigor and diversity, increasing the viability of individual populations. For the grizzly bear, preserving the linkage between populations is as critical to long-term conservation of the species as managing the individual populations.

The Blackfoot River watershed contains important habitat links for grizzly bears that are recolonizing historical ranges to the south. Grizzly bears breed, forage, and migrate throughout the watershed and den above 6,500 feet. They move from high mountain elevations to lower valley bottoms to forage seasonally for available food.

The Swan Valley area has been identified as an important habitat link for grizzlies moving between the Glacier National Park–Bob Marshall Wilderness Complex and the Mission Mountains Wilderness. The Swan Valley is also believed to be the key linkage zone to the large and important Selway–Bitterroot Wilderness to the southwest. As such, it provides an avenue of connectivity between the Canadian Rockies and the central Rockies of Idaho and Wyoming.

An estimated 100–150 bears frequent the Rocky Mountain Front project area, which is included in much of the recovery plan for the northern Continental Divide grizzly bear population. Some of the units in the district are located along the Rocky Mountain Front and have documented grizzly bear use.

Water Howellia

Water howellia is a federally listed threatened plant restricted in Montana to depressional wetlands in the Swan Valley, typically occupying small basins where the water level recedes partially or completely by the fall. Montana contains the largest number of occupied ponds and wetlands though population numbers are generally small and the occupied habitat is clustered in a very small part of the State. Reed canarygrass has invaded some wetlands in the Swan Valley and it has the potential to form dense monocultures, thereby decreasing the amount of available habitat. Additionally, water howellia is an annual species that is solely dependent on recruitment from seed; it has very narrow habitat and moisture requirements, which leaves it vulnerable to extirpation as a result of consecutive years of unfavorable growing conditions (MNHP 2012). Water howellia is on land owned by TNC next to the Swan River Refuge and on other sites in the Swan Valley. Similar habitat is found on Swan River Refuge.

CANDIDATE SPECIES

Candidate species are plants and animals for which the Service has sufficient information on their biological status and threats to propose them as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities. A candidate species status is reviewed annually.

Candidate species receive no statutory protection under the ESA. However, the Service encourages the formation of partnerships to conserve these species because they are by definition species that may warrant future protection under the act. Since candidate species do not receive regulatory protection under the ESA, the definition of "take" as identified in the act does not apply to these species. However, Service policy requires that candidate species be treated as "proposed for listing" for purposes of Intra-Service section 7 conference procedures (USFWS 1998).

Sprague's Pipit

Sprague's pipit is a candidate for listing as endangered or threatened under the ESA (16 U.S.C. 1531 et seq.; USFWS 2008b, 2010) Sprague's pipits have been documented on the Benton Lake Refuge and in the district.

Sprague's Pipits breed in the northern Great Plains, with the highest density occurring in north- central and eastern Montana to North Dakota. (Stewart 1975, American Ornithologists' Union 1998, Robbins and Dale 1999, Tallman et al. 2002 as cited in Jones 2010).

Sprague's Pipits are closely associated with native grassland throughout their range (Sutter 1996, 1997; Sutter and Brigham 1998; Madden et al. 2000; Grant et al. 2004 as cited in Jones 2010) and are less abundant (or absent) in areas of introduced grasses than in areas of native prairie (Kantrud 1981, Johnson and Schwartz 1993, Dale et al. 1997, Madden et al. 2000, Grant et al. 2004 as cited in Jones 2010). Generally, pipits prefer to breed in well-drained native grasslands with high plant species richness and diversity. They prefer higher grass and sedge cover, less bare ground, and an intermediate average grass height when compared to the surrounding landscape, less than 5–20 percent shrub and brush cover, no trees at the territory scale, and litter cover less than 4.7 inches (Sutter 1996, Madden et al. 2000, Dechant et al. 2003, Dieni and Jones 2003, Grant et al. 2004 as cited in Jones 2010). The amount of residual vegetation remaining from the prior years' growth also appears to be a strong positive predictor of Sprague's Pipits occurrence (Madden 1996, Sutter 1996, Prescott and Davis 1998, Sutter and

Brigham 1998 as cited in Jones 2010) and where they put their nests (Dieni and Jones 2003 and Davis 2005).

Sprague's Pipits rarely occur in cultivated lands, and are uncommon on nonnative planted pasturelands (Owens and Myres 1973, Sutter 1996, Davis et al. 1999, McMaster and Davis 2001 as cited in Jones 2010). They have not been documented to nest in cropland (Owens and Myres 1973, Koper et al. 2009), in land in the Conservation Reserve Program (CRP) (Higgins et al. 2002) or in DNC planted for waterfowl habitat (Prescott 1997).

Projects that alter grassland habitat with permanent structures, such as wind towers, oil wells, roads and buildings, can make the areas unsuitable for Sprague's pipit use. Because Sprague's pipits avoid not only the structure but also an area around the structure, the effective impact of the disturbance is much greater than its actual footprint. While the grassland habitat on which Sprague's pipits breed can be disturbance dependent, negative effects on the pipit can largely be avoided by doing habitat manipulation such as mowing or prescribed fire outside of the breeding season. These actions may make an area unsuitable for several years until the grassland plant association has partially returned. However, adverse effects can be avoided by performing management actions on a subunit of the grassland area in any given year, so that some suitable grassland habitat is available at all times.

Wolverine

Suitable wolverine habitat in the conterminous U.S. is limited to high-elevation, alpine areas that occur in island-like fashion. One of the last strongholds for wolverines in the contiguous U.S. is the northern Continental Divide region of Montana.

On December 13, 2010, the Service found that the North American wolverine in the contiguous United States is a distinct population segment that warrants protection under the ESA, but that listing the distinct population segment under the act is precluded by the need to address other listing actions of a higher priority. The wolverine was listed as a candidate species under the act (78032 Federal Register. 2010).

Wolverines are indigenous to high mountain habitats that are separated from like habitats forming isolated populations. Since wolverines naturally occur at low densities and reproduce infrequently, protected linkage areas are crucial for dispersal, genetic flow and survival of the species. While most core wolverine habitat is in public ownership, many areas in between these islands are subject to rapidly increasing pressure from urban development and roads.

ARCTIC GRAYLING, BLACK- FOOTED FERRET, GREATER SAGE-GROUSE, PALLID STURGEON, AND PIPING PLOVER

Arctic grayling, black-footed ferret, greater sage- grouse, pallid sturgeon, and piping plover, are species that have historical records of occurrence on the refuge complex but are either no longer present on the refuge complex or the Service's management strategies are not expected to affect these species.

Arctic Grayling

On September 8, 2010, the upper Missouri River basin's "distinct population segment" of Arctic grayling was listed as a candidate species under the ESA. Fluvial Arctic grayling currently occupy only a fraction (about 5 percent) of their historical range within the Missouri River watershed upstream of the Great Falls. Kaya (1992) concluded that the major factors causing the range-wide decline of fluvial Arctic grayling in the upper Missouri River system include habitat degradation, angling exploitation and over fishing, and competition with introduced nonnative salmonid fishes. Fluvial Arctic grayling in Montana are presently restricted to an approximately 80-mile long segment of the upper Big Hole River.

Reintroduction efforts began in 1997 in the upper Ruby River and expanded to the north and south forks of the Sun River in 1999, the lower Beaverhead River in 1999, and the Missouri River headwaters near Three Forks, Montana, in 2000. Due to drought conditions and limited resources, the Montana Arctic Grayling Workgroup in 2002 recommended focusing reintroduction efforts on the upper Ruby

River, and to continue with other sites as money, workload, and resources allow. Reintroduction efforts in 2008 took place in the upper Ruby River and the north fork of the Sun River. At both of these locations, remote site incubators were used to introduce grayling fry into the restoration reach (Magee and McCullough 2008).

Black-Footed Ferret
Black-footed ferrets are listed in several counties in the district and likely occurred here historically; however, no known populations currently exist within the district.

Greater Sage-Grouse
On March 5, 2010, the Service found that the greater sage-grouse warrants protection under the ESA, but that listing the species under the act is precluded by the need to address other listing actions of a higher priority. Evidence suggests that habitat fragmentation and destruction across much of the species' range has contributed to significant population declines over the past century. If current trends persist, many local populations may disappear in the next several decades, with the remaining fragmented population vulnerable to extinction. Greater sage-grouse may be present in Chouteau, Hill, and Liberty Counties in the district.

Pallid Sturgeon
Records show that pallid sturgeon has been documented in the district in the Missouri River in Chouteau County; however, management actions within the refuge complex would not be expected to have any effects on the Missouri River or the pallid sturgeon.

Piping Plover
A 5-year review of the piping plovers' ESA listing was completed in September 2009. The current recovery plan was completed in 1988. The northern Great Plains population of piping plovers nest on the shorelines and islands of alkali (salty) lakes in North Dakota and Montana. They nest on sandbar islands and reservoir shorelines along the Missouri River and reservoirs in Montana, North Dakota, South Dakota, and Nebraska. The only records of piping plover on the refuge complex are in Pondera County in the district where one to four pair of piping plover were observed at Alkali Lake from 1990 until 2007.

5. **Project Description**: Describe proposed project or action or, if referencing other documents, prepare an executive summary (attach additional pages as needed):

   The Service proposes to implement the objectives and strategies associated with the Benton Lake National Wildlife Refuge Complex Comprehensive Management Plan. Two analysis were conducted one for the Refuge Complex as a whole and one for Benton Lake NWR.

   Benton Lake NWR Complex Summary and Actions for the Selected Management Direction:

   Summary
   Emphasis will be placed on achieving self-sustaining systems with long-term productivity. Management efforts 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 is 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, are used to support the resiliency and sustainability of Service-owned lands throughout the refuge complex. Whenever possible, habitat conditions are allowed to fluctuate with climatically driven wet and dry cycles, which are essential for long-term productivity. The success of these efforts and programs depend on added staff, research, and monitoring programs, operations money, infrastructure, and new and expanded partnerships.

Climate Change

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

Climate change stressors are addressed primarily through preservation of large blocks of functional land that have natural processes that maximize resiliency. The refuge complex works 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 are made throughout the refuge complex to restore grasslands, forests, and wetlands and prevent conversion to enhance carbon sequestration.

Attempts occur to reduce the carbon footprint of existing facilities. Activities include weatherproofing facilities, upgrading furnaces, doors, and windows. Modest improvements to facilities and increased use of Webinars and other virtual meeting devices to reduce the carbon footprint from traveling occur.

Staff participates with the GNLCC and PPPLCC to understand climate change impacts locally and improve the condition of the landscape and increase resiliency at the local level.

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

Preserving Intact Landscapes

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

Refuge complex staff 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 engages 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.

The refuge complex actively applies the principles of SHC to continually refine and focus landscape-level conservation priorities. This includes actively pursuing opportunities for cooperative landscape level monitoring of new and expanded conservation areas. In addition, new areas and partnership opportunities are explored within the refuge complex to consider establishing more conservation areas and increase the opportunities for landowners to take part in conservation easement programs.

Invasive Species

Invasive species are managed through an integrated pest management (IPM) approach that includes biological, chemical, and mechanical treatment methods.

Partnerships for Conservation

Strong and diverse partnerships are promoted to meet objectives and achieve complex goals. These partnerships, link protected areas, leverage financial resources, and increase community support, and

preserve the rural way of life.

Landscape Threats and Conflicts
Coordination of activities, monitoring, and collaboration with industrial, commercial, or agricultural development interests occur to protect existing and potential Service interests.

Grasslands
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. The refuge complex actively applies the principles of SHC to continually refine and focus landscape-level priorities for grassland protection. Easements are proactively monitored and enforced. Easement acquisition to protect grasslands will depend annually on funding, science and opportunities.

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 will be given to replanting native instead of tame grass species. Degraded tame grass stands surrounded by native prairie would be the highest priority for replanting native species. Throughout the life of the plan, up to 400 acres are expected to be replanted to native species. The remaining degraded stands will be replanted to tame grass species.

Nonnative tree plantings in grasslands (shelterbelts) are present throughout the complex, but not actively managed. Shelterbelts that have the greatest negative affect on grasslands, for example those surrounded by native prairie, are a high priority for removal. All of the highest priority shelterbelts (up to 3.5 miles) occur on Benton Lake refuge. The remaining shelterbelts may be removed as staff and funding allows.

Monitoring of grasslands occurs across the refuge complex in varying degrees of intensity, with a focus on adaptive management. Formal monitoring of grasslands is focused on native prairie with an emphasis on adaptive management. Restoration of habitats (native grass planting and tree removal) is formally monitored to evaluate success. Opportunities for cooperative landscape-level monitoring are actively pursued in new and expanded conservation areas. Monitoring of tame grasslands is minimal and informal.

Wetlands and Riparian Areas
Wetlands on private land are protected through the acquisition of conservation easements. The Service is currently conducting landscape-level analysis to rank wetland resources in the Prairie Pothole region of the complex based on their importance to breeding waterfowl. This will be expanded to other priority wetland-dependent birds and portions of the complex in the future. This prioritization will identify the highest priority wetland resources in the district for future protection. Easements are proactively monitored and enforced. Easement contacts, evaluations, and preliminary acquisition work, are completed by wetland district manager. Easement acquisition to protect wetlands will depend annually on funding, science and opportunities.

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 is accomplished with existing water control structures.
Where feasible, wetland vegetation is managed using prescribed fire, grazing, and haying to mimic historical disturbances and support sustainability and resiliency when natural flooding and drying cycles allow. Wetland vegetation is also managed to reduce or eliminate invasive species. Treatment of inva-

sive species using IPM and EDRR reduces the negative effects such as monotypic stands, reduced native plant diversity, and lower productivity.

Throughout the refuge complex, wetlands may be created, enhanced, or restored. Among these, wetland restoration is the highest priority over enhancement or creation, which will occur rarely. 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 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. Creation may occur on private land with conservation easements to support other grassland habitat management objectives.

Most riparian areas in the refuge complex are on private land. Efforts are focused on working with private landowners to better manage and improve the 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.

Formal monitoring of wetlands focuses on wetland health and sustainability through adaptive management. Monitoring tracks long-term trends in wetland cycles, health, and wildlife use. For restoration efforts, monitoring is especially important to determine if systems are recovering.

Forests and Woodlands

Forest and woodland habitat occurs on the Swan River Refuge and the Blackfoot WPA. Active forest management occurs to support resiliency and sustainability by emulating natural processes. Natural fire regimes are emulated with the use of prescribed fire, which may require some thinning or fuel reduction before burning. Silvicultural practices are used to decrease the spread of insects or disease and support or increase carbon sequestration.

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.

Sagebrush-steppe

Sagebrush-steppe habitat (2,500 acres) is protected through conservation easements, fee-title acquisition, and land exchanges or donations. On fee-title lands, mechanical methods for tree removal, fire, and grazing are used to rejuvenate sagebrush-steppe habitat. Staff coordinates efforts with landowners through Partners for Fish and Wildlife to support and manage sagebrush-steppe habitat.

Water Resources

Water rights throughout the refuge complex are supported and maintained.

Species of Concern

Staff informally monitors and documents federally listed species on refuge complex fee-title lands, such as grizzly bear and bull trout. Refuge complex staff consults with the Ecological Services before implementing any management action that may affect listed species.

Staff monitors and documents other species of concern as needed. Recent examples include black tern breeding and foraging monitoring that has been conducted on parts of the district. Re-introduction efforts for trumpeter swans have been conducted for several years in the Blackfoot Valley and may be expanded into the Swan Valley as well. The effects of proposed management actions on other species of concern that are not threatened or endangered are assessed before implementation management action.

Conservation easements are used as a strategy to protect habitat for listed species and other species of concern at the landscape scale. The complex will identify surrogate species, including listed species and species of concern, to prioritize management actions and easement acquisition according to the SHC model.

Migratory Birds

Most of the support for migratory birds is accomplished through habitat management that provides nesting, resting, brood-rearing, and migration habitat.

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

Additional measures to support migratory birds include 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 for species of conservation concern.

Expansion of migratory bird monitoring program include using indicator species 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 are periodically reviewed to determine whether efforts are still a priority for the refuge complex; if not, efforts are discontinued. Monitoring efforts within conservation area boundaries as part of SHC are expanded.

Wildlife Disease

Surveillance for key wildlife diseases such as botulism, chronic wasting disease, and West Nile virus occur as needed.

Inventory, Monitoring, and Research

Research efforts are conducted internally, or generated externally, to achieve management objectives. Wildlife and habitat inventory, monitoring, and research are regularly conducted.

Archaeological and Historical Sites

Cultural resources are provided equal protection and management. New cultural resources are documented and protected as they are discovered.

There have been limited cultural resource surveys performed on the complex. Additional surveys will be required before any new construction or excavation to fully satisfy provisions of the Archeological Resources Protection Act and other applicable acts and policies related to historical and archaeological resources.

Potentially negative effects from construction of trails or facilities require review by the Region 6 archaeologist and consultation with the Montana State Historic Preservation Office.

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, such as boating, may be allowed 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 affecting land, water, vegetation, or wildlife populations. The Sands WPA in Hill County and the H2–O WPA in Powell County will remain closed to hunting in accordance with property deed restrictions.

Hunting

Only approved non-toxic shot can be used or possessed while hunting upland and migratory gamebirds on refuges and waterfowl production areas within the refuge complex. The Benton Lake and Swan River Refuges 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 is prohibited throughout the complex.

BENTON LAKE WETLAND MANAGEMENT DISTRICT: Approximately 14,170 acres of upland and wetland habitat are available for migratory and upland gamebird as well as big game hunting on waterfowl production areas throughout the district. The Sands WPA in Hill County and the H2–O WPA in Powell County is 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 the block management program administered by the State.

SWAN RIVER NATIONAL WILDLIFE REFUGE: Hunting of migratory gamebirds including ducks, geese, and coots is available in designated areas of the refuge with approximately 40 percent of refuge lands open to hunting. Upland game, big game, and guided hunting will continue to be prohibited on the refuge.

The Service will increase regulatory hunting signage (for example, closed to hunting area signs, non-toxic 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.

Fishing

Fishing occurs at Swan River NWR, Benton Lake NWR (Pumphouse Unit), Arod Lakes WPA, Upsata Lake WPA, and Blackfoot WPA in accordance with State regulations. On Swan River Refuge, navigable waters are open to fishing year-round with off-refuge access points available on Swan River.

Wildlife Observation and Photography

Wildlife observation and photography opportunities are provided throughout the refuge complex, and are supported by providing observation blinds, up-to-date wildlife 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 are implemented. Dogs are required to be leashed and remain on designated roads and trails, except in the hunt area during hunting season. Commercial photography requests are evaluated on a case-by-case basis and authorized through special use permit. Virtual geocaching is authorized. Limited new facilities for observing and photographing wildlife (such as observation decks, trails, auto tour routes, and photography blinds) may be developed or modified, and existing facilities will be maintained. Additional walking trails throughout the refuge complex may be provided and a park ranger may be hired to help support and expand wildlife observation and photography infrastructure and opportunities.

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

SWAN RIVER NATIONAL WILDLIFE REFUGE: Bog Road provides wildlife viewing opportunities and access to the interior of the refuge. The existing observation platform, informational kiosk, and interpretive panel provide opportunity for wildlife observation and photography. The information kiosk, parking lot, wildlife viewing platform, and Bog Road are open to public access year-round. In addition, public access to the area north of Bog Road is authorized during waterfowl hunting season.

Access south of Bog Road is prohibited year-round. No motorized vehicle access is authorized on Bog Road, only foot-traffic, including hiking, cross-country skiing and snowshoeing, are authorized on the Refuge on designated roads and trails including Bog Road. Equestrian use is prohibited. On portions of Swan River that run through the refuge, the State "no wake" regulations are enforced.

Environmental Education and Interpretation

Environmental education and interpretation programming will 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 are 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.

Staff participates in off-site special events and activities to bring the refuge complex message to large numbers of people, and participation in these events occurs as time and staff allow. Tasks are currently performed as collateral assignments and no specific specialists are assigned to environmental education or interpretation programs on the refuge complex; however, the hiring of a park ranger will help focus and grow these programs. Interpretive panels, brochures, factsheets, Web sites, and maps are updated as funding becomes available.

BENTON LAKE WETLAND MANAGEMENT DISTRICT: Waterfowl production areas are available for environmental education and interpretation. Area schools visit waterfowl production areas to study birds, wetland wildlife, and water quality. Staff host several on and offsite events attracting more than 250 attendees annually.

A facility at the H2–O WPA and Upsata Lake WPA provide on-site education within the Blackfoot Valley, and an interpretive display is available at the north parking area of the Blackfoot WPA.

SWAN RIVER NATIONAL WILDLIFE REFUGE: An interpretive kiosk, updated in 2011, provides interpretive information to the visiting public. Currently, limited outreach and environmental educational programming occurs and minimal resources exist to update signs and brochures.

Trapping

Recreational trapping occurs 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 or Benton Lake Refuge is authorized; however, trapping by special use permit may occur for wildlife and infrastructure management purposes only.

Staff and Funding

Current staff consists of 9.0 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 funding. Current staff levels are insufficient to meet program mandates, resulting in limited management on some units. Additional staff will be acquired as funding becomes available. To accomplish full performance of the goals and objectives of the Plan, a total of 6.0 additional positions will be needed. This includes: 1 law enforcement officer, 1.0 maintenance worker, 1.5 wildlife refuge specialist, 0.5 administrative support generalist, 1 park ranger (working half time on the refuge complex and half time at Benton Lake Refuge exclusively), and 1 supervisory biologist.

Facilities and Infrastructure

Facilities, infrastructure, vehicles, and other equipment are supported in good working condition to achieve management goals. Fences in the refuge complex that serve no management purpose are removed as funding and staff resources allow.

Visitor and Employee Safety

Employee and visitor safety is emphasized in all operations throughout the refuge complex. Currently, only one dual-function officer exists within the refuge complex. Efforts will be made to replace a recently vacated (2011) 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, contribute to possible injury or illness. More signage warning visitors of these potential hazards may be considered.

Efforts will be expanded to provide dependable and improved communication throughout the complex.

Resource Protection

One dual-function law enforcement officer provides quality public use experiences, and protects habitat resources on fee-title and easement lands. Efforts to replace recently vacated (2011) full-time law enforcement officer will occur. Special emphasis is placed on preventative law enforcement efforts to improve compliance with regulations. In addition, cooperative law enforcement efforts are pursued to improve relationships with other law enforcement entities. The recently expanded Rocky Mountain Front and Blackfoot Valley Conservation Areas and the newly established Swan Valley Conservation Area will require more inspection and enforcement efforts. In addition, more opportunities for easement protection may be established during the life of the plan.

Benton Lake NWR Refuge Summary and Actions for the Selected Management Direction:

Management actions for climate change, preserving intact landscapes, invasive species, partnerships for conservation, landscape threats and conflicts, forests and woodlands, sagebrush-steppe, species of concern, migratory birds, wildlife disease, inventory, monitoring and research, archaeological and historic sites, fishing, trapping, and visitor and employee safety are the same as the selected management direction for the complex.

Summary

Benton Lake Refuge wetland units will be managed to focus on the importance of restoring the health and long-term sustainability of the wetland basin and include efforts within the Lake Creek and Muddy Creek watersheds. Some health and sustainability improvements may occur slower than in the proposed alternative to accommodate wildlife-dependent recreation, such as waterfowl hunting. Flexible water management will occur which will affect the amount, duration, and location of artificially provided water (pumped water) within the wetland basin. Management will strive to provide some waterfowl hunting and fall/spring migration habitat at least 11 out of 15 years and basin-wide drawdowns no more than 4 out of 15 years (with no more than 3 consecutive years of basin-wide drying). An adaptive resource management approach will be applied that may modify these wet and dry cycles to ensure progress towards achieving habitat objectives. Wetland basin infrastructure may be modified to enhance water conservation and efficient delivery. The Pumphouse and all water rights will be regularly exercised and maintained. Managing grasslands and other wildlife dependent public uses (wildlife observation and photography, environmental education and interpretation, and upland game bird hunting) on the refuge will occur as resources allow.

Grasslands

Same as refuge complex preferred alternative and up to 3.5 miles of nonnative tree plantings in grasslands (shelterbelts) will be removed. Shelterbelts that have the greatest negative effect on grasslands will be the highest priority for removal. Degraded tame grass stands (up to 207 acres) will be planted back to native grass species where proper and feasible. Prescriptive grazing may occur to improve habitat conditions. Formal monitoring of grasslands will focus on native prairie with an emphasis on linking management actions to grassland condition (adaptive management). Restoration of habitats (native grass plantings and tree removal) will be formally monitored with the assistance of volunteer citizen science organizations (such as Audubon) to evaluate success. Monitoring of tame grasslands will be minimal and informal.

Wetlands and Riparian Areas

The refuge is managed to improve wetland health and sustainability. Pumping is used to supplement the refuge's natural runoff and artificially flood wetland habitat to extend the natural flooding cycle in the spring, summer, and fall. The Pumphouse, underground pipeline (4 miles), and several structures on Lake Creek will be supported to accomplish this objective. During years that the refuge artificially supplements runoff, the refuge may pump up to 4,000 acre-feet per year. The maximum amount of

pumped water may decline over time if electricity costs increase. Water is pumped from Muddy Creek primarily in the fall and occasionally in early summer. Flooding the lower units during summer will be avoided to prevent botulism outbreaks unless it becomes necessary to dry Units 1 and 2 simultaneously for selenium control. In this case, one of the lower units (possibly Unit 4b) may be flooded through summer to provide brood habitat.

Short-term dry periods (7+ years in Units 1 and 2 and 3-5+ years in Units 3-6) are rotated among units to volatilize selenium, reduce invasive vegetation and improve wetland health. When Units 1 and 2 are dry for prolonged period of time, Lake Creek channel may be restored creating wet meadow conditions, with water entering the refuge through the old Lake Creek channel and providing natural diffuse runoff. Basin wide drawdowns may occur up to 4 years of the next 15 years (with no more than 3 consecutive years of basin-wide drying). The basin wide drawdown may be extended after consultation with Montana Fish, Wildlife and Parks to meet habitat objectives.

The management decision to flood or dry each unit will be determined annually. If necessary, more dry time may be implemented in individual units until wetland objectives are met. As needed, units will receive intensive management (prescribed fire, discing, and herbicide application). Wetland infrastructure (dikes, ditches, water control structures) may be modified to improve water conservation and efficiency of delivering water to a specific unit. The flooding and drying rotation, water control structures and other management tools will continually be assessed and modified through an adaptive management process.

Staff will work with our partners in the Lake Creek and Muddy Creek watersheds to carry out conservation actions that improve water quality and wetland health on the refuge. Efforts will be made to improve coordination of wetland management with MFWP at other State management units including Freezeout Lake WMA.

Wetland cycles, health, and wildlife response at the refuge will be tracked with intensive monitoring to provide feedback on management successes. Formal monitoring of wetlands will focus on wetland health and sustainability through adaptive management. Monitoring will track long-term trends in wetland cycles, health and wildlife use. For restoration efforts, monitoring will be especially important to decide if systems are recovering.

Annual water management plans for the refuge will be developed and shared with the general public that outline the previous year's accomplishments towards goals and objectives and the current year's goals and objectives.

Water Resources

Natural runoff from the Lake Creek will be captured annually. Pumping water from Muddy Creek may occur 11 years out of 15 years; however, the amount, duration, and location of stored pumped water will vary annually within the basin.

Visitor Services

Hunting

Hunting of waterfowl (duck, goose, swan (by permit only), and coot) and upland gamebirds (pheasant, sharp-tailed grouse, and gray partridge) are provided in designated areas of the refuge on approximately 4,600 acres of upland and wetland habitat. Big game hunting is prohibited. Hunting rabbits or any other wildlife species, including furbearers is also prohibited.

Waterfowl and upland gamebird hunting on the refuge begins with the opening of the State waterfowl season and ends on November 30. Benton Lake Refuge is open for the youth waterfowl and pheasant season, which typically occurs the weekend before the opening of the general waterfowl season. Hunting is on a first-come, first served basis. One disabled accessible hunting blind is available in Unit 5 through special use permit.

During years with adequate water (runoff or pumped), the location of open and closed areas for waterfowl and upland gamebird hunting could change from year to year based on the flooding and drying rotation of the units. Staff will strive to provide waterfowl hunting opportunity 11 years out of 15 years.

Wildlife Observation and Photography

The Prairie Marsh Wildlife Drive provides year-round wildlife-viewing and photography opportunities via auto, bicycle, equestrian, or foot-traffic, including hiking, snowshoeing, or cross-country skiing. The Prairie Marsh Wildlife Drive may be adjusted to accommodate changes to water management or associated infrastructure.

Lower Marsh Road is available to vehicles, foot-traffic, bicycling, and equestrian use for wildlife-viewing and photography opportunities from July 15 until the opening day of waterfowl hunting season. Rough road conditions prevent the use of RVs, vehicles towing trailers, and large vehicles. Modifications to the opening and availability of Lower Marsh Road may occur depending on the sequence of implementing the dry cycle in various units. This could affect access by bicycle or foot. These modifications will be implemented if unacceptable disturbance is occurring that needs to be reduced or if management actions require the adjustment.

Facilities providing additional opportunities for wildlife observation and photography include the Unit 1 photographic blind and the Prairie Marsh Boardwalk with spotting scope and interpretive panels. Additional, year-round opportunities for wildlife observation and photography by means of temporary blinds on Prairie Marsh Wildlife Drive are available. “Mobile” temporary blinds in other selected areas may be authorized as well through special use permit.

Cross-country skiing and snowshoeing for wildlife-viewing and photography is permitted refuge-wide from December 15 until the end of February. Equestrian and bicycle use are limited to roads open to motorized vehicles.

The Sharp-Tailed Grouse Blind is available to refuge visitors by reservation on weekends during April and May. The grouse blind provides a highly sought-after opportunity to observe and photograph the courting rituals of sharp-tailed grouse.

Additional, birding trails that access the upland habitat will be explored as a way to enhance wildlife viewing opportunities of grassland birds.

Environmental Education and Interpretation

The refuge offers joint-sponsored outdoor education courses with the MFWP, including Youth Waterfowl Safety Clinic and the Becoming an Outdoor Woman series. Our partnership with the Great Falls Public School provides the opportunity for all third graders in the Great Falls Public School system to come to the refuge and learn about natural resources. This highly popular activity includes more than 850 students annually. Refuge staff provides information about the refuge and education specialists from the GFPS present onsite activities and learning modules.

Refuge staff participates in the annual Montana Envirothon in Lewistown, Montana. The event attracts student teams from all across Montana while they compete for the opportunity to represent Montana and compete at the National Envirothon Competition. Refuge staff helps students learn about fish and wildlife resources and their associated habitat. More than 200 students and teachers take part in the annual event. As time allows, the refuge collaborates with other school groups to provide tours, teach science, and work together on monitoring projects.

Refuge staff participates in the STEM Expo hosted in Great Falls, Montana. This exposition has recently developed into an annual event promoting math and science within the community. The event offers staff the opportunity to reach more than 700 children, teachers, and parents.

With current staffing and funding, greater emphasis will occur with environmental education, outreach, and interpretative maps and panels that explain 1) the purpose and importance of conserving,

managing, and restoring healthy functioning ecosystems, 2) the importance of natural hydroperiods in wetlands, 3) the unique resource of grassland birds that utilize the refuge and their plight on a national scale, and 4) changes to public use regulations and access areas to accommodate changes in wetland and water management. Environmental curriculum may be adapted to reflect changes in habitat from restoration efforts.

Future implementation of an expanded environmental education and interpretation program is expected with the acquisition of a full-time park ranger (interpretation/environmental education) position for the refuge complex. This position will help expand the refuge's influence in the local community of Great Falls and the complex as a whole.

Staff and Funding

Staff increases needed to carry out this alternative include: a part (50 percent) of the 1.0 FTE park ranger assigned to the complex, a part (25 percent) of the 1.0 FTE law enforcement officer assigned to the complex, a part (70 percent) of the 1.0 FTE supervisory biologist assigned to the complex, 0.8 FTE biological technician, two permanent seasonal biological technicians 0.5 FTE each, and 1.0 maintenance worker.

Funding and resources are expected to be reallocated throughout the refuge complex to deal directly with management constraints for the selected management direction. Additional effort in monitoring and water level management will require resource reallocation from other programs in the complex if additional funding and staffing for implementation is not received.

Expenses in pumping (electricity), the associated water management (operations and maintenance), and implementation of water conservation and efficiency modifications contribute to this alternative being more expensive to implement.

Monitoring efforts include assessing results to make sure that the objectives for selenium, vegetation, and wetland health are being met while applying an adaptive resource approach to infrastructure modification.

Prescriptive habitat treatment (discing, mowing, herbicide treatment, etc.) is expected to be relatively intensive. The ability to apply treatments basin-wide simultaneously will be limited to 4 out of 15 years (with no more than 3 consecutive years of basin-wide drying). Most treatment actions are expected to occur in a unit-by-unit approach.

Over the life of the plan, total costs for water level management, pumping, operations, maintenance, prescriptive habitat treatment, grassland restoration, and monitoring are estimated at $2.0 million.

Facilities and Infrastructure

Wetland infrastructure (dikes, ditches, water control structures) may be modified to improve water conservation and efficiency of delivering water to a specific unit. The Prairie Marsh Wildlife Drive and Lower Marsh Drive may be adjusted to accommodate changes to water management or associated infrastructure. Additional birding trails in the upland habitat may be established to increase opportunity for wildlife observation, photography, education, and interpretation of unique grassland bird resources.

Resource Protection

Changes to opening and closing of hunting areas and modifications to auto tour routes will require additional outreach for preventative law enforcement efforts. Activities will include: timely news releases, posting of boundaries, regular updates to websites, and posting of regulations. In addition, increase in the number and frequency of compliance patrols will be necessary. These activities will be accomplished by the full-time law enforcement officer proposed for the complex or current dual function law enforcement officer.

4. **Determination of Effects:**
(A) Description of Effects: Describe the action(s) that may affect the species and critical habitats listed in item 4. Your rationale for the Section 7 determinations made below (B) should be fully described here.

The following is a summary of anticipated environmental effects. The implementation of the selected management direction will:

- not adversely impact endangered or threatened species or their habitat. Many corridors and linkage areas will be enhanced or protected for grizzly bears, bull trout, Canada lynx, and wolverine.

- increase the sustainability and resiliency of each refuge unit and improve ability to adjust to the uncertainty of climate change which will benefit all Federally listed species.

- improve the coordination of the complex with the GNLCC and PPPLCC to improve our understanding of the local impacts from climate change which can improve the protection of all Federally listed species.

- reduce threats from development and subsequent fragmentation by protecting wetland and grassland habitat through the acquisition of conservation easements, and depending upon resource allocation to the management of Benton Lake Refuge, strive to protect up to 170,000 acres within the Crown of the Continent Project Area. Easement acquisition in the Crown of the Continent Project Area can improve habitat conditions for bull trout, grizzly bears, Canada lynx, water howellia, Sprague's pipit, and wolverine. Historic occurrences of piping plover have occurred along the Rocky Mountain Front CA. Further protection of the wetland habitat may improve protection for piping plovers.

- preserve working landscapes in private ownership while simultaneously protecting grassland and wetland habitats. The working landscapes include the Crown of the Continent Project Area which has the potential to benefit bull trout, grizzly bears, Canada lynx, water howellia, Sprague's pipit, and wolverine.

- not adversely impact archaeological or historical resources. Not expected to have any effect to Federally listed species.

- improve wetland health and sustainability throughout the complex and especially for Benton Lake Refuge. Selenium accumulation and the threat to breeding birds on Benton Lake Refuge will be reduced. Productivity of complex wetlands shall significantly improve. During dry years, additional upland habitat for breeding may be available for Sprague's pipits on the refuge. Water howellia may benefit from wetland restoration efforts conducted on Swan River NWR.

- improve grassland habitat throughout the complex with special emphasis on the protection of native grassland, management of native prairie (12,420 acres), removal of non-native tree plantings (up to 3.5 acres), and the management of degraded tame grasslands (up to 400 acres). Improving grassland habitat can benefit Sprague's Pipit which currently breed within the refuge and the district.

- improve resiliency and sustainability of the forest and woodland habitat of the complex which may improve habitat utilized by grizzly bear, Canada lynx, and wolverine.

- protect and/or improve sagebrush-steppe habitat (2,500 acres) within the complex which may contribute to protection of grizzly bear that utilize these areas within the Blackfoot Valley.

- preserve all complex water rights. Not expected to have any effect on Federally listed species.

- provide a balance between resource protection and providing wildlife-dependent recreational opportunity without negatively impacting natural resources which is expected to benefit all Federally listed species.

- maintain or increase the opportunity for wildlife observation (+25%), wildlife photography (+25%), environmental education (+25%), interpretation (+25%), and fishing (no net change) over the life of the plan. Actions are not expected to have a direct effect on Federally listed species; however, the possibility of improving public awareness about the challenges facing listed species may occur.

- slightly decrease the amount of hunting (-15%) opportunity over the life of the plan in order to significantly improve the wetland health of Benton Lake and address selenium toxicity and improve productivity. Not expected to have any effect on Federally listed species.

- potentially increase staffing by 7.8 FTEs including: full-time law enforcement officer, full-time maintenance worker, 1.5 full-time refuge operations specialist, 0.5 full-time generalist, full-time park ranger (visitor services), full-time supervisory biologist, 0.8 full-time seasonal biological technician, and two 0.5 permanent biological technicians. Not expected to have any effect on Federally listed species.

- not have a disproportionately high or adverse human health or environmental effect on minority or low-income populations. Not expected to have any effect on Federally listed species.

(B) Determination: Determine the anticipated effects of the proposed project on species and critical habitats listed in item 4. Check all applicable boxes and list the species (or attach a list) associated with each determination.

	Determination
No Effect: This determination is appropriate when the proposed project will not directly or indirectly affect (neither negatively nor beneficially) individuals of listed/proposed/candidate species or designated/proposed critical habitat of such species. No concurrence from ESFO required.	_____
May Affect but Not Likely to Adversely Affect: This determination is appropriate when the proposed project is likely to cause insignificant, discountable, or wholly beneficial effects to individuals of listed species and/or designated critical habitat. Concurrence from ESFO required.	X
May Affect and Likely to Adversely Affect: This determination is appropriate when the proposed project is likely to adversely impact individuals of listed species and/or designated critical habitat. Formal consultation with ESFO required.	_____
May affect but Not Likely to Jeopardize candidate or proposed species/critical habitat: This determination is appropriate when the proposed project may affect, but is not expected to jeopardize the continued existence of a species proposed for listing or a candidate species, or adversely modify an area proposed for designation as critical habitat. Concurrence from ESFO optional.	_____
Likely to Jeopardize candidate or proposed species/critical habitat: This determination is appropriate when the proposed project is reasonably expected to jeopardize the continued existence of a species proposed for listing or a candidate species, or adversely modify an area proposed for designation as critical habitat. Conferencing with ESFO required.	_____

Signature Kathleen Burchett Date 12/6/12

[Supervisor at originating station]

Reviewing Ecological Services Office Evaluation (check all that apply):

A. Concurrence____X_____ Nonconcurrence_____
Explanation for nonconcurrence:

B. Formal consultation required_____
List species or critical habitat unit

C. Conference required_____
List species or critical habitat unit

Name of Reviewing ES Office Montana Ecological Services Office, Helena, Montana

Signature R. Mark Wilson Date 12-17-2012

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Appendix D
Public Involvement

This appendix describes how the Service conducted public involvement and considered the resulting information for developing the CCP for the Benton Lake National Wildlife Refuge Complex.

D.1 Public Involvement Activities

A notice of intent to prepare the draft comprehensive conservation plan and EA was published in the Federal Register on August 18, 2008. The Service began public involvement activities by compiling a mailing list of more than 700 names during preplanning. The list includes private citizens; local, regional, and State government representatives and legislators; other Federal agencies; and interested organizations.

Public Scoping

Public scoping began immediately after publication of the notice of intent and was announced in news releases and through issuance of the first planning update to the mailing list in August 2008. Information was provided on the history of the refuge and the CCP process and included an invitation to attend any of the public scoping meetings being held in early September. The planning update included a mailing list consent form to be placed on the CCP mailing list. The update also provided opportunities for submitting comments.

Five public scoping meetings were held from September 2 to October 15, 2008:

- September 2, 2008, La Quinta Inn, Great Falls, Montana, 4–7 p.m.
- September 3, 2008, Stage Stop Inn, Choteau, Montana, 4–7 p.m.
- September 3, 2008, Ovando School, Ovando, Montana, 4–7 p.m.
- September 4, 2008, Red Lion Inn, Kalispell, Montana, 4–7 p.m.
- October 15, 2008, Benton Lake Refuge Headquarters, Great Falls, Montana, 5–7 p.m.

The public meetings were conducted as open houses, where attendees could individually view a PowerPoint presentation about the refuge complex and an overview of the CCP and NEPA processes, as well as other supplemental information on the extent and vision of the refuge complex and the purpose for each unit. Attendees were encouraged to ask questions and offer comments. Verbal comments were recorded and each attendee was given a comment form to submit additional thoughts or questions in writing.

Written comments for the initial scoping effort were due on September 15, 2008. Sixty written comments were received orally and in writing. The Service received letters from five nongovernmental organizations (Sun River Watershed Group, Montana Audubon, Born Free USA, Friends of the Wild Swan, Flathead Wildlife) and two agencies (Montana Fish, Wildlife & Parks, Region One and Montana Salinity Control Association). All comments were shared with the planning team and considered throughout the planning process.

One of the most significant issues identified for the refuge complex, by both the public and the planning team, was the declining condition of the Benton Lake Refuge wetlands. In order to fully understand what was causing this decline, the Service met with consultants from Greenbrier Wetland Service on April 28 and July 29, 2009, to develop an HGM assessment of Benton Lake. The scientists from Greenbrier Wetland Services are recognized experts in the field of wetland ecology. They worked with Service staff to understand what changes had occurred in the Benton Lake wetlands over time and how this might relate to the observed declines in productivity, increases in invasive species, and increasing selenium contamination (Heitemeyer et al 2009). These findings were used to analyze management alternatives and to select a proposed action alternative for the refuge.

After the selection of the proposed action alternative during a planning team meeting in February 2010, refuge staff initiated another scoping effort to

share the results of the HGM study with the public. Refuge staff focused on groups and individuals who had expressed interest in, or concerns about, Benton Lake Refuge during the first scoping effort.

Three additional scoping meetings were held:

- November 16, 2010, Benton Lake Refuge Headquarters, Great Falls, Montana, 5–7 p.m.
- January 11, 2011, Benton Lake Refuge Headquarters, Great Falls, Montana, 5–7 p.m.
- June 9, 2011, Best Western Heritage Inn, Great Falls, Montana, 8 a.m. to 3 p.m.

Many people attended the meetings and provided additional comments, which the Service recorded. These comments were considered by the planning team in preparation of the draft CCP and EA and are addressed in Chapter 7 of that document, which describes the issues at Benton Lake Refuge in detail.

In addition to hosted meetings, there were several opportunities to meet with a variety of interest groups. Service employees shared the CCP planning process, solicited issues and concerns from attendees, and answered questions. These opportunities provided staff greater understanding of issues, concerns, and effects shared by the public. Refuge staff attended meetings with, or met, the following: Ducks Unlimited, Great Falls Audubon, Montana Audubon, Russell Country Sportsmen's Association, Muddy Creek Watershed Group, Sun River Watershed Group, Montana Bird Conservation Partnership, Great Falls Public Schools, and Rocky Mountain Front Land Manager's Forum.

Review of the Draft Plan

The draft CCP and EA was released to the public on March 30, 2012, through a notice of availability published in the Federal Register. Copies of either the draft CCP and EA or a planning update were mailed to individuals on the mailing list. The document was also made available online through the Service's Region 6 planning Web site and the refuge complex's Web site. The public was offered 60 days to review this document and provide comments.

During the public review period the Service held 4 public meetings April 17–19, 2012, in Great Falls, Choteau, Ovando, and Condon, Montana. Turnout was good, with meetings attended by more than 57 participants. A news release was issued, and planning updates were mailed providing details on where and when the meetings would be held. A short presentation was given on the draft plan, followed by an opportunity for participants to ask questions and offer comments. In addition to the oral comments recorded at the meetings, 51 emails and letters were received. All comments were to be received or postmarked by June 1, 2012.

D.2 Public Mailing List

The Service sent planning updates to all individuals and organizations on the mailing list. In addition, many hard copies of the draft CCP and EA were distributed to the mailing list and to honor additional requests for copies.

Federal Officials

U.S. Senator Max Baucus, Washington, DC
U.S. Senator Max Baucus, Bozeman, MT
U.S. Senator Jon Tester, Washington, DC
U.S. Senator Jon Tester, Great Falls, MT
U.S. Senator Jon Tester, Kalispell, MT
U.S. Congressman Dennis Rehberg, Washington, DC
U.S. Congressman Dennis Rehberg, Helena, MT

Federal Agencies

Bureau of Land Management, Billings, MT
Bureau of Land Management, Lewistown, MT
Bureau of Reclamation, Billings, MT
U.S.D.A., Farm Service Agency, Bozeman, MT
U.S.D.A., National Resources Conservation Service, Bozeman, MT
U.S. Fish and Wildlife Service, Air Quality Branch, Lakewood, CO
U.S. Fish and Wildlife Service, Creston Fish and Wildlife Center, Creston, MT
U.S. Fish and Wildlife Service, Ecological Services, Helena, MT
U.S. Fish and Wildlife Service, Education and Visitor Services, Helena, MT
U.S. Fish and Wildlife Service, Kalispell, MT
U.S. Forest Service, Choteau, MT
U.S. Forest Service, Great Falls, MT
U.S. Forest Service, Libby, MT
U.S. Forest Service, Rocky Mountain Research Station, Missoula, MT
U.S. Geological Survey, Bozeman, MT
U.S. Geological Survey, Biological Resources Division, Missoula, MT
U.S. Geological Survey, Glacier Field Station, West Glacier, MT

D.3 Tribal Officials

Blackfeet Tribal Business Council, Browning, MT
Blood Tribes, Cardston, Alberta, Canada
Confederated Salish Kootenai Tribes, Pablo, MT
Fort Belknap Community Council, Harlem, MT
Peigan Tribe, Brocket, Alberta, Canada

State Officials

Governor Brian D. Schweitzer, Helena, MT
Representative Shannon Augare, Browning, MT
Representative Gregory Barkus, Kalispell, MT
Representative Bill Beck, Whitefish, MT
Representative Bob Bergren, Havre, MT
Representative Jerry Black, Shelby, MT
Representative Mark Blasdel, Somers, MT
Representative John Brueggeman, Polson, MT
Representative Edith Clark, Sweetgrass, MT
Representative John Cobb, Augusta, MT
Representative Douglas Cordier, Columbia Falls, MT
Representative George Everett, Kalispell, MT
Representative Ken Hansen, Harlem, MT
Representative Ralph Heinert, Libby, MT
Representative Robin Hamilton, Missoula, MT
Representative Verdell Jackson, Kalispell, MT
Representative Joey Jayne, Arlee, MT
Representative Mike Jopek, Whitefish, MT
Representative Llew Jones, Conrad, MT
Representative William Jones, Bigfork, MT
Representative Carol Juneau, Browning, MT
Representative Mike Milburn, Cascade, MT
Representative Jerry O'Neil, Columbia Falls, MT
Representative Rick Ripley, Wolf Creek, MT
Representative Don Ryan, Great Falls, MT
Representative Jon Sonju, Kalispell, MT
Representative Janna Taylor, Dayton, MT
Representative Dan Weinberg, Whitefish, MT
Representative Craig Witte, Kalispell, MT

State Agencies

Montana Department of Environmental Quality, Helena, MT
Montana Fish, Wildlife & Parks, Helena, MT
Montana Fish, Wildlife & Parks, Billings, MT
Montana Fish, Wildlife & Parks, Kalispell, MT
Montana Department of Natural Resources and Conservation, Conrad, MT
Montana Department of Natural Resources and Conservation, Helena, MT
Montana Department of Natural Resources and Conservation, Kalispell, MT
Montana Department of Natural Resources and Conservation, Missoula, MT
Montana Natural Heritage Program, Helena, MT
Montana Salinity Control Association, Conrad, MT
Montana State Historic Preservation Office, Helena, MT
Montana State Lands, Helena, MT
Sun River Watershed Group, Great Falls, MT

Local Government

Bigfork County Water and Sewer, Bigfork, MT
Cascade County Mosquito Management District, Great Falls, MT
City of Bigfork, Roadside Vegetation Program, Bigfork, MT
City of Havre, Havre, MT
Flathead County Commission, Kalispell, MT
Flathead County Road and Bridge, Kalispell, MT
Flathead County Weed Department, Kalispell, MT
Hill County Government, Havre, MT
Hill County, Mosquito Management District, Havre, MT
Teton County Commission, Choteau, MT
Pondera County Commission, Conrad, MT

Local Fire Departments

Marion Volunteer Fire Department, Marion, MT

Local Businesses

4M Farms Incorporated, Highwood, MT
AAA Weed and Pasture, Columbia Falls, MT
American Public Lands Exchange, Missoula, MT
Benton Lake Land Company, Great Falls, MT
Bignell Ranch Company, Helmville, MT
Brown and Brown of Montana, Great Falls, MT
Buffalo Mountain LLC, Kalispell, MT
Glacier Colony, Cut Bank, MT
Glacier Fur Dressing, Kalispell, MT
Golden Acres Farm, Brady, MT
Gollaher Ranch Company, Cascade, MT
Gumbo Incorporated, Choteau, MT
Harmon Properties LLC, Havre, MT
Heavirland Enterprises, Choteau, MT
Historical Research Associates Incorporated, Missoula, MT
Ish Incorporated, Chester, MT

Juedeman Grain Company, Geraldine, MT
Klabzuba Oil and Gas Incorporated, Fort Worth, TX
Klondike Ridge Farms, Sunburst, MT
KRA Corporation, Bethesda, MD
LBO Properties LP, Kalispell, MT
Location Montana Incorporated, Bigfork, MT
Mannix Brothers Incorporated, Helmville, MT
McGregor Lake Resort, Marion, MT
Montana Power Company, Butte, MT
Moose Mountain Properties LLC, Kalispell, MT
Neuman Land and Livestock, Great Falls, MT
Nevada Spring Creek Partners, Helena, MT
NR Recording and Communications, Great Falls, MT
Pernell Partners LP, Kalispell, MT
Plum Creek Land Company, Seattle, WA
Plum Creek Timber Company, Columbia Falls, MT
Plum Creek Timber Company, Kalispell, MT
PPL Montana, Hydro Licensing, Butte, MT
RLK Hydro Incorporated, Kalispell, MT
R&R Development Company, Kalispell, MT
Sheep Mountain Cattle Company, Geraldine, MT
Simmes Ranch Incorporated, Sunburst, MT
Sliters Incorporated, Somers, MT
Spring Coulee Ranch Incorporated, Highwood, MT
Springdale Colony Incorporated, Power, MT
Starshine, Great Falls, MT
Sveum Brothers Incorporated, Sunburst, MT
Swan Mountain Outfitters, LLC, Swan Lake, MT
Talent Properties Incorporated, Clayton, CA
Tapper Lite LLC, Bigfork, MT
Top Notch Land Company, Kalispell, MT
Tungsten Holdings Incorporated, Libby, MT
Twin Springs Incorporated, Kevin, MT
White Swan Properties LLC, Bigfork, MT

Universities, Schools and Libraries

Columbia Falls Library, Columbia Falls, MT
Flathead County Library, Kalispell, MT
Helmville Elementary School, Helmville, MT
Kila School District, Kila, MT
Lincoln County Library, Libby, MT
Montana Academy, Marion, MT
Montana State University, Extension Office, Kalispell, MT
Montana State University, Research Center, Bozeman, MT
Pleasant Valley School Superintendent, Marion, MT
School District No. 26, Kalispell, MT
Skyline Education Center, Great Falls, MT
University of Alaska, Biology and Wildlife Department, Fairbanks, AK
University of Great Falls, Great Falls, MT
University of Illinois, Department of Geology, Urbana, IL
University of Montana, Cooperative Wildlife Research, Missoula, MT
University of Montana, Department of Biological Sciences, Missoula, MT
University of Montana, Flathead Lake Biological Station, Polson, MT
University of Montana, Grizzly Bear Recovery Office, Missoula, MT
University of Montana, Wildlife Biology Program, Missoula, MT
University of Washington, Department of Zoology, Seattle, WA
Whitefish City Library, Whitefish, MT

Organizations

American Wildlands, Bozeman, MT
Bethel Cemetary Association, Somers, MT
Big Meadows Grazing Association, Hot Springs, MT
Born Free, Scaramento, CA
Chain of Lakes Homeowner's Association, Libby, MT
Citizens for a Better Flathead, Kalispell, MT
Defenders of Wildlife, Missoula, MT
East Haven Baptist Church, Kalispell, MT
Eagle Bend Homeowners Association, Bigfork, MT
Five Valley Audubon Society, Missoula, MT
Flathead Valley Chapter Ducks Unlimited, Kalispell, MT
Flathead Wildlife, Kalispell, MT
Friends of the Rocky Mountain Front, Choteau, MT
Friends of the Wild Swan, Swan Lake, MT
Glacier Natural History Association, West Glacier, MT
Kalispell Chamber of Commerce, Kalispell, MT
Mission Mountain Audubon, Polson, MT
Montana Audubon, Helena, MT
Montana Chapter of the Wildlife Society, Bozeman, MT
Montana Conservation Corps, Kalispell, MT
Montana Land Reliance, Bigfork, MT
Montana Stockgrowers Association, Helena, MT
Montana Wilderness Association, Great Falls, MT
Montana Wildlife Federation, Helena, MT
National Wildlife Federation, Missoula, MT
National Wildlife Refuge Association, Colorado Springs, CO
Rocky Mountain Elk Foundation, Missoula, MT

Russell Country Sportsmen's Association, Great Falls, MT
Sonoran Institute, Choteau, MT
Swan River Wildlife Protection Association, Great Falls, MT
The Nature Conservancy, Helena, MT

Newspapers

Choteau Acantha, Choteau, MT
Daily Interlake, Kalispell, MT
Hungry Horse News, Columbia Falls, MT

Individuals

558 private individuals

D.4 Public Comments on the Draft Plan

The public provided many comments during the public review period for the draft CCP and EA. The Service reviewed all comments and found the following to be substantive. As defined by National Environmental Policy Act (NEPA) compliance guidelines, comments are considered substantive if they:

- question, with reasonable basis, the accuracy of the information in the document;
- question, with reasonable basis, the adequacy of the environmental analysis;
- present reasonable alternatives other than those presented in the environmental assessment;
- cause changes or revisions in the proposal.

In compliance with the spirit of the Privacy Act of 1974, it is the policy of the U.S. Fish and Wildlife Service, Mountain–Prairie Region, to not publish the names, addresses, or other personal information of individuals. Agencies, business, and organizations are excluded. Rather than print every letter from individuals and redact (black out) all personal information, the Service has summarized the general nature of the comments received and responded to each substantive comment. Some of the comments do not meet the definition of "substantive" (as defined previously), and those are shown as "comment noted." In some instances, the Service has opted to respond to specific nonsubstantive comments where the public displayed a strong interest.

A summary of the individual comments is presented below, followed by specific comments and responses. The Service developed responses to each of these comments after grouping them in the following topics:

Benton Lake National Wildlife Refuge Complex

- wildlife (comments 1–2)
- energy development (comment 3)
- prescribed fire (comment 4)
- public use—wildlife observation, hunting, trapping (comments 5–7)

Benton Lake National Wildlife Refuge

- climate change (comments 8–9)
- selenium contamination (comments 10–19)
- pumping water from Muddy Creek (comments 20–23)
- Lake Creek watershed (comments 24–25)
- effect of dry period on wildlife (comment 26)
- invasive species (comment 27)
- botulism (comments 28–29)
- infrastructure (comments 30–31)
- economic cost (comment 32)
- public use (comments 33–36)
- alternative B (comments 37–43)
- alternative C1—proposed action (comments 44–50)
- grazing (comment 51)
- shelter belts (comment 52)
- planning process (comments 53–56)
- general (comments 57–58)

Swan River National Wildlife Refuge

- guided hunting (comment 59)

Swan Valley Conservation Area

- conservation easement program (comments 60–67)

Benton Lake National Wildlife Refuge Complex

The following are comments and responses pertaining to the Benton Lake National Wildlife Refuge Complex.

Wildlife

Comment 1. *Is anyone tracking the grizzly bears—do they know where they are going?*

Response 1. Grizzly bears are monitored as part of the ongoing recovery effort for the species. A summary of monitoring efforts can be found in the recently published 5-year review for the grizzly bear (USFWS 2011a). The grizzly bears in the refuge complex are part of the NCDE population. This population is monitored through a cooperative effort among MFWP, the Service, the National Park Service, USDA Forest Service, the Blackfeet Tribe, and the Confederated Salish and Kootenai Tribes. Details about the monitoring effort for the NCDE population can be found on Montana Fish, Wildlife & Parks Web site (http://fwp.mt.gov/fishAndWildlife/management/grizzlyBear/monitoring.html).

Comment 2. *The species list for reptiles does not include the Bull Snake (Pituophis catenifer sayi). I've seen only one; it was at my house (1.5m). I have pictures. I was hoping it would hang around for a few years.*

Response 2. Thank you for your comment. We have added bull snake to the species list in appendix G.

Energy Development

Comment 3. *Your staff has done a good job presenting the history, mission, objectives, goals and visions for the refuge complex. I support the Proposed Action (Alt C) and feel the BLNWR Complex must play a critical role in sustaining watershed health and wildlife habitats in the face of increasing pressure from human development of the surrounding landscapes. Toward that end, nurturing and expanding conservation easements with willing landowners will be an essential tool to long term ecosystem sustainability and connectivity for the diverse wildlife community that depends on it. I commend the Service's efforts to develop sound partnerships and am pleased to see an emphasis on that approach in the Proposed Action.*

I am, however, deeply concerned that the Draft CCP does not adequately assess the many threats to the Complex posed by the potential for rapid expansion of gas and oil development with fracking technology within or adjacent to the Complex. It's become clear that a fracking boom could have widespread impacts on watershed health, especially considering the tremendous quantities of water needed for well development and operation. Furthermore, the infrastructure development (roads, housing, sewage) that accompanies such a boom will have significant effects on wildlife and their habitats, especially for the Benton Lake Refuge/Wetland Management District and the Rocky Mountain Front CA. Additionally, impacts to air quality could be felt across the Complex from diesel truck traffic, well venting and other production-related emissions currently being proposed for regulation by the EPA. While I realize that predicting and quantifying these impacts may be beyond the scope of the CCP, I feel that it's essential to acknowledge and adequately describe the potential for this unprecedented level of development to affect the goals and resources of the BLNWR Complex. The public deserves to know that a fracking boom on private, state or federal lands could have serious consequences to the watersheds, wildlife and ecosystems of the Complex. I believe that this CCP should include a discussion of what the Service and its partners could do to protect the resources of the Complex from these impacts and offset any unavoidable consequences.

Response 3. The refuge complex staff agrees with, and shares, concerns regarding threats due to energy development, which was identified as the primary threat to native habitats and wildlife within the refuge complex in the CCP. With the rapid development of new energy technologies within the refuge complex (wind industries and fracking for oil production) over the past four years, the Benton Lake Refuge has been immersed in energy-related activities. Refuge staff has participated in public meetings, oil and gas leasing workshops, and environmental compliance and enforcement conferences. In addition, the staff shares leasing and surface use agreement information with local landowners, organizes meetings with tribal, State, and Federal oil and gas regulatory agencies, and have developed best management guidelines with State and Federal biologists, nongovernment organizations, and land management agencies, to help direct and reduce impacts. The staff also worked with energy industry representatives to make recommendations for, and sight, wind farm turbine locations.

The Service agrees that it is daunting to predict and quantify the potential environmental impacts throughout the refuge complex from current and future energy development activities. Vigilant, well-informed, and proactive communications between partnering agencies, nongovernment organizations, landowners, local communities and

the energy industry, while recognizing environmental regulatory mandates and respecting personal property rights is the best approach for responsible land stewardship.

Prescribed Fire

Comment 4. *Prescribed fire pollutes the air people need to breathe. Burning releases fine particulate matter and mercury, which cause lung cancer, heart attacks, strokes, pneumonia, allergies and asthma. You send people to the hospital or mortuary. This is no help to America to burn. Fire does not control invasive species, it spreads them. Regrowth after burning takes 5 to l0 years during which the site is impossible for any birds or wildlife to live there. Grazing is NOT GOOD for the environment. It harms the environment totally.*

Response 4. Grasslands in the northern Great Plains evolved under the influence of fire and herbivory from wild ungulates which reduces plant litter, recycles nutrients, and stimulates plant growth. Regrowth of grasslands after a fire takes one growing season. Lightning-caused fires are common on Benton Lake Refuge and on WPAs in the wetland management district. We use prescribed fire and short-duration, high-intensity grazing on a rotational basis to mimic natural processes and maintain grasslands in a robust and productive state that provides excellent wildlife habitat. Invasive species are a problem in some areas of the refuge and wetland management district and are managed using chemical, mechanical and biological controls in accordance with Service policy and State statutes.

Public Use (wildlife observation, hunting, trapping)

Comment 5. *More open areas for viewing wildlife—whether on foot or car are needed. There are other prairie refuges (public or NGO) that have foot trails that might serve as a model.*

Response 5. The refuge complex recognizes an interest in increased wildlife viewing opportunities. As such, the selected management direction for the refuge complex and Benton Lake Refuge includes a number of objectives and strategies directed at increasing wildlife viewing opportunity.

Comment 6. *I appreciate the plan's attention to the wildlife viewing experience. I have one concern here. There is frequent reference to closures that could cause disturbance to the birds. I urge the refuge staff to set these limits at what's needed and no more. How much area needs to be closed to wildlife viewing, and how for just how long? Maybe not as much or as long as the rules appoint. The contrast with Freezout Lake Wildlife Management Area – a nearby area with many similarities – is stark. Freezout is a productive wildlife management area which doesn't restrict visitor presence at all, except to provide a limited sanctuary for waterfowl during the hunting season. Maybe Benton Lake could be managed a little more liberally in this regard, more carefully balancing the desire for wildlife viewing and the welfare of the birds. These remarks also apply to Swan River National Wildlife Refuge (what a great spot for bitterns!) as well.*

Response 6. Swan River Refuge and Benton Lake Refuge were established specifically under the authority of the Migratory Bird Conservation Act. Benton Lake Refuge's purpose is as "a refuge and breeding ground for migratory birds" and for "use as an inviolate sanctuary, or for any other management purpose, for migratory birds." Swan River Refuge's purpose is for "use as an inviolate sanctuary, or for any other management purpose, for migratory birds." The Benton Lake Wetland Management District purposes are for "waterfowl production area subject to all of the provision of the Migratory Bird Conservation Act except the inviolate sanctuary provisions, for "any other management purpose for migratory birds", and for "conservation purposes." The purpose of these areas dictates the type, location, and timing of recreational use. Because breeding migratory birds rely on wetland and upland habitats (grasslands) to complete their life cycles, portions of the refuges and waterfowl production areas are closed during the breeding season when they are most sensitive to disturbance. This period is generally between March 1 and July 15. Many species using these areas nest within the grasslands, along roadsides, and, in some cases, in less-developed roadways, making these species at high risk for nest failure. To ensure the protection of breeding birds and that the refuge units meet their designated purposes, seasonal closures are implemented. The staff balance recreational opportunity and the protection of resources to optimize the availability of both, however, the protection of natural resources receives the highest priority if conflicts exist. The refuge complex has reached an affective balance to meet migratory bird management objectives, but we may consider expanding opportunity if conditions change.

Comment 7. *No increased hunting. In fact ban all hunting in this site. Wildlife watchers outspend*

hunters 5 to l so why consign this area to economic depravity to invite in wildlife killers. Hunting is not a compatible activity with any other peaceful activity. I oppose hunt season for state defined predators and non-game species from August l5 through March 1. Ban all trapping, brutal horror that it is.

Response 7. Hunting is a compatible, traditional public use of the Benton Lake National Wildlife Refuge Complex, excluding Sands and H2–O WPAs. The National Wildlife Refuge System Administration Act of 1966, other laws, and Service policy permit hunting on a national wildlife refuge when it is compatible with (does not materially detract from) the purposes for which the refuge was established and acquired. National wildlife refuges exist primarily to safeguard wildlife populations through habitat management and conservation. The word "refuge" includes the idea of providing a haven of safety for wildlife and, as such, hunting might seem an inconsistent use of the Refuge System. However, habitat that supports healthy wildlife populations produces harvestable animal surpluses, with wildlife being a renewable resource in these situations. Hunting, trapping, and fishing as practiced on refuges do not pose a threat to wildlife populations and, in some instances, are actually necessary for sound wildlife management.

Benton Lake National Wildlife Refuge

The following are comments and responses pertaining to the Benton Lake National Wildlife Refuge.

Climate Change

Comment 8. *A word on global warming, the granddaddy of refuge issues. Returning fluctuating water levels to Benton Lake, and even allowing dry years, will provide the conditions that will maximize the full range of native plants and invertebrates in the wetland, the foundation on which the other wildlife rests. Whatever lies ahead, a healthy ecosystem will be more able to withstand it, rather than one that tilts towards invasive species and monocultures more and more as the years pass. I hope refuge staff will also be able to add many conservation easements to the refuge complex in coming years, providing the wildlife corridors that must be available if wildlife is to survive.*

Response 8. We completely agree with your assessment. The selected management direction provides a full range of native plants and invertebrates in the wetland and improves the health of the ecosystem so that it will be better able to withstanding unforeseen climate changes. The refuge complex will continue to place high priority on acquiring conservation easements which can provide wildlife corridors to enhance adaptability of species.

Comment 9. *With the growing awareness and acceptance of the long term and serious impacts of climate change, it is all the more important to protect existing and developed valuable wetlands area's such as Benton Lake. To do otherwise is misguided, shortsighted and counterproductive. In that regard, I am in full support of alternative B-1 and the comments as submitted by the Russell country Sportsmen's Association, and am convinced it is the most appropriate and effective option available. This option will require considerable effort, creativity and strong leadership on the part of the U.S. Fish and Wildlife Service, but I am confident you and your staff are capable of accomplishing this difficult task. My father was one of the far sighted individuals that lead the effort to develop this valuable resource. We MUST protect and perpetuate that vision.*

Response 9. Restoring a refuge's health and sustainability in both the uplands and wetlands is the most powerful tool to combat impacts of climate change and counteracting the impacts of wetland loss across the landscape on migratory birds. By shifting the management of Benton Lake Refuge from intensively managed semipermanent water body, to a wetland driven by more natural hydrology, will improve the sustainability and health of the system and increase the system's resiliency and resistance to changes. The Service's HAPET office has identified temporary and seasonal wetland, often less than 1 acre in size, and totally or partially embedded in cropland, as the highest risk for conversion. The pressure to drain and fill these wetlands for tillage agriculture puts these basins at higher risk of conversion than those with more permanent water or embedded in grassland. At the same time, the value of these small temporary and seasonal wetlands to the waterfowl resource is great. According to HAPET, for every ten 1-acre wetlands in the Prairie Pothole Region, there would predictably be 20 breeding pairs of ducks, whereas, one 10-acre wetland would likely support only seven duck pairs. Managing Benton Lake Refuge as a semipermanent wetland does not provide the same resources as would managing most of the lost wetlands across the landscape.

Protecting and restoring the vulnerable small temporary and seasonal wetlands and restoring the sustainability and health of Benton Lake Refuge (includes greater occurrence of temporary and seasonal wetland habitat within the basin) would be of greater benefit to migratory birds and adaptation to climate change.

Selenium Contamination

Comment 10. *The study has brought to light a serious problem with policies of the past causing a concentration of chemicals. It seems the chemicals may be occurring naturally, but the influence of man's behavior has greatly concentrated the chemicals to the point of being unnatural and harmful to the wildlife of the area. To me, the best solution would seem to be to allow a return of the refuge to a more natural cycle; for man to stop remaking it into something unhealthy for generations to come. This may also have an additional benefit of saving federal dollars, not enough to "save the nation" but it would be one area that we could add our savings to the bigger picture. From time to time this solution may seem to change the desirability of particular visits, hunting in particular, but it would still be more along the natural occurrence of hunting opportunities rather than creating a government funded hunting preserve/farm for sick animals to be taken by people not willing to actually go hunt for them. I'm NOT against hunting, but I think we need to also try to provide a healthy environment for healthy wildlife for all to enjoy.*

Response 10. Thank you for your comment.

Comment 11. *I thought you did a good job on your assessment of the selenium problem at the Benton Lake Refuge though I think the vegetation and raptors need testing for selenium levels. I have been too ill to attend the public hearing Tuesday. Please keep me advised to the future management of the selenium problem at Benton Lake. I also appreciate your diligence in wisely spending tax dollars while managing our valuable refuge.*

Response 11. Thank you for your comment. We will consider your suggestion to test selenium in vegetation and raptors as part of the stepdown plans (Habitat Management and Inventory and Monitoring) that will be developed.

Comment 12. *I would like to comment on my concern about the decline in conditions at the Benton Lake Wildlife Refuge. I live on a plateau south of Benton Lake Refuge. I am in sight of the refuge and have large numbers of waterfowl and birds moving to and fro to the refuge across my land. I am totally endorsing alternative C1 (Proposed Action). I am concerned the refuge will be permanently harmed by the buildup of selenium because of the unnatural addition of purchased water to the refuge. I also object to this waste of tax payer money. I have a B.S. in avian science and am a federally and State of Montana permitted raptor propagator. I mention these qualifications because I am concerned these heavy metals specifically, toxic increased levels of selenium, are harming the raptors preying on sickened waterfowl. There is a study on selenium toxicity in the peregrine falcons in the Big Bend area of Texas. I know peregrines and recently snowy owls are visitors to the refuge. I am for allowing the refuge to return to a more natural state which should lower the levels of heavy metals such as lead, mercury, and selenium.*

Response 12. Thank you for your comment.

Comment 13. *As a birder, I've enjoyed many a pleasant hour at Benton Lake National Wildlife Refuge over the past 30 years. Sharp-tailed grouse dancing, ruddy ducks bubbling, eared grebes carrying chicks on their backs, chestnut-collared longspurs climbing skyward to sing—all come to mind when I think of this refuge. Not to mention those one-time-only sights such as a gyrfalcon taking a mallard. Underpinning all this enjoyment is the health of Benton Lake's habitats, which brings us to the Draft Comprehensive Conservation Plan. As the plan notes, selenium concentrations threaten, bird numbers languish, the open water decreases. Factor in national concerns like global warming and the decline of grassland birds, and the management of these lands takes on even more importance. What to do?*

I support option C-1, with B-2 as a second choice. As in so many cases of trying to halt a natural cycle at one place, keeping water levels stable and deep at Benton Lake has come with a hefty price that becomes more and more evident as time goes on. Just as using dams to eliminate flooding has kept new cottonwoods from growing in our watersheds, eliminating water fluctuations from Benton Lake has harmed the habitat. Why have shorebird migrants – which I helped to count in support of the Western Shorebird Hemisphere Reserve designation years ago – fallen so much? What about our waterbirds? Unfortunately, refuge staffing hasn't allowed the kind of monitoring that would let us know precisely how bad the situation is. Even so, a plan must be made.

Although species needing deep water may be harmed, (white-fronted ibis, black-crowned night-heron, and Franklin's gull, this last of which will likely return when wet years allow), the benefits to the myriad remaining species outweigh this. Option C-1 emphasizes grassland birds, as it should. This is the group of birds in most serious decline in our nation. But Benton's wetland birds are not to be overlooked – there's nothing like the concentration of birds you find in a wetland surrounded by dry country to deliver spectacular birdwatching. And like grasslands, wetlands have also been disappearing. Still, letting natural processes reign may well bring higher productivity back to the wetlands. It's hard to keep doing the same thing in the face of results that get worse and worse, even as selenium concentrations approach levels where it will impact bird reproduction. I can't support option C-2. Wildlife management is an inexact undertaking, and keeping the pumping equipment in place allows flexibility as the future unfolds.

Response 13. Thank you for your comment.

Comment 14. *Many studies have been done about the dangers of eating chemically tainted fish. What about the effects on the hunter of eating chemically tainted waterfowl? Though I'm not a hunter, I believe they hold themselves to a moral standard of not taking more than they can use. I would hope they are not throwing away any animals they take.*

Response 14. In other locations, such as California, human health advisories have been issued based on selenium levels in edible fish tissues (DOI 1998). The potential effect on hunters who consume waterfowl that have been harvested at Benton Lake Refuge, particularly in reference to selenium contamination, has not been studied. Previous studies of selenium contamination in waterfowl on the refuge have sampled eggs or livers during the breeding season (for example, Knapton et al. 1988; Nimick et al. 1996). In order to assess the possibility of a human health hazard due to selenium contamination in waterfowl, either muscle tissue or whole-body sampling would need to be done during the fall hunting season.

Comment 15. *Agricultural waste water is the primary cause of your refuge's problems. You have the same problem which occurred during the early 1980s at the Kesterson National Wildlife Refuge in Central California. I covered the Kesterson story as a reporter for United Press International and later for the Fresno Bee. Birds nesting at the Kesterson evaporation ponds had a two/thirds reproductive failure rate as selenium bioconcentrated while moving up the Kesterson food chain. The U.S. Geological Survey has an internet website with many, many peer-reviewed articles about selenium impacts on wildlife.*

Response 15. Thank you for your comment.

Comment 16. *Today I attended a meeting at the Holiday Inn Great Falls regarding the CCP alternatives for the Benton Lake National Wildlife Refuge. At the end of the meeting several comments were made and the facilitator's summary concerned me. He summarized that it sound like we were all in agreement that some form of drying was needed to address the selenium problem. He inferred that the group was in agreement that the lake being dry for all but four years in a twenty year period was unacceptable. However what period of drying time was acceptable was undecided. I want to clarify that the consensus from the group, that having the lake completely dry for any given year was unacceptable. The group was in favor in a B alternative that would keep water in the lake through the hunting season, but agreed that selective drying of ponds on a rotating basis was preferred compared to allowing the entire lake to go dry in any given year. It was discussed that the B alternative could address the selenium problem and for that reason the group was unanimous in supporting this alternative.*

Response 16. We agree that determining the appropriate period of drying for the refuge is a key issue in developing the management direction for Benton Lake. We have modified the proposed action to reduce the number of years the lake may be completely dry to no more than 4 out of 15 years (and no more than 3 consecutive years). This change was made to balance the need to address selenium contamination and the health of the wetland with concerns by the public about extended drying on the refuge.

Comment 17. *I'm a taxidermist. I know nothing about selenium. It would seem that there is something to do about it (flooding, drying, plowing). We can't just dry up the refuge because of selenium. Benton Lake seems too important in the flyway just to dry up. I have always said WATER IS LIFE IN MONTANA.*

Response 17. Thank you for your comment. Management direction for Benton Lake includes prescriptive management actions such as flooding, drying and plowing. The proposed action has also been modified to reduce the number of years that the

lake may be completely dry to no more than 4 out of 15 (and no more than 3 consecutive).

Comment 18. *Aggressively go after the selenium problem in Units 1 and 2 and start paying particular attention to improving the grassland for prairie birds.*

Response 18. Thank you for your comment. The management direction for Benton Lake will make treating the selenium problem in Units 1 and 2, as well as improving wetland health, a top priority. We agree that improving grassland habitat for prairie birds is also important. As wetland health improves, more refuge resources (staff time and money) will be available for managing grassland habitat.

Comment 19. *Pond 1 shows the highest level and the levels reduce as you go from pond to pond. Suggested that pond 1 could be emptied for 7 years and this would kill of the selenium and botulism in the area. Rotation of the ponds would allow for survival of brood and waterfowl.*

Response 19. The management direction for Benton Lake will include drying in Unit 1 until selenium levels have been reduced to where they are no longer hazardous to wildlife. We also plan to rotate flooding in the remaining ponds in years of sufficient natural runoff or pumping.

Pumping Water from Muddy Creek

Comment 20. *I agree with Action C, letting the refuge return to natural without buying [pumping] supplemental water on dry years. I agree with your opinion that this would alleviate the toxic selenium build up problem.*

Response 20. The Service agrees that one of the easiest solutions to reducing selenium accumulation in the wetland basin is to not pump the 40-percent supplemental water that has become typical and to provide greater opportunity for wetland basins to dry. After receipt of all public input and comments, the Service has selected a management direction that will address selenium accumulation while providing a more modest reduction in recreational opportunity. The selected management direction has set selenium objectives which include a trigger for action at 50-percent minimal hazard level for all trophic levels (water, sediment, invertebrates, and eggs) and a no-net-increase in selenium for the entire basin over the life of the plan. To accomplish this, extended periods of drying (7 or more years) in targeted units with the highest selenium toxicity such as Unit 1 and 2 and shorter-duration drying (3–5 or more years in other units) will be implemented which will significantly reduce selenium toxicity. In addition, the location, duration, and quantity of pumped water may be reduced to meet selenium objectives. Efforts will also be made to improve water quality in the Lake Creek and Muddy Creek watersheds, which should reduce the inputs of selenium into the wetland basin.

Comment 21. *Most importantly the refuge should be maintained as a wetland habitat by pumping water every year. Special water species need this isolated marsh. The largest populations of Franklin's Gulls in Montana (the "good" gulls) and Ibis nest there. I am a member of 6 Montana wildlife organizations. It amazes me FWS would even consider no longer pumping water to this special habitat.*

Response 21. Refuge staff reviewed the current continental population estimate, population status, and the importance of Benton Lake for common and uncommon breeding waterbirds on the refuge that are also identified as a species of concern at the national or regional level by the Service or its partners. Wetland-dependent birds tend to be long lived, most have stable-to-increasing populations, and, for species on which the Service has received specific comments (black-crowned night-herons, Franklin's gulls, and black-necked stilts), the refuge is either disjunctive or peripheral to their populations. Continental population levels of migratory bird species of concern will not be significantly affected by the management direction of the refuge (Region 6 Migratory Bird Office). With the Refuge System, the Service has a mandate to consider species on a population-wide, rather than only local, scale.

The selected management direction of the refuge seeks to improve waterfowl and other wetland-dependent bird (for example, Franklin's gulls, white-faced ibis) productivity on the refuge over the next 15 years. We do know that when wetlands reflood after a dry period, there is a pulse of nutrients that stimulates productivity in invertebrates and some plants, which provides important food resources for waterfowl, shorebirds, and other wetland-dependent wildlife (Magee 1995, Anteau 2012). Under the selected management direction for Benton Lake Refuge, there will be more frequent annual flooding than what was originally proposed. Whether or not shorter-term dry cycles are effective in addressing serious wetland health issues will be continually monitored and evaluated in an adaptive management framework. Based on this monitoring feedback, adjustments will be made as needed.

Comment 22. *I am opposed to any changes that eliminate pumping from Muddy Creek once a year.*

Response 22. Comment noted. Under the selected management direction, some amount of pumping is likely to occur in 11 out of the 15 years of the plan with no more than 3 consecutive years getting no pumping. The decision to not pump is based on achieving the wetland health and sustainability objectives addressing selenium toxicity (preventing reproductive harm from selenium in wildlife, especially birds), invasive species management, botulism, and wetland productivity.

Comment 23. *An easement was signed with [neighboring landowner] in 1959. Their water was cut off and diverted to Benton Lake. In return for this, they were promised their ponds would be stocked 2 times per year. Without fulfillment of the agreement, the family farm would be gone.*

Response 23. The 1959 easement does not guarantee to provide water annually. The easement says that when the refuge pumps water, stock ponds would be filled. Under the selected management direction, some amount of pumping is likely to occur in 11 out of 15 years of the plan with no more than 3 consecutive years without pumping. When the refuge pumps water, it will do so to fill up the stock ponds. In addition, the refuge will work with impacted landowners to try to develop alternative mechanisms to provide water during years the refuge does not pump water.

Lake Creek Watershed

Comment 24. *The description of the action plan "Calming Troubled Waters" focuses almost entirely on the actions dealing with volunteer conservation efforts with landowners in the watershed. Missing is the action item that called for the acquisition of 10,000 acres to the west of the existing refuge. This action alone, if started 20 years ago, would have eliminated some of the prime sources of saline seeps on the refuge. I'm also puzzled why acquisition is not one of the actions in the plan?*

Response 24. The proposed action had extremely limited pumping (once out of 8 years) and effects from selenium would have been adequately addressed by providing extended drying through the natural hydroperiod. The selected management alternative reduced basin-wide drying to 4 years out of 15 years of the plan, not exceeding 3 consecutive years. With the increase in pumping, the importance of water quality in the Lake Creek and Muddy Creek watersheds is heightened. In the past, the Service has implemented short-duration agreements that placed fallow fields into permanent cover with some level of success, however, after the loss of funds, the areas were converted back to row crops. As such, Service staff has added an additional strategy to the plan to help improve water quality within the watersheds. This strategy would evaluate placing permanent cover on prime sources of saline seeps by purchasing fee-title tracts or perpetual easements on land from willing sellers. Only perpetual easements will be considered to ensure the long-term improvement and protection of water quality.

Comment 25. *I would like to comment on the virtual absence of a discussion regarding the landowner that is the major contributor to the selenium contamination in the lake. This study is not complete without properly addressing this issue, and I'm surprised at the glaring omission! Benton Lake must be kept viable. If I had to choose among the alternatives in the study, I would support Plan B, but an abatement plan with the offending landowner HAS TO BE A PART OF ANY SOLUTION.*

Response 25. Comment noted. The selected management alternative will strive to provide some waterfowl hunting and fall and spring migration habitat in at least 11 out of 15 years. This will require some pumping, which heightens the importance of water quality in the Lake Creek and Muddy Creek watersheds. The refuge will coordinate with the Montana Salinity Control to identify prime areas for abatement and the means to improve water quality within the watersheds.

Effect of Dry Periods on Wildlife

Comment 26. *We the public are concerned about the long dry periods in the preferred plan. What are going to happen to the birds when there is no water on the refuge and none off the refuge?? Where will they go? Some evidence of what can happen when there is poor or no water we don't have to go far. In 2000 (I was told and later read about) a mallard study in Blain and Phillips County. 25 mallards were radioed and only 7 nested. There were some that left and the rest didn't even try to nest. This just shows that any water wherever it is important to waterfowl and wildlife. That's what scares me, when in drought (which it seems we are always in) all other non-pumped waterfowl production areas are dry but BLNWR has water in it giving wildlife and waterfowl a place to live and strive.*

Response 26. The proposed action has been modified to reduce the length of basin-wide dry periods to

no more than 4 out of 15 years (and no more than 3 consecutive years). During these shorter dry periods, breeding of wetland-dependent species such as waterfowl will be low at the refuge, but wetland-dependent birds have adapted to long-term flooding and drying cycles. Although some species of waterfowl tend to return to the same breeding area used the year before, most species of waterfowl exhibit some degree of flexibility in settling patterns in response to local wetland conditions (Johnson and Grier 1988).

When the refuge wetland units are reflooded after a dry period, there will be a pulse of nutrients that stimulates productivity in invertebrates and some plants, which provides important food resources for waterfowl, shorebirds, and other wetland-dependent wildlife (Magee 1995, Anteau 2012). Restoring annual and long-term variability in the wetland basin will increase plant and animal diversity over the long term,while providing optimal conditions for different suites of species at different times. Examples of this occur regularly on the waterfowl production areas within the district where significant bird use occurs in basins under natural hydrological regimes that are flooded following a relatively long dry cycle.

Invasive Species

Comment 27. *The foxtail was killed off last year when the area flooded and water levels remained high. Proposed killing the foxtail with continued flooding and chemicals.*

Response 27. Thank you for your comment. All management tools, including flooding, drying, and chemical treatments will be considered to control Garrison creeping foxtail.

Botulism

Comment 28. *Where is botulism addressed in the proposal?*

Response 28. Botulism is discussed in numerous places in the Draft CCP and EA for the Benton Lake National Wildlife Refuge Complex, including in the discussion of the establishment, acquisition, and management history of Benton Lake Refuge on pages 201 and 204 in section 7.2. From 1962 through the late 1980s some water was pumped during the summer to support water levels. In the last 20 years summer pumping has not been used, which let Units 3–6 dry out and prevented botulism outbreaks. Pumping generally resumes in late August or early September, depending on when the Greenfields Irrigation District ceases water distribution.

Comment 29. *Botulism was found in the ponds in 1970 and the pond was dried out. This action killed the Botulism.*

Response 29. Although we still do not completely understand the causes of a botulism outbreak, drying out any units with botulism is the only way to stop outbreaks there.

Infrastructure

Comment 30. *If there is no water in the area for 15–20 years there would be a breakdown of the areas infrastructure due to lack of public use and maintenance.*

Response 30. The infrastructure would not break down if the refuge was dry for 15 or 20 years. Actually the lack of muskrat burrowing activity in dry years would reduce the need for dike maintenance. The refuge auto tour would still be kept up and remain open for public use. Natural runoff would still occur in Lake Creek and all water control structures, culverts, and other structures in the creek would be maintained as needed to allow normal water flow in the creek. Very little maintenance activity beyond cleaning vegetation from culverts and stopping log structures takes place in Lake Creek during the year. The Muddy Creek Pumphouse requires little annual maintenance. The water control structures in Muddy Creek remain open during nonpumping periods to allow natural flows to pass through. The pumps, themselves, are in a secure, locked building, and, when the Pumphouse sump is drained, the entire pump remains out of the water. Oil levels inside the pump are maintained and there should be few problems with long-term inactivity.

Comment 31. *The intended purpose in the development if the refuge was, and still is, for wet lands and habitat for thousands of migrating and nesting birds (a paradise for water birds, so stated in one of your special leaflets found at the information kiosk at the entrance road). The cost of development of the refuge in the 1950's, the new asphalt road, many improvement to the infrastructure would all be lost if alternative C was implemented. A rough estimate between three to six million dollars to reclaim the refuge to prairie land could well be used to buy and install a reverse siphon at Muddy Creek Pump Station to supply water to the refuge. The elimination of the existing pump would result in huge savings of tax dollars by not using electrical power. Money*

saved could then be used for maintenance, noxious weed control, and up keep of the refuge. A clean supply of water using the siphon would help reduce the contamination of selenium and salinity. My endorsement of Alternative B is not only supportive for the above reason, but also because members of the Cascade County Wildlife Association secured congressional funding to transform the marsh into a more consistently wet environment. Four years later a pump house and pipeline were built to bring water to the refuge from Muddy Creek. Because of their effort and citizen involvement, the refuge has worked just fine for over 53 years. I highly suggest, encourage, and recommend that you as the decision maker listen to the present day sportsmen, the sportsmen organizations (Ducks Unlimited; MFW&P; Public Land, Public Water Association, Russell Country Sportsmen Association) and concerned citizens and adopt Alternative B to conserve and continue the sole intention of Benton Lake for the next 53 years and beyond.

Response 31. Benton Lake Refuge was established as "a refuge and breeding ground for birds" (Executive Order No.5228, November 21, 1929). The Improvement Act requires that "each refuge shall be managed to fulfill the mission of the Refuge System, as well as the specific purpose for which that refuge was established" (section 4 (a)(1)(3)(A)). There is a strong and singular wildlife conservation mission for the Refuge System and, when found to be compatible, wildlife-dependent recreational uses such as hunting are legitimate and proper uses but secondary to the primary purpose for which the refuge was established. Management actions to improve the health and vitality of the refuge supersede any recreational use. The refuge has experienced significant wetland health declines since the installation of the infrastructure and Pumphouse in 1961 as well as consistent flooding on an annual basis. Wetland health and sustainability declines with their implications for the species that depend on the wetlands have prompted a change in management of the wetland basin. The selected management direction does not include major infrastructure development, but does suggest that minor retrofitting and modification may occur. The use of a siphon was considered and evaluated through the planning process and found to be cost prohibitive (a 2006 estimate by the Bureau of Reclamation of $5 million) and not a viable option due to the uncertainty of water quantity, the timing of water availability, and the quality of water. A more descriptive analysis of the siphon is available in section 7.10 in the Draft CCP and EA for the Benton Lake National Wildlife Refuge Complex. There is no intention by the refuge to not use or keep the existing entrance road that was resurfaced in 2010.

Economic Cost

Comment 32. *In spending money (tax payers' money), with the exception of proposition C, it would appear that most of the money would be ill-spent. To quote a mutual acquaintance of ours, "The long term cost of keeping the water levels up goes beyond the annual purchases of water and is affecting the viability of the lake beds themselves. It appears that by creating the wetlands when they would otherwise be dry has created additional cost and is actually affecting the natural life-cycle in the area. I would prefer to see the area allowed to revert to a normal cycle, to find its own balance. Under the current economic circumstances, I would prefer that the funds be reallocated to projects that are restoring refuges, or to simply reduce the budget overall.*

Response 32. The proposed action (alternative C1) was one of the most fiscally responsible options. The selected management direction, which is a modification from the proposed action, is more expensive. Under the selected management direction, the refuge will strive to provide some waterfowl hunting and fall and spring migration habitat in at least 11 out of 15 years. This will require some pumping and additional expenses in water management. The refuge units will go through dry cycles to emulate the natural hydroperiods and a basin-wide drawdown may occur in 4 out of 15 years though it will not exceed 3 consecutive years. The selected management direction is expected to cost more than current management action (alternative A1) and the proposed action (alternative C1), less than alternatives B1 and C2, and similar to alternative B2. Any savings will be used for management objectives on the refuge or on other high-priority activities in the refuge complex such as the management and acquisition of conservation easements within the Crown of the Continent Ecosystem.

Public Use

Comment 33. *Under alternative C recreational use would increase 45% but waterfowl hunting would decrease. If there is no water in Benton there are no ducks, shorebirds, and wildlife. How would recreational use increase then? The alternative says the refuge would be dry 7–8 years out of ten.*

I presume that recreation would decrease 45% rather increase.

Response 33. The Improvement Act identifies six priority uses including: hunting, fishing, wildlife observation, photography, environmental education, and interpretation. Waterfowl hunting (approximately 300 visits per year) is not the only recreation use considered by the refuge. In fact, the most abundant recreation use on the refuge is wildlife observation (over 9,000 visits per year). The selected management direction and proposed action alternative C1 include a park ranger position that will enhance the public use program, including an emphasis on nonconsumptive user groups (wildlife observation, photography, environmental education and interpretation). This focused and concentrated effort is expected to increase visitation to the refuge and participation in refuge programming. The proposed action (alternative C1) estimated public use from all user groups, over the life of the plan, to increase by 25 percent over current usage. Hunting was estimated to be reduced by 41 percent over the life of the plan. The selected management direction is striving to provide some waterfowl hunting and fall and spring migration habitat in at least 11 out of 15 years. This should increase the amount of waterfowl hunting use from the proposed action alternative C1. Under a natural hydrologic regime, water captured from natural runoff is expected to be available on the refuge until June 73 percent of the time providing valuable spring and early summer habitat for many bird species including waterbirds, ducks, shorebirds, and grassland birds.

Comment 34. *If enacted, your proposed alternative C1 will significantly reduce wildlife viewing and essentially eliminate the hunting opportunities that are currently being enjoyed by the citizens of central Montana. The claims of increased usage under this proposal are false and cannot be substantiated.*

Response 34. The Improvement Act identifies six priority uses including: hunting, fishing, wildlife observation, photography, environmental education, and interpretation. Waterfowl hunting (approximately 300 visits per year) is not the only recreation use considered during the analysis by the refuge. In fact, the most abundant recreation use on the refuge is wildlife observation (over 9,000 visits per year). The selected management direction and proposed action alternative C1 include a park ranger position that will enhance the public use program, including an emphasis on nonconsumptive user groups (wildlife observation, photography, environmental education and interpretation). This focused and concentrated effort is expected to increase visitation to the refuge and participation in refuge programing by 25 percent over the life of the plan. The selected management direction balances the health and sustainability of the wetland while providing additional waterfowl hunting opportunity than the proposed action alternative C1. Under the selected management direction, the refuge is striving to provide some waterfowl hunting and fall and spring migration habitat in at least 11 out of 15 years, which should increase hunting over the proposed action (alternative C1).

Comment 35. *I have been hunting the area since 1971. Hunting was cut in half when the Service closed hunting to half the area. If the Service continues to close areas then the area will miss out on a generation of new hunters.*

Response 35. Benton Lake Refuge was established as "a refuge and breeding ground for birds" (Executive Order No.5228, November 21, 1929). The Improvement Act requires that "each refuge shall be managed to fulfill the mission of the Refuge System, as well as the specific purpose for which that refuge was established" (section 4 (a)(1)(3)(A)). There is a strong and singular wildlife conservation mission for the Refuge System and, when found to be compatible, wildlife-dependent recreational uses such as hunting are legitimate and proper uses but secondary to the primary purpose for which the refuge was established. Management actions to improve the health and vitality of the refuge supersede any recreational use resulting in seasonal closures and other restrictions.

Comment 36. *If the refuge goes dry then generations of hunters will not be able to use the land. If the birds go then they will never return. They will modify their migration and the area would be a loss to the community.*

Response 36. This comment suggests that water-dependent birds have not adapted to long-term flooding and drying cycles. Although some species of waterfowl tend to return to the same breeding area used the year before (such as homing), most species of waterfowl exhibit some degree of flexibility in settling patterns in response to local wetland conditions (Johnson and Grier 1988). Examples of this occur regularly on the waterfowl production areas within the wetland management district where basins under natural hydrological regimes are flooded following a relatively long dry cycle with significant associated bird use. Drying periods are not expected to eliminate bird usage over long periods of time as suggested by the com-

menter. The proposed action has been revised to imitate the natural wet–dry cycles in various units and across the basin to improve wetland health, while providing flooded wetland habitat in more years than would have occurred under the proposed action. The refuge will strive to provide flooded wetland habitat available for wetland-dependent wildlife and recreational use in the fall in at least 11 out of 15 years. We believe that the selected management direction recognizes the public's interest in maintaining healthy habitat and abundant wildlife populations at Benton Lake Refuge.

Alternative B

Comment 37. *For Benton Lake Refuge, alternative B1 is the best choice of the options offered. However, adaptive management is needed to address taking care of changing condition.*

Response 37. The selected management direction includes an adaptive management approach that takes into consideration changing conditions and flexibility to meet management objectives.

Comment 38. *We prefer alternative B1, feeling it is the best alternative to maintain hunting and bird watching. We are hoping to enjoy it for years to come and for other generations.*

Response 38. Thank you for your comment. The selected management direction provides hunting and bird watching opportunities as well as opportunities to improve wetland health and sustainability which will provide wildlife resources and wildlife-dependent recreation for future generations.

Comment 39. *A modification of B1 would be the most beneficial to the public and the area. If the water was drained, it would have an effect on the upland birds and loss of millions in roadways, trail ways, hunting and recreation. I have great concern over the loss of wetland bird species viewing and loss of all waterfowl bird hunting.*

Response 39. The revised management direction does not implicate the removal of roadways or trails. Slight modifications to some water control infrastructure may occur to enhance the ability to achieve management objectives. Under the selected management direction, the refuge will strive to provide flooded wetland habitat for wetland-dependent wildlife and recreational use in the fall in at least 11 out of 15 years. We believe that the selected management direction recognizes the public's interest in maintaining healthy habitat and abundant wildlife populations at Benton Lake Refuge.

Comment 40. *Request a modification of proposal B1. The request is to rotate water from pond to pond. This would allow sections to be closed but not the whole area, thus maintaining public access and hunting and recreational use.*

Response 40. The revised management direction provides the ability to rotate water from unit to unit and to provide areas for inviolate sanctuary and hunting. The refuge will strive to provide flooded wetland habitat available for wetland-dependent wildlife and recreational use in the fall in at least 11 out of 15 years. We believe that the selected management direction recognizes the public's interest in maintaining healthy habitat and abundant wildlife populations at Benton Lake Refuge.

Comment 41. *I support the future management of the refuge under alternative B1. The rotational aspects of this alternative will restore diversity throughout the refuge, enhance the user experience, and improve selenium levels before they become an issue. Most importantly, I believe this plan fulfills the vision and promise that caused it to be built decades ago.*

Response 41. In 1929, the Benton Lake Refuge was established as "a refuge and breeding ground for birds" (Executive Order No.5228, November 21, 1929). In 1960, infrastructure was developed to provided water on a regular basis to the wetland basin. The management of the wetland basin since that time was to provide the relatively same amount of water every year, replacing a spring-dominated flooding cycle with a fall-dominated flooding cycle. This had profound effects on the health and sustainability of the wetland basin. To fulfill the vision of the refuge, a healthy wetland is a necessity. The selected management direction provides for improved wetland health by addressing selenium contamination, providing flexibility in water management, utilizing habitat management tools (examples include discing, grazing, and burning) and providing for recreational opportunities. Healthy habitats improve breeding bird productivity and enhance recreational experiences.

Comment 42. *Would like to see emptying of ponds rotated instead of closed and drained all at once. Speaker would like to see a modification of B1. Propose building new ponds and drain the old ones. New ponds would keep the area open and would not allow a breakdown of infrastructure due to lack of use.*

Response 42. The selected management direction includes a rotational component. The rotation includes implementing extended periods of drying (7 or more years) in targeted units with the highest selenium toxicity such as Units 1 and 2 and shorter-duration drying (3–5 or more years in other units). In the proposed action (alternative C1) and the selected management direction, all infrastructure would be maintained and serviced and would not "breakdown due to lack of use." The Service is not proposing to build any additional units, however, slight modifications to existing infrastructure may occur to enhance water delivery and the achievement of wetland health objectives.

Comment 43. *I support alternative B because alternative B is the only alternative that references hunting on the refuge.*

Response 43. All alternatives reference hunting and the cause and effect from implementing a specific management action.

Alternative C1—Proposed Action

Comment 44. *Having read the results of the study and considering the goals of the FWS it seems the only real option would be "Action C." I therefore urge that "Action C" be implemented.*

Response 44. Thank you for your comment.

Comment 45. *I do not support Alternative C. I believe that the preferred alternative is against your service mission to provide for wildlife and waterfowl.*

Response 45. Thank you for your comment.

Comment 46. *I am writing this to let you know that I am for Action C. I have read the material and feel it is necessary to let Benton Lake Refuge return to what's natural.*

Response 46. Thank you for your comment.

Comment 47. *I have studied the Draft Plan for the Benton Lake Complex. Not really being familiar with that wetland, I would have total faith in the Service's proposal. Whenever we mess with Mother Nature we will sometimes have to pay the piper and this seems to be the case with the man-made wetlands. Again, I support the Service's proposal. You folks are the most on top of government agency I have been around. Thank you for your good work.*

Response 47. Thank you for your comment.

Comment 48. *The proposed action to let "nature take its course" with Benton Lake's wetlands is laudable in theory, but a disaster in practice. In Alternative Cl, the Service will be turning its back on decades of productivity for a variety of wetland-dependent wildlife in favor of a natural system at any cost, even though the refuge no longer sits in a natural basin or natural north central Montana landscape. Our national habitat base has been reduced to a point where we must rely on refuges and other dedicated wildlife lands to produce a larger portion of public wildlife benefits. Hence, manipulating habitats will be imperative for most areas to meet their purposes and approved objectives. The vision I see painted for Benton Lake in Alternative C1 is this:*

- *A desolate dry marsh probably 9 out of 10 years.*
- *Complaints from refuge neighbors as salts blow onto private lands (real or perceived, still a nightmare).*
- *No gang broods of lesser scaup (a declining species), no Franklin's gull colony, and no amazing sights of swans on a sparkling blue canvas with mountains in the distance.*
- *Removal from the lists for Western Hemisphere Shorebird Reserve Sites and Important Bird Areas.*
- *Declining visitation as there will be little wetland wildlife to view most years.*
- *Reduced hunting and other wildlife-dependent uses in direct conflict with national guidance to increase opportunities when feasible and compatible.*
- *Declining environmental education as Great Falls schools go elsewhere for wetland field days.*
- *A large complex office looking like a white elephant on a refuge that in practice appears abandoned.*
- *A poor WPA, not a National Wildlife Refuge.*

I urge you to select another alternative that safeguards the wildlife legacy of this refuge while allowing a change to more natural management. With the variety of wetland cells in

place or modified, you could imitate the natural wet–dry cycle on various pools in a given year or series of years without sacrificing the wildlife productivity of the whole. At the very least, a great deal more honesty in the biological and socio-economic consequences should be included in the environmental assessment if the decision is to stay with Alternative C1.

Response 48. The proposed action has been modified to supplement natural runoff with artificial pumping in at least 11 out of 15 years. This management direction will allow refuge staff to imitate the natural wet–dry cycles in various pools and across the basin, while providing flooded wetland habitat in more years than would have occurred under the proposed action. We anticipate that this management direction will also improve wetland productivity for wetland-dependent wildlife such as waterfowl and shorebirds over the life of the plan. Recreational uses that depend on flooded wetland habitat will be available on the refuge in at least one unit in 11 out of 15 years. We also plan to explore expanded opportunities for the public to use and enjoy refuge resources associated with grasslands.

Comment 49. *Change is needed in management methods and techniques but the proposed action is not in the interest of the refuge, its wildlife or the public. On May 10, the Great Falls Tribune published my comment on the proposal. Numerous other comments made by other interested agencies, organizations and individuals have expressed views in opposition to the Alternative C-1 favored by the Service. Although it needs some additional development, I believe alternative B-1 would be a better path for management. I encourage the Service to listen to the public input, revise its draft plan and provide a recommendation that recognizes the public's interest in maintaining healthy habitat and abundant wildlife populations at Benton Lake.*

Response 49. Thank you for your comment. The proposed action has been revised to imitate the natural wet–dry cycles in various pools and across the basin to improve wetland health while providing flooded wetland habitat in more years than would have occurred under the proposed action. Flooded wetland habitat will be available for wetland-dependent wildlife and recreational use in at least 11 out of 15 years. We believe that the selected management direction recognizes the public's interest in maintaining healthy habitat and abundant wildlife populations at Benton Lake.

Comment 50. *Your preferred alternative C1 will essentially dry out Benton Lake NWR, negate improvements instrumental in providing diverse habitat, and ultimately alienate its current users. In the numerous meetings I have attended, the refuge's various users along with conservation and sportsman's groups have all voiced their concerns on the negative impacts of your proposed alternative.*

Response 50. Thank you for your comment. The proposed action has been revised to imitate the natural wet–dry cycles in various pools and across the basin to improve wetland health, while providing flooded wetland habitat in more years than would have occurred under the proposed action. Flooded wetland habitat will be available for wetland-dependent wildlife and recreational use in the fall in at least 11 out of 15 years. We believe that the selected management direction recognizes the public's interest in maintaining healthy habitat and abundant wildlife populations at Benton Lake.

Grazing

Comment 51. *Chapter 5.4 talks about grazing grasslands described as a tool to positively manipulate habitats. Later in the book, Chapter 7.6 Grasslands Alternative Bl Grassland Management says grazing wouldn't be used to manage on the refuge.*

Response 51. Prescribed grazing will be considered an important tool for managing the refuge grasslands under the selected management direction.

Shelter Belts

Comment 52. *Increase the shelter belts and this would increase bird productivity and safety.*

Response 52. Endemic grassland bird species on the refuge complex are considered priority species. The northern mixed-grass prairie, which these bird species depend on for survival, is one of the most disturbed grassland systems with an estimated 75 percent of the region having been heavily altered. During the past quarter century, these endemic grassland birds have experienced steeper, more consistent, and more widespread population declines than any other avian guild in North America. It is well documented that shelter belts in grassland ecosystems contribute to fragmentation, depredation, and parasitism, which negatively affect grassland-dependent migratory birds.

Planning Process

Comment 53. *Thank you for the information regarding the Refuge, it's condition and the study of how to best preserve and promote the area and all it has to offer Montanans and the wild animal life that depend on it. Thank you for your hard work in preparing this plan, presenting it, and working for a better healthier environment for us to live in and enjoy.*

Response 53. Thank you for your comment.

Comment 54. *The draft plan has left out public input and does not show good wildlife management.*

Response 54. The draft CCP and EA was released to the public on March 30, 2012, through a notice of availability published in the Federal Register. Copies of either the draft CCP and EA or a planning update were mailed to individuals on the planning mailing list. The document was also available online through the Service's Region 6 planning Web site and the refuge complex's Web site. The public was offered 60 days to review this document and provide comments. During the public review the Service held four public meetings April 17–19, 2012 in Great Falls, Choteau, Ovando, and Condon, Montana. Turnout was good with meetings attended by more than 57 participants. In addition to the oral comments recorded at the meetings, 51 emails and letters were received.

In response to public input during the review of the draft CCP and EA, the Service collaborated with Montana Fish, Wildlife & Parks in a structured decisionmaking process to develop a consensus alternative for the Benton Lake Refuge that achieves refuge goals and objectives, and addresses key management issues such as water management, watershed concerns, selenium treatments, invasive species management, and public use. We believe that the selected management direction is in alignment with the Service's core mission and the purpose for which the refuge was established. Management direction for the refuge will include adaptive and prescriptive approaches.

Comment 55. *I have attended several meetings and it seems that you have already made up your minds. It seems that throughout the public meetings you seemed to ignore our comments.*

Response 55. The proposed action in the Draft CCP and EA was revised based on input from our partners and the public during the review period. We believe that the selected management direction is in alignment with the Service's core mission and the purpose for which the refuge was established. The management direction for the refuge will include adaptive and prescriptive approaches.

Comment 56. *Post meeting notices at the local post offices in the future to reach more people.*

Response 56. Thank you for your comment.

General

Comment 57. *There seems to be a conscious downplaying of the importance of Benton Lake to waterfowl and waterbird production. Why is there no mention of the tremendous waterfowl production that Benton Lake has been famous for? In 1991 I wrote: "The refuge is one of the premiere waterfowl production refuges in the country, producing to flight stage an average of 20,000 ducks yearly." Also, why no details on other waterbird production, such as the Franklin's gulls? I find it ironic that the section on cultural resources is about equal in length to the section on wildlife for a national wildlife refuge! Are the authors downplaying the amazing resources of Benton Lake to mask the impacts of the proposed action?*

Response 57. Certain data show increasing numbers and production of waterbirds, especially dabbling ducks, on the refuge in the late 1960s to late 1970s, when the refuge was initially flooded and units were managed for more prolonged water regimes (USFWS 1961–99). During this period, annual duck production was reported to be high (several thousand ducklings) and included primarily northern shoveler, blue-winged teal, gadwall, cinnamon teal, northern pintail, and mallard. An increasing number of Canada geese also began using Benton Lake at this time and produced several hundred goslings in some years.

Although there is little quantitative data to determine changes in presence, abundance, and productivity of bird populations at the refuge over time, staff observations show that the number of breeding waterbirds have declined on Benton Lake in the last 2 decades. This may be due to the reduction in the amount of permanent and prolonged flooding of units in summer to manage botulism, below normal precipitation and runoff from 1998–2008, reduced productivity from the static hydroperiod created with annual pumping, or may be an artifact of changes in staff and survey methods (USFWS 1961–99). The management direction of the refuge seeks to improve waterfowl and other wetland-dependent bird productivity over the next 15 years.

Refuge staff reviewed the current continental population estimate, population status, and importance of Benton Lake for common and uncommon breeding waterbirds on the refuge that have been identified as species of concern at the national or regional level by the Service or its partners. The wetland-dependent birds tend to be long lived, most have stable-to-increasing populations, and for species that the Service has received specific comments (black-crowned night-herons, Franklin's gulls, and black-necked stilts), the refuge is either disjunct or peripheral to their populations. Continental population levels of migratory bird species of concern will not be significantly affected by the management direction for the refuge according to the Region 6 Migratory Bird Office.

Comment 58. *If the U.S. Fish and Wildlife Service have a problem managing the refuge you should remove the refuge from the complex and turn it over to the Montana Fish and Wildlife to manage for the intended purpose and enjoyment of the citizens.*

Response 58. The Service does not consider divestiture unless a unit no longer meets the purposes for which it was established. The refuge provides significant natural resource benefits and continues to meet its purpose as a refuge and breeding ground for birds. Furthermore, preserving and protecting wetland health would be a concern regardless of ownership.

Swan River National Wildlife Refuge

The following are comments and responses pertaining to the Swan River National Wildlife Refuge.

Guided Hunting

Comment 59. *I am a hunting guide who wants limited commercial hunting on the Swan River Refuge. Guiding brings in money to the local economy. Some people are handicapped and could benefit from a guide to take them out hunting. Some people are non-residents and don't have the resources needed to hunt on their own. I provide equipment and decoys – things that they can't bring in a plane – things that help them to have a quality hunt. Expecting them to bring their own equipment would be like expecting someone to bring their horse on a plane so that they could go on a trail ride in Montana. That's why guiding is so beneficial. The Refuge is supposed to be for the benefit of all citizens. I would like to know the source of 100-use days on the Swan River. There's no way the Refuge has been hunted by 100 different hunters in a year. I would like to question the accuracy and source of that data. Your plan should not so narrowly dismiss the idea to bring in guided hunting. The Service is supposed to bring in and address recreation, especially the six uses you've identified as your priorities. Guiding could also be an opportunity for the refuge to bring in money. It wouldn't have to just be hunting; it could be bird watching too. Given the fiscal climate, the Service needs to look for more creative ways to bring in funding. The plan should revisit guided hunting.*

Response 59. While hunting is one of the priority public uses of the Refuge System, the purpose of Swan River Refuge is to serve as an "inviolate sanctuary and other management purpose, for migratory birds." Hunting and other authorized public uses are not purposes of the refuge and granting hunter guiding special use permits would not further the purposes of the refuge. Appropriate use policy directs that any new use considered should "accommodate without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality compatible, wildlife-dependent recreation into the future." Since waterfowl hunting is already an authorized use, it is the refuge's experience that current hunters would view guided waterfowl hunting as commercial competition that would detract from the quality of the existing hunting experience. Under regulations 50 CFR 29.1, the Service may only authorize public or private economic use of the natural resources of any refuge where the Service determines that the use contributes to the achievement of the refuge's purpose or of the Refuge System mission. Once again, since waterfowl hunting is already an authorized public use on both of the refuges within the refuge complex, permitted guided hunting would not contribute to the purpose of the refuge or the Service's mission.

"Use days" is defined as the number of days a particular use occurred. It does not reflect different hunters but the number of days hunting occurred on the refuge. For example, on the opening day of waterfowl season this year (September 29, 2012), law enforcement officers contacted 11 waterfowl hunters on Swan River Refuge. This would represent 11 hunter use days. The Pacific flyway hunting season for 2012–2013 is open for 104 days. The 100 waterfowl use days for Swan River Refuge is

an estimate based on periodic law enforcement contact over many years and represents an average number of use days per any given year.

Swan Valley Conservation Area

Comment 60. *Page 84. "These areas remain today as grasslands awaiting restoration of forested habitat or wetlands." Why do wetlands need to be restored—there are a lot already.*

Response 60. Wetlands provide a multitude of ecological, economic and social benefits. In addition to providing habitat for a variety of fish, wildlife, and plants, they are important landscape features because they hold and slowly release flood water and snow melt, recharge groundwater, recycle nutrients, and provide recreation and wildlife viewing opportunities.

You are correct; the Swan Valley is unique in that it contains over 4,000 glacially derived wetlands. Approximately 16 percent of the land in the Swan Valley is considered wetland habitat (lakes, rivers, ponds, marshes, wet meadows, peatlands, and riparian areas). By comparison, the remainder of Montana averages 1 percent of wetland habitat. Despite these numerous wetlands, there are many more in the Swan Valley that have been drained, filled, modified, or mismanaged to the point that they have lost their ecological value.

The Swan Ecosystem Center has published a document which provides an excellent summary of the status of wetlands in the Swan Valley and discusses the need for restoration. This document, entitled "Swan Basin Restoration: Coordinated Approaches to Water, Wildlife, Forests, Wetlands, and Native Fish," is available on their Web site: www.swanecosystemcenter.org.

Comment 61. *You say you want to acquire 5,000 acres in easements, but your plan says 10,000 acres–why is that? There are 25,000 acres of private land in conservation easement. That's 20 percent in conservation easement already. An overwhelming majority is in easement already. 10,000 and 5,000 acres seem like unrealistic goals because TNC and other NGOs are out there trying to acquire easements too.*

Response 61. The U.S. Fish and Wildlife Service's Land Protection Plan states that 10,000 acres are the total-acre goal for easement acquisition in the Swan Valley. Five thousand acres is the acquisition goal in the Swan Valley for the next 15 years according to the CCP. Based on the history of money and staff availability for buying easements within the refuge complex, a total of 5,000 acres over the life of the plan is considered a reasonable objective. These acre estimates are based on several variables within our Conservation Areas: acquisition averages over the last five years, high variability in annual money sources such as LWCF, average parcel size, land values, and the availability of willing sellers. Historically, the number of landowners interested in easements exceeded the available money.

The Service's easement program is a voluntary program with willing sellers only. If there is no funding or no interest the Service will not do conservation easements in the Swan Valley. There was public support for the establishment of the Swan Valley Conservation Area. The Service's program would bring additional resources to private land conservation efforts.

Comment 62. *Are these easements perpetual? We have 1 trillion in debt and it seems like to go out on this type of program with no funding seems like it's wasting all of our tax dollars.*

Response 62. Yes, U.S. Fish and Wildlife Service conservation easements are perpetual. The Federal money used to acquire conservation easements will come from the Land and Water Conservation Fund, which is derived primarily from oil and gas leases on the outer continental shelf, motorboat fuel tax revenues, and the sale of surplus Federal property. Additional money may also be available through the Migratory Bird Conservation Fund, North American Waterfowl Conservation Act money, and donations from nonprofit organizations.

Comment 63. *The biggest thing that's happened in recent years is the Legacy Project. It's good and bad. Bad things happen because of a small group of people that support something, but communities aren't able to provide information and feedback as a community. This community is dying. We're losing schools, we're losing businesses. Regulation upon regulation has been imposed from state, federal, county legislative, agencies, etc. We already have at least 13 agencies or agency-related people here. If you live on the lake or creek you have to get permits for everything. All of these agencies are fighting over the same land, and no one knows what the other is doing. A better plan is to put a 3 or 5 year moratorium on doing anything here until the people in community can get together and decide what and how they want to do it and then come to you and say*

what they want to do. We don't need more corridors. They devalue land and not much science supports them. They're a contributing factor to the state that this community and valley is in. We shouldn't rush into this. We should take more time for the community to make a collective good decision.

Response 63. Thank you for your comments. We are aware of the changes that The Montana Legacy Project has brought to the community, and while the Service is a strong advocate of conserving habitat for wildlife, we are also sensitive to your concerns regarding the future of economic growth in the Swan Valley.

Although Service conservation easements include the purchase of development and subdivision rights, we do not prohibit all further development of the easement property. In addition to maintaining existing residences, the Service typically allows a reserved house site and permits the construction of agricultural buildings. The Service also grants written permits for certain other activities on our easements. For example, the Service permits the commercial harvest of timber upon completion and approval of a timber management plan. The easements of other agencies or nongovernmental organizations may allow multiple reserved house sites or exclude areas from the easement for future development.

As stated in the CCP, the Service is committed to regularly meeting with other agencies, nongovernmental organizations, and community groups to provide updates and coordination on conservation easement purchases. After receiving feedback during the public scoping meeting in mid-2012, the Service has increased its communication with the Swan Valley Community Council and become involved with the growth planning process. Other groups with which the Service works include the Swan Lands Coordination Council, Swan Ecosystem Center, Northwest Connections, The Nature Conservancy, Montana Land Reliance, the Trust for Public Land, Vital Ground, MFWP, Montana Department of Natural Resources and Conservation, the USDA Forest Service, and the Southwest Crown Collaborative.

The Service received several other comments during the scoping period asking us to "slow down" and, as a result, we do not foresee making any new easement acquisitions within the next 2 years. With that being said, the Service's conservation easement program is entirely voluntary; we only purchases easements from willing sellers. If there is no interest in the easement program in the Swan Valley, then the Service will not purchase any easements there.

Comment 64. *I own acres in the Swan Valley. Conservation actions in the Swan Valley (Condon, Mt) area from the various federal government agencies-Montana State -and conservation easements is a matter of extreme concern. My in-depth study on lands currently in private hands without easements (Aug. 2010) was 17000 acres. We are surrounded by over 3.5 million acres of protected lands (wilderness & multiple use types) and do not need more added to them The economy of the valley is so low that our school has 27 to 29 students, grades 1 thru 8. Industry uses other than wood related types are needed. People used to come to the area to work and raise a family -now -they are mostly high end ($) retired types. This valley is concerned about when and if there can be economic development, especially if we lose even more land to any of the above mentioned types we will strangle any possibility of this. This also affects most all of the rural areas of Montana from the eastern border to the western border. Please be ultra-careful when converting lands from public use to include, all thou few, the citizens that will be effected. These lands will be constricted to the point of useless. I would refer to President Clinton and Secretary Babbitt's conversion of lands in the southern United States.*

Response 64. The U.S. Fish and Wildlife Service is committed to maintaining open communication with the Swan Valley community. While the Service places high value on conserving habitat for the benefit of wildlife, it is also sensitive to the concerns of the community with regard to future economic growth and development.

Ultimately, our conservation easement program relies on voluntary participation from private landowners, but even after a landowner expresses his or her desire to sell an easement to the Service, we may deny the request if we determine that our program is not a good fit. For example, the land may have little biological value or the purchase of an easement may be in direct conflict with community development plans.

Although Service conservation easements include the purchase of development and subdivision rights, we do not prohibit all further development of the easement property. In addition to maintaining existing residences, we typically allow a reserved house site and permit the construction of agricultural buildings. We also grant written permits for certain other activities on our easements. For example, we permit the commercial harvest

of timber upon completion and approval of a timber management plan. The easements of other agencies or nongovernmental organizations may allow multiple reserved house sites or exclude areas from the easement for future development.

After receiving feedback during our public scoping meeting in mid-2012, we have increased our communication with the Swan Valley Community Council and become involved with the growth planning process. As we continue our conservation easement program, we will also promote better communication and coordination with other agencies and community groups within the Swan Valley.

Comment 65. *I am opposed to The Swan Valley Conservation Area Expansion (AT THE PRESENT TIME) for the following reasons. The Montana Legacy Project has shifted more than 66,000 acres of private (Plum Creek) timber land into federal and state (protected) ownership. Only 25,000 acres of private land remain in the Upper Swan Valley (Missoula County north of the Summit Divide). Approximately 25% of this private land is currently restricted from residential development via conservation easements. There are not less than 23 government agencies and non-governmental organizations actively engaged in the "Swan Lands Coordinating Committee" conservation initiatives. The wildlife continues to thrive. It is the Upper Swan Valley's cultural, social and economic future that is threatened. A community-driven comprehensive growth/land use planning effort is currently underway. The Upper Swan Valley Community needs more time to do the job of sorting out growth, development, and conservation priorities. We would invite your active participation in this process, rather than impose yet another land use designation (Swan Valley CA) on our community at this time. We need a process that more effectively balances all of our cultural, social, economic and conservation values. Please do not burden those of us who make the Swan Valley home with yet another layer of government-imposed land use designation (and corresponding government spending) that continues to threaten our economic freedoms. Please help us work out this more comprehensive plan for the Swan Valley. Then, together, we can pursue the Swan Valley CA in that perspective.*

Response 65. Thank you for your comment, however, the Service's Swan Valley Conservation Area designation was already approved in 2011 with public support (see the Final Land Protection Plan and Environmental Assessment). This Comprehensive Conservation Plan does not propose an expansion of the Swan Valley Conservation Area.

We are aware of the changes that The Montana Legacy Project has brought to the community, and while we are strong advocates of conserving habitat for wildlife, we are also sensitive to your concerns regarding the future of economic growth in the Swan Valley.

Since the approval of the Swan Valley Conservation Area, we have committed to participating in the community driven comprehensive growth/land use planning effort that is currently underway. As expressed in our planning document, we support and promote community-based, grass-roots efforts, and we would like to continue to participate and provide assistance wherever wanted and needed.

Ultimately, the Service's easement program is strictly voluntary. We respect private property rights and, as such, will acquire conservation easements only from willing sellers. The fact that landowners may choose whether or not to participate in the project is a tangible example of our respect for personal property rights.

Comment 66. *Thank you for attending the meeting at the Swan valley Community Hall last month. I would like to comment on your Comprehensive Conservation Plan and hopefully share some concerns that I have regarding the U.S. Fish and Wildlife Service placing more conservation easements on land in the Swan Valley. While reading some of the old comments presented I see that most of the published comments were from several years ago and before the Montana Legacy Project took thousands of acres out of production for any possible growth by the citizens that live here now. I am not sure if you are aware of the fact that we presently have approximately 7% of our land base for any future growth and approximately 25% of that land already has conservation easements on it. I am co-chair of our Comprehensive Growth Plan mandated by Missoula County. I have heard from many people the comment "when is enough—enough" and don't really know what the answer is. One of the unintended consequences of CE's is the fact that the county is using neighboring property with conservation easements as a reason to deny attempts to develop economic opportunities for land owners that are trying to help generate jobs and provide meaningful employment. I keep thinking that my kids and grandkids will have limited opportunities after I am gone and honestly think that with*

such a small percentage of private property left, the future of the valley looks very bleak. We will be here long after all the land trusts have completed their job and left the valley, while we struggle to make a living and exist in an area that we have devoted our lives to. I would respectfully like to ask that we be spared from any further erosion of our land base and let the people of the valley determine the future of our area The private land held in fee simple ownership, in my opinion, for the most part is managed much better than government, fractionated ownership or NGO controlled land. I strongly feel there are no better stewards of the land than the Montana people that give their heart and soul to making this a great place to live. Fractional ownership is contrary to what our founding fathers envisioned for this great country, so please consider my request to let the people of the Swan determine the future of the Swan.

Response 66. Thank you for your comments; you bring up some good points. The question of "When is enough, enough?" is one that we too are trying to answer. We are aware of the changes that the Montana Legacy Project has brought to the community, and, while we are strong advocates of conserving habitat for wildlife, we are also sensitive to your concerns regarding the future of economic growth in the Swan Valley.

The Service is a strong proponent of community-based and community-driven conservation. We agree that Montana's private landowners are also wonderful land stewards. Our conservation easement lands remain in private ownership under the control and management of the landowner.

Although Service conservation easements include the purchase of development and subdivision rights, we do not prohibit all further development of the easement property. In addition to maintaining existing residences, we typically allow a reserved house site and permit the construction of agricultural buildings. We also grant written permits for certain other activities on our easements. For example, we permit the commercial harvest of timber upon completion and approval of a timber management plan. The easements of other agencies or nongovernmental organizations may allow multiple reserved house sites or exclude areas from the easement for future development.

As stated in our CCP, we are committed to regularly meeting with other agencies, nongovernmental organizations, and community groups to provide updates and coordination on conservation easement purchases. After receiving feedback during our public scoping meeting in mid-2012, we have increased our communication with the Swan Valley Community Council and become involved with the growth planning process. We will continue to be involved in the Swan Valley community, particularly with regard to plans for growth.

With that being said, our conservation easement program is entirely voluntary, we only purchase easements from willing sellers. If there is no interest in our easement program in the Swan Valley, then we will not purchase any easements there.

Comment 67. *We would like decent communication of where your plans are so that we can communicate with our planning committee. We want to be as transparent as possible. We voted to create a community council to represent the community. We want to get to a place where the agencies can work with council and maybe there can be a better relationship and a better understanding. When the Legacy Project went down we didn't know it had happened. Millions of dollars were spent on supposed representation and I wasn't the only person in the Swan Valley that happened to, but by the time I found out it was already a done deal. That's why we're trying to represent the council and have a better working relationship with the agencies. The Community Council is part of Missoula County. Lake County has some sort of a planning department but I think Missoula is the only county with a Community Council. If people here felt like maybe they didn't want to jump into this as fast as your plan outlines, is there a way we can slow that down and get to know each other better?*

Response 67. Since taking comments at the public meetings in the Swan Valley, the Service has collaborated with the Swan Valley Ecosystem Center to create a shared position to work with private land owners. This person's responsibilities include participating in discussions with the local community on resource issues and various other community issues regarding growth and conservation. We agree with you that our plans should be as transparent as possible. We want to foster better relationships with people and organizations in the Swan Valley, and we are committed to building trust and credibility. We realize that this does not happen overnight, but, with the establishment of a person working in the Valley, we hope to show our commitment to the community and to our collaborative partnerships.

D.5 Comments from Agencies and Organizations

The Service received formal comments for the following Federal, State, and local government agencies and organizations:

1. America Outdoors Association
2. California Save Our Streams Council, Clovis, CA
3. Defenders of Wildlife, Washington, DC
4. Ducks Unlimited, Inc., Elliston, MT
5. Friends of the Rocky Mountain Front, Choteau, MT
6. Missouri River Citizens, Inc., Great Falls, MT
7. Montana Audubon, Helena, MT
8. Montana Fish, Wildlife & Parks, Helena, MT
9. National Wildlife Federation, Missoula, MT
10. Russell County Sportmen's Association, Great Falls, MT
11. Safari Club International, Great Falls, MT
12. Upper Missouri Breaks Audubon, Great Falls, MT
13. U.S. Environmental Protection Agency, Helena, MT
14. U.S. Fish and Wildlife Service, Ecological Services, Helena, MT

Letters 1–13 from agencies and organizations follow after this page. Beside each reproduced letter is the Service's response, numbered to correspond to specific comments in the letter. The Service reviewed all supporting attachments, however, such attachments are not included in this appendix. The Service's response to letter 14 is in appendix C.

LETTER #1—America Outdoors Association

From: Apache
To: toni_griffin@fws.gov
Subject: Comment Form - Comprehensive Conservation Plan for Benton Lake National Wildlife Refuge Complex
Date: 04/25/2012 11:42 AM

Comment form sent from: U.S. Fish and Wildlife Service
Name: David Brown, Executive Director
Organization: America Outdoors Association
Comment: I am writing to comment on the draft CCP and EA for the Benton Lake Wildlife Refuge Complex and to specifically comment on your "Proposed Action". We urge you to amend the plan to consider the issuance of commercial use permits as a tool to achieve the stated recreational and hunting objectives and provide visiting US citizens the opportunity to access the Swan River Refuge using licensed outfitter.

Hunting is an appropriate and priority purpose for recreational use of Refuges. "wildlife-dependent recreation on service-owned land" is one of your priorities along with "Explore opportunities to increase hunting at â€¦ Swan River refuge(s)". Therefore, the prohibition of guided hunting seems inconsistent with your goals especially since guided hunts extend the constituency and that portion of the taxpaying public which can utilize the resource. It appears that the plan is without any significant action to increase hunting in the Refuge which is currently underutilized. Without support from recreational hunters the Refuge system is at risk as the federal government sinks deeper into a debt crisis. The Service should facilitate access for a broad cross-section of the public to preserve wildlife conservation and recreation in Refuges. Please authorize guided hunting as one of the activities in a revised final decision.

Thank you for the opportunity to comment on your proposed action.

RESPONSE

While hunting is one of the priority public uses of the Refuge System, the purpose of Swan River Refuge is to serve as an "inviolate sanctuary….and other management purpose, for migratory birds." Hunting and other authorized public uses are not purposes of the refuge, and granting hunter guiding special use permits would not further the purposes of the refuge. Appropriate use policy directs that any new use being considered should "accommodate without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality compatible, wildlife-dependent recreation into the future." Since waterfowl hunting is already an authorized use, it is the refuge's experience that current hunters would view guided waterfowl hunting as commercial competition that would detract from the quality of the existing hunting experience. Furthermore, under regulations 50 CFR 29.1, the Service may only authorize public or private economic use of the natural resources of any refuge where we determine that the use contributes to the achievement of the refuge's purposes or the Refuge System mission. Once again, since waterfowl hunting is already an authorized public use on both Benton Lake and Swan River National Wildlife Refuges, permitted guided hunting would not contribute to the purposes of the refuge or to the Refuge System mission.

From: Deb Parker
To: Toni Griffin
Subject: Comment Form - Comprehensive Conservation Plan for Benton Lake National Wildlife Refuge Complex
Date: 04/03/2012 02:59 PM

----- Forwarded by Deb Parker/R6/FWS/DOI on 04/03/2012 02:59 PM -----

Apache
<apache@localhost.localdomain>

To deb_parker@fws.gov
cc

04/03/2012 12:26 PM

Subject Comment Form - Comprehensive Conservation Plan for Benton Lake National Wildlife Refuge Complex

Comment form sent from: U.S. Fish and Wildlife Service
Name: Lloyd G. Carter
Organization: California Save Our Streams Council
Comment: Agricultural waste water is the primary cause of your refuge's problems. You have the same problem which occurred during the early 1980s at the Kesterson National Wildlife Refuge in Central California. I covered the Kesterson story as a reporter for United Press International and later for the Fresno Bee. Birds nesting at the Kesterson evaporation pounds had a two/thirds reproductive failure rate as selenium bioconcentrated while moving up the Kesterson food chain.
The U.S. Geological Survey has an internet website with many, many peer-reviewed articles about selenium impacts on wildlife. You need to contact USGS scientist Theresa Presser in Menlo Park, CA. for more information.
I hope to provide more extensive comments before your May 18 deadline. Clean water MUST be provided your refuge.

Lloyd G. Carter
2863 Everglade Ave. Clovis, CA 93619
www.lloydgcarter.com
(559) 322-4664 home
559) 304-5412 cell

Thank you for sending us references for additional selenium information. We used information from the USGS and research studies conducted on Benton Lake Refuge and contacted many experts while formulating and finalizing our selected management direction. We appreciate your interest and your first-hand experience in dealing with selenium impacts to wildlife from agricultural waste water.

LETTER #3—Defenders of Wildlife

From: Julie Kates
To: toni_griffin@fws.gov
Cc: Kathleen_Burchett@fws.gov
Subject: Benton Lake Refuge Complex Draft CCP/EA
Date: 05/29/2012 10:00 AM
Attachments: ccp_climate_change_fact_sheet.pdf

Dear Ms. Griffin,

While Defenders of Wildlife was unable to submit detailed comments on the Draft CCP for Benton Lake National Wildlife Refuge Complex, I'd like to alert you to a resource that may be helpful in finalizing the plan. Defenders recently developed a set of criteria to evaluate how well climate change is incorporated into CCPs. In addition to summarizing our evaluation of several recent final CCPs, the attached document provides the criteria we used. (This fact sheet is also available on our website at http://www.defenders.org/resources/publications/programs_and_policy/gw/ccp_climate_change_fact_sheet.pdf .) As you finalize the plan for Benton Lake NWR Complex, I hope you'll refer to these criteria to ensure that climate change is comprehensively considered and addressed.

Thank you for all your work.

Sincerely,

Julie Kates
Refuge Associate, Federal Lands Program
Defenders of Wildlife

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RESPONSE

Thank you for your comments and suggested criteria for evaluating climate change within the CCP process. As indicated in your letter, the Service recognizes the significant challenge of climate change in protecting wildlife and their habitats into the future. We considered climate change throughout the CCP and EA for Benton Lake National Wildlife Refuge Complex, including the areas identified in Defenders' criteria: background, assessment, action and monitoring, research, and adaptive management. Climate change was not mentioned specifically in the purpose and need for the plan in the draft, but has been included in the final CCP.

DUCKS UNLIMITED, INC.

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May 1, 2012

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Toni Griffin
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Dear U.S. Fish and Wildlife Service Staff,

Ducks Unlimited, Inc. appreciates the opportunity to comment on the draft Comprehensive Conservation Plan and Environmental Assessment for the Benton Lake National Wildlife Refuge Complex. DU has been a long-standing supporter of waterfowl conservation efforts on the BLNWR Complex and has also been involved in project delivery efforts on the BLNWR over the past 15 years. Comments included here will focus primarily on alternatives proposed for the Refuge, however these suggestions also carry over in general principle to the Refuge Complex as a whole.

The BLNWR is one of three national wildlife refuges across the Montana's Hi-Line and as such provides unique and critical migration and breeding habitat for a wide variety of waterbirds. **It is DU's position that waterfowl and other migratory bird habitats are best perpetuated and maximized utilizing an approach most closely aligned with Alternative B1 in the CCP.** It has been our experience through delivering wetland projects and providing management recommendations in Montana and elsewhere that the proper use of wetland infrastructure and implementation of science-based wetland management techniques can be the most powerful and effective tool in managing habitats for a wide variety of bird species, addressing management issues such as invasive plants, water chemistry and wildlife disease concerns and for providing public recreational opportunities.

Despite repeated input from a wide array of public partners including DU, Montana Fish, Wildlife and Parks, National Wildlife Federation, Montana Audubon, Russell Country Sportmen, private individuals and others favoring an Alternative B1 style approach, the Service has continued to promote Alternative C as the "Preferred Alternative" in this process. This position on the part of the Service has left many partners and members of the public disillusioned with the BLNWR CCP and EA process and has further resulted in galvanizing support for Alternative B1

RESPONSE

We appreciate and acknowledge the partnership that the Benton Lake National Wildlife Refuge Complex has had with Ducks Unlimited. We agree that proper use of wetland infrastructure and implementation of science-based wetland management techniques can be effective tools in wetland management for a variety of purposes.

The Service has considered input from all of our partners and the public in revising the proposed action. We believe that the selected management direction is in alignment with the Service's core mission and the purpose for which the refuge was established. The management direction for the refuge will include an adaptive and prescriptive approach to managing the refuge. This direction is similar to alternative B-1 in that supplemental water (pumping) will continue in most years and intensive management actions such as grazing, mowing, discing, burning, or herbicides may be used. Also similar to B-1, the individual units within the wetland basin will be rotated through flooding and drying cycles using a strategic application of supplemental water. The timing of these cycles will be based on careful monitoring within an adaptive management framework. The selected management direction differs from alternative B-1 in that supplemental water may be less than in previous years and there may be up to 4 years of basin-wide drying over the next 15 years (though there would be no more than 3 consecutive years).

The selected management direction will address issues concerning inputs of selenium to the refuge by working with private landowners in the surrounding watershed. We will work to develop and improve existing water delivery infrastructure. This may include a bypass canal for Units 1 and 2, however, we will first try restoring the Lake Creek channel in Units 1 and 2 before building new infrastructure. Although there will be slightly less than annual flooding on the refuge, the selected management direction will provide for wetland-dependent recreational opportunities in most years while still emulating wet–dry cycles that are very important to waterfowl and wetland bird productivity over the long term. This selected management direction will require, as noted, increased resources which may be a challenge in this age of declining Federal budgets. However, this direction will also maintain many viable management options and tools to address long-term challenges such as climate change and habitat loss over the coming decades.

and strong opposition to Alternative C. It has been DU's hope over the past 14+ months of providing comment both in public forums as well as through contact with individual Refuge staff that a compromise that includes implementation of an Alternative B1 scenario coupled with scientific feedback and adaptive management approaches would be proposed as the "preferred" alternative but this has not been the case. We still cling to the fading optimism that further input from DU and our conservation partners may still result in a change of direction in this process and that an Alternative B1 style approach will be implemented prior to the dismantling of infrastructure and discontinuation of supplemental water application occurs as proposed under Alternative C.

Although the following points have been previously proposed by DU and discussed at length in public meetings, correspondence with Service staff, and discussions with conservation partners we feel that it is important to once again include these recommendations in our comments regarding the BLNWR draft CCP and EA:

1. Address issues concerning inputs of selenium to the BLNWR by implementing conservation practices on adjacent private lands through a combination of USFWS, USDA and other programs.
2. Develop and improve existing water delivery infrastructure on BLNWR to allow for effective water management in existing wetland impoundments. This may include but is not limited to the construction of a by-pass canal to allow for the regular drying of Units 1 and 2 which support the highest levels of selenium accumulation.
3. Implement sound, science-based wetland management techniques including properly timed flooding and drawdown of wetland units and vegetation management to maximize waterbird habitat values while addressing issues such as selenium accumulation, invasive plant encroachment, and botulism concerns. These objectives are best realized under an Alternative B1 scenario utilizing existing or proposed infrastructure (see #2) combined with strategic application of supplemental water when needed.
4. Provide for the needs of migrating and breeding waterbirds on an annual basis as outlined above and in Alternative B1 as opposed to long-term drying of the basin as proposed under Alternative C. This approach will best serve the needs of species with strong homing tendencies such as mallard, redhead and white-faced ibis that regularly nest on BLNWR and whose nest success declines significantly when displaced by drought conditions.
5. Provide for public recreational opportunities on an annual basis through the application and/or management of water on the Refuge. This may include but is not limited to providing sufficient water during both spring and fall to support bird watching along the auto tour loop and waterfowl hunting opportunities. Alternative B1 is the best action to ensure these objectives are met.
6. Implement monitoring programs to track trends in wetland conditions and waterbird use of the Refuge. Adapt management approaches using monitoring data to provide feedback for future management actions.

In summary, it is DU's position that Alternative C, if implemented, would severely limit the ability of the Service to address current and future management challenges on BLNWR. It is uncertain what the long-term effects of issues such as climate change and continued loss of habitat will bring over the next several decades, therefore it would be wise to maintain as many viable management options and tools as possible over time to address these challenges. Furthermore, an Alternative C approach may be a precedent-setting action that will affect the

development of CCPs on other national wildlife refuges throughout Montana and elsewhere thereby limiting and possibly precluding many practical management options available to refuges in the future. DU recognizes the fact that in this age of declining federal budgets and other fiscal challenges that an expanded and intensive management approach through an Alternative B1 scenario would require a continued commitment of personnel and financial resources (yet likely less than an Alternative C approach), however we feel that the benefits to wildlife and the public from such an approach are well worth the commitment in time and resources.

Sincerely,

Robert L. Sanders
Manager of Conservation Programs – Montana
Ducks Unlimited, Inc.

LETTER #5—Friends of the Rocky Mountain Front

April 18, 2012

To:
Toni Griffin, Planning Team Leader
U.S. Fish & Wildlife Service
PO Box 25486
Denver, CO 80225-0486

cc:
Kathleen A. Burchett
Benton Lake NWR Complex
922 Bootlegger Trail
Great Falls, MT 59404

Email: bentonlake@fws.gov

We received a copy of the USFWS draft CCP for the Benton Lake Complex, and have studied it some. We're not directly familiar with all the areas, so we are mainly focused on the items in Chapter 6 (Management Direction) that directly affect the Rocky Mountain Front.

As far as the Front is concerned, it looks like the most important thing the agency can do is Objective 1, pp 173-175, to 'preserve intact landscapes' with the purchase of conservation easements, and Objective 2, p 175, to try your best to guide industry away from development on the special lands along the Front.

Many of us are concerned about oil & gas exploration, and we know that conservation easements do not necessarily preclude that, but the FWS should at least give input to encourage the strongest possible mitigation guidelines.

We also are concerned about the proper siting of big industrial-size wind farms. The CCP may not specifically mention oil & gas and wind farms, but the implication is there throughout Chapter 6 (pp 169-198), under the goals and objectives of Landscape Conservation, Habitat, Wildlife, Cultural Resources, and Resource Protection.

We encourage the USFWS to work closely with the BLM to try and avoid any surface occupancy for leases of federal minerals where the surface is protected with a conservation easement held by the same Department of Interior.

We continue our strong support for acquiring easements and working with private landowners along the Rocky Mountain Front.

Respectfully,

Gene Sentz
Friends of the Rocky Mountain Front
PO Box 763
Choteau, Montana 59422-0763
friends@3rivers.net

RESPONSE

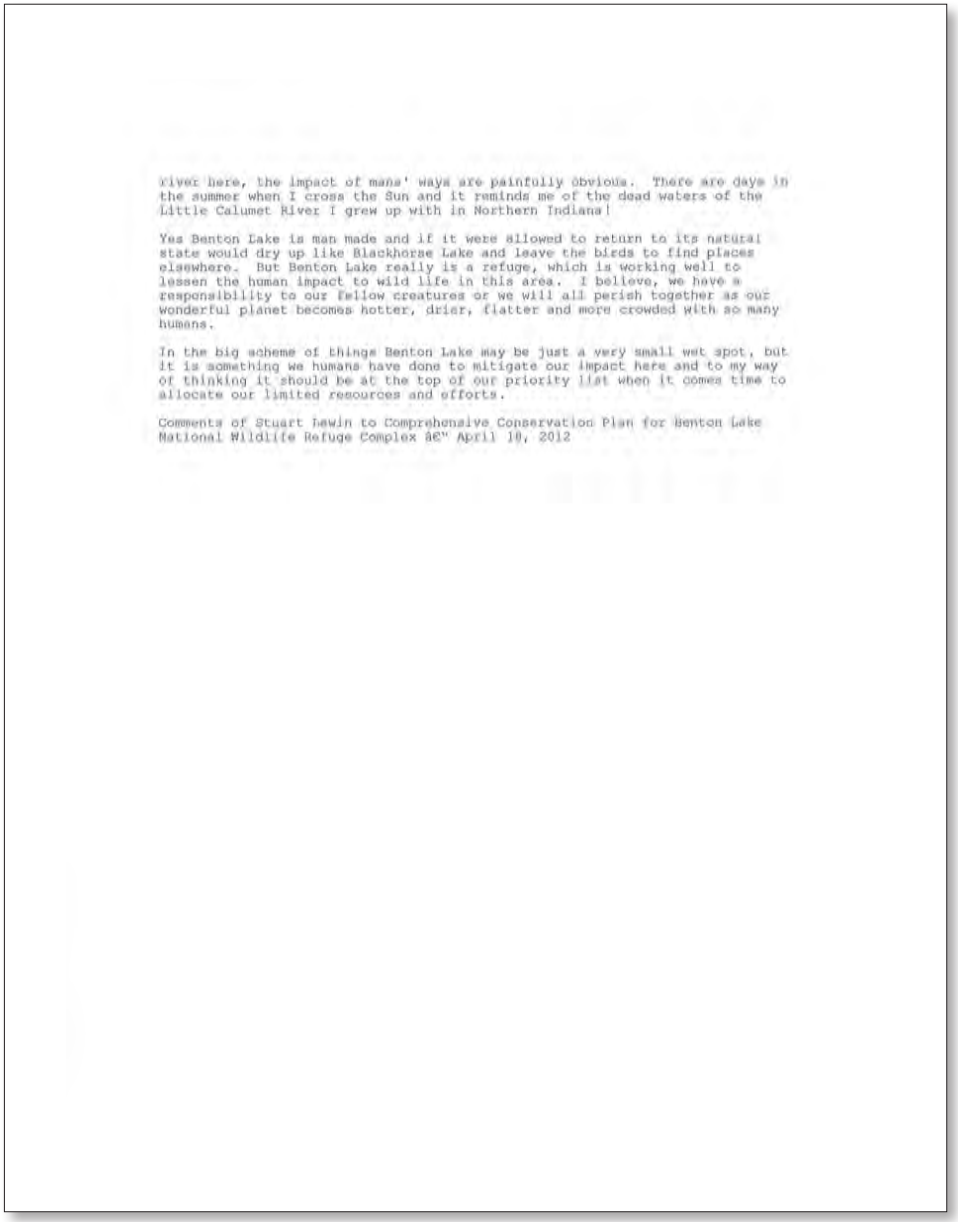
The Service agrees that one of our highest priorities is, indeed, preserving intact landscapes like the Rocky Mountain Front Conservation Area through conservation easements. Energy development was identified as the primary threat to native habitats and wildlife within the refuge complex in the CCP. The success of the Services' easement programs involves the careful balance of encumbering some personal property rights in order to protect trust species and their habitats while respectfully leaving other property rights to the discretion of landowners so that they may best provide for their families' futures. The Service will continue to coordinate with the BLM, the Montana Board of Oil and Gas, the Montana Department of Natural Resources and Conservation, industry representatives, and landowners to make recommendations to avoid sensitive areas and minimize impacts. The refuge is currently involved with a team of State and Federal biologists, nongovernment organizations, and State and Federal land management agencies to develop best management practices which will be used to make recommendations for sighting energy development projects to minimize impacts to habitats and wildlife species. The refuge has been involved in several negotiations with landowners, industry representatives, and the BLM when Federal minerals were involved. So far, surface occupancy has been avoided on Service easements. It is important to understand that these decisions have been mutually agreed upon and may not always result in no surface occupancy.

RESPONSE

Regarding wet–dry cycles, the proposed action has been modified to reduce the length of basin-wide dry periods to no more than 4 out of 15 years (and no more than 3 consecutive years). During these shorter dry periods, the breeding of wetland-dependent species such as waterfowl will be low at the refuge, but wetland-dependent birds have adapted to long-term flooding and drying cycles. Although some species of waterfowl tend to return to the same breeding area used the year before, most species of waterfowl exhibit some degree of flexibility in settling patterns in response to local wetland conditions (Johnson and Grier 1988).

When the refuge wetland units are reflooded after a dry period, there will be a pulse of nutrients that stimulates productivity in invertebrates and some plants, which will provide important food resources for waterfowl, shorebirds and other wetland-dependent wildlife (Magee 1995, Anteau 2012). Restoring annual and long-term variability in the wetland basin will increase plant and animal diversity over the long term, while providing optimal conditions for different suites of species at different times. Examples of this occur regularly on the waterfowl production areas within the wetland management district where significant bird use occurs in basins under natural hydrological regimes that are flooded following a relatively long dry cycle.

As for mitigating for lost habitat, the Service's HAPET office has identified temporary and seasonal wetlands—often less than 1 acre in size and totally, or partially, embedded in cropland—as incurring the highest risk for conversion. The pressure to drain and fill these wetlands for tillage agriculture puts these basins at higher risk of conversion than those with more permanent water or those that are embedded in grassland. At the same time, the value of these small temporary and seasonal wetlands to waterfowl is great. According to HAPET, for every ten 1-acre wetlands in the Prairie Pothole Region, there would predictably be 20 breeding pairs of ducks, whereas, one 10-acre wetland would likely support only 7 duck pairs. Managing Benton Lake Refuge as a semipermanent wetland does not provide the same resources as would managing most of the lost wetlands across the landscape. Protecting and restoring the vulnerable small temporary and seasonal wetlands and restoring the sustainability and health of Benton Lake Refuge—including supporting the greater occurrence



river here, the impact of mans' ways are painfully obvious. There are days in the summer when I cross the Sun and it reminds me of the dead waters of the Little Calumet River I grew up with in Northern Indiana!

Yes Benton Lake is man made and if it were allowed to return to its natural state would dry up like Blackhorse Lake and leave the birds to find places elsewhere. But Benton Lake really is a refuge, which is working well to lessen the human impact to wild life in this area. I believe, we have a responsibility to our fellow creatures or we will all perish together as our wonderful planet becomes hotter, drier, flatter and more crowded with so many humans.

In the big scheme of things Benton Lake may be just a very small wet spot, but it is something we humans have done to mitigate our impact here and to my way of thinking it should be at the top of our priority list when it comes time to allocate our limited resources and efforts.

Comments of Stuart Lewin to Comprehensive Conservation Plan for Benton Lake National Wildlife Refuge Complex â€" April 10, 2012

of temporary and seasonal wetland habitat within the basin—would be of greater benefit to migratory birds.

On hunting and viewing opportunities, the selected management direction balances the health and sustainability of the wetland with providing additional waterfowl hunting opportunities better than the proposed action, alternative C1. Under the selected management direction, the refuge is striving to provide some waterfowl hunting and fall and spring migration habitat in at least 11 out of 15 years, which should increase hunting over the proposed action. We believe that the selected management direction recognizes the public's interest in maintaining healthy habitat and abundant wildlife populations at Benton Lake Refuge.

MONTANA AUDUBON

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May 29, 2012

Kathy Burchett, Complex Manager
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Toni Griffin
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Dear Benton Lake National Wildlife Refuge Complex and US Fish and Wildlife Service Staff,

Please accept the following comments on behalf of Montana Audubon and Five Valleys Audubon on the *Draft Comprehensive Conservation Plan and Environmental Assessment* (Draft Plan): *Benton Lake National Wildlife Refuge Complex*. We know that extensive work that has gone into developing this refuge-wide plan, and we appreciate the opportunity to comment and the additional time to review the draft plan and prepare comments.

Montana Audubon represents approximately 3,800 Audubon members in the state. Five Valleys Audubon represents approximately 500 members in Missoula and the surrounding area. Although our membership is diverse, there is a consistent deep concern for wildlife and wildlife habitat in the state. Protection and enhancement of Montana's Wildlife Refuges and Important Bird Areas is a priority issue for Audubon in Montana. You may receive comments from other members in the Society, and especially from our local Upper Missouri Breaks Audubon Society Chapter, based in Great Falls.

Over the past two years we have participated in the development of the Benton Lake Comprehensive Conservation Planning (CCP) process and recommendations, providing comments during the scoping process, participating in the workshop held in June 2011, as well as consulting with refuge staff during the development of the Draft Plan. We have reviewed the draft Refuge complex CCP with particular attention to the alternatives proposed for Benton Lake National Wildlife Refuge (NWR). Our comments are focused on Benton Lake NWR because of the significant changes being proposed for the refuge in this Draft Plan, as well as the recognition that this refuge is one of forty Important Bird Areas (IBAs) identified in Montana.

As background, Benton Lake NWR is recognized as an Important Bird Area because of the presence of wetland- and grassland- dependent species. As you know, the refuge has one of the largest known breeding population of Black-necked Stilts in Montana and the largest nesting colony of Franklin's Gulls in Montana. It is also visited during spring and fall migration, by up to 150,000 ducks, 25,000 geese, 5,000 swans, and as many as 50,000 shorebirds. In addition, Benton Lake NWR is home to grassland species of conservation concern like the Chestnut-collared Longspur. Indeed, the significance this refuge plays for migratory and breeding wetland-dependent birds, as well as breeding grassland-dependent birds elevated this site to an IBA. This combination of habitats also explains why so many local birders—and birders from across Montana—come to Benton Lake NWR.

We appreciate Montana Audubon's involvement in the development of the Benton Lake National Wildlife Refuge Complex CCP. The extra effort that Audubon staff has put forward to engage in this process has been very beneficial. The Service values and appreciates the designation of the Benton Lake Refuge as an Important Bird Area and the refuge's role in supporting migratory and breeding wetland and grassland birds.

The original proposed action (alternative C1) has been modified to contain some aspects of alternatives B1 and C1. Specifically, there will be continued use of wetland infrastructure to provide flooded habitat through the fall in 11 out of 15 years. This selected management direction will be implemented using science-based wetland management techniques in an adaptive management framework that will seek to mimic dynamic flooding and drying cycles, as suggested in your letter.

The selected management direction for Benton Lake Refuge will be implemented under the umbrella of management for the entire refuge complex. According to analysis conducted by the Service in the Prairie Pothole Region, the most vulnerable wetlands to drainage and tillage are small, temporary wetlands. The most effective management tool the refuge complex has to address the loss of wetland and grassland habitat throughout the region surrounding the refuge is through protection and restoration of habitat, such as with our conservation easement program. The selected management direction for Benton Lake will improve the health and productivity of the refuge, but it is a single, large, semipermanent wetland which does not provide the same resources to migratory birds as would a multitude of small, temporary wetlands across the landscape. In addition, the increased resources needed to achieve refuge objectives may reduce the ability of refuge complex staff to protect additional wetlands from draining across the landscape.

As we move forward with refuge and refuge complex management, we will continue to adapt to the challenges presented by climate change and habitat loss and adjust management of the refuge within the framework of the selected management direction. We appreciate your suggestions for further energy self-sufficiency.

We also value our role as an accessible wetland complex so close to Great Falls. It is our intention with the selected management direction

LETTER #7—Montana Audubon, page 2 of 3

Given our understanding of the significant ecological health issues facing Benton Lake, we have been challenged by—and at times conflicted about—the best approaches for setting this refuge on the best track long-term. In the last fifty years, Benton Lake NWR has served as a wildlife "shock absorber" for a large part of central Montana. This region of the state has seen incredible losses of wetlands due to draining and crop conversions. In addition, crop conversions in this region have also reduced native grasslands. Together, the enhanced wetlands and grasslands found at the refuge have played a significant role offsetting habitat loss by providing excellent habitat for resident and migratory birds.

Proposed Alternatives

To begin, we strongly agree that the "no action" alternative is not an acceptable alternative, as changes in management are needed to address the significant issues of increased selenium concentrations, invasive species encroachment, botulism, and other problems addressed in the Draft Plan.

As organizations, Montana Audubon and Five Valleys Audubon generally consider operating and/or restoring ecological systems to their natural state to be the best desired outcome. However, after considerable analysis of the management options available for Benton Lake NWR, we believe that abruptly returning this refuge to a "natural management" regime, Alternative C, is not appropriate. We've come to this conclusion after considering the history of Benton Lake, the importance of enhanced wetlands to migratory and breeding wetland-dependent birds in central Montana, the importance of maintaining a combination of wetland and grassland-dependent species close to a major city, and the potential for success in improving the health of Benton Lake NWR habitats through active and strategic water management. Such an approach (a variant of Alternative B1) could provide more reliable bird habitat to the suite of species that rely on Benton Lake wetlands, and could build healthier, more sustainable, biologically diverse wildlife habitat on the refuge long-term. The continued use of wetland infrastructure and implementation of science-based wetland management techniques in an adaptive management framework could mimic dynamic flooding and drying cycles and create more mudflat and shallowly-flooded areas than the current water management does. This management regime could, in turn, result in more extensive and productive habitat for shorebirds. In addition to wetland habitats, grassland habitats and their associated species could continue to thrive.

Our conclusion to support a variant of Alternative B1 is also based on a historical perspective when it comes to our Refuge system nationally. In the refuge system, we understand that various wetland and water-based inland refuges were specifically purchased and managed to, in part, mitigate the loss of wetlands from agricultural tillage and human development. Benton Lake plays this role well in central Montana. So the fact that Benton Lake NWR provides altered habitats, with an enhanced wetland complex, which were not historically present, does not necessarily warrant change.

There are several other reasons to support maintenance of enhanced wetland systems at Benton Lake NWR. To begin, as stated in our February 2011 letter to refuge staff, the value of delivered water to augment and enhance wetland habitat cannot be overstated as Benton Lake NWR becomes warmer because of climate change. Given climate change trends, Benton Lake will likely become even more critical as a nesting and staging area for waterfowl on the northern Great Plains.

Second, although we appreciate the Refuges' interest in reducing its energy use and cost associated with water pumping, we believe that there are feasible systems that would allow Benton Lake NWR to increase its energy self-sufficiency. We support increasing solar electricity generation around the building complex. We encourage staff to assess the feasibility of micro-hydro systems in which energy from the water moving through the pipes is captured and incorporated into the pumping system. We do not know what is most feasible or cost effective at this time, but encourage research in this arena.

Finally, and perhaps most importantly, we will restate from our February 2011 letter: as an accessible wetland complex so close to Great Falls, we cannot stress enough how valuable this area is to local birders,

RESPONSE

to manage the refuge in a way that adds value to the resource for the people who cherish it

educators, and other wildlife enthusiasts. We have members who "bird" at the Refuge regularly throughout the year; some of these members have returned year in and year out to Benton Lake for thirty or more years. A Refuge so close to one of Montana's largest cities needs to be managed in a way that adds value to the resource, as well as the people who cherish it. The opportunity to visit Benton Lake NWR—to view the birds attracted to this special place—is simply a high value experience to Montana Audubon and many of its members.

Other Issues That Need Addressing

Montana Audubon and Five Valleys Audubon also support the following management solutions proposed in the Draft Plan:

- To address selenium, we strongly support specific plans to reduce inputs from adjacent private lands. We encourage refuge staff to pursue this option.

- We support removing trees that have been planted on the refuge, especially non-native trees such as Russian olive. The presence of trees creates two major problems for grassland birds. First, it encourages predation on grassland species by providing a perch for avian predators that would not normally be found in this habitat. Second, it fragments habitat. Outside of woody draws, most of this habitat is devoid of all trees. Grassland areas with trees are often avoided by grassland birds. As an example, during their breeding season Long-billed Curlews are found in "the simplest, most open habitat available" as they are "avoiding trees, tall weedy vegetation, and tall dense shrubs ..." (Fellows and Jones 2009). Native grassland habitat is relatively rare on the landscape in central Montana, as much of the land has already been converted to agriculture. Thus, the conservation and restoration of remaining grassland habitat patches is critical to the persistence of the bird species that depend on them.

Conclusion

Thank you for this opportunity to comment on this draft CCP. We continue to hope that the USFWS can respond to the myriad challenges at Benton NWR in a way the preserves the value of habitat for such a rich array of species. Please keep us apprised of the management directions for the Benton Lake NWR. We remain committed to working with the Refuge, other organizations and agencies, and interested citizens to significantly improve the management system and conditions at the Refuge.

Please let us know if you have questions or need clarification regarding these comments.

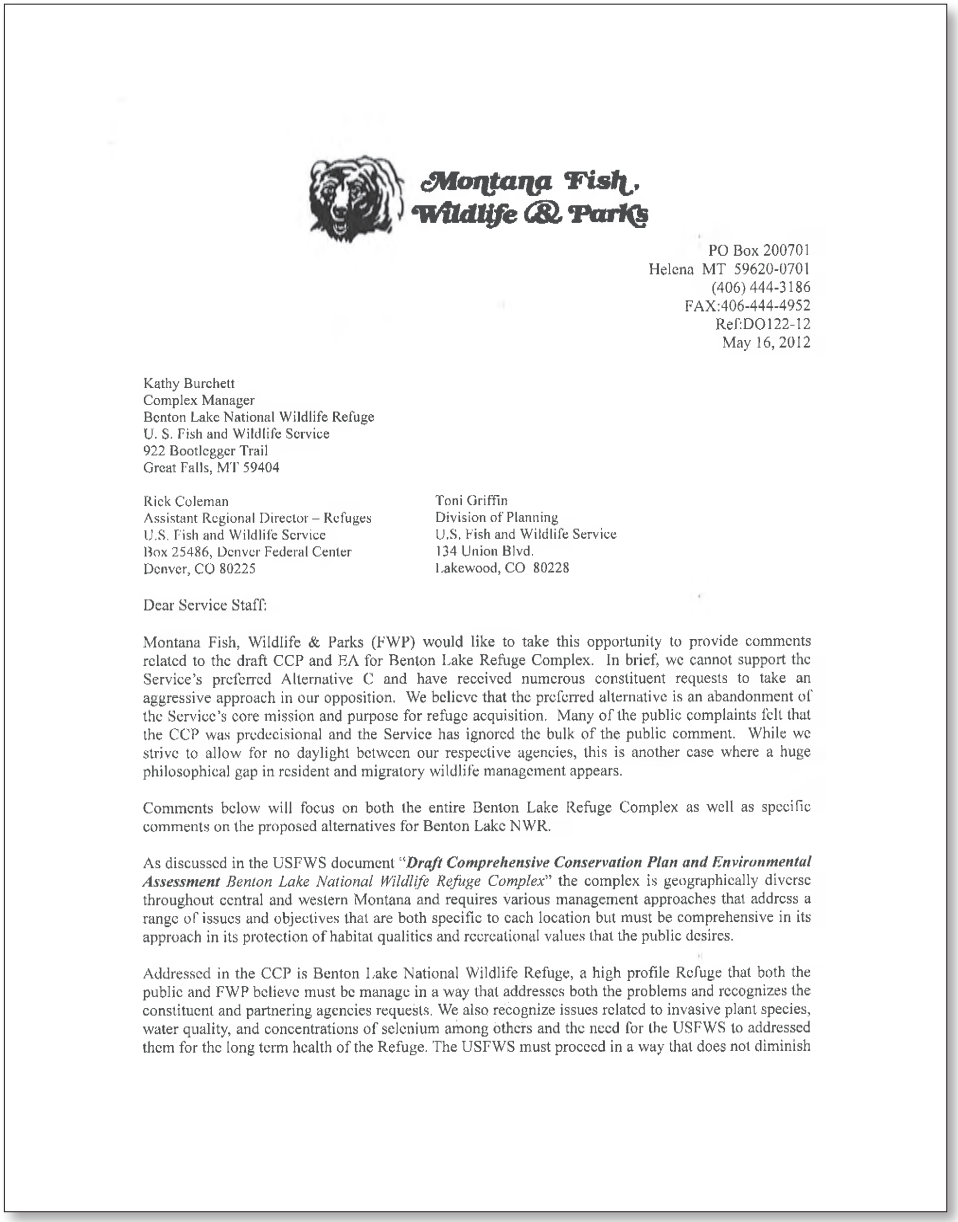
Sincerely,

Amy Cilimburg
Director of Bird Conservation, Montana Audubon

Jim Brown
Five Valleys Audubon

cc Senator Max Baucus
Senator Jon Tester

LETTER #8—Montana Fish, Wildlife & Parks, page 1 of 5



Montana Fish, Wildlife & Parks

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May 16, 2012

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Dear Service Staff:

Montana Fish, Wildlife & Parks (FWP) would like to take this opportunity to provide comments related to the draft CCP and EA for Benton Lake Refuge Complex. In brief, we cannot support the Service's preferred Alternative C and have received numerous constituent requests to take an aggressive approach in our opposition. We believe that the preferred alternative is an abandonment of the Service's core mission and purpose for refuge acquisition. Many of the public complaints felt that the CCP was predecisional and the Service has ignored the bulk of the public comment. While we strive to allow for no daylight between our respective agencies, this is another case where a huge philosophical gap in resident and migratory wildlife management appears.

Comments below will focus on both the entire Benton Lake Refuge Complex as well as specific comments on the proposed alternatives for Benton Lake NWR.

As discussed in the USFWS document "***Draft Comprehensive Conservation Plan and Environmental Assessment*** *Benton Lake National Wildlife Refuge Complex*" the complex is geographically diverse throughout central and western Montana and requires various management approaches that address a range of issues and objectives that are both specific to each location but must be comprehensive in its approach in its protection of habitat qualities and recreational values that the public desires.

Addressed in the CCP is Benton Lake National Wildlife Refuge, a high profile Refuge that both the public and FWP believe must be manage in a way that addresses both the problems and recognizes the constituent and partnering agencies requests. We also recognize issues related to invasive plant species, water quality, and concentrations of selenium among others and the need for the USFWS to addressed them for the long term health of the Refuge. The USFWS must proceed in a way that does not diminish

RESPONSE

We agree that the current management of the refuge needs to be changed to address selenium contamination, invasive species, and declining wetland health and productivity. The Service has considered input from all of our partners and the public in revising the proposed action. We believe that the selected management direction is in alignment with the Service's core mission and the purpose for which the refuge was established. The management direction for the refuge will include an adaptive and prescriptive approach to managing the refuge. This direction differs from alternative B-1 in that water management will not be consistent, and, as suggested in this letter, some units will be dewatered for extended periods of time. In addition, up to 4 years of basin-wide drying may occur over the next 15 years.

The high-water conditions in 2011 did demonstrate that deep flooding can reduce Garrison creeping foxtail. The impact of this flooding will continue to be monitored on the refuge to determine the extent and duration of reductions to Garrison creeping foxtail. In addition, flooding is a tool that may be used prescriptively as we go forward to manage this invasive species and to improve wetland health.

It may not have been clear that the Service makes a distinction between the restoration, creation, and enhancement of wetlands. Within the refuge complex, the highest priority is to restore wetlands. Wetland restoration occurs when a wetland basin was present historically, but has been drained or altered. Restoration returns the wetland to as close to functional, historical condition as possible. Restoration differs from creation and enhancement. A wetland is created where it did not occur before. Creation may occur on private land with conservation easements to support other grassland habitat management objectives. 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. Creation and enhancements will occur less frequently to avoid the negative impacts to wetland health that can be associated with these modifications to hydrology.

Prescribed grazing will be considered an important tool for managing the refuge's grasslands under the selected management direction.

The impacts of different management approaches for shelterbelts in the refuge complex alternatives B and C should have been reflected in the species of concern section as well. As noted in this letter, logger-

the uses that the public has come to expect and values of this area that are important to the diverse wildlife species that use Benton Lake. As a partnering agency, we have provided an array of comments and biologically, scientifically and socially based solutions that should be utilized and incorporated into Alternative B-1.

The fact that the Refuge's wetlands provide both important year-round habitat for migratory birds and have the potential to provide significant amounts of public enjoyment has been clearly demonstrated during the Refuge's history. Furthermore, we recognize that the Refuge functions as a part of a much larger watershed and the health of that watershed has a direct influence on the quality and quantity of the Refuge's physical and biotic resources. Some concerns observed in the CCP and EA process noted include:

Throughout the public commenting process the Service has seemed to ignore substantial and consistent comment relative to a preferred alternative from a very inclusive coalition of partners and from the public. The draft alternative, specifically B-1, while refined in content, still does not represent public and partner input relative to both prescriptive management actions and desired outcomes, and has been crafted in such a fashion that portrays this option as something less sustainable and functionally inadequate. During scoping and reviews from partners, including FWP, it was urged that the Service expand upon a broader array of management options within Alternative B1 that would address the issues identified at Benton Lake NWR. We believe this is a more responsive and adaptive management approach that would take advantage of existing infrastructure and staff, as well as enhance local and partner engagement. In this relationship of greater non-Service involvement, the possibilities of improved watershed health, functioning of the wetland and upland communities on the Refuge, and greatly enhanced productivity of the Refuge's habitats all become possible. Language used in the document under Alt B-1 continues to use the word "consistent" when it speaks to water management. Input from partners has endorsed a far more prescriptive approach designed to specifically deal with priority issues (water quality, wetland productivity and invasive species). It also recognizes that specific units will need to be dewatered for extended periods of time to deal with the selenium problem. Furthermore, the high water conditions in 2011 provided an example of the success possible in using managed water to deal with the Garrison foxtail issue. Why was an adaptive approach, using sound science and focusing on specific problem areas, not developed and detailed in the Draft for Alternative B1? The document did not provide monitoring data of "active management" described that has been occurring on the Refuge (past or present) that leads the Service avoid implementing Alternative B1 prior to Alternative C.

In describing the three (3) alternatives of the Complex, Chapter 3.3 Alternative A - Wetlands and Riparian Areas states "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." Rarely enhancing and restoring wetlands goes against the Service's habitat goal statement of "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." Problems at the watershed level, as well as the recent patterns of water management on the NWR, have both contributed to existing conditions which are now trying to be addressed.

Chapter 5.4 details Habitat Goal Effects on the Complex. In this section and throughout the document, grazing both native and tame grassland is described as tool to positively manipulate habitats. Later in

head shrikes and Swainson's hawks would likely no longer nest on the refuge if all of the shelterbelts were removed, as described in alternative C. Under the selected management direction for the refuge, we do not expect to remove all of the shelterbelts. Rather, we will focus on the highest priority shelterbelts that have the greatest potential to negatively impact grassland nesting birds. We would expect that this will have minimal impact on these species of concern, as other shelterbelts on the refuge and in the surrounding area will still be available for nesting.

The impacts to Franklin's gulls, white-faced ibis and black-crowned night-herons were not discussed in detail in chapter 5 because, within the refuge complex, these species occur only on the Benton Lake Refuge. The impacts of the five management alternatives for the refuge on these birds was discussed in the Benton Lake Refuge chapter (chapter 7). At the refuge complex level, protection and restoration of wetlands on waterfowl production areas or through our easement program would potentially benefit these species. We would expect the benefit at the refuge complex level to be greater in alternative C than in B because more resources would be available for wetland protection and restoration across the refuge complex. However, the benefits may be limited for these species since these particular waterbirds generally require larger, more permanently flooded wetlands which are less common throughout the refuge complex.

The impact analysis at the refuge complex level (chapter 5) did, as this letter notes, spend little time discussing the cause and effect relationships of trust species. It was assumed, by protecting landscapes expanses of native habitats through easement programs, there would be a positive effect on endemic wildlife and trust species. Also, management of fee-title lands in contiguous blocks using the environmental factors at proper levels that shaped the prairie and intermountain valley ecosystems—fire and grazing—would inherently positively affect trust species such as grassland birds, wetland-dependent birds and sage obligates such as Brewer's sparrows. The impacts of management actions on Benton Lake Refuge to wildlife is discussed in chapter 7 of the draft CCP and EA.

We agree that there would be declines in waterfowl and other waterbird breeding during extended dry cycles at Benton Lake Refuge under the management direction proposed in alternative C1. How-

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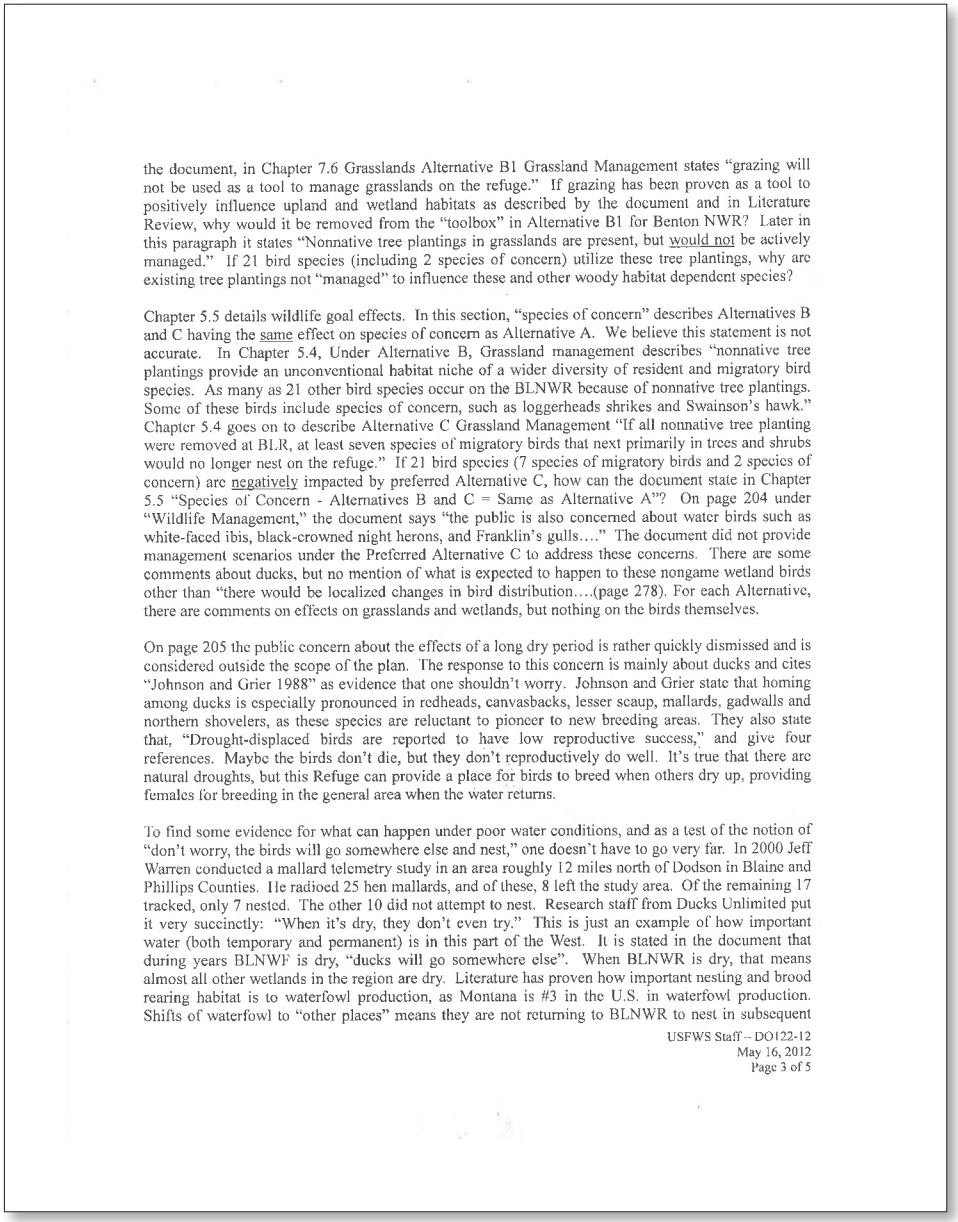

the document, in Chapter 7.6 Grasslands Alternative B1 Grassland Management states "grazing will not be used as a tool to manage grasslands on the refuge." If grazing has been proven as a tool to positively influence upland and wetland habitats as described by the document and in Literature Review, why would it be removed from the "toolbox" in Alternative B1 for Benton NWR? Later in this paragraph it states "Nonnative tree plantings in grasslands are present, but would not be actively managed." If 21 bird species (including 2 species of concern) utilize these tree plantings, why are existing tree plantings not "managed" to influence these and other woody habitat dependent species?

Chapter 5.5 details wildlife goal effects. In this section, "species of concern" describes Alternatives B and C having the same effect on species of concern as Alternative A. We believe this statement is not accurate. In Chapter 5.4, Under Alternative B, Grassland management describes "nonnative tree plantings provide an unconventional habitat niche of a wider diversity of resident and migratory bird species. As many as 21 other bird species occur on the BLNWR because of nonnative tree plantings. Some of these birds include species of concern, such as loggerheads shrikes and Swainson's hawk." Chapter 5.4 goes on to describe Alternative C Grassland Management "If all nonnative tree planting were removed at BLR, at least seven species of migratory birds that next primarily in trees and shrubs would no longer nest on the refuge." If 21 bird species (7 species of migratory birds and 2 species of concern) are negatively impacted by preferred Alternative C, how can the document state in Chapter 5.5 "Species of Concern - Alternatives B and C = Same as Alternative A"? On page 204 under "Wildlife Management," the document says "the public is also concerned about water birds such as white-faced ibis, black-crowned night herons, and Franklin's gulls…." The document did not provide management scenarios under the Preferred Alternative C to address these concerns. There are some comments about ducks, but no mention of what is expected to happen to these nongame wetland birds other than "there would be localized changes in bird distribution….(page 278). For each Alternative, there are comments on effects on grasslands and wetlands, but nothing on the birds themselves.

On page 205 the public concern about the effects of a long dry period is rather quickly dismissed and is considered outside the scope of the plan. The response to this concern is mainly about ducks and cites "Johnson and Grier 1988" as evidence that one shouldn't worry. Johnson and Grier state that homing among ducks is especially pronounced in redheads, canvasbacks, lesser scaup, mallards, gadwalls and northern shovelers, as these species are reluctant to pioneer to new breeding areas. They also state that, "Drought-displaced birds are reported to have low reproductive success," and give four references. Maybe the birds don't die, but they don't reproductively do well. It's true that there are natural droughts, but this Refuge can provide a place for birds to breed when others dry up, providing females for breeding in the general area when the water returns.

To find some evidence for what can happen under poor water conditions, and as a test of the notion of "don't worry, the birds will go somewhere else and nest," one doesn't have to go very far. In 2000 Jeff Warren conducted a mallard telemetry study in an area roughly 12 miles north of Dodson in Blaine and Phillips Counties. He radioed 25 hen mallards, and of these, 8 left the study area. Of the remaining 17 tracked, only 7 nested. The other 10 did not attempt to nest. Research staff from Ducks Unlimited put it very succinctly: "When it's dry, they don't even try." This is just an example of how important water (both temporary and permanent) is in this part of the West. It is stated in the document that during years BLNWF is dry, "ducks will go somewhere else". When BLNWR is dry, that means almost all other wetlands in the region are dry. Literature has proven how important nesting and brood rearing habitat is to waterfowl production, as Montana is #3 in the U.S. in waterfowl production. Shifts of waterfowl to "other places" means they are not returning to BLNWR to nest in subsequent

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ever, wet–dry cycles are very important to wetland productivity and waterfowl production over the long term. When a wetland refloods after a dry period, there is a pulse of nutrients that stimulates productivity in invertebrates and some plants which provides important food resources for waterfowl, shorebirds and other wetland-dependent wildlife (Magee 1995, Anteau 2012). We disagree that these dry cycles would significantly impact the ability of waterfowl and other birds to quickly find wetlands once they have reflooded. For example, most of the waterfowl production areas on the refuge complex experience extended dry cycles with associated reductions in waterfowl use, however, over the last few years of wet conditions, waterfowl use has immediately increased and many broods have been observed on WPAs. These "boom" and "bust" cycles are essential to the long-term productivity of wetlands and wildlife that depend on them. One of the primary reasons the Service suspects that waterfowl productivity has declined at Benton Lake is because extended dry cycles have been eliminated within the wetland basin.

It is not clear where the draft CCP and EA indicates that there will be a 45-percent increase in recreational use under alternative C. At the refuge complex level, modest increases in public use are expected if a park ranger is hired to increase opportunities for nonconsumptive uses. For Benton Lake Refuge, we agree that dry years will impact waterfowl hunters and nonconsumptive users who use the refuge to observe or photograph wetland-dependent wildlife. The analysis for alternative C1 (Benton Lake Refuge only) indicated that we expected a 60-percent reduction in waterfowl hunting and an overall reduction in all hunting of 41 percent over current management (alternative A). The 2–3 "wet years" that were expected, based on the 30 previous years of the refuge, specifically included those years where water persisted through the fall. In these years wetland-dependent recreation would be possible. Under the selected management direction, the impact to waterfowl hunting will be much less than expected under the original proposed action (alternative C1). Rather than expecting approximately 8 years of no waterfowl hunting in alternative C1, the Service will strive to provide water in the fall for 11 out of 15 years on Benton Lake, with no more than 3 consecutive dry years.

Benton Lake Refuge has been designated an Important Bird Area and a Western Hemisphere Shorebird Reserve Network site. Shore-

years. The document is deficient in terms of its predicted biological outcomes as they relate to the preferred alternative and the migratory bird resources associated with the Refuge. The Refuge provides a significant wetland complex that serves both breeding and migration functions. While migratory birds can obviously move across the landscape, many of the species associated with Benton Lakes exhibit a high degree of fidelity to previously used habitat. This includes both breeding duck and water bird populations. Given that temporary and semi-permanent wetland habitats along the Rocky Mountain Front are quite variable and can remain dry for significant periods of time, what specific habitats will accommodate increased levels of use by species displaced by Alt C? How does the Service intend to mitigate for unavoidable impacts to trust species that result from this management action?

Under Alternative C, the document speaks to increased levels of recreational use by 45%, but also states waterfowl hunting will most likely decline by 25%. Nonconsumptive users (bird watching, photography, etc) far exceed hunter use of the complex, but we believe there will be a net loss in public use with Alternative C. There is no data shown to support the 45% increase of public use as described in the document. Having 7-8 "dry years" out of 10 will not provide available habitat for waterfowl and water dependent wildlife species, which nonconsumptive and consumptive users alike are mostly on the Refuge to observe and enjoy. Pubic use will most likely decline by 45%, not increase by 45% over the life of the plan under Alternative C. During the 2-3 "wet years", hunters may not be able to utilize the Refuge as the water is not guaranteed to be there during the fall months, further limiting hunting opportunities. How were those results generated for wildlife viewing options given the potential for a considerable reduction in migratory bird use? From a human dimension standpoint and with an understanding of how recreational patterns of use typically occur, interrupting traditions of use by avid hunters or bird watchers will likely contribute to less recreational activity over time, especially during periods of extended dry conditions under a natural hydrologic regime. Why was this not factored into the predicted outcomes of the various alternatives?

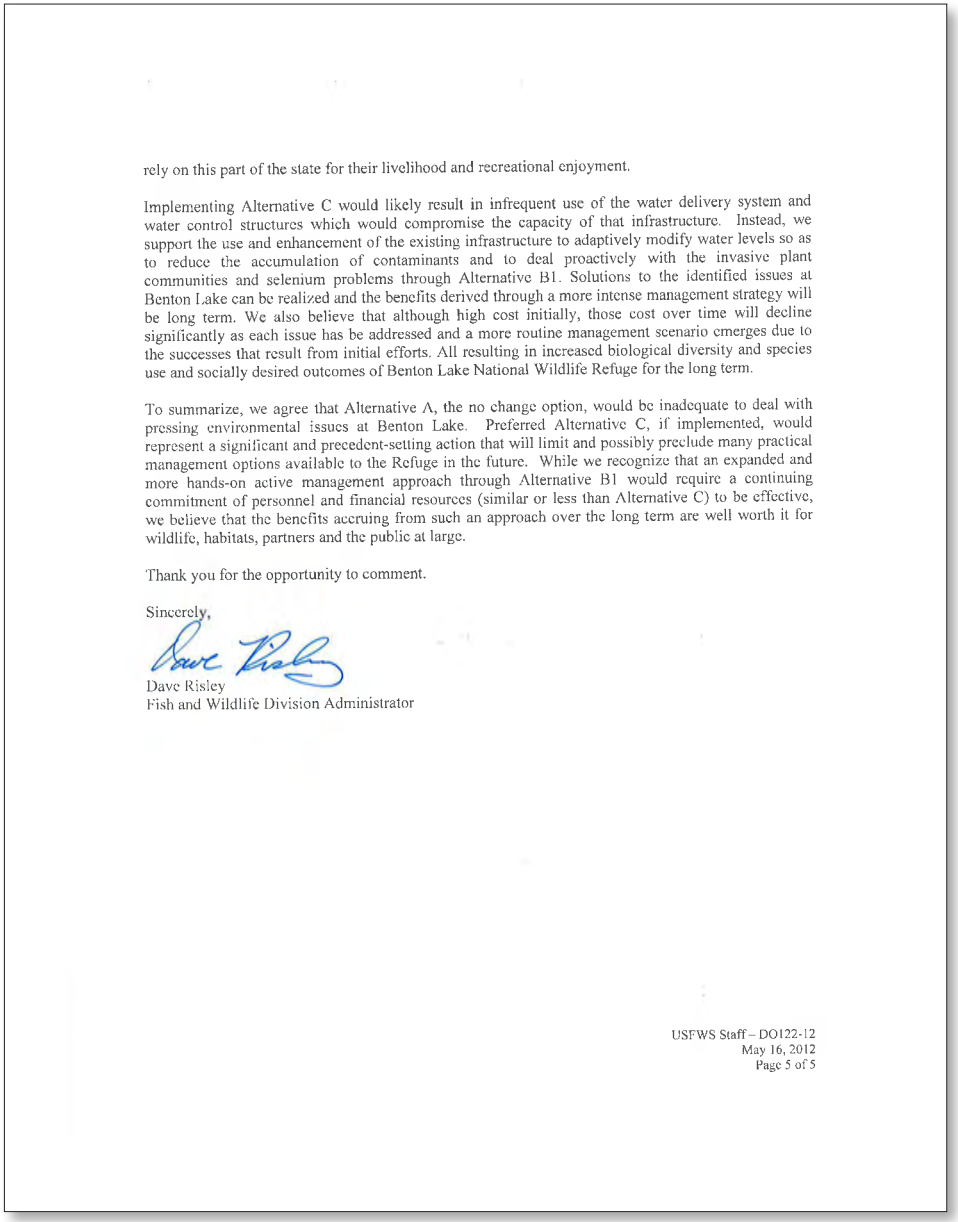
The Refuge has been designated an Important Bird Area under the National Audubon Society's program and also a site of regional significance under the Western Hemisphere Shorebird Reserve Network (pages 111-112). We would have expected more details about why the Refuge deserved the status for each of these and what the Preferred Alternative will mean to that status and to the birds that made the Refuge worthy of the status.

While the Refuge can reduce its selenium problem by breeching its dikes and curtailing the pumping of supplemental water into the Refuge, selenium will continue to be a problem in the watershed and hence, on the Refuge. Declines in waterfowl numbers due to Selenium on the Refuge over the long term is not near the net losses in waterfowl production due to displacement and lack of habitat availability due to the "dry years" (8 years out of 10) as in the Preferred Alternative C. Data should be provided in the EA detailing this information. In keeping with current Service priorities targeting effective landscape conservation, we recommend a more proactive watershed approach that will not only address the selenium issue but also engage the Service with key landowners and partners which is a goal of BLNWR as stated in Chapter 7.3. To that end, we also recommend that the Service's Partners Program be directed to assist in the delivery of needed conservation measures. We believe that this holds the greatest promise for improving the overall health of the system. More importantly, it allows the Service to demonstrate the conservation leadership for which it has long been recognized. To do less in our view is to take a step backward and to shrink from an opportunity to resolve a landscape issue with significant potential benefits to farmers, ranchers, recreationists, and others who

birds will benefit from increased drying cycles on the refuge. Not only due to the increase in overall productivity that this creates over the long-term, but drying creates mudflats that are important foraging habitat for shorebirds that has been reduced or absent under the current management. Benton Lake Refuge was designated as an Important Bird Area for both its significance to wetland-dependent and to grassland-dependent birds. Individual species of note related to this designation include black-necked stilts, Franklin's gulls, and chestnut-collared longspurs. The selected management direction will benefit all of these species by increasing both wetland and upland health and productivity for breeding birds.

Refuge staff will actively engage partner organizations and landowners in the Lake Creek watershed to reduce the selenium load in natural runoff into the refuge. Most of the seeps in the watershed have been mapped, and major contributors to the selenium load may be located in a relatively few places (personal communication, S. Brown; Nimick et al. 1996). In addition, all cropped land in the watershed has the potential to contribute to the seeps (personal communication, S. Brown). Although not all of the area has been mapped, at least 30,000 acres contribute to seep formation in the watershed based on the locations of monitoring wells and mapped recharge areas (personal communication, S. Brown). However, not all of the 30,000 acres would contribute equally to the selenium problem, because the seeps vary in size, amount of discharge, and proximity to Lake Creek and its tributaries. The number of acres that would need to be planted to perpetual, perennial cover to achieve these reductions in inputs is currently unknown. This will be a continually changing target because alterations in land use (such as breaking new crop ground or planting through the USDA's Conservation Reserve Program) and precipitation affect seep formation.

To achieve a permanent reduction in selenium inputs, source areas would need to be planted to perennial cover and protected with a perpetual conservation easement or bought in fee title by the Service or its partners and managed as perennial cover. USDA efforts such as the Conservation Reserve Program, the Conservation Security Program, the Environmental Quality Incentives Program, the Wetlands Reserve Program, and more have the potential to establish perennial cover in the watershed. As of 2011, an acre of farmland in the Lake



rely on this part of the state for their livelihood and recreational enjoyment.

Implementing Alternative C would likely result in infrequent use of the water delivery system and water control structures which would compromise the capacity of that infrastructure. Instead, we support the use and enhancement of the existing infrastructure to adaptively modify water levels so as to reduce the accumulation of contaminants and to deal proactively with the invasive plant communities and selenium problems through Alternative B1. Solutions to the identified issues at Benton Lake can be realized and the benefits derived through a more intense management strategy will be long term. We also believe that although high cost initially, those cost over time will decline significantly as each issue has be addressed and a more routine management scenario emerges due to the successes that result from initial efforts. All resulting in increased biological diversity and species use and socially desired outcomes of Benton Lake National Wildlife Refuge for the long term.

To summarize, we agree that Alternative A, the no change option, would be inadequate to deal with pressing environmental issues at Benton Lake. Preferred Alternative C, if implemented, would represent a significant and precedent-setting action that will limit and possibly preclude many practical management options available to the Refuge in the future. While we recognize that an expanded and more hands-on active management approach through Alternative B1 would require a continuing commitment of personnel and financial resources (similar or less than Alternative C) to be effective, we believe that the benefits accruing from such an approach over the long term are well worth it for wildlife, habitats, partners and the public at large.

Thank you for the opportunity to comment.

Sincerely,

Dave Risley
Fish and Wildlife Division Administrator

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Creek watershed was valued at approximately $1,000. Easements cost approximately 25–30 percent of the full value. The Service's Partners for Fish and Wildlife program has recently conducted an extensive state-wide planning effort to identify high-priority landscapes to assist in working with private landowners. The Benton Lake watershed is not one of the program's priorities. However, increased coordination between the refuge and the NRCS, local watershed groups, and contaminants programs may lead to innovative solutions to reduce some of the selenium sources.

Reducing selenium inputs is important for extending the life of the wetlands on Benton Lake. Average concentrations of selenium for pumped water from the Muddy Creek watershed are 3 micrograms per liter and 14 micrograms per liter for natural runoff from the Lake Creek watershed (Nimick et al. 1996, Refuge data 2007–11). Based on previous research, a reduction of selenium inputs by 64 percent (average concentration of 5 micrograms per liter) in conjunction with seasonal drying could prevent the refuge from reaching toxic thresholds in Units 1 and 2 (Zhang and Moore 1997). Smaller reductions in selenium inputs may be needed due to the extended drying for Units 1 and 2 planned in the selected management direction.

Under the selected management direction, the water delivery system to the refuge would be used in at least 11 out of 15 years. Annual maintenance of these structures will continue similarly to current management. Infrastructure on the refuge may still be modified to increase water delivery efficiencies or to improve wetland management. Decisions regarding pumping and infrastructure will be made annually based on adaptive management and on the progress made toward management objectives for the wetlands. As noted, the selected management direction is expected to be more expensive than the original proposed action (alternative C1).

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June 1, 2012

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RE: BENTON LAKE NWR COMPREHENSIVE PLAN

The Benton Lake NWR released its draft Comprehensive Conservation Plan on April 2, 2012. On behalf of the National Wildlife Federation, we oppose adoption of the preferred alternative (Alt. C). We support the development and adoption of a variation of Alternative B1 that uses water management over the planning period to both enhance wildlife habitat and address management concerns regarding selenium and invasive species. We also recommend that FWS develop a collaborative approach to finalizing Alternative B1 by engaging stakeholders and the local community in collectively building a plan that unites rather than polarizes the human community surrounding the refuge.

In two letters dated May 16, 2012, the Montana Department of Fish, Wildlife and Parks has raised and addressed numerous concerns about the adoption of Preferred Alternative C and the process used by FWS to develop it. NWF adopts in full the FWP comments. In our view the Benton Lake CCP a deeply flawed for the following reasons raised in the FWP comment letters:

- Throughout the development of the plan and the public comment process that accompanied it, FWS has ignored substantial and consistent adverse comment on the Preferred Alternative. FWS has also ignored and the good faith efforts of FWP, conservation NGO's, and the interested public to advance other management alternatives that would achieve the stated goals of FWS managers.

RESPONSE

The Service has considered input from all of our partners and the public in developing a revised management direction for Benton Lake Refuge. After all public comments were received and considered following the release of the draft CCP and EA, the Service conducted two additional public meetings as well as a structured decisionmaking workshop with MFWP. This additional public scoping resulted in a modification to the original proposed action (alternative C1) that contains some aspects of alternatives B1 and C1.

Alternatives B1 and C1, as well as the selected management direction, all contain prescriptive management actions. The selected management direction will employ intensive management actions such as grazing, mowing, discing, burning, or herbicides in combination with flooding and drying cycles. These flooding and drying cycles will be rotated among units within the wetland basin and may include up to 4 out of 15 years of basin-wide drying (although no more than 3 consecutive years). The likelihood for success of these prescriptive actions will increase when they are used in concert with water management that emulates the natural hydrology of the wetland basin.

An evaluation of the impacts of the revised management action can be found in appendix A. This Finding of No Significant Impact by the Regional Director indicates that an environmental impact statement is not necessary.

The Service does not consider divestiture, or transfer, to another agency such as MFWP unless a unit no longer meets the purposes for which it was established. The refuge provides significant natural resource benefits and continues to meet its purpose as a refuge and breeding ground for birds.

The Service disagrees with the allegation that alternative C had been effectively adopted several years ago. Since 1993, the refuge has pumped between 1,932 acre-feet and 5,800 acre-feet of water. From 2005–2010, the refuge pumped an average of 3,727 acre-feet every year, which is well within the long-term average. In 2011, the refuge received over 10,000 acre-feet in natural runoff, which is one of the highest amounts in recorded refuge history. Even in a year with such high runoff, the refuge still pumped 1,554 acre-feet and only ceased when the delivery pipe was damaged by an outside entity doing utility construction work. Other water management strategies, such as the flooding and drying of units and prescribed burning, have been used

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- Alternatives to Preferred Alternative C have never fully reflected comments received from either FWP or the interested public. While Alternative B-1 is held out as a management option that is responsive to public and FWP concerns, Alternative B1 ignores prescriptive management actions and in so doing does not achieve desired management outcomes.

- Despite proposing an action (Alternative C) that significantly departs from 50 years of management practice at Benton Lake, and despite the significant environmental impacts that will result from this change in management direction FWS has not prepared an environmental impact statement as required by the National Environmental Policy Act.

- Because Preferred Alternative C departs so significantly from the core mission of FWS, NWF believes a new Alternative must be developed the considers decommissioning the Benton Lake NWR as a unit of the National Wildlife Refuge Management System, with land ownership turned over to the Department of Fish, Wildlife and Parks for management as a Montana Wildlife Management Area.

- In NWF's view, FWS effectively adopted Alternative C several years ago by ramping down water management. In the absence of a CCP and a final decision, this ad hoc shift in management violates the National Wildlife Refuge Administration Act, NEPA and the Administrative Procedures Act.

Since 2010, NWF has attempted to work with FWS in the development of a more responsive management alternative. We have totally frustrated in this regard and we believe the Benton Lake planning process has been deeply flawed. In our experience, this broken process stands out from the development of CCP's at other national wildlife refuges in the northern Rockies and prairies. As a result of this process, traditional supporters and partners of FWS haven alienated, local publics have been frustrated and public support needed for successful wildlife conservation programs has been badly undermined.

Very truly yours,

Thomas France

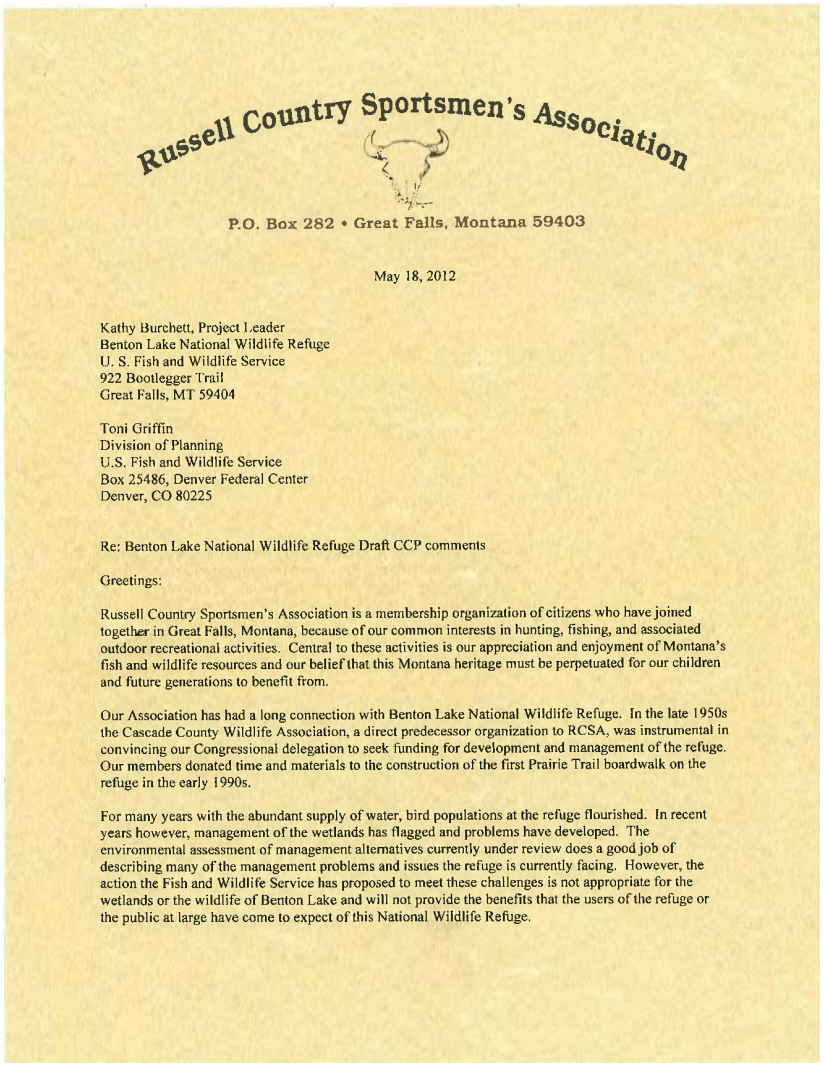
Thomas M. France
Regional Executive Director

Copies to: Montana FWP, Montana congressional delegation

RESPONSE

consistently over the last 20 years. There has not been an ad hoc shift in management prior to this final CCP decision. Rather, the Service has closely followed the National Wildlife Refuge Administration Act, NEPA and the Administrative Procedures Act.

We have also very seriously considered all of the input we have received throughout this process and highly value our traditional supporters and Service partners. The Service considers the selected management direction for Benton Lake Refuge, and the process by which it was developed, to be an exemplary CCP for national wildlife refuges across the Service.



Russell Country Sportsmen's Association

P.O. Box 282 • Great Falls, Montana 59403

May 18, 2012

Kathy Burchett, Project Leader
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Re: Benton Lake National Wildlife Refuge Draft CCP comments

Greetings:

Russell Country Sportsmen's Association is a membership organization of citizens who have joined together in Great Falls, Montana, because of our common interests in hunting, fishing, and associated outdoor recreational activities. Central to these activities is our appreciation and enjoyment of Montana's fish and wildlife resources and our belief that this Montana heritage must be perpetuated for our children and future generations to benefit from.

Our Association has had a long connection with Benton Lake National Wildlife Refuge. In the late 1950s the Cascade County Wildlife Association, a direct predecessor organization to RCSA, was instrumental in convincing our Congressional delegation to seek funding for development and management of the refuge. Our members donated time and materials to the construction of the first Prairie Trail boardwalk on the refuge in the early 1990s.

For many years with the abundant supply of water, bird populations at the refuge flourished. In recent years however, management of the wetlands has flagged and problems have developed. The environmental assessment of management alternatives currently under review does a good job of describing many of the management problems and issues the refuge is currently facing. However, the action the Fish and Wildlife Service has proposed to meet these challenges is not appropriate for the wetlands or the wildlife of Benton Lake and will not provide the benefits that the users of the refuge or the public at large have come to expect of this National Wildlife Refuge.

We appreciate and acknowledge the support that the Russell Country Sportsmen's Association has provided to the Benton Lake Refuge over its history. We also agree that the refuge is facing serious management challenges that need to be addressed. The proposed management action (alternative C1) has been modified to address many of the concerns that the Russell Country Sportsmen's Association has identified. The Service will dewater Unit 1 for a period of time to address selenium accumulation problems. Grazing, flooding, drying, mowing, discing, and prescribed fire will all be used as management tools to address unwanted wetland vegetation such as Garrison creeping foxtail and cattails. Under this selected management direction, the Service will strive to provide water on the refuge in 11 out of 15 years, with basin-wide dry periods limited to no more than 3 consecutive years. The effectiveness of these intensive management techniques and shorter-term dry cycles in addressing serious wetland health issues will be continually monitored and evaluated in an adaptive management framework. Based on monitoring feedback, adjustments will be made as needed. We agree that changes in the auto tour route or to the hunting units may be needed to accommodate public use under this management direction. The selected management direction will require, as noted, increased flexibility by refuge staff and increased resources. We would greatly appreciate any volunteer assistance from the Russell Country Sportsmen's Association in implementing the new management direction on the refuge.

A hands-off approach to wetlands management as described in Alternative C might be entirely appropriate in large mostly intact natural systems such as the refuges in Alaska or the Red Rock Lakes refuge in the Greater Yellowstone Ecosystem. But, that is not the situation we find at Benton Lake. Here, the refuge is an island surrounded by a vast sea of farmland where most prairie wetlands now produce wheat instead of waterfowl. It is the view of our membership that it is entirely appropriate for the FWS to actively manage the refuge to make up in some meager way for the conversion of thousands of acres of wetland in north-central Montana. We are absolutely opposed to any proposal to terminate maintenance of water facilities or any plan that would lead to removal of the system of dikes, canals, and water control structures that have been constructed to facilitate wetland management at the refuge.

We believe a management scheme that is encompassed by Alternative B1 is the most appropriate approach to management at Benton Lake. The Benton Lake basin does not have to be entirely dry to deal with its wetland issues. All of wetland health problems that are described in the draft CCP can be addressed through alternative B1 using proven scientific methods and active management.

Selenium accumulation problems in Unit 1 (or any other unit) can be addressed by dewatering that unit for a period of time or bypassing water through or around that unit and rotating first storage of Lake Creek flows to other units. Unwanted wetland species such as creeping foxtail grass and cattail can be managed using intensive grazing or water manipulation such as periodic drying followed by deep flooding. This wetland management information is widely recognized and does not require decade-long periods of drying to accomplish.

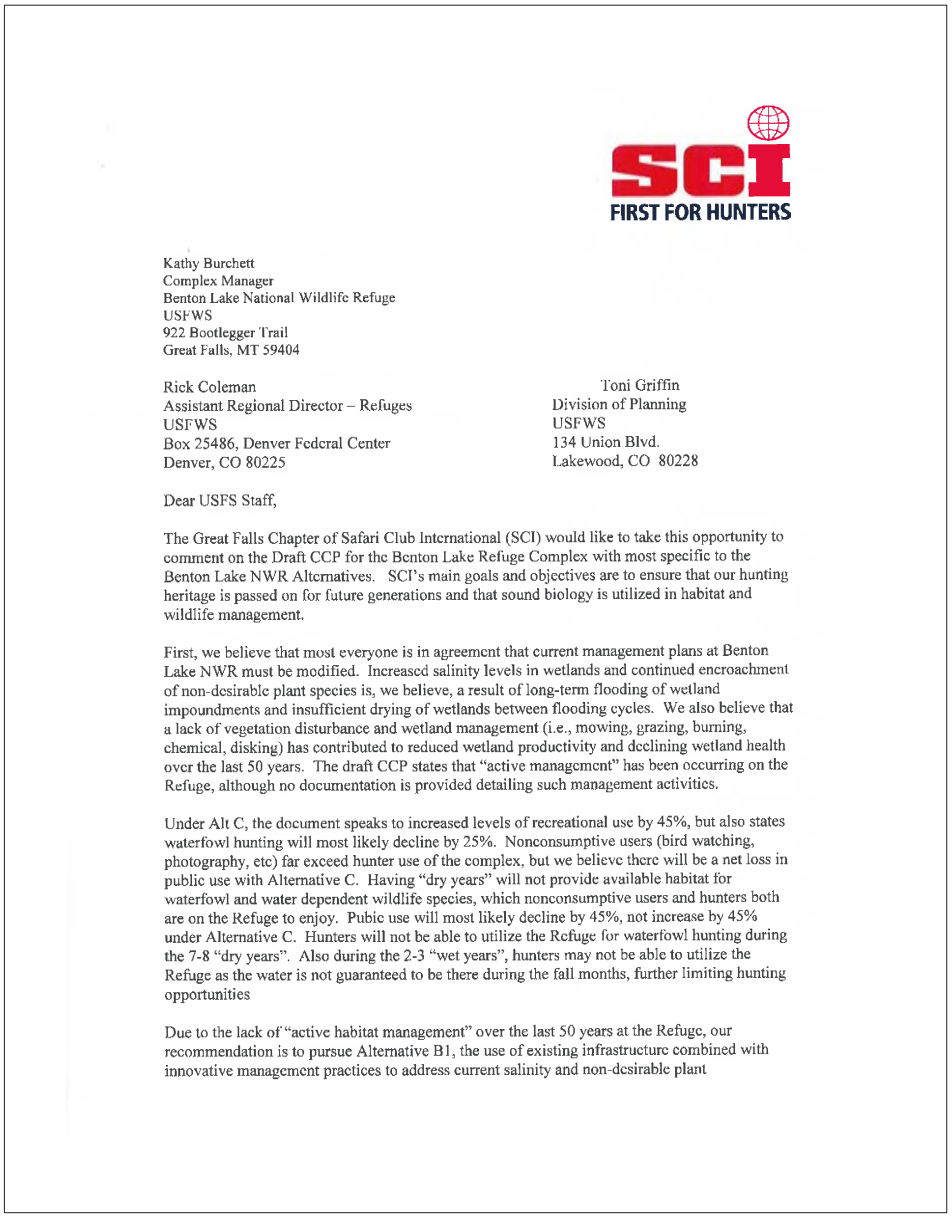
Management under Alternative B1 will require substantial flexibility on the part of refuge staff. It may require a redesign of the refuge auto tour route to accommodate the public's use and enjoyment of the refuge and its wildlife. Changes will likely also be needed in the Refuge hunting plan under this new system of adaptive management.

We recognize that the more active management of refuge wetland required under Alternative B1 will require a somewhat increased level of effort. We encourage the refuge staff to solicit and utilize the large amount of voluntary assistance that is available in the Great Falls/Cascade County area to help accomplish the work that is necessary to make this proposed active management plan a success. As we have in the past, Russell Country Sportsmen stand ready to assist the refuge in this new active management effort.

Sincerely yours,

George Golie
President

Cc: Senator Max Baucus
Senator Jon Tester
Rep. Dennis Rehberg
Director Joe Maurier, FW&P
Tom France, NWF
Bob Sanders, Ducks Unlimited
Tim Aldrich, President, MWF
Amy Cilimburg, Audubon



SCI
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USFWS
134 Union Blvd.
Lakewood, CO 80228

Dear USFS Staff,

The Great Falls Chapter of Safari Club International (SCI) would like to take this opportunity to comment on the Draft CCP for the Benton Lake Refuge Complex with most specific to the Benton Lake NWR Alternatives. SCI's main goals and objectives are to ensure that our hunting heritage is passed on for future generations and that sound biology is utilized in habitat and wildlife management.

First, we believe that most everyone is in agreement that current management plans at Benton Lake NWR must be modified. Increased salinity levels in wetlands and continued encroachment of non-desirable plant species is, we believe, a result of long-term flooding of wetland impoundments and insufficient drying of wetlands between flooding cycles. We also believe that a lack of vegetation disturbance and wetland management (i.e., mowing, grazing, burning, chemical, disking) has contributed to reduced wetland productivity and declining wetland health over the last 50 years. The draft CCP states that "active management" has been occurring on the Refuge, although no documentation is provided detailing such management activities.

Under Alt C, the document speaks to increased levels of recreational use by 45%, but also states waterfowl hunting will most likely decline by 25%. Nonconsumptive users (bird watching, photography, etc) far exceed hunter use of the complex, but we believe there will be a net loss in public use with Alternative C. Having "dry years" will not provide available habitat for waterfowl and water dependent wildlife species, which nonconsumptive users and hunters both are on the Refuge to enjoy. Pubic use will most likely decline by 45%, not increase by 45% under Alternative C. Hunters will not be able to utilize the Refuge for waterfowl hunting during the 7-8 "dry years". Also during the 2-3 "wet years", hunters may not be able to utilize the Refuge as the water is not guaranteed to be there during the fall months, further limiting hunting opportunities

Due to the lack of "active habitat management" over the last 50 years at the Refuge, our recommendation is to pursue Alternative B1, the use of existing infrastructure combined with innovative management practices to address current salinity and non-desirable plant

RESPONSE

Thank you for your letter. The Service shares Safari Club International's goals of using sound biology in habitat and wildlife management and providing for hunting opportunities

We also agree that the management direction for the Benton Lake Refuge needs to include changes from the current, "no action" alternative, specifically, increased drying within wetland units and across the basin. Active management of the wetland units over the last 10–15 years has been limited to prescribed burning and seasonal drying in the lower units. The selected management direction for the refuge includes additional management tools such as multiyear drying, flooding, burning, discing, grazing, mowing, and herbicides.

It is not clear where the draft CCP and EA indicates that there will be a 45-percent increase in recreational use under alternative C. At the refuge complex level, modest increases in public use are expected if a park ranger is hired to increase opportunities for nonconsumptive uses. For Benton Lake Refuge, we agree that dry years will impact waterfowl hunters and nonconsumptive users who use the refuge to observe or photograph wetland-dependent wildlife. The analysis for alternative C1 (Benton Lake Refuge only) indicated that we expected a 60 percent reduction in waterfowl hunting and an overall reduction in all hunting of 41 percent over current management (alternative A). The 2–3 "wet years" that were expected were based on the 30 previous years of the refuge, specifically including those years where water persisted through the fall. In these years, wetland-dependent recreation would be possible. Under the selected management direction, the impact to waterfowl hunting will be much less than expected under the original proposed action (alternative C1). Rather than having approximately 8 years of no waterfowl hunting in alternative C1, the Service will strive to provide water in the fall for 11 out of 15 years on Benton Lake, with no more than 3 consecutive dry years.

The Service has considered input from all of our partners and the public in revising the proposed action. The selected management direction will include an adaptive management approach that uses sound science to improve the health and sustainability of the Benton Lake Refuge wetlands.

encroachment while maximizing waterbird habitat values on BLNWR. In discussing past management practices on BLNWR with a number of individuals, it is our understanding that intensive management of wetland habitats has not occurred over the last 10-20 years and we feel it is worth the time and expense to implement those practices with the current infrastructure prior to considering alternative C or some (or complete) removal of infrastructure on BLNWR. The document did not provide monitoring data of "active management" that has been occurring on the Refuge (past or present) that leads the Service avoid implementing Alternative B1 prior to Alternative C.

During public scoping and reviews from agency partners, it was urged that the Service expand upon a broader array of management options within Alternative B1 that would address the issues identified. Input from these partners, such as DU and Montana FWP, has endorsed a far more prescriptive approach designed to specifically deal with priority issues (water quality, wetland productivity and invasive species), which the Service has ignored. Why was an adaptive approach, using sound science and focusing on specific problem areas, not developed and detailed in the Draft for Alt B-1 after scoping last year?

In summary, we believe that sound science could be utilized with existing infrastructure (Alternative B1) to manipulate habitats to deal with problems at hand while providing increased hunting and wildlife viewing opportunities at the Refuge.

Thank you for the opportunity to comment on this process.

Sincerely,

Corey Halvorson
President
Safari Club International - Great Falls Chapter

May 25, 2012

Upper Missouri Breaks Audubon

PO Box 2362

Great Falls, Mt 59403

Toni Griffin

US Fish and Wildlife Service

Division of Refuge Planning

134 Union Blvd., Suite 300

Lakewood, CO 80228

Upper Missouri Breaks Audubon (UMBA) would like to recognize the challenge to manage the extensive region of the Benton Lake National Wildlife Refuge Complex and the complexity of developing a comprehensive conservation plan for the wide range of habitats, sizes, fauna, flora, etc. that it encompasses.

The refuge system was established because land use changes were altering and degrading historic wetlands, grasslands, and shores that had supported migrating and nesting birds. It is an attempt in part to replace the missing habitat. Therefore, a return to a "natural system" may not always be in the best interest of birds.

We feel that water is necessary at Benton Lake for several species of concern – the White-faced Ibis and Black-crowned Night Heron. Benton Lake is also one of just a few wetlands in Montana that is host to nesting colonies of Franklin's Gulls. More information is needed about the effects of drying for a year or more would have on these species. Because these species may be disjunct or peripheral is actually even more reason that they should be supported. It indicates that there is not a lot of habitat in the region that will support reproduction of that species and they need Benton Lake. It is known that most of the ducks are resilient and those populations will bounce back after a year or two of decreased production, but what about the non-ducks?

Wetland ecology is complex and each one is different. A wetland ecologist should be considered in the staffing to monitor the plan to support birds, reduce selenium and control non-native and invasive vegetation.

Thank you for your comments. The CCP for the Benton Lake National Wildlife Refuge Complex does cover a wide range of habitats, fauna and flora and seeks to create a management direction that will meet the associated challenges.

Refuges do serve as a system of lands that provide habitat and resources to support migrating and nesting birds that have experienced habitat loss elsewhere. However, it is difficult for one refuge, such as Benton Lake Refuge, to replace acres and acres of altered habitat across the landscape. The Service has the ability to purchase conservation easements to cost effectively protect many acres of grassland and wetland habitat. The selected management direction for the Benton Lake National Wildlife Refuge Complex will continue to make this a high priority, however, an increase in the resources needed to meet objectives at Benton Lake may impact this.

Our analysis of the impacts of the original proposed action (alternative C1) on species such as white-faced ibis, black-crowned night-heron and Franklin's gulls is based on continental, rather than local, populations. As a national wildlife refuge system, the Service has a mandate to consider species on a population-wide scale. In general, we do have more scientific understanding of ducks and how they adapt to wet–dry cycles than lesser studied wetland-dependent waterbirds. We do know that when wetlands reflood after a dry period, there is a pulse of nutrients that stimulates productivity in invertebrates and some plants which provides important food resources for waterfowl, shorebirds, and other wetland-dependent wildlife (Magee 1995, Anteau 2012). We also have results from recent research on Franklin's gulls that included those using Benton Lake Refuge showing that there is significant genetic mixing among colonies. This suggests that birds have a high degree of flexibility in where they nest on an annual basis (Krmpotich 2012). Under the selected management direction for Benton Lake Refuge, there will be more frequent annual flooding than originally proposed. Whether or not shorter-term dry cycles are effective in addressing the serious wetland health issues will be continually monitored and evaluated in an adaptive management framework. Based on this monitoring feedback, adjustments will be made as needed. We agree that wetland ecology is complex, and we have requested additional biological staffing to support the management of the refuge.

LETTER #12—Upper Missouri Breaks Audubon, page 2 of 2

Benton Lake NWR appears to restrict access to large areas of the refuge. Although closure during nesting of ground birds is understandable, the closures should only be seasonal according to the expected nesting of species in those areas. We would like to see at least some seasonal foot traffic even if just on existing roads in these closed areas. We would like to see access with trails, or perhaps roads, in current closed areas. Trails should have benches and blinds located for observation. These should be "portable" in the sense that areas favored by birds may shift and the benches and blinds could be re-located with more ease. In other words, areas to view birds should be available to those on foot and in cars. If units 1 and 2 are allowed to "dry out" there would need to be changes in getting the public into areas in order to view the birds – whether on foot and using blinds or by auto route.

Hunting is a part of a refuge. Dogs are permitted during hunting season, but not at other times. Opportunities to train hunting dogs in a natural setting are limited. It could be considered that a designated dog training area be developed or allow dogs in limited areas a short time prior to the opening of hunting for training purposes.

UMBA supports the plans for re-establishing a native grassland habitat and controlling noxious weeds and invasive exotic species as this gives more support for birds like the Long-billed Curlew and Chestnut-collared Longspur as indicated in C-1.

We can't support A-1 because a different management plan is clearly needed.

B1 and B2 aren't clear about the pumping/drying plan. An active (adaptive) management is needed in order to keep water on the refuge, address selenium, prevent botulism and control invasive species. It also needs to be able to adapt to changing climate conditions. We would like to see pumping and work on selenium both happen. The adaptive plan appears that eventually it could become the C-1 plan for water management if selenium continues to be a problem. But the priority of grassland/prairie restoration is secondary in B1/B2; it needs to be at least equal to the wetlands work.

C-2 lacks flexibility because once infrastructure has been removed there is little chance of going back. This option is not desirable.

Opinion is divided within the chapter as to which would be preferable – B1 or C1. B1 appears to be more flexible in allowing more water to be retained, yet if selenium problems were not improving then stronger measures would be taken but there is little change in the grassland. C1 immediately stops putting water into units 1 and 2 but addresses the grassland issues much better from some of the birds of concern.

Beth Hill

President

Upper Missouri Breaks Audubon

RESPONSE

In addition, birding trails that access the upland habitat will be explored as a way to enhance the wildlife viewing opportunities of grassland birds. In addition, we will also modify the auto tour routes as needed, based on changes in water management, in order to facilitate wildlife observation and other recreational uses.

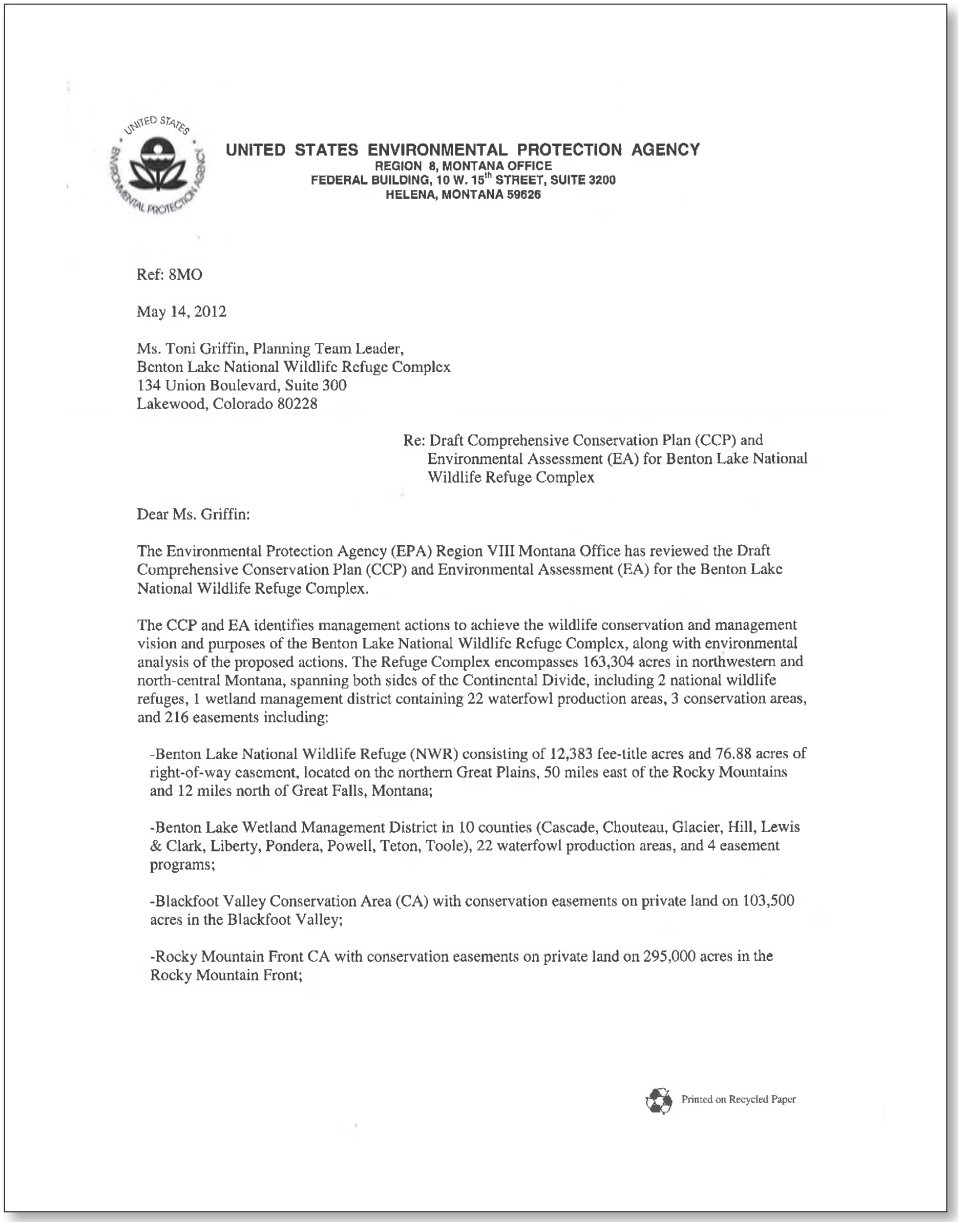
For an activity to be permitted on a national wildlife refuge it must meet the standards of both appropriateness and compatibility, as outlined in Service policy. Hunting is a wildlife-dependent recreational activity that is identified as a priority public use in the Improvement Act. We permit dogs in the hunt area during hunting season because we recognize that they are invaluable tools that greatly increase the quality of a hunt and reduce wanton waste. The training of hunting dogs is not, in itself, a wildlife-dependent recreational activity, nor does it contribute to the purpose of the Benton Lake Refuge (as "a refuge and breeding ground for migratory birds") or to the mission of the Refuge System ("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). In fact, conducting field trials for dogs on national wildlife refuges is expressly prohibited by federal law (50 CFR 27.91). Our current regulation of requiring dogs to be leashed and remain on roads open to motorized vehicles (except in the hunt area during hunting season) is intended to limit unnecessary disturbances to wildlife. Based on your request, we conducted a formal evaluation of the proposed activity and have determined that the training of hunting dogs on Benton Lake Refuge is neither appropriate, nor compatible, therefore, we deny this request.

We appreciate your support for managing native grasslands for species such as long-billed curlew and chestnut-collared longspur. Under the selected management direction, more resources may be directed toward wetland management than originally proposed in alternative C1, especially in the beginning. However, managing native prairie is also a high priority and will be addressed as staff time and money allow.

The proposed management action (alternative C1) has been modified to address many of the concerns identified by Upper Missouri Breaks Audubon and others. The Service will dewater Unit 1 for a

period of time to address selenium accumulation problems. Grazing, flooding, drying, mowing, discing, and prescribed fire will all be used as management tools to address unwanted wetland vegetation such as Garrison creeping foxtail and cattails. Under this selected management direction, the Service will strive to provide water on the refuge in 11 out of 15 years, with basin-wide dry periods limited to no more than 3 consecutive years. Whether or not these intensive management techniques and shorter-term dry cycles are effective in addressing the serious wetland health issues will be continually monitored and evaluated in an adaptive management framework. Based on this monitoring feedback, adjustments will be made as needed. This selected management direction will require increased resources, which may be a challenge in this age of declining federal budgets. However, this selected management direction will also maintain many viable management options and tools to address long-term challenges such as climate change and habitat loss over the coming decades.

The selected management direction contains some aspects of both B1 and C1. There will be more frequent annual flooding than originally proposed, but management will be adaptive if selenium and other wetland health indicators are not improving. Native prairie will still be a high priority, but management actions such as controlling invasive species, removing nonnative shelterbelts, and replanting native grasses may happen more slowly, or to a lesser degree, than what was originally proposed in C1.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8, MONTANA OFFICE
FEDERAL BUILDING, 10 W. 15th STREET, SUITE 3200
HELENA, MONTANA 59626

Ref: 8MO

May 14, 2012

Ms. Toni Griffin, Planning Team Leader,
Benton Lake National Wildlife Refuge Complex
134 Union Boulevard, Suite 300
Lakewood, Colorado 80228

Re: Draft Comprehensive Conservation Plan (CCP) and Environmental Assessment (EA) for Benton Lake National Wildlife Refuge Complex

Dear Ms. Griffin:

The Environmental Protection Agency (EPA) Region VIII Montana Office has reviewed the Draft Comprehensive Conservation Plan (CCP) and Environmental Assessment (EA) for the Benton Lake National Wildlife Refuge Complex.

The CCP and EA identifies management actions to achieve the wildlife conservation and management vision and purposes of the Benton Lake National Wildlife Refuge Complex, along with environmental analysis of the proposed actions. The Refuge Complex encompasses 163,304 acres in northwestern and north-central Montana, spanning both sides of the Continental Divide, including 2 national wildlife refuges, 1 wetland management district containing 22 waterfowl production areas, 3 conservation areas, and 216 easements including:

-Benton Lake National Wildlife Refuge (NWR) consisting of 12,383 fee-title acres and 76.88 acres of right-of-way easement, located on the northern Great Plains, 50 miles east of the Rocky Mountains and 12 miles north of Great Falls, Montana;

-Benton Lake Wetland Management District in 10 counties (Cascade, Chouteau, Glacier, Hill, Lewis & Clark, Liberty, Pondera, Powell, Teton, Toole), 22 waterfowl production areas, and 4 easement programs;

-Blackfoot Valley Conservation Area (CA) with conservation easements on private land on 103,500 acres in the Blackfoot Valley;

-Rocky Mountain Front CA with conservation easements on private land on 295,000 acres in the Rocky Mountain Front;

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The current crop or fallow farming methods that are used in the watershed provide ideal conditions for the creation of seeps and the subsequent movement of selenium out of the soil profile and into the runoff that enters Lake Creek and eventually ends up in Benton Lake Refuge wetlands. Our efforts in working with the private landowners would focus on changing the current farming methods of a crop or fallow system to one that focuses on continuous cropping or the establishment of permanent cover in order to more effectively use available water in the seep recharge areas, to prevent the establishment of new seeps, and to eliminate those seeps that already exist. This would require the availability of alternative crops that would provide a reasonable economic return with no significant change in inputs. Direct payments to producers may be necessary to provide them with an incentive to try new crops. The Service may also consider a new conservation easement initiative in the watershed to convert cropland to perpetual vegetative cover in an effort to eliminate seeps. Significant progress could also be made by working with those landowners who have the most significant seeps in the watershed on their property.

The vast majority of agriculture in the Lake Creek watershed is dryland, small-grain farming using a crop or fallow rotation. Water use in wet years is very inefficient and results in increased seep activity due to excess unused water moving through the soil profile in fallow areas and entering the seep discharge area. Our efforts would focus on the use of alternative crops and continuous cropping methods to more effectively utilize available water and significantly reduce or eliminate seeps.

The average amount of selenium entering Benton Lake from pumped water during the period of 1970–2010 was 59 pounds. The total amount of selenium received from Muddy Creek water during that 30-year period was 2,417 pounds. Reducing the amount of pumped water that enters the refuge will also reduce the amount of entering selenium. We are unable to provide absolute data on the reduction in the amount of selenium that will enter the Refuge in pumped water. After participating in a structured decisionmaking process with staff from MFWP, the selected management direction for the Refuge was developed. Flexible water management will occur which will affect the amount, duration and location of pumped water within the wetland basin. Management will strive to provide some waterfowl hunting and

fall and spring migration habitat in at least 11 out of 15 years and basin-wide drawdowns in no more than 4 out of 15 years (with no more than 3 consecutive years of basin-wide drying). An adaptive resource management approach will be applied that may modify these wet and dry cycles to ensure progress towards achieving habitat objectives. Unit 1 will be drawn down and will remain drawn down until selenium levels in the top 0.8 inch of basin sediment fall below 2 micrograms per gram. We anticipate that this drawdown period will need to be 8 years to allow for the sufficient volatilization of accumulated selenium.

Current drying of the lower units (1–2 months per year) has been effective in managing salts. Selenium concentrations in Unit 5 sediments are slightly above 1 microgram per gram, which is a minimal hazard level. The development of a habitat management plan after the approval of the final CCP will identify the rotational drying sequence that will be used to manage the lower refuge units. Intensive monitoring of the selenium concentrations in sediment and vegetation based on drying periods will be an integral part of the habitat management plan.

The paragraph at the bottom of page 228 of the draft CCP and EA discusses conditions next to the seep in Unit 4C and indicates that all of the water concentrations that you list (33.8–500 micrograms per liter) were found at that seep. Figure 21 on page 229 shows high concentrations of selenium but does not specifically indicate that these samples came from the 4C seep, but the text on page 228 explains it.

Any new selenium water quality standards that are established by the Montana Department of Environmental Quality or the EPA will be considered in the development and refinement of habitat management plans as we proceed through the next 15 years to improve wetland productivity and health on the Benton Lake National Wildlife Refuge.

estimated? We recommend that the final CCP/EA include further discussion regarding the expected overall selenium load reductions likely to be achieved from improved watershed management.

A proposed action to reintroduce the full extent and variability of the natural wet-dry cycles to refuge wetlands under Alternative C1 is to cease pumping Muddy Creek water to the Benton Lake wetland basin except for the minimal pumping necessary to maintain Muddy Creek water rights (anticipated to be only once every 8 years, page 260). The Benton Lake wetland basin would then only receive natural runoff and the refuge wetlands would dry on a natural cycle, which would enhance removal of selenium through volatilization. Prescribed fire would also be carried out in dry wetlands to promote additional selenium volatilization (page 259). It is likely that almost all of the estimated 2,400 lbs of annual selenium loading from imported Muddy Creek water could be removed with ceasing of pumping of Muddy Creek water to the refuge. We recommend that the final CCP/EA include additional discussion of the expected selenium load reductions associated with reducing flow of Muddy Creek water to the refuge, and the selenium removal associated with additional wetland drying and selenium volatilization.

The CCP/EA states that selenium is not evenly distributed within the refuge units, but accumulates more rapidly near the locations of primary selenium inputs and more permanently flooded units. Selenium concentrations in sediments are highest where Lake Creek enters Unit 1 and 2 and in Unit 4c near a large seep. Selenium enters the refuge in Unit 1, which is rarely dried, and consequently average selenium concentrations in sediment in this unit are 2.7 µg/g, with some values above the toxic threshold of 4 µg/g (page 226). The rate of selenium volatilization is stated to depend on several factors (e.g., form of selenium, microbial activity, environmental conditions), and selenium volatilization is stated to be much higher from exposed sediment than open water.

The CCP/EA indicates that Refuge management that dried Units 3–6 at least 1 month per year appeared to be effective in managing salts (page 231). Is it known now long refuge wetlands may need to be dried each year to achieve meaningful selenium volatilization? How long are refuge wetland units currently dry each year, and how long will they be dry with the proposed Alternative C1 hydrologic regime in a typical water year? If data regarding length of wetland drying period vs. selenium removal are not available, we recommend that such data be collected in the future so that correlations between wetland drying periods and effective selenium removal by volatilization can be established.

Figure 21 (page 229) shows selenium water concentrations of 33.8 µg/L, 320 µg/L, and 500 µg/L, but does not clearly disclose where the samples with such high selenium water concentrations were taken. Table 31 suggests that the 33.8 µg/L selenium concentration may have been from a Unit 4c saline seep, so perhaps all the high selenium levels shown in Figure 21 were from saline seeps rather than Refuge wetlands. This should be clarified. We recommend that the final CCP/EA provide clearer disclosure of the ranges of selenium water concentrations in the various refuge wetland units.

The EPA has national water quality criteria for protection of aquatic life of 20 µg/L (acute exposure) and 5 µg/L (chronic exposure) for selenium, which have been incorporated into Montana's water quality standards (see http://water.epa.gov/scitech/swguidance/standards/current/index.cfm and http://deq.mt.gov/wqinfo/Standards/default.mcpx). We did not see any discussion of Montana water quality standards for selenium in State surface waters in the CCP/EA. We recommend that water quality standards for selenium be identified and discussed in the final CCP/EA.

It may also be of interest to know that the Montana Dept. of Environmental Quality is developing a draft fish or fish egg tissue based selenium water quality standard for the State of Montana (contact Dr. Rod McNeil in Helena at 406-444-5361 for further information). Also for your information EPA is currently in the process of developing revised recommended national aquatic criteria for selenium. The revised recommended criteria are expected to be expressed as a fish egg/ovary tissue concentration and water column concentrations for lotic and lentic aquatic ecosystems. We encourage the U.S. Fish and Wildlife Service (Service) to consider the information included in the new draft EPA recommended criterion when it is released as it finalizes and implements its conservation plan for the Benton Lake Refuge.

Finally, the CCP/EA predicts that with reduced selenium inputs, increased wetland drying, and prescribed fire, the refuge would reach an equilibrium below the 2 µg/g selenium sediment threshold (page 259). It also predicts that overall wetland productivity would improve, especially during wet cycles, but wetland productivity will be more variable over time. Restoration of the full variability in the natural wet–dry cycle is expected to have a positive effect on ecosystem processes and increase nutrient cycling. We appreciate the Service's efforts in carrying out environmental analysis and planning to improve management of the Benton Lake National Wildlife Refuge Complex, particularly in analyzing the selenium contamination issue at the Benton Lake Refuge and proposing management actions to reduce selenium contamination at the refuge.

We thank you for the opportunity to review the draft CCP/EA. If you have any questions regarding these comments please call Mr. Stephen Potts of my staff in Helena at 406-457-5022 or in Missoula at 406-329-3313. Thank you for your consideration.

Sincerely,

Julie A. DalSoglio
Director
Montana Office

Cc: Suzanne Bohan/Judy Roos, 8EPR-N, Denver
Dean Yashan/Robert Ray/Rod McNeil, MDEQ, Helena

Appendix E

Key Legislation and Policy

This appendix briefly describes the guidance for the National Wildlife Refuge System and other key legislation and policies that guide management of the Benton Lake National Wildlife Refuge Complex.

> *The mission of the Refuge 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.* (National Wildlife Refuge System Improvement Act of 1997)

E.1 Goals of the National Refuge System

- Conserve a diversity of fish, wildlife, and plants and their habitats, including species that are endangered or threatened with becoming endangered.
- Develop and support a network of habitats for migratory birds, anadromous and interjurisdictional fish, and marine mammal populations that is strategically distributed and carefully managed to meet important life history needs of these species across their ranges.
- Conserve those ecosystems, plant communities, wetlands of national or international significance, and landscapes and seascapes that are unique, rare, declining, or underrepresented in existing protection efforts.
- Provide and enhance opportunities to take part in compatible wildlife-dependent recreation (hunting, fishing, wildlife observation and photography, and environmental education and interpretation).
- Foster understanding and instill appreciation of the diversity and interconnectedness of fish, wildlife, and plants and their habitats.

E.2 Guiding Principles

There are four guiding principles for management and general public use of the Refuge System established by Executive Order 12996 (1996):

- *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.
- *Habitat*—Fish and wildlife will not prosper without 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.
- *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.
- *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.

E.3 Legal and Policy Guidance

Management actions on national wildlife refuges and wetland management districts are circumscribed by many mandates including laws and Executive orders. Regulations that affect refuge and district management the most are listed below.

American Indian Religious Freedom Act (1978)—Directed agencies to consult with native traditional religious leaders to determine proper policy changes

necessary to protect and preserve Native American religious cultural rights and practices.

Americans with Disabilities Act (1992)—Prohibited discrimination in public accommodations and services.

Antiquities Act (1906)—Authorized the scientific investigation of antiquities on Federal land and provides penalties for unauthorized removal of objects taken or collected without a permit.

Archaeological and Historic Preservation Act (1974)—Directed the preservation of historic and archaeological data in Federal construction projects.

Archaeological Resources Protection Act (1979), as amended—Protected materials of archaeological interest from unauthorized removal or destruction, and requires Federal managers to develop plans and schedules to locate archaeological resources.

Architectural Barriers Act (1968)—Required federally owned, leased, or funded buildings and facilities to be accessible to persons with disabilities.

Clean Water Act (1977)—Required consultation with the U.S. Army Corps of Engineers (404 permits) for major wetland modifications. Section 404—Authorized the Secretary of the Army, acting through the Chief of Engineers, to issue permits, after notice and opportunity for public hearing, for discharge of dredged or fill material into navigable waters of the United States, including wetlands, at specified disposal sites. Required selection of disposal sites be in accordance with guidelines developed by the Administrator of the EPA in conjunction with the Secretary of the Army. Stated that the Administrator can prohibit or restrict use of any defined area as a disposal site whenever she or he determines, after notice and opportunity for public hearings, that discharge of such materials into such areas will have an unacceptable adverse effect on municipal water supplies, shellfish beds, fishery areas, wildlife, or recreational areas.

Dingell–Johnson Act (1950)—Authorized the Secretary of the Interior to provide financial help for State fish restoration and management plans and projects. Financed by excise taxes paid by manufacturers of rods, reels, and other fishing tackle. Known as the Federal Aid in Sport Fish Restoration Act.

Emergency Wetlands Resources Act (1986)—Promoted wetland conservation for the public benefit to help fulfill international obligations in various migratory bird treaties and conventions. Authorized the purchase of wetlands with LWCF monies.

Endangered Species Act (1973), as amended—Required all Federal agencies to carry out programs for the conservation of threatened and endangered species.

Environmental Education Act of 1990—Established the Office of Environmental Education within EPA to develop and administer a Federal environmental education program. Responsibilities of the office include developing and supporting programs to improve understanding of the natural and developed environment and the relationships between humans and their environment, supporting the dissemination of educational materials, developing and supporting training programs and environmental education seminars, managing a Federal grant program, and administering an environmental internship and fellowship program. Required the office to develop and support environmental programs in consultation with other Federal natural resource management agencies including the Service.

Executive Order 5228 (1929)—Established Benton Lake National Wildlife Refuge "as a refuge and breeding ground for birds."

Executive Order 11644, Use of Off-road Vehicles on Public Lands (1972)—Provided policy and procedures for regulating off-road vehicles.

Executive Order 11988, Floodplain Management (1977)—Required Federal agencies to provide leadership and take action to reduce the risk of flood loss, reduce the effect of floods on human safety, and preserve the natural and beneficial values served by the floodplains. Prevented Federal agencies from contributing to the "adverse impacts associated with occupancy and modification of floodplains" and the "direct or indirect support of floodplain development." In the course of fulfilling their respective authorities, Federal agencies "shall take action to reduce the risk of flood loss, to reduce the effect of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains."

Executive Order 11990, Protection of Wetlands (1977)—Directed Federal agencies to (1) reduce destruction, loss, or degradation of wetlands, and (2) preserve and enhance the natural and beneficial values of wetlands when a practical alternative exists.

Executive Order 12996, Management and General Public Use of the National Wildlife Refuge System (1996)—

Defined the mission, purpose, and priority public uses of the Refuge System; presented four principles to guide management of the Refuge System.

Executive Order 13007, Indian Sacred Sites (1996)—Directed Federal land management agencies to accommodate access to and ceremonial uses of Indian sacred sites by Indian religious practitioners, avoid adversely affecting the physical integrity of such sacred sites, and where appropriate, support the confidentiality of sacred sites.

Executive Order 13443, Facilitation of Hunting Heritage and Wildlife Conservation (2007)—Directed Federal agencies that have programs and activities that have a measurable effect on public land management, outdoor recreation, and wildlife management, including the Department of the Interior and the Department of Agriculture, to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat.

Federal Noxious Weed Act (1990)—Required the use of integrated management systems to control or contain undesirable plant species and an interdisciplinary approach with the cooperation of other Federal and State agencies.

Federal Records Act (1950)—Required the preservation of evidence of the Government's organization, functions, policies, decisions, operations, and activities, as well as basic historical and other information.

Federal Water Pollution Control Act of 1972—Required any applicant for a Federal license or permit to conduct any activity that may result in a discharge into navigable waters to obtain a certification from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over navigable waters at the point where the discharge originates or will originate, that the discharge will comply with applicable effluent limitations and water quality standards. Required that a certification obtained for construction of any facility must also pertain to subsequent operation of the facility.

Fish and Wildlife Act (1956)—Directed the Secretary of the Interior to develop the policies and procedures necessary for carrying out fish and wildlife laws and to research and report on fish and wildlife matters. Established the U.S. Fish and Wildlife Service within the Department of the Interior, as well as the positions of Assistant Secretary for Fish and Wildlife and Director of the Service.

Fish and Wildlife Coordination Act (1958)—Allowed the U.S. Fish and Wildlife Service to enter into agreements with private landowners for wildlife management purposes.

Fish and Wildlife Improvement Act of 1978—Improved the administration of fish and wildlife programs and amends several earlier laws including the Refuge Recreation Act, the National Wildlife Refuge System Administration Act, and the Fish and Wildlife Act of 1956. Authorized the Secretary to accept gifts and bequests of real and personal property on behalf of the United States. Authorized the use of volunteers for Service projects and appropriations to carry out volunteer programs.

Historic Sites, Buildings and Antiquities Act (1935), known as the Historic Sites Act, as amended (1965)—Declared a national policy to preserve historic sites and objects of national significance, including those located at refuges and districts. Provided procedures for designation, acquisition, administration, and protection of such sites and for designation of national historic and natural landmarks.

Land and Water Conservation Fund Act of 1965—Provided money from leasing bonuses, production royalties, and rental revenues for offshore oil, gas, and sulphur extraction to the Bureau of Land Management, the USDA Forest Service, the U.S. Fish and Wildlife Service, and State and local agencies for purchase of lands for parks, open space, and outdoor recreation.

Migratory Bird Conservation Act (1929)—Established procedures for acquisition by purchase, rental, or gifts of areas approved by the Migratory Bird Conservation Commission.

Migratory Bird Hunting and Conservation Stamp Act (1934)—Authorized the opening of part of a refuge to waterfowl hunting.

Migratory Bird Treaty Act (1918)—Designated the protection of migratory birds as a Federal responsibility and enabled the setting of seasons and other regulations including the closing of areas, Federal or non-Federal, to the hunting of migratory birds.

Mineral Leasing Act (1920), as amended—Authorized and governed leasing of public lands for development of deposits of coal, oil, gas and other hydrocarbons, sulphur, phosphate, potassium and sodium. Section 185 provided for granting of rights-of-way over Federal lands for pipelines.

National Environmental Policy Act (1969)—Required all agencies including the Service to examine the environmental effects of their actions, incorporate environmental information, and use public participation in the planning and implementation of all actions. Required Federal agencies to integrate this act with other planning requirements and prepare appropriate documents to facilitate better environmental decisionmaking (40 CFR 1500).

National Historic Preservation Act (1966), as amended—Established policy that the Federal Government is to provide leadership in the preservation of the Nation's prehistoric and historical resources.

National Wildlife Refuge System Administration Act (1966)—Defined the National Wildlife Refuge System and authorized the Secretary of the Interior to allow any use of a refuge, provided such use is compatible with the major purposes for which the refuge was established.

National Wildlife Refuge System Improvement Act of 1997—Set the mission and administrative policy for all refuges in the National Wildlife Refuge System. Mandated comprehensive conservation planning for all units of the Refuge System.

National Wildlife Refuge System Volunteer and Community Partnership Enhancement Act of 1998—Encouraged the use of volunteers to help the Service in the management of refuges within the Refuge System. Facilitated partnerships between the Refuge System and non-Federal entities to promote public awareness of the resources of the Refuge System and public participation in the conservation of those resources. Encouraged donations and other contributions by persons and organizations to the Refuge System.

Native American Graves Protection and Repatriation Act (1990)—Required Federal agencies and museums to inventory, determine ownership of, and repatriate cultural items under their control or possession.

North American Wetlands Conservation Act (1989)—Provided for the conservation of North American wetland ecosystems, waterfowl and other migratory birds, fish, and wildlife that depend on such habitats.

Pittman–Robertson Act (1937)—Taxed the purchase of ammunition and firearms and earmarks the proceeds to be distributed to the States for wildlife restoration. Known as the Federal Aid in Wildlife Restoration Act or P–R Act.

Refuge Recreation Act (1962)—Allowed the use of refuges for recreation when such uses are compatible with the refuge's primary purposes and when sufficient money is available to manage the uses.

Refuge Revenue Sharing Act, section 401 (1935)—Provided for payments to counties in lieu of taxes using revenues derived from the sale of products from refuges.

Refuge Trespass Act of June 28, 1906—Provided the first Federal protection for wildlife at national wildlife refuges. Made it unlawful to hunt, trap, capture, willfully disturb, or kill any bird or wild animal, or take or destroy the eggs of any such birds, on any lands of the United States set apart or reserved as refuges or breeding grounds for such birds or animals by any law, proclamation, or Executive order, except under rules and regulations of the Secretary. Protected Government property on such lands.

Rehabilitation Act (1973)—Required programmatic accessibility in addition to physical accessibility for all facilities and programs funded by the Federal Government to make sure that any person could take part in any program.

Salt Cedar and Russian Olive Control Demonstration Act (2006)—Furthered the purposes of the Reclamation Projects Authorization and Adjustment Act of 1992 by directing the Secretary of the Interior, acting through the Commissioner of Reclamation, to carry out an assessment and demonstration program to control saltcedar and Russian olive and for other purposes.

T**ransfer of Certain Real Property for Wildlife Conservation Purposes Act of 1948**—Provided that, on determination by the Administrator of the General Services Administration, real property no longer needed by a Federal agency can be transferred without reimbursement to the Secretary of the Interior if the land has particular value for migratory birds or to a State agency for other wildlife conservation purposes.

U.S. Department of the Interior Order Number 3226 (2001)—Directed bureaus and offices of the Department to analyze the potential effects on climate change when undertaking long-range planning, setting priorities for scientific research, and making major decisions about use of resources.

Volunteer and Community Partnership Enhancement Act (1998)—Encouraged the use of volunteers to help in the management of refuges within the Refuge System. Facilitated partnerships between the

Refuge System and non-Federal entities to promote public awareness of the resources of the Refuge System and public participation in the conservation of the resources and encouraged donations and other contributions.

Wilderness Act of 1964—Directed the Secretary of the Interior, within 10 years, to review every roadless area of 5,000 or more acres and every roadless island (regardless of size) within the Refuge System and National Park Service for inclusion in the National Wilderness Preservation System.

Appendix F

Preparers and Contributors

This document is the result of extensive, collaborative, and enthusiastic efforts by the members of the planning team shown below.

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Appendix G

Species Lists

Common name	*Scientific name*	*Designation*
MAMMALS		
American mink	*Mustela vison*	
badger	*Taxidea taxus*	
beaver	*Castor canadensis*	
big brown bat	*Eptesicus fuscus*	
bighorn sheep	*Ovis canadensis*	
bison	*Bison bison*	
black bear	*Ursus americanus*	
black-tailed prairie dog	*Cynomys ludovicianus*	Species of concern
bobcat	*Lynx rufus*	
bushy-tailed woodrat	*Neotoma cinerea*	
California myotis	*Myotis californicus*	
Canada lynx	*Lynx canadensis*	Threatened
Columbian ground squirrel	*Spermophilus columbianus*	
coyote	*Canis latrans*	
deer mouse	*Peromyscus maniculatus*	
dusky or montane shrew	*Sorex monticolus*	
dwarf shrew	*Sorex nanus*	Species of concern
eastern red bat	*Lasiurus borealis*	Species of concern
elk or wapiti	*Cervus canadensis*	
fisher	*Martes pennanti*	Species of concern
fringed myotis	*Myotis thysanodes*	Species of concern
golden-mantled ground squirrel	*Spermophilus lateralis*	
gray wolf	*Canis lupus*	
grizzly bear	*Ursus arctos*	Threatened
ground squirrel	*Spermophilus elegans*	
heather vole	*Phenacomys intermedius*	
hoary bat	*Lasiurus cinereus*	Species of concern
hoary marmot	*Marmota caligata*	Potential species of concern
little brown myotis	*Myotis lucifugus*	
long-eared myotis	*Myotis evotis*	
long-legged myotis	*Myotis volans*	
long-tailed vole	*Microtus longicaudus*	
long-tailed weasel	*Mustela frenata*	
marten	*Martes americana*	
masked shrew	*Sorex cinereus*	

Common name	Scientific name	Designation
meadow vole	*Microtus pennsylvanicus*	
Merriam's shrew	*Sorex merriami*	Species of concern
mice	*Onychomys* spp. *Peromyscus* spp. *Reithrodontomys* spp.	
mink	*Mustela vison*	
montane vole	*Microtus montanus*	
moose	*Alces americanus*	
mountain cottontail	*Sylvilagus nuttallii*	
mountain lion	*Puma concolor*	
mule deer	*Odocoileus hemionus*	
muskrat	*Ondatra zibethicus*	
northern bog lemming	*Synaptomys borealis*	Species of concern
northern flying squirrel	*Glaucomys sabrinus*	
northern pocket gopher	*Thomomys talpoides*	
northern river otter	*Lontra canadensis*	
pika	*Ochotona princeps*	
porcupine	*Erethizon dorsatum*	
Preble's shrew	*Sorex preblei*	Species of concern
pronghorn	*Antilocapra americana*	
pygmy shrew	*Sorex hoyi*	
raccoon	*Procyon lotor*	
red fox	*Vulpes vulpes*	
red squirrel	*Tamiasciurus hudsonicus*	
red-tailed chipmunk	*Tamias ruficaudus*	
river otter	*Lutra canadensis*	
short-tailed weasel	*Mustela erminea*	
silver-haired bat	*Lasionycteris noctivagans*	Potential species of concern
snowshoe hare	*Lepus americanus*	
spotted bat	*Euderma maculatum*	Species of concern
southern red-backed vole	*Myodes gapperi*	
striped skunk	*Mephitis mephitis*	
swift fox	*Vulpes velox*	
Townsend's big-eared bat	*Corynorhinus townsendii*	Species of concern
vagrant shrew	*Sorex vagrans*	
water shrew	*Sorex palustris*	
water vole	*Microtus richardsoni*	
western jumping mouse	*Zapus princeps*	
western small-footed myotis	*Myotis ciliolabrum*	
white-tailed deer	*Odocoileus virginianus*	
white-tailed jackrabbit	*Lepus townsendii*	
wolverine	*Gulo gulo*	Species of concern
yellow-bellied marmot	*Marmota flaviventris*	

Common name	Scientific name	Designation
yellow-pine chipmunk	*Tamias amoenus*	
Yuma myotis	*Myotis yumanensis*	Potential species of concern
BIRDS		
alder flycatcher	*Empidonax alnorum*	Species of concern
American avocet	*Recurvirostra americana*	
American bittern	*Botaurus lentiginosus*	Species of concern
American coot	*Fulica americana*	
American crow	*Corvus brachyrhynchos*	
American dipper	*Cinclus mexicanus*	
American goldfinch	*Spinus tristus*	
American kestrel	*Falco sparverius*	
American pipit	*Anthus rubescens*	
American redstart	*Setophaga ruticilla*	
American robin	*Turdus migratorius*	
American three-toed woodpecker	*Picoides dorsalis*	
American tree sparrow	*Spizella arborea*	
American white pelican	*Pelecanus erythrorhynchos*	Species of concern
American wigeon	*Anas americana*	
Anna's hummingbird	*Calypte anna*	
Audubon's warbler	*Dendroica coronata auduboni*	
Baird's sparrow	*Ammodramus bairdii*	
bald eagle	*Haliaeetus leucocephalus*	Species of concern
band-tailed pigeon	*Patagioenas fasciata*	
bank swallow	*Riparia riparia*	
barn swallow	*Hirundo rustica*	
barred owl	*Strix varia*	
Barrow's goldeneye	*Bucephala islandica*	Potential species of concern
belted kingfisher	*Megaceryle alcyon*	
black rosy-finch	*Leucosticte atrata*	Species of concern
black swift	*Cypseloides niger*	Species of concern
black tern	*Chlidonias niger*	Species of concern
black-backed woodpecker	*Picoides arcticus*	Species of concern
black-billed cuckoo	*Coccyzus erythropthalmus*	Species of concern
black-billed magpie	*Pica hudsonia*	
black-capped chickadee	*Poecile atricapillus*	
black-chinned hummingbird	*Archilochus alexandri*	
black-crowned night-heron	*Nycticorax nycticorax*	Species of concern
black-headed grosbeak	*Pheucticus melanocephalus*	
black-necked stilt	*Himantopus mexicanus*	Species of concern
black-throated blue warbler	*Dendroica caerulescens*	
black-throated sparrow	*Amphispiza bilineata*	
blue jay	*Cyanocitta cristata*	
blue-winged teal	*Anas discors*	

Common name	Scientific name	Designation
bobolink	*Dolichonyx oryzivorus*	Species of concern
bohemian waxwing	*Bombycilla garrulus*	
boreal chickadee	*Poecile hudsonicus*	Species of concern
boreal owl	*Aegolius funereus*	
brambling	*Fringilla montifringilla*	
Brewer's blackbird	*Euphagus cyanocephalus*	
Brewer's sparrow	*Spizella breweri*	Species of concern
brown creeper	*Certhia americana*	Species of concern
brown thrasher	*Toxostoma rufum*	
brown-headed cowbird	*Molothrus ater*	
bufflehead	*Bucephala albeola*	
Bullock's oriole	*Icterus bullockii*	
burrowing owl	*Athene cunicularia*	
california gull	*Larus californicus*	
calliope hummingbird	*Stellula calliope*	
canada goose	*Branta canadensis*	
canvasback	*Aythya valisineria*	
canyon wren	*Catherpes mexicanus*	
caspian tern	*Hydroprogne caspia*	Species of concern
Cassin's finch	*Carpodacus cassinii*	Species of concern
Cassin's vireo	*Vireo cassinii*	
cedar waxwing	*Bombycilla cedrorum*	
chestnut-backed chickadee	*Poecile rufescens*	
chestnut-collared longspur	*Calcarius ornatus*	
chipping sparrow	*Spizella passerina*	
cinnamon teal	*Anas cyanoptera*	
Clark's grebe	*Aechmophorus clarkii*	Species of concern
Clark's nutcracker	*Nucifraga columbiana*	Species of concern
clay-colored sparrow	*Spizella pallida*	
cliff swallow	*Petrochelidon pyrrhonota*	
common goldeneye	*Bucephala clangula*	
common grackle	*Quiscalus quiscula*	
common loon	*Gavia immer*	Species of concern
common merganser	*Mergus merganser*	
common moorhen	*Gallinula chloropus*	
common nighthawk	*Chordeiles minor*	
common raven	*Corvus corax*	
common redpoll	*Acanthis flammea*	
common tern	*Sterna hirundo*	Species of concern
common yellowthroat	*Geothlypis trichas*	
Cooper's hawk	*Accipiter cooperii*	
Cordilleran flycatcher	*Empidonax occidentalis*	
dark-eyed junco	*Junco hyemalis*	
dark-eyed junco (gray-headed)	*Junco hyemalis caniceps*	

Common name	Scientific name	Designation
Dark-eyed junco (Montana junco)	*Junco hyemalis montanus*	
dark-eyed junco (pink-sided)	*Junco hyemalis mearnsi*	
dark-eyed junco (slate-colored)	*Junco hyemalis cismontanus*	
double-crested cormorant	*Phalacrocorax auritus*	
downy woodpecker	*Picoides pubescens*	
dusky flycatcher	*Empidonax oberholseri*	
dusky grouse	*Dendragapus obscurus*	
eared grebe	*Podiceps nigricollis*	
eastern phoebe	*Sayornis phoebe*	
eastern kingbird	*Tyrannus tyrannus*	
Eurasian wigeon	*Anas penelope*	
European starling	*Sturnus vulgaris*	Exotic species (not native to Montana)
evening grosbeak	*Coccothraustes vespertinus*	
ferruginous hawk	*Buteo regalis*	Species of concern
field sparrow	*Spizella pusilla*	
flammulated owl	*Otus flammeolus*	Species of concern
Forster's tern	*Sterna forsteri*	Species of concern
fox sparrow	*Passerella iliaca*	
Franklin's gull	*Leucophaeus pipixcan*	Species of concern
gadwall	*Anas strepera*	
golden eagle	*Aquila chrysaetos*	Species of concern
golden-crowned kinglet	*Regulus satrapa*	
grasshopper sparrow	*Ammodramus savannarum*	Species of concern
gray catbird	*Dumetella carolinensis*	
gray jay	*Perisoreus canadensis*	
gray partridge	*Perdix perdix*	Exotic species (not native to Montana)
gray-crowned rosy-finch	*Leucosticte tephrocotis*	Species of concern
great blue heron	*Ardea herodias*	Species of concern
great egret	*Ardea alba*	
great gray owl	*Strix nebulosa*	Species of concern
great horned owl	*Bubo virginianus*	
greater sage-grouse	*Centrocercus urophasianus*	Species of concern
greater yellowlegs	*Tringa melanoleuca*	
green-tailed towhee	*Pipilo chlorurus*	
green-winged teal	*Anas crecca*	
hairy woodpecker	*Picoides villosus*	
Hammond's flycatcher	*Empidonax hammondii*	
harlequin duck	*Histrionicus histrionicus*	Species of concern
Harris's sparrow	*Zonotrichia querula*	
hermit thrush	*Catharus guttatus*	
hoary redpoll	*Acanthis hornemanni*	
hooded merganser	*Lophodytes cucullatus*	Potential species of concern
horned grebe	*Podiceps auritus*	Species of concern

Common name	Scientific name	Designation
horned lark	*Eremophila alpestris*	
house finch	*Carpodacus mexicanus*	
house sparrow	*Passer domesticus*	
house wren	*Troglodytes aedon*	
killdeer	*Charadrius vociferus*	
lark bunting	*Calamospiza melanocorys*	
lark sparrow	*Chondestes grammacus*	
lazuli bunting	*Passerina amoena*	
least flycatcher	*Empidonax minimus*	
least sandpiper	*Calidris minutilla*	
Le Conte's sparrow	*Ammodramus leconteii*	
lesser scaup	*Aythya affinis*	
lesser yellowlegs	*Tringa flavipes*	
Lewis's woodpecker	*Melanerpes lewis*	Species of concern
Lincoln's sparrow	*Melospiza lincolnii*	
loggerhead shrike	*Lanius ludovicianus*	Species of concern
long-billed curlew	*Numenius americanus*	Species of concern
long-billed dowitcher	*Limnodromus scolopaceus*	
long-eared owl	*Asio otus*	
MacGillivray's warbler	*Oporornis tolmiei*	
magnolia warbler	*Dendroica magnolia*	
mallard	*Anas platyrhynchos*	
marbled godwit	*Limosa fedoa*	
marsh wren	*Cistothorus palustris*	
McCown's longspur	*Rhynchophanes mccownii*	Species of concern
merlin	*Falco columbarius*	
mountain bluebird	*Sialia currucoides*	
mountain chickadee	*Poecile gambeli*	
mountain plover	*Charadrius montanus*	Species of concern
mourning dove	*Zenaida macroura*	
myrtle warbler	*Dendroica coronata coronata*	
Nashville warbler	*Vermivora ruficapilla*	
northern flicker	*Colaptes auratus*	
northern flicker (red-shafted)	*Colaptes auratus cafer*	
northern goshawk	*Accipiter gentilis*	Species of concern
northern harrier	*Circus cyaneus*	
northern hawk owl	*Surnia ulula*	Potential species of concern
northern oriole	*Icterus galbula*	
northern pintail	*Anas acuta*	
northern pygmy-owl	*Glaucidium gnoma*	
northern rough-winged swallow	*Stelgidopteryx serripennis*	
northern saw-whet owl	*Aegolius acadicus*	
northern shoveler	*Anas clypeata*	

Common name	Scientific name	Designation
northern shrike	*Lanius excubitor*	
northern waterthrush	*Seiurus noveboracensis*	
olive-sided flycatcher	*Contopus cooperi*	
orange-crowned warbler	*Vermivora celata*	
osprey	*Pandion haliaetus*	
ovenbird	*Seiurus aurocapilla*	Potential species of concern
Pacific loon	*Gavia pacifica*	
Pacific wren	*Troglodytes pacificus*	Species of concern
painted redstart	*Myioborus pictus*	
peregrine falcon	*Falco peregrinus*	Species of concern
pied-billed grebe	*Podilymbus podiceps*	
pileated woodpecker	*Dryocopus pileatus*	Species of concern
pine grosbeak	*Pinicola enucleator*	
pine siskin	*Spinus pinus*	
pinyon jay	*Gymnorhinus cyanocephalus*	Species of concern
piping plover	*Charadrius melodus*	Threatened
prairie falcon	*Falco mexicanus*	
pygmy nuthatch	*Sitta pygmaea*	
red crossbill	*Loxia curvirostra*	
red-breasted merganser	*Mergus serrator*	
red-breasted nuthatch	*Sitta canadensis*	
red-eyed vireo	*Vireo olivaceus*	
red-naped sapsucker	*Sphyrapicus nuchalis*	
red-necked grebe	*Podiceps grisegena*	
red-necked phalarope	*Phalaropus lobatus*	
red-tailed hawk	*Buteo jamaicensis*	
red-winged blackbird	*Agelaius phoeniceus*	
redhead	*Aythya americana*	
ring-billed gull	*Larus delawarensis*	
ring-necked duck	*Aythya collaris*	
ring-necked pheasant	*Phasianus colchius*	Exotic species (not native to Montana)
rock pigeon	*Columba livia*	Exotic species (not native to Montana)
rock wren	*Salpinctes obsoletus*	
rose-breasted grosbeak	*Pheucticus ludovicianus*	
Ross's goose	*Chen rossii*	
rough-legged hawk	*Buteo lagopus*	
ruby-crowned kinglet	*Regulus calendula*	
ruddy duck	*Oxyura jamaicensis*	
ruffed grouse	*Bonasa umbellus*	
rufous hummingbird	*Selasphorus rufus*	Potential species of concern
Sabine's gull	*Xema sabini*	
sage thrasher	*Oreoscoptes montanus*	Species of concern
sandhill crane	*Grus canadensis*	

Common name	Scientific name	Designation
Say's phoebe	*Sayornis saya*	
Savannah sparrow	*Passerculus sandwichensis*	
scissor-tailed flycatcher	*Tyrannus forficatus*	
semipalmated plover	*Charadrius semipalmatus*	
sharp-shinned hawk	*Accipiter striatus*	
sharp-tailed grouse	*Tympanuchus phasianellus*	Species of concern
short-eared owl	*Asio flammeus*	Potential species of concern
snow bunting	*Plectrophenax nivalis*	
snow goose	*Chen caerulescens*	
snowy owl	*Bubo scandiacus*	
solitary sandpiper	*Tringa solitaria*	
solitary vireo	*Vireo solitarius*	
song sparrow	*Melospiza melodia*	
sora	*Porzana carolina*	
spotted sandpiper	*Actitis macularius*	
spotted towhee	*Pipilo maculatus*	
Sprague's pipit	*Anthus spragueii*	
spruce grouse	*Falcipennis canadensis*	
Steller's jay	*Cyanocitta stelleri*	
surf scoter	*Melanitta perspicillata*	
Swainson's hawk	*Buteo swainsoni*	Potential species of concern
Swainson's thrush	*Catharus ustulatus*	
Tennessee warbler	*Vermivora peregrina*	Potential species of concern
Townsend's solitaire	*Myadestes townsendi*	
Townsend's warbler	*Dendroica townsendi*	
tree swallow	*Tachycineta bicolor*	
trumpeter swan	*Cygnus buccinator*	Species of concern
tundra swan	*Cygnus columbianus*	
turkey vulture	*Cathartes aura*	
varied thrush	*Ixoreus naevius*	
Vaux's swift	*Chaetura vauxi*	
veery	*Catharus fuscescens*	Species of concern
vesper sparrow	*Pooecetes gramineus*	
violet-green swallow	*Tachycineta thalassina*	
Virginia rail	*Rallus limicola*	
warbling vireo	*Vireo gilvus*	
western bluebird	*Sialia mexicana*	
western grebe	*Aechmophorus occidentalis*	
western kingbird	*Tyrannus verticalis*	
western meadowlark	*Sturnella neglecta*	
western screech-owl	*Megascops kennicottii*	Potential species of concern
western tanager	*Piranga ludoviciana*	
western wood-pewee	*Contopus sordidulus*	
white-breasted nuthatch	*Sitta carolinensis*	

Common name	Scientific name	Designation
white-crowned sparrow	*Zonotrichia leucophrys*	
white-faced ibis	*Plegadis chihi*	Species of concern
white-tailed ptarmigan	*Lagopus leucura*	Species of concern
white-throated sparrow	*Zonotrichia albicollis*	
white-throated swift	*Aeronautes saxatalis*	
white-winged crossbill	*Loxia leucoptera*	
white-winged scoter	*Melanitta fusca*	
wild turkey	*Meleagris gallopavo*	Exotic species (not native to Montana)
willet	*Tringa semipalmata*	
Williamson's sapsucker	*Sphyrapicus thyroideus*	
willow flycatcher	*Empidonax traillii*	
Wilson's phalarope	*Phalaropus tricolor*	
Wilson's snipe	*Gallinago delicata*	
Wilson's warbler	*Wilsonia pusilla*	
winter wren	*Troglodytes troglodytes*	Species of concern
wood duck	*Aix sponsa*	
yellow warbler	*Dendroica petechia*	
yellow-breasted chat	*Icteria virens*	
yellow-headed blackbird	*Xanthocephalus xanthocephalus*	
yellow-rumped warbler	*Dendroica coronata*	
FISH		
Arctic grayling	*Thymallus arcticus*	
blue sucker	*Cycleptus elongatus*	Species of concern
brook stickleback	*Culaea inconstans*	Potential species of concern
bull trout	*Salvelinus confluentus*	Threatened
Columbia River redband trout	*Oncorhynchus mykiss gairdneri*	Species of concern
deepwater sculpin	*Myoxocephalus thompsonii*	Species of concern
Iowa darter	*Etheostoma exile*	Species of concern
longnose sucker	*Catostomus catostomus*	
mottled sculpin	*Cottus bairdi*	
northern pikeminnow	*Ptychocheilus oregonensis*	
northern redbelly dace	*Phoxinus eos*	
northern redbelly x finescale dace	*Phoxinus eos x phoxinus neogaeus*	Species of concern
paddlefish	*Polyodon spathula*	Species of concern
pallid sturgeon	*Scaphirhynchus albus*	Species of concern
pearl dace	*Margariscus margarita*	Species of concern
pygmy whitefish	*Prosopium coulteri*	Species of concern
sauger	*Sander canadensis*	Species of concern
slimy sculpin	*Cottus cognatus*	
spoonhead scalpin	*Cottus ricei*	Species of concern
sturgeon chub	*Macrhybopsis gelida*	Species of concern
torrent sculpin	*Cottus rhotheus*	Species of concern
trout-perch	*Percopsis omiscomaycus*	Species of concern

Common name	Scientific name	Designation
westslope cutthroat trout	*Oncorhynchus clarkii lewisi*	Species of concern
Yellowstone cutthroat trout	*Oncorhynchus clarkii bouvieri*	Species of concern
REPTILES		
bull snake	*Pituophis catenifer sayi*	
common garter snake	*Thamnophis sirtalis*	
common sagebrush lizard	*Sceloporus graciosus*	Species of concern
eastern racer	*Coluber constrictor*	
greater short-horned lizard	*Phrynosoma hernandesi*	Species of concern
northern alligator lizard	*Elgaria coerulea*	Species of concern
painted turtle	*Chrysemys picta*	
plains garter snake	*Thamnophis radix*	
rubber boa	*Charina bottae*	
spiny softshell	*Apalone spinifera*	Species of concern
terrestrial garter snake	*Thamnophis elegans*	
western hog-nosed snake	*Heterodon nasicus*	Species of concern
western rattlesnake	*Crotalus viridus*	
AMPHIBIANS		
boreal chorus frog	*Pseudacris maculata*	
Columbia spotted frog	*Rana luteiventris*	
Great Plains toad	*Bufo cognatus*	Species of concern
long-toed salamander	*Ambystoma macrodactylum*	
northern leopard frog	*Rana pipiens*	Species of concern
Pacific treefrog	*Pseudacris regilla*	
plains spadefoot	*Spea bombifrons*	
Rocky Mountain tailed frog	*Ascaphus montanus*	
tiger salamander	*Ambystoma tigrinum*	
western toad	*Bufo boreas*	Species of concern
INVERTEBRATES		
caddisfly	*Anagapetus debilis*	
caddisfly	*Arctopsyche grandis*	
caddisfly	*Brachycentrus americanus*	
caddisfly	*Brachycentrus occidentalis*	
caddisfly	*Chyrandra centralis*	
caddisfly	*Dicosmoecus atripes*	
caddisfly	*Dicosmoecus gilvipes*	
caddisfly	*Helicopsyche borealis*	
caddisfly	*Hesperophylax designatus*	
caddisfly	*Hydropsyche confusa*	
caddisfly	*Lepidostoma cascadense*	
caddisfly	*Lepidostoma unicolor*	
caddisfly	*Micrasema bactro*	
caddisfly	*Neophylax rickeri*	
caddisfly	*Neophylax splendens*	

Common name	Scientific name	Designation
caddisfly	*Neothremma alicia*	
caddisfly	*Onocosmoecus unicolor*	
caddisfly	*Rhyacophila betteni*	
cave-obligate isopod	*Salmasellus steganothrix*	Species of concern
eukiefferiellan chironomid	*Eukiefferiella brehmi*	
eukiefferiellan chironomid	*Eukiefferiella devonica*	
eukiefferiellan chironomid	*Eukiefferiella gracei*	
freshwater sponge	*Ephydatia cooperensis*	Species of concern
leech	*Helobdella stagnalis*	
limnephilid caddisfly	*Nemotaulius hostilis*	
mayfly	*Acentrella turbida*	
mayfly	*Attenella margarita*	
mayfly	*Baetis bicaudatus*	
mayfly	*Baetis tricaudatus*	
mayfly	*Caenis youngi*	Species of concern
mayfly	*Caudatella hystrix*	
mayfly	*Drunella coloradensis*	
mayfly	*Drunella doddsi*	
mayfly	*Drunella grandis*	
mayfly	*Drunella spinifera*	
mayfly	*Epeorus longimanus*	
mayfly	*Ephemerella excrucians*	
mayfly	*Parameletus columbiae*	Species of concern
mayfly	*Plauditus punctiventris*	
mayfly	*Serratella tibialis*	
mayfly	*Timpanoga hecuba*	
millipede	*Endopus parvipes*	Species of concern
millipede	*Ergodesmus compactus*	
millipede	*Lophomus laxus*	Species of concern
millipede	*Orophe cabinetus*	Species of concern
rhyacophilan caddisfly	*Rhyacophila alberta*	
rhyacophilan caddisfly	*Rhyacophila brunnea*	
rhyacophilan caddisfly	*Rhyacophila ebria*	Species of concern
rhyacophilan caddisfly	*Rhyacophila glaciera*	Species of concern
rhyacophilan caddisfly	*Rhyacophila narvae*	
rhyacophilan caddisfly	*Rhyacophila potteri*	Species of concern
rhyacophilan caddisfly	*Rhyacophila verrula*	
riffle beetle	*Cleptelmis addenda*	
riffle beetle	*Heterlimnius corpulentus*	
riffle beetle	*Lara avara*	
riffle beetle	*Narpus concolor*	
riffle beetle	*Optioservus quadrimaculatus*	
riffle beetle	*Ordobrevia nubifera*	

Common name	Scientific name	Designation
riffle beetle	*Zaitzevia parvula*	
sand-dwelling mayfly	*Lachlania saskatchewanensis*	Species of concern
stonefly	*Amphinemura banksi*	
stonefly	*Claassenia sabulosa*	Claassenia sabulosa
stonefly	*Despaxia augusta*	
stonefly	*Doroneuria theodora*	
stonefly	*Hesperoperla pacifica*	
stonefly	*Isocapnia crinita*	Species of concern
stonefly	*Isoperla petersoni*	Species of concern
stonefly	*Kogotus modestus*	
stonefly	*Prostoia besametsa*	
stonefly	*Setvena bradleyi*	
stonefly	*Yoraperla brevis*	
stonefly	*Zapada cinctipes*	
stonefly	*Zapada columbiana*	
stonefly	*Zapada cordillera*	Species of concern
stonefly	*Zapada oregonensis*	
true fly	*Atherix pachypus*	
tvetenian chironomid	*Tvetenia bavarica*	
afranius duskywing	*Erynnis alfranius*	
Alexander's rhyacophilan caddisfly	*Rhyacophila alexanderi*	Species of concern
alpine mountainsnail	*Oreohelix alpina*	Species of concern
amber glass	*Nesovitrea electrina*	
American emerald	*Cordulia shurtleffii*	
American salmonfly	*Pteronarcys dorsata*	
agapetus caddisfly	*Agapetus montanus*	Potential species of concern
amphipod	*Hyalella azteca*	Exotic species (not native to Montana)
anicia checkerspot	*Euphydryas anicia*	
anise swallowtail	*Papilio zelicaon*	
Arctic blue	*Plebejus glandon*	
banded tigersnail	*Anguispira kochi*	
band-winged meadowhawk	*Sympetrum semicinctum*	
belted whiteface	*Leucorrhinia proxima*	
black meadowhawk	*Sympetrum danae*	
blue-eyed darner	*Rhionaeschna multicolor*	Potential species of concern
blue glass	*Nesovitrea binneyana*	
boreal whiteface	*Leucorrhinia borealis*	Species of concern
brown hive	*Euconulus fulvus*	
brush-tipped emerald	*Somatochlora walshii*	Species of concern
California darner	*Rhionaeschna californica*	Potential species of concern
California tortoiseshell	*Nymphalis californica*	
callippe fritillary	*Speyeria callippe*	
Canada darner	*Aeshna canadensis*	

Common name	Scientific name	Designation
carinate mountainsnail	*Oreohelixelrod*	Species of concern
chalk-fronted corporal	*Ladona julia*	Potential species of concern
checkered white	*Pontia protodice*	
cherry-faced meadowhawk	*Sympetrum internum*	
chocolate arion	*Arion rufus*	
common green darner	*Anax junius*	
common whitetail	*Plathemis lydia*	
Coeur d'Alene Oregonian	*Crytomastix mullani*	
crimson-ringed whiteface	*Leucorrhinia glacialis*	Potential species of concern
cross vertigo	*Vertigo modesta*	
cuneate arches	*Lacinipolia cuneata*	
depressed rocky mountainsnail	*Oreohelix stringosa depressa*	
dot-tailed whiteface	*Leucorrhinia intacta*	
eight-spotted skimmer	*Libellula forensis*	
emerald spreadwing	*Lestes dryas*	
ethologist fairy shrimp	*Eubranchipus serratus*	
fir pinwheel	*Radiodiscus abietum*	Potential species of concern
forest disc	*Discus whitneyi*	
four-spotted skimmer	*Libellula quadrimaculata*	
Gillette's checkerspot	*Euphydryas gillettii*	Species of concern
glacier amphipod	*Stygobromus glacialis*	Species of concern
green comma	*Polygonia faunus*	
grooved fingernailclam	*Sphaerium simile*	
Hagen's small minnow mayfly	*Diphetor hageni*	
Herrington fingernailclam	*Sphaerium occidentale*	
Hudsonian whiteface	*Leucorrhinia hudsonica*	
Idaho forestsnail	*Allogona ptychophora*	
keeled mountainsnail	*Oreohelix carinifera*	Species of concern
lake darner	*Aeshna eremita*	Potential species of concern
lake disc	*Discus brunsoni*	Species of concern
lance-tipped darner	*Aeshna constricta*	Potential species of concern
large-mantle physa	*Physa megalochlamys*	Species of concern
Lorquin's admiral	*Limenitis lorquini*	
lustrous copper	*Lycaena cupreus*	
lyre mantleslug	*Udosarx lyrata*	Species of concern
magnum mantleslug	*Magnipelta mycophaga*	Species of concern
meadow slug	*Deroceras laeve*	Exotic species (not native to Montana)
meltwater lednian stonefly	*Lednia tumana*	Species of concern
Milbert's tortoiseshell	*Aglais milberti*	
mountain emerald	*Somatochlora semicircularis*	Potential species of concern
mourning cloak	*Nymphalis antiopa*	
northern bluet	*Enallagma annexum*	
northern checkerspot	*Chlosyne palla*	

Common name	Scientific name	Designation
northern Rocky Mountains refugium caddisfly	*Goereilla baumanni*	Species of concern
northern Rocky Mountains refugium mayfly	*Caudatella edmundsi*	Potential species of concern
northern spreadwing	*Lestes disjunctus*	
orange-banded arion	*Arion fasciatus*	
Pacific forktail	*Ischnura cervula*	
Pacific spiketail	*Cordulegaster dorsalis*	
paddle-tailed darner	*Aeshna palmata*	
pale snaketail	*Ophiogomphus severus*	
pale swallowtail	*Papilio eurymedon*	
police car moth	*Gnophaela vermiculata*	
quick gloss	*Zonitoides arboreus*	
ranchman's tiger moth	*Platyprepia virginalis*	
red-veined meadowhawk	*Sympetrum madidum*	Potential species of concern
red-winged wave	*Dasyfidonia avuncularia*	
reticulate taildropper	*Prophysaon andersoni*	Species of concern
ribbed spot	*Punctum californicum*	
river jewelwing	*Calopteryx aequabilis*	
Rocky Mountain capshell	*Acroloxus coloradensis*	Species of concern
Rocky Mountain duskysnail	*Colligyrus greggi*	Species of concern
rocky mountainsnail	*Oreohelix strigosa*	
saffron-winged meadowhawk	*Sympetrum costiferum*	
salmonfly	*Pteronarcys californica*	
sandhill skipper	*Polites sabuleti*	
sedge darner	*Aeshna juncea*	Potential species of concern
shadow darner	*Aeshna umbrosa*	
sheathed slug	*Zacoleus idahoensis*	Species of concern
shiny tightcoil	*Pristiloma wascoense*	Species of concern
signal crayfish	*Pacifastacus leniusculus*	
silky vallonia	*Vallonia cyclophorella*	
sinuous snaketail	*Ophiogomphus occidentis*	Potential species of concern
smoky taildropper	*Prophysaon humile*	Species of concern
spiny baskettail	*Epitheca spinigera*	Potential species of concern
spotted spreadwing	*Lestes congener*	
spruce snail	*Microphysula ingersolli*	
spurge hawkmoth	*Hyles euphorbiae*	Exotic species (not native to Montana)
striate disc	*Discus shimekii*	Species of concern
striped meadowhawk	*Sympetrum pallipes*	
subalpine mountainsnail	*Oreohelix subrudis*	
subarctic bluet	*Coenagrion interrogatum*	Species of concern
taiga bluet	*Coenagrion resolutum*	
tapered vertigo	*Vertigo elatior*	
twelve-spotted skimmer	*Libellula pulchella*	

Common name	Scientific name	Designation
two-ridge rams-horn	*Helisoma anceps*	
variable darner	*Aeshna interrupta*	
variegated meadowhawk	*Sympetrum corruptum*	
western glacier stonefly	*Zapada glacier*	Species of concern
western glass-snail	*Vitrina pellucida*	
western pearlshell	*Margaritifera falcata*	Species of concern
western red damsel	*Amphiagrion abbreviatum*	
western tailed blue	*Cupido (Everes) amyntula*	
white-faced meadowhawk	*Sympetrum obtrusum*	
wrinkled marshsnail	*Stagnicola caperata*	
zigzag darner	*Aeshna sitchensis*	Potential species of concern
VASCULAR PLANTS		
adder's tongue	*Ophioglossum pusillum*	Species of concern
aspen	*Populous tremuloides*	
Austin's knotweed	*Polygonum austiniae*	Species of concern
beaked spikerush	*Eleocharis rostellata*	Species of concern
beck water-marigold	*Bidens beckii*	Species of concern
blunt-leaved pondweed	*Potamogeton obtusifolius*	Species of concern
chaffweed	*Centunculus minimus*	Species of concern
cliff toothwort	*Cardamine rupicola*	Species of concern
clustered lady's-slipper	*Cypripedium fasciculatum*	Species of concern
Crawe's sedge	*Carex crawei*	Species of concern
creeping sedge	*Carex chordorrhiza*	Species of concern
crested shieldfern	*Dryopteris cristata*	Species of concern
deer Indian paintbrush	*Castilleja cervina*	Species of concern
Douglas-fir	*Pseudotsuga menziesii*	
English sundew	*Drosera anglica*	Species of concern
flexible collomia	*Collomia debilis var. camporum*	Species of concern
giant helleborine	*Epipactis gigantea*	Species of concern
glaucus beaked sedge	*Carex rostrata*	Species of concern
Hall's rush	*Juncus hallii*	Species of concern
Howell's gumweed	*Grindelia howellii*	Species of concern
hutchinsia	*Hutchinsia procumbens*	Species of concern
Idaho fescue	*Festuca idahoensis*	
keeled bladderpod	*Physaria carinata*	Species of concern
lake-bank sedge	*Carex lacustris*	Species of concern
limber pine	*Pinus flexilis*	
linearleaf moonwort	*Botrychium lineare*	Species of concern
linear-leaved sundew	*Drosera linearis*	Species of concern
loesel's twayblade	*Liparis loeselii*	Species of concern
lyall phacelia	*Phacelia lyallii*	
Mingan Island moonwort	*Botrychium minganense*	Potential species of concern
Mission Mountain kittentails	*Synthyris canbyi*	Species of concern
Missoula phlox	*Phlox kelseyi var. missoulensis*	Species of concern

Common name	Scientific name	Designation
moonwort grape-fern	*Botrychium lunaria*	Potential species of concern
mountain moonwort	*Botrychium montanum*	Species of concern
northern bog clubmoss	*Lycopodium inundatum*	Species of concern
northern moonwort	*Botrychium pinnatum*	Status under review
pale sedge	*Carex livida*	Potential species of concern
pod grass	*Scheuchzeria palustris*	Species of concern
ponderosa pine	*Pinus ponderosa*	
pygmy water-lily	*Nymphaea leibergii*	Species of concern
round-leaved orchis	*Amerorchis rotundifolia*	Species of concern
short-flowered monkeyflower	*Mimulus breviflorus*	Species of concern
slender cottongrass	*Eriophorum gracile*	Species of concern
small yellow lady's-slipper	*Cypripedium parviflorum*	Potential species of concern
sparrow's-egg lady's-slipper	*Cypripedium passerinum*	Species of concern
spoon-leaf moonwort	*Botrychium spathulatum*	Species of concern
stalk-leaved monkeyflower	*Mimulus ampliatus*	Species of concern
stalked moonwort	*Botrychium pedunculosum*	Species of concern
thinsepal monkeyflower	*Mimulus hymenophyllus*	Status under review
tufted club-rush	*Trichophorum cespitosum*	Species of concern
upward-lobed moonwort	*Botrychium ascendens*	Species of concern
water bulrush	*Schoenoplectus subterminalis*	Species of concern
watershield	*Brasenia schreberi*	Species of concern
water howellia	*Howellia aquatilis*	Threatened
wavy moonwort	*Botrychium crenulatum*	Species of concern
western moonwort	*Botrychium hesperium*	Species of concern
NONVASCULAR PLANTS		
Barnes' eurhynchium moss	*Eurhynchium pulchellum var. barnesii*	Status under review
brick-spored firedot lichen	*Brigantiaea praetermissa*	Potential species of concern
bryum moss	*Bryum calobryoides*	
chocolate chip lichen	*Solorina bispora*	Species of concern
Douglas' neckera moss	*Neckera douglasii*	Species of concern
gray lungwort lichen	*Lobaria hallii*	Species of concern
hooded ramalina lichen	*Ramalina obtusata*	Species of concern
jelly lichen	*Collema curtisporum*	Species of concern
lead lichen	*Parmeliella triptophylla*	Species of concern
Magellan's peatmoss	*Sphagnum magellanicum*	Species of concern
mountain oakmoss lichen	*Evernia divaricata*	Potential species of concern
netted specklebelly lichen	*Pseudocyphellaria anomala*	Species of concern
powdery twig lichen	*Ramalina pollinaria*	Species of concern
speck lichen	*Verrucaria kootenaica*	Species of concern

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Appendix H

Fire Management Program

The Service has administrative responsibility for fire management at the Benton Lake National Wildlife Refuge Complex: Benton Lake National Wildlife Refuge, Benton Lake Wetland Management District, and the Swan River National Wildlife Refuge.

H.1 The Role of Fire

In ecosystems of the Great Plains, vegetation has evolved under periodic disturbance and defoliation from grazing, fire, drought, and floods. This periodic disturbance is what kept the ecosystem diverse and healthy while supporting significant biodiversity for thousands of years.

Historically, natural fire and Native American ignitions have played an important disturbance role in many ecosystems by removing fuel accumulations, decreasing the effect of insects and diseases, stimulating regeneration, cycling nutrients, and providing a diversity of habitats for plants and wildlife.

When fire or grazing are excluded from prairie landscapes, fuel loads increase due to the buildup of thatch and the invasion of woody vegetation. This increase leads to an increase in a fire's resistance to control, which threatens firefighter and public safety as well as Federal and private facilities. However, fire, when properly used, can do the following:

- Reduce hazardous fuel buildup in both wildland–urban interface areas and outside those areas.
- Improve wildlife habitats by reducing the density of vegetation or changing the plant species composition, or both.
- Sustain or increase biological diversity.
- Improve woodland and shrubland by reducing plant density.
- Reduce susceptibility of plants to insect and disease outbreaks.
- Improve the quality and quantity of livestock forage.
- Improve the quantity of water available for municipalities and activities that depend on wildlands for their water supply.

H.2 Wildland Fire Management Policy and Guidance

Based on Federal interagency policy (Fire Executive Council 2009), wildland fire is defined as any nonstructure fire that occurs in the wildland including wildfire and prescribed fire. Response to wildland fire is based on consideration of a full range of fire management actions—allowing the fire to help the resource where possible or taking suppression action when those benefits are not attainable or there is a likely risk to important resources or adjacent lands.

Considerations, guidance, and direction for wildland fire management should be addressed in the land use resource plans (for example, this CCP). Fire management plans are stepdown processes from the land use plans and habitat plans and provide details about fire suppression, fire use, and fire management activities.

The 1995 Federal Fire Policy Wildland Fire Management Policy was updated in 2001. This revised policy directs Federal agencies to achieve a balance between fire suppression to protect life, property, and resources and fire use to regulate fuel and support healthy ecosystems. The following guiding principles and policy statements are excerpted from this document titled Review and Update of the 1995 Federal Wildland Fire Management Policy; these are the foundational principles for Federal wildland fire management policy.

Guiding Principles

1. Firefighter and public safety is the first priority in every fire management activity.

2. The role of wildland fire as an essential ecological process and natural change agent will be incorporated into the planning process.
Federal agency land and resource management plans set the objectives for the use and desired future condition of the various public lands.

3. Fire management plans, programs, and activities support land and resource management plans and their implementation.

4. Sound risk management is a foundation for all fire management activities.
Risks and uncertainties relating to fire management activities must be understood, analyzed, communicated, and managed as they relate to the cost of either doing or not doing an activity. Net gain in public benefit will be an important component of decisions.

5. Fire management programs and activities are economically viable, based on values to be protected, costs, and land and resource management objectives.
Federal agency administrators are adjusting and reorganizing programs to reduce costs and increase efficiencies. As part of this process, investments in fire management activities must be evaluated against other agency programs to effectively accomplish the overall mission, set short- and long-term priorities, and clarify management accountability.

6. Fire management plans and activities are based on the best available science.
Knowledge and experience are developed among all Federal wildland fire management agencies. An active fire research program combined with interagency collaboration provides the means to make these tools available to all fire managers.

7. Fire management plans and activities incorporate public health and environmental quality considerations.

8. Federal, State, tribal, local, interagency, and international coordination and cooperation are essential.
Increasing costs and smaller workforces require that public agencies pool their human resources to successfully deal with the ever-increasing and more complex tasks of fire management. Full collaboration among Federal wildland-fire management agencies and between these agencies and international, State, tribal, and local governments and private entities results in a mobile fire management workforce available for the full range of public needs.

9. Standardization of policies and procedures among Federal wildland-fire management agencies is an ongoing objective.
Consistency of plans and operations provides the fundamental platform on which these agencies can cooperate, integrate fire activities across agency boundaries, and provide leadership for cooperation with State, tribal, and local fire management organizations.

H.3 Management Direction

The refuge complex will protect life, property, and other resources by safely suppressing all wildfires.

Prescribed fire, as well as manual and mechanical fuel treatments, would be used in an ecosystem context to protect both Federal and private property and for habitat management purposes. Fuel reduction activities would be applied in collaboration with Federal, State, private, and nongovernmental partners. In addition, the Service would set priorities for fuel treatment based on guidance for prioritization established in the goals and strategies outlined in the following documents: (1) "U.S. Fish and Wildlife Service National Wildlife Refuge System Wildland Fire Management Program Strategic Plan 2003–2010"; and (2) "Region 6 Refuges Regional Priorities FY07–11." For wildland-urban interface treatments, areas with community wildfire protection plans and designated "communities at risk" would be the primary focus. All aspects of the fire management program would be conducted consistent with applicable laws, policies, and regulations. The refuge complex would support a fire management plan to accomplish the fire management goals described below. Prescribed fire and manual and mechanical fuel treatments would be applied in a scientific way under selected weather and environmental conditions.

Fire Management Goals

Fire management goals are set at national, regional, and local levels.

National Fire Management Goals

The goals and strategies of the "U.S. Fish and Wildlife Service National Wildlife Refuge System Wild-

land Fire Management Program Strategic Plan" are consistent with the following guidance:

- Department of the Interior and Service policies
- National Fire Plan direction
- The President's Healthy Forest Initiative
- The 10-Year Comprehensive Strategy and Implementation Plan
- National Wildfire Coordinating Group guidelines
- Wildland Fire Leadership Council initiatives
- Interagency Standards for Fire and Aviation Operations

Regional Fire Management Goals

The "Region 6 Refuges Regional Priorities FY07–11" are consistent with the refuges' vision statement for the Mountain–Prairie Region, "to maintain and improve the biological integrity of the region, ensure the ecological condition of the region's public and private lands are better understood, and endorse sustainable use of habitats that support native wildlife and people's livelihoods."

Refuge Complex Fire Management Goals

The fire management goal for the refuge complex is to use prescribed fire and manual and mechanical treatments to (1) reduce the threat to life and property through hazardous-fuel reduction treatments, and (2) meet the habitat goals and objectives identified in this CCP.

Fire Management Objective

Fire is an important natural component in the maintenance and restoration of native prairie ecosystems. The primary objective of the prescribed fire management program is to reduce fuel loads while restoring and supporting native prairie habitats. Prescribed fire would be used to recycle nutrients, reduce or end invasive plants, increase the growth and production of native plants, improve wildlife habitat and nesting cover for migratory birds, and reduce the risk of wildfire.

Achieving this objective would require 500 acres to 2000 acres of upland, and wetland habitat annually, until every upland acre has been burned at least once. Thereafter, the Service would attempt to mimic a natural cycle of prescribed fire by retreating the same piece of native prairie every 6–8 years, or on whatever cycle is necessary for restoration.

Strategies

Strategies and tactics that consider public and firefighter safety and resource values at risk would be used. Wildfire suppression, prescribed fire methods, manual and mechanical means, timing, and monitoring would be described in detail within the stepdown fire management plans for the refuge complex.

All fire management actions would use prescribed fire and manual or mechanical means to reduce hazardous fuel, restore and support desired habitat conditions, control nonnative vegetation, and control the spread of woody vegetation within the diverse ecosystem habitats. The fuel treatment program would be site specific and follow the most recent interagency template for burn plans.

A prescribed fire would temporarily decrease air quality by reducing visibility and releasing components through combustion. The refuge complex would meet the Clean Air Act emission standards by adhering to the Montana requirements during all prescribed fire activities.

H.4 Fire Management Organization, Contacts, and Cooperation

Using the fire management district approach, Region 6 of the Service would establish qualified technical oversight of fire management for the refuge complex. Under this approach, the level of fire management staff would be determined by established modeling systems and be based on the fire management workload of a group of refuges and possibly that of interagency partners. Workload is based on historical wildfire suppression activities as well as historical and planned fuel treatments.

Depending on budgets, fire management staff and support equipment may be located at the headquarters of the refuge complex or at other refuges within the district and be shared between all units. Fire management activities would be conducted in a coordinated and collaborative manner with Federal and non-Federal partners.

On approval of this CCP, one or more fire management plans would be developed for the refuge complex. These may be (1) plans that cover each individual refuge and wetland management district; (2) a plan that covers the area identified within this CCP; (3) a plan that covers the fire management district; or (4) an interagency fire management plan.

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