

U.S. Fish & Wildlife Service

# Comprehensive Conservation Plan

*National Bison Range*





The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.



The mission of the National Wildlife 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.

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*Comprehensive conservation plans provide long-term guidance for management decisions and set forth goals, objectives, and strategies needed to accomplish refuge purposes and identify the U.S. Fish and Wildlife Service's best estimate of future needs. These plans detail program planning levels that are sometimes substantially above current budget allocations and, as such, are primarily for Service strategic planning and program prioritization purposes. The plans do not constitute a commitment for staffing increases, operational and maintenance increases, or funding for future land acquisition.*

*Cover photograph of Bison at National Bison Range.*  
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# Comprehensive Conservation Plan

## *National Bison Range*

**Montana**

**December 2019**

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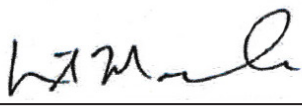
## *National Bison Range*

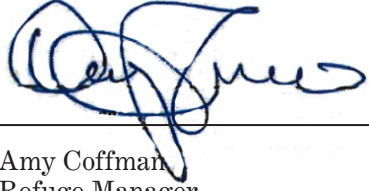
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## NATIONAL BISON RANGE COMPLEX VISION

*Relax and take a deep breath while you step back in time to reflect on what was, what is, and what is yet to come. Immerse yourself in the inter-montane valleys of northwestern Montana shaped by glacial forces and steeped in rich cultural history. This is a special landscape important to people age after age, where we pay tribute to the persons and peoples who set aside the lands, conserved the wildlife and plants, and were stewards of various components that make up the Complex. Visitors from all over the world travel to the Complex, which seeks to provide an opportunity to learn and experience varied habitats, abundant wildlife, and the natural beauty of these lands. The units of the Complex safeguard these values and preserve connectivity across the landscape, forming continuity through time for future generations to treasure. Each unit is unique, and collectively they have contributed, and will continue to contribute, to the Complex and the Refuge System. Partners foster cultural and natural resources conservation where the cultural history is expressed across the landscape. Unique opportunities to work with partners benefit many of the units within the Flathead Indian Reservation and other units located within traditional homelands of the Séliš, Qhispé and Ksanka Tribes.*

# Abbreviations

<b>AM</b>	Adaptive Management	<b>NAAQS</b>	National Ambient Air Quality Standards
<b>ATB</b>	America the Beautiful (pass)	<b>NBR</b>	National Bison Range
<b>ATV</b>	All-terrain Vehicles	<b>NBRC</b>	National Bison Range Complex
<b>AUM</b>	Animal Unit Months	<b>NCDE</b>	Northern Continental Divide Ecosystem
<b>BIA</b>	Bureau of Indian Affairs	<b>NEPA</b>	National Environmental Policy Act
<b>CCP</b>	Comprehensive Conservation Plan	<b>NGO</b>	Non-governmental Organization
<b>CEQ</b>	Council on Environmental Quality	<b>NHPA</b>	National Historic Preservation Act
<b>CFR</b>	Code of Federal Regulations	<b>NOI</b>	Notice of Intent
<b>CFS</b>	cubic foot per second	<b>NPS</b>	National Park Service
<b>CSKT</b>	Confederated Salish and Kootenai Tribes	<b>NRCS</b>	Natural Resource Conservation Service
<b>DOI</b>	Department of Interior	<b>NWR</b>	National Wildlife Refuge
<b>EA</b>	Environmental Assessment	<b>NWRS</b>	National Wildlife Refuge System
<b>EDRR</b>	Early Detection and Rapid Response	<b>PM10</b>	Particulate matter less than 10 microns diameter
<b>EIS</b>	Environmental Impact Statement	<b>PRISM</b>	Partnership for Regional Invasive Species Management
<b>EKiP</b>	Every Kid in a Park	<b>RV</b>	Recreational Vehicle
<b>EO</b>	Executive Order	<b>SHPO</b>	State Historic Preservation Office
<b>EPA</b>	Environmental Protection Agency	<b>SKC</b>	Salish Kootenai College
<b>FIIP</b>	Flathead Indian Irrigation Project	<b>SO</b>	Secretarial Order
<b>FIR</b>	Flathead Indian Reservation	<b>SUP</b>	Special Use Permit
<b>FR</b>	Federal Register	<b>T&amp;E</b>	Threatened and Endangered
<b>FTE</b>	Full Time Equivalent	<b>TEK</b>	Traditional Ecological Knowledge
<b>GTSR</b>	Going to the Sun Road	<b>THPO</b>	Tribal Historic Preservation Office
<b>HMP</b>	Habitat Management Plan	<b>TNC</b>	The Nature Conservancy
<b>IBA</b>	Important Bird Areas	<b>U.S.</b>	United States
<b>IPM</b>	Integrated Pest Management	<b>USC</b>	United States Code
<b>ITBC</b>	Inter-Tribal Buffalo Council	<b>USDA</b>	United States Department of Agriculture
<b>MCA</b>	Montana Code, Annotated	<b>USFWS</b>	United States Fish and Wildlife Service
<b>MOU</b>	Memorandum of Understanding	<b>USGS</b>	United State Geological Survey
<b>MOVI</b>	Mycoplasma ovipneumoniae	<b>WMD</b>	Wetland Management District
<b>MT</b>	Montana	<b>WMTC</b>	Western Montana Complex
<b>MTDNA</b>	Mitochondrial DNA		
<b>MTFWP</b>	Montana Fish, Wildlife and Parks		
<b>MTNHP</b>	Montana Natural Heritage Program		



# Summary



Ryan Hagerty/USFWS

## *National Bison Range*

We, the U.S. Fish and Wildlife Service (Service or USFWS), have completed a comprehensive conservation plan (CCP) for the management and use of the National Bison Range (NBR) in Montana. The CCP is the result of extensive public input and close work with several cooperative agencies: Confederated Salish and Kootenai Tribes (CSKT), Bureau of Indian Affairs (BIA), Montana Fish, Wildlife & Parks (MTFWP), Lake County and Sanders County, Montana. Other nongovernmental organizations and private citizens contributed substantial input to the plan.

The 18,800-acre NBR is located where three major geographic features merge, Mission Valley, Mission Mountain Range, and Jocko River Valley. The glacial history of the region has had a pronounced influence on the soils and landforms. Average temperatures range from 21°F to 85°F and most of the precipitation occurs during the spring and early summer.

Grasslands dominate the landscape at lower elevations, dotted with wetland and riparian vegetation along seasonal drainages and around seeps and springs. Mixed-conifer forest occurs at the upper elevations. The Jocko River and Mission Creek form riparian and wetland corridors along the north and south boundaries of the refuge. Invasive plant species are recognized as an important factor affecting ecosystem function and health on the refuge.

The NBR provides cover, food, water, and sufficient space for numerous native wildlife species. The NBR supports a healthy population of plains bison as well as other native ungulates and a variety of predators. The refuge also supports over 200 native bird species. In addition to the federally threatened grizzly bear and bull trout, there are forty-three Montana species of concern that occur on the refuge.

Although people have lived in the region for thousands of years, relatively few cultural resource sites have been formally recorded on the refuge. It is anticipated that a wide range of undocumented cultural resource types are located on the NBR. These could include, but would not be limited to, precontact and/or protohistoric open camps, stone circles and alignments, cairns, lithic scatters, rock shelters, trails and roads, drive-lines, kill (i.e. jump or pound) sites, hunting blinds, eagle traps, fasting beds, and rock imagery, as well as historic buildings and structures associated with the mission and operation of the NBR.

Visitors come from all over the country and other parts of the world to learn about NBR and enjoy a variety of wildlife-dependent recreational activities. In 2017, NBR welcomed approximately 180,000 visitors. Annual visitation to the NBR is most heavily concentrated during spring through fall, when the full length of the Red Sleep Mountain Drive is open. Wildlife observation, photography,

and hiking account for an estimated 94 percent of visits to the NBR. NBR affects the economy through the resident and nonresident visitor spending it generates, the employment it supports, and the value it adds to surrounding area.

## The National Bison Range

The refuge is located in northwestern Montana in Lake and Sanders Counties and also lies within the boundaries of the Flathead Indian Reservation. President Theodore Roosevelt established the NBR on May 23, 1908 when he signed Public Law 60-136 designating the refuge as “a permanent National Bison Range for the herd of bison to be presented by the American Bison Society”. It was the first time that Congress appropriated tax dollars to buy land specifically to conserve wildlife. In 1921, the NBR was also reserved “as a refuge and breeding ground for birds.” (Executive Order 3596) and in 1958, Public law 85-622 allocated funds “To provide adequate pasture for the display of bison in their natural habitat at a location readily available to the public.” NBR is one of the oldest units of the Refuge System. Its history is closely tied to the history and survival of the plains bison and to the Native American Tribes of western Montana.

At the start of this planning process, the refuge was part of the National Bison Range Complex (Complex), which also managed the Ninepipe, Pablo, and Lost Trail National Wildlife Refuges (NWRs) as well as the Flathead and Lake County Wetland Management Districts (WMDs). In 2019, the National Bison Range Complex was merged with the Benton Lake National Wildlife Refuge Complex and Lee Metcalf National Wildlife Refuge to form the Western Montana Complex (WMTC).

## Vision

We developed a vision for the National Bison Range Complex at the beginning of the planning process. The vision describes the focus of refuge complex management and portrays a picture of the refuge complex in 15 years. As a unit of this Complex, the vision statement below sets the context for the future for the NBR.

*Relax and take a deep breath while you step back in time to reflect on what was, what is, and what is yet to come. Immerse yourself in the inter-montane valleys of northwestern Montana, shaped by glacial forces and steeped in rich cultural history. This is a special landscape, important to people age after age, where we pay tribute to the persons and peoples who set aside the lands, conserved the wildlife and plants, and were stewards of various components that make up the complex. Visitors from all over the world travel to the Complex, which seeks to provide an opportunity to learn and experience varied habitats, abundant wildlife, and the natural beauty of these lands. The units of the Complex safeguard these values and preserve connectivity*

*across the landscape, forming continuity through time for future generations to treasure. Each unit is unique, and collectively they have contributed, and will continue to contribute, to the Complex and the Refuge System. Partners foster cultural and natural resources conservation where the cultural history is expressed across the landscape. Unique opportunities to work with partners benefit many of the units within the Flathead Indian Reservation and other units located within traditional homelands of the Séliš, Qlispe and Ksanka Tribes.*

## Management Direction

The CCP directs the management of the National Bison Range to meet the purposes of the refuge, address issues, and guide management to meet the refuge vision. The plan is a broad umbrella of general concepts and goals, with specific objectives for habitat, wildlife, research and science, monitoring, cultural resources, public use, partnerships and refuge operations for the next 15 years. As the plan is implemented, we will develop stepdown plans with details for carrying out the objectives.

This management direction for the refuge will, where feasible, enhance ecological communities while recognizing ever-changing environmental conditions. In cooperation with our partners, the Service will develop and utilize a prioritization framework to identify and define future conditions that will drive management actions to build ecological community resiliency, promote species and genetic diversity, and build sustainability in management capacity and operations.

We will seek to facilitate collaborative, cooperative, and coordinated management of NBR with our Federal, Tribal, State, local, public, and private partners. Where possible, the refuge will participate in landscape-level management of wildlife species, evaluate cross-boundary movements, and create corridors conducive to wildlife migration and movement. We will also seek ways to incorporate the expertise, resources, and efforts of our partners to help facilitate the benefits of a broader functioning landscape.

## Goals

We developed eight goals for this CCP.

### Habitat Management Goal

*Conserve, restore, and promote biological integrity in functional and sustainable ecologically diverse habitats of the inter-montane ecosystem of western Montana.*

We will conduct a robust rangeland health assessment to discern the current ecological status of vegetation and soils on NBR's 14,000 acres of bunchgrass prairie to better inform management. This assessment will measure ecological carrying



capacity based on an estimate of total wildlife herbivory (from grasshoppers to bison) on the NBR with consideration of the ecological needs of all priority species (e.g. bison, native birds, and other species of concern).

Another important component of this thorough rangeland evaluation will be to document and provide options for management on how and where to focus resources (i.e. prioritization). We will also work cooperatively with partners and experts to develop a methodology for monitoring grasslands annually that is achievable and supports continuing rangeland assessments every 15 years, possibly including a citizen science component.

Based on the results from the rangeland assessment, we will work to increase the total refuge acres in excellent range condition by 15 percent. We will also work to improve the quality of grasslands that are currently in fair to good condition (25-74 percent native plant composition), and prioritize areas that are also primary habitat for species such as bison and grassland birds. Grasslands in poor condition (lowest quality) on the refuge correlate strongly with existing infestations of invasive grasses that threaten the integrity of this ecosystem. Management in these areas will focus on halting the spread of annual noxious grass invasions and possibly construction of a novel ecosystem—one that is a substantial departure from the historic climax plant community, but is improved to the point where native and non-invasive species provide some diversity, integrity, and resilience.

Invasive species, grazing management, climate change, and drought are some of the key obstacles to achieving our grassland habitat objectives. Invasive species management efforts will combine preventing and reducing spread with herbicide applications, mechanical treatments, and cultural techniques. We will restore and sustain the original fire regime to the maximum extent possible. Herbivory will be monitored and population objectives for native ungulates will also be adjusted to support the maintenance of the highest quality grasslands on NBR. We will also increase our efforts to work with partners to improve grasslands on a landscape scale. Doing so will also capitalize on habitat management expertise to improve range conditions for a diversity of species while still recognizing the importance of bison to the NBR.

By 2021, we will complete an inventory to assess forest health, identify old growth ponderosa pine stands, and inform management how to prioritize treatments on 3,700 acres that will improve site conditions. Once a feasible outcome has been defined in the assessment, and the stands have been prioritized, a variety of resource management tools (e.g. prescribed fire/patch burning, active thinning, slashing) will be used to renovate up to 1,000 acres. We will also seek to continue cooperation with our partners in management activities, especially prescribed fire. Refuge forests will also be evaluated



USFWS

*Western meadowlark sings on the National Bison Range*

with consideration of the larger landscape. For example, forest stands with rare or unique qualities, as compared to similar sites off the refuge, may be a higher priority for management or a focus of special treatments. To that end, we will design and implement a monitoring protocol to track forest health and management actions.

Over the next 15 years, we will reduce juniper density by 50% on 50 acres along Mission creek and maintain or improve existing conditions on the remaining 450 riparian and wetland acres to promote habitat heterogeneity and species diversity. In addition, we will also investigate options for restoring natural flood events along Mission Creek and evaluate opportunities to work with CSKT on restoration efforts on the Jocko River and Mission Creek.

All refuge habitats will be managed using strategies including prescribed fire, mechanical treatments and grazing manipulation, as appropriate. We will focus invasive species management on small, satellite infestations and along vector pathways (riparian corridors, roads, parking lots) using early detection and rapid response (EDRR) and an integrated pest management approach (e.g. herbicide applications, prescribed fire, biocontrol agents and mechanical (i.e., pulling, cutting, etc.) treatments). Because riparian and wetland habitats are sensitive to invasion, challenging to treat, and frequently visited by all species of wildlife on the refuge, they will continue to be a high priority for treatment.

### **Wildlife Management Goal**

*Protect, maintain, and restore healthy and diverse wildlife populations with respect to species that are endemic, migratory, and mandated species of concern.*

The NBR bison herd will continue to be managed to maintain and improve genetic diversity and integrity within the ecological carrying capacity of the refuge. We will continue to use science-supported management strategies to contribute to the national bison conservation goals within the Refuge System metapopulation. Bison capture operations will continue to be conducted as needed to manage the NBR population using low-stress handling techniques. Surplus bison will be managed according to Service-wide policy, prioritizing donations to conservation partners, including other units of the Department of the Interior, states, Tribes or intertribal organizations through a designated process. NBR's boundary fence, corral system, and water sources (i.e. springs, riparian, wetlands) will also continue to be maintained. We will also explore opportunities to cooperate with the CSKT on bison conservation and management. We recommend completing a feasibility study to investigate and document all options. Any specific proposals or ideas will be discussed in collaboration with CSKT Tribal Council and staff. Possibilities could include: 1) identification of land bases available to the Tribes to start a new bison population with NBR-surplus bison that is managed by CSKT; 2) provide NBR-surplus animals to start a new population that will be considered a full partner in the Refuge System bison metapopulation management program; 3) provide NBR surplus animals to start a new CSKT Tribally-managed population that will be considered a full partner in the Refuge System bison metapopulation management program.

We will also evaluate the management of other native ungulate species relative to habitat quality, research, and species conservation needs. We will collaborate with adjacent landowners, state agencies, Tribes, and Non-Government Organizations (NGO's) to discuss how NBR can participate in landscape-level management of native ungulate species. We will review and update coyote control on NBR with public and partner involvement. We will increase communications and outreach efforts among partners about wildlife health concerns and major disease threats. We will seek to develop improved survey and monitoring methods.

### **Research and Science Goal**

*Encourage high-quality research and promote the use of scientifically sound management decisions.*

We will identify and support research that substantially informs the scientific community or the ecology and management of NBR species and habitats. We will also encourage the integration of traditional ecological knowledge (TEK) as part of partner-generated research or other scientific-information gathering efforts.

### **Monitoring and Adaptive Management Goal**

*Through the life of this plan, we will monitor and evaluate the consequences of our actions and use adaptive management to reach desired outcomes.*

We will continue to support existing monitoring projects, such as refuge bird populations, wildlife health, bison demographics and genetics, species of concern, and public use. In addition, this alternative highlights the importance of native bird species that are endemic to the native grasslands present on NBR. We will seek to further the Service's relationship with academic entities and other agencies in a way that informs NBR management and facilitates habitat improvement specific to the ecological needs of these species. We will develop an adaptive management project for grasslands that allows NBR management to assess wildlife and vegetative responses, including invasive plants, to various management activities, such as native ungulate forage allocations, water management, predator control, rest, prescribed fire, public use impacts, and invasive weed control, as well as climatic variations.

### **Cultural Resources Goal**

*Preserve and interpret the cultural resources and history of the National Bison Range Complex to connect staff, visitors, and community to the area's past and continuing traditions.*

Cultural resources interpretation and education about Tribal citizens and early people's use of the lands within NBR's boundary will be provided at the Visitor Center. We will work with CSKT and other Tribal partners in planning, producing and providing relevant materials, exhibits, signs, educational and interpretation materials. Access to specific NBR resources, or Tribal heritage sites used for cultural traditional values, will be allowed through a "special use permit" on a case-by-case basis. We will issue and implement NBR-specific guidance on how special-use permits would be managed to improve efficiency. We will also conduct outreach to local groups regarding NBR's history and the NBR's effects on conservation, species management, and the community since its inception.

### **Public Use Goal**

*Provide compatible, wildlife-dependent recreational opportunities, for persons of all abilities, to learn, enjoy, and appreciate the inter-montane landscape of western Montana, the fish and wildlife and plants.*

Fishing will continue to be allowed on three and three quarters (3.75) miles of the Mission Creek and one and one-half miles (1.5) of the Jocko River. Decisions to close areas accessible to fishing will give greater consideration to the conflict or disturbance to priority species or habitat. We will also provide additional information to enhance the quality of the fishing experience that highlights the conservation



importance of native species, especially bull trout and westslope cutthroat trout.

We will continue to provide opportunities for self-directed wildlife viewing and photography for at least 180,000 visitors per year. We will encourage awareness of and provide an opportunity to learn about conservation and mission of the refuge system and to highlight the unique history of bison conservation and cultural and historical significance of the NBR. We will prioritize public use opportunities when not in conflict with priority species or habitat. We may close trails or portions of trails with minimal use or substantial maintenance needs.

We will provide environmental education and interpretation through general information contacts at the Visitor Center. Education and interpretation resources and programs will emphasize appreciation and understanding of bison, native birds, and their habitats. Visitor Services staff will provide outreach to schools with a focus on providing education pertaining to priority species and habitat. All environmental education and interpretation programs will emphasize that wildlife and habitat are the priority for the management of the NBR. We will educate the public on the importance and necessity of regulations aimed at protecting and conserving priority species and habitats. We will communicate to the public how the Service incorporates TEK into its management practices and incorporate native languages into educational materials, signage, and outreach materials to the maximum extent possible. The Visitor Center will be open 7 days a week, May – October, subject to funding and availability of interns, seasonal employees and/or volunteers.

The NBR will support various forms of nature-based outdoor recreation that, while not strictly wildlife-dependent, may support or facilitate wildlife-dependent recreation. These activities include social gatherings in the day use area, allowing special user groups to collect antlers, and conducting an annual Saddle Club Trail ride. These proposed activities will be managed in a way that the use will not conflict with or cause disturbance to priority species or habitats.

### **Partnerships and Collaboration Goal**

*Maintain and cultivate partnerships that help achieve the vision and supporting goals and objectives of the National Bison Range Complex to support wildlife and habitat conservation, research, foster awareness and appreciation of natural and cultural resources and provide education along with all necessary infrastructure of the inter-montane ecosystem of western Montana.*

*Collaborate with the Confederated Salish and Kootenai Tribes and other Tribal governments in a manner consistent with the Service's Native American policy and with other Federal, State, and local government entities in a manner consistent with applicable Service policies.*

We will seek to maintain strong and effective working relationships with existing partners and develop new partnerships to achieve our priority habitat and wildlife goals. Examples of these partnerships include:

- Reinvalidate the Partnership for Regional Invasive Species Management (PRISM) and solicit new partners (e.g. private landowners) for a comprehensive approach to invasive species management on the Flathead Indian Reservation (FIR).
- Consider expanding opportunities for donations of bones, skulls, hides etc. to the CSKT, the Inter-Tribal Buffalo Council, or other Tribes for cultural or educational purposes.
- Work with neighboring private landowners and other partners (CSKT) to develop priority conservation areas within the FIR that model and ultimately promote wildlife-friendly livestock management.
- Expand partnerships with the CSKT, MTFWP, Natural Resource Conservation Service (NRCS), Pheasants Forever, other governmental agencies, and non-governmental organizations to include working on wildlife management issues, specifically on priority species and their habitats and use of prescribed fire on NBR.

### **Administration and Operations Goal**

*Effectively use funding, staff, partnerships, volunteers, and equipment to restore and manage Complex habitats, conduct programs, and improve and maintain all necessary infrastructure to the benefit of the Complex and the Refuge System.*

In addition to maintaining current staff, we will prioritize hiring a visitor services specialist. Also, we will seek to strengthen biological support for refuge management by hiring a biological technician and by seeking at least 20 volunteers for various biological programs in which they have interest and skills. Staff capacity and training in understanding and interpreting local indigenous culture, history and TEK will be expanded.

We will prioritize improvements and maintenance on roads, trails, facilities, and infrastructure that are critical to manage NBR for priority species and sustainability of natural habitats. We will review the current housing on NBR to define what housing is necessary to accommodate full-time and seasonal employees, visiting Service employees, interns, contractors, and volunteers. We will remove internal fences that are no longer utilized and are considered obstacles to wildlife movement. While maintenance of the day use area will not be a priority, its importance to environmental education and the overall visitor experience is recognized. Volunteers will be utilized to clean the bathrooms, mow and water the grass, and maintain a generally healthy and clean environment in the day use area.

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# Chapter 1 Introduction



Dave Fitzpatrick/USFWS

*Bison herd with calves in the National Bison Range*

We, the U. S. Fish and Wildlife Service (Service), have developed this final comprehensive conservation plan (CCP) to describe the management and use of the National Bison Range (NBR, refuge). The refuge is located in northwestern Montana in Lake and Sanders Counties. At the start of this planning process, the refuge was part of the National Bison Range Complex (Complex), which also managed the Ninepipe, Pablo, and Lost Trail National Wildlife Refuges (NWRs) as well as the Flathead and Lake County Wetland Management Districts (WMDs) (Figure 1.1). In 2019, the National Bison Range Complex was merged with the Benton Lake National Wildlife Refuge Complex and Lee Metcalf National Wildlife Refuge to form the Western Montana Complex (WMTCC).

The National Bison Range is also located within the boundaries of the Flathead Indian Reservation. The Reservation is a 1.3 million-acre area established in 1855 through the Treaty of Hellgate, which, in the language of the treaty, was reached "by and between ... the United States, and the ... confederated tribes of the Flathead, Kootenay and Upper Pend d'Oreilles Indians ... [which] do hereby constitute a nation, under the name of the Flathead Nation." In many communications today, the tribes use their own true names: Séliš (pronounced SEH-leesh, known in English as Salish or "Flathead"), Q̓lispé (pronounced Kah-lee-SPEH, known in English as Kalispel or Pend d'Oreille), and Ksanka (pronounced KSAHN-ka, known in English as Kootenai). In 1935,

the three tribes reconstituted themselves as the Confederated Salish and Kootenai Tribes (CSKT), which as of 2019, remains the official name of the tribal government.

We developed a CCP and EIS for NBR separate from the CCP and Environmental Assessment for the other units of the National Bison Range Complex, because the Service determined that the complexity of the issues related to the management of the NBR warranted the more detailed and rigorous analysis that is required by an EIS. This CCP for the refuge discusses program levels in compliance with the National Wildlife Refuge Administration Act of 1966, as amended (16 United States Code [USC] §§ 668dd et seq.) and Part 602 (National Wildlife Refuge System Planning) of the Fish and Wildlife Service Manual (USFWS 2000) and other Service guidelines. The CCP specifies the objectives and strategies also meet the requirements of the National Environmental Policy Act of 1969 (NEPA).

Wildlife conservation, including habitat conservation, is the Service's first priority for managing national wildlife refuges. Public uses, specifically wildlife-dependent recreational uses, are allowed and encouraged as long as they are appropriate and compatible with the establishment purposes of each refuge. This CCP for the refuge discusses program levels that are sometimes above current budget allocations and would, therefore, be phased in over time. The CCP specifies the



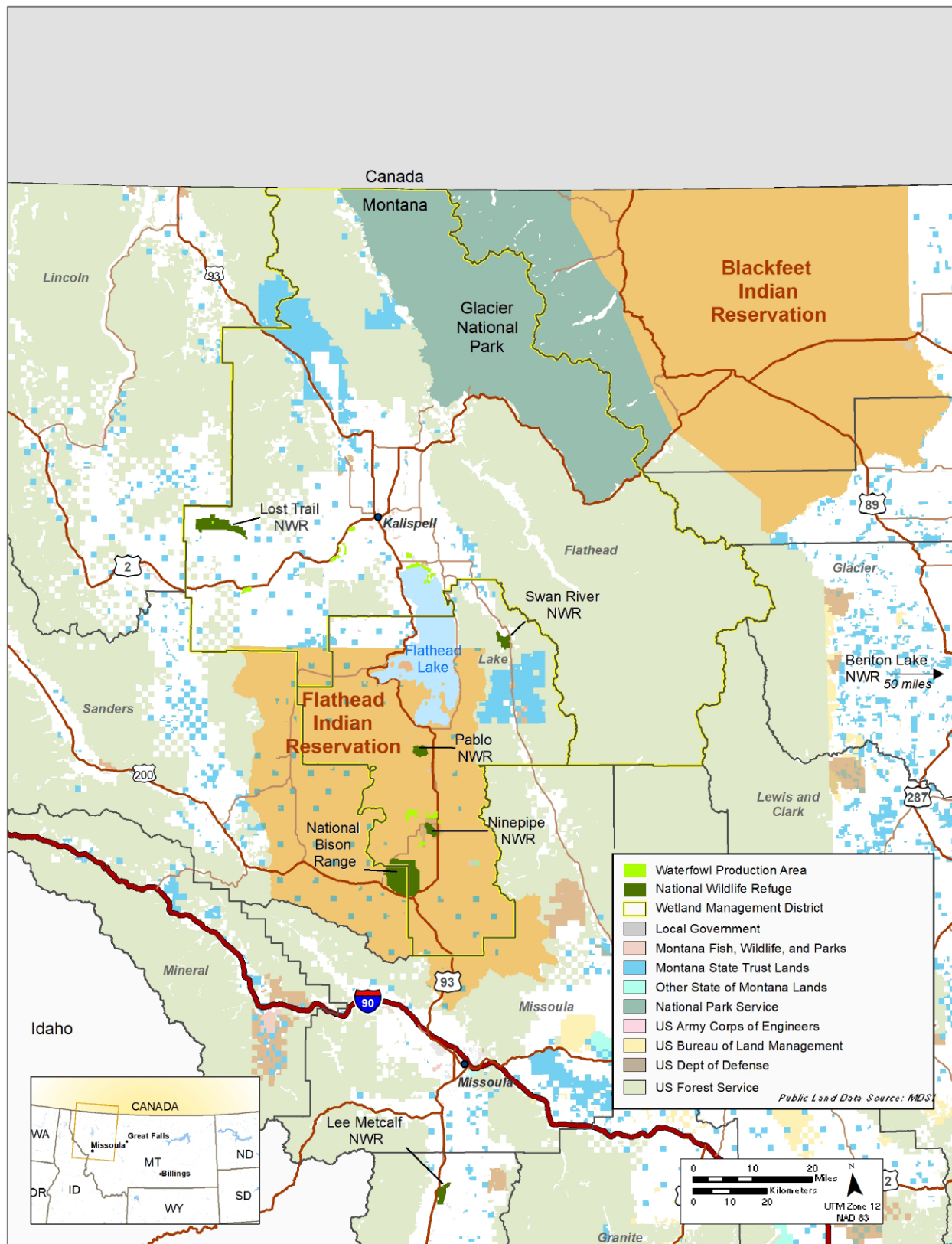


Figure 1.1. National Bison Range Location Map

objectives and strategies specify the objectives and strategies necessary to achieve the refuge's purposes, vision, and goals.

The core planning team (Appendix A) prepared the CCP and EIS. The Service invited several federal, state, and local agencies, as well as various Native American tribal governments, to participate in the planning process. The following agencies responded to the Service's invitation and became cooperating agencies on the planning team:

- Bureau of Indian Affairs
- Confederated Salish and Kootenai Tribes
- Montana Fish, Wildlife and Parks
- Lake County
- Sanders County

Public involvement in the planning process is discussed in Section 1.4 and in further detail in Appendix B.

## 1.1. Purpose and Need for Action

This CCP was developed in the context of a National Wildlife Refuge System (Refuge System) that is always adapting to meet the challenges of an evolving landscape. The NBR's natural environment, the influences of the surrounding types of land uses by a wide variety of individuals and agencies, and the implications of invasive species, climate change, and other emerging challenges have all affected the refuge setting since its establishment. This CCP is designed to seek ways to address those changes, in collaboration with our conservation partners and neighbors, and establish management and protection of valuable natural and cultural resources into the future—a future where continued change is likely to occur.

Thus, the purpose of the CCP is to establish strategic management direction to ensure that our management of the refuge will best integrate the issues listed below. Our use of the term “strategic” means approaches that are ecologically sound and sustainable in light of physical and biological change, and are practical, viable, or economically realistic, and responsive to the following three areas of concern:

1. Abides by, and contributes to, the Service and Refuge System missions, legal mandates, Executive and Secretarial Orders (SO), and Service and Refuge System policies, including the Service's Native American Policy ([510 FW 1](#)). We provide a description of the Service and Refuge System missions, legal mandates, specific orders, and policies relevant to this planning process in subsequent chapters and appendices.
2. Helps meet the refuge's legislated purposes, vision, and CCP goals. NBR's purposes, vision, and goals are listed below. The vision

statement broadly interprets the refuge purposes and is an inspiring statement of the desired future for the refuge. NBR goals articulate that desired future condition further and provide a framework for developing management objectives and strategies under each alternative.

3. Addresses key issues, including the concerns of the Service, other federal, state, local and Tribal agencies, and the public. Interest in the future management of the refuge is widespread. The concerns and interests of our partners, local communities, and interested members of the public are diverse. Through our scoping and outreach, coupled with our understanding of the particular threats and challenges to conservation, and the need to incorporate the best available scientific and technical information, we have identified, among others, the following key issue categories to focus on in this CCP and address through objectives and strategies under each alternative. We provide additional details on these issues in subsequent chapters:

- Habitat management, including invasive species
- Bison management
- Wildlife management
- Tribal cooperation/cultural resources
- Visitor services and public use
- Socioeconomic factors
- Administration (e.g. budget, staffing, and facilities)
- Partnerships and communication
- Monitoring and research

The need for a CCP is mandated by the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act) which required all refuges to complete this process by 2012. This plan is being developed concurrently with ongoing reorganization of Refuge System units throughout the Service's Mountain-Prairie Region. Additionally, the economy and patterns of land use and land ownership in local communities surrounding the refuge are changing. The pressures for public use and access to refuge lands have continued to increase, while refuge resources (e.g. budget and staffing) have been steadily decreasing. The CCP is needed to help ensure that the refuge continues to conserve bison and other wildlife, as well as native bunchgrass prairie and other habitats, and cultural resources, and to provide appropriate public uses and access in the face of continually changing conditions.

The CCP identifies the role the refuge will play in support of the mission of the Refuge System and provide long-term guidance for management of refuge programs and activities.

The CCP seeks:

- to communicate with the public and other partners in efforts to carry out the mission of the Refuge System
- to provide a clear statement of direction for management of the refuge
- to provide neighbors, visitors, and government officials with an understanding of the Service's management actions on and around the refuge
- to ensure that the Service's management actions are consistent with the mandates of the Improvement Act
- to ensure that management of the refuge considers other federal, Tribal, state, and local government plans, as appropriate
- to provide a basis for prioritizing allocation of funding and staffing levels across NBR programs (e.g. visitor services, law enforcement, management, biology)
- to recognize and address, as appropriate, NBR's location within the Flathead Indian Reservation and address the refuge's importance to the Tribes and the communities within the Mission Valley of Montana

The CCP details strategic management direction for the refuge for 15 years, by:

1. Stating clearly the desired future conditions for refuge habitat, wildlife, visitor services, staffing, and facilities through presentation of goals, objectives, and strategies.
2. Explaining concisely to Tribal, federal, state, and local agencies, refuge neighbors, visitors, partners, and other stakeholders the reasons for management actions.
3. Ensuring that refuge management conforms to the policies and goals of the Refuge System and legal mandates.
4. Ensuring that present and future public uses on refuge lands are appropriate and compatible.
5. Providing long-term continuity and consistency in management direction.
6. Justifying budget requests for staffing, operations, and maintenance funds.

The CCP serves as an important means of conveying the vision and priorities for the NBR to our partners, local communities, and interested and affected individuals to encourage successful integration of Service priorities with partner priorities. Our hope is that creative and diverse coalitions will stimulate and maintain the vital momentum necessary to meet the conservation challenges and continually explore new and mutual conservation opportunities throughout the northwest Montana landscape.

The Service is committed to sustaining the Nation's fish and wildlife resources together through the combined efforts of governments, businesses, and private citizens.

## 1.2. The U.S. Fish and Wildlife Service and the National Wildlife Refuge System

We are the principal federal agency responsible for fish, wildlife, and plant conservation. The Refuge System is one of our major programs.

### The U.S. Fish and Wildlife Service and its Mission

*"Our mission is working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people."*

The Service was established in the Department of the Interior (DOI) in 1940 through the consolidation of bureaus then operating in several Federal departments. The primary precursor agency was the Bureau of Biological Survey in the U.S. Department of Agriculture (USDA). Today, we enforce Federal wildlife laws, manage migratory bird populations, restore nationally significant fisheries, conserve and restore vital wildlife habitat, protect and support recovery of endangered species, and help other agencies and governments with conservation efforts. In addition, we administer the distribution of over one billion dollars of excise taxes paid by the hunting, boating, and angling industries. These funds are distributed to states for fish and wildlife restoration, boating access, hunter education, and related programs.

### The National Wildlife Refuge System (NWRS)

The Service's Refuge System is an unparalleled network of public lands and waters dedicated to the conservation of native wildlife and their habitats. With 567 refuges and 38 wetland management districts covering more than 150 million acres, plus more than 418 million acres of marine national monuments, it is unrivaled as a conservation tool the world over. Refuges also are critical to the local communities that surround them, serving as centers for recreation, economic growth, and landscape health and resiliency. Each state and U.S. (United States) territory has at least one national wildlife refuge, and there is a refuge within an hour's drive of most major cities.

The Refuge System was established in 1903, when President Theodore Roosevelt protected an island with nesting pelicans, herons, ibis, and roseate spoonbills in Florida's Indian River from feather collectors decimating their colonies. He established Pelican Island as the nation's first bird sanctuary and went on to establish many other sanctuaries for wildlife during his tenure. This small network of sanctuaries continued to expand, later becoming the Refuge System. In contrast to other public lands, which are managed for multiple uses, refuges are specifically managed for fish and wildlife conservation.



## Goals of the National Wildlife Refuge System

The mission of the Refuge System, established by the Improvement Act, 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.”*

The goals of the Refuge System, as established by the Refuge System Mission, Goals, and Purposes Policy (601 FW 1), are to:

- Conserve a diversity of fish, wildlife, and plants and their habitats, including species that are endangered or threatened with becoming endangered
- Develop and maintain a network of habitats for migratory birds, anadromous and inter-jurisdictional 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 participate 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

## Guiding Principles of the National Wildlife Refuge System

There are four guiding principles for management and public use of the Refuge System established by Executive Order 12996 (1996):

- **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 public can make significant contributions to the growth and management of the Refuge System
- **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

- **Public Involvement**—The public should be given a full and open opportunity to participate in decisions about acquisition and management of national wildlife refuges

## Conserving the Future

In 1999, we developed a vision for the Refuge System. A report titled “Fulfilling the Promise—The National Wildlife Refuge System” (USFWS 1999) was the culmination of a year-long process by teams of Service employees to evaluate the Refuge System nationwide. It was the focus of the first National Refuge System conference (in 1998), which was attended by the managers of Refuge System units, other Service employees, and representatives from leading conservation organizations. The report contains 42 recommendations bundled with 3 vision statements dealing with wildlife and habitat, people, and leadership. The outcome of that effort continues to influence CCP planning both nationally and locally.

In 2010, we began updating our earlier vision for the Refuge System in a report titled “Conserving the Future—Wildlife Refuges and the Next Generation” to chart a course for the Refuge System’s next 10 years (USFWS 2011a). The new vision recognizes many new challenges in landscape conservation efforts, including a rapidly changing landscape and a constricted federal budget. Moreover, less undeveloped land is available, more invasive species are spreading, and it appears that we are experiencing the effects of a possible change in climate. In the face of these and other challenges, we believe we can most effectively pursue conservation objectives through continued partnering with Federal, State, and local agencies; Tribes; nongovernmental organizations; friends groups; and volunteers. As we have done in the past, we will strive to be a vital part of local communities as we work to conserve wildlife and habitats (USFWS 2011a).

We believe that the wildlife and habitat management and conservation actions outlined in this CCP reflect our commitment to the American people to support the Refuge System’s landscape conservation efforts.

## 1.3. Legal and Policy Guidance

Refuge System units are managed to achieve the purposes for which the unit was established (as described in establishing legislation, Executive Orders, or other establishing documents), as well as to achieve the mission and goals of the Refuge System. Key concepts and guidance for the Refuge System are set forth in the National Wildlife Refuge System Administration Act of 1966 (Administration Act), as amended by the National Wildlife Refuge Improvement Act (Improvement



Act) (16 U.S.C. 668dd et seq.) and further detailed in Title 50 of the Code of Federal Regulations (CFR) and the “Fish and Wildlife Service Manual” (<https://www.fws.gov/policy/manuals/>). The main sources of legal and policy guidance of the CCP are described below. Additional laws and policies guiding the CCP are listed in Appendix C-Key Legislation and Policies.

### **National Wildlife Refuge System Improvement Act of 1997 (Improvement Act)**

Statutory authority for Service management and associated habitat management planning on units of the Refuge System is derived from the Administration Act, which was significantly amended by the Improvement Act. The Improvement Act provides clear standards for management, use, planning, and growth of the Refuge System.

The Administration Act, as amended by the Improvement Act, clearly establishes wildlife conservation as the core Refuge System mission. Refuges are managed for fish, wildlife, plants, and their habitats. The Improvement Act also recognizes that wildlife-dependent recreational uses, including hunting, fishing, wildlife observation and photography, and environmental education and interpretation, are legitimate and appropriate public uses when determined to be compatible with the mission of the Refuge System and purposes of the specific unit of the Refuge System.

### **Compatibility Policy**

Lands within the Refuge System are different from other multiple-use public lands in that they are closed to all public uses unless specifically and legally opened. The Improvement Act states “. . . the Secretary shall not initiate or permit a new use of a refuge or expand, renew, or extend an existing use of a [refuge], unless the Secretary has determined that the use is a compatible use and that the use is not inconsistent with public safety.” In accordance with the Improvement Act, the Service has adopted a Compatibility Policy (603 FW 2) that includes guidelines for determining if a use proposed on an NWR is compatible with the purposes for which the refuge was established. A summary of the compatibility determinations prepared in association with this CCP are provided in Appendix D.

### **Biological Integrity, Diversity, and Environmental Health Policy**

Central to the Improvement Act is the requirement that the biological integrity, diversity, and environmental health of the Refuge System be maintained for the benefit of present and future generations of Americans. In 2001, we published a policy (601 FW3) that directs a refuge manager to consider the broad spectrum of fish, wildlife, and habitat resources found on the refuge and

associated ecosystems in achieving the refuge purpose and NWRS mission. The policy defines the terms “biological integrity,” “diversity,” and “environmental health,” and provides direction for secondary economic uses like farming, haying, livestock grazing and other extractive activities. These are permissible habitat management practices only when prescribed in plans to meet wildlife or habitat management objectives and only when more natural methods, such as fire or grazing by native herbivores, cannot meet the purposes and goals of the unit of the Refuge System. As stated above, a compatibility determination is required for these uses.

### **Native American Policy**

Over the last 30 years, the Department of the Interior (DOI) and the United States (US) Fish and Wildlife Service (Service), have been tasked to collaborate with American Indian Tribes in the management of natural resource issues through consultation, part of the Trust responsibility of the federal government.

The US government and Tribes have a complex and conflict-filled history. Past and present administrations have tried to improve these relationships and address historical policies that have not lived up to the federal Trust responsibility, as evidenced by the many Executive Orders (EOs), Memoranda of Understanding (MOUs), and policies. The mission of the Service is “working with others, to conserve and protect wildlife and their habitats”. As a result of this mission and the responsibility for trust resources, the Service is frequently required to consult with Tribes, yielding mixed results in the past. To approach this issue, the Service aims to create a foundation for Tribes and federal agencies to come together and begin meaningful conversations and actions that would lead to long-term relationships that improve trust. The first step is recognizing the value Native practices and cultural traditions bring to the table and acknowledging that the way in which the Service has conducted business in the past does not necessarily reflect the priorities and practices of the Tribes. For this foundation to be as solid as possible, a holistic approach is needed that seeks to understand the best way forward for all involved.

The Service’s Native American policy (510 FW 1) provides a framework for government-to-government relationships and furthers the United States’ and the Department of the Interior’s trust responsibility to federally recognized Tribes. The policy established a consistent framework nationwide, yet remains flexible, to reflect regional and local variations in history, knowledge systems, applicable laws, treaties, and Service-Tribal relationships. As stated in the policy, the Service supports the rights of Tribal governments as they exercise their sovereign authorities to manage, co-manage, or collaboratively manage fish and wildlife resources. We also support co-management where

there is a legal basis for such. In addition to the Service's policy, the following Executive Orders, Secretarial Orders and Memorandum also apply:

- EO 13175: Consultation and Coordination with Indian Native Governments (2000);
- White House Memorandum on Government-to-Government Relationships with Native Governments (2004);
- EO 13592: Improving American Indian and Alaska Native Educational Opportunities and Strengthening Native Colleges and Universities (2011);
- Secretarial Order 3206: American Indian Native Rights, Federal-Native Trust Responsibilities, and the Endangered Species Act (USFWS, 1997)
- Secretarial Order No. 3317 - DOI Policy: Department of the Interior Policy on Consultation with Indian Tribes (2011);
- Secretarial Order No. 3335 - Reaffirmation of the Federal Trust Responsibility to Federally Recognized Indian Tribes and Individual Indian Beneficiaries (2014).

In developing this CCP, the Service has worked with the CSKT to identify ongoing, and future, opportunities for collaboration consistent with this policy. These opportunities include proactively soliciting, and incorporating into our management, information on traditional ecological knowledge from CSKT and other Tribes, as well as collaborating on developing relevant educational and interpretive materials, including exhibits, interpretive panels, and programs.

If CSKT requests negotiations for a funding agreement under the authority of the Indian Self-Determination and Education Assistance Act, as amended, such negotiations will occur as a separate process from this CCP, along with the steps needed to comply with the National Environmental Policy Act. The CSKT has not requested such an agreement.

#### 1.4. Description of Planning Process and Public Involvement

The planning process is based on the Refuge System planning policy, which was issued in 2000 (602 FW1). The resulting requirements and guidance for refuge plans, including CCPs and stepdown management plans, make sure that planning efforts comply with the Improvement Act. The planning policy sets out the steps of the CCP and environmental analysis process (Figure 1.2).

Planning for the NBR began in May 2017 with a Notice of Intent (NOI) published in the Federal Register (82 FR 22843). This NOI was a revision to an earlier NOI published in January 2017 (82 FR 5597).

A core team of Service staff from the NBRC and the Mountain-Prairie Region was established and cooperating agencies were invited to join the process. The CSKT; Montana Fish, Wildlife and Parks; Lake and Sanders Counties; and the Bureau of Indian Affairs (BIA) accepted our invitation. The Service also engaged the services of consultants to assist with development of the CCP and EIS as well as provide writing and editing

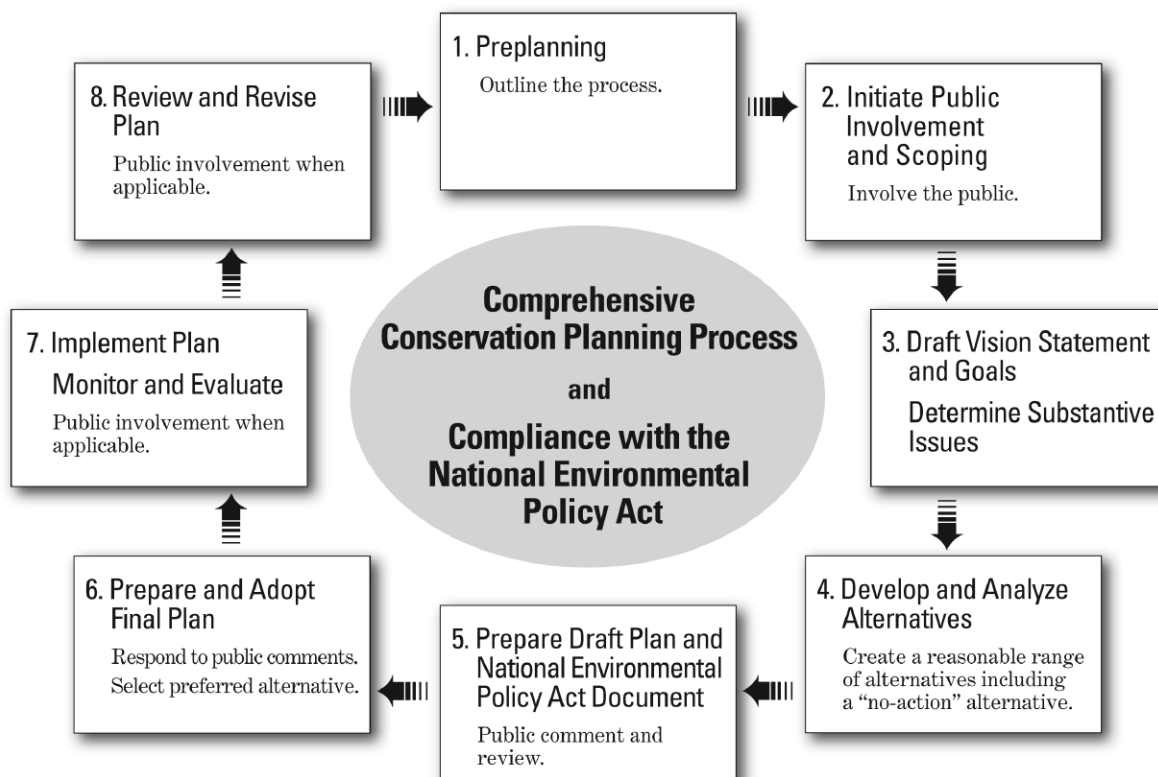


Figure 1.2. Steps of the CCP and Environmental Analysis Process

support. Appendix A lists the core team members, cooperating agency members, contributors, and consultants for this planning process.

The core team and cooperating agencies form the overall Planning Team. The Planning Team was engaged in every step of the planning process including four workshops (vision and goals, alternatives, objectives and environmental consequences). The consultants provided substantial support in developing and writing the draft and final CCP and EIS, analyzing the environmental consequences, and facilitating Planning Team meetings.

An important consideration in the development of this plan—including the vision, goals, objectives, and strategies—is the opinions, perspectives, and values of all interested citizens, agencies, and organized groups. The Service has consulted with Native American Tribes and actively involved federal and state agencies, local governments, organizations, and private citizens throughout the process. Since the planning process began in May 2017, we conducted eleven public meetings during scoping, development of the alternatives, and public review of the draft CCP and EIS; mailed three planning updates; and posted information on the CCP web page. Appendix B describes the planning process in more detail.

**Table 1.1. Planning Process Summary for the CCP and EIS for the National Bison Range, Montana**

Date	Planning Activity	Outcome
January 18, 2017	Initial Notice of Intent published in the Federal Register	Notice of intent to develop a CCP and EIS for the refuge and a request for comments published in the Federal Register (scoping comments accepted until February 17, 2017).
May 18, 2017	Revised Notice of Intent published in the Federal Register	Notice of intent to develop a CCP and EIS for the refuge and a request for comments published in the Federal Register (scoping comments accepted until June 19, 2017 then extended to September 30, 2017).
June 6-7, 2017	Public scoping meetings	Information presented about the CCP development with question and answer and comment session.
August 29, 2017	Planning Team kickoff	Initial meeting with refuge staff and the planning team.
August 30, 2017	Public scoping meetings	Information presented about the CCP development with question and answer and comment session.
October - November 2017	Scoping report	Documentation of public comments from the comment period and identification of significant issues. Scoping comments posted to CCP web page.
November 7, 2017	Vision and Goals workshop	Development of draft vision and goals with planning team. Review of refuge purpose and significant issues identified in scoping report.
March 7-9, 2018	Alternatives workshop	Development of alternative concepts with planning team.
April 26, 2018	Planning Update 1	Summary of draft vision, goals and five alternatives. Schedule for public meetings. Distribution to the mailing list and posting to the CCP web page. Public comments accepted until May 25, 2018.
May 8-11, 2018	Public meetings for draft alternatives	Four public meetings held to receive input on draft alternatives.
June 14,15,21,22, 2018	Revise alternatives; Workshop for objectives and strategies	Review public comments on draft vision, goals and alternatives with the planning team. Revised alternatives for refuge. Developed objectives and strategies for each alternative.
July 5, 2018	Planning Update 2	Summary of public comments on draft vision, goals and alternatives. Comments posted to web page. Public notified of schedule change for the CCP/EIS. Update e-mailed and posted on web page.
August 8-10, 2018	Impacts analysis workshop	Planning team met to review and revise the environmental consequences of each draft alternative.



Date	Planning Activity	Outcome
May – November 2018	Draft CCP and EIS	Development of draft CCP and EIS
April 5, 2019	Publication of draft CCP and EIS, planning update 3	Public review and comment period began.
April 30, May 1,2, 2019	Public meetings	Public meetings held on draft CCP and EIS
June - August 2019	Internal Review for Final CCP and EIS	Development of Final CCP and EIS
September 6, 2019	Publish Final CCP and EIS	Release of documents with final changes and responses to public comments
November 2019	Regional Director signs record of decision	Start implementation of CCP

### 1.5. Significant Planning Issues to Address

The scoping process identified many qualities of the refuge along with issues and recommendations. Based on this information, as well as guidance from the Improvement Act, NEPA, and planning policy, the Service identified the following significant issues to address in the final CCP and EIS:

- Habitat Management
- Bison Management
- Wildlife Management
- Tribal Cooperation/Cultural Resources
- Visitor Services/Public Use
- Socioeconomics/Refuge Operations/Staffing
- Partnerships/Communication
- Monitoring and Research

Significant issues are those that are within our jurisdiction, that suggest different actions or alternatives, and that will influence our decision (see description of issues below).

The Planning Team considered every comment that was received during the public scoping process to develop the CCP. Comments provided by the public and other conservation agencies were summarized by issue and consolidated into related topics and subtopics and are provided in this section.

#### Habitat Management

The refuge encompasses a variety of habitats, including grasslands, forests, riparian areas and wetlands. This CCP addresses the following issues related to habitat management that were identified during the scoping process:

- Managing for healthy rangeland to support wildlife populations at sustainable levels
- Inventorying and assessing refuge habitats relative to historic conditions, determining feasibility of restoration and long-term sustainability

- Forest management, including encroachment of conifers into grasslands
- The use of fire in managing refuge habitats
- Likely impacts to be expected from the effects of climate change on habitat, species (fauna and flora), water, forage and wildfire
- Invasive species management, including identifying priorities and developing plans for early detection and rapid response for new or small invasions as well as an integrated pest management plan to control existing infestations and reduce their occurrence and spread
- Riparian management and restoration opportunities
- Impacts of public use on habitat condition

#### Bison Management

The NBR bison herd is part of a greater metapopulation and landscape conservation effort for plains bison to ensure long-term species conservation. The 2008 DOI Bison Conservation Initiative establishes a framework for bison conservation and value as wildlife. The current USFWS genetic and health monitoring program should be continued, in part or whole, based on the best available science, as part of the management plan for NBR. We received comments encouraging us to consider opportunities for bison to access areas that may be available adjacent to the NBR, as well as to critically look at and update the fenced animal management plan.

#### Wildlife Management

We received comments encouraging the Service to manage for an ecologically intact ecosystem based on healthy rangeland as a foundation for supporting herds of healthy bison and native ungulates species such as elk, deer, bighorn sheep, pronghorn, and other wide-roaming species. Important issues related to the management of these species include:

- ungulate population size targets and culling plans
- disease monitoring and management
- genetics
- predator control
- impacts of visitor activity

Commenters asked us to address the potential of the NBR to serve as habitat for transient species, such as grizzly bears, and its connectivity to other occupied and unoccupied areas. We were asked to consider impacts of the external and internal fences on the NBR on wildlife movement and habitat. Although the refuge does not directly manage other species of wildlife such as migratory birds, bats, bull trout, and other species of concern, the CCP considers how refuge management activities, such as habitat management, research and monitoring, impact these species.

### **Tribal Cooperation/Cultural Resources**

The Service recognizes its responsibility to identify, protect, and consult with Tribes about important cultural resources consistent with Federal laws and policy mandates. The Service and Tribal governments also recognize the need for strong, healthy communication and relationships so that we can work together to improve and enhance conservation of fish and wildlife resources and shared natural and cultural resource goals and objectives. An important aspect of this is to give full consideration of the benefits of the Tribes' traditional ecological and cultural knowledge and their special historical, geographic, and cultural relationships with bison and the refuge insofar as those deep connections can support the management of natural and cultural resources and the provision of unique public educational and interpretive services at the NBR.

### **Visitor Services/Public Use**

Many comments we received were related to visitor services and public use of the refuge. The CCP provides an opportunity to examine and plan for such public use/access considerations as:

- desired visitor experiences
- fishing access
- wildlife watching and photography opportunities
- recreation facility availability and management
- recreation fee structures
- maintenance and replacement of visitor facilities (e.g. Visitor Center, roads, and entrances)
- installation and content of signage

Opportunities for environmental education and interpretation are important visitor services. The public suggested that we consider a wide range of topics for these activities from cultural programs to factors that comprise a healthy and functioning ecosystem. We received comments asking the Service to evaluate adequate staffing



Dave Fitzpatrick/USFWS

*National Bison Range staff carrying out wildlife monitoring activities.*

to support visitor services. We also consider what is compatible for all individual uses to maintain consistency with wildlife conservation goals.

### **Socioeconomics/Refuge Operations/Staffing**

Many commenters asked us to closely evaluate staffing levels to insure they are adequate for meeting the purposes of the refuge, as well as expected, desired, and potential needs looking forward. The refuge program in the Mountain-Prairie region developed a Realignment Strategy in 2016 to guide the future of refuges in the 8-state region. As part of that realignment process, a Staffing Framework has also been developed (USFWS 2017b). This CCP has been developed to be consistent with this guidance. Operational costs and capital investments necessary to sustain long-term management of the refuge are also considered. This includes maintenance of refuge facilities including the boundary fence, Visitor Center, and employee housing.

### **Partnerships/Communication**

NBR staff currently participate in several partnerships that we seek to maintain, as well as explore new ones, for the betterment of refuge resources as part of the CCP. Bison management, wildlife surveys, invasive plant management, prescribed fire, research and visitor services are all areas where partnerships have been, and will continue to be, important. Current and future partners include the CSKT; Montana Fish, Wildlife and Parks; Lake and Sanders Counties; other federal, state and local government agencies; universities; non-governmental organizations; and members of the public.

### **Monitoring and Research**

We received comments encouraging us to identify opportunities for research. These could include ecological conditions, diversity of plants and animals on the refuge, the role of carnivores in

population and disease control, the role of wildfire and other disturbance regimes in grassland health and maintenance and diversity of habitat, presence and control of weeds and other invasive species, impacts of public use, and improvements to visitor use, among others. In addition to research, adaptive management and monitoring of topics including rangeland conditions, carrying capacity, and wildlife health was suggested. Surveys and monitoring of status and trends of nongame birds, amphibians, reptiles and other fish, wildlife, and plants was also recommended. Commenters suggested that the CCP should include a plan for research and partnering with the Tribes, universities, and other agencies both on and off the Reservation. We were also asked to consider a way to standardize refuge research requests and the decision-making process to grant special use permits.

### 1.6.Issues Not Addressed

The Service considered several issues that were identified by our staff, our cooperating agencies, and the public during scoping and alternatives development and did not select them for detailed analysis in this final CCP and EIS. Therefore, in accordance with NEPA requirements and CEQ guidance, the Service identified and eliminated from detailed study the topics or issues that are not significant or are out of the scope of this planning process. These issues and the Service's rationale for not selecting them for further analysis in this planning process are briefly described below.

#### Transfer of the National Bison Range to Tribes and Annual Funding Agreements

As stated in the Federal Register notice (May 18, 2017, 82 FR Doc. 2017-10110), due to the variety of information and perspectives the Service received from the public and a change in policy direction, a Congressional transfer of lands comprising the NBR to the CSKT of the Flathead Reservation, to be held in trust by the Secretary of the Interior for the benefit of the CSKT, is not evaluated in this document. The CSKT has not requested an annual funding agreement (AFA); however, the selected alternative in the final CCP/EIS for NBR could serve as the basis for negotiation about a potential future AFA.

#### Reintroduction of sharp-tailed grouse on the National Bison Range

Sharp-tailed grouse historically occurred in the grassland valleys of western Montana but are currently extirpated. Montana Fish, Wildlife and Parks (MTFWP), in cooperation with MPG ranch, CSKT, and USFWS worked together to assess suitability for sharp-tailed grouse reintroductions in western Montana. After conducting surveys on the NBR and surrounding lands for sharp-tailed grouse nesting cover and brood-rearing habitat, it was determined that NBR is not one of the highest



Marstel-Day LLC

*National Bison Range Planning Team during CCP and EIS workshop*

ranking areas for reintroduction (Anderson and Farrar 2016). Currently, reintroduction efforts are focusing on the Blackfoot Valley as the highest priority (McNew et al 2017). Depending on the success of reintroduction efforts in other areas, and as new information is collected, sharp-tailed grouse reintroduction on the NBR may be reconsidered at some point in the future, but is not currently being pursued.



## Chapter 2 The Refuge



Dave Fitzpatrick/USFWS

*Visitors to the refuge wait for a bull elk to cross the road along the auto tour route*

NBR is an 18,800 acre refuge situated within the Flathead Indian Reservation, Lake and Sanders Counties, about 40 miles north of Missoula, Montana (Figure 2.1). NBR is located in the Mission Valley of northwest Montana with views of the Mission Mountains and Flathead Lake, the largest natural freshwater lake west of the Mississippi River.

### 2.1 History of Refuge Establishment, Acquisition and Management

The refuge history is closely tied to the history and survival of the plains bison and to the Native American Tribes of western Montana. The lands included in the Flathead Indian Reservation today are home to three tribes, the Séliš (pronounced SEH-leesh, known in English as Salish or "Flathead"), the Qlispé (pronounced Kah-lee-SPEH, known in English as Kalispel or Pend d'Oreille) and the Ksanka (pronounced KSAHN-ka, known in English as Kootenai). The territories of the three tribes originally covered all of western Montana and extended into parts of Idaho, British Columbia and Wyoming. The Séliš, the Qlispé and Ksanka practiced a cyclical way of life based on the harvest of seasonal resources and spiritual traditions that respected the natural environment. Those tribal ways of life continue to this day. But over the past several centuries, the tribal world of western Montana has been radically altered by a series of transformations relating to non-Indian incursions into their traditional-use area (CSKT

2000). During the 1870's, due to the dwindling bison population resulting from their mass slaughter, a Qlispe Tribal member named Łatati (Little Falcon Robe) first brought several bison calves over the Continental Divide to the Flathead Indian Reservation to establish a bison herd as a conservation measure.

In the early 1900s, it was clear to scientists and the American public that the plains bison was quickly heading for extinction if dramatic measures were not undertaken to save the species. The National Bison Range was established through cooperation between the American Bison Society and the U.S. Government. President Theodore Roosevelt established the NBR on May 23, 1908 when he signed legislation authorizing funds to purchase suitable land "For a permanent National Bison Range for the herd of bison to be presented by the American Bison Society". This act, and a subsequent one passed in March of 1909, provided funds for securing the lands within the Flathead Indian Reservation from the "Confederated Tribes of the Flathead, Kootenai and Pend d'Oreille," and "to enclose said lands with a good and substantial fence." Although this was the first time Congress appropriated tax dollars to buy land specifically to conserve wildlife, the land acquired for the National Bison Range on the Flathead Indian Reservation was expropriated from allotted and unallotted Indian trust lands (Confederated Salish and Kootenai Tribes of the Flathead Reservation,



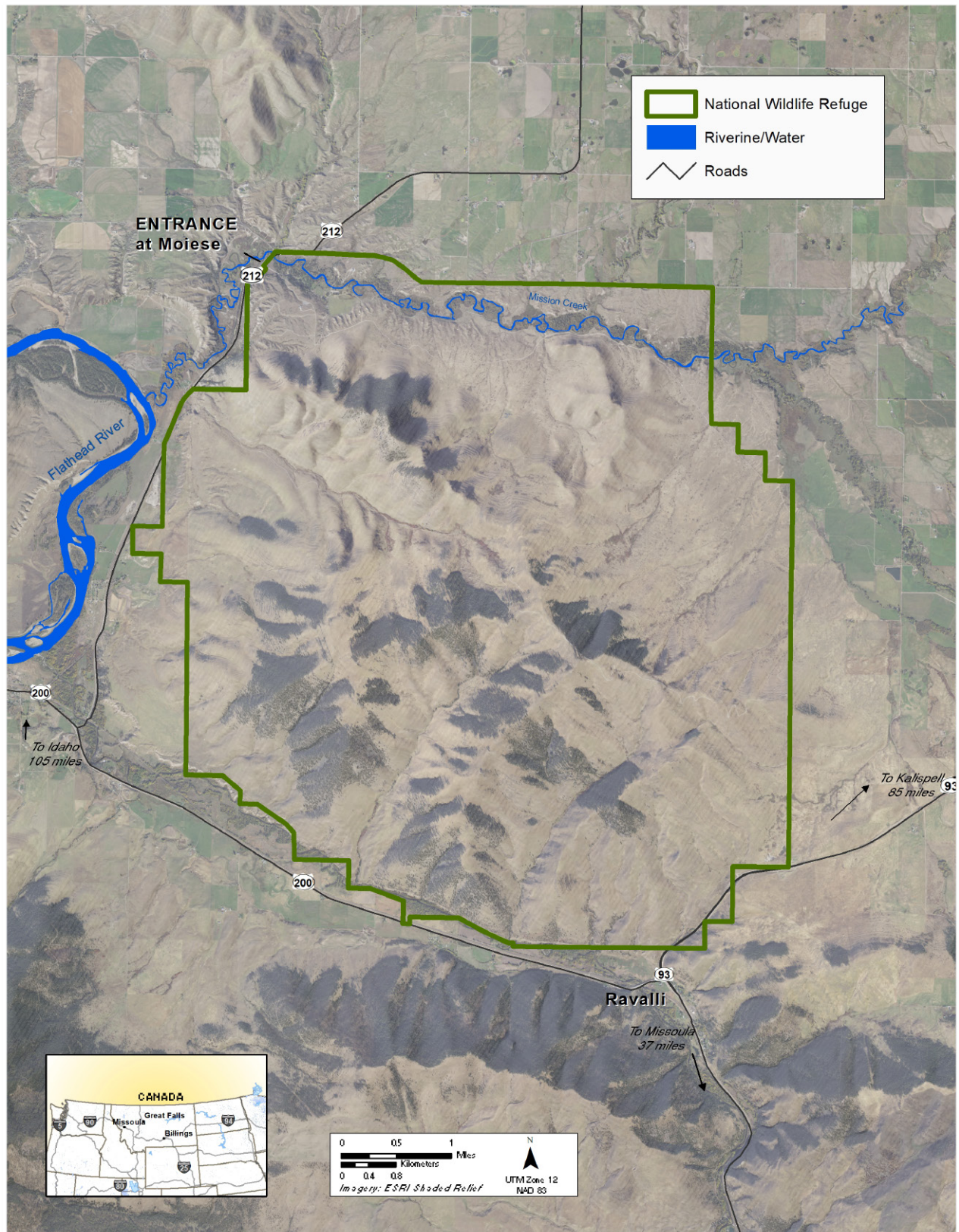


Figure 2.1. Map of the National Bison Range.



Montana v. United States, 437 F.2d 458; 193 Ct.Cl. 801 (1971)).

The bison that were eventually placed on the NBR were purchased by the American Bison Society, under the direction of William Hornaday, with over \$10,000 in public donations from across the country. The nucleus of the NBR herd was purchased from the estate of C.E. Conrad of Kalispell. The Conrad herd originated with the purchase of bison from the Pablo-Allard herd on the Flathead Reservation, which was the progeny of the buffalo calves captured by Łatatí (Little Falcon Robe).

In a 1910 letter to William Hornaday, the Secretary of Agriculture, James Wilson, conveyed his desire for the NBR to become “not only a reservation for buffalo, but a great game preserve....” He further acknowledged that representation of Montana and northern Rocky Mountain big game species “should find conditions suited to their needs here and it is hoped that they may increase to a point which will make it possible to furnish stock for distribution to other reservations....” Thereafter, from 1910 to 1922, white-tailed deer, mule deer, pronghorn, bighorn sheep and elk were moved to the NBR, both to further the purpose of presenting bison in a natural setting and to provide a source for establishing or augmenting populations across the West.

By the mid-1920s, populations of bison and other ungulates multiplied and, lacking control or active management, quickly exceeded the refuge’s carrying capacity. The refuge’s range condition deteriorated and managers initiated practices for spring feeding and removal of excess animals until populations were gradually brought back within carrying capacity. A system of cross fences, to allow rotational grazing, was started in the 1950s. A market for live bison began to grow in the 1960s as more private ranchers became interested in raising bison. After live sales became possible, these sales or live donations have been the only population control method used for bison at the refuge. Today the bison herd is maintained at approximately 300 animals and continues to contribute to the preservation of the species by managing for genetic diversity using the best available science. Although over 500,000 bison now exist in North America, less than 5 percent are managed for conservation. Excess animals are offered to establish or augment other populations according to the Service’s bison donations transfer protocol (Appendix E).

In 1921, the Bison Range was also designated by Executive Order (3596) as “a Refuge and breeding ground for birds,” and today over 200 species inhabit the refuge. Despite decades of protection, the NBR is not immune to effects of habitat degradation on native bird species, and furthermore, we are uncertain as to how allocate limited resources to ensure that a fully-executable

bird monitoring program is focused, stable, long-term, and reduces uncertainty associated with NBR management actions. In 2013, the NBR partnered with the University of Montana’s Avian Science Center to assist with addressing these issues and developing a program that is both robust and resilient despite constraints. The NBR will use an on-line, citizen science bird monitoring platform (eBird.org) for continued surveillance of occurrence using volunteers and the public to monitor population trends and inform management.

Public use has also grown over the years. In 1936, refuge staff began conducting tours over Red Sleep Mountain upon request until 1941 when staff could no longer keep up with demand. In 1958, Congress allocated funds for the development of an area on the NBR for the display of bison in their natural habitat at a location readily available to the public. In 1966, improvements to the Red Sleep Mountain road were completed, and it opened to visitor traffic. This one-way scenic drive continues to be a popular wildlife-viewing opportunity. In 1981, a new and expanded Visitor Center was built and education and interpretive programs were developed. Other visitor use opportunities include a day use area, first developed in 1936 by a Civilian Conservation Corps group. This area includes a nature pond and interpretive trails and is used by the public as a day use area as well as by school groups for aquatic and wetland studies. Fishing access was first opened on the refuge in 1966, and later expanded in 1982. Overall visitation to the refuge has increased from an estimated 5,000 visitors in the early years to around 100,000 in the 1980s to an estimated 180,000 annual visitors today.



*Visitors to the refuge observe refuge staff activities during the annual bison capture operations*

USFWS



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*Relax and take a deep breath while you step back in time to reflect on what was, what is, and what is yet to come. Immerse yourself in the inter-montane valleys of northwestern Montana shaped by glacial forces and steeped in rich cultural history. This is a special landscape important to people age after age, where we pay tribute to the persons and peoples who set aside the lands, conserved the wildlife and plants, and were stewards of various components that make up the complex. Visitors from all over the world travel to the Complex, which seeks to provide an opportunity to learn and experience varied habitats, abundant wildlife, and the natural beauty of these lands. The units of the Complex safeguard these values and preserve connectivity across the landscape, forming continuity through time for future generations to treasure. Each unit is unique, and collectively they have contributed, and will continue to contribute, to the Complex and the Refuge System. Partners foster cultural and natural resources conservation where the cultural history is expressed across the landscape. Unique opportunities to work with partners benefit many of the units within the Flathead Indian Reservation and other units located within traditional homelands of the Séliš, Q̓hispé and Ksanka Tribes.*

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## 2.2 Refuge Purposes

Every national wildlife refuge has a purpose for which it was established. This purpose is the foundation on which to build all refuge programs—from biology and public use to maintenance and facilities. The refuge purposes are found in the legislative acts or Executive actions that provide the authorities to either transfer or acquire a piece of land. Over time, an individual refuge may contain lands that have been acquired under various transfer and acquisition authorities, giving the unit more than one purpose. The goals, objectives, and strategies in the CCP are intended to support the individual purposes for which the refuge was established.

NBR was established by Public Law 60-136 on May 23, 1908 as “a permanent National Bison Range for the herd of bison to be presented by the American Bison Society.”

Executive Order 3596 (Dec. 22, 1921) also reserved the National Bison Range “as a refuge and breeding ground for birds.”

In addition, Public law 85-622 (August 12, 1958) allocated funds “To provide adequate pasture for the display of bison in their natural habitat at a location readily available to the public.”



*Wildlife observation and photography enthusiasts enjoy their pastime on the refuge.*

## 2.3 Refuge Vision Statement

We developed a vision for the National Bison Range Complex at the beginning of the planning process. The vision describes the focus of refuge complex management and portrays a picture of the refuge complex in 15 years. As a unit of this Complex, the vision statement above sets the context for the future for the NBR.

## 2.4 Refuge Management Direction: Goals

We also developed eight goals for the Complex based on the Improvement Act, the purposes of the units, and information developed during planning. As a unit of the Complex, the goals focus work towards achieving the Complex vision and purposes of the National Bison Range and outline approaches for managing refuge resources. All efforts to achieve refuge goals would be in accordance with refuge management policies and guidelines as described in Appendix C.

### Habitat Management

Conserve, restore, and promote biological integrity in functional and sustainable ecologically diverse habitats of the inter-montane ecosystem of western Montana.

### Wildlife Management

Protect, maintain, and restore healthy and diverse wildlife populations with respect to species that are endemic, migratory, and mandated species of concern.

### Research and Science

Encourage high-quality research and promote the use of scientifically sound management decisions.

### Monitoring and Adaptive Management

Through the life of this plan, we will monitor and evaluate the consequences of our actions and use adaptive management to reach desired outcomes.



*Refuge staff and volunteers take a break during the annual bison capture operations.*

## Cultural Resources

Preserve and value the cultural resources and history of the National Bison Range Complex (NBRC) to connect staff, visitors, and community to the area's past and continuing traditions.

## Public Use

Provide compatible, wildlife-dependent recreational opportunities, for persons of all abilities, to learn, enjoy, and appreciate the inter-montane landscape of western Montana, the fish and wildlife and plants.

## Partnerships and Collaboration

Maintain and cultivate partnerships that help achieve the vision and supporting goals and objectives of the NBRC to support wildlife and habitat conservation, encourage research, foster awareness and appreciation of natural and cultural resources of the inter-montane ecosystem of western Montana, and provide education along with all necessary infrastructure.

Recognizing its importance, we will collaborate with the CSKT and other Tribal governments in a manner consistent with the Service's Native American policy and with other federal, state, and local government entities in a manner consistent with applicable Service policies.

## Administration and Operations

Effectively use funding, staff, partnerships, volunteers, and equipment to restore and manage Complex habitats, conduct programs, and improve and maintain all necessary infrastructure to the benefit of the Complex and the Refuge System.



Dave Fitzpatrick/USFWS

*Refuge staff carry out maintenance along one of the refuge roads.*



## Chapter 3 Affected Environment



Dave Fitzpatrick/USFWS

*The National Bison Range boasts majestic scenic views of the Rocky Mountains.*

This chapter describes the existing physical, ecological, and socioeconomic characteristics and resources of the National Bison Range.

### 3.1 Physical Environment

#### Topography

The NBR is located where three major geographic features merge, Mission Valley, Mission Mountain Range, and Jocko River Valley (Figure 3.1). The region was formed by historic glacial activity and is characterized by moderate to high mountains bordered by narrow to broad intermountain valleys. NBR lies within the Mission Valley, an inter-montane basin south of Flathead Lake.

NBR encompasses a low-rolling mountain connected to the Mission Mountain Range by a gradually descending spur with associated ridges and drainages situated at the south end of the Flathead Valley. Elevation varies from 2,585 feet at refuge headquarters to 4,885 feet at the top of Red Sleep Mountain. Slopes vary from gradual rolling grasslands to steep hills and rock outcrops.

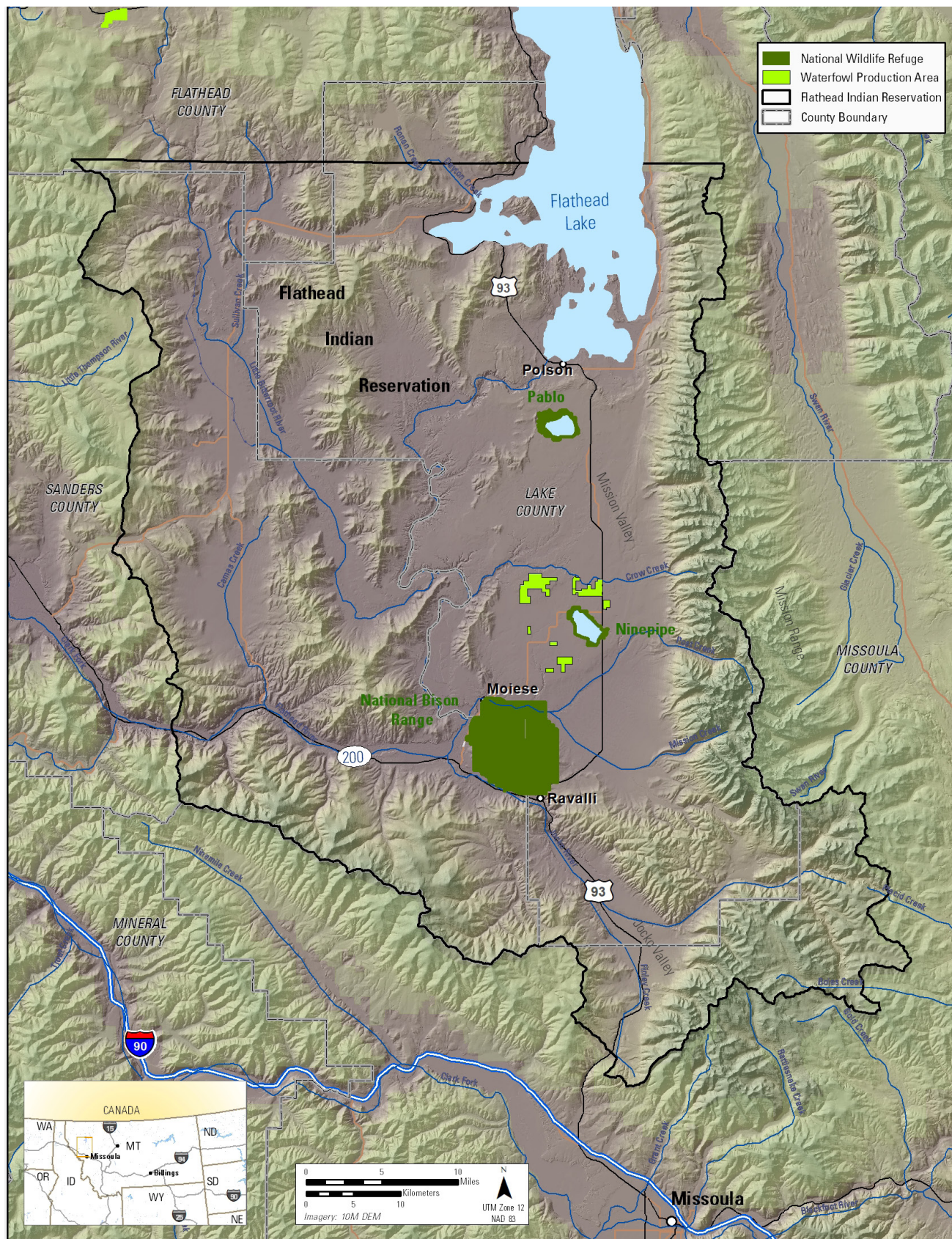
#### Soils

The glacial history of the region has had a pronounced influence on the soils and landforms of the Flathead Valley. Glacier advance and retreat, Glacial Lake Missoula, and mountain runoff have deposited extensive loose valley sediments, lakebed silts, and assorted glacial debris up to and including boulder-sized, glacially transported rocks

that originated in British Columbia. Glacial Lake Missoula left behind visible shorelines and rocks that had been carried long distances by glacial activity (erratics).

The majority of the NBR consists of soils developed in materials weathered from the strongly folded pre-Cambrian quartzite and argillite bedrock. Bedrock varies from being exposed, forming ledges, outcroppings, and talus slopes, to depths ranging from a few inches on the very shallow soils to many feet in deeper zones. The soils are well-drained and range from very shallow to moderately deep in parent material developed in clayey and silty lacustrine deposits appearing to be from Lake Missoula of the Wisconsin glacial period. They have a loamy surface horizon with near-neutral pH (measure of acidity and alkalinity), medium-fine texture, high organic content (remains of once-living plants and animals), and varying amounts of parent material fragments. The surface horizon is thin, light, interspersed with rock fragments and low in parent material on lower slopes and, with increasing elevation, the reciprocal occurs. North-facing slopes retain more moisture and are characterized by deeper soils. Water infiltration rates are generally high, and soil erosion is minimal (NRCS 2017 <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>).





**Figure 3.1. Overview of National Bison Range and surrounding area.**





*Fog rolls through the grasslands and forests of the refuge during the fall.*

## Air Quality

Air quality in NBR is protected under several provisions of the Clean Air Act (42 USC 7401), including the National Ambient Air Quality Standards (NAAQS) and the Prevention of Significant Deterioration program. One of the goals of the Prevention of Significant Deterioration program is to preserve, protect, and enhance air quality in areas of special natural, recreational, scenic, or historic resources, including those of NBRC (42 USC 7470). Only a limited amount of added air pollution—associated with moderate growth in the human population of the Mission Valley—can be allowed in the future.

The Flathead Indian Reservation was designated in 1979 as a voluntary class 1 airshed under provisions of the Clean Air Act, which confers the highest degree of protection under the act. Air quality is considered exceptionally good, with no nearby manufacturing sites or major point sources of pollution. However, the cities of Polson and Ronan in Lake County are designated as nonattainment areas—areas that do not meet air quality standards—and are not in compliance with suspended particulate matter (i.e. PM<sub>10</sub>, which has a diameter of less than 10 microns) (EPA 2018). As NBR is south of Polson and Ronan, it is classified as in attainment with air-quality standards (EPA 2018).

Suspended particulate matter includes tiny liquid or solid particles in the air that are respirable in the lungs. Particulate matter and carbon monoxide are the air pollutants that have the greatest adverse impact on Montana's air quality. Seasonal burning of logging slash in the mountains and stubble fields at valley ranches cause short-term, localized smoke. In drought years, there has been heavy smoke from local wildfires or from distant fires delivered by prevailing winds. Smoke from wood-burning stoves is trapped in the valley during temperature inversions that are common in winter

months. In addition to the factors mentioned above, carbon from automobiles and diesel engines, and dust associated with wind-blown sand, as well as dirt from roadways, fields and construction sites, may all contribute to particulate matter. The major sources of particulate matter are vehicles traveling on unpaved roads, sand and gravel from winter traction material, and residential wood burning.

## Climate

Long-term climate data for St. Ignatius, Montana (US COOP Station ID 247286), recorded between 1896 and 2010, is available from the [Western Regional Climate Center](#). Located approximately three miles east of the NBR, this station's records average high temperatures ranging from 35 °F in December/January to 85 °F in July and average low temperatures ranging from 21 °F in December/January to 51 °F in July. Most of the precipitation near NBR occurs during the spring and early summer, averaging more than 2.5 inches per month in May and June (Western Regional Climate Center 2010).

Over the next two decades, a warming of 2 to 4 degrees Fahrenheit is projected globally (Walsh et al. 2014). Consequent with the projected warming, the atmospheric moisture transport and convergence is projected to increase, resulting in a widespread increase in annual precipitation over most of the continent except the southern and southwestern part of the United States (Solomon et al. 2007). This increased precipitation is more likely to occur in winter and spring months, rather than summer. It is also considered very likely that extreme weather (e.g. heat waves, flooding, drought) will become more frequent. In the coming decades, the warming climate is likely to decrease the availability of water in Montana, affect agricultural yields, and further increase the risk and severity of wildfires (TNC 2009).

NBR staff rely on outside entities such as the United States Geological Survey (USGS) to help downscale climate change models to increase predictability of temperature and precipitation changes and use these predictions to help inform adaptive management activities, as warranted. The CSKT have also recognized the potential impacts of climate change and are committed to addressing effects as well as integrating TEK into their CSKT Climate Change Strategic Plan (CSKT 2013).

## Hydrology

The NBR is located between the Jocko River and Mission Creek, just upstream from their confluence with the much larger Flathead River. The Mission Creek drains the north side of NBR, the Jocko River drains the south side, while the Flathead River flanks the western boundary of the NBR (Figure 3.2). There are 84 reported natural springs that occur on NBR, and approximately 40 of these



*Elk cross Mission Creek on the Nation Bison Range*

have been developed into watering sites for bison and other wildlife. One solar well exists on the refuge and provides small quantities of water to a tank for wildlife use.

Most precipitation within the Mission Mountains and associated valleys falls as snowfall that leads to runoff peaks occurring during snowmelt. The headwaters of streams and creeks within the Mission Mountains, near the NBR, receive up to 60 inches of precipitation (Parrett & Jarrett 2000).

### Surface Water

Lakes and streams cover approximately 100,000 acres of Lake County, or just under 10 percent of the total area. The most prominent surface water features in Lake County are the southern two-thirds of Flathead Lake (the largest, natural, freshwater lake in the western U.S.), the Flathead River, Swan Lake, the Swan River, Mission Creek, Post Creek, the Jocko River, and Lake Mary Ronan. Other sizeable lakes include McDonald, Loon, and St. Mary's Lakes. Lake County also contains several large reservoirs, including Pablo, Kicking Horse, Lower Crow, Mission, and Ninepipe, and numerous small reservoirs, which are important for wildlife and agriculture. The Flathead Indian Irrigation Project (FIIP) contains the largest irrigation project in Montana, and one of the largest BIA irrigation projects nationwide.

Major threats to the water resources of the Flathead Basin include non-point source pollution, where sediments and nutrients—in particular nitrogen, or nitrates, and phosphorus—end up in streams and lakes via stormwater runoff or groundwater contamination. Irrigation diversions have affected stream hydrographs and likely limit the amount of flooding and floodplain regeneration that can occur.

Mission Creek transects the northern portion of the NBR and is a meandering river that has a riparian corridor and floodplain approximately 750 -1,500 feet wide. The Mission Creek floodplain consists of several old meander bends and oxbows with interspersed forest and shrubs, pasture, and emergent wetlands. The smaller streams that are present throughout the NBR contain limited riparian corridors. Mission Creek has three primary tributaries that originate in the Mission Mountains to the east (Figure 3.3). The northernmost tributary, known as Dublin Gulch, joins Mission Creek within the NBR boundary. The eastern tributaries are divided into a northern and southern fork; the north fork is known as Post Creek, and the southern fork is known as Dry Creek. The primary channel of Mission Creek also originates in the Mission Mountains and is located in between these two eastern tributaries. All of these creeks drain the western side of the Mission Mountains—consisting of steep alternating sections of bedrock, alluvial deposits, and boulder-filled V-shaped channels (Parrett & Jarrett 2000).



*A wide variety of wildlife and fish utilize the riparian corridors along the refuge.*



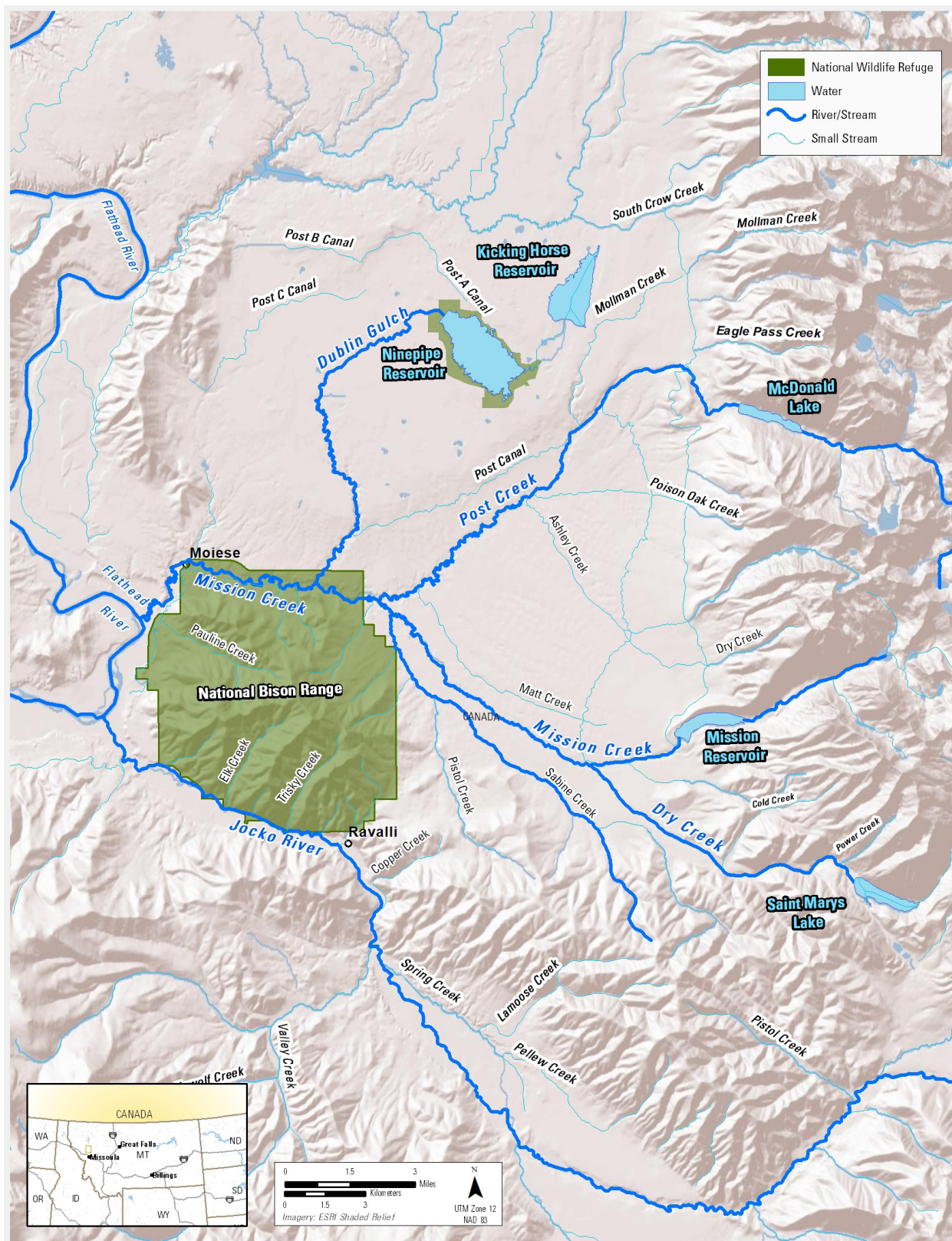
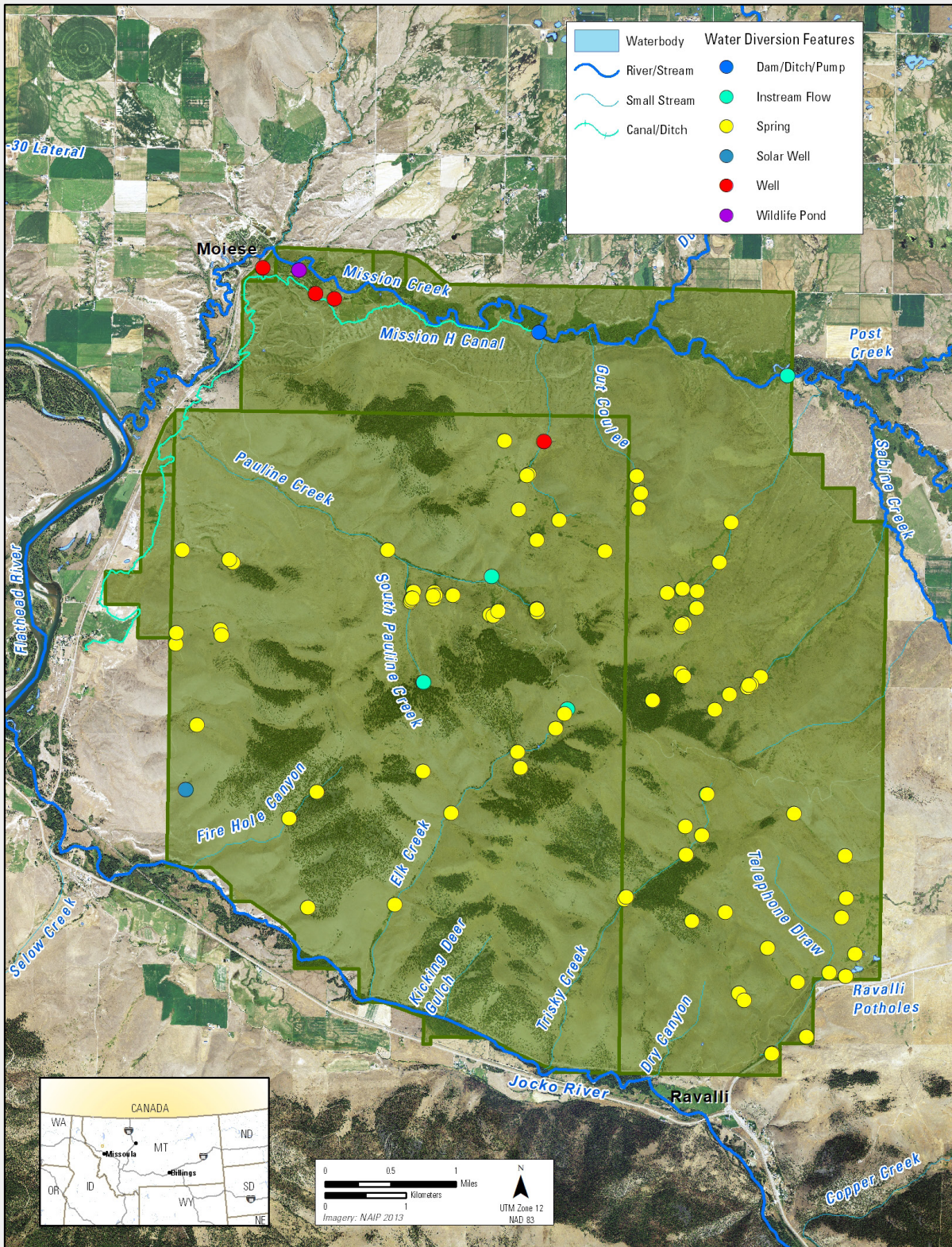


Figure 3.2. Regional hydrology of the National Bison Range





**Figure 3.3. Local hydrology of the National Bison Range**



The main stem of Mission Creek and each of its tributaries possess a dam and reservoir located where the stream flows out of the Mission Mountains. Each of these reservoirs is believed to have been a natural lake formed due to glacial processes that has been enhanced with a man-made structure for the FIIP. Mission Creek was dammed in its headwaters in 1930 to create the Mission Reservoir. The Tabor Dam was built on Dry Creek in 1935 to create East Saint Mary's Lake, and the dam on Post Creek was built in 1920 to create McDonald Lake (USACE 2018).

Dublin Gulch is fed by the Ninepipe Reservoir and the Kicking Horse Reservoir that are also part of the FIIP. Both Ninepipe and Kicking Horse Reservoir appear to be remnant glacial pothole lakes that have been flooded with man-made dams. Ninepipe dam and reservoir was constructed in 1910 and was established as a National Wildlife Refuge in 1921. Kicking Horse dam and reservoir was constructed in 1930. The current contribution to Mission Creek streamflow from Dublin Gulch is thought to be small due to large irrigation diversions occurring upstream. Historically, the stream likely contributed similar streamflow as that of the other Mission Creek tributaries based on the watershed area, floodplain size, and historic channel meandering visible in aerial imagery.

These dams and reservoirs have significantly altered the hydrograph that would have historically occurred on the Mission Creek located within NBR. The noticeable changes in the river systems that may be present at the NBR include disconnected portions of the Mission Creek historical flood plain due to reduced peak discharges, incised river channels due to reduced sediment loads, increased water temperatures due to solar gain at the reservoirs, and increased nutrient concentrations due to irrigation return flows.

The Jocko River to the south of the NBR is a meandering river that has a floodplain and riparian corridor that is about 1,000–3,000 feet wide along the NBR border. The NBR southern border crisscrosses the Jocko River and several small sections of the river and riparian corridor are present within the NBR's boundary. The Jocko River flood plain is separated from the rest of the NBR by a steep bluff, with a 100-foot- drop leading to the river. The Jocko River has its headwater to the south of the NBR. On-stream dams on the Jocko River are high up in the mountains and include the Lower Jocko Lake, Black Lake, and Upper Jocko Lake. These reservoirs and lakes also appear to be enhanced atural water bodies that were likely created by glacial actions several thousands of years ago.

Few modern hydrologic measurements are available regarding the discharge of either Mission Creek or Jocko Creek in the sections that flow past

the refuge. However, several historic gauges were located on the sections that pass through the NBR, or on the tributaries directly upstream of the NBR boundary. These historic USGS stations were used to compile hydrographs (Figure 3.4) that represent the streamflow conditions expected at the NBR. The streams are strongly snowmelt driven, with peak runoff occurring in late May and early June. The streams maintain relatively constant base flow outside of spring with the Mission Creek having about 50–100 cubic foot per second (CFS) and the Jocko River having about 130–200 cfs on average from September through April. Peak streamflow is estimated to be as high as 2,000 cfs on the Mission Creek and has been measured as high as 7,500 cfs on the Jocko River (USGS 2018a-f).

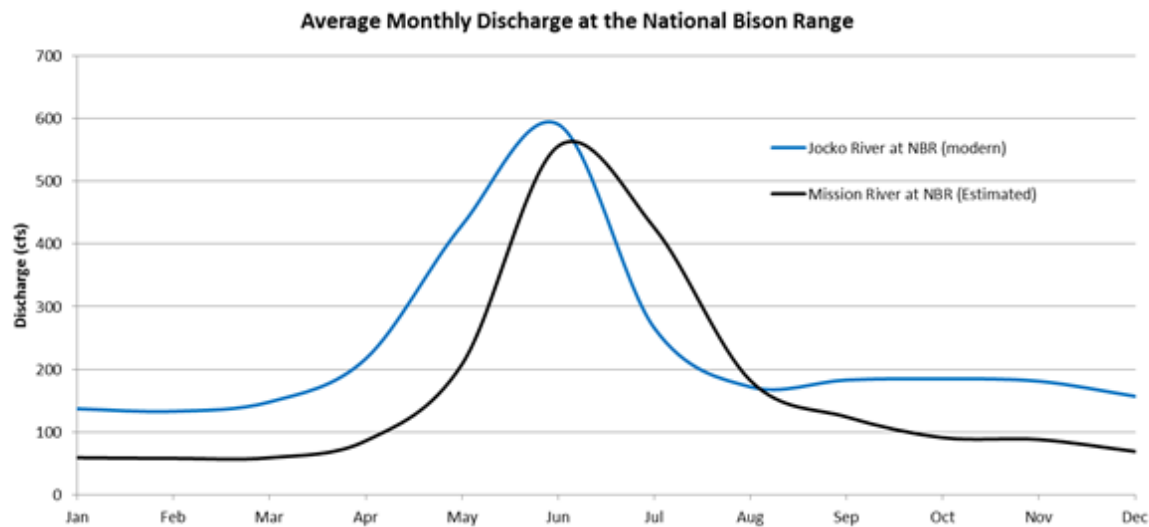
The only gauging stations that are actively operating within the Mission Creek and Jocko River watersheds are Site Number: 12377150 (Mission Creek above Mission Reservoir, near St. Ignatius MT) and Site Number: 12381400 (South Fork Jocko River near Arlee MT). The flow characteristics from these sites are measuring less than half of the total flows that are expected to pass through the NBR and only the relative timing of flows can be inferred from these stations.



Dave Fitzpatrick/USFWS

*Trumpeter swans and other migratory birds utilize the refuge.*





**Figure 3.4. Average monthly discharge for the Jocko and Mission Rivers as they pass through the NBR. The USGS Gauge 12388200 (Jocko River at Dixon MT) with data from 1990 – 2010 was used for the Jocko River. The USGS gauging stations 12379500 (Post Creek near St. Ignatius MT) with data from 1911 – 1917 and 12378000 (Mission Creek near St. Ignatius MT) with data from 1906 – 1917 was used to estimate the discharge occurring at the NBR.**

## Groundwater

Aquifers occur in the deep valley-fill sediments and in zones of secondary permeability where bedrock is fractured. Direction of groundwater flow in the valley is to the west and southwest from the Mission Mountains. The metamorphic rocks that compose the NBR act as an impediment to regional groundwater flow, and groundwater from the Mission Valley to the east flows around the NBR in a northwest direction (Slagle 1988). The most widely used aquifers in the watershed are intermediate or deep alluvial aquifers lying in unconsolidated Quaternary deposits (LaFave et al. 2004). Most of the major communities rely on groundwater from local aquifers as their municipal water supply. Rural residences also rely on groundwater, and groundwater is frequently used for irrigation (Patton et al. 2003). An in-depth discussion of regional groundwater is presented in LaFave et al. (2004) and a synopsis is presented in Patton et al. (2003).

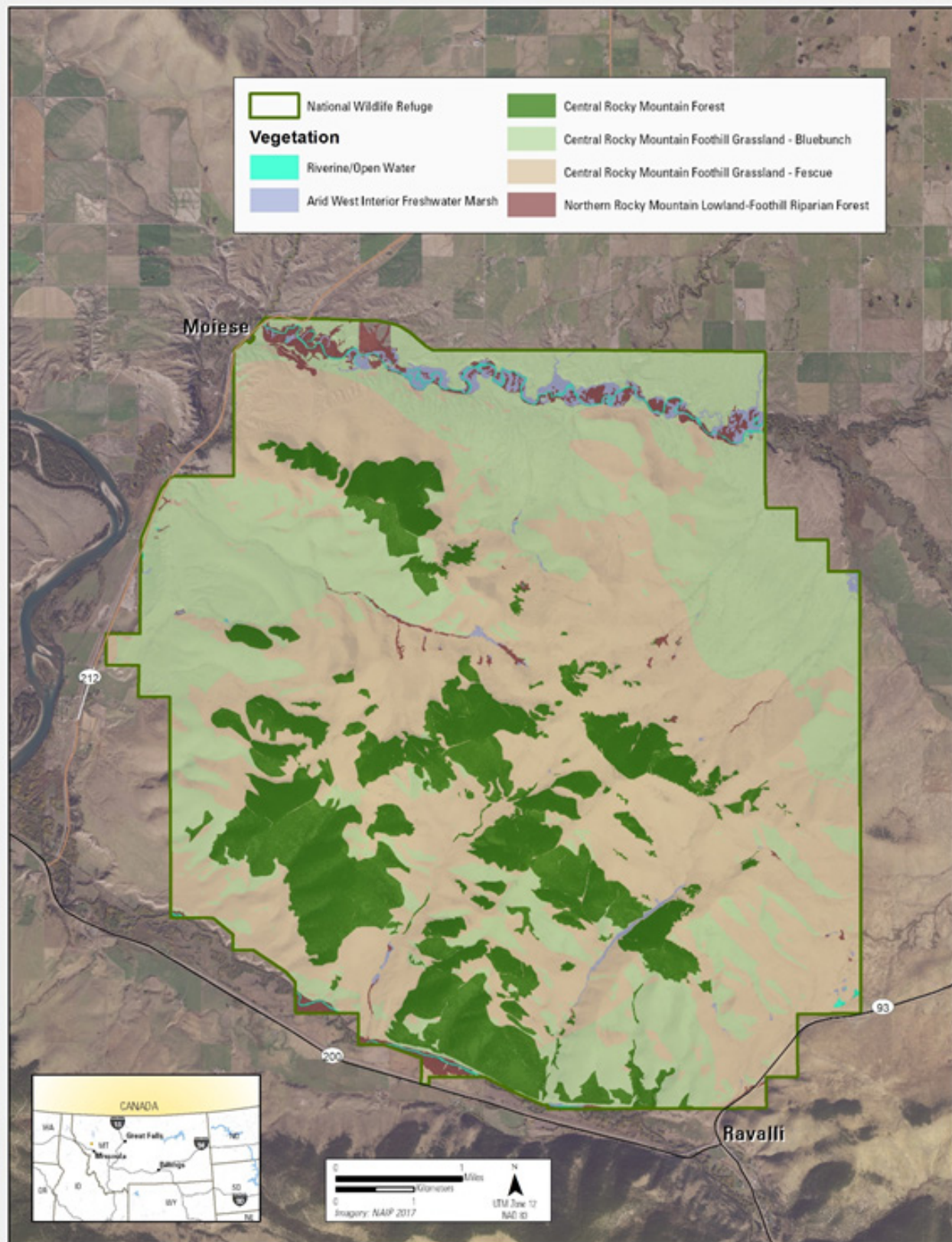
The springs present on the NBR provide a crucial source of water for the management of the bison herds. The mountain that composes the NBR is considered part of the Ravalli Group, which consists of six other geologic formations. These geologic formations are composed of several different types of metamorphic and meta-sedimentary rocks that still possess some of their sedimentary features. The predominant rock types include argillite, siltite, quartzite, and small amounts of limestone (Vuke et al. 2007). It is likely that the springs at the NBR are fed from snowmelt and precipitation on the higher mountain peaks with springs appearing where a low-permeability layer of metamorphic rock prevents downward migration of water. Additionally, springs may be present where fractures and faults within the metamorphic rocks provide a preferred flow path that eventually terminates at the surface.

## Water Rights

The Service and the Montana Reserved Water Right Compact Commission negotiated a compact quantifying the Service's federal-reserved water right for NBR. The Compact was ratified in 2009 by the Montana State legislature and approved by the Montana Water Court in July of 2014 (Montana Code, Annotated [MCA] § 85-20-1601, <http://dnrc.mt.gov/divisions/reserved-water-rights-compact-commission/divisions/reserved-water-rights-compact-commission/approved-compacts#RWRCBBison>). The Compact quantifies consumptive and non-consumptive use of water for wildlife, stock, institutional, and administrative purposes. The Compact also provides instream flow rights for wildlife. The Service currently has a pending well application with the Montana Department of Natural Resources and Conservation and holds a Groundwater Certificate for a domestic and stock well. The Service has a state-based water right claim for irrigation and fire protection that will be adjudicated when the Montana Water Court issues the Preliminary Decree for Basin 76L.

## 3.2 Habitat

The Service manages refuge habitats with an objective to maintain, and restore when possible, the biological diversity and integrity of this landscape and to provide habitat for a diversity of native fauna. Grasslands dominate the landscape at lower elevations, dotted with wetland and riparian vegetation along seasonal drainages and around seeps and springs. The Jocko River and Mission Creek form riparian and wetland corridors along the north and south boundaries of the refuge. Several drainages originate from the upper elevations, where 3,700 acres of mixed-conifer forests are interspersed with the grasslands, and several smaller wetlands and streams provide critical environments (Figure 3.5).



**Figure 3.5. Vegetation community map of the National Bison Range.** Grasslands cover the majority of the refuge and the historic climax plant community (HCPC) was either a bluebunch dominated community or fescue dominated (Marlow et al 2014). Wetland and riparian systems were mapped by the Montana Natural Heritage Program (MTNHP 2017). Forest and woodland communities were digitized using Google Earth imagery (2017).



## Grasslands

Grassland communities cover approximately 75 percent of NBR and comprise one of the largest remaining tracts of bunchgrass prairie (Belovsky and Slade, in prep). Once covering intermountain valleys from the Rockies west to the Cascades and from southern Alberta/British Columbia south to northern Utah/Nevada, these prairies are now restricted to less than 100,000 hectares by agriculture and overgrazing (Dice 1962, Shelford 1963, Daubenmire 1970). Prairies, other grasslands, and savannas have dwindled throughout the United States because their soils are typically fertile and tillable; remnant native grasslands are obvious priorities for protection (Noss et al. 1995).

Reconstruction of the pre-European grassland complex indicated that bluebunch wheatgrass would have dominated the lower elevation grasslands within the refuge while rough and Idaho fescues would have dominated the non-forested environments at higher elevations (Marlow et al. 2014). Other common grass species include prairie junegrass, western wheatgrass, green needlegrass, red three-awn and Sandberg bluegrass. Shrubs on this landscape include western snowberry and Woods' rose. A wide array of native wildflowers including, but not limited to, sticky geranium, showy golden aster, balsamroot, yellow paintbrush, prairie smoke, silky lupine, bee balm, and yellow bells occur on the refuge.

While refuge grassland communities still contain native components and continue to be productive habitats capable of supporting bison, birds and other ungulates, their departure from climax conditions has been researched and documented. Repeat sampling of the 1988 NRCS range condition survey sites in 2009-10 indicated that the level of climax grassland dominant species was well below the reference levels described in the ecological site descriptions. The apparent decline in ecological condition since 1988 was corroborated through trend analysis of a long-term vegetation monitoring dataset collected by refuge personnel since the late 1960s. Comparison of frequency measures for dominant species revealed a downward trend in climax dominants, a decline in palatable introduced perennials grasses, and an increase in annual grasses. Further comparison of these data with historic plant community composition records recovered from the Dr. Mel Morris archives at the University of Montana suggest that departure from "reference" conditions, as described in the ecological site descriptions, began over 50 years ago. This gradual decline occurred despite recognition of a changing environment by refuge staff and subsequent efforts to establish and strictly adhere to stocking rates.

Herbivory, along with wildfire, shapes the vegetation community through modification of the influence of precipitation, soils, and landform on plant survival and reproduction (Marlow

et al., 2014). Refuge grasslands evolved with only periodic, relatively low-intensity grazing throughout the year. Although the bison on the refuge are managed as wildlife, the constraints of managing a fenced population mean that movement and grazing patterns of the refuge herd are different than wild populations historically. If too much of a preferred plant species is removed too frequently by grazers, the plant species population loses its competitive advantage in the community and begins to decline. Other plant species then gain a competitive edge for nutrients and water over the heavily used population and begin to dominate. Wildfire also has helped shape the environment through diversity maintenance, nutrient cycling, habitat composition, and plant-community organization and its reduction or removal as an ecological driver can have adverse effects (Steele 2007). The grasslands and forested areas on the NBR evolved through a regime of frequent, low-intensity surface fires at intervals of between 1 and 30 years primarily caused by lightning (Arno 1976, 1996, Smith and Arno 1999). Collectively, these changes in herbivory and wildfire can perpetuate a cycle of changing vegetative states across the landscape.

This bunchgrass ecosystem has also experienced an increase in average temperature over the past 101 years, which has intensified over the past 32 years, while annual precipitation also declined. Fall moisture is necessary for regrowth and sustainability of the cool season grasses that should dominate these grasslands. Climate changes (past century) are accelerating and already have substantially, and often unexpectedly, changed this ecosystem from what early Euro-American explorers and settlers chronicled (Belovsky and Slade, in prep).

## Forests

Forest stands on the NBR occupy approximately 20 percent of the acreage. Black cottonwood and Rocky Mountain juniper are common along Mission Creek, while a mixed-conifer forest covers



*Great horned owls and many other birds dwell in the refuge's forested habitats.*

Dave Fitzpatrick/USFWS



approximately 3,000 acres of the upper elevations. Conifer species include ponderosa pine on open, southern exposures, with a gradual transition to a ponderosa pine/Douglas fir mix on or near the ridge tops, and Douglas fir on the northern aspects. Both the ponderosa pine and the Douglas fir are encroaching into the grasslands.

Western Montana forests composed of ponderosa pine were shaped by surface fires that swept through these forest stands at intervals of between three and 30 years (Arno 1976). Most of those fires were not hot enough to kill mature trees but they did thin out the forest understory. The result was an open forest with widely spaced old growth trees (Pyne 1982). It also was common to find trees mostly in rocky areas and other locations where little ground fuel was present (Miwa 1992). The result was open forest dominated by widely spaced old growth ponderosa pine with predominantly grass undergrowth (Vance and Luna 2017, Fisher and Bradley 1987, Pyne 1982).

Wildfires have been fully suppressed for many decades and prescribed fires have been used only sparingly. As a result, plant succession, fuel accumulations, structure and composition of vegetation, insect and disease populations, nutrient cycling, productivity, diversity, and habitats for wildlife are being affected. Longer fire return intervals result in Douglas fir regeneration establishing as thickets of saplings and poles creating a fuel ladder that increases the chance of stand-replacement fire. This result can be seen currently on the refuge. Some stands of Douglas fir are infested with mistletoe and insects and several stands have a thick understory composed primarily of young trees commonly described as dog-hair.

### **Wetland and Riparian Areas**

Making up only 5 percent of the refuge, wetlands and riparian areas provide valuable habitat for refuge wildlife. Productive, stable wetland and riparian areas occur along all major riverine systems within NBR, including the Elk, Mission, Pauline, Sabine, and Trisky Creeks and the Jocko River. Many seasonally flooded stream channels, and areas around seeps and springs, also provide riparian habitat.

Black cottonwood and Rocky Mountain juniper are common along Mission Creek. Juniper dominates this stretch due to alterations in seasonal flooding along its banks and a lack of wildland fire. Other common plant species at these sites include shrubs and trees such as hawthorn, chokecherry, and serviceberry as well as many forbs, sedges, and rushes. The vegetative components of the riparian areas act as buffer zones which provide a number of benefits, including improved water quality, for wildlife and humans alike.

The NBR wetlands are classified as freshwater emergent and freshwater forested/shrub by the National Wetlands Inventory (2017). There are also several created wetlands that resulted from check dams on drainage ways that provide a source of water for wildlife. Seeps and springs occur on the refuge and have also been developed as water sources for wildlife; these areas are generally believed to be in good, functioning condition across the refuge.

### **Invasive Plant Species**

Invasive plant species are recognized as a significant factor affecting ecosystem function and health across this landscape. Invasive species management using best management practices, based on current science, is a priority in all habitat types (Table 3.1). Integrated management techniques, including chemical, biological, and mechanical methods, are used to address problems with invasive species. Partnerships are an integral part of the effort to manage invasive species.

Invasive plants threaten the health and quality of the habitat by altering ecological processes such as community productivity; soil, water, and nutrient dynamics; plant community successional patterns, and disturbance cycles. Invasive plant monocultures change the physical structure of the native communities by reducing species diversity, increasing soil erosion resulting in changes in soil structure and chemical composition, and altering the microclimates. Invasive plants can detrimentally affect native communities through competitive exclusion, altering behaviors of insect predation and hybridization with native plants.

Invasive forbs have been documented on the NBR for many decades, while managers combatted them with herbicides, biological agents, and/or mechanical methods. The annual narratives reported invasions of St. John's-wort on up to ten thousand acres in the 1920s, where today, credit for cyclical control can be given to the nearly 60 years of coordinated efforts using biological control agents. Several invasive forbs that historically threatened the integrity of these ecosystems have now been reduced to "acceptable" levels, where they exist but are no longer the dominant species. Still new threats are always on the horizon, and efforts are continually confounded by variables such as climate change, precipitation patterns, and a simple lack of information. Currently, winter annual grasses (e.g. cheatgrass and North African wiregrass) are among the most aggressive competition for native bunchgrasses on the NBR and are extremely challenging for managers to control. At present, North African wiregrass is vigorously invading the refuge and many other areas across western Montana. NBR staff are working with scientists to develop a coordinated plan of action and treatments are underway, however it is expected to be a long-term battle.

**Table 3.1. Invasive Plant Species Currently Identified as Priorities on the NBR**

Invasive Plant Species	Invasive Plant Species
Canada thistle ( <i>Cirsium arvense</i> )	Spotted knapweed ( <i>Centaurea maculosa</i> )
Cheatgrass ( <i>Bromus tectorum</i> )	St. John's-wort ( <i>Hypericum perforatum</i> )
Dalmatian toadflax ( <i>Linaria dalmatica</i> )	Sulphur cinquefoil ( <i>Potentilla recta</i> )
Hawkweed ( <i>Hieracium caespitosum</i> )	Teasel ( <i>Dipsacus fullonum</i> )
Houndstongue ( <i>Cynoglossum officinale</i> )	North African wiregrass ( <i>Ventenata dubia</i> )
Leafy spurge ( <i>Euphorbia esula</i> )	Whitetop ( <i>Lepidium draba</i> )
Poison hemlock ( <i>Conium maculatum</i> )	Yellow toadflax ( <i>Linaria vulgaris</i> )
Russian olive ( <i>Elaeagnus angustifolia</i> )	Yellowflag iris ( <i>Iris pseudacorus</i> )

### 3.3 Wildlife

The NBR habitats provide cover, food, water, and sufficient space for numerous native wildlife species.

#### Bison

The NBR grasslands support a healthy population of plains bison that are managed as wildlife with significant genetic conservation value to the USFWS (Halbert and Derr 2008, Dratch and Gogan 2010), while also providing public viewing opportunities in a natural setting.

Following the development of new molecular techniques to describe the genetic diversity and integrity of bison (Halbert and Derr 2006, Halbert and Derr 2008), the DOI established the Bison Conservation Initiative which set the goal of restoring bison herds to their appropriate ecological and cultural role, including specific emphasis on disease and genetic health (DOI 2008). Additional guidance was provided by the DOI Bison Conservation Genetics Workshop Recommendations Report in 2010, highlighting DOI bison as a critical genetic resource to support future bison conservation and restoration efforts (Dratch and Gogan 2010).

Genetic diversity provides the foundation for adaptive capacity on the evolutionary pathway of bison. Low genetic diversity results in reproductive failure, poor recruitment, and lack of disease resistance—obstacles that have plagued many species conservation efforts (Halbert et al. 2004, Giglio et al. 2016). NBR bison contribute significant and unique components to the NWRS and DOI bison herd genomes (Halbert and Derr 2008, Dratch and Gogan 2010). Although population size is the most important factor in the rate of genetic diversity loss, NBR is unable to maintain population numbers high enough to independently conserve bison (Gross et al. 2005, Hedrick 2009). Management of all bison refuges together as a metapopulation allows all herds to contribute to long-term conservation of bison, and periodic movement of bison among refuges supports gene

flow across large landscapes. Work has begun on developing a science-based to expand NWRS bison metapopulation management to a DOI-wide scale to more effectively manage genetic diversity in bison.

Careful management of genetically diverse bison herds is essential to ensure long-term species conservation (Hedrick 2009, Gates and Ellison 2010). Geneticists recommend maintaining an even sex ratio, minimizing variation in population size, maximizing effective population size, and maximizing generation time as indirect methods to mitigate the effects of genetic drift (Gross et al. 2005, Dratch and Gogan 2010). Results from recent population modeling suggests that using genetic data to support population management results in maintaining higher levels of genetic variation than selecting bison for surplus randomly. Including the indirect methods described above, within 200 years, heterozygosity may decline below 0.5 and within 500 years more than 1/3 of gene diversity may be lost through random removal (Giglio et al. 2016, Traylor-Holzer 2017, Giglio et al. 2018). The rate of diversity loss varies between herds, and herds with higher starting diversity, such as NBR, have a higher rate of loss (Giglio et al. 2018).

An “all allele conservation strategy” was implemented as part of NBR’s annual bison population management activities from 2008–2014 in an effort to conserve genetic diversity by retaining all microsatellite alleles of the loci identified by Halbert and Derr (2008). However, conservation of bison genetic diversity is better achieved using genome-wide estimates of mean kinship derived from these microsatellites where loss of only ¼ of gene diversity over 500 years is an achievable goal (Giglio et al. 2016, Giglio et al. 2018). Animals with highest mean kinship values are genetically over-represented in the population (Ballou and Lacy 1995) and are therefore most appropriate for surplus to minimize inbreeding (Giglio et al. 2016).

Geneticists agree that conserving diversity is the highest genetic priority and that low levels of introgression of domestic cattle genes are much less significant for bison conservation

(Hedrick 2009, Gates and Ellison 2010). Currently, NBR bison are tested for the presence of cattle introgression in both nuclear and mitochondrial DNA (mtDNA), and NBR has one of the lowest levels of cattle introgression within DOI (Halbert and Derr 2006; Dratch and Gogan 2010). Based on recommendations by geneticists (Hedrick 2009, Derr et al. 2012), removal of a small number of bison with known cattle mtDNA introgression at NBR was completed several years ago due to the potential metabolic effects of cattle mtDNA in bison. No mtDNA introgression has been detected in the past decade. Until more sensitive techniques are developed to detect nuclear cattle gene introgression, we do not manage cattle introgression at NBR (Dratch and Gogan 2010).

Bison are captured annually as needed to remove offspring that exceed NBR ecological carrying capacity, which can support approximately 285-300 overwintering bison. Live bison capture and removal supports conservation efforts of partners such as Tribes, states and non-profit bison conservation organizations, assists in the restoration of self-sustaining herds on Tribal lands, and ensures that the ecological needs of other species are met on limited-size NWRS units. In order to select and deliver live excess bison to our partners from each refuge, the animals must be gathered and brought into handling facilities, and the welfare of each bison is considered during this capture and handling period.

The portion of the NBR herd that is handled during bison captures operations averages 90-95 percent. Mature animals that are reluctant to be moved towards the handling facility are left alone in the field. Low-stress handling techniques are used to separate animals by age, sex and behavior early in the handling process to prevent injury and small groups of bison are more easily handled than larger groups. Appropriate position and posture of personnel is essential to safe and efficient bison movement through a facility. Stimuli begins at the lowest level possible by simply opening up access to the area to which the animal needs to move and allowing time for the bison to recognize and move into that area without additional stimuli. Use of additional visual stimuli, including the use of modified personnel posture, is added only if needed. Flags are used as additional visual stimuli only if animals do not respond to modified personnel position and/or posture. Use of audio stimuli, including the use of voice, rattles or other noise, is added only if lower-level stimuli are ineffective. Tactile stimuli is reserved for use only when absolutely necessary. Each additional stimulus is provided with adequate time for the animal to respond.

Animal identification is achieved through the use of subcutaneous microchips (also called “pit tags”) inserted at the base of the ear of calves. We may also use a small, metal “brite tag” approved by USDA as part of the national identification system

required for interstate animal transport. Branding was phased out more than a decade ago due to the development of microchip technologies, which allow for the identification of specific individuals, and concerns over humane treatment of the animals.

We have streamlined our protocols to reduce handling stress and the handling process and facilities are reviewed annually to identify potential areas for improvement:

- Herd health sampling activities associated with the annual population management captures are limited to younger age classes, with all calves handled to collect genetics and health samples and for microchip insertion. Most yearlings, and some 2 or 3 year olds, are handled as part of the annual population management process for removal from the herd; these animals are prioritized for sampling as part of the health surveillance program to minimize handling of adults. (See wildlife health below for more detail).
- Weak or injured animals are ideally left in the field, but if captured are handled as little as possible until they can be released out of the facility.

Animals for which identification and/or genetic information is unknown, such as older bulls with a damaged or missing microchip, may be sampled using a small remotely delivered tissue biopsy to better inform herd genetic composition.

### Other Ungulates

The NBR supports populations of elk, mule deer, white-tailed deer, bighorn sheep and pronghorn. Elk population targets (Table 3.2) are not currently maintained through natural predation and, therefore, management efforts are implemented to remove surplus elk when necessary to meet objectives.

Mule and white-tailed deer population targets (Table 3.2) are maintained naturally through predation. Movement by deer across the exterior boundary fence is common and the number of each species on the refuge varies seasonally.

While movement across the exterior boundary fence has been documented in both the bighorn sheep and pronghorn populations, they are primarily a resident population on NBR. In recent years, the bighorn sheep population has experienced a pneumonia-related die-off reducing the population by 80 percent and triggering refuge-supported research efforts. The pronghorn population has experienced a substantial decline in population size over the last several years due to heavy fawn predation by coyotes. After several years of no recruitment, efforts to reduce predation within the pronghorn fawning areas have been re-initiated.



**Table 3.2. The Species and Estimated Populations of Bison and Other Native Ungulates on the National Bison Range, Montana, in 2018**

Species	Estimated current population
Plains bison	285-300
Rocky Mountain elk	150
Mule deer	200
White-tailed deer	200
Rocky Mountain bighorn sheep	32
Pronghorn	34

## Birds

The grasslands also support a diversity of native birds, with more than 200 species recorded on NBR since its establishment. Birds provide a variety of ecosystem services that are vital to ecosystem function (Whelan et al. 2008). Birds aid in seed dispersal through direct means such as seed ingesting and then defecating (endozoochory) and caching (synzoochory). Clark's nutcracker is particularly well known for dispersing seeds of several pine species and is present on the NBR. Raptors also secondarily contribute to seed dispersal by consuming primary seed-eaters, and some birds play a role in pollination. Birds control the presence of pest species by eating seeds of weedy plant species and by hunting herbivorous insect and rodent species that consume human crops. Scavenging bird species such as turkey vulture, golden eagle, and black-billed magpie dispose of carcasses on a landscape and prevent spread of diseases. Birds are also prey species to larger predators. While an individual bird does not contribute to an ecosystem on the same scale as an individual charismatic megafauna, the sum of their contributions has major impacts on ecosystem function.

Several species of conservation concern in Montana breed in the diverse habitats of the NBR, driving the designation as an Important Bird Area (IBA). The IBA program, started in Montana in 1999 and coordinated by BirdLife International, is a global effort to identify and conserve areas vital to birds and biodiversity. Some of the species that qualified the NBR for this designation are **indicated in bold below** (<https://www.audubon.org/important-bird-areas/national-bison-range>).

Grassland bird species are of particular conservation significance because of the relative scarcity of intermountain grasslands remaining in western Montana and include **grasshopper sparrow**, clay-colored sparrow, long-billed curlew, and western meadowlark.

Wetland, riparian, and edge habitats support a diverse suite of species including western and mountain bluebird, **lazuli bunting**, yellow warbler, yellow-breasted chat, and **willow flycatcher**.



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*Bighorn sheep, deer, and other large ungulates share refuge resources and habitats.*

Forest habitats provide breeding and refuge for species such as the Townsend's solitaire, **red-naped sapsucker**, and **Lewis's woodpecker**.

Upland game bird species include ring-necked pheasant, gray (Hungarian) partridge, dusky grouse, and ruffed grouse.

Common raptors include **bald eagle**, golden eagle, American kestrel, northern harrier, red-tailed hawk, short- and long-eared owl, and great-horned owl, all which forage or nest on the NBR. In some years, the Mission Valley supports high densities of wintering rough-legged hawks.

Waterfowl, such as canvasback, goldeneye, mallard, and American wigeon, are abundant on the wetlands and rivers of the NBR. The largest concentrations of waterfowl occur on Mission Creek in the winter, but many species nest on the managed and natural wetland basins. Trumpeter swans spend the winter on waters that do not freeze and are regularly observed on Mission Creek and its associated sloughs.

Avian health is an integral part of the NBR monitoring program, and surveys are conducted based on perceived refuge-specific concerns or threats identified by local, state, Tribal, and federal officials.

## Other Mammals

Large carnivores such as badger, bobcat, coyote, black bear, and mountain lion are year-round residents that reproduce on NBR. Wolves are sporadically reported on or near NBR; in the winter of 2012 and again in 2013, a lone wolf was documented on the refuge. Similarly, grizzly bears are not considered year-round residents but have been increasingly reported on NBR in recent years, and have been photographically documented each year since 2012.

Small mammals such as Columbian ground squirrel, yellow pine chipmunk, and voles are common and cyclical and are an important forage base for carnivorous mammals and raptors. Muskrats are regular inhabitants of wetland potholes. Although not considered common, mink and long-tailed weasel have also been recorded. Three bat species of concern are documented to occur on the refuge, the fringed myotis, hoary bat, and Townsend's big-eared bat.

## Fish, Reptiles, and Amphibians

Mission Creek and the Jocko River are the only bodies of water that support cold-water species, such as rainbow trout and brown trout, on NBR. Historically bull trout, a threatened species, occurred along the entire length of Mission Creek and the Jocko River. Reduced stream flows, increased sedimentation, non-native fish, and reductions in the amount and quality of riparian habitat, particularly off the refuge, have affected this species' ability to survive (USFWS 2015).

NBR is known to support prairie rattlesnake, rubber boa, bullsnake, eastern racer, and garter snake. Painted turtles are common in wetlands and ponds. Amphibians documented on the NBR include Columbia spotted frog, long-toed salamander, Pacific treefrog and western toad (MTNHP 2018). The non-native, invasive American Bullfrog (*Lithobates catesbeianus*) has been documented near the refuge in Sanders County.

## Wildlife Health

In 2004, the NBR developed and implemented a comprehensive health surveillance program that remains an integral part of wildlife management today. This program allows the NBR and the USFWS to aid in research of zoonotic pathogens and assist with early detection on a landscape scale, while also monitoring and maintaining healthy local populations. The Service's Natural Resource Program Center Wildlife Health Office takes a lead role in assisting refuges nationally to identify risks,



*Bears can be found utilizing all habitats on the refuge.*



*Pronghorn graze along the refuge's grassland habitats.*

recognize signs, develop monitoring and sampling protocols, and implement management efforts.

Although some level of disease and parasites is considered to be part of natural selection in a normally functioning ecosystem, the risks from emerging infectious diseases such as *Mycoplasma bovis* (Janardhan et al. 2010, Woodbury 2012, USDA 2013), combined with the risks of well-known introduced livestock diseases, such as brucellosis and tuberculosis, require robust health surveillance and monitoring protocols to effectively conserve small populations of bison. Additionally, management of bison as a metapopulation across the NWRs requires adherence to a variety of interstate transport regulations that frequently change from year to year in response to changes in the animal health concerns within each state.

Consistent with the paradigm shift to managing bison as wildlife, veterinary intervention has been substantially reduced in recent years. Vaccination and disease-specific treatments are no longer routinely applied, although mitigation for the exacerbation of an existing disease condition due to handling or other management activities is considered if a large portion of the herd is affected and if little to no additional stress to the animal is expected.

Disease surveillance is conducted at NBR throughout the year, and includes the following:

- Morbidity and mortality surveillance is a very effective way to evaluate disease status. Methods include general animal health observations performed during routine refuge management activities, along with conducting necropsies on mortalities found in at least good post-mortem condition. The Wildlife Health office provides guidance on targeted sampling options that are appropriate for situations where post-mortem condition or other issues prevent a full necropsy.

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- Body condition is scored during the bison-handling process using standard criteria established by the Wildlife Health office. A decrease in body condition scores results in further evaluation of herd health, habitat condition, animal densities, and distribution.
- Fecal parasite counts are evaluated in bison annually relative to population density and distribution from samples collected in the field during the summer. If necessary, habitat management is implemented, such as the use of prescribed fire, to improve animal distribution. Anthelmintic treatment would only be considered by the Wildlife Health office if habitat management options failed to reduce excessive parasite burdens.
- Johne's disease was historically detected in NBR bison and has been evaluated based on serology, targeted necropsies and fecal culture, but morbidity and mortality surveillance is a very effective method to detect this disease. In addition to necropsy of bison mortalities and targeted serologic surveillance, polymerase chain reaction testing of fecal material may provide an additional method of surveillance for this disease within a herd (Youssef et al. 2014). No evidence of Johne's Disease has been detected in NBR bison since 2006.
- During the annual population management captures, young bison that are handled for genetic sampling or for surplus removal are tested for several diseases, including tests required for interstate transport. This annual surveillance generally results in statistical detection probabilities for disease at 7 percent prevalence with 90 percent confidence in most cases, but surveillance efforts may vary from year to year depending on the health of surrounding wildlife, livestock, or on other factors driven by regional animal health concerns. A small number of additional adult animals may occasionally be handled for specific disease sampling based on clinical presentation, body condition, or past disease test results.
- The presence of Chronic Wasting Disease (CWD) in the wild in Montana was first detected in October 2017. As of 2019, CWD has been detected in Lincoln, Carbon, Liberty, Hill, Blaine, Phillips, Valley, Daniels, and Sheridan Counties. The management of CWD is led by Montana Fish, Wildlife and Parks (fwp.mt.gov/CWD), however, DOI agencies, such as the U.S. Fish and Wildlife Service may provide support.

Disease response is considered on a case-by-case basis, depending on the disease(s) involved, species affected, severity of the outbreak, transmission cycles that may involve vectors, area livestock and risk to the genetic resource. Risks to resources outside of the refuge and ongoing consultation with partners is a priority. Response using habitat management is considered first, including encouraging animal distributions that reduce density. Use of veterinary treatments is generally

reserved, unless the bison genetic resource is at risk, to allow disease resistance to develop naturally in NWRs bison herds.

### 3.4 Threatened and Endangered Species and Species of Conservation Concern

As of April 2018, we have identified four listed species that may occur on NBR: bull trout (threatened), grizzly bear (threatened), yellow-billed cuckoo (*Coccyzus americanus*; threatened) and Spalding's catchfly (*Silene spaldingii*; threatened):

- Bull trout may occur in the portions of Mission Creek and the Jocko River that flow through the NBR. The entire area is located within the Columbia Headwaters Recovery Unit in the Lake Pend O'Reille (A) core area (USFWS 2015). The stretch of the Jocko River that flows through the refuge has been designated critical habitat (FR 75 63898, October 18, 2010).
- Grizzlies are known to occur regularly and seasonally throughout the Mission Valley. The NBR lies within the demographic connectivity area for the Northern Continental Divide Ecosystem (NCDE) grizzly bear population (USFWS 2013). The CSKT Wildlife Management Program is the local manager of grizzly bears within the exterior boundaries of the Flathead Indian Reservation and they work cooperatively with all property owners to effectively manage grizzly bears. Grizzlies have been reported by NBR visitors over the years and have been documented photographically in recent years. No evidence of denning activity is known on the NBR. All grizzly sightings are reported directly to CSKT bear management biologists, who lead trapping, tracking, and movement efforts within the Flathead Reservation.
- Spalding's catchfly has not been documented on NBR but suitable habitat is thought to exist, and surveys have been conducted periodically in the past.
- The yellow-billed cuckoo has not been documented on NBR but suitable habitat is thought to exist.

There are 41 animal and 2 plant species documented on the NBR that are designated as species of concern by the Montana Natural Heritage Program (Appendix G, MTNHP 2018). The wildlife species of concern have also been designated as priorities in the [Montana State Wildlife Action Plan](#) (MTFWP 2015b). [Partners in Flight](#) (2017) has also designated 10 of the bird species of concern on NBR as species of continental concern. Canada lynx (threatened) (*Lynx canadensis*) and wolverine (proposed threatened) (*Gulo gulo*) are wide-ranging species that also occur in Lake County and Sanders County.



*Golden and bald eagles hunt, feed, and rest at the refuge.*

### 3.5 Cultural Resources

Although people have lived in the region for thousands of years, relatively few cultural resource investigations have been conducted, and accordingly, few sites have been formally recorded. This is not necessarily due to a lack of cultural resources on the NBR, but rather, is likely a reflection of the limited amount of previous work completed. Twenty-four cultural resource reviews have been conducted for the NBR in association with Section 106 compliance under the NHPA. These projects took place between 1991 and 2017 and consist of 14 modifications to buildings or structures, eight projects with potential ground disturbance, one project with both modifications to a building and ground disturbance, and one land exchange.

In the future, undertakings that might reasonably be anticipated on the NBR would generally involve minimal associated ground disturbance, and might include removal, replacement, installation of fencing, prescribed burns, herbicide application, revegetation measures (i.e. seeding or planting), wetland restoration, enhancement projects, removal of abandoned structures, modification of existing water control structures and ditches, and development or maintenance of infrastructure (e.g. utilities or roads). Projects should be reviewed under Section 106 of NHPA and as well as coordinated with the CSKT Tribal Historic Preservation Office (THPO).

Eight cultural resources have been previously documented on the NBR. These consist of two pre-contact sites, two historic resources, and four resources that are of uncertain age or affiliation. With the exception of one of the historic sites, all of these sites are considered potentially eligible for the National Register of Historic Places. In addition to the probable existence of numerous pre-contact sites, there are several historic buildings and structures, primarily associated with the Civilian Conservation Corps or the Works Progress Administration, that have not been formally recorded. Additional information concerning

cultural resources at the NBR may be on-file at the CSKT THPO.

It is anticipated that a wide-range of cultural resource types are located on the NBR but have yet to be documented. These could include, but would not be limited to, precontact or protohistoric open camps, stone circles and alignments, cairns, lithic scatters, rock shelters, trails and roads, drive-lines, kill (i.e. jump or pound) sites, hunting blinds, eagle traps, fasting beds, and rock imagery, as well as historic buildings and structures associated with the mission and operation of the NBR.

### Refuge Resources Important to Tribes

Consultation regarding cultural resources and the traditional uses of NBR natural resources should be pursued with CSKT and other interested Tribes. These discussions would help identify and protect important resources, including burial locations, plant-gathering areas, and ceremonial locations, and ensure appropriate access. Tribes that are interested in collecting small quantities of plants or other natural resources need to contact the refuge manager and obtain a special use permit before collecting materials. Bison are a managed species on NBR, and many Tribes still consider them as central to their culture. The CSKT view all native species as ecologically and culturally important and value the existence, well-being and ecological role of each. Many Tribes also use eagle feathers and parts today for ceremonial purposes. The Service provides salvaged eagles and eagle feathers to Tribal members through the National Eagle Repository located in Colorado.

### 3.6 Socioeconomics

NBR has been part of the surrounding communities for more than 100 years. Most local community members have come to enjoy and appreciate the resources and public use activities available to them. Besides local and State residents, visitors come from all over the country and the world to visit NBR and experience this iconic refuge. The NBR is located along a major State highway that is also adjacent to the main highway leading to Glacier National Park, approximately two hours north. The NBR is well identified by directional signage on the highway. NBR is listed as one of the top ten tourist attractions in Montana by the Institute for Tourism and Recreation Research (Grau et al. 2013) and is considered one of the top three tourist attractions for visitors to Lake and Sanders County (T. McDonald, personal communication).

Natural resources destinations, like NBR, bring many visitors to the State. The most frequently cited activity was scenic driving. Day hiking, nature photography, and wildlife watching were the second, third, and fourth most popular activities engaged in by 52, 51, and 50 percent of vacationers, respectively. Most of NBR is open





*Bison as well as cultural and natural resources are important to all the residents of northwest Montana.*

to recreational activities, such as scenic driving, day hiking, nature photography, and wildlife watching. These recreational opportunities attract nonresident visitors who spend hundreds of thousands of dollars in the local communities. Total tourism spending brings an estimated \$3.98 billion annually to the State, contributing substantially to the local economies, including lodging, food, gas, and tourism industries (Grau et al. 2013).

### **Population, Demographics, and Employment**

NBR is located in Lake and Sanders Counties. The largest community in this area is Polson, Montana, which is the Lake County seat and has an estimated population of 4,674 (U.S. Census Bureau 2010). The remaining communities in Lake County are Arlee, Big Arm, Charlo, Dayton, Dixon, Elmo, Pablo, Ravalli, Ronan, St. Ignatius, and Swan Lake. The communities in Sanders County are Thompson Falls, Dixon, Heron, Hot Springs, Lonepine, Noxon, Paradise, Plains, and Trout Creek, with the closest being Dixon, Hot Springs, and Plains. Thompson Falls is the Sanders County seat and has an estimated population of 1,153 (U.S. Census Bureau 2010).

The largest communities within 100 miles of the refuge are Missoula, Montana (50 miles south), with an estimated population of 70,117, and Kalispell, Montana (80 miles north), with an approximate population of 21,619 (U.S. Census Bureau 2010).

### **Lake County and Sanders County Population and Demographics**

Lake County is Montana's ninth most populous county, with an estimated population in 2017 of 30,273—almost 3 percent of the State population, estimated at 1,050,493. Between 2007 and 2017, the number of people living in Lake County increased by 7.1 percent, which was lower than the State growth rate of 11.0 percent (U.S. Census Bureau 2017). Future population projections for the study area and the State overall are expected to follow historical trends, increasing slowly.

In 2017, the population density for Lake County was 20.3 people per square mile, much higher than the State population density of 7.16 people per square mile (Wagner 2017). Approximately 25 percent of Lake County's population lives within the incorporated communities of Polson, Ronan, and St. Ignatius. In 2016, the median age in the County was 42.4. In 2016, 68.1 percent of the Lake County population was White and 25.3 percent were American Indians or Alaska Natives (U.S. Census Bureau 2017).

Sanders County is Montana's seventeenth most populous county, with an estimated population of 11,711 in 2017—almost 1 percent of the State population. Between 2010 and 2017, the population of Sanders County increased by 2.6 percent, which was lower than the State growth rate of 6.2 percent during the same time period. Future population projections for the county are expected to follow historical trends, increasing slowly.

In 2017, the population density for Sanders County was 4.2 people per square mile, lower than the State population density of 7.16 people per square mile (Wagner 2017). In 2016, the median age in Sanders County was 51.9, compared with the State median age of 39.8. In 2016, 91.9 percent of the study area population were White, 3.8 percent were American Indians or Alaskan Natives, and 4 percent were other ethnic groups, including 2.6 percent Hispanic (U.S. Census Bureau 2017).

The median household income and per capita income in Lake County in 2016 were \$39,898 and \$23,191, respectively. The percentage persons living below poverty in 2016 is reported at 21.4 percent. In Sanders County, the median household income and per capita income in 2016 were \$34,336 and \$20,810, respectively, slightly lower than in Lake County. The percentage of persons living below poverty in 2016 was 22.3 percent (U.S. Census Bureau 2017).

### **Lake County and Sanders County Employment**

The Lake County economy, similar to the State of Montana, has changed substantially over the past 40 years. In 1970, half of Montana's workers were employed in the farming and ranching industries, the Federal government, forestry, manufacturing, mining, and tourism. By 1997, only one-quarter of Montana's workers were employed in these industries. In Lake County, farming and ranching are still major contributors to the economy, along with local and Tribal governments and services. The service sector employs more workers and produces more personal income than any other sector in Lake County. Services do not typically make a "product," but use knowledge to generate income. Some examples are medical care, auto repair, legal representation, and tourism. This sector now employs one out of every three workers in Lake County. Some of the largest employers in the community surrounding NBR include

CSKT, Jore Corporation, St. Luke Community Healthcare, and the school districts. CSKT employs an average of 1,100 workers, including seasonal employees, in several Tribal programs. An additional 250 employees work at the Tribal college, S&K Technologies, and the KwaTaqNuk Resort. Of these CSKT employees, approximately 75 percent are Tribal members. In 2016, the labor force in Lake County was estimated at 12,982, and the unemployment rate was 8.8 percent (U.S. Census Bureau 2017).

In Sanders County, farming and ranching are still major contributors to the economy along with local and Tribal governments and services. The labor force in Sanders County in 2016 was estimated at 4,514, and the unemployment rate was 9.3 percent (U.S. Census Bureau 2017). Services such as education, health care, and social services account for most (21.6 percent) of the employment opportunities (City-Data.com 2016). The other major employment industries are agriculture, forestry, fishing and hunting, and mining (12.8 percent) and construction (11.0 percent). The largest employers in the study area include Clark Fork Valley Hospital; Avista Corporation; Quinn's Hot Springs Resort; Thompson River Lumber; and schools, banks, and grocery stores.

NBR employs 7 permanent, full-time employees, and 1 career-seasonal employee. All the staff at the NBR are permanent residents in the surrounding communities (primarily Lake County), owning or renting homes and purchasing goods from local businesses.

### Visitor Services on the National Bison Range

Providing a high-quality visitor experience is important at the NBR. Annual visitation to the NBR is most heavily concentrated during spring through fall, when the full length of the Red Sleep Mountain Drive is open. Wildlife observation, photography, and hiking account for an estimated 94 percent of visits to the NBR (USFWS 2017a).

Visitors come from all over the country and other parts of the world to learn about NBR and enjoy a variety of wildlife-dependent recreational activities (Figure 3.6). In 2017, NBR welcomed approximately 180,000 visitors (USFWS 2017a). Visitors participate in wildlife observation and photography, environmental education and interpretation, and fishing. The estimated number of visitors is derived from the car counter located at the entrance to the NBR. The number of vehicles recorded entering the NBR is then multiplied by 3.4, the approximate average number of occupants per vehicle.

Brochures containing area maps, public use regulations, fish, wildlife and plant species, and general information are available for the NBR. Birding is a popular activity, given the abundant



Dave Fitzpatrick/USFWS

*The refuge's existence and activities contribute to a bright future for the residents of northwest Montana.*

species of waterfowl, songbirds, and raptors that use the lands and waters on the NBR.

The NBR is generally open from dawn to dusk, with the opening and closing times posted at the front gate. The Visitor Center is open May-October, seven days a week, 9am-5pm. The most popular activity for visitors is driving the Red Sleep Mountain Drive, which offers spectacular scenery and opportunities to view and photograph wildlife. In the winter, all but 7 miles of the Red Sleep Mountain Drive are closed due to snow drifts blocking the road. The Visitor Center is closed in the winter.

During the summer season, as authorized by the Federal Lands Recreation Enhancement Act (16 USC § 6801), the Service collects an entrance fee from visitors who use Red Sleep Mountain Drive. These collected fees are used for visitor service programs and facilities on the NBR. The NBR sells a refuge-specific pass and the America the Beautiful (ATB) passes. The refuge-specific pass gives visitors access to the 19-mile Red Sleep Mountain Drive auto tour route. This fee is collected during the months the Red Sleep Mountain Drive auto tour route is open (mid-May through early October). The refuge determines the price of these passes, and the fee can be adjusted in accordance with Service policy and regulations.

The ATB pass program was created by Congress with the passage of the Federal Lands Recreation Enhancement Act in December 2004. As with the refuge-specific (auto tour route pass), the ATB passes are sold when the Visitor Center is open. The cost of the ATB passes are determined nationally. Other passes which are part of the ATB Pass Program, that are no cost to qualified visitors, are the Access, Military, Volunteer, and Every Kid in a Park (EKiP 4th-grade) passes.



We do not allow camping on the NBR; however, there are several privately-owned campgrounds, including recreational vehicle (RV) campgrounds, in the surrounding communities. There are also several motels, restaurants, and gift shops located within 35 miles of the NBR.

## Hunting

Hunting is not allowed on the NBR. Conservation of genetic diversity is essential to bison conservation, both within the individual population level and at the metapopulation level. Population size is the most important driver of genetic diversity loss. Based on current science, the bison herd on the refuge would need to be in excess of 1,000 animals to withstand the effects of genetic drift that could result from a hunting program. In addition to the concerns of the loss of genetic diversity with hunting in such a small herd, the Service considers the bison and other native ungulates to be wildlife, not game farm animals, and hunting within a fence calls into question the principles of fair chase. Furthermore, big-game hunting on the Flathead Indian Reservation is governed by the Hellgate Treaty, various Tribal, state, and federal court decisions, as well as Tribal Ordinance 44-D and Montana Code Annotated MCA § 87-1-228.

## Fishing

Fishing is allowed on designated areas of the NBR in accordance with joint State and CSKT regulations. In addition to the joint State and CSKT regulations, the NBR has the following refuge-specific fishing regulations,

- We allow public access by walk-in only. All anglers must remain with 100 feet (30 m) of the creek, except they may use the canal road to access the creek.
- We prohibit the use of lead or lead-based lures or sinkers.
- Excellent fishing opportunities exist on the NBR, but a relatively low number of the total visitors participate in fishing. Anglers visiting NBR enjoy fishing for cold-water species, such as rainbow and brown trout, along parts of the scenic Mission Creek and Jocko River. Fishing on Mission Creek is open seasonally, spring through fall. Fishing on the Jocko River is open to catch-and-release trout fishing year-round. Fishing seasons and creel limits are set by joint State and CSKT regulations.

## Wildlife Observation and Photography

Opportunities for wildlife observation and photography are abundant within the NBR; it is the primary reason visitors come to the NBR (Carver and Caudill 2013, USFWS 2017a). The most popular activity for visitors to NBR is the

Red Sleep Mountain Drive that takes visitors through a variety of wildlife habitats (Carver and Caudill 2013, USFWS 2017a). In the winter, the upper road portion of Red Sleep Mountain Drive that traverses Red Sleep Mountain is closed, but a shorter 7-mile winter route is kept open October through May, weather and road conditions permitting.

NBR has a day use area and nature trail near the visitor entrance gate. There are picnic tables, a covered pavilion, and several vault toilets. The area receives substantial use during the summer, especially on weekends and holidays. Often, visitors begin or end their visit at the day use area. Foot access at the NBR is restricted to a few designated trails to reduce the risk of visitors coming into close contact with bison.

Wildlife photography is also popular on NBR. Many photographers come to the refuge to capture the landscape of the Mission Mountains, the NBR itself, and the wildlife species. The most popular species for wildlife photographers are the large mammals, including bison, elk, deer, pronghorn, bighorn sheep, and black bear. Elk are popular during the rutting season in the early fall months (Carver and Caudill 2013, USFWS 2017a).

## Environmental Education

The diversity of habitats and wildlife found throughout the NBR makes it an ideal classroom for the area's environmental education needs. Numerous educators and students, from preschool to university level, use the NBR for field trips. These visits are largely self-guided.

School groups can check out various field kits, which can include activity sheets on different topics, field guides, and collection tools for wetland fauna. School groups use the day use area and nature trail for environmental education activities, staging, and eating.

## Interpretation

The Visitor Center has interpretive displays and an orientation video. Here, visitors can obtain brochures with maps, public use regulations, bird lists, and general information for the entire NBRC. The displays focus on the wildlife found on the NBR, particularly the bison. The displays show both the importance and the conservation history of bison. There is also a display developed by CSKT on the cultural importance and uses of bison.

There are several interpretive kiosks throughout NBR. These kiosks orient visitors and provide information on the management and natural history of the NBR. In cooperation with CSKT's Division of Fire, refuge staff installed an interpretive kiosk at the Visitor Center that highlights the historical importance of fire on the landscape in the Mission Valley.

## **Communication and Outreach**

Staff also provide local newspapers with information on NBR activities and informative articles about the values and protection of the area's natural resources. NBR's web site ([https://www.fws.gov/refuge/national\\_bison\\_range/](https://www.fws.gov/refuge/national_bison_range/)) provides information about the area's natural resources, programs, and regulations. Our Facebook page provides highlights and updates on annual events, activities, and public use opportunities on the NBR.

## **Baseline Economic Activity**

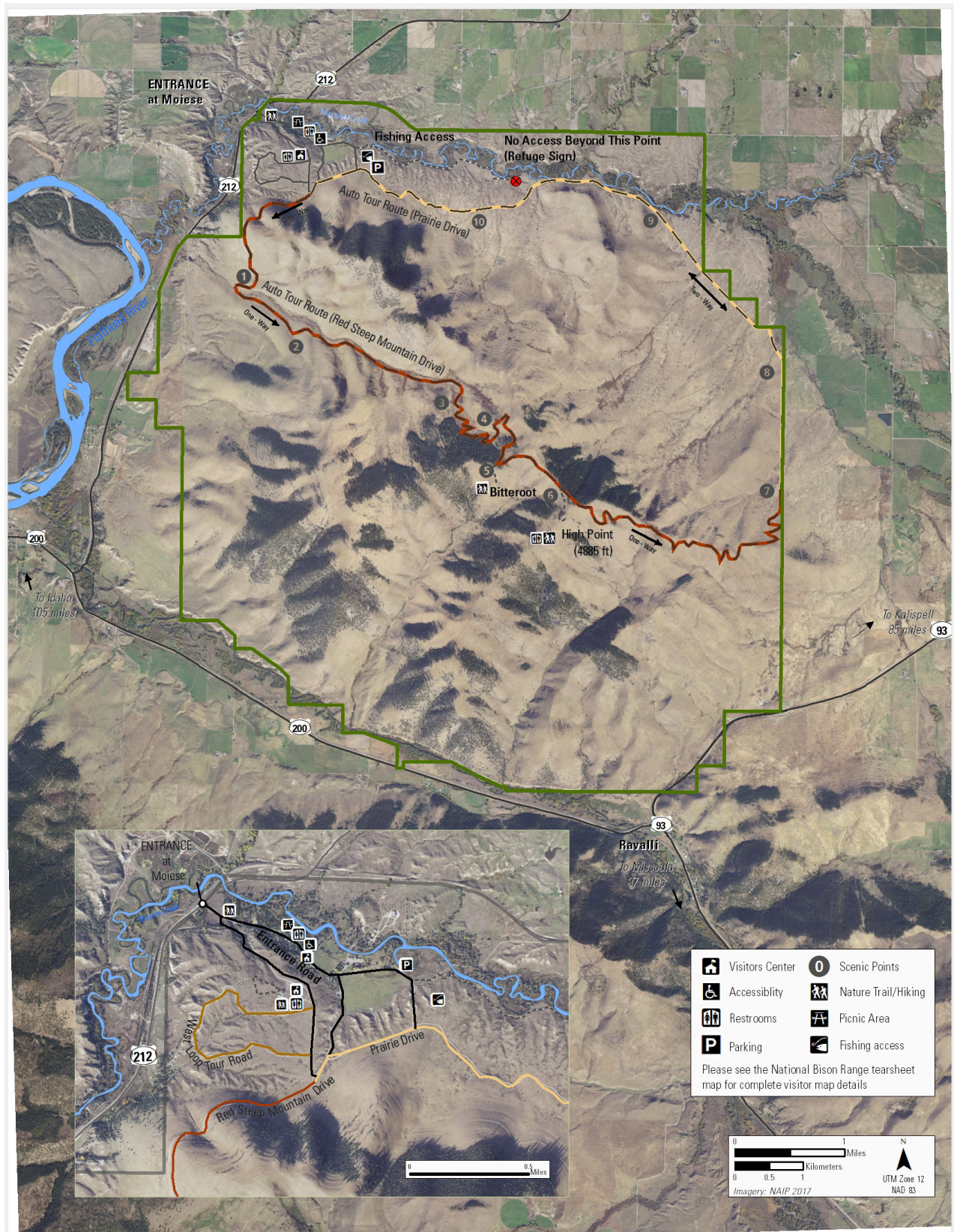
NBR affects the economy through the resident and nonresident visitor spending it generates, the employment it supports, and the value it adds to surrounding property values.

NBR employs 7.5 permanent, full-time Federal employees. Using the Bureau of Labor Statistics Consumer Expenditure Survey data for individuals in these income categories, roughly 79 percent of annual income is spent locally. Under this assumption, NBR contributes \$230,790 to the local economy in employee spending.

Visitors to NBR, particularly non-residents, contribute substantially to the State and local economy. It is estimated that non-residents spend an average of \$128.12 per day (Carver and Caudill 2013). The 2013 Service publication Banking on Nature estimated that approximately 83 percent of all visitors to the NBR were non-residents, meaning they traveled over 50 miles to visit the NBR. Based on these estimates, of the visitors to the NBR in 2017, approximately 149,400 were nonresidents and contributed more than 19 million dollars to the State and local tourism economy. These expenditures primarily include food, gas, transportation, souvenirs, lodging, and associated supplies (Carver and Caudill 2013).

In addition, the presence of the refuge adds value to neighboring and surrounding landowners. The presence of natural areas like wildlife refuges near residential areas is a desirable trait for most buyers, particularly in Montana. The presence of NBR adds value to the associated communities and private lands.





**Figure 3.6. Public use map for National Bison Range. Numbered locations along the auto tour route are scenic locations.**



## Chapter 4 Management Direction



USFWS

*Rocky Mountain bighorn sheep*

This chapter contains the management direction for the National Bison Range. Going forward, management will emphasize maintaining and, where feasible, enhancing ecological communities while recognizing ever-changing environmental conditions. In cooperation with our partners, the Service will develop and utilize a prioritization framework to identify and define future conditions that will drive management actions to build ecological community resiliency, promote species and genetic diversity, and build sustainability in management capacity and operations.

The Service will also seek to facilitate collaborative, cooperative, and coordinated management of NBR with our federal, Tribal, state, local, public, and private partners. Where possible, the refuge would participate in landscape-level management of wildlife species, evaluate cross-boundary movements and create corridors conducive to wildlife migration and movement. The Service will also seek ways to incorporate the expertise, resources, and efforts of our partners to help facilitate the benefits of a broader functioning landscape.

### 4.1 Goals, Objectives and Strategies

This section discusses goals, objectives, and strategies that serve as the steps needed to achieve the CCP. While a goal is a broad statement, an objective is a concise statement that describes what is to be achieved, the extent of the achievement, who is responsible, and when and where the objective should be achieved—all to address the goal. The strategies are the

actions needed to achieve each objective. The rationale for each objective provides context such as background information, assumptions, and technical details.

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### **Habitat Management Goal: Conserve, restore, and promote biological integrity in functional and sustainable ecologically diverse habitats of the inter-montane ecosystem of western Montana.**

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#### **Grassland Objective 1**

By 2021, conduct a robust rangeland health assessment to describe the current ecological status of vegetation and soils on 14,000 acres of bunchgrass prairie on the NBR and to better inform management regarding the matter of ecological carrying capacity.

#### **Strategies**

- Update assessment methods and monitoring protocols to conduct a more comprehensive assessment of overall rangeland health
- Work with USFWS biologists and other partners (e.g. NRCS, CSKT, universities) to develop and conduct wildlife-specific (e.g. birds, pollinators) assessments
- Investigate and apply for additional grants and funding opportunities



- Use the final report to inform future habitat management plans and other step-down plans
- Complete an Integrated Pest Management plan for the refuge in partnership with Tribes, counties, State and Federal agencies, and universities
- Develop new protocols for mapping and monitoring invasive species on refuge

### Rationale

Rangelands are defined as “land on which the indigenous vegetation (climax or natural potential) is predominantly grasses, grass-like plants, forbs, or shrubs and is managed as a natural ecosystem” (Pellant et al 2005). A rangeland health assessment is intended to comprehensively describe the current ecological status of grasslands. This assessment will include yield data from historical sites and utilization data specific to NBR wildlife with respect to the effects of variables including, but not limited to slope, aspect, plant species composition, wildlife species distribution patterns, and distance to water. This assessment will measure ecological carrying capacity based on an estimate of total herbivory (from grasshoppers to bison) on the NBR with consideration of the ecological needs of all priority species (e.g. bison, native birds, Threatened and Endangered (T&E), and/or species of concern). Another important component of a thorough rangeland evaluation is to document and provide options for management on how and where to focus resources (e.g. maintain intact habitats on X acres in Y unit, provide for trust species by developing novel ecosystems where departure from reference is greater than 60% or as a buffer along refuge boundaries, consult with experts to address climate change prior to implementing restoration efforts, etc.) The intent of this assessment is to conduct a robust analysis prior to development and implementation of the HMP. Our priority is to better inform habitat objectives in a manner that addresses issues such as species diversity, invasive species, soils, birds etc. If the best available science and current knowledge were to indicate a significant benefit to rangeland health by implementing yet a new system of grazing management (rotational or otherwise), we will adapt accordingly.

This objective seeks to emphasize the importance of monitoring and data management in the maintenance of healthy ecosystems. We will work cooperatively with partners and experts to develop methodology for monitoring grasslands annually that is achievable and supports continuing rangeland assessments every 15 years. Current methods (Parker 1950) are outdated and the refuge needs a protocol that can be used long term and is resilient to changes based on fluctuations in staff and resources. Careful consideration will be given to the fact that a change in monitoring methods impairs the ability to accurately track trends over time, and options for mitigating this will be

included. We will also explore the possibility of including a citizen science component.

### Grassland Objective 2

Over the next 15 years, increase the number of grassland acres that are >75% native composition (excellent range condition) by 15%.

### Strategies

- Focus management where there is the highest chance of success (triage)
- Use prescribed fire to restore and sustain the original fire regime to the maximum extent possible
- Each wildfire will receive a management response. All wildfire ignitions determined to be human caused will be full suppression. Consider managing wildfires caused by natural sources for multiple objectives. When considering managing a wildfire for multiple objectives, evaluate the risks to firefighter and public safety, the circumstances under which a wildfire occurs including weather and fuel conditions, natural and cultural resource management objectives, values to be protected, and protection priorities.
- Remove or girdle encroaching trees, leaving some stumps for pollinator nesting sites and snags for cavity-nesting birds and bats
- Minimize impacts to grassland pollinators and proactively conserve grassland pollinator habitats
- Prioritize prevention and early detection/rapid response techniques for invasive species occurrences in this habitat type (e.g. restrict off-road driving for management activities; promote clean, dry, and inspect techniques for equipment)
- Continue to partner with Lake County for chemical storage and late-season invasive plant spraying along roads
- Increase communication and collaboration with partners (e.g. universities; NGOs; Tribal, state, and federal agencies)

### Rationale

Under this objective, we will strive to increase the acres of high-quality grasslands currently on the refuge. Based on the results from the rangeland assessment in Grassland Objective 1, those grasslands with slight departure from the reference state will be managed to maintain this high-quality condition. In addition, areas with moderate departure will be managed to increase the overall refuge acreage in this category by 15%.

Grazing management, climate change, drought, and invasive species are some of the key challenges to achieving habitat objectives. Each of these topics will be addressed across all objectives to the extent integrated tools and best available science

allows. For this objective, invasive species efforts will combine preventing and reducing spread with herbicide, mechanical, and cultural techniques. Herbivory will be monitored and population objectives for native ungulates will also be adjusted to support the maintenance of the highest quality grasslands on the refuge. We will carry out all prescribed fire activities under an approved and current Prescribed Fire Plan that is written with guidance from the NBR Fire Management Plan.

We will also increase our efforts to work with partners to improve grasslands on a landscape scale. Doing so would also capitalize on habitat management expertise in order to improve range conditions for a diversity of species, while recognizing the importance of bison to NBR.

### **Grassland Objective 3**

Over the next 15 years, prioritize management of grassland acres that are currently in fair to good (25-74% native) vegetative condition in areas that are primary habitat for priority species to reduce invasive species, using species and structural diversity (defined for the reference bunchgrass communities) as measures for success.

#### **Strategies**

- Investigate passive management tactics to minimize impacts from grazing in these areas and maintain internal fences to restrict or defer grazing to allow for periods of rest
- Work cooperatively with partners and experts implementing up-to-date, innovative practices for invasive species management and use all integrated pest management tools
- Use wildland fire in a manner that promotes heterogeneity and species diversity in this habitat class
- Promote clean, dry, and inspect techniques for equipment
- Limit off-road driving for management activities
- Use all integrated pest management tools, including biological control when effective, or otherwise prioritize limited resources and herbicides on established species to vector pathways (riparian corridors, roads, parking lots) and small, satellite infestations

#### **Rationale**

For grasslands in good condition, the highest priority for management would be those areas identified as highly used by priority species (e.g. bison, native birds, T&E, and/or species of concern) to assure maintenance of these grassland systems in areas of high wildlife use. This objective seeks to not only maintain or improve plant species' diversity on these acres but also implement management actions that will increase structural diversity across these acres (e.g. vegetation height and density, litter depth, etc).

### **Grassland Objective 4**

Over the next 15 years, manage 15% of poor condition (<25% native) grassland acres with feasible restoration opportunities to create a novel ecosystem that will increase forage for bison and also provide grassland birds with vegetative structure.

#### **Strategies**

- Focus treatments on satellite populations and perimeters of infestations
- Use integrated pest management tools when feasible and identify long-term biocontrol options for containment and/or control
- Manage native ungulate populations according to population targets (see Wildlife Objectives), i.e. incorporate rest
- Monitor and assess informally
- Seed and plant desirable species post invasive species treatment that are tolerant to grazing, resist invasions, provide palatable forage, and are non-invasive
- Consult with experts on ethnobotany and traditional ecological knowledge to inform management
- Work with experts and partners to identify best management practices, successes, and failures and to monitor results

#### **Rationale**

The portion of refuge grasslands indicated in the 2014 habitat condition assessment as fair and poor correlate strongly with existing infestations of invasive grasses that threaten the integrity of this ecosystem (Marlow et al 2014). Efforts to renovate these will prioritize a halt to the spread of annual invasive grasses and focus on an integrated approach to construction of a novel ecosystem. This "novel" system could be one that is a substantial departure from the historic climax plant community but is improved to the point where native and/or non-invasive species provide some diversity, integrity, and resilience.

### **Forest Objective 1**

By 2021, complete an inventory to assess forest health, identify old growth ponderosa pine stands, and inform management how to prioritize treatments on 3,700 acres that will improve site conditions.

#### **Strategies**

- Conduct assessment in partnership with CSKT as part of Reserve Treaty Rights Lands Initiative
- Describe species composition, diameter at breast height, snag density, percent canopy cover, stand density, insect damage, disease, fire evidence, age structure, forest ecology, and fire history





*Recent prescribed burn on the refuge*

- Determine what the pre-contact era forest condition was, establish what current ecological site and climatic conditions are, and use this to inform achievable restoration objectives and associated costs for the refuge
- Determine appropriate indices or thresholds to trigger management action (e.g. tree age, rate of Douglas fir in-growth)
- Identify primary factors for building resiliency and prioritize forest stands accordingly
- Manage at a larger scale, where appropriate

## Forest Objective 2

Over the next 15 years, renovate 1,000 acres of forest retaining ponderosa pine overstory, reducing Douglas fir densities and increasing understory plant diversity

### Strategies

- Update forest management objective with quantitative forest inventory information on forest health attributes from the Forestry Assessment
- Conduct prescribed fire/patch burning, active thinning, and slashing in coordination with the CSKT under the Reserved Treaty Rights Lands Initiative
- Partner with Tribal, State, Montana Department of Natural Resources and Conservation, U.S. Forest Service, and private organizations on forest management projects
- Prioritize managing forest acres identified in Forest Objective 1
- Restore and sustain the original fire regime to the maximum extent possible
- Wildfire will receive a management response. All wildfire ignitions determined to be human caused will be full suppression. Consider managing wildfires caused by natural sources for multiple objectives.
- Identify forest composition and acres that are important to priority wildlife species

- Consider what NBR forests can offer in terms of habitat that is different from surrounding forests
- Design and implement monitoring protocol

## Rationale (Forest Objectives 1 and 2)

Western Montana forests composed of ponderosa pine were shaped by surface fires that swept through these forest stands at intervals of between 3 and 30 years (Arno 1976). Most of those fires were not hot enough to kill mature trees but they did thin out the forest understory. The result was open forest dominated by widely spaced old growth ponderosa pine with predominantly grass undergrowth (Vance and Luna 2017, Fisher and Bradley 1987, Pyne 1982). It was also common to find trees mostly in rocky areas and other locations where little ground fuel was present (Wakirnoto, as quoted in Second Growth Douglas Fir on the NBR. Miwa 1992).

Wildfires have been fully suppressed for many decades and prescribed fires have been used only sparingly. As a result, plant succession, fuel accumulations, structure and composition of vegetation, insect and disease populations, nutrient cycling, productivity, diversity, and habitats for wildlife are being affected. Longer fire intervals result in Douglas fir regeneration establishing as thickets of saplings and poles creating a fuel ladder that increases the chance of stand-replacement fire. This result can be seen currently on the refuge. Some stands of Douglas fir are infested with mistletoe and insects and several stands have a thick understory composed primarily of young trees commonly described as “dog-hair.”

Completing a forest assessment will help identify the appropriate historical reference point for forest conditions, inventorying the current condition of forest stands and describing what might be achievable with management to improve the health of forest stands. The information from this study will also identify what forest indicators can serve as useful triggers or thresholds for management actions. As time and resources are limited for managing forests on the refuge, this assessment will also help the refuge prioritize forest stands for management treatment. The forest assessment will emphasize those factors and management actions that increase resiliency in forest stands.

We will focus treatment efforts on 1,000 acres of forests where benefits to the forest habitat and/or focal species can best be achieved. We are using the term renovation rather than restoration because restoration often suggests a complete return to historic conditions, which is unlikely to be feasible. Renovation is used in this context to indicate improvements in forest stand health and resiliency, but not necessarily complete return to an entirely “natural,” self-sustaining or historical condition.

Refuge forests will also be evaluated with

consideration of the larger landscape. For example, forest stands with rare or unique qualities, as compared to similar sites off the refuge, may be a higher priority for management or a focus of special treatments. Similarly, identification of forest structures (composition, density, number of snags/stumps) that are most suitable to priority species (e.g. bison, birds, T&E species, and Montana species of concern) that may be underrepresented in surrounding forested areas should also be considered for prioritization.

Once a feasible outcome has been defined in the assessment, and the stands have been prioritized, a variety of resource management tools would be used to achieve desired future results. Restoring and sustaining the original fire regime, to the maximum extent possible, and mechanical fuel reduction operations would be used to reduce the number of trees and the fuel loading. In some cases, the preferred treatment would only be prescribed fire, in others, only mechanical means would be used, or the two treatments would be used in combination to achieve the desired results.

We will revise the fire management plan, in cooperation with our partners to utilize wildland fires within NBR. Each wildfire will still receive a management response. All wildfire ignitions determined to be human caused will be full suppression. However, we will consider managing wildfires caused by natural sources for multiple objectives. When considering managing a wildfire for multiple objectives, we will evaluate the risks to firefighter and public safety, the circumstances under which a wildfire occurs including weather and fuel conditions, natural and cultural resource management objectives, values to be protected, and protection priorities.

In addition to managing the trees and shrubs, we will also increase efforts to treat invasive species and promote the diversity of native plants in the understory. Management activities intended to improve overall forest health and function will be balanced with the habitat needs of priority wildlife species such as Lewis's woodpecker and other species of conservation concern. For example, management prescriptions may include leaving snags or girdling trees for cavity-nesting birds and bats, where appropriate.

Scheduling the various units for treatment will depend on environmental and habitat conditions, potential impacts, and the availability of required staffing. All factors associated with prescribed fire will have to meet parameters indicated in a site-specific prescribed burn plan before a burn could be implemented. Mechanical equipment will not be used when weather produces conditions that would increase the likelihood of increased soil disturbance.

We will seek to continue cooperation with our partners in management activities, especially



Jessica Zarate/USFWS

*Treating invasive species on the refuge*

prescribed fire. A monitoring protocol to track forest health and management actions would also be designed and implemented.

## Wetland and Riparian Objective 1

Over the next 15 years, reduce juniper density by 50% on 50 acres along Mission creek and maintain or improve existing conditions on the remaining 450 riparian and wetland acres to promote habitat heterogeneity and species diversity.

### Strategies

- Prioritize invasive plant management in riparian and wetland areas
- Use an integrated pest management approach with tools such as herbicide, prescribed fire, biocontrol, and mechanical (pulling, cutting, etc.)
- Manage juniper encroachment by mechanical removal and wildland fire in partnership with CSKT as part of Reserved Treaty Rights Lands Initiative
- Investigate options for restoring natural flood events to existing riparian and wetland habitats along Mission Creek
- Evaluate opportunities to work with CSKT to expand or collaborate on restoration efforts on the Jocko River and Mission Creek

### Rationale

Riparian and wetland habitats on the refuge are extremely important for all wildlife, especially in providing protective cover and water. The Mission Creek riparian area is also important for providing excellent wildlife viewing opportunities for the public. Riparian and wetland habitats are also areas where new invasive plants frequently enter the refuge and/or become established. Treating invasive species in the riparian and wetland areas using an integrated pest management approach with tools such as herbicide, prescribed fire,



biocontrol, and mechanical (pulling, cutting, etc.) is a high priority for refuge management.

Juniper dominate the refuge stretch of Mission Creek due to alterations in seasonal flooding along its banks and a lack of fire. There is concern that this is having a negative impact on overall plant and wildlife diversity.

Dynamic flooding events are important for maintaining habitat heterogeneity and species diversity in riparian habitats (Vance et al 2017). The CSKT has an established restoration project on the Jocko River which provides an excellent opportunity for collaboration on the portion of the river within the refuge that contributes to achieving the goals for the Jocko River overall (CSKT 2008).

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## **Wildlife Management Goal: Protect, maintain, and restore healthy and diverse wildlife populations with respect to species that are endemic, migratory, and mandated species of concern**

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### **Bison Objective 1**

Maintain and improve bison genetic integrity, as measured by gene diversity, heterozygosity, and allelic richness, within ecological carrying capacity (currently 285-300 individuals) using science-supported management strategies to contribute to species conservation goals of 1,500–2,000 bison within the National Wildlife Refuge System (NWRS) metapopulation. While we intend to explore opportunities to cooperate with CSKT on bison management, any specific proposals or ideas would be discussed in collaboration with CSKT Tribal Council and staff.

### **Strategies**

- Use a metapopulation framework to ensure appropriate gene flow
- Use mean kinship selection to reduce inbreeding through at least the first 3-5 years of a proposed transition to a DOI metapopulation management strategy to conserve genetic diversity
- Conduct bison capture operations as needed to manage the population
- Prioritize low-stress handling techniques
- Collect biological samples for health and genetic analysis as guided by the USFWS Wildlife Health office
- Prioritize bison donations for NWRS and DOI bison conservation efforts through the Service-wide donations process as facilitated by the USFWS Wildlife Health office
- Support establishment and augmentation of Tribal herds, as well as cultural and spiritual

uses of bison through the Service-wide donations process as facilitated by the USFWS Wildlife Health office

- Conduct disease surveillance and respond to health concerns, under the guidance of the USFWS Wildlife Health Office, to ensure healthy populations and to minimize wildlife disease transmission
- Maintain the boundary fence, corral system, and water sources (springs, riparian, wetlands)
- Manage invasive species (see Habitat Objectives)
- Establish population size based on habitat conditions while maintaining a genetically diverse bison herd
- Manage elk population to balance habitat use among priority wildlife species (see Other Ungulates Objective 1)
- Improve bison genetic diversity and integrity by expanding the NBR bison conservation resource in cooperation with the CSKT

### **Rationale**

The 18,800 acre refuge was established “for a permanent National Bison Range for the herd of bison to be presented by the American Bison Society” (Public Law 60-136, May 23, 1908). In 2007, bison managers across the NWRS, with the recommendation and support of the Service’s Wildlife Health Office, agreed to adopt a metapopulation management framework. This framework recognizes that gene flow between spatially separated populations of the same species is essential to species conservation. Where range will not support populations of 1,000 or more animals, the creation of satellite herds is considered to increase the viable population size (DOI 2008).

Because the role of natural selection is limited in range-restricted bison populations that are managed within ecological carrying capacity, the NWRS bison may best contribute to species conservation through genetic diversity (Gross et al. 2005; Hedrick 2009; Dratch and Gogan 2010). Herds of moderate size (200-650 bison) generally lose genetic variation at a rate relative to its size; however, removal strategy also plays a role (Traylor-Holzer 2017). Using the best available science, conservation of diversity within populations and promotion of gene flow across populations is accomplished using mean kinship values (Giglio et al. 2016, Giglio et al. 2018). Based on available microsatellite detection data, NBR bison are highly diverse among Department of Interior (DOI) herds (Halbert and Derr 2008, Dratch and Gogan 2010).

The NBR population objectives are between 285 and 300 bison, reduced after a 2010 ecological assessment reported a decline in carrying capacity since 1989 and recommended a variety of management options to aid in grassland recovery (Marlow et al. 2014). The NBR developed a hybrid



*Arrowleaf balsamroot*

plan from these recommendations that includes using experimental techniques for managing distribution and optimizing range utilization passively (e.g. prescribed fire, water manipulation, exclosure vs. enclosure). Body condition, behavior, herd health, and habitat quality are used as measures of success.

Bison capture operations are conducted across the NWRs, on refuges with bison, in order to maintain population objectives and involve “rounding up” bison into a corral system designed specifically for bison handling. The NBR corrals are upgraded periodically to accommodate implementation of low-stress bison handling techniques and to facilitate animal movement through the system. The “low-stress animal handling” techniques are considered an animal centered, behaviorally correct, psychologically oriented method of working animals that is based on mutual communication and understanding, not correction (Hibbard 2017).

Surplus bison are those that exceed carrying capacity within a unit but have not been identified for retention within the metapopulation and can be made available for donation. In 2018, refuge Chiefs from Regions 2, 3 and 6 instructed refuge managers to work towards donating 100 percent of the surplus bison on Refuge System lands to conservation partners, including other DOI units, states, Tribes or intertribal organizations according to the Service’s bison donations transfer protocol (701 FW 8, Fenced Animal Management, <https://www.fws.gov/policy/701fw8.html>, Appendix E). In cases where there is not enough interest in bison donations from bison conservation organizations, Tribes or intertribal organizations, refuge managers will use an open, competitive, public bid process for the remaining surplus bison.

We will also explore opportunities to cooperate with the CSKT on bison conservation and management. Any specific proposals or ideas will be discussed in collaboration with CSKT Tribal Council and staff. We recommend completing a feasibility study to investigate and document all

options. Possibilities could include: 1) identification of land bases available to the Tribes to start a new bison population with NBR surplus bison that is managed by CSKT; 2) provide NBR surplus animals to start a new population that would be considered a full partner in the NWRs bison metapopulation management program, possibly with the opportunity for shared facility use, under specific genetic management criteria; 3) provide NBR surplus animals to start a new CSKT Tribally managed population that would be considered a full partner in the NWRs bison metapopulation management program with an emphasis on reducing detectable cattle introgression under specific genetic management criteria, also with the possibility of shared facility use.

## Other Ungulates Objective 1

Within 10 years, evaluate impacts of other native ungulate species that are ecologically compatible with bison, on habitat, species diversity, and species conservation.

### Strategies

- Collaborate with universities to research impacts
- Identify and consider prioritizing species that are less well represented in adjacent landscapes
- Evaluate and implement passive grazing management techniques that will encourage spatial heterogeneity and species diversity
- Review and update environmental assessment for coyote control on the NBR; involve partners and public in the process
- Work with partners and private landowners around the NBR (and other local priority landscapes) to promote awareness of wildlife and livestock conflicts and create an open discussion forum for solutions
- Collaborate with adjacent landowners, state agencies, Tribes and non-government Organizations (NGOs) to discuss how the NBR can participate in landscape-level management of ungulate species
- Evaluate ungulate cross-boundary movements and consider effects of connectivity with other populations
- Convert fenced animal management plan to a Habitat Management Plan with consideration to fenced populations
- Increase communication about wildlife health concerns and major disease threats among partners and work to develop outreach messages
- Develop robust survey techniques that allow for adequate population estimates and minimized staff effort
- Develop an adaptive management framework for evaluating habitat management actions and adjusting to meet management goals



## Rationale

Shortly after the refuge was established, representative populations of other ungulates native to Montana were also brought to the NBR. Secretary of Agriculture, James Wilson, is credited with envisioning the refuge as a “natural setting” with a host of big game species that could prosper and serve as source populations on other public lands. For example, prior to this time period, pronghorn were threatened to the point of extinction and a species in need of conservation. After building the original boundary fence, additional funds were allocated to add strands of barbed wire suitable for enclosing species like elk and pronghorn.

Previously, population objectives on the NBR have been set according to measurements of available forage and in order to provide for a diversity of species without causing damage to available grassland and browse resources. Stocking rates have been traditionally expressed in animal unit months which is the amount of forage needed by an “animal unit” for one month. These calculations were adapted specifically to the wildlife species present on NBR.

Moving forward, we will investigate and prioritize population objectives for ungulates according to ecological carrying capacity with an emphasis on priority species and with consideration of their representation on the landscape, partner interest or concerns, and research benefits. Managing for healthy wildlife and healthy ecosystems is a priority for the NBR and over the past several decades, the ungulate populations on the NBR have provided numerous research scientists, students and teachers with unparalleled opportunity. These opportunities have garnered the attention of leading scientists in the fields of genetics, genomics, disease, behavioral ecology, epidemiology, veterinary science and more. The outcome of this research, mostly in the form of publications (e.g. journal articles, theses, books, and dissertations) but also summary reports and annual narratives, has informed managers and the scientific community as a whole, well beyond the boundary of this refuge.

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## Research and Science Goal: Encourage high-quality research and promote the use of scientifically sound management decisions

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### Research Objective 1

Over the next 5 years, identify information gaps and increase knowledge in areas of study that are pertinent to refuge resources and are unique learning opportunities to further ecological sustainability and priority species on the NBR.

## Strategies

- Focus on identifying data gaps and needs in order to move NBR towards ecological sustainability and manage priority species
- Partner with CSKT, local, state and federal agencies, and universities to develop a list of high-priority research topics
- Work with Mountain-Prairie Region Division of Science Resources to complete an Inventory and Monitoring plan for the refuge
- Offer public evening programs on refuge research topics
- Prepare and make available in the Visitor Center important research topics and results in a layman-friendly document
- Publish research in peer-reviewed scientific publications

## Rationale

An adaptive management framework along with biological planning, monitoring, and research help build a foundation for identifying conservation targets while describing current and desired future conditions, deficits, and species-habitat relationships. Through targeted and purposeful monitoring and research, managers can learn and improve conservation outcomes.

### Research Objective 2

Continue to build and develop best scientific information to inform management decisions by initiating a more coordinated effort to include traditional ecological knowledge (TEK) as part of research or other scientific information gathering efforts at NBR, consistent with USFWS guidance (Rinckevich et al 2011, USFWS 2018a).

## Strategies

- Proactively seek Regional Tribal Liaison input on gathering TEK
- Initiate discussions with the Confederated Salish and Kootenai Tribes regarding methods of collecting TEK
- Initiate discussions with the Salish-Pend d'Oreille Culture Committee and the Kootenai Culture Committee and seek the Committees' counsel on how best to collect TEK
- Proactively reach out to Salish Kootenai College (SKC) for opportunities to work with professors, instructors, staff, and students in effort to collect TEK, and engage in reciprocal exchanges of information and research/work opportunities that foster collection of TEK, for purposes of research and scientific uses. This could include proposing a memorandum of understanding (MOU) with SKC regarding TEK and opportunities to collaborate
- When appropriate, encourage the integration of TEK as part of partner-generated research or other scientific information gathering efforts

## Rationale

TEK refers to the evolving knowledge acquired by indigenous and local peoples over hundreds or thousands of years through direct contact with the environment. This knowledge is specific to a location and includes the relationships between plants, animals, natural phenomena, landscapes, and timing of events that are used for lifeways, including but not limited to hunting, fishing, trapping, agriculture, and forestry. An increasing number of scientists and Native people believe that western science and TEK are complementary. Although an integration of indigenous and western scientific ways of knowing and managing wildlife can be difficult to achieve, it is important to continue to integrate both methods when possible. The USFWS has guidance for incorporating TEK into Service activities including a “TEK Fact Sheet” (Rinkevich et al 2011) and additional materials on “Integrating Use of Traditional Ecological Knowledge into the U.S. Fish and Wildlife Service” (USFWS 2018a). We will stimulate refuge research which incorporates the traditional knowledge and participation of indigenous people.

## Research Objective 3

Over the next 15 years, support research that substantially informs the scientific community or informs the NBR regarding the ecology and management of refuge species and habitats.

## Strategies

- Manage, provide guidance for, and enforce special use permitting process
- Continue to coordinate with existing researchers and support academic classes
- Collaborate with partners to identify information needs in regards to wildlife health so data collected is comparable among studies/ time and information can be utilized for better management and disease management
- Support wildlife health research (e.g. *Mycoplasma ovipneumoniae* [MOVI]) in bighorn sheep
- Participate in the USFWS Refuge Visitor Survey (every five years starting in 2020)
- Continue to support ongoing long-term ungulate research
- Identify knowledge gaps and develop a list of research topics to guide future interested scientists, educators, and students to investigate areas of greatest need
- Develop research under the Reserved Treaty Rights Lands Initiative in partnership with CSKT to inform both parties of resource responses to planned activities
- Collaborate on research with other federal, state, Tribal, and local governments, non-governmental organizations, and universities



Dave Fitzpatrick/USFWS

*Refuge provides wetland and riparian habitat for a variety of migratory birds.*

- Improve coordination with universities and colleges to increase student participation in monitoring or research
- Strive to plan and take actions consistent with existing USFWS and partner climate change plans
- Evaluate, through research, existing corridors for priority species and landscape-level opportunities

## Rationale

Refuge staff will continue to work with several universities and research scientists, providing a unique opportunity to support long-term research. Maintaining a balance between amount of staff time or oversight required with other management needs is a priority. Research focused on bison and grassland birds, or other priority species, will continue to take precedence over other topics when time and funding is limited. Current long-term and ongoing efforts include behavioral, genetic, and disease research of Rocky Mountain bighorn sheep; breeding behavior and genetic research of pronghorn; and an environmental biology investigation of effects the variation in ecosystem structure have on nutrient availability and primary production over time.

(<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1560318/>) – bighorn

(<http://www.webpages.uidaho.edu/biosci/labs/byers/research/index.html>) – pronghorn

(<http://belovskylab.nd.edu/national-bison-range-ltreb-database/>) – environmental biology

Future priority biological research projects will concentrate on identifying and answering key management questions and needs. Examples include impacts of fire and herbivory, impacts of bison grazing and fire on grassland birds, and managing riparian habitats for migratory birds. All



research projects on the refuge would follow the USFWS Code of Scientific and Scholarly Conduct (Chapter 7 212 FW7).

Research gathered by participating in the USFWS Refuge Visitor Survey enables the refuge to better understand visitor experiences and trip characteristics, gauge visitors' levels of satisfaction with existing recreational opportunities, and garner feedback to inform the design of programs and facilities.

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## **Monitoring and Adaptive Management Goal: Through the life of this plan, we will monitor and evaluate the consequences of our actions and use adaptive management to reach desired outcomes**

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### **Monitoring Objective 1**

Over the next 15 years, annually track population trends across all observed bird species and a range of habitats on the refuge.

#### **Strategies**

- Use eBird.org as a platform
- Use citizen science (volunteer observers)
- Continue to explore additional analysis possibilities
- Generate an annual report from data downloaded
- Distribute information to recruit and educate volunteers

#### **Rationale**

Though best known for its role in conserving American bison, the NBR also is also explicitly directed by Executive Order to provide “refuges and breeding grounds for birds” (Executive Order 3596, December 22, 1921). Over the past several decades, the Complex has executed a number of relatively small, short-term, and disconnected studies on breeding birds on the NBR proper and on units across the Complex. By developing and implementing a long-term monitoring program for population trends, we can ensure that the NBR continues to support the purpose of this Executive Order. Furthermore, such a program will both benefit, and be strengthened by, concurrent efforts being undertaken by the biological program to improve and refine habitat management, invasive species, and wildlife population management efforts. The NBR is part of a much larger, interconnected landscape and intends to coordinate and collaborate with others in better understanding the bird and habitat relationships in western Montana.

In 2013, the Service partnered with the University of Montana Avian Science Center to provide the NBR with technical assistance related to development and field testing of monitoring protocols, statistical design of monitoring techniques, and quantitative analysis of monitoring data by:

- Providing statistical and biometric assistance with the design of a long-term monitoring protocol for trends in populations of breeding land birds and their habitats at the Complex.
- Linking the above protocol explicitly to other major wildlife management activities on the refuge, including but not limited to bison rotational grazing systems, prescribed fire, and invasive plant species treatment
- Providing statistical and biometric assistance with the analysis of ecological datasets

The NBR is now has several eBird hotspots (<https://ebird.org/hotspot/L3801959>). eBird is the world's largest biodiversity-related citizen science project, with more than 100 million bird sightings contributed each year by eBirders around the world. Data collected by the public on NBR will help document when and where bird species occur on the refuge, thereby providing time and site-specific information about the occurrence and abundance of bird species. eBird data has the potential to contribute to refuge habitat management and conservation decisions.

We will continue to highlight the importance of native bird species that are endemic to the native grasslands represented on the NBR and seek to further the relationship with academic entities and other agencies in a way that informs management and facilitates habitat improvement specific to the ecological needs of these species.

### **Monitoring Objective 2**

Over the next 15 years, continue to support and expand existing monitoring programs focused on resilience, integrity, and sustainability for priority species and refuge habitats. Monitoring will be linked to management to determine if intended outcomes are being achieved through management actions.

#### **Strategies**

- Monitor bird hotspots using citizen science (eBird)
- Continue passive, opportunistic, and active wildlife health monitoring
- Continue bison demographics, genetics, health monitoring
- Monitor species of concern occurrences
- Continue public use monitoring
- Continue opportunistic surveillance by staff and volunteers as part of daily management
- Prioritize special use permits based on

resilience, integrity, and sustainability for priority species

- Support development of plans that are consistent with ecological timeframes and sustainability
- Seek partner input and collaboration actively on developing new monitoring projects
- Develop effective monitoring protocols aligned with management objectives for sustainable forest management

### Rationale

Monitoring protocols that are well designed, achievable, and supportive of refuge objectives also improve the efficacy of refuge programs and allow for more effective and adaptive management.

Monitoring wildlife health is an essential component of wildlife management, in order to minimize disease transmission. In order to maintain a high level of confidence in the health of populations, monitoring will be conducted consistently throughout the year and applies both passive strategies through observation (by staff and public), opportunistic sampling (e.g. through mortality), and active strategies (e.g. blood screening) periodically during the capture operations. Wildlife health surveillance includes observation and documentation of unusual conditions or behavior for all wildlife, and collection of biological samples when appropriate, as mentioned above (e.g. opportunistic or periodic) or through approved research (e.g. bighorn sheep). Increased surveillance is triggered by refuge biologists if unusual conditions are observed and are cause for concern, through USFWS Wildlife Health Office guidance because of identified regional or local threats or if concerns are identified through partners. In addition, we will respond aggressively to issues arising in targeted species.

Monitoring the genetics of the bison population is a high priority to support genetic diversity conservation within the NBR herd with samples collected from calves or yearlings during capture operations.

### Monitoring Objective 3

In the next 10 years, develop a grassland adaptive management project that allows refuge management to assess wildlife and vegetative responses (including invasives), to various management activities such as water management, wildland fire management, and invasive weed control.

### Strategies

- Use adaptive management to identify uncertainties such as disturbance return interval (grazing and fire) that minimizes non-native plant invasion on NBR native bunchgrass sites

- Include monitoring protocol suggestions in next grassland assessment (Grassland Objective 1)
- Review existing protocols from other refuges and other partners
- Work with USFWS Regional Inventory and Monitoring staff to complete an Inventory and Monitoring plan for the refuge
- Seek additional support from partners and volunteers

### Rationale

Adaptive management (AM) is an approach to achieve objectives when the outcomes of available management actions are uncertain but decisions must still be made (Walters 1986, Kendall 2001). The central tenet of the AM approach is that systemic knowledge can be gained if management is treated as an ecological experiment. Management actions are de facto hypothesis (experimental) tests that iteratively (repeatedly) seek to manipulate an ecological system by altering hypothesized limiting factors and measuring the response. We will identify where learning through management is most needed and develop AM approaches to address those knowledge gaps. Grassland management is one of the highest priorities for the refuge and is coupled with several uncertainties, making this an appropriate topic to invest the additional resources for a well-designed and rigorous AM project.



USFWS

*Developed spring provides water for wildlife on the refuge*



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## **Cultural Resources Goal: Preserve and value the cultural resources and history of the National Bison Range Complex to connect staff, visitors, and community to the area's past and continuing traditions**

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### **Cultural Resources Objective 1**

Through the life of the plan, enhance interpretation and education programs about Tribal citizen's and early people's use of the lands within the NBR.

#### **Strategies**

- Encourage collaboration with the CSKT, and other interested Tribes in developing relevant education and interpretive materials, including exhibits, interpretive panels, and programs
- Continue interpreting historical and cultural resources in and around the NBR
- Collaborate with the CSKT to develop signage and interpretive materials that incorporate traditional Tribal place names and Tribal names for plants and animals
- Collaborate with the CSKT and other partners on the development of topic specific prehistory and history interpretation and education programs
- Encourage the development and presentation of programs or events hosted by the CSKT for the purpose of informing the public about Tribal history
- Encourage the development and presentation of programs or events for the purpose of informing the public about early fur traders, missionaries, miners, Civilian Conservation Corp, and homesteaders
- Develop a Cultural Interpretation and Heritage Committee (CSKT, USFWS, and other relevant partners) to plan and host a minimum of two on-site programs annually
- Develop strong collaboration with the CSKT, and other interested Tribes in planning, producing and providing relevant materials, exhibits, signs and educational materials, and correct interpretation
- Provide outreach programs to educate about cultural natural resources, and Tribal heritage sites
- Develop and present ethnobotanical information, particularly for environmental education opportunities
- Provide outreach with/to local groups (CSKT, Ninepipes Museum) to provide a presence of NBR history in conservation and species management in the area
- Develop and present ethnobotanical information, particularly for environmental education opportunities, with emphasis on species of particular interest

#### **Rationale**

Western Montana contains a rich and diverse prehistory. The varied microenvironments in the Rocky Mountains contain abundant animal populations and assorted vegetation coverage that have supported Native Peoples for at least ten thousand years. Both the oral history and the archaeological record of the region reflects dynamic adaptation to a variety of environments and continual technological advancements.

The Mission Valley has long been used as a traditional gathering place by the western Montana Tribes. Séliš and Ksanka families relied heavily on bison from east of the continental divide (CSKT 2000). Its setting offered excellent hunting and gathering opportunities that provided sufficient economic resources to accommodate short-term gatherings of large contingents of Tribes. The valley was used as a rendezvous site where bartering and gaming was conducted by Tribes of the Séliš, Qlispé, and Ksanka (CSKT 2000).

The 1855 Hellgate Treaty defined the ceded aboriginal territory of the Séliš, Qlispé, and Ksanka Tribes and set up reserved lands for their "exclusive use and benefit." Today those reserved lands are known as the Flathead Indian Reservation. The NBR is located entirely within the exterior boundaries of the Reservation (CSKT 2000). In 1935, the three tribes reconstituted themselves as the Confederated Salish and Kootenai Tribes (CSKT), which as of 2019, remains the official name of the tribal government.

Given the extensive history of the CSKT on and around the NBR, it is paramount that we work with them and other Tribal partners to provide information that shares and interprets that history. TEK and ethnobotanical information can inform future management practices and can help show how and why native people are connected to the land. In addition, the NBR has been a presence in the community for over 110 years. Its history and effects on conservation and species management have helped shaped the community since its inception.

Place names on the landscape in and around the NBR indicate the time-depth of use and the activities that took place in the area. Some of the oldest words in the Séliš language are associated with place names in the Mission Valley. These names also identify particular landforms or areas that are significant in the early traditions and cultural history of the Séliš people. For most place names, there are important stories that go with the names that further explain Tribal use and important events and activities documented in the Tribal history (CSKT 2000).

The NBR Visitor Center provides some cultural resource interpretation and education about Tribal citizens' and early people's use of the lands

within the NBR. This includes a visual display, titled Symbol of a Nation, depicting the cultural and traditional uses of bison. This display was developed entirely by the CSKT. The Visitor Center also provides educational handouts describing the history of the Séliš and Q̓lispé, provided by the Salish (Séliš) and Pend d'Oreille (Q̓lispé) Cultural Committee.

Two Depression-era programs, the Civilian Conservation Corps and the Works Progress Administration, were active at the NBR during the mid-1930s. A few of their projects are still visible on the NBR and additional interpretive opportunities would be explored.

As needed for individual refuge projects, refuge staff will consult with the Service's Regional cultural resources branch, the Montana State Historic Preservation Office (SHPO), the Tribal Historic Preservation Offices, the CSKT and other interested parties to protect and preserve cultural resources on the refuge. Federal laws and policies mandate the identification and evaluation of archaeological and historic sites and structures on federal lands. Specifically, Section 106 of the National Historic Preservation Act (NHPA) requires all Federal agencies to consider cultural resources before project implementation and specifies the process required to meet this goal. We will conduct cultural resource reviews for projects that disturb the ground or that could affect buildings or structures over 50 years of age. Under the NHPA, cultural resources are treated as eligible for the National Registry until they have been evaluated. We will avoid disturbing significant cultural resources. In addition, we will continue to conduct law enforcement patrols and monitor sensitive sites. Different cultural values are acknowledged, respected, and celebrated by the Refuge System. For any project that requires NHPA section 106 consultation, the NBR will also comply with CSKT Ordinance 95 as requested by the CSKT THPO by submitting a Cultural Clearance Request Form through the CSKT website <http://www.csktribes.org/history-and-culture/ccrequestform>.

## Cultural Resources Objective 2

Through the life of the plan, provide permitted collection of specific natural resources that are used for cultural traditional values and provide permitted access to traditional or culturally significant sites. Access will be allowed under a "special use permit," and will be approved by the refuge manager on a case-by-case basis. Requests for profit or commercialization will not be permitted.

## Strategies

- In consultation with the CSKT, determine what culturally significant sites exist on the

NBR and develop guidelines on how best to regulate access to those sites in a way that doesn't interfere with Service's mission and the purposes of the NBR

- Provide permits, as appropriate, to access traditional or culturally significant sites
- In consultation with the CSKT, determine what culturally significant plant and animal resources exist on the NBR and develop guidelines on how best to regulate access and collection of those resources in a way that doesn't interfere with Service's mission and the purposes of the NBR
- Provide permits, as appropriate, for the limited collection of traditional or culturally significant plant and animal resources (e.g. sage plants, bison hair, bison dung)
- By 2021, develop and implement station specific guidance to improve efficiency on how special use permits will be permitted and issued to the public. Within the guidance, determine when permits will not be issued due to excessive or inappropriate disturbance to ecological conditions
- Develop a Memorandum of Understanding with the CSKT or other Tribal organizations that will manage the requests for, and distribution of bison skulls, bones, or parts

## Rationale

Although much of the knowledge base and traditional values remain, the Tribes lost unrestricted access to traditional harvest grounds when the NBR was fenced and managed as a bison refuge. Although unregulated site visitation was curtailed under federal management, the ties that were established with ancestral use remain strong and continue to be a recognized and important aspect of Tribal heritage. In the face of mounting pressures toward acculturation, Tribal heritage sites are even more important because they represent a tangible connection with a way of life and cultural identity integral to the past, present, and future survival of tribal people (CSKT 2000).



*Lewis's woodpeckers*



The United States' trust responsibility is a well-established legal obligation that originates from the unique, historical relationship between the United States and Indian Tribes. The trust responsibility consists of the highest moral obligations that the United States must meet to ensure the protection of Tribal and individual Indian lands, assets, resources, and treaty and similarly recognized rights (see Secretarial Order 3335). As a result of treaties, statutes, Executive Orders, and court rulings, certain Tribal governments and State governments may have shared responsibilities to co-manage fish and wildlife resources. In such cases, and where Service jurisdiction is involved, we will consult and collaborate with Tribal governments and affected State or local resource management agencies to help meet the objectives of all parties while honoring the Federal trust responsibility.

The Service should provide Native Americans access to Service lands and waters for exercising cultural, ceremonial, medicinal, and traditional activities recognized by Tribal governments to the extent practicable, permitted by law, and not inconsistent with essential Service functions. In doing so, we should (1) avoid adversely affecting the physical integrity of sacred sites while managing our lands; (2) accommodate and, as needed, collaborate with Tribal governments for access to and maintenance of appropriate settings for ceremonial use of Indian sacred sites; and (3) consider Tribal government protocols and procedures to give their members access to and use of cultural resources. The Service recognizes that many Native Americans use federally protected birds, bird feathers and remains, and other animal and plant material for their Tribal cultural and religious expression. We will work in collaboration with Tribal governments to protect traditional, customary, ceremonial, medicinal, spiritual, and religious uses of plants and animals for Tribal members where it is not contrary to our legal mandates and conservation goals (510 FW 1 - Native American Policy). Permits for these purposes would take into consideration the impacts to refuge species of concern.

There is a particular site on the NBR that is known by the Séliš Elders and has been identified as a traditional cultural property by the Séliš (Salish) Culture Committee. It provides views of lands and early trail routes used by native peoples. According to reports by Elders, it experiences ongoing cultural use (CSKT 2000).

Each special use permit application contains its own set of unique circumstances. Processing and administering special use permits can require substantial staff time and effort. Current policies and legal guidance do not clearly define culturally significant sites or what natural resources are used for their traditional cultural values. These ambiguities could be rectified by collaborating with the CSKT and other Tribal organizations and aid

the NBR in developing specific guidance on these topics. Once guidance is developed, the CSKT and other Tribal organizations would more efficiently be able to process and fulfill requests for bison skulls, bones, or parts when it is not contrary to our legal mandates and conservation goals.

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## **Public Use Goal: Provide compatible, wildlife-dependent recreational opportunities, for persons of all abilities, to learn, enjoy, and appreciate the inter-montane landscape of western Montana, the fish, wildlife, and plants**

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### **Fishing Objective 1**

Throughout the life of the plan, allow fishing on three and three quarters (3.75) miles of Mission Creek and the one and one-half miles (1.5) of Jocko River when the use is not in conflict with priority species or habitat

### **Strategies**

- Allow fishing, in accordance with State, Tribal, and Federal regulations, year-round on designated sections of Mission Creek and the Jocko River where they run through the refuge
- Provide and maintain accessible fishing access in a designated area along Mission Creek for visitors with disabilities
- Continue to provide relevant information about fishing via appropriate communication products
- Close portions of Mission Creek and the Jocko River when significant risks to public safety or potential for significant disturbance to species of concern exist
- Provide additional information to enhance the quality of the fishing experience, including, angling methods and techniques, available fish species and their biology. This information would highlight the conservation importance of native species, especially bull trout and westslope cutthroat trout

### **Rationale**

Fishing is one of the six wildlife-dependent, priority public uses specified in the Improvement Act. It can be allowed at the refuge without interfering with the designated purpose for the refuge. Fishing is a tool to help the public connect with nature and to promote existing and future programs. Fishing and its promotion provides a type of compatible public use that is encouraged by both the Service and DOI. Portions of Mission Creek and the Jocko River on NBR will remain open to public fishing in accordance with Joint State/Tribal regulations and in accordance with the special refuge regulations. Mission Creek

runs through the northern end of the NBR for a distance of approximately 7 miles, with approximately 3.75 miles open to fishing during season. Fishing is closed on the remaining miles of Mission Creek to minimize disturbance to wildlife, maintain closures in administrative areas, and to prevent conflicts between other public uses. The Jocko River meanders in and out of the southern edge of the NBR for a distance of approximately 1.5 miles, and this entire section is open to fishing.

In the event of a threat or emergency endangering the health and safety of the public or property or to protect the resources of the area, the refuge manager may close or curtail refuge uses of all or any part of an opened area to public access and use in accordance with the provisions in § 25.31, without advance notice (50 CFR 25.21). In addition, fishing or entry on all or any part of individual areas may be temporarily suspended by posting upon occasions of unusual or critical conditions of, or affecting, land, water, vegetation or fish and wildlife populations (50 CFR 32.4). Decisions to close areas accessible to fishing would pay special attention to the conflict or disturbance to priority species or habitat.

Westslope cutthroat trout and bull trout exist in the Mission Creek and Jocko River. Providing the angling public with biological information about these species can help the public better understand their conservation importance and aid in the proper identification of these species to reduce the incidental take of these species.

### **Wildlife Observation and Photography Objective 1**

Throughout the life of the plan, prioritize opportunities for highly unique, self-directed wildlife viewing and photography of western Montana inter-montane landscapes and wildlife by maintaining services to accommodate at least 180,000 visitors per year when not in conflict with priority species or habitat.

### **Strategies**

- Maintain the 19 miles of auto tour routes
- Maintain year-round access to West Loop and Buffalo Prairie Drive and seasonal access to Red Sleep Mountain Drive
- Continue to provide relevant information about wildlife observation and photography via appropriate communication products
- Maintain open hours from dawn to dusk and regulate with automatic entrance gate
- Maintain 3 miles of walking trails including High Point, Bitterroot, Nature, Visitor Center, and Fishing trails
- Close portions of the refuge when significant risks to public safety or potential for significant disturbance to species of concern exist
- Participate in the National Visitor Survey on a 5-year rotation schedule

- Close trails or portions of trails with minimal use or substantial maintenance needs

### **Rationale**

Wildlife observation and photography are identified as priority public uses in the Improvement Act. Wildlife observation and photography can instill, in citizens of all ages, a greater appreciation for wildlife and its associated habitats. This appreciation may extend to the Refuge System and other conservation agencies. These uses promote an appreciation for the natural resources at the refuge. In addition, these uses support conservation programs at the refuge.

The refuge contains unique habitats and supports wildlife populations, particularly the bison herd, other large ungulates and mammals, migratory birds, and upland game birds in excess of what can be observed on neighboring private lands.

NBR is best known for the bison herd that roams openly across more than 18,000 acres of the refuge. The bison herd is maintained at 285-300 animals and is managed to maintain a high level of genetic diversity that can be shared with other agencies and Tribes. The beautiful setting of the Mission Valley combined with the diversity of wildlife species attracts up to 180,000 visitors annually (USFWS 2017a). In the summer months, these visitors come to drive the Red Sleep Mountain Drive that travels through the various habitats found on the Bison Range, hike the trails, and see the Visitor Center. A portion of the auto tour route is open throughout the rest of the year, weather and road conditions permitting. The tour drive and associated hiking trails provide excellent opportunities for wildlife viewing and photography.

The NBR has a limited amount of trails. The vast majority of high-quality wildlife viewing and photography is from the auto tour routes. The auto tour routes also serve as administrative roads and are necessary to maintain. All the trails, besides High Point Trail, do not serve any administrative function, and are provided solely for the benefit of the public. Trails require a small amount of routine maintenance, but over time can require substantial maintenance. Staff time and money can be reallocated to wildlife and habitat projects when trails that are minimally used by the public or require substantial time and money to repair are closed.

We will notify the public of refuge-specific regulations through use of conspicuously posted signs, printed brochures available at information kiosk and the Visitor Center, and the refuge website. We may also notify the public through other appropriate methods, which will give them constructive notice of the permitted or curtailed public access, use, or recreational activity (50 CFR 25.31).



## Environmental Education, Interpretation, and Outreach Objective 1

Throughout the life of the plan, provide environmental education and interpretation through general information contacts at the Visitor Center to a minimum of 30 percent of annual visitors, with a special consideration given to priority species and habitat. Use Visitor Services staff to provide outreach to schools with a focus on providing education pertaining to priority species and habitat. All environmental education and interpretation programs will emphasize that wildlife and habitat are the priority for the management of the NBR. Educate the public about the importance and necessity of rules and regulations that seek to protect priority species and habitat.

### Strategies

- Continue providing, on a case by case basis as staff time allows, environmental education, interpretation and outreach services to the public; typically 10 or less per year
- Encourage environmental education and interpretation by partner organizations and agencies
- Continue to provide environmental education and interpretation handouts, backpacks and hands-on kits to groups that request them
- Maintain publications (e.g. brochures), interpretive panels exhibits, website, and social media accounts that provide information about habitat, wildlife, management actions, and activities on the refuge
- Interpretation is passive in nature, from self-guided opportunities using interpretive panels, brochures, and websites
- Maintain websites and social media accounts by utilizing Regional Office staff and volunteers to enhance and increase visitors' awareness of and interest in exploring the refuge.
- Replace the existing refuge Visitor Center with funding potentially available starting in 2020
- Periodically evaluate products and brochures for effectiveness and update them as funding and staff time allows
- Update interpretive exhibits in the Visitor Center when it is replaced within the next 5 years
- Work with the CSKT to incorporate native languages in educational and interpretive materials to the maximum extent possible
- Partner with Glacial Lake Missoula organization to enhance the interpretation of the geologic history of the area at one additional location around the refuge
- Continue to interpret the cultural history of the NBR area, including Tribal uses, and early settlement through current displays in the Visitor Center



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*Bison*

- Develop a general brochure that meets agency standards
- Employ a full-time visitor services specialist to provide environmental education and interpretation on priority species and habitat
- Train seasonal employees and volunteers to provide environmental education, interpretation and outreach that focuses on priority species and habitat
- Educational and interpretive materials, displays, signs will prioritize information relevant to priority species and habitats on the refuge
- Resume conducting at least 1 (one) teacher workshop per year centered around NBR resources, habitats, wildlife and management with emphasis on species management
- All interpretive materials will emphasize species-based management
- The Visitor Center may be open 7 days a week, May - October, subject to funding and availability of interns, seasonal employees and or volunteers
- Create an on-line calendar of annual refuge events and post on website

### Rationale

Refuge Improvement Act identifies environmental interpretation as one of the six priority public uses. Environmental interpretation includes activities, talks, publications, events, programs, audio-visual media, signs, and exhibits that convey key messages about natural and cultural resources to visitors, but that do not address a specific educational curriculum requirement. It provides opportunities for visitors to make their own connections to nature and wildlife, which invites participation in resource stewardship and helps refuge visitors understand their relationships to, and impacts on, those resources.

The environmental education and interpretation program at the NBR accomplishes the mission for which the refuge was established and meets the goals of the Refuge System. Both programs

are legislated, wildlife-dependent priority public uses. Both public use programs would contribute to the mission of the Refuge System by increasing knowledge and support of the stewardship of natural resources.

The refuge contains unique habitats and supports wildlife populations—particularly the bison herd, other large ungulates and mammals, migratory birds, and upland game birds—in excess of what can be observed on neighboring private lands. These uses promote an appreciation for the natural resources at the refuge. In addition, these uses support conservation programs at the refuge. It is estimated that during 2017 approximately 180,000 persons visited NBR for one or more uses (USFWS 2017a). It is estimated that 168,000 visitors went on one or all of the wildlife drive auto tour routes. Approximately 32% (56,823) of visitors annually are estimated to have come through the refuge Visitor Center. The location of the new Visitor Center has not been determined, but could likely be located in the same general area as the existing facility.

We will seek to protect visitors and employees from accidents and injuries by educating them about potential dangers and hazards that exist from working or visiting the NBR. We will give special attention to the dangers associated with bison and other wildlife (i.e. bears, wolves, poisonous snakes, etc.).

### **Environmental Education, Interpretation, and Outreach Objective 2**

Throughout the life of the plan, increase public awareness and appreciation of bison, native birds, and their habitats.

- Develop a mobile phone application that provides educational information on bison, native birds, and their habitats and provides updates of bison and other ungulate locations on the NBR. This application will be updated by the visiting public and volunteers
- Encourage public participation through citizen science projects and other volunteer opportunities
- Provide information on bison management and bison capture operations
- Develop educational materials on bison, native bird, and habitat that can be utilized by educators on and off the NBR

### **Rationale**

Even though the primary focus, by necessity, will be providing visitor services and information during day to day contacts with public visitors, there will be opportunities for education and interpretation programs with outreach to local schools, special groups (ie., Scouts), and other organizations that request them. Refuge partners and volunteers will be crucial to helping the refuge, and the Service

meet conservation goals. Because refuge resources are limited and much of the staff and volunteer time will be focused on seasonal and daily interactions with public visitors, environmental education programming for youth audiences will focus on more teacher-led programs with less direct involvement from staff and trained volunteers. Ultimately, our goal will be for most educators of these audiences to independently lead refuge programming or their own program with minimal input from staff. When staff time and other resources allow, refuge staff, volunteers, and other partners will work directly with these audiences. Environmental education, interpretation and outreach programs would be developed under the Mountain-Prairie Region visitor services and outreach level guidance (USFWS 2018b).

### **Other Uses Objective 1**

Throughout the life of the plan, evaluate non-wildlife dependent recreation and design uses that substantially contribute to the appreciation or management of the refuge. Any consideration given to permitting a special use will weigh the effects that use may have on staff time, the benefit to refuge or Refuge System resources. Proposed activities would be managed in a way that the use would not conflict with or cause disturbance to priority species or habitats.

### **Strategies**

- As appropriate, allow special user groups, such as educational institutions or organizations, camping with a special use permit
- As appropriate, allow antler collection for special user groups with a special use permit (with fee). All antlers collected will be sold through an annual auction, with 65% of the proceeds going to the refuge to support refuge programs. Collection of antlers for personal benefit will not be allowed
- Evaluate the costs and benefits of permitting antler collection
- Continue to maintain the day use area for environmental education uses and also allow non-wildlife dependent public uses
- Identify opportunities for an annual Saddle Club Trail ride to occur under a Special Use Permit with specific conditions to support management activities and wildlife-dependent recreation.
- Evaluate the long-term management of the day use area. Facilitate this by utilizing volunteers and/or reducing the overall size of the day use area and/or the number of vault toilets, picnic tables, and fire pits.
- As appropriate and necessary, allow educational institutions with specific educational objectives to camp on the refuge with a Special Use Permit.

### **Rationale**

The Improvement Act states that other uses can occur within the Refuge System, but they must support, or not conflict with, a priority public use. Furthermore, a use may not keep a national



wildlife refuge from accomplishing its purposes or the mission of the Refuge System.

The CCP describes the desired future conditions of the refuge and provides long-range guidance and management direction to accomplish NBR purpose(s) and the Refuge System mission. We prepare CCPs and include a review of the appropriateness and compatibility of existing refuge uses and of any planned future public uses (Appendix D). If, during preparation of the CCP, we identify previously approved uses we can no longer consider appropriate on the refuge, we will clearly explain our reasons to the public and describe how we will eliminate or modify the use. When uses are reviewed during the CCP process, the appropriateness finding will be documented for the refuge files.

The refuge supports various forms of nature based outdoor recreation that, while not strictly wildlife dependent, may support or facilitate wildlife-dependent recreation. These activities include, social gatherings in the day use area, and allowing special user groups to collect antlers. The refuge would allow an annual Saddle Club Trail Ride under a Special Use Permit that includes specific conditions to support management activities and wildlife dependent recreation. Proposed activities would be managed in a way that the use would not conflict with or cause disturbance to priority species or habitats.

### **Communications Objective 1**

Communicate to the public how the Service incorporates traditional ecological knowledge (TEK) into its management practices, and how TEK benefits natural resource management as well as relationships among resource managers.

#### **Strategies**

- Incorporate TEK messaging in communication products (educational materials, signage, outreach materials and public statements in media, etc.)
- Discuss, with the Salish-Pend d'Oreille Culture Committee and the Kootenai Culture Committee, ways to coordinate TEK information that the Committees may have that they wish to share with the public through the NBR

### **Communications Objective 2**

Over the life of the plan, incorporate native languages into educational materials, signage, and outreach materials to the maximum extent possible, to highlight the rich cultural history associated with the Mission Valley.

#### **Strategies**

- Work with CSKT, including Salish Kootenai College and the Salish-Pend d'Oreille and

Kootenai Culture Committees, to include native words and language, including place names and flora/fauna names, into exhibits, educational materials, signage, and outreach materials

### **Rationale (Communications Objectives 1 and 2)**

The process to obtain and include TEK into refuge processes begins at the lowest level with communication. The refuge proposes to continue working with Tribal partners to incorporate messaging into printed materials such as with the new general brochure, and with refuge informational signs indicating specific locations on or around the refuge, rivers, creeks or other landmarks. The incorporation of TEK will also be included in outreach materials, biological publications, and into interpretation and outreach programs. Incorporating TEK will be one way the refuge can uphold the federal trust responsibility to CSKT with regard to priority biological resources of mutual interest. Communicating how, and in what manner TEK is utilized allows a mutually beneficial relationship to be created, and maintained between conservation educators, managers, biologists and local people (Rinkevich et al 2011).

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**Partnerships and Collaboration**  
**Goal: Maintain and cultivate partnerships that help achieve the vision and supporting goals and objectives of the National Bison Range Complex to support wildlife and habitat conservation, research, foster awareness and appreciation of natural and cultural resources of the inter-montane ecosystem of western Montana and provide education along with all necessary infrastructure.**

**Recognizing its importance, we will collaborate with the Confederated Salish and Kootenai Tribes and other Tribal governments in a manner consistent with the Service's Native American policy and with other Federal, State, and local government entities in a manner consistent with applicable Service policies.**

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### **Partnership Objective 1**

Over the next 15 years, maintain a strong and

effective working relationship with existing partners and develop new partnerships for the purpose of achieving our priority habitat and wildlife goals.

### Strategies

- Work with the Partners for Fish and Wildlife Program on priority stream and riparian restoration projects
- Work with the CSKT and the Inter-Tribal Buffalo Council on donations and transfers of bison, as well as other parts such as skulls, bones, and hides
- Work with the CSKT, MTFWP, NRCS, Pheasants Forever, other governmental agencies and non-governmental organizations on priority riparian, wetland, and grassland restoration opportunities
- Work with CSKT in all aspects of wildland fire management within NBR
- Work with Federal, State, County, and Tribal law enforcement agencies for the safety and protection of wildlife and visitors
- Work with the Avian Science Center on grassland bird surveys
- Work with the Partnership for Regional Invasive Species Management (PRISM) and Counties in the development of invasive species partnerships
- Work with private landowners on priority resource related issues to seek common conservation goals
- Reinvigorate PRISM and solicit new partners (e.g. private landowners) for a comprehensive approach to invasive species management on the Flathead Indian Reservation (FIR)
- Consider expanding opportunities for donations of bones, skulls, hides etc. to the CSKT, the Inter-Tribal Buffalo Council or other Tribes for cultural or educational purposes
- Work with neighboring private landowners and other partners (CSKT) to develop priority conservation areas within the FIR that model and ultimately promote wildlife friendly livestock management
- Expand partnerships with the CSKT, MTFWP, NRCS, Pheasants Forever, other governmental agencies and non-governmental organizations to include working on wildlife management issues, specifically on priority species and their habitats and use of wildland fire on refuge lands

### Partnership Objective 2

Further the agency's trust responsibilities by fostering a constructive relationship and capacity-building with the CSKT regarding natural resources on the Flathead Indian Reservation and the NBR, consistent with USFWS guidance (Rinkevich et al 2011).

### Strategies

- Maintain current means of communication between the Service and CSKT on matters of common interest and resource protection

### Rationale

Partnerships are vital to achieving the Service's mission, including the vision for the NBR. Many of NBR's wildlife, habitat, and public use programs and habitat projects could not continue without the funding and support from refuge partners, and if appropriate, volunteers too. The Service must emphasize working cooperatively with others; develop a more integrated approach to problem solving and share resources to get the job done; and make choices and find efficiencies in both resource and business management practices.

This focus reinvigorates NBR's current intergovernmental coordination efforts. Numerous federal, state, Tribal, and local agencies and private citizens could be considered partners for the refuge. However, more could be done to inform and educate the partners about the refuge's value and goals. The Service seeks to help other agencies with issues, such as invasive plant control and specific wildlife conservation issues. Much of this coordination is accomplished through regular meetings and by developing personal relationships with individuals within other agencies and surrounding communities.

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## Administration and Operations

### Goal: Effectively use funding, staff, partnerships, volunteers, and equipment to restore and manage Complex habitats, conduct programs, and improve and maintain all necessary infrastructures to the benefit of the Complex and the Refuge System.

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### Funding and Staff Objective 1

Within 3 years, seek funding for an additional 2 FTEs to assist with implementation of the objectives in the CCP. Continue funding to provide for 7.5 permanent full-time employees. Continue to seek money for, seasonal (1-4), temporary, and youth positions.

### Strategies

- Continue to accurately document budget and staff needs through memos and reports
- Hire a full-time biological technician
- Hire a visitor services specialist
- Continue to support additional hiring with funding from other agencies or organizational



partners to provide three biological aids and or range technicians

- Use the Montana Conservation Corps program to help accomplish refuge goals and objectives
- Seek funding through grants and initiatives, such as AmeriCorps and other youth programs to supplement our staff and projects
- Continue to utilize student internship trainees to support public use and visitor services activities
- Actively solicit partners to collaborate and share resources and positions
- Provide office space at NBR for a Partners for Fish and Wildlife private lands biologist, and for other program staff as needed

### Rationale

Current staff at the refuge consists of seven permanent full-time employees including a refuge manager, budget analyst, law enforcement officer, biologist, engineering equipment operator, and a maintenance worker, as well as a permanent seasonal range technician (Table 2.2). The budget analyst and law enforcement officer assist other stations as well as the NBR. All staff are part of a larger Complex and also assist other stations within the Complex at various times.

The CCP emphasizes maintaining and/or enhancing ecological communities by building ecological community resiliency, promoting species and genetic diversity, and building sustainable management capacity and operations. The biologist has primary responsibility for the planning, implementation, reporting and oversight of the biological program on the NBR. The biologist position at the NBR fills a unique niche within the Service. The habitat and wildlife management issues on the NBR are unique, complex, and technical. A biological technician is necessary to assist with the completion of wildlife and habitat surveys, summarizing, inputting, and filing data, and reporting that information to the lead biologist.

The visitor services specialist will be responsible for delivering or facilitating environmental education, interpretation, and outreach programs for the NBR in accordance with regional visitor services program guidance (USFWS 2018b). This position will partner with multiple State, Tribal and non-profit organizations to assist the public use program at the NBR. This position will also assist in the dissemination of materials for educators to utilize on and off the NBR. The visitor services specialist is necessary to recruit, train, direct and lead the volunteer program and those interns assigned to the public use program. This position will assist in collection and deposition of money generated from the entrance fee program and donations.

Contingent on annual funding, biological aids or range technicians have been employed seasonally. Funding from grants and organizational partners has allowed the NBR to utilize personnel from the Montana Conservation Corps and other youth



Dave Fitzpatrick/USFWS

*Pronghorn in winter*

programs. The NBR has contracted with the Student Conservation Association and American Conservation Experience to provide interns.

The NBR supports the Montana Partners for Fish and Wildlife program by providing office space for a private lands biologist. This position can provide support for the refuge's biological and maintenance projects, but their program duties take precedence.

### Funding and Staff Objective 2

Throughout the life of the Plan, build staff capacity for understanding and interpreting local indigenous culture, history, and TEK.

### Strategies

- Encourage or require staff and volunteers to take the online TEK course from the National Conservation Training Center, or equivalent training
- Encourage or require staff and volunteer training with respect to the indigenous Séliš, Qíispé, and Ksanka cultures and histories. Consult with the Salish-Pend d'Oreille and Kootenai Culture Committees, CSKT Tribal Council, or SKC on what training would be most appropriate

### Rationale

It is important to maintain an efficient, and productive staffing organization, but also provide the opportunity of awareness and understanding of the CSKT, and of TEK. NBR sits completely within the Flathead Reservation, therefore staff, volunteers, and partners should have a general understanding of local indigenous culture, history, and TEK.

### Volunteer Objective 1

Over the life of the plan, support the biological program at the National Bison Range, provide for at least 20 volunteers for various programs in which they have interest and skills.



*Volunteers helping with management and learning about the refuge*

### Strategies

- Provide staff to recruit, supervise, coordinate and train volunteers
- Prioritize actively recruiting volunteers as needed to assist with habitat and wildlife use objectives
- Recruit volunteers for administrative, biological, maintenance and administrative positions on an as-needed basis

### Rationale

Volunteers are helpful in meeting the operational needs of the refuge in various programs including visitor services, biology, maintenance, and administration. Building up the current volunteer program to fully meet the needs of the refuge over the life of the CCP will require the dedication of a visitor services specialist.

The visitor services specialist will work with biological staff to promote and recruit volunteers to assist in the biological program. Volunteers will perform surveys as needed, or assist with invasive plant treatment, as examples. Volunteers will also provide assistance in other refuge programs as needed, however, the main focus for volunteer assistance will be for biological needs.

### Facilities Objective 1

Over the life of the plan, maintain adequate facilities and real property in operational condition to meet Service standards and refuge goals. Prioritize improvements and maintenance on roads, trails, facilities, and infrastructure that are critical in managing the refuge for priority species and sustainability of natural habitats.

### Strategies

- Maintain access to the refuge from dawn to dusk.
- Maintain 19 miles of auto tour routes
- Maintain 3 miles of hiking trails

- Maintain 9 miles of winter closure of Red Sleep Mountain Drive
- Maintain the day use area and the Visitor Center
- Maintain the roads, parking lots, and bridges required to support administrative functions and public use opportunities consistent with our goals and objectives
- Conduct dust abatement on auto tour route each year
- Maintain the fencing, wells, and other infrastructure necessary to facilitate the bison management program that helps us achieve our purpose, goals, and objectives for the refuge
- Maintain existing buildings, including an office/visitor center, maintenance shop, storage buildings, barns, residences, and vault toilets
- Maintain displays, and exhibits about area flora, fauna, ecology, cultural uses, and history at the Visitor Center and update as resources allow
- Maintain existing trails and accompanying facilities including interpretive signs, directional and regulatory signs and kiosks to provide quality visitor use experiences
- Replace the existing refuge Visitor Center with funding potentially available starting 2020; The location of the new Visitor Center has not been determined, but could likely be located in the same general area as the existing facility
- In conjunction with the new Visitor Center, design and fabricate new exhibits
- Maintain self-pay fee station (Iron Ranger) outside of refuge Visitor Center for convenience to the public
- Reduce the number of vault toilets in public use area
- Develop a facilities committee to review all available housing space on the refuge, along with priority needs (seasonal employees, volunteers, visiting USFWS teams). Plan to rebuild or repurpose housing for bunkhouse needs
- Consider for removal interior fences that have not been maintained since the 1992 change in grazing systems and are currently considered obstacles wildlife movement
- By 2023, remove all electric fencing that no longer serves a purpose for bison management
- By 2022, develop a station Habitat Management Plan (HMP) to help define actions or facility projects that would help the station reach an improved level of sustainability
- By 2020, replace staff time involved in maintenance of the day use area with refuge volunteers

### Rationale

Visitor services infrastructure including kiosks, entrance, directional and boundary signing, trails, roads, fences, dikes and buildings need routine annual and long-term maintenance to support resources in good condition (at a minimum). The NBR Visitor Center is currently on the Service's



Deferred Maintenance list and is expected to be replaced starting in 2020.

Essential facilities include the Visitor Center, office, maintenance shops and the bison corral. Due to the extensive backlog in the Service and the lack of maintenance staff on the refuge (currently 2 full-time, and 1 career seasonal), infrastructure throughout the refuge varies from poor to excellent condition. Roads require additional gravel, grading, and dust abatement (with magnesium chloride) annually. Fences and signage require frequent repair and replacement to keep the bison herd in designated areas, and the public informed and safe. Public use and accessible facilities (e.g. restrooms, parking, entrance ramps, trails) exist in several locations around the Visitor Center and day use area, and require annual minor repairs to maintain accessibility. Due to limited staff, reduction in the number of vault toilets in the day use area will allow current staff to more adequately clean and maintain the remaining toilets.

Current refuge housing is routinely unoccupied while the bunkhouse, a multi-residence facility, is routinely filled to capacity during the summer field season. A review of the current housing on NBR will define what housing is necessary to accommodate full-time and seasonal employees, visiting Service employees, interns, contractors and volunteers.

Rotational grazing is no longer implemented and the fencing of multiple pastures is no longer necessary. Fencing of pastures that are no longer utilized will not be maintained and will need to be removed to reduce the potential for entanglement and to further the free movement of wildlife.

Electric fences were used to discourage bison from leaving the pasture they were occupying. The electric fences would routinely be broken by elk and it took a substantial amount of staff time to try and maintain these fences. Electric wire that has broken off and has entangled wildlife and horses, resulting in additional staff time to free entangled



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*An example of incorporating traditional language on informational signs*

animals. We are no longer utilizing rotational grazing and no longer need to maintain electric fencing to try and keep bison in a specific pasture.

Maintenance of the day use area is not a priority, but its importance to environmental education and the overall visitor experience is recognized. Volunteers will be utilized to clean the bathrooms, mow and water the grass, and maintain a generally healthy and clean environment in the day use area.

## 4.2 Stepdown Management Plans

The CCP is a broad umbrella plan that provides general concepts and specific objectives for habitat, wildlife, public use, cultural resources, partnerships, and operations over the next 15 years. To provide support to the CCP, stepdown management plans will also be created. The purpose of the stepdown management plans is to provide details to Service staff for carrying out specific actions and strategies authorized by the CCP. Step-down management plans will be developed following the planning process guidance in 602 FW 1, FW 3 and FW 4. Table 4.1 lists the stepdown plans needed for the refuge, their status, and next revision date.

**Table 4.1 Stepdown Management Plans for the National Bison Range**

Plan	Plan Completed (Year Approved)	New or Revised Plan (Anticipated Completion Year)
Fenced Animal Management Plan	1990	see HMP
Disease Contingency Plan	--	2020
Fire Management Plan	2010	2020
Habitat Management Plan (HMP)	1981	2022
Forest Management Plan	2002	See HMP
Inventory and Monitoring Plan	--	2023
Integrated Pest Management Plan	--	2021
Predator Control Plan	1985	2021
Refuge Safety Plan	2017	2019
Visitor Services Plan	---	2020

### 4.3 Partnerships

Partnerships are an essential component to management of the NBR. In fact, partnerships are so important that the CCP includes a specific goal, objectives and strategies for maintaining and developing partnerships (see Section 4.1).

### 4.4 Monitoring and Evaluation

As with partnerships, monitoring, evaluation, and adaptive management are so critically important to the management of the National Bison Range that a specific goal was designated for this topic (Section 4.1). Specific objectives and strategies for monitoring and evaluation are also described in this section.

Adaptive management is a flexible approach to long-term management of biotic resources. Adaptive management is directed, over time, by the results of ongoing monitoring activities and other information. More specifically, adaptive management is a process by which projects are carried out within a framework of scientifically driven experiments to test the predictions and assumptions outlined within a CCP (Figure 4.1).

To apply adaptive management, specific survey, inventory, and monitoring protocols would be developed for the refuge, including clearly defining measures of success and methods of long-term data management. These will be included in the Inventory and Monitoring Plan, currently targeted for completion in 2023 (see Table 4.1). The habitat management strategies would be systematically evaluated to determine management effects on wildlife populations. This information would be used to refine approaches and determine how

effectively the objectives are being accomplished. Evaluations would include participation by Service personnel and other partners. If monitoring and evaluation indicate undesirable effects for target and non-target species or communities, alteration to the management projects would be made. Subsequently, the CCP would be revised.

### 4.5 Plan Amendment and Revision

The final CCP will be reviewed annually to determine the need for revision. A revision would occur if and when significant information becomes available, such as a change in ecological conditions. Revisions to the CCP and subsequent step-down management plans would be subject to public review and compliance with the National Environmental Policy Act, as appropriate. At a minimum, this plan would be evaluated every 5 years and revised after 15 years.

### 4.6 Funding and Personnel

Refuge budgets generally include funds for personnel as well as refuge-management activities (management capability). Personnel costs include salaries and benefits. Management capability includes non-salary costs such as maintenance, equipment, utilities, and special projects. Refuge budgets aim for a ratio of 75 percent personnel to 25 percent management capability. The estimated annual budget for the National Bison Range to implement the CCP (in current dollars) is summarized in Table 4.2. The refuge staff currently includes 7.5 permanent, full-time employees. Table 4.3 lists the positions that are needed to carry out the CCP.

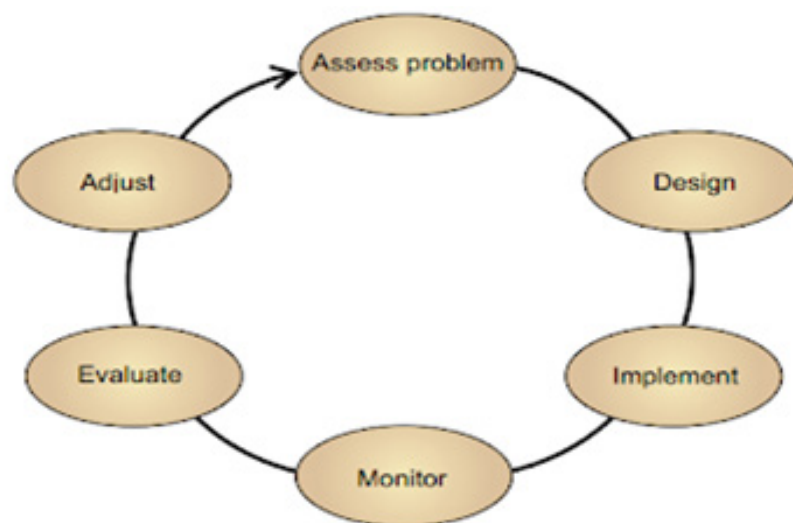


Figure 4.1. Diagram of the Adaptive Management Process (Williams et. al 2009).



The NBR is part of the newly formed Western Montana Complex (WMTC), which includes Ninepipe NWR, Pablo NWR, Lost Trail NWR, Swan River NWR, Lee Metcalf NWR, Benton Lake NWR, Lake County WMD, Northwest Montana WMD and the Benton Lake WMD (USFWS 2017b). There will be an estimated total of 22 full-time, permanent staff for the entire WMTC. The Project Leader for the WMTC is currently located at the Benton Lake refuge, Great Falls, Montana. The other job titles, functions, and duty stations within the WMTC are flexible and can be adapted to meet the needs of the entire WMTC over time. In addition, all staff within the WMTC will be available to assist and support work on any other unit of the WMTC.



USFWS

*Bison display in the Visitor Center*

**Table 4.2. Annual Costs to Carry Out the CCP for the National Bison Range (in FY2019 Dollars)**

Salaries	\$633,944
Management Capability	\$272,981
Total cost	\$906,925

**Table 4.3. Current Personnel and Additional Staff Needed to Carry Out the CCP**

Current Staff	Staff Needed to Carry Out the CCP
Project leader GS-14 <sup>1</sup>	Project leader GS-14 <sup>1</sup>
Wildlife refuge manager GS-12	Wildlife refuge manager GS-12
Wildlife biologist GS-9	Wildlife biologist GS-11
	Visitor services specialist GS-11
Law enforcement officer GL-9 <sup>2</sup>	Law enforcement officer GL-9 <sup>2</sup>
Budget analyst GS-9 <sup>3</sup>	Budget analyst GS-9 <sup>3</sup>
Engineering and equipment operator WG-9	Engineering and equipment operator WG-9
Maintenance worker WG-8	Maintenance worker WG-8
Range technician GS7 (Career seasonal)	Range technician GS7 (Career seasonal)
	Biological technician GS-7

(1) The Project Leader is located at Benton Lake refuge, Great Falls, Montana.

(2) Law enforcement officer currently also supports Lee Metcalf Refuge.

(3) The budget analyst currently also supports the Green River NWR Refuge Complex, Utah.

# Glossary

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

**active management:** The direct manipulation of habitats or wildlife populations to achieve specific objectives. Actions could include planting food plots, managing water levels, prescribed grazing or fire, or wildlife relocations.

**adaptive management:** A systematic approach for improving resource management by learning from management outcomes.

**Administration Act:** National Wildlife Refuge System Administration Act of 1966.

**allelic richness:** A measure of genetic diversity indicative of a population's long-term potential for adaptability and persistence.

**alternative:** A reasonable way to solve an identified problem or satisfy the stated need (40 CFR 1500.2); one of several different means of accomplishing refuge purposes and goals and contributing to the Refuge System mission (The Fish and Wildlife Service Manual, 602 FW 1.5).

**amphibian:** A class of cold-blooded vertebrates including frogs, toads, or salamanders.

**animal-unit month (AUM):** Stocking rates have been traditionally expressed in animal unit months, which is the amount of forage needed by an "animal unit" for one month. These calculations were adapted specifically to the wildlife species present on NBR.

**annual:** A plant that flowers and dies within 1 year of germination.

**appropriate use:** A proposed or existing use on national wildlife refuges that meet at least one of the following: (1) is a wildlife-dependent recreational use; (2) contributes to fulfilling refuge purposes, the Refuge System mission, or goals and objectives outline in a CCP; or (3) the refuge manager has evaluated the use and found it to be appropriate.

**ATV:** All-terrain vehicle.

**baseline:** A set of critical observations, data, or information used for comparison or a control.

**biological control:** The use of organisms or viruses to control invasive plants or other pests.

**biological diversity, also biodiversity:** The 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 (The 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.

**biological integrity:** Biotic composition, structure, and function at genetic, organism, and community levels.

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

**bison capture operations:** Bison capture operations are conducted across the Refuge System in order to maintain population objectives and involve "rounding up" bison into a corral system designed specifically for bison handling. The NBR corrals are upgraded periodically to accommodate implementation of low-stress bison handling techniques and to facilitate animal movement through the system.

**carrying capacity:** the number of organisms that a region can support without environmental degradation.

**CCP:** See comprehensive conservation plan.

**CFR:** See Code of Federal Regulations.

**citizen science:** the collection and analysis of data relating to the natural world by members of the general public, typically as part of a collaborative project with professional scientists.

**Code of Federal Regulations (CFR):** The 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.



**compatibility determination:** See compatible use.

**compatible use:** A wildlife-dependent recreational use or any other use of a refuge 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 Refuge System or the purposes of the refuge (The 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 ensure compatibility.

**comprehensive conservation plan (CCP):** A document that describes the desired future conditions of the refuge and provides long-range guidance and management direction for the refuge manager to accomplish the purposes of the refuge, contribute to the mission of the Refuge System, and to meet other relevant mandates (The Fish and Wildlife Service Manual, 602 FW 1.5).

**concern:** See *issue*.

**corridor:** A landscape feature that facilitates the biologically effective transport of animals between larger patches of habitat dedicated to conservation functions. Such corridors may facilitate several kinds of traffic including frequent foraging movement, seasonal migration, or the once-in-a-lifetime dispersal of juvenile animals. These are transition habitats and need not contain all the habitat elements required for long-term survival or reproduction of its migrants.

**cover, cover type, canopy cover:** Present vegetation.

**cubic feet per second (cfs):** A rate of the flow, in streams and rivers, for example. It is equal to a volume of water one foot high and one foot wide flowing a distance of one foot in one second. One cfs is equal to 7.48 gallons of water flowing each second.

**cultural resources:** Includes the material evidence of past human activities: prehistoric and historic. Also includes traditional cultural properties that may or may not have material evidence.

**Department of the Interior (DOI):** The United States Federal executive department of the U.S. government responsible for the management and conservation of most Federal lands and natural resources, and the administration of programs relating to Native Americans, Alaska Natives, Native Hawaiians, territorial affairs, and insular areas of the United States. About 75% of Federal public land is managed by the department, with most of the remainder managed by the United States Department of Agriculture's United States Forest Service. The department is administered by the United States Secretary of the Interior, who is a member of the Cabinet of the President.

**depredation:** Destruction or consumption of eggs, broods, or individual wildlife due to a predatory animal; damage inflicted on agricultural crops or ornamental plants by wildlife.

**eBird:** A global online and mobile application used to survey birds, through the Cornell Lab of Ornithology, at [eBird.org](http://eBird.org).

**ecological resilience:** The ability to absorb disturbances, to be changed, and then to reorganize and still have the same identity, that is, keep the same basic structure and ways of functioning. A resilient system is forgiving of external shocks; a disturbance is unlikely to affect the whole. A resilient habitat (1) sustains many species of plants and animals and a highly variable structural composition; (2) is asymmetric; (3) exemplifies biological integrity, biological diversity, and environmental health; and (4) adapts to climate change.

**ecosystem:** A 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 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.

**ecosystem resilience:** See *ecological resilience*.

**endangered species, Federal:** A 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:** A 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. Populations of these species are at critically low levels or their habitats have been degraded or depleted to a significant degree.

**endemic species:** Plants or animals that occur naturally in a certain region and whose distribution is relatively limited to a particular locality.

**environmental assessment:** A 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 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).

**environmental health:** Composition, structure, and functioning of soil, water, air, and other abiotic features.

**environmental impact statement (EIS):** An environmental impact statement (EIS), under United States environmental law, is a document required by the National Environmental Policy Act (NEPA) for certain actions “significantly affecting the quality of the human environment.” An EIS is a tool for decision making. It describes the positive and negative environmental effects of a proposed action, and it usually also lists one or more alternative actions that may be chosen instead of the action described in the EIS.

**expropriate:** to take (land, property, etc.) from its owner; especially to take for public use or in the public interest.

**fauna:** All the vertebrate and invertebrate animals of an area.

**Federal Indian trust responsibility:** The Federal Indian trust responsibility is also a legally enforceable fiduciary obligation on the part of the United States to protect Tribal treaty rights, lands, assets, and resources, as well as a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native Tribes and villages. In several cases discussing the trust responsibility, the Supreme Court has used language suggesting that it entails legal duties, moral obligations, and the fulfillment of understandings and expectations that have arisen over the entire course of the relationship between the United States and the federally recognized Tribes.

**federal trust resource:** A trust is something 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 as a result 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:** All species where the federal government has primary jurisdiction including Federally endangered or threatened species, migratory birds, anadromous fish, and certain marine mammals.

**fire management plan:** A plan that identifies and integrates all wildland fire management and related activities within the context of approved land and resource management plans. The plan defines a program to manage wildland fires (wildfire and prescribed fire).

**Friends group:** Any formal organization whose mission is to support the goals and purposes of its associated refuge and the National Wildlife Refuge Association overall: Friends organizations and cooperative and interpretive associations.

**full-time equivalent (FTE):** is the hours worked by one employee on a full-time basis. On an annual basis, an FTE is considered to be 2,080 hours, which is calculated as 8 hours per day.

**General Schedule (GS):** The pay rate schedule for certain Federal positions. <https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/2018/general-schedule/>. *genetic diversity* (also *gene diversity*): the total number of genetic characteristics in the genetic makeup of a species. Genetic diversity serves as a way for populations to adapt to changing environments.

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

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

**habitat disturbance:** Significant alteration of habitat structure or composition; may be natural (for example, wildfire) or human-caused events (for example, timber harvest and disking).

**habitat management plan (HMP):** A stepdown plan to a comprehensive conservation plan that identifies in detail how the objectives and strategies for uplands, riparian areas, river bottoms, and shorelines will be carried out.

**habitat type, also vegetation type, cover type:** A land classification system based on the concept of distinct plant associations.

**herbivory:** Grazing of grass and other plants by any animal.

**heterogeneity:** Diversity or dissimilar species within a landscape.

**heterozygosity:** Refers to an individual having two different alleles for a specific trait. An allele is a version of a gene or specific DNA sequence on a chromosome.

**Improvement Act:** National Wildlife Refuge System Improvement Act of 1997.

**indigenous:** Originating or occurring naturally in a particular place.

**integrated pest management:** 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.



**introduced species:** A species present in an area due to intentional or unintentional escape, release, dissemination, or placement into an ecosystem as a result of human activity.

**invasive plant:** A 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. (Executive Order 13112)

**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 (The Fish and Wildlife Service Manual, 602 FW 1.5).

**management alternative:** See alternative.

**mean kinship:** A measure of the relationship of an individual with a population; animals with a low mean kinship are more valuable for genetic diversity. Mean kinship depends on the population, which means that the mean kinship of an animal might change over time when a population changes. In conservation genetics, mean kinship is an important tool to maintain genetic diversity.

**metapopulation:** is a group of populations that are separated by space but consist of the same species. These spatially separated populations interact as individual members move from one population to another.

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

**migratory birds:** Birds that follow a seasonal movement from their breeding grounds to their wintering grounds. Waterfowl, shorebirds, raptors, and songbirds are all migratory birds.

**mission:** Succinct statement of purpose or reason for being.

**mitigation:** Measure designed to counteract an environmental impact or to make an impact less severe.

**monitoring:** The process of collecting information to track changes of selected parameters over time.

**national wildlife refuge:** A designated area of land, water, or an interest in land or water within the National Wildlife Refuge System, but does not include coordination areas; a complete 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.” <https://www.fws.gov/refuges/land/landreport.html>

**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):** Sets the mission and the administrative policy for all refuges in the National Wildlife Refuge System; defines a unifying mission for the Refuge System; establishes the legitimacy and appropriateness of the six priority public uses (hunting, fishing, wildlife observation, wildlife photography, environmental education, and interpretation); establishes a formal process for determining appropriateness and compatibility; establishes the responsibilities of the Secretary of the Interior for managing and protecting the Refuge System; requires a comprehensive conservation plan for each refuge by the year 2012. This act amended portions of the Refuge Recreation Act and National Wildlife Refuge System Administration Act of 1966.

**native species:** A species that, other than as a result of an introduction, historically occurred or currently occurs in that ecosystem.

**non-native:** species which have been deliberately or accidentally introduced to areas outside of their native geographic range, which are able to reproduce and maintain sustainable populations in these areas.

**nongovernmental organization:** Any group that is not a Federal, State, Tribal, county, city, town, local, or other governmental entity.

**noxious weed:** a noxious weed is any plant designated by federal, state or local government officials as injurious to public health, agriculture, recreation, wildlife or property.

**objective:** An objective is a 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 provide the basis for determining management strategies. Objectives should be attainable and time-specific and should be stated quantitatively to the extent possible. If objectives cannot be stated quantitatively, they may be stated qualitatively (The Fish and Wildlife Service Manual, 602 FW 1.5).

**passive management:** Minimal direct manipulation of habitat or wildlife populations. For example, on NBR, movement and grazing of bison and other ungulates are not restricted on the refuge except when excluded from certain areas for management purposes.

**patch:** An area distinct from that around it; an area distinguished from its surroundings by environmental conditions.

**perennial:** Lasting or active through the year or through many years; a plant species that has a lifespan of more than 2 years.

**plant community:** An assemblage of plant species unique in its composition; occurs in particular locations under particular influences; a 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.

**PM10:** suspended particulate matter less than 10 microns diameter

**preferred alternative:** The Service's final selection (after analysis of alternatives in a draft NEPA document) of a management alternative to carry out, which is documented in a "record of decision" for an EIS or a "finding of no significant impact" for an EA and published in the Federal Register. The decision is based on the legal responsibility of the Service including the missions of the Service and the Refuge System, other legal and policy mandates, the purpose of the refuge, and the vision and goals in the final CCP. In addition, the Service considers public, Tribal, and agency input along with land uses in the ecosystem, environmental effects, and budget projections.

**prescribed fire:** Any fire intentionally ignited by management actions in accordance with applicable laws, policies, and regulations to meet specific objectives.

**prioritization framework:** Using consistent criteria to ensure that the most impactful actions are taken first, e.g. prioritizing invasive species treatments, allocating staff resources to management actions, addressing facilities maintenance.

**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's purposes. This includes hunting, fishing, wildlife observation, wildlife photography, environmental education, and interpretation.

**project leader:** Another term for refuge manager. Refers to the most senior manager at the refuge or refuge complex.

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

**public:** Individuals, organizations, and groups; officials of federal, state, and local government agencies; Native American Tribes; and foreign nations. It may include anyone outside the Planning Team. It includes those 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 involvement:** A 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 of public views is given in shaping decisions for refuge management.

**purpose of the refuge:** The purpose of a refuge is specified in or derived from the law, proclamation, Executive Order, agreement, public land order, donation document, or administrative memorandum establishing authorization or expanding a refuge, a refuge unit, or a refuge subunit (The Fish and Wildlife Service Manual, 602 FW 1.5).

**quality wildlife-dependent recreation:** Programs are based on 11 criteria that defined under 605 FW1, "General Guidelines for Wildlife-Dependent Recreation." Quality programs include the following: safety of participants and compliance with laws and regulations; minimized conflicts with other goals or users; accessibility, stewardship, and availability to a broad spectrum of the American people; public understanding and appreciation of the natural resources; reliable and reasonable opportunities to experience wildlife; accessible facilities that blend in with the natural setting; and visitor satisfaction to help define and evaluate programs.

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

**refuge purpose:** See purpose of the refuge.

**Refuge System:** See National Wildlife Refuge System.

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



**renovation:** Is used in this context to indicate improvements in habitat health and resiliency, but not necessarily a complete return to an entirely “natural”, self-sustaining or historical condition.

**resident species:** A species inhabiting a given locality throughout the year; nonmigratory species.

**resilience:** The ability to absorb disturbances, to be changed and then to reorganize and still have the same identity (keep the same basic structure and ways of functioning). Also see *ecological resilience*.

**rest:** Free from biological, mechanical, or chemical manipulation, in reference to refuge lands.

**restoration:** Management emphasis designed to move ecosystems to desired conditions and processes, such as healthy upland habitats and aquatic systems. Often implies a complete return to ‘natural’ or historic conditions.

**riparian area or riparian zone:** An area or habitat that is transitional from terrestrial to aquatic ecosystems including streams, lakes, wet areas, and adjacent plant communities and their associated soils that have free water at or near the surface; an area whose components are directly or indirectly attributed to the influence of water; of or relating to a river; specifically applied to ecology, “riparian” describes the land immediately adjoining and directly influenced by streams. For example, riparian vegetation includes all plant life growing on the land adjoining a stream and directly influenced by the stream.

**scoping:** The process of obtaining information from the public for input into the planning process.

**service:** See U.S. Fish and Wildlife Service.

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

**special use permit:** A permit for special authorization from the refuge manager required for any refuge service, facility, privilege, or product of the soil provided at refuge 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:** Plants and animals that are rare, threatened, and/or have declining populations and as a result are at risk or potentially at risk of extirpation in Montana. Species are designated by a joint committee composed of biologists from the Montana Natural Heritage Program and Montana Fish Wildlife and Parks as new status information becomes available for individual species.

**stakeholder:** commonly used to refer to individual citizens; organizations; businesses; Native

American Tribes; federal, state, and local governmental agencies; and others who have expressed an interest in the issues and outcomes of the planning process.

**stepdown management plan:** A plan that provides the details necessary to carry out management strategies identified in the comprehensive conservation plan (The Fish and Wildlife Service Manual, 602 FW 1.5).

**strategy:** A specific action, tool, or technique or combination of actions, tools, and techniques used to meet unit objectives (The Fish and Wildlife Service Manual, 602 FW 1.5).

**suppression:** A wildfire response strategy to “put the fire out”, as efficiently and effectively as possible, while providing for firefighter and public safety.

**TES:** Threatened and endangered species.

**threatened species, federal:** Species listed under the Endangered Species Act of 1973, as amended, that are likely to become endangered within the foreseeable future throughout all or a significant part of their range.

**threatened species, state:** A plant or animal 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.

**Traditional Ecological Knowledge (TEK):** Traditional Ecological Knowledge, also called by other names including Indigenous Knowledge or Native Science, refers to the evolving knowledge acquired by indigenous and local peoples over hundreds or thousands of years through direct contact with the environment. This knowledge is specific to a location and includes the relationships between plants, animals, natural phenomena, landscapes and timing of events that are used for lifeways, including but not limited to hunting, fishing, trapping, agriculture, and forestry. TEK is an accumulating body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (human and non-human) with one another and with the environment. It encompasses the world view of indigenous people which includes ecology, spirituality, human and animal relationships, and more (Rinkevich et al 2011, <https://www.fws.gov/nativeamerican/pdf/tek-fact-sheet.pdf>).

**tribal trust responsibility:** see Federal Indian trust responsibility

**trust resource:** See federal trust resource.

**trust species:** See federal trust species.

**ungulate:** A hoofed mammal such as horses, bison, deer, elk, pronghorn, and bighorn sheep.

**United States Code (USC):** The official compilation and codification of the general and permanent federal statutes of the United States.

**USDA:** U.S. Department of Agriculture.

**U.S. Fish and Wildlife Service (Service, USFWS, FWS):** The principal federal agency responsible for conserving, protecting, and enhancing fish and wildlife and their habitats for the continuing benefit of the American people. The agency 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, and helps foreign Governments with their conservation efforts. It also oversees the federal aid program that distributes millions of dollars in excise taxes on fishing and hunting equipment to State wildlife agencies.

**U.S. Geological Survey (USGS):** A federal agency whose mission is to provide reliable scientific information to describe and understand the earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.

**vision statement:** A concise statement of the desired future condition of the planning unit, based primarily on the Refuge System mission, specific refuge purposes, and other relevant mandates (The Fish and Wildlife Service Manual, 602 FW 1.5).

**wildfire:** An unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out (definition currently under review).

**wildland fire:** Any non-structure fire that occurs in vegetation or natural fuels. Wildland fire includes prescribed fire and wildfire.

# Appendix A—List of Preparers

This document is the result of extensive and enthusiastic collaboration among members of the Planning Team, which includes refuge staff and other U.S. Fish and Wildlife Service employees, as well as several contributors from our cooperating agencies.

We are very grateful to all who have participated in the preparation of this plan, especially our cooperative agencies who attended Planning Team meetings; helped identify issues; provided input on alternative approaches, objectives, and strategies; helped us assess the environmental consequences of alternatives; reviewed draft planning documents; and provided extensive support and information throughout the planning process.

**Table A-1. Planning Team**

<b>Name</b>	<b>Agency and/or position</b>	<b>Education and Experience</b>	<b>Contributions</b>
Neil Anderson	Montana Fish, Wildlife and Parks, Region 1, Wildlife Program Manager	B.S. Fish and Wildlife Science, M.S. Fish and Wildlife Management, 24 years.	Assistance with development of vision, goals, alternatives and environmental consequences; document review
Dale Becker	Confederated Salish and Kootenai Tribes, Natural Resources Department, Wildlife Program Manager	B.S. Wildlife Biology; M.S. Wildlife Biology; 40 years	Assistance with development of vision, goals, alternatives and environmental consequences; document review
Amy Coffman	U.S. Fish and Wildlife Service, National Bison Range, Refuge Manager	B.S. Environmental Science; 13 years; 3 years at NBRC	Overall planning coordination, organization, response to comments; FEIS/CCP.
Robert Compton	Bureau of Indian Affairs, Land Management Specialist	B.S. Rangeland Ecology and Watershed Management; 20 years	Assistance with development of environmental consequences, document review
Wally Congdon	Lake County, Attorney	Geography and land planning experience 35 years. Extensive prior work with USFS, BLM, and USFWS.	Assistance with development of vision, goals, alternatives and environmental consequences; planning process guidance; document review
Gale Decker	Lake County, Commissioner	B.A. and M.A. in Education; Lake County Commissioner 6 years	Assistance with development of vision, goals, and alternatives
Vanessa Fields	U.S. Fish and Wildlife Service, Division of Science Resources, Planning Team Leader	B.S. Ecology; M.S. Biology; 21 years	Lead planner; plan and planning team coordinator; and plan organization, writing, and review DEIS/FEIS/CCP
Bernardo Garza	U.S. Fish and Wildlife Service, Branch of Planning and Policy, Planning Team Leader	B.S. Fish and Wildlife Sciences; 29 years	Lead planner; plan and planning team coordinator; and plan organization, writing, and review of DEIS/FEIS/CCP



<b>Name</b>	<b>Agency and/or position</b>	<b>Education and Experience</b>	<b>Contributions</b>
Pat Jamieson	Lake and Sanders County, Subject Matter Expert	B.S. Wildlife Biology, B.S. Recreation; 39 years; 20 years at NBRC	Assistance with development of vision, goals, alternatives and environmental consequences; document review; Visitor Services expertise
Mike Koole	U.S. Fish and Wildlife Service, National Bison Range, Federal Wildlife Officer	B.S. wildlife management; 11 years; 8 years at NBRC	Planning development, analysis, writing, and review of DEIS/FEIS/CCP
Amy Lisk	U.S. Fish and Wildlife Service, National Bison Range, Wildlife Biologist	B.S. in Resource Conservation; 19 years; 19 years at NBRC.	Planning development, analysis, writing, and review of DEIS/FEIS/CCP
Marlin McDonald	U.S. Fish and Wildlife Service, National Bison Range, Range technician	14 years range and maintenance experience at NBRC	Facility and Operations expertise, reviewer
Mike Oldham	U.S. Fish and Wildlife Service, National Bison Range, Acting Project Leader	B.S. Wildlife and Habitat Management; 26 years	Overall planning coordination, organization, analysis, writing, and review of DEIS/CCP; compatibility determinations
David Redhorse	Bureau of Indian Affairs, Natural Resources Division, Chief	Management, conservation, and protection of Indian wildlife and natural resources, with BIA, USFWS, FS, BLM, and USBR; 25 years	Assistance with development of vision, goals, and alternatives; document review
Kevin Shinn	U.S. Fish and Wildlife Service, Lost Trail refuge, Refuge Manager/ Federal Wildlife Officer	B.S. fisheries and wildlife; M.S. wildlife biology; 24 years; 7 years at NBRC	Planning development, analysis, writing, and review of DEIS/CCP.
Karen Shoemaker	U.S. Fish and Wildlife Service, National Bison Range, Budget Analyst	Heald Business College; 20 years budget administration; 8 years at NBRC	Budget and operations expertise; reviewer
Neil Shook	U.S. Fish and Wildlife Service, National Bison Range, Acting Project Leader	B.S. Fish and Wildlife Management; 25 years	Overall planning coordination, organization of DEIS/CCP.
Beverly Roedner Skinner	U.S. Fish and Wildlife Service, Lost Trail refuge, Wildlife Biologist	B.S. Wildlife Management, B.S. Plant Sciences, M.S. Wildlife Management; 35 years; 6 years at NBRC	Planning development, analysis, writing, and review of DEIS/FEIS/CCP
Dave Stipe	Lake County Commissioner	A.S. Range Management; Lake County Commissioner 15 years; 63 years ranching experience	Assistance with development of vision, goals, and alternatives
Kent Sundseth	U.S. Fish and Wildlife Service, National Bison Range, Acting Project Leader	B.S. General Biology; M.A. Wildlife Management; 20 years	Overall planning coordination, organization, and review; Development of Alternatives
Darren Thomas	U.S. Fish and Wildlife Service, National Bison Range, Engineering Equipment Operator	37 years maintenance experience at NBRC	Assistance with development of vision, goals, alternatives and environmental consequences; reviewer
Brian Upton	Confederated Salish and Kootenai Tribes, Attorney	B.A., International Relations; J.D.; 21 years.	Assistance with development of vision, goals, alternatives and environmental consequences; document review
Brent Woodger	U.S. Fish and Wildlife Service, National Bison Range, Maintenance	28 years maintenance experience at NBRC	Facility and Operations expertise, reviewer

**Table A-2. Other contributors and reviewers**

<b>Name</b>	<b>Agency and/or position</b>	<b>Contributions</b>
Jaron Andrews	U.S. Fish and Wildlife Service, Division of Water Resources, Hydrologist	Water rights, water resources and hydrology expertise; Advise/comment, writer, reviewer
Mery Casady	U.S. Fish and Wildlife Service, Division of Science Resources, Geographic Information System (GIS) Specialist	Spatial analysis and mapping expertise and support
Lori Caramanian	Department of Interior, Office of the Solicitor, Solicitor	Legal advisor to the Service, document review
Ben Conrad	U.S. Fish and Wildlife Service, Montana Ecological Services Office, Assistant Field Office Supervisor	Listed species expertise; section 7 consultation; document review
Carrie Cordova	U.S. Fish and Wildlife Service, Water Rights Specialist	Water rights expertise, document review
Michael d'Agostino	U.S. Fish and Wildlife Service, External Affairs, Public Affairs Specialist	Communications, Outreach and Public Engagement
Mary Danno	U.S. Fish and Wildlife Service, Division of Education and Visitor Services, Visitor Services Manager	Public use expertise, reviewer
Mike Durglo	Confederated Salish and Kootenai Tribes, Tribal Historic Preservation Office, Chief	Cultural resources expertise; assistance with environmental consequences; reviewer
Diane Emmons	U.S. Fish and Wildlife Service, Division of Education and Visitor Services, Chief	Public use expertise, writer, reviewer
Kyle Felsman	Confederated Salish and Kootenai Tribes, Tribal Historic Preservation Office	Cultural resources expertise; assistance with environmental consequences
Lindy Garner	U.S. Fish and Wildlife Service, Division of Science Resources, Invasive Species Branch, Chief	Invasive species and habitat management expertise; Advise/comment, reviewer; former NBR employee
Toni Griffin	U.S. Fish and Wildlife Service, Branch of Planning and Policy, Planning Team Leader	Initial planning coordination and organization; Reviewer
Kelly Hogan	U.S. Fish and Wildlife Service, Division of Operations, acting Chief	Overall planning coordination, organization, and review; policy expertise
Dana Jacobsen	Department of Interior, Office of the Solicitor, Assistant Regional Solicitor	Department of Interior, Office of the Solicitor, Solicitor
Lee Jones	U.S. Fish and Wildlife Service, Mountain-Prairie Region, Wildlife Health Office, Wildlife Biologist	Wildlife health and bison genetics expertise; Advise/comment, writer; reviewer; former NBR employee
Matt Kales	U.S. Fish and Wildlife Service, National Wildlife Refuge System, Mountain-Prairie Region, Acting Refuge Supervisor	Planning overview and assistance; document review
Robert Mansheim	(former) U.S. Fish and Wildlife Service, External Affairs, Digital Communications Specialist	Web site design and maintenance, section 508 compliance
Matthew McCollister	(former) U.S. Fish and Wildlife Service, Branch of Planning and Policy, Planner/ Biologist	Planning coordination and support; assistance with development of vision and goals
Tom McDonald	Confederated Salish and Kootenai Tribes, Natural Resources Department, Division of Fish, Wildlife and Recreation, Program Manager	Wildlife expertise, assistance with environmental consequences; reviewer

**Table A-2. Other Contributors and Reviewers (Continued)**

<b>Name</b>	<b>Agency and/or position</b>	<b>Contributions</b>
Linda Moeder	(former) U.S. Fish and Wildlife Service, Division of Realty, Cartographer	Spatial analysis and mapping expertise and support; document review
Roya Mogadam	U.S. Fish and Wildlife Service, External Affairs, Deputy Assistant Regional Director	Communications, Outreach and Public Engagement; Congressional outreach
Allison Parrish	U.S. Fish and Wildlife Service, Zone Archeologist MT/UT/WY	Cultural and historical resources expertise, writer, reviewer
Bernie Peterson	(former) U.S. Fish and Wildlife Service, National Wildlife Refuge System, Mountain-Prairie Region, Refuge Supervisor	Planning overview and assistance
Amy Thornburg	U.S. Fish and Wildlife Service, National Wildlife Refuge System, Mountain-Prairie Region, Deputy Refuge Supervisor	Planning overview and assistance, document review
Dean Vaughn	U.S. Fish and Wildlife Service, Montana Partners for Fish and Wildlife Program, Biologist	Wetland and riparian expertise; advise/comment, reviewer
Meg Van Ness	U.S. Fish and Wildlife Service, Mountain-Prairie Region Archeologist	Cultural and historical resources expertise, writer, reviewer
Jeff Warren	U.S. Fish and Wildlife Service, Division of Science Resources, Zone Biologist	Biological, research design and monitoring expertise; advise/comment, reviewer
Bill West	(former)U.S. Fish and Wildlife Service, Red Rock Lakes NWR, Refuge Manager	Refuge management expertise; Advise/comment, reviewer; former NBR employee

**Table A-3. Consultants**

<b>Name</b>	<b>Agency and/or position</b>	<b>Contributions</b>
Erika Wettergreen	(former) Marstel-Day, Principal	Workshop and public meeting facilitation, NEPA expertise and environmental document production; development and writing of affected environment and environmental consequences
Jennifer Allen		
Dawn Johnson	John Wood Group PLC, Principal	Document layout, editing, and production; section 508 compliance



# Appendix B—Summary of Public Involvement

Following the guidance found in the National Environmental Policy Act (NEPA), the Improvement Act, and the US Fish and Wildlife Service's (Service) planning policy, the Planning Team has sought ways to ensure that all interested groups and the public have had an opportunity provide input into the planning process.

## Public Scoping Activities

The formal scoping period began on May 18, 2017 with a Notice of Intent (NOI) published in the Federal Register [82 FR 22843]. This NOI was a revision to an earlier NOI published in January 18, 2017 [82 FR 5597].

## Outreach Activities

Throughout the planning process we have developed a range of activities and methods of communication to keeping the public informed, seek to ensure meaningful public input, and be inclusive of many interests. To date, we have used various methods to solicit guidance and feedback from interested citizens, organizations, tribes and government agencies. These methods have included outreach materials; public meetings; agency meetings (Planning Team); presentations; and letters, email, and telephone calls.

## Press Release

Our Division of External Affairs prepared and distributed press releases to various media and news organizations throughout Montana, as well as to Congressional offices, other Federal and State agency offices, and Tribal agencies announcing the planning process and notifying the public of the schedule and location of various public meetings. Information and news articles about NBR and the planning process appeared in local newspapers, online publications, and the NBR project website prior to the meetings.

## Project Website

The project's planning website (<https://www.fws.gov/mountain-prairie/refuges/nbrc.php>) was established concurrent with the beginning of the planning effort and is promptly updated as new information is available. The site provides information about the public scoping meetings, as well as downloadable versions of all of the available public scoping comments, the notice of intent, press

releases press releases, planning updates and the draft and final EIS and CCP. All interested citizens can sign up to be on the project mailing list or can provide public comment through the planning website.

## Public Scoping Meetings

The four public scoping meetings (June 6-7 and August 30, 2017) were a key component of the public scoping process. The purpose of these meetings was to inform the public about the NBR planning process, about the refuge and its resources, and to solicit public concerns and planning ideas that will be considered in the CCP and EIS. Scoping meetings for the NBR CCP and EIS were held in conjunction with scoping meetings for the CCP and EA for the other units of the Complex. The four meetings were held at the following locations:

- June 6, 2017: Public Scoping Meeting, Red Lion Inn, Polson, Montana
- June 7, 2017: Public Scoping Meeting, Kalispell Public Library, Kalispell, Montana
- August 30, 2017: North Lake County Public Library, Polson, Montana
- August 30, 2017: Missoula Public Library, Missoula, Montana

Following a brief welcome and introduction, Service staff provided a 15-minute presentation that outlined the following topics: (1) an introduction to the Service and to the purposes of the Refuge System; (2) a description of the refuge and its purposes, resources, and management; (3) an overview of the CCP and EIS planning process; (4) the project schedule. After the presentation, the remainder of the meeting was divided into two components: questions and answers and public comments. Most of the meeting time was devoted to answering questions from meeting attendees. After the question and answer session, we welcomed comments from those who provided them. This format enabled participants to have their questions answered about the planning process and also identified many of the issues they considered important and wanted us to address in the CCP. Attendees were also given the opportunity to provide written comments during the meeting or sent to us via postal service, facsimile, or email.

## Scoping Summary

During the comment period for scoping, the Service received over 100 written responses in the form of letters, emails, or from notes written in the handout sheet we provided at the public meetings. Twelve organizations submitted comments. Comments received from both the January 2017 and the May 2017 NOIs were taken into consideration throughout this planning process. All comments have been posted in a downloadable format on the NBR planning website. Following the comment period, the planning team prepared a scoping report summarizing the scoping phase. Copies of the report were provided to the cooperating agencies at the Planning Team Vision and Goals workshop in November 2017. The comments were consolidated into significant topics of concern with a number of subtopics. The primary topics are: habitat and wildlife (especially bison), monitoring and research, public use, tribal cooperation and cultural/historic resources, partnerships and communication and economics/refuge operations/staffing. These are addressed in more detail in chapter 1.

## Agency and Tribal Coordination

In accordance with the Service's planning policy (FWS 2000), we notified Native American tribes and other Federal and State agencies with a land management interest on the planning effort and invited them to participate as cooperating agencies and members of the planning team.

### Native American Tribes

The Service sent letters of notification about the planning process, including an invitation to join the planning team, to the following tribes: Confederated Salish and Kootenai Tribes, Blackfeet Nation, Coeur d'Alene Tribe, Apache Tribe, Fort Belknap Indian Community of the Fort Belknap Reservation, Kalispel Indian Community of the Kalispel Reservation. The Confederated Salish and Kootenai Tribes decided to join us and are currently participating as a cooperating agency.

### Federal, State and Local Agencies

We sent letters of notification about the planning process, including an invitation to join the planning team, to County, State and Federal agencies: Lake, Sanders and Flathead Counties, Montana Fish, Wildlife and Parks, Bureau of Indian Affairs, U.S. Forest Service (Flathead, Kootenai, and Lolo National Forests), Bureau of Reclamation (BOR), and National Park Service (NPS). Lake and Sanders Counties, Montana Fish, Wildlife and Parks and the Bureau of Indian Affairs decided to join us and are currently participating as cooperating agencies.

In summary, the cooperating agencies that accepted our invitation include the Confederated

Salish and Kootenai Tribes, the Bureau of Indian Affairs, Montana Fish, Wildlife and Parks, Lake County and Sanders County. A memorandum of understanding was signed by all these agencies.

## Planning Team Meetings

The Planning Team is comprised of the core planning team of Service staff from the National Bison Range Complex and the Mountain-Prairie region as well as the cooperating agencies: the Confederated Salish and Kootenai Tribes, the Bureau of Indian Affairs Montana Fish, Wildlife and Parks, Lake and Sanders Counties. The Planning Team has been involved in developing and reviewing every step of the CCP process.

The first Planning Team meeting occurred on August 29, 2017. The purpose of this meeting was to bring the Planning Team together, explain the CCP planning process, and answer any questions from the cooperating agencies. Background on the units of the Complex was presented including history, habitats and current management. The Team then brainstormed the qualities, issues and opportunities inherent to the Complex and the planning process. The Memorandum of Understanding was reviewed and circulated after the meeting for signature.

The second Planning Team meeting was on November 7, 2017 in Polson, Montana. The purpose of this meeting was to review the public scoping comments and the various purposes of the the units of the Complex and develop a draft vision and set of goals. The vision and goals were developed collectively for all units of the National Bison Range Complex at this meeting.

The third Planning Team meeting was a workshop to develop a draft range of alternatives on March 7-9, 2018 in Polson, Montana. The Team developed four alternatives, in addition to the no action alternative. The Team then added more details about the types of activities that would occur under each alternative for each goal topic area. The draft vision, goals and alternatives were then shared with the public (see section 1.4 below) during a public review period.

The fourth Planning Team meeting was held June 14-15 and 21-22, 2018 via conference call. During these calls the Team reviewed public comments received during the review period of the draft vision, goals, and alternatives and revised them accordingly. Immediately afterwards the planning team developed a set of draft Objectives and Strategies for the revised alternatives.

The fifth Planning Team meeting was held August 8-10, 2018 in Polson, Montana. This workshop focused on reviewing the draft impact analysis developed by the NEPA consultants from Marstel-Day. This workshop was preceded by an "expert panel" discussion where several Service technical

experts (some of which were also former NBR employees) gathered with the Planning Team to provide their comments and answer questions after reviewing the draft vision, goals, alternatives, objectives, strategies, rationales and impacts analysis.

The Service provided the cooperating agencies with copies of the internal review document at the end of August 2018. Following a week long review period, the Service reviewed the input of the cooperating agencies and incorporated changes and suggestions as appropriate.

## **Development of Draft Alternatives**

The Service considers alternatives development as part of an iterative process in the development of the Draft CCP and EIS (FWS 2000). This phase of the project began in spring 2018, and public input ended in late May 2018. Following input by the cooperating agencies and the public on the draft alternatives, detailed objectives and strategies for all the alternatives were developed in June 2018 with input by the cooperating agencies.

## **Outreach Activities**

In April 2018, the planning team presented five draft alternatives to the public, including a no-action alternative. At this point, the alternatives were described as conceptual approaches or themes including the type of management actions that would occur under each approach. For a CCP planning process involving an EIS the Service often solicits feedback on the draft alternatives prior to fully developing them. While not required under the National Environmental Policy Act, this allows the public an added opportunity to provide input earlier into the planning process. It also gives the refuge staff a chance to convey to the public what the Service would like to achieve. The Service does not select a preferred alternative until the preparation and publication of the final CCP and EIS.

## **Planning Updates**

[Planning Update, Issue 1, April 2018](#) was mailed via postal service and e-mailed (as appropriate) during the comment period, with most of the updates sent out during the week of April 30, 2018. This planning update outlined the draft vision, goals, and initial draft alternatives developed by the planning team. It also provided the dates, times, and locations of the open house public meetings. The distribution list included individuals, agencies, and organizations who had previously expressed an interest in NBR activities. In addition, the planning update was handed out at the meetings. The Service followed up with another update ([Planning Update, Issue 2, July 2018](#)), which summarized what had been learned during the comment period. Both updates and all of the public comments were posted on the NBR project website.

## **Press Release**

On April 23, the Service issued another press release notifying the public of the schedule and location of the public meetings to 77 media organizations, congressional offices, other Federal and State agency offices, and tribal agencies throughout Montana. The press release was also posted on the NBR project website and the NBR website and a link to the press release was posted on the National Bison Range facebook page.

## **Public Meetings**

Forty-four people attended one or more of the public meetings held in Kalispell, Charlo and the Lost Trail and National Bison Range headquarters. Following a brief welcome and introduction, the Complex staff made a short presentation highlighting the planning process to date, sharing the draft vision and goals and an overview of the draft alternatives. As with the scoping meetings, after the presentation, the remainder of the meeting was divided into two components: questions and answers and public comments. Most of the meeting time was spent welcoming and answering questions from meeting attendees. Afterwards we took comments from those who wanted to offer them. Attendees were also given the opportunity to provide written comments that day or in subsequent days.

## **Summary of Comments**

The public comment period lasted from April 26 through May 25, 2018. The Service's primary objective in providing the public an early opportunity to review the alternatives was to gather additional input prior to writing the objectives and strategies, conducting the analysis of environmental consequences, and proposing a preferred alternative. All comments, questions, or issues, whether from written submissions or recorded at the public meetings, were considered to be of equal importance. While the Planning Team valued all comments made in support or opposition to a specific alternative or issue, the team also was seeking feedback on the range of alternatives, whether there were other reasonable alternatives that should be included in the analysis, and if any of the alternatives should be changed in some way.

A summary of comments received at the public meetings and all written comments were posted on the NBR project website. A summary of all comments was included in the [Planning Update, Issue 2, July 2018](#), which was emailed to everyone on our email list and also posted on the NBR project website.

Public comments received for the draft Vision and Goals were generally supportive. For the draft Alternatives, it was suggested that the Service should be more specific to the unique resources of



individual Complex units. Commenters expressed concern that while including Alternative A (No Action) is necessary for completeness, it needs to include a discussion of the challenges the current budget creates for infrastructure, programs, and staffing. Comments received for Alternative B acknowledged that public support is important to the refuge; some expressed concern that Alternative B may not support optimal management of the individual Refuge Complex units. For Alternatives C and D, several commenters noted the importance of sustainability, connectivity, and healthy ecosystems as well as the persistence of individual species. It was suggested that Alternatives C and D have similarities and complementary aspects that may warrant combining them. Many commenters supported the concepts of partnership and collaboration in Alternative E, while some cautioned against creating additional administrative burdens. There were also several specific items suggested as additions within the draft Alternatives that the Service will evaluate, such as increased public uses (e.g. bird watching, hunting, public access, group trail rides), increased interpretation for Glacial Lake Missoula, and additional ideas for invasive species control.

Commenters suggested other Alternatives, including “A Balanced Approach to Management Direction” which harnesses the best strategies of all the draft Alternatives. Several commenters suggested other Alternatives with higher levels of staffing and funding, including the “National Bison Range Complex Restoration” alternative based on prior staffing levels and operation of the Complex. Concerns about the planning process - including pre-planning, outreach efforts, and inadequate resources - were also noted.

The Planning Team reviewed these comments and used the input to revise the Alternatives for the draft CCP. All public comments were also be used, as appropriate, to help the Planning Team develop draft objectives and strategies for each alternative and to evaluate the environmental consequences of the alternatives.

## **Changes to the Draft Alternatives**

From a review of all the comments, the Planning Team decided to revise the range of draft alternatives for the National Bison Range. The team agreed with public comments that suggested combining Alternatives C (Manage for Ecological Sustainability) and D (Species-focused Management) due to the overlap and complementary aspects of these two alternatives. Further discussions by the team also led to incorporating elements of Alternative E (Collaborative/Partner-based Landscape Level Conservation) into each of the other alternatives, where appropriate. The Planning Team felt that partnerships are essential to the success of every alternative and having a separate

alternative for this was overly repetitive. None of the elements of Alternative E were eliminated, but rather moved to another alternative that moved forward in the process. The No Action Alternative and Alternative B, Maximize the Quality of Public Experiences, were not changed. Suggestions for alternative approaches that were not carried forward in the analysis are discussed in chapter 2, section 2.7. Some public comments provided specific ideas for action items that were incorporated as objectives and strategies were developed for the revised alternatives.

## **Release of the Draft CCP and EIS**

The draft CCP and EIS was released to the public for a 45-day public review and comment period on April 5, 2019 following publication of a notice of availability in the Federal Register [84 FR 13662]. We allowed comments to be submitted until May 20, 2019.

## **Outreach Activities**

A planning update (Issue 3, April 2019) was mailed to everyone on the project mailing list. A press release was also used to announce the availability of the document. We held three public meetings on the draft CCP and EIS in Missoula (April 30), Polson (May 1), and at the refuge headquarters (May 2). Advertisements for the public meetings were published in the Missoulian, Flathead Beacon, Daily Interlake and Lake County Leader in the weeks prior. In total, about 60 people attended the meetings. We began the meetings with a short presentation, followed by an opportunity for participants to ask questions, and finally an opportunity for anyone who wished to offer a formal comment. Comment sheets were available for anyone who preferred to submit comments in writing. Throughout the comment period, we received comments from tribes, Federal agencies, non-profit organizations, and individuals. Refer to the responses to comments section of this final CCP and EIS for more information on the comments we received (Appendix H).

## **Summary of Changes to the Final CCP and EIS**

As a result of public comments on the draft CCP and EIS, we made several changes or clarifications in the final CCP and EIS.

We received many comments about the importance of the public use program at the refuge. Several commenters were supportive of the objectives and strategies proposed under Alternative C for public use, but were concerned about the resources we had allocated to achieve the overall goal. In order to better address public use, we have increased the expected full performance level of the Visitor Services Specialist. In addition, we have revised our plans for the new Visitor Center to create greater flexibility to address the needs of the visitors, the staff and the opportunity for

partnerships and will seek to have the Visitor Center open 7 days a week, May-October, subject to funding.

We have added language to the final EIS and CCP to further clarify the Service's Native American Policy and our Tribal trust responsibilities. The Service's Native American policy (510 FW 1) provides a framework for government-to-government relationships and furthers the United States' and the Department of the Interior's trust responsibility to federally recognized Tribes. The policy established a consistent framework nationwide, yet remains flexible, to reflect regional and local variations in history, knowledge systems, applicable laws, treaties, and Service-Tribal relationships. In developing this CCP, the Service has worked with the CSKT to identify ongoing, and future, opportunities for collaboration consistent with this policy. Examples of some of these opportunities include proactively soliciting, and incorporating into our management, information on traditional ecological knowledge from CSKT and other Tribes, as well as collaborating on developing relevant educational and interpretive materials, including exhibits, interpretive panels, and programs.

We received several comments expressing concern over the grazing and habitat management on the refuge. We have clarified our intent not to endorse permanent changes, but rather recommend conducting a robust analysis prior to development and implementation of the Habitat Management step-down plan. Our priority is to better inform habitat objectives in a manner that addresses issues such as those set forth in these comments (e.g. species diversity, invasive species, soils, birds). If the best available science and current knowledge indicates a significant benefit to rangeland health by implementing yet a new system (rotational or otherwise), current NBR management is in favor of adapting accordingly. All alternatives seek to investigate whether implementation of passive distribution tactics would be beneficial to the habitat and any subsequent plans will promote management specific to the wildlife and habitat resources on the NBR.

We also revised the refuge history and included many suggested editorial comments throughout the document.

### **List of Recipients Receiving the Final CCP and EIS**

The following Federal and State agencies, along with nonprofit organizations, or other businesses that were on the project mailing list received copies of the Final CCP and EIS. All interested groups and the public on the project mailing list received a copy of Planning Update, Issue 4, which summarized the contents of the Final CCP and EIS.

### **FEDERAL ELECTED OFFICIALS**

- U.S. House of Representatives, Montana Representative Greg Gianforte
- U.S. Senate, Montana Senator Steve Daines
- U.S. Senate, Montana Senator Jon Tester

### **FEDERAL AGENCIES**

- Bureau of Reclamation, Boise, Idaho
- Bureau of Indian Affairs, Portland, Oregon
- Department of Agriculture, NRCS, Missoula, Montana
- Department of Agriculture, USFS, Lolo NF Missoula; Flathead NF Kalispell; Kootenai NF, Libby, Montana
- Environmental Protection Agency, Helena, Montana
- Federal Highways Administration, Western Lands Office, Vancouver, Washington
- U.S. Fish and Wildlife Service—Mountain-Prairie Region programs, Denver, Colorado; Invasive Strike Team—Great Falls, Montana; Ecological Services—Helena, Montana, and Creston, Montana; Region 9—Washington D.C.
- National Park Service, Glacier National Park, regional office—Denver, Colorado

### **TRIBES AND TRIBAL ORGANIZATIONS**

- Confederated Salish and Kootenai Tribes
- Blackfeet Nation
- Coeur d'Alene Tribe
- Apache Tribe
- Fort Belknap Indian Community of the Fort Belknap Reservation
- Kalispel Indian Community of the Kalispel Reservation

### **MONTANA ELECTED OFFICIALS**

- Governor Steve Bullock
- Representative Jon Fleming
- Representative Denley Loge
- Senator Daniel Salomon
- Senator Jennifer Fielder

### **MONTANA STATE AGENCIES**

- Department of Fish, Wildlife, and Parks, director—Helena, Montana, Region 1—Kalispell, State Wildlife Grants—Great Falls
- Department of Natural Resources, director—Helena, Montana, local office
- Department of Transportation, local office

- Montana Historical Society and Preservation Office
- Natural Heritage Program, Helena

## COUNTY AND LOCAL GOVERNMENTS

- Lake County Commissioners
- Sanders County Commissioners
- Flathead County Commissioners

## ORGANIZATIONS AND EDUCATIONAL INSTITUTIONS

- Backcountry Hunters and Anglers, Montana Chapter, Missoula, Montana
- Blue Goose Alliance, Albuquerque, New Mexico
- Defenders of Wildlife, Washington D.C.
- Five Valleys Audubon, Missoula, Montana
- Flathead Audubon Society, Kalispell, Montana
- Flathead Lakers, Polson, Montana
- Flathead Wildlife Inc., Kalispell, Montana
- Glacial Lake Missoula, Missoula, Montana
- Headwaters Montana, Whitefish, Montana
- Montana Conservation Voters, Billings, Montana
- National Wildlife Federation, Missoula, Montana
- Natural Resources Defense Council, Bozeman, Montana
- Protect Public Land, Polson, Montana
- Public Employees for Environmental Responsibility, Silver Spring, Maryland
- Sierra Club, Bozeman, Montana; Missoula, Montana
- Sunrisers Lions Club, Kalispell, Montana
- Walleyes Unlimited of Montana, Flathead Chapter
- The Wilderness Society, Bozeman, Montana
- The Wildlife Conservation Society, Bozeman, Montana

## PUBLIC LIBRARIES

- Montana State University Libraries—Billings, Bozeman, Havre, Montana
- U.S. Fish and Wildlife Service, National Conservation Training Center Library, Shepherdstown, West Virginia
- Flathead County Library – Kalispell, Montana
- Missoula Public Library – Missoula, Montana
- Plains Public Library – Plains, Montana
- Ronan City Library – Ronan, Montana
- Polson City Library – Polson, Montana
- St. Ignatius School-Community Library – St. Ignatius, Montana



# Appendix C—Key Legislation and Policies

This appendix briefly describes the guidance for the National Wildlife Refuge System and other policies and key legislation that guide the management of the National Bison Range (NBR).

## National Wildlife Refuge System

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).

## Goals of the National Wildlife 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 maintain 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 participate in compatible wildlife-dependent recreation (hunting, fish, 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.

## Guiding Principles of the National Wildlife Refuge System

There are four guiding principles for management and 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 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 about acquisition and management of national wildlife refuges.

## Other Legal and Policy Guidance

Management actions on national wildlife refuges are constrained by many mandates, including laws and Executive Orders. The more common regulations that affect refuge management are listed below.

**American Indian Religious Freedom Act (1978):** Directs agencies to consult with native traditional religious leaders to determine appropriate policy changes necessary to protect and preserve Native American religious cultural rights and practices.

**Americans with Disabilities Act (1990):** Prohibits discrimination in public accommodations and services.

**Antiquities Act (1906):** Authorizes 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):** Directs the preservation of historic and archaeological data in Federal construction projects.

Archaeological Resources Protection Act (1979), as amended: Protects 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): Requires Federally owned, leased, or funded buildings and facilities to be accessible to persons with disabilities.

Bald and Golden Eagle Protection Act (1940): Provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds.

Clean Air Act (1970, amended 1990): Restricts the amount of pollutants that can be emitted into the air.

Clean Water Act (1977): Requires consultation with the U.S. Army Corps of Engineers (404 permits) for major wetland modifications.

Data Quality Act (2001): Requires government agencies to ensure and maximize the quality, objectivity, utility, and dissemination of information by Federal agencies.

Dingell-Johnson Act (1950): Authorizes the Secretary of the Interior to provide financial assistance for State fish restoration and management plans and projects. Financed by excise taxes paid by manufacturers of rods, reels, and other fishing equipment.

Emergency Wetlands Resources Act (1986): Promotes wetland conservation for the public benefit to help fulfill international obligations in various migratory bird treaties and conventions. The act authorizes buying wetlands with Land and Water Conservation Fund monies.

Endangered Species Act (1973): Requires Federal agencies to carry out programs for the conservation of endangered and threatened species.

Executive Order 3596 (1921): Directs National Bison Range, Sullys Hill National Park Game Preserve, and Elk Refuge to be reserved and set apart for the use of the Department of Agriculture as refuges and breeding grounds for birds.

Executive Order 11987, Exotic Organisms (1977): Executive agencies shall, to the extent permitted by law, restrict the introduction of exotic species into the natural ecosystems on lands and waters which they own and shall encourage States, local governments and private citizens to prevent the introduction of exotic species into natural ecosystems.

Executive Order 11988, Floodplain Management (1977): Requires Federal agencies to provide leadership and take action to reduce the risk of flood loss, minimize the impact of floods on human safety, and preserve the natural and beneficial values served by the floodplains.

Executive Order 11990, Protection of Wetlands (1977): Agencies shall provide leadership and shall take action to minimize the destruction, loss or degradation of wetlands, and preserve and enhance the natural and beneficial values of wetlands.

Executive Order 12898, Environmental Justice (1994): Focuses Federal attention on the environmental and human health effects of Federal actions on minority and low-income populations with the goal of achieving environmental protection for all communities.

Executive Order 12996, Management and General Public Use of the National Wildlife Refuge System (1996): Defines the mission, purpose, and priority public uses of the National Wildlife Refuge System. It also presents ten directives to guide management of the Refuge System.

Executive Order 13007, Indian Sacred Sites (1996): Directs Federal land management and other 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, maintain the confidentiality of sacred sites.

Executive Order 13175 Consultation and Coordination with Indian Tribal Governments (2000): Reaffirms the Federal government's commitment to Tribal sovereignty, self-determination, and self-government. Its purpose is to ensure that all Executive departments and agencies consult with Indian Tribes and respect Tribal sovereignty as they develop policy on issues that impact Indian communities.

Executive Order 13352, Cooperative Conservation (2004): Directs Federal agencies to implement laws relating to the environment and natural resources in a manner that promotes cooperative conservation with an emphasis on appropriate inclusion of local participation in Federal decision making in accordance with respective agency missions and policies.

Executive Order 13474, Recreational Fisheries (2008): Ensures that recreational fishing shall be managed as a sustainable activity in national wildlife refuges, consistent with applicable law; Amends EO 12962

Executive Order 13592, Improving American Indian and Alaska Native Educational Opportunities and Strengthening Native Colleges and Universities (2011): Seeks to improve

educational opportunities for students attending Tribal Colleges and Universities.

Executive Order 13751, Safeguarding the Nation from the Impacts of Invasive Species (2016): Directs actions to continue coordinated Federal prevention and control efforts related to invasive species and maintains the National Invasive Species Council (Council) and the Invasive Species Advisory Committee.

Executive Order 13807, Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects (2017): Ensures that the federal environmental review and permitting process for infrastructure projects is efficient, coordinated, predictable, transparent, and expeditious.

Executive Order 13834, Efficient Federal Operations (2018): Prioritizes actions that reduce waste, cut costs, enhance the resilience of federal infrastructure and operations, and enable more effective accomplishment of its mission.

Federal Activities Inventory Reform Act (1998): Provide a process for identifying the functions of the Federal Government that are not inherently governmental functions, and for other purposes.

Federal Noxious Weed Act (1990): Requires 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): Requires the preservation of evidence of the government's organization, functions, policies, decisions, operations, and activities, as well as basic historical and other information.

Fish and Wildlife Act (1956): Provides direction with regard to increase public opportunities for recreational use of fish and wildlife resources.

Fish and Wildlife Coordination Act (1958): Allows the U.S. Fish and Wildlife Service to enter into agreements with private landowners for wildlife management purposes.

Migratory Bird Conservation Act (1929): Establishes 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): Authorizes the opening of part of a refuge to waterfowl hunting.

Migratory Bird Treaty Act (1918): Designates the protection of migratory birds as a Federal responsibility and enables the setting of seasons

and other regulations including the closing of areas, Federal or non-Federal, to the hunting of migratory birds.

Native American Policy (1994): Articulates the general principles that guide the Service's government-to-government relationship to Native American governments in the conservation of fish and wildlife resources.

National Environmental Policy Act (1969): Requires all agencies, including the Service, to examine the environmental impacts of their actions, incorporate environmental information, and use public participation in the planning and implementation of all actions. Federal agencies must integrate this act with other planning requirements and prepare appropriate documents to facilitate better environmental decision making. [From the Code of Federal Regulations (CFR), 40 CFR 1500]

National Historic Preservation Act (1966), as amended: Establishes as 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): Defines the National Wildlife Refuge System and authorizes the Secretary of the Interior to permit 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 (1997): Sets the mission and administrative policy for all refuges in the National Wildlife Refuge System; mandates comprehensive conservation planning for all units of the Refuge System.

Native American Graves Protection and Repatriation Act (1990): Requires Federal agencies and museums to inventory, determine ownership of, and repatriate cultural items under their control or possession.

Paleontological Resources Preservation Act (2009): Requires the Secretary of Interior and Agriculture to manage and protect paleontological resources on Federal land using scientific principles and expertise.

Performance and Management of Inherently Governmental and Critical Functions (2011): Policy statement that provides Executive Departments and agencies guidance on managing the performance of inherently governmental and critical functions [76 FR 56227].

Public Law 85-622 (1958): An Act to provide for a display pasture for the bison herd on the Montana National Bison Range in the State of Montana, and for other purposes.



Refuge Recreation Act (1962): Allows the use of refuges for recreation when such uses are compatible with the refuge's primary purposes and when sufficient funds are available to manage the uses.

Rehabilitation Act (1973): Requires programmatic accessibility in addition to physical accessibility for all facilities and programs funded by the Federal government to ensure that any person can participate in any program.

Secretarial Order 3206 (1997): American Indian Native Rights, Federal-Native Trust Responsibilities, and the Endangered Species Act: This Order clarifies the responsibilities of the Departments of Interior and Commerce to carry out their responsibilities in a manner that harmonizes the Federal trust responsibility to tribes, tribal sovereignty, and statutory missions of the Departments, and that strives to ensure that Indian tribes do not bear a disproportionate burden for the conservation of listed species, so as to avoid or minimize the potential for conflict and confrontation.

Secretarial Order 3317 (2011): DOI Policy: Department of the Interior Policy on Consultation with Indian Tribes: Updates, expands and clarifies the Department of Interior policy on consultation with American Indian and Alaska Native Tribes.

Secretarial Order 3335 (2014): Reaffirmation of the Federal Trust Responsibility to Federally Recognized Indian Tribes and Individual Indian Beneficiaries: Sets forth guiding principles to ensure that the Department of Interior fulfills its trust responsibility to all federally recognized Indian tribes.

Secretarial Order 3355 (2017): This Order is intended to implement certain improvements to National Environmental Policy Act (NEPA) reviews conducted by the Department of the Interior (Department).

Secretarial Order 3347 (2017): Enhances conservation stewardship, increases outdoor recreation, and improves the management of game species and their habitat.

Volunteer and Community Partnership Enhancement Act (1998): Encourages the use of volunteers to help in the management of refuges within the Refuge System; facilitates 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 encourages donations and other contributions.

White House Memorandum on Government-to-Government Relationships with Native

Governments (2004). Affirms executive branch's commitment to continuing to work with federally recognized tribal governments on a government-to-government basis and strongly supports and respects tribal sovereignty and self-determination for tribal governments in the United States.

Wilderness Act (1964): The act (Public Law 88-577) [16 USC 1131-36]) defines wilderness as "A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain."

# Appendix D—Compatibility Determinations

## D.1 Compatible Uses

In accordance with the Improvement Act, the Service has adopted a Compatibility Policy (603 FW 2) that includes guidelines for determining if a use proposed on an unit of the Refuge System is compatible with the purposes for which that unit was established. A compatible use is defined in the policy as a proposed or existing wildlife-dependent recreational use or any other use of a unit of the Refuge System that, based on sound professional judgment, will not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes for which the unit of the Refuge System was established and contributes to the maintenance of biological integrity, diversity, and environmental health. The Compatibility Policy also includes procedures for documentation and periodic review of existing Refuge System unit uses.

The first step in determining if a use is compatible is to determine if the use is *appropriate* (called an appropriateness finding). Wildlife-dependent recreational uses are automatically considered appropriate. The Service evaluates each non-wildlife-dependent use to determine if it is appropriate based on several factors, including compliance with applicable laws and regulations, consistency with Executive Orders and policies, consistency with public safety, consistency with goals and objectives in an approved management plan, and availability of resources (see 603 FW 1 Section 1.1 (A) for a complete list of factors). If a use is not appropriate, the Service prepares, signs, and maintains a Finding of Appropriateness of a Refuge Use determination, then the use is not further considered, and a compatibility determination is not required. If a use is determined to be appropriate, the Service must prepare a compatibility determination. When a determination is made as to whether a proposed use is compatible or not, this determination is provided in writing and is referred to as a compatibility determination.

An opportunity for public review and comment is required for all compatibility determinations. For compatibility determinations prepared concurrently with a Comprehensive Conservation Plan (CCP) or step-down management plan, the opportunity for public review and comment is provided during the public review period for the draft plan and associated National Environmental

Policy Act document. This appendix includes the compatibility determinations prepared in association with this CCP/EIS for the following uses:

- Fishing
- Wildlife Observation and Photography
- Environmental Education and Interpretation
- Collecting Shed Antlers
- Collecting Cultural or Traditional resources
- Research and Monitoring
- Horseback riding/Saddle Club Trail Ride
- Commercial Filming, Audio Recording and Still Photography

## D.2 Refuge Establishing Authorities and Purposes

*35 Stat. 267-8*, dated May 23, 1908

“... for a permanent national bison range for the herd of bison ...”

*35 Stat. 1051*, dated March 4, 1909

provides for fencing, buildings, and “enlarging the limits heretofore established so as to make the total acreage not to exceed twenty thousand acres ..”

*Executive Order 3596*, dated December 22, 1921

“... as refuges and breeding grounds for birds.”

*72 Stat. 561*, dated August 12, 1958

authorized the Secretary to procure title to lands to provide for a display pasture for the bison

herd; “... to provide adequate pasture for the display of bison in their natural habitat at a location readily available to the public, ..”

### National Wildlife Refuge System Mission:

The mission of the System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

### D.3 Description of Use: Fishing

It is proposed that portions of Mission Creek and the Jocko River on the National Bison Range remain open to public fishing in accordance with Joint State/Tribal regulations and in accordance with the special refuge regulations. Mission Creek runs through the northern end of the Bison Range for a distance of approximately 7 miles, with approximately 3.75 miles open to fishing during season. This includes a section of over .75 mile from the west boundary extending east past the Nature Trail and day use area up to the first bridge upstream near the maintenance area at headquarters. No fishing access is permitted for .50 miles from the first bridge near maintenance area upstream to the environmental education site. Another open fishing section starts just east of the maintenance area and extends approximately 3 miles east. Access is by parking in designated areas in the headquarters vicinity and then reaching open areas of the creek by foot. Bison could be present along Mission Creek at times when the bison breeding season and fishing season overlap resulting in a safety conflict. During this seasonal overlap, the 1 1/2 mile section east of headquarters will be posted "closed" to prevent conflict between fishermen and bison.

The Jocko River passes through the southern edge of the Bison Range for a distance of approximately 1/2 mile. That section is open during season. Since bison are fenced away from the Jocko River, there is not conflict between bison and the fishing activity.

Fishing pressure is light, averaging about 15 visits per week. Refuge staff estimate approximately 250 fishing visits annually. Rainbow trout are the primary species caught in Mission Creek, while brown trout dominate in the Jocko River. Fishing visits during the extended whitefish season, which lasts all year, are practically nonexistent.

#### Availability of Resources:

The fishing program could continue to be administered using current resources.

#### Anticipated Impacts of the Use:

Due to the low level of use, impacts to refuge purposes are minimal. Bison normally move away from people on foot, and then resume their previous activity, so the occasional disturbance is not anticipated to become a problem. Some level of disturbance to waterfowl and other birds is also anticipated, although not anticipated to be a problem.

#### Public Review and Comment:

This compatibility determination was prepared concurrently with the draft CCP and Environmental Impact Statement (EIS) for the refuge. Public review and comment was solicited concurrently with the public review and comment period for the draft CCP and EIS.

#### Determination (Check one below):

☐ Use is NOT Compatible

☒ Use IS Compatible with the following stipulations

#### Stipulations Necessary to ensure compatibility:

Stipulations for the fishing program would be made available in the refuge's fishing brochure. These stipulations specify when the activities would be allowed, describe access restrictions, and outline special regulations.

- Access to the streams is by walk-in only.
- No vehicle access to streams. Parking is permitted only in designated areas.
- No canoes, boats or other floating devices allowed.
- All visitors accessing the public fishing areas along Mission Creek must remain within 100 feet of the stream.

#### Justification for compatibility determination:

Fishing is one of the six wildlife-dependent, priority public uses specified in the Improvement Act. It can be allowed at the refuge without interfering with the designated purpose for the refuge. No significant adverse impacts to the wildlife resource is expected from the primary or supporting uses.

**Mandatory 15 year reevaluation date: 2034**

### D.4 Description of Use: Wildlife Observation and Photography

As two of the six priority recreational uses identified in the National Wildlife Refuge System Improvement Act of 1997, wildlife observation and photography provide recreational activities on the refuge with no definable adverse effects to biological resources.

We will continue to provide wildlife observation and photography opportunities on the refuge and support them with auto tour drive opportunities, hiking trails (Bitterroot and High Point) on Red Sleep Mountain Drive, and a day use area with a pedestrian trail. Such facilities and support will continue to help bring people closer to wildlife.



The Red Sleep Mountain Drive will provide seasonal opportunities (closed in the winter) for wildlife viewing and photography via auto, and pedestrian (designated trails only). Hazardous road conditions, such as the flooding or wash out of roads occasionally require closures for safety. The West Pasture Drive and Prairie Drive will provide year round opportunities for wildlife viewing and photography via auto tour only (no pedestrian trails). The day use area is open year round, and provides opportunities for wildlife viewing and photography via foot traffic. Facilities providing more opportunities for wildlife observation and photography include the short walking trail located just outside and adjacent to the refuge Visitor Center.

#### **Availability of Resources:**

Wildlife Observation and Photography will be administered by refuge staff and volunteers. The refuge will rely on Refuge Law Enforcement Officers and informational signing to inform the public of open and closed areas of the refuge. Public facilities such as public trails and restrooms will be maintained as needed to provide wildlife observation and photography opportunities.

#### **Anticipated Impacts of the Use:**

Impacts associated with the wildlife observation and photography uses of the refuge resources are managed in various ways. These uses are ongoing, and potential disturbances are being managed with temporary closures of auto drive, or trail areas as needed. Law enforcement is available to enforce closures as needed, as well as using the refuge website, social media, temporary signs, and gates to announce closures.

#### **Public Review and Comment:**

This compatibility determination was prepared concurrently with the draft CCP and EIS for the refuge. Public review and comment was solicited concurrently with the public review and comment period for the draft CCP and EIS.

#### **Determination (Check one below):**

☐ Use is NOT Compatible

☒ Use IS Compatible with the following stipulations

#### **Stipulations Necessary to ensure compatibility:**

- Visitors participating in wildlife observation and photography will follow all public use regulations.
- Seasonal closures will be implemented to protect sensitive wildlife areas, and reduce disturbance

to priority species and habitat.

- Non-Service vehicles will be restricted to public access roads on the refuge.
- Viewing areas are primarily provided from the auto tour drives, or from the designated pedestrian trails. Viewing opportunities will be designed to decrease disturbance effects to wildlife and all refuge resources while providing a good opportunity to view wildlife in their natural environments.
- Foot travel, biking, and motorcycles will be prohibited from all gravel road areas on the refuge. The only areas allowed for pedestrian foot travel, biking and motorcycles is the paved roads in and around the headquarters location.
- Pets must be leashed and under owners' control at all times and only allowed outside of a vehicle in the day use area and paved roads around the headquarters locations.

#### **Justification for compatibility determination:**

Wildlife observation and photography are identified as priority public uses in the Improvement Act and will help meet Refuge System goals with only minimal conflict. 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.

Based on anticipated biological effects described above, we have found that wildlife observation and photography on the refuge will not interfere with our habitat goals and objectives or with the purposes for which the refuge was established. Limiting access and watching use closely could help limit any adverse effects. The refuge contains unique habitats and supports wildlife populations, particularly the bison herd, other large ungulates and mammals, migratory birds, and upland game birds in excess of what can be observed on neighboring private lands. These uses promote an appreciation for the natural resources at the refuge. In addition, these uses support conservation programs at the refuge.

**Mandatory 15 year reevaluation date:** 2034

#### **D.5 Description of Use: Environmental Education and Interpretation**

As two of the six priority recreational uses identified in the Improvement Act, environmental education and interpretive activities on and off the refuge provide activities with little to no definable adverse effects to biological resources when properly managed. The refuge will continue to offer the following opportunities:

- Interpretive and Education Visitor Center
- Tour Groups and Interpretive Walks as resources are available

- Wildlife Viewing Drives (West Pasture Drive, Prairie Drive, Red Sleep Mountain Drive)
- Exhibition Pasture when used to hold bison
- Interpretive Displays and Foot Trails (Bitterroot and High Point Trails)
- Environmental Education Programs including Teacher Workshops, School Group Tours, Summer Day Camps, Nature Study Sites and Use of Natural Materials Collections as resources are available.
- ACCESS Program for People with Disabilities
- Annual Bison Roundup Viewing
- day use area in Support of the above activities
- Wildlife Viewing Area off Highway 93 at Ravalli Hill

The refuge will continue to offer, and make necessary adjustments and or improvements to:

- Interpretive panels and auto tour brochures provide information about habitat, wildlife, management actions, and activities. Interpretation is passive in nature, from self-guided opportunities to interpretive panels, brochures, websites, and tearsheets. We will continue to use social media, and update it frequently, to increase contact with, and exposure to, the refuge.
- We will provide interpretive programs both by request and as scheduled activities as staff and time allow.
- We will continually evaluate our interpretive media, such as brochures, signs, and displays, for relevance, effectiveness, and timeliness, and we will update them as needed, and as funding allows.

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

- Replace the existing Visitor Center with funding potentially available starting 2020. The location of the new Visitor Center has not been determined, but could likely be located in the same general area as the existing facility.
- We will expand the opportunities for environmental education and interpretation in cooperation with partner organizations and agencies, as staff and time allows.
- We will continue to enhance the interpretation of “Glacial Lake Missoula” at ideal locations around the refuge, but only in areas available to the public.
- We will interpret the cultural history of the National Bison Range area, including Tribal uses, and early settlement.

#### **Availability of Resources:**

Payment for environmental education and interpretation activities, directional signs, and informational brochures will come from annual recreation fee, and operations/maintenance money. Other sources, such as grants, regional project proposals, challenge cost-share agreements, deferred maintenance and others will also be sought and used as they became available.

The opportunity to receive funding for larger capital improvement projects or facilities will be sought from Regional or National maintenance management funding systems.

#### **Anticipated Impacts of the Use:**

Impacts are anticipated to be minimal. Bison have become accustomed to vehicle traffic on auto tour roads, and are not generally not disturbed by vehicles. Restrictions against hiking off tour roads or designated foot trails, and prohibition on driving off auto tour roads prevents disturbance to bison and native birds and their habitats. There are minor impacts on habitat at areas of interpretive, educational and support facility developments.

The use of the refuge for onsite activities by groups of teachers and students for environmental education or interpretation may minimally affect the immediate and surrounding areas (i.e. day use area) in the short term. Effects may include the trampling of vegetation and temporary disturbance to nearby bison, waterfowl, or other wildlife species.

#### **Public Review and Comment:**

This compatibility determination was prepared concurrently with the draft CCP and EIS for the refuge. Public review and comment was solicited concurrently with the public review and comment period for the draft CCP and EIS.

#### **Determination (Check one below):**

☐ Use is NOT Compatible

☒ Use IS Compatible with the following stipulations

#### **Stipulations Necessary to ensure compatibility:**

- No hiking on the refuge except at the Nature Trail and day use area, and on designated foot trails on the Red Sleep Mountain Drive.
- No driving off designated auto tour roads.
- Special activities such as annual bison capture operations, teacher workshops, school group activities and special group tours are supervised and/or regulated by time and space zoning as directed by refuge personnel.
- Visitors participating in environmental education and interpretation programs will

follow all of our regulations. Onsite activities will be held where minimal effect to wildlife and habitats will occur.

- We will review new environmental education and interpretation activities to make sure that these activities meet program objectives and are compatible.

#### **Justification for compatibility determination:**

The environmental education and interpretation program at the National Bison Range accomplishes the mission for which the refuge was established and meets the goals of the National Wildlife Refuge System. Both programs are legislated, wildlife-dependent priority public uses. Properly managed, they would have minimal impact to the resource. Both public use programs would contribute to the mission of the Refuge System by increasing knowledge and support of the stewardship of natural resources.

The refuge contains unique habitats and supports wildlife populations—particularly the bison herd, other large ungulates and mammals, migratory birds, and upland game birds—in excess of what can be observed on neighboring private lands. These uses promote an appreciation for the natural resources at the refuge. In addition, these uses support conservation programs at the refuge.

**Mandatory 15 year reevaluation date: 2034**

#### **D.6 Description of Use: Collecting Shed Antlers**

Allow special user groups such as the Girl and Boy Scouts to collect shed elk, and deer antlers on the National Bison Range for the annual auction during summer (late June/early July). Collection for personal use is prohibited, and will not be allowed. Collecting is not a priority public use.

Collection would be allowed in areas on the National Bison Range (NBR) as identified by maps at the time a permit is issued authorizing the collecting.

Special groups will be informed when a permit is issued of the date, time, and location where they may collect shed antlers. Collecting will occur during the daylight hours starting in early spring and will be permitted only during regularly scheduled public use days.

Special groups will be assigned to areas on the refuge where shed antlers may be collected. The specific details as to the restrictions governing the collecting will be outlined by the permit and within refuge specific regulations to ensure that the activity is appropriate and compatible with the refuge's mission and purpose. Shed antlers may be found by walking areas on the refuge frequently utilized by elk and deer herds. In most cases, the collection will be in areas where general public access is prohibited. All antlers are to be collected and stored at a designated collection area on the

refuge, and cannot be removed from the refuge for personal use or sold. Access to closed areas on the refuge will be determined at the time the permit is issued, and will be strictly enforced.

There is considerable public demand for the collection of shed elk and deer antlers on the refuge, but there is also adequate public use opportunities for this activity on public lands across the State. The refuge will continue to allow the collection of antlers by special user groups under a special use permit, with 65% of the proceeds from sale going toward the refuge recreational fee account.

#### **Availability of Resources:**

National Wildlife Refuges are typically opened for wildlife-dependent recreation. As a result, roads, parking lots, signs and other facilities as well as staff to enforce regulations and maintain these facilities have been provided by the Service. These facilities will be maintained to meet the needs of the recreating public and will be used incidentally by those special use groups who are collecting shed elk and deer antlers. These uses will not require a significant increase in additional maintenance or enforcement staff expenditures. Public access fees can be used to offset refuge expenditures resulting from this type of use. Proceeds (65%) from sale of the antlers during the annual auction will be submitted to the refuge for expenditures related to this activity. The Service will not have to provide special equipment.

Based on a review of the refuge budget allocated for recreational use management, there is adequate funding to ensure compatibility and to administer and manage this recreational use.

#### **Anticipated Impacts of the Use:**

The quantity and frequency of shed antler collecting is not expected to significantly damage wildlife habitat, or jeopardize wildlife survival. It may have a negligible to minor effect on the amount of an important source of minerals to wildlife who chew on bones and antlers. Special use group participation in the collection of antlers on the refuge is expected to be low and insignificant. The refuge manager will determine areas on the refuge required for closure or restricted access to antler collection.

Short-term disturbance to wildlife may occur during antler collection activities, but will be insignificant. Most of the collecting will occur in late winter, early spring/summer. This activity should not result in short or long-term impacts that adversely affect wildlife populations on the refuge, migratory birds, or the purposes of the refuge or the mission of the National Wildlife Refuge System.

Permitting special user groups to collect antlers on



the NBR can help to deter trespassing and illegal antler collecting in sensitive bighorn sheep lambing and Rocky Mountain elk calving areas.

### **Public Review and Comment:**

This compatibility determination was prepared concurrently with the draft CCP and EIS for the refuge. Public review and comment was solicited concurrently with the public review and comment period for the draft CCP and EIS.

### **Determination (Check one below):**

☐ Use is NOT Compatible

☒ Use IS Compatible with the following stipulations

### **Stipulations Necessary to ensure compatibility:**

- Collection is not open to the public.
- Collection for personal use is prohibited.
- Only designated areas at the time of collection will be open.
- All antlers collected will be stored at the refuge until sold.

### **Justification for compatibility determination:**

This use will have limited and localized impacts when conducted within the stipulations above. Administration of the use will require a minimal increase in staff resources. This use will not diminish the primary purposes of the refuge, or the conservation of other migratory birds and wildlife because the use is on a small scale and localized.

This use will meet the mission of the National Wildlife Refuge System by providing resources for the benefit of the American public while conserving fish, wildlife and plant resources on these lands.

**Mandatory 10 year reevaluation date: 2029**

### **D.7 Description of Use: Collecting Cultural or Traditional Resources (Non Artifacts)**

Allow refuge visitors to collect cultural, or traditionally valuable plants (sage), berries, bison fur, or bison dung on the NBR for personal use only. The collection of bison skulls, bones, or other wildlife parts will not be included in this determination. Collecting is not a priority public use.

Collection would be allowed in areas on the NBR as identified by maps at the time a permit is issued authorizing the collecting.

Visitors who request a collection permit will be informed when a permit is approved and issued of the date, time, and location where they may collect

plants (sage), berries, bison fur, or bison dung, and the quantity that would be allowed. Collecting will occur during the daylight hours primarily starting in early spring, and throughout the summer. Collecting will be permitted only during regularly scheduled public use days.

Visitors will be allowed access to areas on the refuge where plants (sage), berries, bison fur, or bison dung may be collected. The specific details as to the restrictions governing the collecting will be outlined by the permit and within refuge specific regulations to ensure that the activity is appropriate and compatible with the refuge's mission and purpose. Plants (sage) or berries are hand harvested by picking the portions from the plant, gathering what has fallen to the ground, or cutting by hand. Bison fur and dung are readily found throughout the refuge along roads, sign posts, or fences where bison tend to congregate. Access to harvest or collection sites is accomplished by walking from a designated roadways or trails. Plants (sage), berries, bison fur, and dung are for personal use only and cannot be sold. Entry into closed areas on the refuge is strictly prohibited unless authorized under the special use permit.

There are frequent public requests for the collection of sage, bison fur, and occasionally bison dung for traditional or ceremonial purposes. The collection amount, and limited duration of the collection will result in little to no impact on available forage (plants) for wildlife. The collection of bison fur or dung will result in negligible to minor impact to refuge wildlife or habitat.

### **Availability of Resources:**

National Wildlife Refuges are typically opened for wildlife-dependent recreation. As a result, roads, parking lots, signs and other facilities as well as staff to enforce regulations and maintain these facilities have been provided by the Service. These facilities will be maintained to meet the needs of the public and will be used incidentally by those who are collecting plants (sage), bison fur, or dung. These activities will not require a significant increase in additional maintenance or enforcement staff expenditures. The Service will not have to provide special equipment to any requests for collection activities.

Based on a review of the refuge budget allocated for recreational use management, there is adequate funding to ensure compatibility and to administer and manage this recreational use.

### **Anticipated Impacts of the Use:**

The quantity and frequency of plants (sage), bison fur, and dung collecting is not expected to significantly diminish wildlife food sources or jeopardize wildlife survival of any sort. Participation in the collection of these items on the refuge is expected to be neutral or minor. Areas

designated as “Closed to Access” on the refuge will be strictly off limits to all collections, and identified in the special use permit.

Short-term disturbance to wildlife may occur during these activities, but will be insignificant. Most of these activities occur in early spring or late summer or fall. These activities should not result in short or long-term impacts that adversely affect the purposes of the refuge or the mission of the National Wildlife Refuge System.

#### **Public Review and Comment:**

This compatibility determination was prepared concurrently with the draft CCP and EIS for the refuge. Public review and comment was solicited concurrently with the public review and comment period for the draft CCP and EIS.

#### **Determination (Check one below):**

☐ Use is NOT Compatible

☒ Use IS Compatible with the following stipulations

#### **Stipulations Necessary to ensure compatibility:**

- Only shed Bison fur found loose on the ground is allowed. Removing fur from hides, or collection of other parts of Bison (bones, horns, etc.) is prohibited.
- The collection of any other part from any other animal is prohibited.
- Digging of plants or their roots is prohibited.
- Materials authorized for collection will be for traditional or ceremonial purposes and may not be sold.
- Specific collection areas will be identified on a map.

#### **Justification for compatibility determination:**

This use will have limited and localized impacts when conducted within the stipulations above. Administration of the use will require a minimal increase in staff resources. This use will not diminish the primary purposes of the refuge, or the conservation of other migratory birds and wildlife because the use is on a small scale and localized.

This use will meet the mission of the National Wildlife Refuge System by providing resources for the benefit of the American public while conserving fish, wildlife and plant resources on these lands.

**Mandatory 10 year reevaluation date: 2029**

#### **D.8 Description of Use: Research and Monitoring**

The NBR receives numerous requests each year to conduct research, scientific collections and surveys on refuge lands. Priority is given

to studies that contribute to the enhancement, protection, preservation, and management of the refuge’s native plant community, fish and wildlife populations, and their habitats. Studies that provide practical management data or can be used to advance the body of knowledge within scientific communities are also considered. Research conducted on the refuge must conform to Service guidelines and applicants who are not employees of the USFWS must submit an application on Service form 1383 detailing the following:

- objectives of the study
- justification for the study
- detailed method and schedule
- potential effects on wildlife and habitat including short- and long-term disturbance, injury, or mortality
- description of measures the researcher will take to reduce disturbances or effects
- staff required and their qualifications and experience
- status of necessary permits, such as scientific collection permits and endangered species permits
- costs to the Service, including staff time requested, if any
- anticipated progress reports and end products, such as reports or publications

The Service’s Research and Management Studies (4 RM 6) and Appropriate Uses (603 FW1.10D(4)) policies indicate priority for scientific investigatory studies that contribute to the enhancement, protection, use, preservation and management of native wildlife populations and their habitats in their natural diversity. Projects that contribute to refuge-specific needs for resource and/or management goals and objectives will be given a higher priority over other requests.

Refuge staff will review research proposals case by case and issue special use permits if approved. Criteria for evaluation will include, but will not be limited to, the following:

- Research that would contribute to specific refuge management issues will be given higher priority over other requests.
- Research that would conflict with other ongoing research, monitoring programs, or management programs will not be approved.
- Research that would cause undue disturbance or would be intrusive will likely not be approved. The degree and type of disturbance will be carefully weighed when evaluating a research request.
- Proposals will be evaluated to decide if any effort was made to decrease disturbance through study design, including adjusting the location, timing, and number of permittees, study methods, and the number of study sites.

- The length of the project will be considered, and agreed on, before approval.
- Research proposals involving threatened and endangered species will require concurrence and Section 7 Endangered Species Act review before approval.

### **Availability of Resources:**

Current resources will be adequate to administer research and monitoring programs on a limited basis. A refuge biologist will be necessary to administer large and long-term projects, which generally require more in-depth evaluation of applications, management of permits, and oversight of research projects. The biologist will identify research and monitoring needs and work with our other staff, universities, and scientists to develop studies that will help the refuge and address the goals and objectives in this CCP.

### **Anticipated Impacts of the Use:**

Some degree of disturbance is expected with all research activities because researchers may use our roads or enter areas that are closed to the public. In addition, some research may require the collection of samples or the handling of wildlife. However, research studies will be expected to minimally affect wildlife and habitats because special use permits will include conditions on their effects.

### **Public Review and Comment:**

This compatibility determination was prepared concurrently with the draft CCP and EIS for the refuge. Public review and comment was solicited concurrently with the public review and comment period for the draft CCP and EIS.

### **Determination (Check one below):**

☐ Use is NOT Compatible

☒ Use IS Compatible with the following stipulations

### **Stipulations Necessary to ensure compatibility:**

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

Our refuge staff will use the above criteria for evaluating and determining whether to approve a proposed study. If research methods were found to have potential effects on habitat or wildlife, it must be shown that the research is necessary for the conservation management of resources on the

refuge. Measures to decrease potential effects will need to be developed and included as part of the study design; these measures will be conditions on the special use permit.

Our refuge staff will watch research activities for compliance with conditions of the special use permit. At any time, staff may accompany the researchers to look for potential effects. They may decide that research that was approved for special use permits before is terminated because of observed effects. Our refuge manager will also have the ability to cancel a special use permit if the researcher was out of compliance or for wildlife and habitat protection.

### **Justification for compatibility determination:**

Potential effects of research activities on refuge resources will be decreased through restrictions included as part of the study design, and research activities will be checked by our refuge staff. Results of research projects will contribute to the understanding, enhancement, protection, preservation, and management of the refuge's wildlife populations and their habitats.

### **Mandatory 10 year reevaluation date: 2029**

### **D.9 Description of Use: Horseback riding/Saddle Club Trail Ride**

Allow user groups to conduct a horseback ride on the National Bison Range under an approved Special Use Permit. Although horseback riding is not a priority public use as defined by the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act), it is supportive of wildlife-dependent recreational uses, including wildlife observation and photography.

Areas for the horseback ride on the National Bison Range will be determined and identified by maps and clear guidelines at the time a permit is issued authorizing the horseback ride. The permitted trail ride area could vary by year and season.

Working with the manager, user groups will be informed of the date and time for the ride when a permit is issued. The specific details as to the restrictions governing the ride will be outlined by the permit and within refuge specific regulations and general conditions to ensure that the activity is compatible with the refuge's mission and purpose. Any access to closed areas on the refuge will be determined at the time the permit is issued.

The tradition of an annual saddle club ride on the National Bison Range has been popular with the public for many years and although horseback riding is not a wildlife-dependent recreational use, it supports greater opportunity for wildlife observation and wildlife photography. It also



fosters and appreciation of the refuge and its resources with the public.

### **Availability of Resources:**

National Wildlife Refuges are typically opened for wildlife-dependent recreation. As a result, roads, parking lots, signs and other facilities as well as staff to enforce regulations and maintain these facilities have been provided by the Service. These facilities will be maintained to meet the needs of the recreating public and will be used incidentally by those user groups who are conducting the horseback ride. The special use permit will include conditions for the ride so that it will not require a significant increase in additional maintenance or enforcement staff expenditures. The Service will not have to provide special equipment.

Based on a review of the refuge budget allocated for recreational use management, there is adequate funding to ensure compatibility and to administer and manage this recreational use.

### **Anticipated Impacts of the Use:**

An annual horseback ride is not expected to significantly damage wildlife habitat, or jeopardize wildlife survival. Horses can impact soft habitats with their hooves, cause damage to trees and other vegetation if tied to them, and invasive species of plants may be introduced in areas from seeds deposited from fecal matter or from hay and other feeds transported into the areas. Presence of horses in the refuge can also result in potential conflicts with other visitors and disturbance to wildlife, including bison, other ungulates and ground-nesting birds. These potential impacts will be avoided or minimized by strict adherence to the stipulations in the special use permit. The refuge staff believes that with the proper management, horseback riding will not result in any short or long-term impacts that will adversely affect the purposes of the refuge or the mission of the Refuge System. In the long term, allowing horseback riding will enhance visitor opportunities to participate in wildlife-dependent recreational uses on refuge lands, particularly wildlife observation, and wildlife photography.

### **Public Review and Comment:**

This compatibility determination was prepared concurrently with the draft CCP and EIS for the refuge. Public review and comment was solicited concurrently with the public review and comment period for the draft CCP and EIS.

### **Determination (Check one below):**

☐ Use is NOT Compatible

☒ Use IS Compatible with the following stipulations

### **Stipulations Necessary to ensure compatibility:**

Sensitive wildlife habitats and species will be protected from disturbance and other impacts by limiting horseback riding in these areas. All refuge rules and regulations will be followed unless otherwise exempted by the refuge manager. Measures to decrease potential effects will need to be developed as conditions on the special use permit.

### **Justification for compatibility determination:**

While horseback riding is not a priority public use as defined by the Improvement Act, it supports other priority wildlife-dependent recreational uses such as wildlife observation and photography. It is anticipated that wildlife will find sufficient food resources and resting places such that the wildlife's abundance and use of the refuge will not be lessened from allowing horseback riding under the prescribed conditions. Thus, under these conditions, the use does not materially interfere with or detract from the mission of the Refuge System, diminish the purposes for which the refuge was established, pose significant adverse effects on refuge resources, or cause any undue administrative burden.

This activity will not conflict with any of the other priority public uses or adversely impact biological resources. Therefore, through the compatibility determination process, the refuge staff has determined that horseback riding on the refuge, in accordance with the stipulations provided above, is a compatible use that will not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes of the refuge.

### **Mandatory 10 year reevaluation date: 2029**

### **D.10 Description of Use: Commercial Filming, Audio Recording and Still Photography**

Commercial filming refers to the film, electronic, magnetic, digital, or other recording of a moving image by a person, business or other entity for a market audience with the intent of generating income. Examples include but are not limited to feature film videography, television broadcasts, documentaries, videos created for and distributed via the internet, or other similar projects. Commercial filming activities may include the advertisement of a product or service, or the use of actors, models, sets, or props.

Audio recording activities will require a special use permit only if the activity takes place in a closed area, involves more than handheld equipment, and/or requires agency oversight.

Still photography only requires a permit if it uses models, sets, or props, takes place in areas closed to the public, or requires monitoring by agency staff to minimize resource damage or visitor conflict.

News gathering is not considered a commercial activity.

Refuge staff will review requests for commercial filming, audio recordings and still photography 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. The regulation governing commercial filming and still photography is found at 43 CFR part 5 subpart A. New definitions are found at 43 CFR 5.12, including definitions for commercial filming, models, news gathering activities, set and props, and still photography. Permittees will be assigned to specific areas and date/times on the refuge where the activity may be conducted. Any access to closed areas on the refuge will be determined at the time the permit is issued.

The National Bison Range provides tremendous opportunities for commercial filming and photography of wildlife and scenery. Although commercial filming, audio recordings and still photography are not wildlife-dependent recreational uses, these activities can be a means to increase public appreciation and understanding of wildlife or natural habitats, enhance public knowledge, appreciation, and understanding of the Refuge System, or facilitate outreach and education goals of the refuge.

#### **Availability of Resources:**

The commercial filming, audio recording, and still photography uses are administered with current resources. Administrative costs for review of applications, issuance of special use permits, staff time to conduct compliance checks, replacement of any damage to refuge property, operational costs of government equipment or any other direct costs may be offset by a fee system designated for the agencies within the DOI.

#### **Anticipated Impacts of the Use:**

Wildlife filmmakers and photographers tend to create the greatest disturbance of all wildlife observers. While observers frequently stop to view wildlife, photographers are more likely to approach the animals. Even a slow approach by photographers tends to have behavioral consequences to wildlife. Photographers often remain close to wildlife for extended periods in an attempt to habituate the subject to their presence. Furthermore, photographers with low-power lenses tend to get much closer to their subjects. 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

guidelines 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 would be denied.

#### **Public Review and Comment:**

This compatibility determination was prepared concurrently with the draft CCP and EIS for the refuge. Public review and comment was solicited concurrently with the public review and comment period for the draft CCP and EIS.

#### **Determination (Check one below):**

☐ Use is NOT Compatible

☒ Use IS Compatible with the following stipulations

#### **Stipulations Necessary to ensure 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 outreach 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 would (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 would 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 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, the Refuge System, and the Service.

Audio recording activities will require a special use permit only if the activity takes place in a closed area, involves more than handheld equipment, and/or requires agency oversight.

Still photography only requires a permit if it uses models, sets, or props, takes place in areas closed to the public, or requires monitoring by agency staff to minimize resource damage or visitor conflict.

To reduce the impact on Service lands and resources, 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 recorders, and still photographers.

**Justification for compatibility determination:**

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's ecological importance as well as advancing the public's knowledge 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 would make sure that these wildlife-dependent activities occur with minimal adverse effects to resources or visitors.

**Mandatory 10 year reevaluation date: 2029**



Submitted by:



Amy Coffman, Station Manager  
U.S. Fish and Wildlife Service  
National Bison Range  
Moiese, Montana

8/19/19

Date

And



Benjamin Gilles, Project Leader  
U.S. Fish and Wildlife Service  
Western Montana Complex  
Great Falls, Montana

8/19/19

Date

Reviewed by:



Lisa Talcott, Refuge Supervisor  
U.S. Fish and Wildlife Service  
National Wildlife Refuge System  
Lakewood, Colorado

8/19/19

Date

Approved by:



Will Meeks, Assistant Regional Director  
U.S. Fish and Wildlife Service  
National Wildlife Refuge System  
Lakewood, Colorado

8/19/19

Date

# Appendix E—Bison Donation Transfer Protocol

## Background on FWS Approach to Bison Donations from Refuge System Lands

Since the late 19th century, the Department of the Interior (DOI) has served as the primary national conservation steward of North American plains bison (*Bison bison bison*). At that time, the species—whose population was once estimated at upwards of 40 million—neared extinction. However, through the efforts of private individuals and organizations, American Indian Tribes, States and the U.S. Government, the species was saved from extinction, including at places like Yellowstone National Park, where the last wild, free-roaming bison herd in the United States was protected. Over the course of the 20th century, DOI's bison management focused on stabilizing the bison population and protecting and promoting its remaining genetic diversity. Overall this goal has been successful. DOI lands now support 17 bison herds in 12 states, whose total population accounts for one third of all bison managed for conservation purposes in North America. However, our conservation efforts on behalf of bison are not complete. The U.S. Fish and Wildlife Service (USFWS) has been a significant contributor to bison conservation and its contributions remain a vital component of continental bison conservation. Not only has a Bison Conservation Initiative been established for DOI, bison conservation is a high priority for the public and many new bison conservation partners are seeking to participate in the re-establishment of conservation-oriented bison herds (DOI 2008).

The mission of the USFWS is to work with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. Conservation of bison has been at the heart of the USFWS refuge system from the very early days of refuges. In 1905, William T. Hornaday and others organized the American Bison Society and on October 11, 1907, 15 bison from the New York Zoological Park were shipped by rail to the Wichita National Forest and Game Preserve in Oklahoma (now the Wichita Mountains NWR). Also, President Theodore Roosevelt established the National Bison Range (NBR) on May 23, 1908 when he signed legislation authorizing funds to purchase suitable land for the conservation of bison. The original herd of bison were released in 1909 were also donated by American Bison Society to the refuge. Approximately 2500 bison range over 100,000 acres

on 6 refuges currently. Wichita Mountains NWR remains the largest herd on refuge lands.

But while the species is no longer threatened by extinction, in most cases bison managed on DOI lands play only a limited ecological role on the landscape. Fenced herds, which constitute the majority of DOI, including USFWS bison holdings, face limitations for scaling up towards the long-term conservation of the full array of bison ecological processes. Recognizing these limitations, DOI chartered the Bison Conservation Initiative in 2008 which set the goal of restoring bison herds to their ecological and cultural role on appropriate landscapes within the species' historical range. The Bison Conservation Initiative aimed to achieve improved conservation management of the species by strengthening existing and building new partnerships. To achieve ecological restoration of bison across large landscapes, we cannot rely solely on DOI lands. Instead, we need to build partnerships to weave together landscapes large enough to cultivate the full interplay between bison and the surrounding ecology. As identified in the DOI Bison Conservation Initiative, bureaus are to utilize prevailing authorities to plan and implement collaborative bison conservation and to ensure involvement by Tribal, state, and local governments and the public; and adhere to all prevailing and applicable legal and policy mandates. The Bison Conservation Initiative recognizes the broad sweep of conservation partners specifically: "Any bison conservation initiative will only be realized by working integrally with states, which have management responsibility for most of the bison within their boundaries; with agricultural interests, both landowners and those with public land leases; with Native Americans, whose culture in many instances is tied to bison; with conservation groups dedicated to bison and other wildlife conservation; with the Governments of Canada and Mexico and with other interested parties."

The DOI Bison Conservation Initiative established specific goals, including:

- The Working Group will actively seek to coordinate opportunities to increase existing DOI herds to 1,000 or more bison, or establish new herds or metapopulations that can reach that size, without impacts from non-native diseases and with little or no cattle allele introgression.

- The working group will actively consult with BIA and Tribal partners to determine the best way to coordinate and assist with Tribal bison initiatives.

USFWS approaches bison conservation planning and management on all USFWS lands, except the National Elk Refuge (due to endemic brucellosis), according to a FWS metapopulation with primary emphasis on conservation genetics and health management. Within the metapopulation, comprising 6 refuges in 6 states, bison can be relocated among the participating USFWS refuges as needed, and the combined number of animals is sufficient to maintain the greatest level of genetic diversity across all herds while managing them as a closed population—one that is generally closed to outside animal introductions. However, bison ecological carrying capacity on refuge lands is limited and surplus animals are produced annually. To maintain the ecological integrity of refuge lands, bison in excess of the ecological carrying capacity must be transferred to other conservation partners.

To achieve these important bison conservation goals of establishing new herds of 1,000 or more bison as part of the metapopulation, bison conservation on non-refuge lands must be a priority for National Wildlife Refuge System (NWRS) bison. USFWS has established a system for contributing NWRS bison to other conservation partners. It is imperative for bison removed from NWRS lands be utilized for conservation purposes (to establish new herds or supplement other conservation herds) and not simply disposed. Among the conservation partners to be considered as recipients are other federal agencies (to assist with DOI-wide metapopulation goals), federally recognized Tribes, states, local governments, etc. It's important for bison recipients to document their conservation goals to receive these bison for conservation purposes. Tribes can be considered for other uses as well, but conservation is a priority. USFWS has already established partnerships with these entities, including Tribes to receive bison from NWRS lands to establish new or enhance existing conservation herds. We recognize that some Tribal requests will originate from individual Tribes and/or the InterTribal Buffalo Council (ITBC). DOI bureaus work closely with the ITBC, an officially recognized Tribal organization which serves to coordinate bison restoration among 59 member Tribes in 19 states. ITBC maintains existing agreements with multiple DOI units to receive and redistribute bison to member Tribes. However, not all Tribes are members of ITBC and individual Tribal requests must also be considered. Frequently, requests for NWRS bison from ITBC exceed the numbers available for relocation.

## **B. AUTHORITIES**

- National Wildlife Refuge System Administration Act (16 USC §§ 668dd and 668ee; as amended)
- American Indian Religious Freedom Act (Public Law 95-341)
- Indian Self-Determination and Education Assistance Act (P.L. 93-638, as amended)
- Native American Policy of the U.S. Fish and Wildlife Service (510 FW 1)
- Fenced Animal Management policy (701 FW 8.11)
- Collections, Donations, and Disposals policy (701 FW 5)
- Surplus Range Animals (50 CFR 30.1)
- Disposition of Surplus Range Animals (50 CFR 30.2)





## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
National Wildlife Refuge System  
Regions 2, 3, and 6



July 11, 2018

### Memorandum

To: Refuge Managers

From: NWRS Regional Chief, Region 2  
NWRS Regional Chief, Region 3  
NWRS Regional Chief, Region 6

Subject: Bison Management

The National Wildlife Refuge System (NWRS) has contributed significantly to bison conservation over the past century and bison now thrive on several units of the NWRS. Healthy bison populations produce more offspring each year than available habitat can support, and a variety of methods have been used by the NWRS over the years to manage bison populations System-wide. With this memorandum, we are providing guidance for the consistent management of surplus bison throughout the Refuge System.

The 2008 Department of the Interior (DOI) Bison Conservation Initiative, followed by the 2014 DOI Bison "Looking Forward" Report, recognized our historic success and provided guidance for developing innovative partnerships with conservation organizations, tribes and intertribal organizations. The attached Bison Donations Transfer Protocol (Protocol) shall be provided to all parties interested in receiving donated surplus NWRS bison, including proactive outreach to tribes and intertribal organizations. Donation requests must be received by the Wildlife Health office (WHO) bison coordinator by August 1 of each year, per 701 FW8.

The Bison Donations Request Review Team (Review Team), facilitated by the WHO and comprised of Refuge Managers from each of the bison Refuges, will review all donation requests and develop a prioritized list based on the authorities outlined in the Protocol. Recommendations for donation requests will be made by the Review Team, through the Refuge Supervisor, to the Regional NWRS Chief, respectively.

From this point forward, Refuge Managers will work towards donating 100 percent of the surplus bison on Refuge System lands to conservation partners, including other DOI units, states, tribes or intertribal organizations. In cases where there is not enough interest in bison donations from bison conservation organizations, tribes or intertribal organizations, Refuge Managers will use an open, competitive, public bid process for the remaining surplus bison. Recognizing this guidance may change what has historically occurred at a refuge, the Regional NWRS Chief may phase the implementation of this guidance at their discretion.

If you have any questions, contact your Regional NWRS Chief.

U.S. Department of the Interior

Fish and Wildlife Service

Regions 2, 3, and 6

BISON DONATIONS TRANSFER PROTOCOL

**A. PURPOSE**

This Protocol describes the process for the donation of the available surplus bison from the U.S. Fish and Wildlife Service (Service) to eligible organizations, tribes or intertribal organizations as outlined in 50 CFR 30.1, 701 FW 5 and 701 FW 8 of the U.S. Fish and Wildlife Service policy. Surplus bison are offspring that exceed the ecological carrying capacity of the Service bison metapopulation. The primary purposes of donating these bison are to support conservation of the species and to assist in the restoration of self-sustaining bison herds on conservation partner lands, including tribal lands.

In 2008 the U.S. Department of the Interior (DOI) published the Bison Conservation Initiative, recognizing bison as a wildlife species in need of conservation. Consistent with this Initiative, the U.S. Fish and Wildlife Service's policy identifies the cultural, scientific and aesthetic values of bison as nationally and/or historically significant animals. The DOI Bison Conservation

Initiative also acknowledges the ecological and cultural role of bison on the American landscape.

**B. AUTHORITIES**

- National Wildlife Refuge System Administration Act (16 U.S.C. §§ 668dd and 668ee; as amended)
- American Indian Religious Freedom Act (Public Law 95-341)
- Indian Self-Determination and Education Assistance Act (P.L. 93-638, as amended)
- Native American Policy of the U.S. Fish and Wildlife Service (510 FW 1)
- Fenced Animal Management policy (701 FW 8.11)
- Collections, Donations, and Disposals policy (701 FW 5)
- Surplus Range Animals (50 CFR 30.1)
- Disposition of Surplus Range Animals (50 CFR 30.2)

**C. STATEMENT OF MUTUAL INTEREST**

The 2010 Bison Conservation Genetics Workshop: Report and Recommendations (2010 Report) identifies DOI bison herds as a valuable source with which to start new conservation herds proposed by other federal, state/provincial, or tribal governments. The 2010 Report also outlines the basic tenets of genetic management for DOI bison conservation herds, with emphasis on increasing herd sizes and maintaining large populations, including the management of satellite herds, as part of metapopulations to achieve genetic diversity goals.

Landscape scale opportunities for bison conservation are currently limited, resulting in the need for the periodic reduction in the size of Service bison herds to remain within the ecological carrying capacity of each refuge. Selection of bison available for donation is coordinated across all refuges to support maximum conservation of genetic diversity, both within and across Service bison herds, and donation requests will be prioritized for bison conservation purposes, consistent with the DOI meta-population goals. The DOI Bison Report: Looking Forward (2014 Report) acknowledges the challenges to achieving bison restoration on DOI lands and emphasizes the importance of partnerships for achieving bison conservation and ecological restoration. Both the 2010 and 2014 Reports also identify the potential for bison herds maintained by Indian Tribes for cultural and nutritional purposes to contribute to species conservation, and the Service recognizes that such bison may also support tribal cultural rights and practices.

#### **D. PROVIDED BY THE SERVICE UNDER THIS PROTOCOL:**

The Service will estimate the total number of bison that exceed ecological carrying capacity after achieving Service conservation genetics goals, using the best population information available including the number of calves born and the number of mortalities that occurred after the most recent bison capture operation.

We will randomly select a representative percentage of apparently healthy bison for donation from the total group of surplus offspring exceeding the Service ecological carrying capacity. Variation may occur in the age, sex or in the total number of bison actually available for donation, depending on the difference between actual population demographics and estimates made prior to the bison capture operation.

We will provide the sex, age, and any identification information such as microchip number (also called "PIT tags") and/or eartag number at the time of bison pickup from the refuge. We will ensure humane care of donated bison, including feed and water, until the date of pickup.

The Service will arrange for and provide Certificates of Veterinary Inspection as required for interstate transport by State animal health authorities. The Service does not routinely vaccinate or provide therapeutic treatment for bison, and veterinary testing may vary between refuges and across years. The Service makes no certification as to the suitability of any animal for human consumption.

#### **E. THE \_\_\_\_\_ UNDERSTANDS THAT:**

*Requesting Organization, Tribe or Intertribal Organization*

Humane treatment of bison is essential, including handling, transport and general care of all bison received, regardless of the specific purpose for which they are used. Any questions regarding handling, transport or care of bison may be discussed with the Fish and Wildlife Service Wildlife Health office or the Project Leader prior to receiving them.

The Service must be informed of the destination State for donated bison no less than 30 days prior to scheduled bison capture operation to allow the Service time to meet interstate transport regulatory testing requirements. Additional veterinary testing or vaccinations desired by recipient, above and beyond that performed routinely by the refuge, is the responsibility of the recipient after donation.

Donated bison should be used for the purposes specified in this Protocol. Donation recipients found to be in violation of this Protocol will be ineligible for future donations.

Bison should be claimed and removed from the refuge according to guidelines and timeframes issued by the Refuge Manager. The Service does not provide transportation, and the donation recipient arranges for and assumes all costs for transportation. Unclaimed bison will be donated to other organizations, sold through a public auction or returned to the refuge herd.

Transport equipment must be thoroughly cleaned prior to entering the refuge to reduce the risk of introducing invasive species or infectious disease. Vehicles or trailers with unclean beds will not be permitted on the refuge.

#### **F. IT IS MUTUALLY UNDERSTOOD BY BOTH PARTIES THAT:**

Bison are wild animals. Handling and transport of bison can be dangerous regardless of the age or sex of the animal. Ensuring human safety is essential.

Animal welfare is a high priority. Handling and transport of bison for any purpose will be done in a manner that results in the lowest stress possible for the bison. Transport equipment must be sturdy, well ventilated and sufficiently enclosed to prevent bison from seeing outside the trailer during transport. A dark environment with minimal outside visual stimuli reduces stress. Bison must be transported in segregated groups of similar size, age, sex and behavior. Bison exhibiting aggressive or dominant behavior must be transported separately from other bison.

A conservation herd is defined for the purposes of this Protocol, consistent with that provided by

701 FW 5.3B, as a free-ranging (freely occupying habitat adequate in size and quality to provide for all biological needs and allowed to reproduce freely) population. A herd that routinely requires supplemental forage (hay or other feed not occurring naturally within the habitat) does not meet the conservation herd



criteria. Recipients of bison donated for conservation purposes will provide documentation that their project or program meets the definition of a conservation herd as defined in this Protocol.

Non-governmental conservation organizations requesting donated bison to establish or augment a herd must demonstrate charitable status and contribution to the public resource.

Educational and research organizations requesting donated bison must demonstrate the educational contribution of the donation to increasing public knowledge and appreciation of the wildlife values of bison.

No guarantee of pregnancy or reproductive performance is given or implied. Female bison have been exposed to bulls and yearling pregnancies can occasionally occur, but female bison do not generally breed until two years of age. Yearlings are approximately 16 months old but may vary several months in actual age and size.

The Service has a standardized general health monitoring program for bison. Any questions regarding herd health status can be answered by the Wildlife Health office at 406-587-2169.

Bison requested for donation will be used to/for (requestor enters the number of bison for each option listed or percentage of total donation):

# or %

\_\_\_ Establish a free-ranging conservation herd

\_\_\_ Supplement or augment a free-ranging conservation herd

\_\_\_ Establish a self-sustaining herd for non-conservation purposes

\_\_\_ Supplement or augment a self-sustaining herd for non-conservation purposes

\_\_\_ Public display, educational purposes and/or research

\_\_\_ Tribal spiritual or cultural purposes

\_\_\_ Other:

## G. SIGNATURES

Both parties have read and understand this Protocol for donation of Service bison.

Signature at donation request                      Date                      # of bison requested

Organization or Tribe official

Signature at donation approval                      Date                      # of bison approved

Assistant Regional Director, Region

Signature at bison pickup                      Date                      # of bison donated

Refuge official

# Appendix F—Record of Decision for the Final Environmental Impact Statement and Comprehensive Conservation Plan for the National Bison Range

## 1.1 Introduction

This Record of Decision (ROD) for the final Comprehensive Conservation Plan (CCP, plan) and Environmental Impact Statement (EIS) for the National Bison Range (NBR, refuge), Montana, provides the basis for management decisions made by the U.S. Fish and Wildlife Service (we, Service). The CCP was prepared along with an EIS in compliance with the National Environmental Policy Act (NEPA) and relevant planning policies. We propose to adopt and implement the plan, which will provide guidance on managing the refuge for a 15-year period.

In preparing the final CCP and EIS, we worked closely with several cooperating agencies and partners including the Confederated Salish and Kootenai Tribes (CSKT), the Bureau of Indian Affairs (BIA), Montana Fish, Wildlife and Parks (MTFWP), Lake and Sanders Counties. Other nongovernmental organizations and private citizens contributed substantial input to the plan.

## 1.2 Background

The primary planning area for this decision is the Congressionally-designated boundary of the refuge located in Sanders and Lake Counties, Montana. President Theodore Roosevelt established the NBR on May 23, 1908 when he signed legislation authorizing funds to purchase suitable land for the conservation of bison. NBR is one of the oldest units of the National Wildlife Refuge System. Its history is closely tied to the history and survival of the plains bison and to the Native American Tribes with ancestral ties to western Montana.

The 18,800-acre NBR is located where three major geographic features merge, Mission Valley, Mission Mountain Range, and Jocko River Valley. The glacial history of the region has had a pronounced influence on the soils and landforms. Grasslands dominate the landscape at lower elevations, dotted with wetland and riparian vegetation along seasonal drainages and around seeps and springs. Mixed-conifer forest occurs at the upper elevations. The Jocko River and Mission Creek form riparian and wetland corridors along the north and south boundaries of the refuge. Invasive plant species are recognized as an important factor affecting ecosystem function and health on the refuge.

The NBR provides cover, food, water, and sufficient space for numerous native wildlife species. The NBR supports a healthy population of plains bison as well as populations of other native ungulates and a variety of predators. The refuge also supports over 200 native bird species. In addition to the federally threatened grizzly bear and bull trout, there are forty-three Montana species of concern that occur on the refuge.

Although people have lived in the region for thousands of years, relatively few cultural resource sites have been formally recorded on the refuge. It is anticipated that a wide range of undocumented cultural resource types are located on the NBR. These could include, but would not be limited to, pre-contact and/or protohistoric open camps, stone circles and alignments, cairns, lithic scatters, rock shelters, trails and roads, drive-lines, kill (i.e. jump or pound) sites, hunting blinds, eagle traps,

fasting beds, and rock imagery, as well as historic buildings and structures associated with the mission and operation of the NBR.

Visitors come from all over the country and other parts of the world to learn about NBR and enjoy a variety of wildlife-dependent recreational activities. In 2017, NBR welcomed approximately 180,000 visitors. Annual visitation to the NBR is concentrated during spring through fall, when the full length of the Red Sleep Mountain Drive is open. Wildlife observation, photography, and hiking account for an estimated 94 percent of visits to the NBR. NBR affects the economy through the resident and nonresident visitor spending it generates, the employment it supports, and the value it adds to the surrounding area.

### **1.3 Purpose of and Need for the Plan**

The purpose of this CCP and EIS is to identify the role the refuge plays in support of the mission of the Refuge System and to provide long-term guidance for management of refuge programs and activities. The CCP seeks:

- to communicate with the public and other partners in efforts to carry out the mission of the Refuge System
- to provide a clear statement of direction for management of the refuge
- to provide neighbors, visitors, and government officials with an understanding of the Service's management actions on and around the refuge
- to ensure that the Service's management actions are consistent with the mandates of the National Wildlife Refuge System Improvement Act (Improvement Act)
- to ensure that management of the refuge considers other federal, state, and local government plans
- to provide a basis for prioritizing allocation of funding and staffing levels across NBR programs (e.g. visitor services, law enforcement, management, biology)
- to recognize and address, as appropriate, NBR's location within the Flathead Indian Reservation and address the refuge's importance to the tribes and the communities within the Mission Valley of Montana

### **1.4 National Wildlife Refuge System**

Like all national wildlife refuges, the NBR is administered under the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act).

"The mission of the National Wildlife 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."

### **1.5 Refuge Purposes**

In addition to the mission of the National Wildlife Refuge System, the goals, objectives, and strategies in the CCP are intended to support the individual purposes for which the refuge was established. Refuge specific goals and purposes include:



“a permanent National Bison Range for the herd of bison to be presented by the American Bison Society” (Public Law 60-136, May 23, 1908).

“as a refuge and breeding ground for birds”(Executive Order 3596 (Dec. 22, 1921) also reserved the NBR)

“To provide adequate pasture for the display of bison in their natural habitat at a location readily available to the public” (Public law 85-622, August 12, 1958)

## 1.6 Vision

We developed a vision for the entire National Bison Range Complex (Complex, refuge complex) at the beginning of the planning process. The vision describes the focus of refuge complex management and portrays a picture of the refuge complex in 15 years. As one of the units of the Complex, the vision statement below sets the context for the future for the NBR.

*Relax and take a deep breath while you step back in time to reflect on what was, what is, and what is yet to come. Immerse yourself in the inter-montane valleys of northwestern Montana, shaped by glacial forces and steeped in rich cultural history. This is a special landscape, important to people age after age, where we pay tribute to the persons and peoples who set aside the lands, conserved the wildlife and plants, and were stewards of various components that make up the complex. Visitors from all over the world travel to the Complex, which seeks to provide an opportunity to learn and experience varied habitats, abundant wildlife, and the natural beauty of these lands. The units of the Complex safeguard these values and preserve connectivity across the landscape, forming continuity through time for future generations to treasure. Each unit is unique, and collectively they have contributed, and will continue to contribute, to the Complex and the Refuge System. Partners foster cultural and natural resources conservation where the cultural history is expressed across the landscape. Unique opportunities to work with partners benefit many of the units within the Flathead Indian Reservation and other units located within traditional homelands of the Séliš, Qlispé, and Ksanka Tribes.*

## 1.7 Goals

We developed eight goals for the refuge based on the Improvement Act, the purposes of the refuge, and information developed during planning. The goals focus work towards achieving the vision and purposes of the refuge and outline approaches for managing refuge resources. Goal topics include:

### **Habitat Goal**

Conserve, restore, and promote biological integrity in functional and sustainable ecologically diverse habitats of the inter-montane ecosystem of western Montana.

### **Wildlife Goal**

Protect, maintain, and restore healthy and diverse wildlife populations with respect to species that are endemic, migratory, and mandated species of concern.

**Research and Science**

Encourage high-quality research and promote the use of scientifically sound management decisions.

**Monitoring and Adaptive Management**

Through the life of this plan, we will monitor and evaluate the consequences of our actions and use adaptive management to reach desired outcomes

**Cultural Resources**

Preserve and interpret the cultural resources and history of the National Bison Range Complex to connect staff, visitors, and community to the area's past and continuing traditions.

**Public Use**

Provide compatible, wildlife-dependent recreational opportunities, for persons of all abilities, to learn, enjoy, and appreciate the inter-montane landscape of western Montana, the fish and wildlife and plants.

**Partnerships and Collaboration**

Maintain and cultivate partnerships that help achieve the vision and supporting goals and objectives of the National Bison Range Complex to support wildlife and habitat conservation, research, foster awareness and appreciation of natural and cultural resources and provide education along with all necessary infrastructure of the inter-montane ecosystem of western Montana.

Collaborate with the Confederated Salish and Kootenai Tribes and other Tribal governments in a manner consistent with the Service's Native American policy and with other Federal, State, and local government entities in a manner consistent with applicable Service policies.

**Administration and Operations**

Effectively use funding, staff, partnerships, volunteers, and equipment to restore and manage Complex habitats, conduct programs, and improve and maintain all necessary infrastructure to the benefit of the Complex and the Refuge System.

## **1.8 Significant Issues**

In the EIS, we disclosed the effects of three management alternatives derived from significant issues that were identified during the scoping process. The significant issues addressed in the final CCP and EIS include:

- Habitat Management
- Bison Management
- Wildlife Management
- Tribal Cooperation/Cultural Resources
- Visitor Services/Public Use
- Socioeconomics/Refuge Operations/Staffing
- Partnerships/Communication
- Monitoring and Research

## 1.9 Decision (Alternative C)

We select Alternative C for implementation. Alternative C is selected because it is the alternative that best meets our vision and planning goals for this project. This alternative will enable us to maintain and, where feasible, enhance ecological communities while recognizing ever-changing environmental conditions. In cooperation with our partners, the Service will develop and utilize a prioritization framework to identify and define future conditions that will drive management actions to build ecological community resiliency, promote species and genetic diversity, and build sustainability in management capacity and operations.

We will seek to facilitate collaborative, cooperative, and coordinated management of NBR with our federal, Tribal, state, local, public, and private partners. Where possible, we will participate in landscape-level management of wildlife species, evaluate cross-boundary movements and create corridors conducive to wildlife migration and movement. We will also seek ways to incorporate the expertise, resources, and efforts of our partners to help facilitate the benefits of a broader functioning landscape.

### Habitat Management

#### Grasslands

Under this alternative, we will conduct a robust rangeland health assessment to discern the current ecological status of vegetation and soils on NBR's 14,000 acres of bunchgrass prairie to better inform management. This assessment will measure ecological carrying capacity based on an estimate of total wildlife herbivory (from grasshoppers to bison) on the NBR with consideration of the ecological needs of all priority species (e.g. bison, native birds, and other species of concern).

Another important component of this thorough rangeland evaluation will be to document and provide options for management on how and where to focus resources (i.e. prioritization). We will also work cooperatively with partners and experts to develop a methodology for monitoring grasslands annually that is achievable and supports continuing rangeland assessments every 15 years, possibly including a citizen science component.

Based on the results from the rangeland assessment, we will work to increase the total refuge acres in excellent range condition by 15 percent. We will also work to improve the quality of grasslands that are currently in fair to good condition (25-74 percent native plant composition), and prioritize areas that are also primary habitat for species such as bison and grassland birds. Grasslands in poor condition (lowest quality) on the refuge correlate strongly with existing infestations of invasive grasses that threaten the integrity of this ecosystem. Management in these areas will focus on halting the spread of annual noxious grass invasions and possibly construction of a novel ecosystem—one that is a substantial departure from the historic climax plant community, but is improved to the point where native and non-invasive species provide some diversity, integrity, and resilience.

Invasive species, grazing management, climate change, and drought are some of the key obstacles to achieving our grassland habitat objectives. Invasive species management efforts will combine preventing and reducing spread with herbicide applications, mechanical treatments, and cultural techniques. Prescribed fire will be used to restore and sustain the original fire regime to the maximum extent possible and wildfire may be allowed to burn in approved units except where infrastructure, cultural resources, or trust resources (e.g. bison) are threatened. Herbivory will be



monitored and population objectives for native ungulates will also be adjusted to support the maintenance of the highest quality grasslands on NBR. We will also increase our efforts to work with partners to improve grasslands on a landscape scale. Doing so will also capitalize on habitat management expertise to improve range conditions for a diversity of species while still recognizing the importance of bison to the NBR.

### Forests

By 2021, we will complete an inventory to assess forest health, identify old growth ponderosa pine stands, and inform management how to prioritize treatments on 3,700 acres that will improve site conditions. Once a feasible outcome has been defined in the assessment, and the stands have been prioritized, a variety of resource management tools (e.g. prescribed fire/patch burning, active thinning, slashing) will be used to renovate up to 1,000 acres. We will also seek to continue cooperation with our partners in management activities, especially prescribed fire. Refuge forests will also be evaluated with consideration of the larger landscape. For example, forest stands with rare or unique qualities, as compared to similar sites off the refuge, may be a higher priority for management or a focus of special treatments. To that end, we will design and implement a monitoring protocol to track forest health and management actions.

### Wetland and Riparian

Over the next 15 years, we will reduce juniper density by 50% on 50 acres along Mission creek and maintain or improve existing conditions on the remaining 450 riparian and wetland acres to promote habitat heterogeneity and species diversity. In addition, we will also investigate options for restoring natural flood events along Mission Creek and evaluate opportunities to work with CSKT on restoration efforts on the Jocko River and Mission Creek.

All refuge habitats will be managed using strategies including prescribed fire, mechanical treatments and grazing manipulation, as appropriate. We will focus invasive species management on small, satellite infestations and along vector pathways (riparian corridors, roads, parking lots) using early detection and rapid response (EDRR) and an integrated pest management approach (e.g. herbicide applications, prescribed fire, biocontrol agents and mechanical (i.e., pulling, cutting, etc.) treatments). Because riparian and wetland habitats are sensitive to invasion, challenging to treat, and frequently visited by all species of wildlife on the refuge, they will continue to be a high priority for treatment.

### **Wildlife Management**

The NBR bison herd will continue to be managed to maintain and improve genetic diversity and integrity within the ecological carrying capacity of the refuge. We will continue to use science-supported management strategies to contribute to the national bison conservation goals within the Refuge System metapopulation. Bison capture operations will continue to be conducted as needed to manage the NBR population using low-stress handling techniques. Surplus bison will be managed according to Service-wide policy, prioritizing donations to conservation partners, including other units of the Department of the Interiors, states, Tribes or intertribal organizations through a designated process. NBR's boundary fence, corral system, and water sources (i.e. springs, riparian, wetlands) will also continue to be maintained. We will also explore opportunities to cooperate with the CSKT on bison conservation and management. We recommend completing a feasibility study to investigate and document all options. Any specific proposals or ideas will be discussed in

collaboration with CSKT Tribal Council and staff. Possibilities could include: 1) identification of land bases available to the Tribes to start a new bison population with NBR-surplus bison that is managed by CSKT; 2) provide NBR-surplus animals to start a new population that will be considered a full partner in the Refuge System bison metapopulation management program; 3) provide NBR surplus animals to start a new CSKT Tribally-managed population that will be considered a full partner in the Refuge System bison metapopulation management program.

We will also evaluate the management of other native ungulate species relative to habitat quality, research, and species conservation needs. We will collaborate with adjacent landowners, state agencies, Tribes, and Non-Government Organizations (NGO's) to discuss how NBR can participate in landscape-level management of native ungulate species. We will review and update coyote control on NBR with public and partner involvement. We will increase communications and outreach efforts among partners about wildlife health concerns and major disease threats. We will seek to develop improved survey and monitoring methods.

### **Research and Science**

We will identify and support research that substantially informs the scientific community or the ecology and management of NBR species and habitats. We will also encourage the integration of traditional ecological knowledge (TEK) as part of partner-generated research or other scientific-information gathering efforts.

### **Monitoring and Adaptive Management**

We will continue to support existing monitoring projects, such as refuge bird populations, wildlife health, bison demographics and genetics, species of concern, and public use. In addition, this alternative highlights the importance of native bird species that are endemic to the native grasslands present on NBR. We will seek to further the Service's relationship with academic entities and other agencies in a way that informs NBR management and facilitates habitat improvement specific to the ecological needs of these species. We will develop an adaptive management project for grasslands that allows NBR management to assess wildlife and vegetative responses, including invasive plants, to various management activities, such as native ungulate forage allocations, water management, predator control, rest, prescribed fire, public use impacts, and invasive weed control, as well as climatic variations.

### **Cultural Resources**

Cultural resources interpretation and education about Tribal citizens and early people's use of the lands within NBR's boundary will be provided at the Visitor Center. We will work with CSKT and other Tribal partners in planning, producing and providing relevant materials, exhibits, signs, educational and interpretation materials. Access to specific NBR resources, or Tribal heritage sites used for cultural traditional values, will be allowed through a "special use permit" on a case-by-case basis. We will issue and implement NBR-specific guidance on how special-use permits would be managed to improve efficiency. We will also conduct outreach to local groups regarding NBR's history and the NBR's effects on conservation, species management, and the community since its inception.

## **Public Use**

### **Fishing**

Fishing will continue to be allowed on three and three quarters (3.75) miles of the Mission Creek and one and one-half miles (1.5) of the Jocko River. Decisions to close areas accessible to fishing will give greater consideration to the conflict or disturbance to priority species or habitat. We will also provide additional information to enhance the quality of the fishing experience that highlights the conservation importance of native species, especially bull trout and westslope cutthroat trout.

### **Wildlife Observation and Photography**

We will continue to provide opportunities for self-directed wildlife viewing and photography for at least 180,000 visitors per year. We will encourage awareness of and provide an opportunity to learn about conservation and mission of the refuge system and to highlight the unique history of bison conservation and cultural and historical significance of the NBR. We will prioritize public use opportunities when not in conflict with priority species or habitat. We may close trails or portions of trails with minimal use or substantial maintenance needs.

### **Environmental Education and Interpretation**

We will provide environmental education and interpretation through general information contacts at the Visitor Center. Education and interpretation resources and programs will emphasize appreciation and understanding of bison, native birds, and their habitats. Visitor Services staff will provide outreach to schools with a focus on providing education pertaining to priority species and habitat. All environmental education and interpretation programs will emphasize that wildlife and habitat are the priority for the management of the NBR. We will educate the public on the importance and necessity of regulations aimed at protecting and conserving priority species and habitats. We will communicate to the public how the Service incorporates TEK into its management practices and incorporate native languages into educational materials, signage, and outreach materials to the maximum extent possible. The Visitor Center will be open 7 days a week, May – October, subject to funding and availability of interns, seasonal employees and/or volunteers.

### **Other Uses**

The NBR will support various forms of nature-based outdoor recreation that, while not strictly wildlife-dependent, may support or facilitate wildlife-dependent recreation. These activities include social gatherings in the day use area, allowing special user groups to collect antlers, and conducting an annual Saddle Club Trail ride. These proposed activities will be managed in a way that the use will not conflict with or cause disturbance to priority species or habitats.

## **Partnerships**

We will seek to maintain strong and effective working relationships with existing partners and develop new partnerships to achieve our priority habitat and wildlife goals. Examples of these partnerships include:

- Reinvigorate the Partnership for Regional Invasive Species Management (PRISM) and solicit new partners (e.g. private landowners) for a comprehensive approach to invasive species management on the Flathead Indian Reservation (FIR).
- Consider expanding opportunities for donations of bones, skulls, hides etc. to the CSKT, the Inter-Tribal Buffalo Council, or other Tribes for cultural or educational purposes.



- Work with neighboring private landowners and other partners (CSKT) to develop priority conservation areas within the FIR that model and ultimately promote wildlife-friendly livestock management.
- Expand partnerships with the CSKT, MTFWP, Natural Resource Conservation Service (NRCS), Pheasants Forever, other governmental agencies, and non-governmental organizations to include working on wildlife management issues, specifically on priority species and their habitats and use of prescribed fire on NBR.

## **Administration and Operations**

In addition to maintaining current staff, we will prioritize hiring a visitor services specialist. Also, we will seek to strengthen biological support for refuge management by hiring a biological technician and by seeking at least 20 volunteers for various biological programs in which they have interest and skills. Staff capacity and training in understanding and interpreting local indigenous culture, history and TEK will be expanded.

We will prioritize improvements and maintenance on roads, trails, facilities, and infrastructure that are critical to manage NBR for priority species and sustainability of natural habitats. We will review the current housing on NBR to define what housing is necessary to accommodate full-time and seasonal employees, visiting Service employees, interns, contractors, and volunteers. We will remove internal fences that are no longer utilized and are considered obstacles to wildlife movement. Maintenance of the day use area is not a priority under this alternative, but its importance to environmental education and the overall visitor experience is recognized. Volunteers will be utilized to clean the bathrooms, mow and water the grass, and maintain a generally healthy and clean environment in the day use area.

## **1.10 Rationale for Selecting Alternative C**

This alternative balances the significant management issues at NBR with the purposes, missions, and management policies of the Service, as well as with the interests and perspectives of many agencies, organizations, tribes, and the public.

Overall, we received support for many of the elements in alternative C from our cooperating agencies, local agencies, conservation organizations, and the public. During the public review period for the draft CCP and EIS, we received numerous comments to expand conservation efforts of the wildlife resources on the NBR and improve the condition of the grassland habitats, and increase invasive plant control efforts. We acknowledge the importance of public use activities on the refuge and although Alternative C places more emphasis on wildlife and habitat management, quality public use is still an important component of this alternative.

In the final CCP and EIS, alternative C was revised from the proposed action in the draft CCP and EIS after consideration of many comments received from agencies, tribes, other stakeholder organizations, and the public during the comment period.

Section 1.19, *Environmentally Preferable Alternative*, expands upon the basis for selecting Alternative C.

## **1.11 Other Alternatives Considered**

The final CCP and EIS evaluated a no-action alternative (A) and one other action alternative (B), which are briefly summarized below. We developed all the alternatives to meet the planning goals we set for the project as well as to fulfill the purposes for which the NBR was established. Some of the alternatives met specific elements of our planning goals better than others, and we considered this in our decision.

## **1.12 Summary of Alternative A (No Action)**

Under this alternative we would have continued all the current management activities, and maintain funding, infrastructure, all current programs, and staffing at existing levels.

### **Habitat Management**

Under this alternative, we would have continued the practice of conducting a range condition survey approximately every 10-15 years, with the most recent being completed in 2005 and 2010. The range condition survey would assess conditions and update forage allocations for large ungulate use of 14,000 acres of grasslands on the NBR. We would continue to maintain grasslands already in excellent condition, strive to moderately increase native composition of grasslands in good to fair condition and seek to contain invasive species in the poorest quality grasslands.

We are currently planning to complete an inventory of forest health and identify old growth ponderosa pine stands on NBR in partnership with CSKT as part of the Reserve Treaty Rights Lands Initiative. After the inventory is completed, we plan to prioritize and treat 1,000 acres of forest to reduce Douglas fir densities to try to avert the risk of a stand-replacing wildfire. Encroaching trees in grasslands would also be selectively removed.

We would have continued to maintain 500 acres of existing riparian and wetland habitats. NBR's riparian vegetation is largely in good condition.

All refuge habitats would have been managed using strategies including prescribed fire, mechanical treatments and grazing manipulation, as appropriate. We would have focused invasive species management on small, satellite infestations and along vector pathways (riparian corridors, roads, parking lots) using early detection and rapid response (EDRR) and an integrated pest management approach (e.g. herbicide applications, prescribed fire, biocontrol agents and mechanical (pulling, cutting, etc.) treatments). Because riparian and wetland habitats are sensitive to invasion, challenging to treat, and frequently visited by all species of wildlife on the refuge, they would have continued to be a high priority for treatment.

### **Wildlife Management**

The NBR bison herd would have continued to be managed to maintain and improve genetic diversity and integrity within the ecological carrying capacity of the refuge. We would have continued to use science-supported management strategies to contribute to the national bison conservation goals within the Refuge System metapopulation. Bison capture operations would have continued to be conducted as needed to manage the NBR population using low-stress handling techniques. Surplus bison would have been managed according to Service-wide policy, prioritizing donations to

conservation partners, including other Department of Interior (DOI) units, states, Tribes or intertribal organizations through a designated process. NBR's boundary fence, corral system, and water sources (i.e. springs, riparian, wetlands) would also have continued to be maintained.

Populations of representative native ungulates, that are ecologically compatible with bison, would have been maintained on NBR (currently approximately 130 elk, 200 mule deer, 175 white-tailed deer, 125 pronghorn, and 75 bighorn sheep), through active management and partner participation. We would have regularly conducted disease surveillance on bison and other ungulates.

#### **Research and Science**

We would have maintained current levels of support for self-sustaining long-term research. We would have collected traditional ecological knowledge as part of any research or other scientific-information-gathering efforts.

#### **Monitoring and Adaptive Management**

We would have continued to support existing monitoring projects, such as refuge bird populations, wildlife health, bison demographics and genetics, species of concern, and public use.

#### **Cultural Resources**

Cultural resources interpretation and education about Tribal citizens and early people's use of the lands within NBR's boundary would have continued at its current level at the Visitor Center. Access to specific NBR resources, or Tribal heritage sites used for cultural traditional values, would have been allowed through a "special use permit" on a case-by-case basis.

#### **Public Use**

Fishing would have continued to be allowed on three and three quarters (3.75) miles of the Mission Creek and one and one-half miles (1.5) of the Jocko River.

We would have continued to provide opportunities for self-directed wildlife viewing and photography for at least 180,000 visitors per year. Similarly, we would have continued to provide education and interpretation opportunities at the Visitor Center to a minimum of 30 percent of annual visitors. NBR programs encourage awareness of, and provide an opportunity to learn about, conservation and the mission of the Refuge System. Visitors are also provided the opportunity to learn about the unique history of bison conservation and the cultural and historical significance of the refuge.

We would have continued to provide opportunities for appropriate and compatible non-wildlife dependent recreation. We would have communicated to the public how the Service incorporates traditional ecological knowledge into NBR management practices and incorporates native languages into educational materials, signage, and outreach materials to the maximum extent possible.

#### **Partnerships**

We would have maintained strong and effective working relationships with existing partners to achieve our habitat, wildlife, and visitor services goals. We would also have continued to foster a constructive relationship with CSKT.

#### **Administration and Operations**

Currently, there are 7.5 permanent refuge staff. We would have continued to seek funding for seasonal, temporary, and youth positions. We would have continued recruiting volunteers, as needed,



to support refuge activities related to administrative, public use, maintenance, and biological activities. We would have continued to build staff capacity for understanding and interpreting local indigenous culture, history, and traditional ecological knowledge. Facilities and real property would have been maintained in operational condition that meets Service standards and NBR goals. Road maintenance, including annual dust abatement and grading, would have continued. The current Visitor Center is expected to be replaced starting in 2020, if funding becomes available.

### **1.13 Rationale for Not Selecting Alternative A**

Alternative A was not selected for implementation because although it would meet some aspects of the planning goals, it would do so to a lesser degree than the other alternatives.

Under Alternative A, habitat management would primarily serve to maintain current conditions with only minor benefits to grasslands and forests. There would be limited efforts to achieve the goal of promoting biological integrity and sustainable, ecologically diverse habitats. Alternative A would meet the goals of wildlife management by continuing a robust program to conserve the bison but fewer benefits would be expected for other ungulates and wildlife. Research, monitoring and partnerships would continue under Alternative A, but would be limited to primarily established projects or those requiring few refuge resources, and thus would not achieve the goals for research, monitoring and partnerships to the same degree as the preferred alternative.

Although Alternative A would partially meet the goals for Cultural Resources, this alternative would be the least beneficial of the three considered. Public uses would also continue under Alternative A, but would be primarily self-directed with few improvements or innovations. Refuge activities would mostly be focused on maintenance of existing public use facilities such as the auto tour loop, trails, signs and interpretive panels. Similarly, under Alternative A, refuge operations would focus on existing facilities and staffing and funding levels are the lowest of the three alternatives. Under Alternative A we would develop new strategies for including TEK and native language into signs and communications. However, overall, Alternative A is expected to only have minor benefits for cultural resources, socioeconomics and visitor services.

Alternative A did receive some support from the planning team and in the public comments. Some commenters felt that Alternative A has proven to be achievable, and the additional strategies and benefits of the other alternatives may not be realized if the necessary resources are not dedicated to achieving the goals. We also received comments in support of continuing the bison herd management, in particular the genetic diversity, as described under Alternative A.

### **1.14 Alternative B**

This alternative emphasizes managing habitat and wildlife populations, as well as NBR infrastructure and operations, to provide quality, wildlife-dependent opportunities for the public. All NBR programs would have sought to foster public support and appreciation for the resources of Refuge System lands and waters. We would have striven to maximize the quality of recreational opportunities by providing improved access, facilities, interpretive materials, and environmental education programs. We would also have aimed to enhance the quality of the public's experience by maintaining healthy wildlife populations and habitats that support activities such as wildlife

observation, photography, interpretation, education, and fishing. Working with partners, through existing and new partnerships, would also have been a key component of this alternative.

### **Habitat Management**

We would have conducted a range condition survey, similar to that in Alternative A, to assess forage availability for large, grazing native ungulates. In combination with a range survey, this alternative would also have surveyed the public to identify areas important for a high-quality visitor experience. Identified areas would then have been prioritized for grassland management, including preventing the spread of invasive plant species using integrated pest management. Under this alternative, we would also have developed interpretive and educational materials to inform our visitors about invasive plant species issues and the treatment efforts implemented by NBR. Visitors would have been encouraged to aid refuge staff in prevention and early detection efforts through vehicle wash stations, boot brushes at trailheads and new invader handouts.

Under this alternative, the forest assessment would have included all of the information described under Alternative A, as well as determining which forest areas are most accessible to visitors and which forest wildlife species might be of greatest viewing interest to the public. Based on the assessment, we would have sought to renovate 1,000 acres of forest, rather than simply treat forest stands, as described under Alternative A. We use the term *renovation* rather than *restoration* because restoration often suggests a complete return to historic conditions, which is unlikely to be feasible. Renovation is used in this context to indicate improvements in forest stand health and resiliency, but not necessarily complete return to an entirely “natural,” self-sustaining, or historical condition. Once a feasible renovation outcome had been defined, and the stands had been prioritized with consideration of public access and interest, we would have used a variety of resource management tools to achieve desired future conditions. These management tools would have included those described in Alternative A, as well as would have sought to restore and sustain to the maximum extent possible, the original fire regime.

Over the life of the plan, we would have worked to reduce juniper density by 50 percent on 50 acres along Mission Creek to enhance opportunities for wildlife viewing and photography, and maintain or improve existing conditions on the remaining 450 acres of riparian and wetland habitat. There is concern that the Rocky Mountain juniper is expanding and negatively impacting overall plant and wildlife diversity. We would have reduced juniper density through mechanical removal or use of prescribed fire in partnership with CSKT as part of Reserved Treaty Rights Lands Initiative or other future partnerships.

### **Wildlife Management**

We would have managed wildlife as described in Alternative A, plus we would have managed bison and other native ungulates to increase the public’s opportunities to observe and photograph them, as well as enjoy interpretation and environmental education opportunities. Under this alternative, we would have investigated options for updating the corral system (e.g. cameras and/or audio systems, catwalks in areas post handling) to better accommodate public interest in bison management, while maintaining low-stress handling protocols. Engaging the public in research and monitoring efforts involving native ungulates on the refuge would have been another way to enhance the quality of their experience.

### **Research and Science**

Same as A, plus we would have sought new research projects that are pertinent to NBR resources and could have been accomplished through public involvement. We would have collected traditional

ecological knowledge as part of any research or other scientific information gathering efforts. We would have encouraged development of school research projects that support management of NBR and would also have worked with partners to conduct a research project to better understand visitor use and impacts.

### **Monitoring and Adaptive Management**

Same as A, plus we would have striven to share monitoring results with the public more widely and emphasize monitoring projects using citizen science and volunteer engagement. In the first 5 years after the plan was finalized, we would have developed a project to monitor visitor impacts on wildlife habitat and populations.

### **Cultural Resources**

Same as A, plus we would have enhanced interpretation programs for cultural resources. In collaboration with CSKT (and other partners), we would also have developed topic-specific cultural resources interpretation and education programs. We would have issued and implemented NBR-specific guidance on how special-use permits would be managed to improve efficiency.

### **Public Use**

#### Fishing

In addition to Alternative A, the NBR would have focused efforts to enhance the quality of the fishing experience. We would have explored increased access along Mission Creek as well as increasing accessible opportunities and improve communication pertaining to fishing to further enhance the visitor experience.

#### Wildlife Observation and Photography

Under this alternative, we would have consistently striven to increase visitor satisfaction of opportunities for wildlife viewing and photography by improving services to accommodate at least 180,000 visitors per year. We would have completed a Visitor Service Plan and developed a visitor satisfaction survey to obtain feedback on how well we are achieving the objective of increasing visitor satisfaction.

We would have enhanced communication programs and products, including regularly updating NBR's website and kiosk, with recent wildlife observations and photography opportunities. We would have facilitated workshops and guided wildlife observation and photography tours through the use of staff and partner organizations, possibly in areas currently closed to the public.

We would have explored opportunities to improve the 19 miles of wildlife drive auto tour routes, including the possibility of paving sections or the entire tour route, or expanding the season of public access on Red Sleep Mountain Drive. We would have investigated the opportunity to increase trail miles and increase trail accessibility. We would also have worked with partners to develop year-round wildlife viewing areas (turn-offs) along US 93, Highway 200, or Highway 212. We would have sought additional funding to improve and enhance the wildlife observation and photography program, including analyzing opportunities to increase entrance fees.



### Environmental Education and Interpretation

We would have worked with partners and volunteers to increase environmental education, interpretation, and outreach programming. This may have included activities for specific grades or groups, teacher trainings, and tours in normally closed areas. New communication products would have been developed on specialized topics, such as bison conservation, ungulates, native birds and their habitats, and integrating traditional ecological knowledge into refuge management.

Within 2 years of finalizing the plan, we would have conducted a complete sign inventory and developed a work plan for a comprehensive replacement (as needed) and maintenance of refuge wayfinding, regulatory, and interpretive signage. We would have incorporated native languages into educational materials, signage, and outreach materials to the maximum extent possible. Visitor Center operations would have been expanded to 5 days a week, 8am-4:30pm, from November – April and 7 days a week, 9am-7pm, May – October with staff and volunteers present to interact with visitors. Sources for alternative funding, such as grants or increased visitor-use fees, to improve and enhance the environmental education, interpretation, and outreach program would have been explored.

### Other Uses

Same as A, plus the NBR would have supported various forms of nature-based outdoor recreation that, while not strictly wildlife-dependent, may support or facilitate wildlife-dependent recreation. These activities may have included social gatherings in the day use area, allowing special user groups to collect antlers and conducting an annual Saddle Club Trail ride.

### **Partnerships**

Same as A, plus we would have sought to develop new partnerships focused on creating higher quality public use opportunities including developing a refuge “Friends” group. We would have developed partnerships with colleges and universities to recruit students to work with and develop environmental education programs for grades K-12, both on and off refuge. We would have worked with the CSKT and Salish and Kootenai College regarding methods of collecting traditional ecological knowledge and opportunities to collaborate. We would also have developed partnerships with applicable groups to enhance wildlife recreational opportunities, such as birding groups and photography groups to develop and fund observation blinds and events. We would have sought to reestablish the book store through a partnership with the refuge Friends group or another cooperating association.

### **Administration and Operations**

Same as A, plus we would have hired a visitor services specialist. We would have sought to provide for at least 25 volunteers for various public use programs in which they have interests and skills. Staff capacity and training in understanding and interpreting local indigenous culture, history and traditional ecological knowledge would have been expanded. We would make improvements to visitor facilities and infrastructure including upgrading trails, improving accessibility and providing additional public restrooms.

## **1.15 Rationale for Not Selecting Alternative B**

Alternative B was not selected for implementation. Although it would meet the stated goal for public use and have the most benefit for socioeconomics and visitor services of the three alternatives,

Alternative B would not meet the other planning goals as well as Alternative C. Even though this alternative emphasizes the importance of healthy habitats and wildlife as essential to quality public uses, this alternative would require the most investment in providing for visitor services, and fewer resources could be used for wildlife and habitat management.

Alternative B would be more beneficial for forest, wetland and riparian habitats than Alternative A due to additional strategies to improve conditions and interpretive opportunities for engaging the public. Alternative B would also maintain the bison conservation program under current management, but would not result in additional benefits to bison, other ungulates or other wildlife. Even though the Service would employ best management practices, there may also be a slight increase in adverse impacts to streams and wetlands due to siltation associated with potentially greater use and maintenance of public roads and trails as well as new construction under Alternative B. Alternative B would meet the goals of research, monitoring and partnerships by continuing existing programs and developing new efforts, especially to engage the public with citizen science and to incorporate TEK into refuge management, interpretation and communication. Alternative B would also be more beneficial for achieving the cultural resources goals by building on efforts under Alternative A.

Some members of the planning team expressed support for Alternative B and several public comments expressed support for elements of this alternative. We recognize the importance of the refuge to the visiting public and some of the key strategies from Alternative B were included in the preferred alternative (C).

## **1.16 Tribal Involvement and Consultation**

In accordance with the Service's planning policy (602 FW 3), we notified Native American Tribes and other federal and state agencies with a land management interest on the planning effort and invited them to participate as cooperating agencies and members of the Planning Team.

The Service sent letters of notification about the planning process, including an invitation to join the Planning Team, to the following Tribes: CSKT, Blackfeet Nation, Coeur d'Alene Tribe, Apache Tribe, Fort Belknap Indian Community of the Fort Belknap Reservation, Kalispel Indian Community of the Kalispel Reservation. The CSKT decided to join us as a cooperating agency.

## **1.17 Public Involvement and Outreach**

A notice of intent (NOI) to develop a CCP and a request for comments was published in the Federal Register on May 18, 2017 [82 FR 22843]. This NOI was a revision to an earlier NOI published in January 18, 2017 [82 FR 5597]. The NOI notified the public of our intent to begin the CCP and EIS process.

### **Comments on the Draft CCP and EIS**

The draft CCP and EIS was released to the public for a 45-day public review and comment period on April 5, 2019, following the publication of a Notice of Availability in the Federal Register [84 FR 13662]. The public comment period ended on May 20, 2019. We received 275 comments from 55 individual submittals on the draft CCP and EIS. In addition, we received 10 letters from the CSKT,

other governmental agencies, and other conservation organizations. Our responses to all substantive comments received are contained in Appendix H of the final CCP and EIS.

## **1.18 Comments on the Final Plan and EIS**

A Notice of Availability for the final CCP and EIS was published in the Federal Register on September 6, 2019 [84 FR 46950], and the 30-day waiting period [40 CFR 1506.10(b)] ended on October 7, 2019.

### **Summary of Comments**

We received comments on the final CCP and EIS from eleven organizations or individuals. Most of the comments we received were of similar nature to those that we responded to in the draft CCP and EIS. The EPA reviewed the final CCP and EIS and concurred that Alternative C is the environmentally preferable alternative based on the ecological benefits.

We received comments providing additional information regarding the history of the establishment of the National Bison Range. Although the purpose of the history section in the CCP is not meant to be a full historical account, the Service is appreciative of this information and how it will support current and future management decisions and visitor service programs.

We also received additional information regarding grassland management on the NBR; the Service will consider this information in the future development of the NBR Habitat Management step down plan.

We received a request for more information about the cost of the visitor center. At this time, not enough detail is available to provide an estimate. As noted in the final CCP and EIS, it is anticipated that construction of a new Visitor Center would be the subject of follow-on detailed planning when any decision to construct moves forward.

We also received a comment asking that we include a specific mention of the presence of Chronic Wasting Disease (CWD) in Montana. The management of CWD is led by Montana Fish, Wildlife and Parks ([fwp.mt.gov/CWD](http://fwp.mt.gov/CWD)), however, DOI agencies, such as the U.S. Fish and Wildlife Service may provide support. In the preferred alternative, we addressed the need to increase communication about wildlife health concerns and major disease threats among partners. In addition, we identified the need for a Disease Contingency step-down plan where ungulate health monitoring, for diseases such as CWD, will be further addressed.

There were additional comments about the level of pre-planning effort for the CCP and EIS, however, we have prepared the EIS and CCP in compliance with Service planning policy (602 FW3). We also received comments about the DOI reorganization (<https://www.doi.gov/employees/reorg>) that are outside of the scope of this planning effort.

## **1.19 Environmentally Preferable Alternative**

The environmentally preferable alternative is defined as the “alternative that will promote the national environmental policy as expressed in NEPA’s Section 101. Typically, this means the alternative that causes the least damage to the biological and physical environment. It also means the



alternative that best protects, preserves and enhances historic, cultural and natural resources” [46 FR 18026].

Based on our environmental consequences analysis in the final CCP and EIS, we believe Alternative C is the environmentally preferable alternative. Alternative C emphasizes maintaining and, where feasible, enhancing ecological communities, building ecological community resiliency, promoting species and genetic diversity, and build sustainability in management capacity and operations. Under this alternative, the Service would seek to facilitate collaborative, cooperative, and coordinated management of NBR with our Federal, Tribal, State, local, public, and private partners. Where possible, we would also seek ways to incorporate the expertise, resources, and efforts of our partners to help facilitate the benefits of a broader functioning landscape.

The Alternative C objectives and strategies would be more beneficial for priority habitats like grasslands and forests by focusing on ecosystem and landscape-scale management. More so than Alternatives A or B, Alternative C would involve greater consultation and coordination with Service staff, Tribes, and partners to conduct specific species assessments, improve refuge habitats on a landscape scale, and use TEK to inform wildlife and habitat management. Indirectly, these kinds of partnerships could have long-term, beneficial effects over the life of the CCP on all refuge biological communities by introducing new strategies and management practices.

Under Alternative C, strategies for maintaining and improving bison genetic diversity as well as overall bison management would be similar to those described under Alternative A. Alternative C would somewhat more beneficial for bison by including species-centric strategies to manage bison operations for the well-being of the bison and collaborating with CSKT.

Management of habitat communities, as described under Alternative C, would have the greatest beneficial effect on overall habitat management and wildlife species at NBR. Prioritization of management strategies would favor wildlife under Alternative C, and so it would be expected to have more overall benefits to wildlife than Alternatives A and B. Migratory birds and Montana species of concern present at the NBR would benefit under specific wetland, grassland, and other habitat management objectives as described under both Alternatives A and B, but benefits would be higher under Alternative C.

Alternative C includes elements that would expand public use over the current management (Alternative A), but not to the extent as described under Alternative B. Even though the Service would employ best management practices, under Alternative B there may also be a slight increase in adverse impacts to soils, air quality, streams and wetlands due to siltation associated with potentially greater use and maintenance of public roads and trails as well as new construction. Alternative C would also include, as needed, closures to protect wildlife and habitat which would further reduce impacts to the physical environment from public uses.

Overall, both Alternatives B and C, would result in negligible-to-major benefits to cultural resources. The Service would continue to follow all cultural resources regulations and policies for any federal undertaking on NBR to minimize potential adverse effects. Under Alternatives B and C, the Service would increase protection efforts largely through more explicit coordination with our conservation partners. Tribes would continue to collect and use plants, bison, and other resources for ceremonial purposes under special use permits. The emphasis on public use in Alternative B would most likely provide more awareness and protection of cultural resources and traditional cultural resources, a minor, beneficial effect. Under Alternative C, having a stronger metapopulation of bison under

Alternative C could bolster and support CSKT's cultural heritage and increased protection to certain species may coincide with CSKT efforts to preserve and protect TEK and other traditional cultural resources.

In consideration of our mission and policies, the mission of the Refuge System, and the purposes of the refuge, we believe that Alternative C is environmentally preferable. This alternative causes the least damage to the biological and physical environment and best protects, preserves and enhances the natural, historic, and cultural resources of the NBR, while still providing for important public use opportunities.

## **1.20 Measures to Minimize Environmental Harm**

The EPA reviewed the final CCP and EIS and concurred that Alternative C is the environmentally preferable alternative based on the ecological benefits. Throughout the planning process, we took into account all practicable measures to avoid or minimize environmental impacts that could result from the implementation of Alternative C. These measures include the following:

- NBR would continue to reduce its carbon footprint by using renewable energy where feasible (for example, wind and solar energy) and green technologies in the development of any new facilities.
- Prescribed fire would be carried out under an approved fire management plan. We would follow best management practices during prescribed burns and appropriately use prescribed fire timing and intensity to minimize negative impacts to soil, air, vegetation and wildlife. When appropriate, we would follow-up prescribed fire with treatment for invasive weeds.
- NBR staff would continue to strictly follow Service guidance of pesticide application on refuges, including the Fish and Wildlife Service Integrated Pest Management guidance (569 FW 1), Hazard Analysis and Critical Control Point planning (750 FW 1), Departmental Integrated Pest Management (IPM) (DM 517 1), and pesticide use safety (242 FW 1). We will also refer to manufacturer's recommendations and U.S. Environmental Protection Agency labeling instructions, spraying guidelines, and timing recommendations; finally, we would only use herbicide formulations that are appropriate for the target weed species, with appropriate consideration for the ecological site condition, application method, weather conditions, and timing, as specified according to the product label for each herbicide.
- We would seek to prevent new invasive plant occurrences and reducing spread by prohibiting off-road driving for management activities, and promoting the concept of "clean, dry, and inspect" techniques for equipment to remove seeds and pollen (i.e. first cleaning, then drying, then visually inspecting to make certain that visible plant material has been removed).
- Tree removal would be focused in the winter when soil is frozen or in a dry period when soil moisture is low would minimize impacts from soil compaction, rutting, and puddling.
- Dust control would be limited to a single, annual application on roads, which are already compacted and covered with a layer of gravel and small stone. To minimize magnesium chloride runoff, application would be avoided before or after rain events, during considerable snow melt periods and where it would directly impact wetlands or riparian areas.
- Water quality would be protected by limiting the amount of bare soil, using soil erosion barriers, limiting the use of herbicides, and following other best management practices, during any future management activities near wetlands and riparian areas.

- The Service would work proactively with the CSKT and other Tribes, particularly in the collection and application of TEK for the benefit of resources of mutual interest. Furthermore, the Service would continue existing partnerships to collect and share scientific and research information for the benefit of resources of mutual interest.
- Bison capture operations would occur only as often as needed to align with population objectives and would be conducted with low-stress methods to gather the majority of the herd.
- During forest management activities, we would retaining the ponderosa pine overstory, leave snags or girdle trees for cavity-nesting birds and bats and other Montana species of concern that use the forested areas on NBR.
- NBR staff will provide field protocols and guidelines to ensure that the researchers are minimizing their interaction with wildlife and limiting the adverse impact to habitat when taking plant and ground samples.
- Closures to certain areas on the refuge may occur when significant risks to public safety exist, or the potential for disturbance to priority species or habitat.
- If potentially significant cultural resources are within a project area, refuge staff and the cultural resource staff would work with consulting parties to assure that any concerns or recommendations are considered.
- A monitoring program will support detecting environmental harm caused by the implementation of the plan's activities. For example in native grasslands, we will monitor wildlife and vegetative responses to invasive weed control and native ungulate forage allocations. The monitoring information will guide our adaptive management to correct any non-desirable outcomes.

## 1.21 Consultation Requirements: Section 7 of the Endangered Species Act

As of June 2019, we identified three listed species that may occur on NBR: Bull Trout (*Salvelinus confluentus*; threatened), Grizzly Bear (*Ursus arctos horribilis*; threatened), and Spalding's catchfly (*Silene spaldingii*; threatened plant):

Bull trout may occur in the portions of Mission Creek and the Jocko River that flow through the NBR. The entire area is located within the Columbia Headwaters Recovery Unit in the Lake Pend O'Reille (A) core area. The stretch of the Jocko River that flows through the refuge has been designated critical habitat [75 FR 63898].

Grizzly bears are known to occur regularly and seasonally throughout the Mission Valley. The NBR lies within the demographic connectivity area for the Northern Continental Divide Ecosystem (NCDE) grizzly bear population. The CSKT Wildlife Management Program is the local manager of grizzly bears within the exterior boundaries of the Flathead Indian Reservation and they work cooperatively with all property owners to effectively manage grizzly bears. Grizzlies have been reported by NBR visitors over the years and have been documented photographically in recent years. No evidence of denning activity is known on the NBR. All grizzly sightings are reported directly to CSKT bear management biologists, who lead trapping, tracking, and movement efforts within the Flathead Reservation.



Spalding's catchfly has not been documented on NBR but suitable habitat is thought to exist, and surveys have been conducted periodically in the past.

The USFWS's IPaC Online Consultation tool also identified Threatened Canada lynx (*Lynx canadensis*), the Threatened Yellow-billed Cuckoo (*Coccyzus americanus*), and the Proposed Threatened North American Wolverine (*Gulo gulo luscus*) as occurring on the larger landscape around the NBR. However there are no records of Yellow-billed Cuckoo on the NBR and in any case suitable habitats would be maintained by the proposed action; there are no suitable habitats for lynx or wolverine, although both these far-ranging animals have been known to cross through unsuitable habitats.

Through the intra-Service consultation process, we concluded that our preferred Alternative C may affect, but is not likely to adversely affect, any listed species (final concurrence 6/27/2019).

## **1.22 Section 106 of the National Historic Preservation Act**

Activities outlined in Alternative C have the potential to negatively affect cultural resources, either by direct disturbance during construction of habitat projects and facilities related to public use or administration and operations, or indirectly by exposing cultural and historic artifacts during management actions such as habitat restoration or prescribed burning. Prior to any undertaking that would be subject to Section 106 of the National Historic Preservation Act, activities that could negatively affect cultural resources will be identified, and options for minimizing negative effects will be discussed prior to implementation of the preferred alternative, including entering into consultation with the CSKT Tribal Historic Preservation Office, State Historic Preservation Office and other parties as appropriate.

## **1.23 Protection of Wetlands and Riparian Areas**

Activities outlined in Alternative C are aimed at improving the ecological resilience and sustainability of grassland and forest habitats, and sustaining wetland and riparian habitats on the refuge. We will continue to manage wetlands to promote native species and provide opportunistic benefits to wetland-dependent wildlife. We will reduce juniper density by 50% on 50 acres along Mission creek and maintain or improve existing conditions on the remaining 450 riparian and wetland acres to promote habitat heterogeneity and species diversity. We will also investigate options for restoring natural flood events to existing riparian and wetland habitats along Mission Creek and evaluate opportunities to work with CSKT to expand or collaborate on riparian restoration.

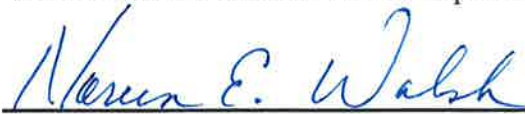
These strategies are expected to help preserve the long-term function and productivity of wetland and riparian habitats and to communities that are ecologically resilient to climatic and hydrologic changes. We will incorporate applicable regulatory compliance as appropriate into any infrastructure maintenance efforts.

## **1.24 Finding and Basis for Decision**

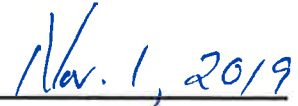
We have considered the environmental and relevant concerns presented by tribes, agencies, organizations, and individuals on the proposed action to develop and implement a comprehensive conservation plan for the refuge.

Alternative C was selected for implementation because it achieves a reasonable balance between the significant resource management issues, the purposes of the refuge, the mission of the Refuge System, and the interests and perspectives of all stakeholders.

All public, tribal, and agency comments received during the environmental process were reviewed. The issues and comments raised were addressed in the final CCP and EIS. Comments and responses on the final CCP and EIS are addressed in this record of decision. Based on the above information, we have selected Alternative C for implementation.



Regional Director, Interior Regions 5 and 7  
U.S. Fish and Wildlife Service  
Lakewood, Colorado

  
Date

# Appendix G—List of Plant and Animal Species

List of species either documented as present, or probably present, on the National Bison Range. Designations include species listed as Federally endangered or threatened, species of concern or potential species of concern in the state of Montana (<http://mtnhp.org/SpeciesOfConcern/>), and species considered

non-native to Montana. This list is not exhaustive and will be added to as inventory, monitoring, and management activities occur on the refuge.

Common Names	Scientific Name	Designation
<b>MAMMALS</b>		
American mink	<i>Neovison vison</i>	
Badger	<i>Taxidea taxus</i>	
Beaver	<i>Castor canadensis</i>	
Bighorn sheep	<i>Ovis canadensis</i>	
Bison	<i>Bison bison</i>	species of concern
Black bear	<i>Ursus americanus</i>	
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>	species of concern
Bobcat	<i>Lynx rufus</i>	
Columbian ground squirrel	<i>Urocitellus columbianus</i>	
Coronation island vole	<i>Microtus longicaudus</i>	
Coyote	<i>Canis latrans</i>	
Deer mouse	<i>Peromyscus maniculatus</i>	
Dusky or montane shrew	<i>Sorex monticolus</i>	
Elk	<i>Cervus elaphus</i>	
Fringed myotis	<i>Myotis thysanodes</i>	species of concern
Golden-mantled ground squirrel	<i>Callospermophilus lateralis</i>	
Grizzly bear	<i>Ursus arctos</i>	Threatened
Hoary bat	<i>Lasiurus cinereus</i>	species of concern
House mouse	<i>Mus musculus</i>	
Long-eared myotis	<i>Myotis evotis</i>	
Long-tailed vole	<i>Microtus longicaudus</i>	
Long-tailed weasel	<i>Mustela frenata</i>	
Masked shrew	<i>Sorex cinereus</i>	
Meadow vole	<i>Microtus pennsylvanicus</i>	
Montane vole	<i>Microtus montanus</i>	
Mountain cottontail	<i>Sylvilagus nuttallii</i>	
Mountain lion	<i>Puma concolor</i>	
Mule deer	<i>Odocoileus hemionus</i>	
Muskrat	<i>Ondatra zibethicus</i>	
Northern pocket gopher	<i>Thomomys talpoides</i>	
Northern river otter	<i>Lontra canadensis</i>	
Porcupine	<i>Erethizon dorsatum</i>	potential species of concern
Pronghorn	<i>Antilocapra americana</i>	
Raccoon	<i>Procyon lotor</i>	



Common Names	Scientific Name	Designation
Red fox	<i>Vulpes vulpes</i>	
Red squirrel	<i>Sciurus vulgaris</i>	
Short-tailed weasel	<i>Mustela erminea</i>	
Snowshoe hare	<i>Lepus americanus</i>	
Southern grasshopper mouse	<i>Onychomys torridus</i>	
Striped skunk	<i>Mephitis mephitis</i>	
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	species of concern
Wandering shrew	<i>Sorex vagrans</i>	
Western jumping mouse	<i>Zapus princeps</i>	
White-tailed deer	<i>Odocoileus virginianus</i>	
White-tailed jack rabbit	<i>Lepus townsendii</i>	
Wolf	<i>Canis lupus</i>	
Yellow pine chipmunk	<i>Tamias amoenus</i>	
Yellow-bellied marmot	<i>Marmota flaviventris</i>	
<b>BIRDS</b>		
American avocet	<i>Recurvirostra americana</i>	
American bittern	<i>Botaurus lentiginosus</i>	species of concern
American coot	<i>Fulica americana</i>	
American crow	<i>Corvus brachyrhynchos</i>	
American dipper	<i>Cinclus mexicanus</i>	
American goldfinch	<i>Spinus tristis</i>	
American kestrel	<i>Falco sparverius</i>	
American pipit	<i>Anthus rubescens</i>	
American redstart	<i>Setophaga ruticilla</i>	
American robin	<i>Turdus migratorius</i>	
American three-toed woodpecker	<i>Picoides dorsalis</i>	
American tree sparrow	<i>Spizelloides arborea</i>	
American white pelican	<i>Pelecanus erythrorhynchos</i>	species of concern
American wigeon	<i>Anas americana</i>	
Baird's sandpiper	<i>Calidris bairdii</i>	
Bald eagle	<i>Haliaeetus leucocephalus</i>	species of concern
Bank swallow	<i>Riparia riparia</i>	
Barn swallow	<i>Hirundo rustica</i>	
Barred owl	<i>Strix varia</i>	
Barrow's goldeneye	<i>Bucephala islandica</i>	potential species of concern
Belted kingfisher	<i>Megasceryle alcyon</i>	
Black swift	<i>Cypseloides niger</i>	species of concern
Black tern	<i>Chlidonias niger</i>	species of concern
Black-backed woodpecker	<i>Picoides arcticus</i>	species of concern
Black-bellied plover	<i>Pluvialis squatarola</i>	
Black-billed cuckoo	<i>Coccyzus erythrophthalmus</i>	potential species of concern
Black-billed magpie	<i>Pica hudsonia</i>	
Black-capped chickadee	<i>Poecile atricapillus</i>	
Black-chinned hummingbird	<i>Archilochus alexandri</i>	
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>	

Common Names	Scientific Name	Designation
Black-necked stilt	<i>Himantopus mexicanus</i>	species of concern
Blue jay	<i>Cyanocitta cristata</i>	
Blue-winged teal	<i>Anas discors</i>	
Bobolink	<i>Dolichonyx oryzivorus</i>	species of concern
Bohemian waxwing	<i>Bombycilla garrulus</i>	
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	
Brewer's sparrow	<i>Spizella breweri</i>	species of concern
Broad-tailed hummingbird	<i>Selasphorus platycercus</i>	potential species of concern
Brown creeper	<i>Certhia americana</i>	species of concern
Brown-headed cowbird	<i>Molothrus ater</i>	
Bufflehead	<i>Bucephala albeola</i>	
Bullock's oriole	<i>Icterus bullockii</i>	
Burrowing owl	<i>Athene cunicularia</i>	species of concern
California gull	<i>Larus californicus</i>	
Calliope hummingbird	<i>Stellula calliope</i>	
Calliope hummingbird	<i>Selasphorus calliope</i>	
Canada goose	<i>Branta canadensis</i>	
Canvasback	<i>Aythya valisineria</i>	
Canyon wren	<i>Catherpes mexicanus</i>	
Caspian tern	<i>Hydroprogne caspia</i>	species of concern
Cassin's finch	<i>Haemorhous cassinii</i>	species of concern
Cassin's vireo	<i>Vireo cassinii</i>	
Cedar waxwing	<i>Bombycilla cedrorum</i>	
Chipping sparrow	<i>Spizella passerina</i>	
Cinnamon teal	<i>Anas cyanoptera</i>	
Clark's nutcracker	<i>Nucifraga columbiana</i>	species of concern
Clay-colored sparrow	<i>Spizella pallida</i>	
Cliff swallow	<i>Petrochelidon pyrrhonota</i>	
Common goldeneye	<i>Bucephala clangula</i>	
Common grackle	<i>Quiscalus quiscula</i>	
Common loon	<i>Gavia immer</i>	species of concern
Common merganser	<i>Mergus merganser</i>	
Common nighthawk	<i>Chordeiles minor</i>	
Common raven	<i>Corvus corax</i>	
Common redpoll	<i>Acanthis flammea</i>	
Common snipe	<i>Gallinago gallinago</i>	
Common tern	<i>Sterna hirundo</i>	species of concern
Common yellowthroat	<i>Geothlypis trichas</i>	
Cooper's hawk	<i>Accipiter cooperii</i>	
Cordilleran glycatcher	<i>Empidonax occidentalis</i>	
Double-crested cormorant	<i>Phalacrocorax auritus</i>	
Downy woodpecker	<i>Picoides pubescens</i>	
Dusky flycatcher	<i>Empidonax oberholseri</i>	
Dusky grouse	<i>Dendragapus obscurus</i>	
Eared grebe	<i>Podiceps nigricollis</i>	

Common Names	Scientific Name	Designation
Eastern kingbird	<i>Tyrannus tyrannus</i>	
Eurasian collared dove	<i>Streptopelia decaocto</i>	non-native
European starling	<i>Sturnus vulgaris</i>	non-native
Evening grosbeak	<i>Hesperiphona vespertina</i>	
Ferruginous hawk	<i>Buteo regalis</i>	species of concern
Fox sparrow	<i>Passerella iliaca</i>	
Gadwall	<i>Anas strepera</i>	
Golden eagle	<i>Aquila chrysaetos</i>	species of concern
Golden-crowned kinglet	<i>Regulus satrapa</i>	
Grasshopper sparrow	<i>Ammodramus savannarum</i>	species of concern
Gray catbird	<i>Dumetella carolinensis</i>	
Gray jay	<i>Perisoreus canadensis</i>	
Gray partridge	<i>Perdix perdix</i>	non-native
Gray-crowned rosy finch	<i>Leucosticte tephrocotis</i>	species of concern
Great blue heron	<i>Ardea herodias</i>	species of concern
Great gray owl	<i>Strix nebulosa</i>	species of concern
Great horned owl	<i>Bubo virginianus</i>	
Greater yellowlegs	<i>Tringa melanoleuca</i>	
Green-winged teal	<i>Anas crecca</i>	
Gyrfalcon	<i>Falco rusticolus</i>	
Hairy woodpecker	<i>Picoides villosus</i>	
Hammond's flycatcher	<i>Empidonax hammondi</i>	
Harris' sparrow	<i>Zonotrichia querula</i>	
Hermit thrush	<i>Catharus guttatus</i>	
Hoary redpoll	<i>Acanthis hornemanni</i>	
Hooded merganser	<i>Lophodytes cucullatus</i>	potential species of concern
Horned lark	<i>Eremophila alpestris</i>	
House finch	<i>Haemorhous mexicanus</i>	
House sparrow	<i>Passer domesticus</i>	
House wren	<i>Troglodytes aedon</i>	
Killdeer	<i>Charadrius vociferus</i>	
Lapland longspur	<i>Calcarius lapponicus</i>	
Lark bunting	<i>Calamospiza melanocorys</i>	
Lark sparrow	<i>Chondestes grammacus</i>	
Lazuli bunting	<i>Passerina amoena</i>	
Least flycatcher	<i>Empidonax minimus</i>	
Least sandpiper	<i>Calidris minutilla</i>	
Lesser scaup	<i>Aythya affinis</i>	
Lesser yellowlegs	<i>Tringa flavipes</i>	
Lewis's woodpecker	<i>Melanerpes lewis</i>	species of concern
Lincoln's sparrow	<i>Melospiza lincolnii</i>	
Loggerhead shrike	<i>Lanius ludovicianus</i>	species of concern
Long-billed curlew	<i>Numenius americanus</i>	species of concern
Long-billed dowitcher	<i>Limnodromus scolopaceus</i>	
Long-eared owl	<i>Asio otus</i>	



Common Names	Scientific Name	Designation
MacGillivray's warbler	<i>Geothlypis tolmiei</i>	
Mallard	<i>Anas platyrhynchos</i>	
Marbled godwit	<i>Limosa fedoa</i>	
Marsh wren	<i>Cistothorus palustris</i>	
Merlin	<i>Falco columbarius</i>	
Mountain bluebird	<i>Sialia currucoides</i>	
Mountain chickadee	<i>Poecile sclateri</i>	
Mountain chickadee	<i>Poecile gambeli</i>	
Mourning dove	<i>Zenaida macroura</i>	
Nashville warbler	<i>Leiothlypis ruficapilla</i>	
Northern flicker	<i>Colaptes auratus</i>	
Northern goshawk	<i>Accipiter gentilis</i>	species of concern
Northern harrier	<i>Circus cyaneus</i>	
Northern mockingbird	<i>Mimus polyglottos</i>	
Northern oriole	<i>Icterus galbula</i>	
Northern pintail	<i>Anas acuta</i>	
Northern pygmy owl	<i>Glaucidium gnoma</i>	
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	
Northern saw-whet owl	<i>Aegolius acadicus</i>	
Northern shoveler	<i>Anas clypeata</i>	
Northern shrike	<i>Lanius excubitor</i>	
Northern waterthrush	<i>Parkesia noveboracensis</i>	
Olive-sided flycatcher	<i>Contopus cooperi</i>	
Orange-crowned warbler	<i>Leiothlypis celata</i>	
Oregon dark-eyed junco	<i>Junco hyemalis</i>	
Osprey	<i>Pandion haliaetus</i>	
Pacific wren	<i>Troglodytes pacificus</i>	species of concern
Peregrine falcon	<i>Falco peregrinus</i>	species of concern
Pied-billed grebe	<i>Podilymbus podiceps</i>	
Pileated woodpecker	<i>Dryocopus pileatus</i>	species of concern
Pine grosbeak	<i>Pinicola enucleator</i>	
Pine siskin	<i>Spinus pinus</i>	
Prairie falcon	<i>Falco mexicanus</i>	
Pygmy nuthatch	<i>Haemorrhous purpureus</i>	
Red crossbill	<i>Sitta pygmaea</i>	
Red-breasted nuthatch	<i>Loxia curvirostra</i>	
Red-eyed vireo	<i>Mergus serrator</i>	
Redhead	<i>Sitta canadensis</i>	
Red-naped sapsucker	<i>Sphyrapicus nuchalis</i>	
Red-necked grebe	<i>Aythya americana</i>	
Red-necked phalarope	<i>Phalaropus lobatus</i>	
Red-tailed hawk	<i>Buteo jamaicensis</i>	
Red-winged blackbird	<i>Buteo jamaicensis</i>	
Ring-billed gull	<i>Agelaius phoeniceus</i>	
Ring-billed gull	<i>Larus delawarensis</i>	

Common Names	Scientific Name	Designation
Ring-necked duck	<i>Aythya collaris</i>	
Ring-necked pheasant	<i>Phasianus colchicus</i>	non-native
Rock dove	<i>Columba livia</i>	non-native
Rock wren	<i>Salpinctes obsoletus</i>	
Rough-legged hawk	<i>Buteo lagopus</i>	
Ruby-crowned kinglet	<i>Regulus calendula</i>	
Ruddy duck	<i>Oxyura jamaicensis</i>	
Ruffed grouse	<i>Bonasa umbellus</i>	
Rufous hummingbird	<i>Selasphorus rufus</i>	potential species of concern
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>	
Sage thrasher	<i>Oreoscoptes montanus</i>	species of concern
Sandhill crane	<i>Grus canadensis</i>	
Savannah sparrow	<i>Passerculus sandwichensis</i>	
Say's phoebe	<i>Sayornis saya</i>	
Semipalmated plover	<i>Charadrius semipalmatus</i>	
Semipalmated sandpiper	<i>Calidris pusilla</i>	
Sharp-shinned hawk	<i>Accipiter striatus</i>	
Short-eared owl	<i>Asio flammeus</i>	potential species of concern
Snow bunting	<i>Plectrophenax nivalis</i>	
Snow goose	<i>Chen caerulescens</i>	
Snowy owl	<i>Bubo scandiacus</i>	
Solitary sandpiper	<i>Tringa solitaria</i>	
Solitary vireo	<i>Vireo solitarius</i>	
Song sparrow	<i>Melospiza melodia</i>	
Sora	<i>Porzana carolina</i>	
Spotted sandpiper	<i>Actitis macularius</i>	
Spruce grouse	<i>Falcipennis canadensis</i>	
Steller's jay	<i>Cyanocitta stelleri</i>	
Swainson's hawk	<i>Buteo swainsoni</i>	
Swainson's thrush	<i>Catharus ustulatus</i>	
Townsend's solitaire	<i>Myadestes townsendi</i>	
Townsend's warbler	<i>Setophaga townsendi</i>	
Tree swallow	<i>Tachycineta bicolor</i>	
Trumpeter swan	<i>Cygnus buccinator</i>	species of concern
Tundra swan	<i>Cygnus columbianus</i>	
Turkey vulture	<i>Cathartes aura</i>	
Varied thrush	<i>Ixoreus naevius</i>	species of concern
Vaux's swift	<i>Chaetura vauxi</i>	
Veery	<i>Catharus fuscescens</i>	species of concern
Vesper sparrow	<i>Poocetes gramineus</i>	
Violet-green swallow	<i>Tachycineta thalassina</i>	
Virginia rail	<i>Rallus limicola</i>	
Warbling vireo	<i>Vireo gilvus</i>	
Western bluebird	<i>Sialia mexicana</i>	
Western flycatcher	<i>Empidonax difficilis</i>	

Common Names	Scientific Name	Designation
Western grebe	<i>Aechmophorus occidentalis</i>	
Western kingbird	<i>Tyrannus verticalis</i>	
Western meadowlark	<i>Sturnella neglecta</i>	
Western screech owl	<i>Megascops kennicottii</i>	potential species of concern
Western tanager	<i>Piranga ludoviciana</i>	
Western wood-pewee	<i>Contopus virens</i>	
White-breasted nuthatch	<i>Sitta carolinensis</i>	
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	
White-winged crossbill	<i>Loxia leucoptera</i>	
Wild turkey	<i>Meleagris gallopavo</i>	non-native
Willet	<i>Tringa semipalmata</i>	
Willow flycatcher	<i>Empidonax traillii</i>	
Wilson's phalarope	<i>Phalaropus tricolor</i>	
Wilson's snipe	<i>Gallinago delicata</i>	
Wilson's warbler	<i>Cardellina pusilla</i>	
Wood duck	<i>Aix sponsa</i>	
Yellow warbler	<i>Setophaga petechia</i>	
Yellow-breasted chat	<i>Icteria virens</i>	
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	
Yellow-rumped warbler	<i>Setophaga coronata</i>	
<b>REPTILES</b>		
Bullsnake, gopher snake	<i>Pituophis catenifer</i>	
Common gartersnake	<i>Thamnophis sirtalis</i>	
Painted turtle	<i>Chrysemys picta</i>	
Prairie rattlesnake	<i>Crotalus viridis</i>	
Racer	<i>Coluber constrictor</i>	
Rubber boa	<i>Charina bottae</i>	
Western terrestrial garter snake	<i>Thamnophis elegans</i>	
<b>AMPHIBIANS</b>		
Columbia spotted frog	<i>Rana luteiventris</i>	
Long-toed salamander	<i>Ambystoma macrodactylum</i>	
Pacific treefrog	<i>Pseudacris regilla</i>	
Western toad	<i>Anaxyrus boreas</i>	species of concern
<b>FISH</b>		
Brook trout	<i>Salvelinus fontinalis</i>	non-native
Brown trout	<i>Salmo trutta</i>	non-native
Bull trout	<i>Salvelinus confluentus</i>	Threatened
Largescale sucker	<i>Catostomus macrocheilus</i>	
Longnose dace	<i>Rhinichthys cataractae</i>	
Longnose sucker	<i>Catostomus catostomus</i>	
Mountain whitefish	<i>Prosopium williamsoni</i>	
Northern pikeminnow	<i>Ptychocheilus oregonensis</i>	
Rainbow trout	<i>Oncorhynchus mykiss</i>	non-native
Redside shiner	<i>Richardsonium balteatus</i>	
Slimy sculpin	<i>Cottus cognatus</i>	



Common Names	Scientific Name	Designation
Westslope cutthroat trout	<i>Oncorhynchus clarki lewisi</i>	species of concern
<b>INVERTEBRATES</b>		
Banded garden spider	<i>Argiope trifasciata</i>	
Barn funnel weaver	<i>Tegeneria somestica</i>	
Becker's white	<i>Pontia beckerii</i>	
Bigheaded grasshopper	<i>Aulocara elliotti</i>	
Black and yellow garden spider	<i>Argiope aurantia</i>	
Black widow	<i>Lactodectus herperus</i>	
Candy striped spider	<i>Enoplognatha ovata</i>	
Capsid bug	<i>Lygus shulli</i>	
Clouded sulphur	<i>Colias philodice</i>	
Common wood-nymph	<i>Cercyonis pegala</i>	
Cotton square borer	<i>Strymon melinus</i>	
Grasshopper	<i>Ageneotettix deorum</i>	
Grasshopper	<i>Amphitornus coloradus</i>	
Grasshopper	<i>Arphia conspersa</i>	
Grasshopper	<i>Arphia pseudonietana</i>	
Grasshopper	<i>Camnula pellucida</i>	
Grasshopper	<i>Chloealtis conspersa</i>	
Grasshopper	<i>Chortaphaga viridifasciata</i>	
Grasshopper	<i>Chorthippus curtipennis</i>	
Grasshopper	<i>Circotettix undulatus</i>	
Grasshopper	<i>Dissosteira carolina</i>	
Grasshopper	<i>Melanoplus confusus</i>	
Grasshopper	<i>Melanoplus dawsoni</i>	
Grasshopper	<i>Melanoplus femur-rubrum</i>	
Grasshopper	<i>Melanoplus oregonensis</i>	
Grasshopper	<i>Melanoplus packardii</i>	
Grasshopper	<i>Melanoplus sanguinipes</i>	
Grasshopper	<i>Phoetaliotes nebrascensis</i>	
Grasshopper	<i>Pseudopomala brachyptera</i>	
Green bush crickets	<i>Meconematinae or Phaneropterinae</i>	
Hobo spider	<i>Eratigena egrestis</i>	
Kiowa grasshopper	<i>Trachyrachys kiowa</i>	
Longhorned katydids	<i>Longhorned katydids misc</i>	
Lorquin's admiral	<i>Limenitis lorquini</i>	
Melissa blue	<i>Plebejus melissa melissa</i>	
Migratory grasshopper	<i>Melanoplus sanguinipes</i>	
Mylitta crescent	<i>Phyciodes mylitta</i>	
Odorous house ant	<i>Tapinoma sessile</i>	
Pearl crescent	<i>Phyciodes tharos</i>	
Purplish copper	<i>Epidemia helloides</i>	
Pygmy grasshopper	<i>Tetrigidae</i>	
Shield backed katydids	<i>Steiroxys spp.</i>	
Small wood-nymph	<i>Cercyonis oetus</i>	

Common Names	Scientific Name	Designation
Spider	<i>Araneus spp.</i>	
Stink bug	<i>Chlorochroa uhleri</i>	
Stink bug	<i>Neottiglossa undata</i>	
Stink bug	<i>Thyanta pallidovirens</i>	
Striped slant-face grasshopper	<i>Amphitornus coloradus</i>	
Two-striped grasshopper	<i>Melanoplus bivittatus</i>	
Two-tailed swallowtail	<i>Papilio multicaudata</i>	
Western tiger swallowtail	<i>Papilio rutulus</i>	
Wolf spider	<i>Pardosa wasatchensis</i>	
Woodland skipper	<i>Ochlodes sylvanoides</i>	
<b>PLANTS</b>		
Alberta penstemon	<i>Penstemon albertinus</i>	
Alfalfa	<i>Medicago sativa</i>	non-native
Alkali bluegrass	<i>Poa secunda ssp. juncifolia</i>	
Alpine aster	<i>Symphyotrichum foliaceum var. foliaceum</i>	
Alsike clover	<i>Trifolium hybridum</i>	non-native
Alta fescue	<i>Schedonorus arundinaceus</i>	
Alum root	<i>Heuchera parvifolia</i>	
American mannagrass	<i>Glyceria grandis</i>	
American milfoil	<i>Myriophyllum sibiricum</i>	
American speedwell	<i>Veronica americana</i>	
American wintercress	<i>Barbarea orthoceras</i>	
Annual agoseris	<i>Agoseris heterophylla</i>	
Annual bluegrass	<i>Poa annua</i>	non-native
Annual Jacob's-ladder	<i>Polemonium micranthum</i>	
Aquatic buttercup	<i>Ranunculus aquatilis</i>	
Arnica	<i>Arnica sororia</i>	
Arnica	<i>Arnica cordifolia</i>	
Arrowleaf balsamroot	<i>Balsamorhiza sagittata</i>	
Awned sedge	<i>Carex atherodes</i>	
Baby pondweed	<i>Potamogeton pusillus</i>	
Baltic rush	<i>Juncus balticus</i>	
Barnyard grass	<i>Echinochloa crus-galli var. crus-galli</i>	non-native
Basin nemophila	<i>Nemophila breviflora</i>	
Bastard toadflax	<i>Comandra umbellata</i>	
Bebb willow	<i>Salix bebbiana</i>	
Bed straw	<i>Galium circaezans var. circaezans</i>	
Bed straw	<i>Galium trifidum</i>	
Bed straw	<i>Galium aparine</i>	
Bee balm	<i>Monarda fistulosa</i>	
Big bluegrass	<i>Poa secunda</i>	
Birdsfoot trefoil	<i>Lotus corniculatus</i>	non-native
Bitleaf American vetch	<i>Vicia americana</i>	
Bitter fleabane	<i>Erigeron acris</i>	

Common Names	Scientific Name	Designation
Bitter nightshade	<i>Solanum dulcamara</i>	non-native
Bitterroot	<i>Lewisia rediviva</i>	
Black cottonwood	<i>Populus trichocarpa</i>	
Black hawthorn	<i>Crataegus douglasii</i>	
Black medic	<i>Medicago lupulina</i>	non-native
Blanket flower	<i>Gaillardia aristata</i>	
Blue elderberry	<i>Sambucus nigra ssp. cerulea</i>	
Blue lettuce	<i>Mulgedium oblongifolium</i>	
Blue mustard	<i>Chorispora tenella</i>	non-native
Blue verbena	<i>Verbena hastata</i>	
Blue wildrye	<i>Elymus glaucus</i>	
Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	
Blue-eyed mary	<i>Collinsia parviflora</i>	
Bluntleaf sandwort	<i>Moehringia lateriflora</i>	
Bog birch	<i>Betula glandulosa</i>	
Bog marshcress	<i>Rorippa palustris</i>	
Bottlebrush sedge	<i>Carex hystericina</i>	
Bracted verbena	<i>Verbena bracteata</i>	
Brittle prickly pear	<i>Opuntia fragilis</i>	
Broadleaf plantain	<i>Plantago major</i>	non-native
Broadleaf pondweed	<i>Stuckenia pectinata</i>	
Brome fescue	<i>Vulpia bromoides</i>	non-native
Bromegrass	<i>Bromus racemosus</i>	non-native
Brown knapweed	<i>Centaurea jacea</i>	non-native
Buckhorn plantain	<i>Plantago lanceolata</i>	non-native
Buffalo grass	<i>Bouteloua dactyloides</i>	
Bulbous blue grass	<i>Poa bulbosa</i>	non-native
Bulbous woodland star	<i>Lithophragma glabrum</i>	
Bull thistle	<i>Cirsium vulgare</i>	non-native
Bushy knotweed	<i>Polygonum ramosissimum</i>	
Butterweed groundsel	<i>Senecio serra</i>	
Canada bluegrass	<i>Poa compressa</i>	non-native
Canada goldenrod	<i>Solidago canadensis</i>	
Canada milkvetch	<i>Astragalus canadensis</i>	
Canada thistle	<i>Cirsium arvense</i>	non-native
Canadian gooseberry	<i>Ribes oxycanthoides</i>	
Canadian horsetweed	<i>Conyza canadensis</i>	
Cat tail	<i>Typha latifolia</i>	
Catchfly	<i>Silene antirrhina</i>	
Catnip	<i>Nepeta cataria</i>	non-native
Cheatgrass	<i>Bromus tectorum</i>	non-native
Chokecherry	<i>Prunus virginiana</i>	
Clasping pepperweed	<i>Lepidium perfoliatum</i>	non-native
Clustered field sedge	<i>Carex praegracilis</i>	
Columbia needlegrass	<i>Achnatherum nelsonii</i>	



Common Names	Scientific Name	Designation
Columbian saxifraga	<i>Micranthes nidifica</i>	
Columbis needle grass	<i>Achnatherum lemmonii</i>	
Common cowparsnip	<i>Heracleum sphondylium</i> ssp. <i>montanum</i>	
Common dandelion	<i>Taraxacum officinale</i>	non-native
Common hound's tongue	<i>Cynoglossum officinale</i>	non-native
Common salsify	<i>Tragopogon dubius</i>	non-native
Common selfheal	<i>Prunella vulgaris</i>	
Common snowberry	<i>Symphoricarpos albus</i>	
Common spikerush	<i>Eleocharis macrostachya</i>	
Corn gromwell	<i>Buglossoides arvensis</i>	non-native
Creeping bentgrass	<i>Agrostis stolonifera</i>	non-native
Creeping spikerush	<i>Eleocharis palustris</i>	
Crested wheatgrass	<i>Agropyron cristatum</i>	non-native
Cudweed sage	<i>Artemisia ludoviciana</i>	
Curly dock	<i>Rumex crispus</i>	non-native
Curlycup gumweed	<i>Grindelia squarrosa</i>	
Curlytop knotweed	<i>Persicaria lapathifolia</i>	
Cusick's shooting star	<i>Primula pauciflora</i> var. <i>cusickii</i>	
Dalmatian toadflax	<i>Linaria dalmatica</i>	non-native
Dandelion	<i>Taraxacum ceratophorum</i>	
Death camas	<i>Zygadenus venenosus</i>	
Desert goosefoot	<i>Chenopodium pratericola</i>	
Desert saltgrass	<i>Distichlis spicata</i> ssp. <i>stricta</i>	
Desert saltgrass	<i>Distichlis spicata</i>	
Desert wheatgrass	<i>Agropyron desertorum</i>	non-native
Desert willow	<i>Salix exigua</i>	
Diamond willow	<i>Salix eriocephala</i>	
Dog tooth lily	<i>Erythronium grandiflorum</i>	
Douglas fir	<i>Pseudotsuga menziesii</i>	
Dropseed rockcress	<i>Boechera pendulocarpa</i>	
Drummond's willow	<i>Salix drummondiana</i>	
Duck potato arrow head	<i>Sagittaria cuneata</i>	
Dudley's rush	<i>Juncus dudleyi</i>	
Dwarf cinquefoil	<i>Potentilla pumila</i>	
Dwarf mistletoe	<i>Arceuthobium douglasii</i>	
Elodea	<i>Elodea canadensis</i>	
Engelmann's spruce	<i>Picea engelmannii</i>	
European stickseed	<i>Lappula squarrosa</i>	non-native
Evening campion	<i>Silene latifolia</i>	non-native
Evening primrose	<i>Oenothera biennis</i>	
Fairy fan	<i>Clarkia pulchella</i>	
False caraway	<i>Perideridia gairdneri</i>	
False Solomon's seal	<i>Maianthemum stellatum</i>	
Fanleaf cinquefoil	<i>Potentilla gracilis</i> var. <i>flabelliformis</i>	

Common Names	Scientific Name	Designation
Feathery false lily of the valley	<i>Maianthemum racemosum</i>	
Fendler three awn	<i>Aristida purpurea</i> var. <i>fendleriana</i>	
Fern leaf flea bane	<i>Erigeron compositus</i>	
Field bindweed	<i>Convolvulus arvensis</i>	non-native
Field chickweed	<i>Cerastium arvense</i>	
Field fluffweed	<i>Logfia arvensis</i>	non-native
Field mint	<i>Mentha arvensis</i>	
Fireberry hawthorn	<i>Crataegus chrysocarpa</i>	
Fireweed	<i>Chamerion angustifolium</i> ssp. <i>angustifolium</i>	
Fix weed tansy mustard	<i>Descurainia sophia</i>	non-native
Flannel leaf mullein	<i>Verbascum thapsus</i>	non-native
Foothill arnica	<i>Arnica fulgens</i>	
Fowl mannagrass	<i>Sporobolus compositus</i>	species of concern
Foxtail barley	<i>Hordeum jubatum</i>	
Fremont's goosefoot	<i>Chenopodium fremontii</i>	
Fringed sage	<i>Artemisia frigida</i>	
Geranium	<i>Geranium carolinianum</i> var. <i>sphaerospermum</i>	
Giant wild rye	<i>Leymus cinereus</i>	
Gland cinquefoil	<i>Drymocallis glandulosa</i> var. <i>glandulosa</i>	
Golden aster	<i>Heterotheca villosa</i> var. <i>villosa</i>	
Goldenrod	<i>Solidago gigantea</i>	
Graceful cinquefoil	<i>Potentilla gracilis</i>	
Green needle grass	<i>Nassella viridula</i>	
Green rabbit brush	<i>Chrysothamnus viscidiflorus</i>	
Groundsel	<i>Senecio integerrimus</i>	
Groundsel	<i>Senecio sphaerocephalus</i>	
Hairy evening primrose	<i>Oenothera villosa</i>	
Hairy false goldenaster	<i>Heterotheca villosa</i> var. <i>minor</i>	
Hairy whitetop	<i>Lepidium appelianum</i>	
Halberdleaf orach	<i>Atriplex dioica</i>	
Hardstem bulrush	<i>Schoenoplectus acutus</i>	
Harebell	<i>Campanula rotundifolia</i>	
Hawksbeard	<i>Crepis atribarba</i>	
Hawkweed	<i>Hieracium caespitosum</i>	non-native
Hemp dogbane	<i>Apocynum cannabinum</i>	
Holboell rock cress	<i>Boechera holboellii</i>	
Hooded ladies' tresses	<i>Spiranthes romanzoffiana</i>	
Hook violet	<i>Viola adunca</i>	
Horsetail rush	<i>Equisetum arvense</i>	
Howell's pussytoes	<i>Antennaria howellii</i>	
Hybrid balsam poplar	<i>Populus X brayshawii</i>	
Idaho fescue	<i>Festuca idahoensis</i>	

Common Names	Scientific Name	Designation
Inland black currant	<i>Ribes oxycanthoides</i> var. <i>irriguum</i>	
Intermediate wheatgrass	<i>Thinopyrum intermedium</i>	
Interrupted apera	<i>Apera interrupta</i>	non-native
Jagged chickweed	<i>Holosteum umbellatum</i>	non-native
Japanese brome	<i>Bromus japonicus</i>	non-native
Jointed rush	<i>Juncus articulatus</i>	
June grass	<i>Koeleria macrantha</i>	
Kentucky bluegrass	<i>Poa pratensis</i>	non-native
Lamb's quarter	<i>Chenopodium album</i>	non-native
Lanceleaf figwort	<i>Scrophularia lanceolata</i>	
Large duck weed	<i>Spirodela polyrrhiza</i>	
Large false Solomon's seal	<i>Maianthemum racemosum</i> ssp. <i>racemosum</i>	
Largeflower hawksbeard	<i>Crepis occidentalis</i>	
Largeleaf avens	<i>Geum macrophyllum</i>	
Leafy spurge	<i>Euphorbia esula</i>	non-native
Licorice	<i>Glycyrrhiza lepidota</i>	
Limestone hawksbeard	<i>Crepis intermedia</i>	
Little barley	<i>Hordeum pusillum</i>	
Littleleaf penstemon	<i>Penstemon procerus</i>	
Little-pod false flax	<i>Camelina microcarpa</i>	non-native
Loosestrife	<i>Lysimachia ciliata</i>	
Low flea bane	<i>Erigeron pumilus</i>	
Low gumweed	<i>Grindelia hirsutula</i>	
Low land cudweed	<i>Gnaphalium palustre</i>	
Low larkspur	<i>Delphinium bicolor</i>	
Low pussytoes	<i>Antennaria dimorpha</i>	
Lyall rock cress	<i>Boechera lyallii</i>	
Mallow ninebark	<i>Physocarpus malvaceus</i>	
Many flowered stickseed	<i>Hackelia floribunda</i>	
March scullcap	<i>Scutellaria galericulata</i>	
Marsh hedgenettle	<i>Stachys palustris</i>	
Marsh horsetail	<i>Equisetum palustre</i>	species of concern
Marsh yellowcress	<i>Rorippa islandica</i>	
Marshpepper knotweed	<i>Persicaria hydropiper</i>	
Meadow death camas	<i>Toxicoscordion venenosum</i> var. <i>venenosum</i>	
Menzies' fiddleneck	<i>Amsinckia menziesii</i>	
Microsteris	<i>Microsteris gracilis</i>	
Milkvetch	<i>Astragalus inflexus</i>	
Miner's pepperwort	<i>Lepidium densiflorum</i>	
Minerslettuce	<i>Claytonia perfoliata</i>	
Missouri goldenrod	<i>Solidago missouriensis</i>	
Mock orange	<i>Philadelphus lewisii</i>	
Monkey flower	<i>Mimulus guttatus</i>	



Common Names	Scientific Name	Designation
Montia	<i>Claytonia perfoliata</i> ssp. <i>perfoliata</i>	
Montia, springbeauty	<i>Montia linearis</i>	
Moth mullein	<i>Verbascum blattaria</i>	non-native
Mountain alder	<i>Alnus viridis</i> ssp. <i>sinuata</i>	
Mountain blue-eyed grass	<i>Sisyrinchium montanum</i>	
Mountain bromegrass	<i>Bromus marginatus</i>	
Mountain spray	<i>Holodiscus discolor</i>	
Mountian lomatium	<i>Lomatium cous</i>	
Narrow leaf cottonwood	<i>Populus angustifolia</i>	
Narrow leaved collomia	<i>Collomia linearis</i>	
Narrowleaf burr reed	<i>Sparganium angustifolium</i>	
Needle and thread grass	<i>Hesperostipa comata</i>	
Nettle leaf hyssop	<i>Agastache urticifolia</i>	
Nineleaf lomatium	<i>Lomatium triternatum</i>	
Nodding beggar tick	<i>Bidens cernua</i>	
Nodding microseris	<i>Microseris nutans</i>	
Nodding plumeless thistle	<i>Carduus nutans</i>	non-native
North african wiregrass	<i>Ventenata dubia</i>	non-native
Northern bedstraw	<i>Galium boreale</i>	
Northern water-starwort	<i>Callitriche hermaphroditica</i>	
Northern willow-herb	<i>Epilobium ciliatum</i> ssp. <i>ciliatum</i>	
Nuttall alkaligrass	<i>Puccinellia nuttalliana</i>	
Nuttall monolepis	<i>Monolepis nuttalliana</i>	
Nuttall sunflower	<i>Helianthus nuttallii</i>	
Nuttall waterweed	<i>Elodea nuttallii</i>	
Oakleaf goosefoot	<i>Chenopodium glaucum</i>	non-native
Orange honeysuckle	<i>Lonicera ciliosa</i>	
Orchard grass	<i>Dactylis glomerata</i>	non-native
Oregon flea bane	<i>Erigeron speciosus</i>	
Oregon grape	<i>Berberis repens</i>	
Owl clover	<i>Orthocarpus tenuifolius</i>	
Owlfruit sedge	<i>Carex stipata</i>	
Ox eye daisy	<i>Leucanthemum vulgare</i>	non-native
Pale agoseris	<i>Agoseris glauca</i>	
Pale false mannagrass	<i>Torreyochloa pallida</i>	
Paleyellow touch-me-not	<i>Impatiens aurella</i>	
Pasque flower	<i>Anemone patens</i>	
Pearly everlasting	<i>Anaphalis margaritacea</i>	
Pearly pussytoes	<i>Antennaria anaphaloides</i>	
Penny cress	<i>Thlaspi arvense</i>	non-native
Phacelia	<i>Phacelia heterophylla</i>	
Piedmont bedstraw	<i>Cruciata pedemontana</i>	non-native
Pin cherry	<i>Prunus pensylvanica</i>	
Pineapple weed	<i>Matricaria discoidea</i>	non-native
Pink	<i>Dianthus armeria</i>	non-native

Common Names	Scientific Name	Designation
Plains cottonwood	<i>Populus deltoides</i>	
Plains wall flower	<i>Erysimum asperum</i>	
Pointed rush	<i>Juncus oxymeris</i>	
Poison hemlock	<i>Conium maculatum</i>	non-native
Poison ivy	<i>Toxicodendron rydbergii</i>	
Pond lovegrass	<i>Eragrostis japonica</i>	
Ponderosa pine	<i>Pinus ponderosa</i>	
Popcorn flower	<i>Plagiobothrys scouleri</i>	
Porter brome	<i>Bromus porteri</i>	
Poverty rush	<i>Juncus tenuis</i>	
Prairie coneflower	<i>Ratibida columnifera</i>	
Prairie fleabane	<i>Erigeron strigosus</i>	
Prairie junegrass	<i>Koeleria macrantha</i>	
Prairie smoke	<i>Geum triflorum</i>	
Prickly lettuce, prickly letuce	<i>Lactuca serriola</i>	non-native
Prickly sow thistle	<i>Sonchus asper</i>	non-native
Prostrate knotweed	<i>Polygonum aviculare</i>	non-native
Purple 3-awn	<i>Aristida purpurea</i>	
Purple milkvetch	<i>Astragalus agrestis</i>	
Pursh locoweed	<i>Astragalus purshii</i>	
Pussy toes	<i>Antennaria rosea ssp. pulvinata</i>	
Quaking aspen	<i>Populus tremuloides</i>	
Rabbit foot grass	<i>Polypogon monspeliensis</i>	non-native
Raceme pussy toes	<i>Antennaria racemosa</i>	
Rattlesnake chess	<i>Bromus briziformis</i>	non-native
Red clover	<i>Trifolium pratense</i>	non-native
Red kitten-tails	<i>Synthyris rubra</i>	
Red raspberry	<i>Rubus idaeus</i>	
Red three awn	<i>Aristida purpurea var. longiseta</i>	
Red-osier dogwood	<i>Cornus sericea ssp. sericea</i>	
Redroot pigweed	<i>Amaranthus retroflexus</i>	
Redtop bentgrass	<i>Poa nemoralis</i>	
Reed canary grass	<i>Phalaris arundinacea</i>	non-native
Richardson needlegrass	<i>Achnatherum richardsonii</i>	
Rock cress	<i>Arabis nuttallii</i>	
Rocky mountain juniper	<i>Juniperus scopulorum</i>	
Rocky mountain maple	<i>Acer glabrum</i>	
Rose pussy toes	<i>Antennaria rosea</i>	
Rough bentgrass	<i>Agrostis scabra</i>	
Rough fescue	<i>Festuca campestris</i>	
Roundleaved alumroot	<i>Heuchera cylindrica</i>	
Rubber rabbitbrush	<i>Ericameria nauseosa</i>	
Rubber rabbitbrush	<i>Ericameria nauseosa var. nauseosa</i>	
Russian olive	<i>Elaeagnus angustifolia</i>	non-native
Russian thistle	<i>Salsola kali</i>	non-native

Common Names	Scientific Name	Designation
Rydberg's primrose	<i>Oenothera villosa</i> ssp. <i>strigosa</i>	
Sagebrush buttercup	<i>Ranunculus glaberrimus</i>	
Sagebrush violet	<i>Viola vallicola</i>	
Saint John's-wort	<i>Hypericum perforatum</i>	non-native
Sandberg bluegrass	<i>Poa secunda</i>	
Scarlet gaura	<i>Oenothera suffrutescens</i>	
Scarlet paintbrush	<i>Castilleja miniata</i>	
Scorpion weed	<i>Phacelia hastata</i> var. <i>hastata</i>	
Sedge	<i>Carex flava</i>	
Serviceberry	<i>Amelanchier alnifolia</i>	
Sessile water-speedwell	<i>Veronica catenata</i>	
Sheep fescue	<i>Festuca ovina</i>	non-native
Sheep sorrel	<i>Rumex acetosella</i>	non-native
Shepherd's purse	<i>Capsella bursa-pastoris</i>	non-native
Shiny chickweed	<i>Stellaria nitens</i>	
Shooting star	<i>Primula conjugens</i> var. <i>conjugens</i>	
Shore arrow grass	<i>Triglochin maritima</i>	
Shore buttercup	<i>Ranunculus cymbalaria</i>	
Short awn foxtail	<i>Alopecurus aequalis</i>	
Shortbeak sedge	<i>Carex brevior</i>	
Showy milkweed	<i>Asclepias speciosa</i>	
Showy polemonium	<i>Polemonium pulcherrimum</i>	
Silky lupine	<i>Lupinus sericeus</i>	
Silver willow	<i>Salix</i>	
Silverleaf phacelia	<i>Phacelia hastata</i>	
Simple stemmed bur reed	<i>Sparganium emersum</i>	
Six weeks fescue	<i>Vulpia octoflora</i>	
Slender forget-me-not	<i>Myosotis stricta</i>	non-native
Slender hair grass	<i>Deschampsia elongata</i>	
Slender plantain	<i>Plantago elongata</i>	
Slender russian-thistle	<i>Salsola collina</i>	non-native
Slender wheatgrass	<i>Elymus trachycaulus</i>	
Slender woodland-star	<i>Lithophragma tenellum</i>	
Small duckweed	<i>Lemna minor</i>	
Small fruited bulrush	<i>Scirpus microcarpus</i>	
Small geranium	<i>Geranium pusillum</i>	non-native
Smaller burdock	<i>Arctium minus</i>	non-native
Smallflower woodland-star	<i>Lithophragma parviflorum</i>	
Small-leaf pussytoes	<i>Antennaria parvifolia</i>	
Smooth aster	<i>Symphyotrichum laeve</i>	
Smooth scouringrush	<i>Equisetum laevigatum</i>	
Smooth sumac	<i>Rhus glabra</i>	
Smooth wild oats	<i>Avena fatua</i>	non-native
Snowberry	<i>Symphoricarpos occidentalis</i>	
Soft chess	<i>Bromus hordeaceus</i>	non-native



Common Names	Scientific Name	Designation
Softstem bulrush	<i>Schoenoplectus tabernaemontani</i>	
Southern shooting star	<i>Primula pauciflora</i> var. <i>pauciflora</i>	
Sow thistle	<i>Sonchus arvensis</i>	non-native
Sow thistle	<i>Sonchus arvensis</i> ssp. <i>uliginosus</i>	non-native
Spear saltbush	<i>Atriplex patula</i>	
Speedwell	<i>Veronica anagallis-aquatica</i>	non-native
Spotted knapweed	<i>Centaurea stoebe</i> ssp. <i>micranthos</i>	non-native
Spreading alkali grass	<i>Puccinellia distans</i>	non-native
Spreading flea bane	<i>Erigeron divergens</i>	
Spring draba	<i>Draba verna</i>	
Spring forget-me-not	<i>Myosotis verna</i>	
Spring waterbirch	<i>Betomus occidentalis</i>	
Spurless touch-me-not	<i>Impatiens ecalcarata</i>	potential species of concern
Squaw currant	<i>Ribes cereum</i>	
Sticky geranium	<i>Geranium viscosissimum</i>	
Stinging nettle	<i>Urtica dioica</i>	
Stoloniferous pussytoes	<i>Antennaria dioica</i>	
Stone cup	<i>Sedum stenopetalum</i> var. <i>stenopetalum</i>	
Stork bill	<i>Erodium cicutarium</i>	non-native
Strawberry clover	<i>Trifolium fragiferum</i>	non-native
Streambank springbeauty	<i>Claytonia parviflora</i>	
Streambank wheatgrass	<i>Elymus lanceolatus</i> ssp. <i>riparius</i>	
Sulpher cinquefoil	<i>Potentilla recta</i>	
Sulphur eriogonum	<i>Eriogonum umbellatum</i>	
Sunflower	<i>Helianthus annuus</i>	
Tall cinquefoil	<i>Drymocallis arguta</i>	
Tall groundsel	<i>Senecio hydrophiloides</i>	
Tall wheatgrass	<i>Thinopyrum elongatum</i>	
Tall willow-herb	<i>Epilobium brachycarpum</i>	
Tarragon sage	<i>Artemisia dracunculus</i>	
Tenpetal blazingstar	<i>Mentzelia decapetala</i>	
Thinleaf alder	<i>Alnus incana</i>	
Threadleaf phacelia	<i>Phacelia linearis</i>	
Three-stamen rush	<i>Juncus ensifolius</i>	
Thyme-leaved spurge	<i>Euphorbia serpyllifolia</i>	
Timothy	<i>Phleum pratense</i>	non-native
Tiny mouse-tail	<i>Myosurus minimus</i>	
Torrey rush	<i>Juncus torreyi</i>	
Tumble mustard	<i>Sisymbrium altissimum</i>	non-native
Tumbleweed pigweed	<i>Amaranthus albus</i>	non-native
Turion duckweed	<i>Lemna turionifera</i>	
Twoscale saltbush	<i>Atriplex micrantha</i>	non-native
Upland bentgrass	<i>Agrostis perennans</i>	
Valley yellow violet	<i>Viola nuttallii</i>	

Common Names	Scientific Name	Designation
Veiny meadowrue	<i>Thalictrum venulosum</i>	
Velvet lupine	<i>Lupinus leucophyllus</i>	
Vernal water-starwort	<i>Callitriche palustris</i>	
Virginia pepperweed	<i>Lepidium virginicum</i>	
Wallflower mustard	<i>Erysimum cheiranthoides</i>	
Water birch	<i>Betula occidentalis</i>	
Water milfoil	<i>Myriophyllum spicatum</i>	
Watercress	<i>Nasturtium officinale</i>	
Wavyleaf thistle	<i>Cirsium undulatum</i>	
Weak manna grass	<i>Torreyochloa pallida</i> var. <i>pauciflora</i>	
Western bee plant	<i>Peritoma serrulata</i>	
Western coneflower	<i>Rudbeckia occidentalis</i>	
Western wallflower	<i>Erysimum capitatum</i>	
Western wheatgrass	<i>Pascopyrum smithii</i>	
Wheat	<i>Triticum aestivum</i>	non-native
White clematis	<i>Clematis ligusticifolia</i>	
White clover	<i>Trifolium repens</i>	non-native
White cornsalad	<i>Plectritis macrocera</i>	
White spiraea	<i>Spiraea betulifolia</i>	
White sweet clover	<i>Melilotus albus</i>	
Whitetop	<i>Lepidium draba</i>	non-native
Wild buckwheat	<i>Fallopia convolvulus</i>	
Wild hyacinth	<i>Triteleia grandiflora</i>	
Wild strawberry	<i>Fragaria virginiana</i>	
Wild teasel	<i>Dipsacus fullonum</i>	non-native
Willow	<i>Salix</i>	
Willow-herb	<i>Epilobium ciliatum</i> ssp. <i>watsonii</i>	
Winter speedwell	<i>Veronica persica</i>	non-native
Woods draba	<i>Draba nemorosa</i>	
Woods' rose	<i>Rosa woodsii</i>	
Woolly groundsel	<i>Senecio canus</i>	
Woollyfruit sedge	<i>Carex lasiocarpa</i>	
Wooly gromwell	<i>Lithospermum ruderale</i>	
Wooly groundsel	<i>Packera cana</i>	
Wooly plantain	<i>Plantago patagonica</i>	
Wyeth eriogonum	<i>Eriogonum heracleoides</i>	
Yarrow	<i>Achillea millefolium</i>	
Yellow bell	<i>Fritillaria pudica</i>	
Yellow-flag iris	<i>Iris pseudacorus</i>	non-native
Yellow paintbrush	<i>Castilleja lutescens</i>	
Yellow penstemon	<i>Penstemon confertus</i>	
Yellow rocket	<i>Barbarea vulgaris</i>	non-native
Yellow ctone cup	<i>Sedum stenopetalum</i>	
Yellow sweet clover	<i>Melilotus officinalis</i>	non-native
Yellow toadflax	<i>Linaria vulgaris</i>	non-native

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