Boundary-Smith Creek Wildlife Management Area

Management Plan
2014

Panhandle Region

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2014 – 2023 Management Plan

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Idaho Department of Fish and Game
Panhandle Region
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Table of Contents

List of Tables

List of Figures

Executive Summary

Idaho Department of Fish and Game (Department) manages 32 Wildlife Management Areas (WMAs). Researchers from the University of Idaho and The Nature Conservancy evaluated the value of Idaho's WMAs to wildlife. They found the BSCWMA network, created to support game species, "also conserves the full range of Idaho's wildlife and other ecological features" (Karl et al. 2005). Surveys and monitoring work conducted by Department biologists on Panhandle Region WMAs confirms their value to big game, nongame, and many at-risk species identified in Idaho's State Wildlife Action Plan. In many cases, WMAs provide the principal habitat for at-risk species in the Panhandle Region.

Wildlife Management Areas often abut other protected lands such as National Forests, Bureau of Land Management lands, or private lands protected by conservation easement. Due to the wildlife-focused management, WMAs often serve as highly productive core areas of the landscapes in which they exist. Management of these areas involves a combination of restoring and maintaining important natural habitats to contribute to landscape-level habitat function (e.g., sage-steppe, slough wetlands) and creating hyper-productive habitats (e.g., food plots, impounded wetlands) to enhance the carrying capacity for certain wildlife species.

Wildlife Management Area management plans strive to direct management that upholds these values. They may also be bounded by legislative and/or funding mandates, Department species plans, the State Wildlife Action Plan, conservation partner objectives, national wildlife conservation strategies and plans (federal and non-government organizations) and especially the Department's own strategic plan, *The Compass*. Priorities, Management Directions, Performance Targets and Strategies have been developed to be as consistent as possible with all of these documents and to capture the broader conservation values already provided by WMAs and ensure these values are protected and enhanced.

The Department's Panhandle Region manages seven WMAs that collectively comprise 54,987 acres of land, which consists of 27,910 deeded acres and another 27,077 acres managed under cooperative agreement or lease. Wildlife Management Area management focus is to maintain highly functional wildlife habitat and provide wildlife-based recreation. Starting in the north and working south across the Panhandle Region these areas include:

- Boundary Smith Creek WMA: This 2,072-acre WMA consists of farmland that was converted back into a mosaic of wetlands and associated Kootenai River flood plain historic habitats.
- McArthur Lake WMA: One of the oldest WMAs in the state; the 1,891 acres of shallow lake, marshes, and adjacent upland forests/ meadows are primarily managed for waterfowl production and hunting.
- Pend Oreille WMA: Primarily acquired as mitigation for Albeni Falls Dam, it consists of 7,432 acres of scattered parcels of critical delta and riverine wetland habitats within the Pend Oreille River watershed.

- Farragut WMA: Another of our oldest WMAs, Farragut was originally a U.S. Navy base and gifted to the Department in 1950. The 1,418 acres is currently cooperatively managed with the Idaho Department of State Parks for public recreation and wildlife.
- Coeur d'Alene River WMA: This WMA consists of 7,538 acres of wetlands and low lying terrestrial habitats throughout the lower Coeur d'Alene and St. Joe River basins. It is primarily managed for waterfowl production and hunting.
- St. Maries WMA: A 2,344-acre mix of forest and meadow habitats, the St. Maries WMA is primarily managed for big game.
- Snow Peak WMA: A very remote, roadless back country WMA located in the upper St. Joe River drainage. The 32,292 acres are cooperatively managed with the U.S. Forest Service for elk habitat and back country hunting opportunity.

There are several outlying land parcels within the Panhandle, previously tied to fishing and boating access sites, that have significant wildlife habitat resources. For management purposes, these parcels will now be included as part of the best-associated WMA, and management priorities will be directed by the WMA plan.

The Panhandle WMAs are managed for a wide diversity of both game and sensitive species. Examples of at-risk species partially dependent on WMAs include black-backed woodpecker, red-naped sapsucker, olive-sided flycatcher, long-eared myotis, northern goshawk, northern pygmy-owl, spotted sandpiper, Vaux's swift, Cassin's finch, common garter snake, Columbia spotted frog, and western toad. Examples of sensitive plants include water howellia, maidenhair spleenwort, purple meadowrue, water pygmy weed, black snake-root, arrowleaf sweet coltsfoot, yellow sedge, and bristle-stalk sedge.

Regional WMAs are funded through a combination of hunting license dollars, appropriations from federal excise taxes derived from the sale of ammunition and firearms (Pitman-Robinson Act), and/or funding provided by the Bonneville Power Administration (BPA) to mitigate habitat loss from construction of the Albeni Falls dam. All of the Panhandle WMAs, with the exception of Snow Peak WMA, have the common management themes of wetland management for waterfowl and waterbird production; terrestrial habitat management for big game, with some emphasis on upland game species; and riparian management for water quality and all species. The WMAs provide important wildlife-based recreation and are used heavily by waterfowl and big game hunters, as well as non-consumptive users such as birdwatchers, hikers and naturalists. The abundance of water resources also attracts water-based activities such as kayaking and fishing.

The Boundary-Smith Creek WMA (BSCWMA) is managed to provide wildlife habitat, wetland functions, and public access for hunting, fishing, and other recreational pursuits. Management of BSCWMA is guided by obligations under the Wetland Reserve Program (WRP) administered by the U.S. Department of Agriculture Natural Resource Conservation Service, and by the BPA for mitigation of wetland and wildlife habitat losses due to development of the Albeni Falls dam on the Pend Oreille River.

The Department manages the BSCWMA through a citizens' management committee, the Boundary-Smith Creek Management Group. The management group develops recreational priorities and habitat enhancement goals that meet the requirements of the funding organizations and the WRP easement.

This document provides direction in the form of Priorities, Conservation Targets, Management Direction, and Public Use. The priorities for BSCWMA were determined through a combination of public and staff input, mitigation requirements identified in the cooperative agreements that formed BSCWMA, and Department statewide priorities identified in *The Compass*. A draft version of the BSCWMA Management Priorities, Management Directions, Performance Targets, and Strategies was offered for public inspection and comment in July 2013.

Wildlife Management Area priorities for BSCWMA are to enhance and maintain wetland habitat, enhance and maintain forested wetland habitat, enhance and maintain scrub-shrub wetland habitat, enhance and maintain grass/forb habitat, protect and maintain mixed conifer forest habitat, and provide for wildlife-based recreation and education.

Conservation Targets, a sub-set of species and communities, were selected to represent the biodiversity of BSCWMA for management and conservation; while still reflecting the management priorities of BSCWMA. The Conservation Targets selected to guide management on BSCWMA are palustrine wetland habitat, forested wetland habitat, scrub-shrub wetland habitat, and grassland habitat.

This plan will serve as a guide for current and future managers in planning where to direct efforts and resources for maximum wildlife benefit, public enjoyment, and efficient operation. As new information and technology becomes available, and as more property is acquired, Strategies may be modified to most effectively reach the Management Directions and Performance Targets in this plan. All Management Directions, Performance Targets, and Strategies are dependent on adequate funding, personnel, and public support.

Introduction

This management plan is designed to provide broad guidance for the long-term management of Boundary-Smith Creek Wildlife Management Area (BSCWMA). It replaces an earlier management plan written in 2000. This updated plan was completed during 2012 and 2013 with extensive public input. This plan is tiered off other Idaho Department of Fish and Game (Department) plans and policies. These pertinent plans, policies, and documents include the following:

- State Wildlife Action Plan (2005)
- Statewide waterfowl management plan (1991)
- Statewide upland game management plan (1991)
- Statewide management plans for:
  - mule deer (2010)
  - white-tailed deer (2005)
  - elk (2014)
  - moose (1991)
- Statewide big game depredation management plan (1988)
- Statewide furbearer management plan (1991)
- Conservation Plan for the Greater Sage-Grouse in Idaho (2006)
- Policy for Avian and Mammalian Predation Management (2000)

Department Mission

All wildlife, including all wild animals, wild birds, and fish, within the state of Idaho, is hereby declared to be the property of the state of Idaho. It shall be preserved, protected, perpetuated, and managed. It shall be only captured or taken at such times or places, under such conditions, or by such means, or in such manner, as will preserve, protect, and perpetuate such wildlife, and provide for the citizens of this state and, as by law permitted to others, continued supplies of such wildlife for hunting, fishing and trapping (Idaho Code Section 36-103).

Department Strategic Goals

The Department's 2005 Strategic Plan, *The Compass*, is the primary guiding document for all other Department plans and outlines four goals for the Department:

- Fish, Wildlife and Habitat: Sustain Idaho's fish and wildlife and the habitats upon which they depend.
- Fish and Wildlife Recreation: Meet the demand for fish and wildlife recreation.
- Working With Others: Improve public understanding of and involvement in fish and wildlife management.
- Management Support: Enhance the capacity of the Department to manage fish and wildlife and serve the public.

The 2014 Wildlife Management Area (WMA) plans describe the management direction for each of the 32 WMAs the Department manages to help accomplish these goals. The specific *Compass* goals and objectives relevant to WMA management are included in Appendix I.

Statewide WMA Vision

Our WMAs are managed to provide and showcase important habitat for all wildlife and to offer high quality, wildlife-based public recreation.

Boundary-Smith Creek WMA Vision

The BSCWMA is managed by the Department and the Boundary-Smith Creek Management Group to develop wildlife and fish habitat and to provide public access for hunting, fishing, and other recreational pursuits. To accomplish this, management activities will focus on restoring historic wetlands, establishing native vegetative communities, and promoting compatible public recreation. Managing the property under public ownership assures public access previously unavailable under private ownership.

Modification of Plan

This plan provides broad, long-term management direction for BSCWMA. It will be evaluated at least every five years to determine if adjustments are needed. The plan will be modified as needed to accommodate changing conditions and goals and to incorporate available advancements in management knowledge and techniques.

Other Considerations

All strategies proposed in this plan are bound by the contractual agreements between cooperating agencies, the mission of BSCWMA, and all applicable Department species management plans and policies. Issues and strategies that are inconsistent with the mission were not considered. In addition, the implementation of all strategies will be subject to available funding, personnel, and safety considerations.

Area Description and Current Status

The BSCWMA is located on the west side of the Kootenai River Valley in Boundary County, Idaho, immediately south of the International border between the United States and British Columbia, Canada (Figure 1). The nearest population centers are Bonners Ferry, Idaho, 26 miles to the south, and Creston, British Columbia, five miles to the north. The property is directly west across the Kootenai River from Porthill, Idaho, and the United States and Canadian Ports of Entry.

The 2,072-acre WMA is situated at the foot of the Selkirk Mountains. Approximately 1,846 acres lie within the floodplain of the Kootenai River, protected by a series of dikes. Throughout the Kootenai River Valley, the floodplain has been drained through a series of ditches and pipes and reclaimed for over 80 years for growing hay and wheat crops and grazing livestock. Historical perspectives of the BSCWMA and surrounding area are discussed in Appendix II.

The BSCWMA is bordered on the north by the present channel of Boundary Creek just inside the Canadian border. The Kootenai River forms the northeastern boundary of the property and flows from south to north into Canada. Private diked and drained ranchland borders the southeastern edge of the property. The western and southern boundary is a public road separating the property from timberland owned by a private timber company.

The BSCWMA is located eight miles south of the 17,000-acre Creston Valley WMA due west of Creston, British Columbia. A 70-acre non-contiguous portion of the Creston WMA called the Dale Marsh Unit is adjacent to the northwest corner of the BSCWMA. The BSCWMA is located 15 miles north of The Nature Conservancy's 2,300-acre Ball Creek Ranch and 20 miles north of the 2,774-acre Kootenai National Wildlife Refuge.

Climate

Boundary County, Idaho, has a typical Pacific Northwest climate. Normal weather patterns include cool, wet springs and falls; dry, moderately warm summers; and relatively long, cool winters with periods of severe and moderate temperatures. On average, the last spring freeze occurs about mid-May, while the first fall freeze occurs around mid-September. The frost-free period varies from 120 to 140 days a year.

Boundary County winters are warmer and wetter than similar latitudes and elevations in mid-continent locations. Average daily maximum temperatures in the winter are at or slightly below freezing, and average daily minimum temperatures vary from the high teens to the lower twenties. The area receives most of its 20 to 24 inches of average annual precipitation from October to March. Winter snow accumulations may vary from less than 10 to more than 90 inches.

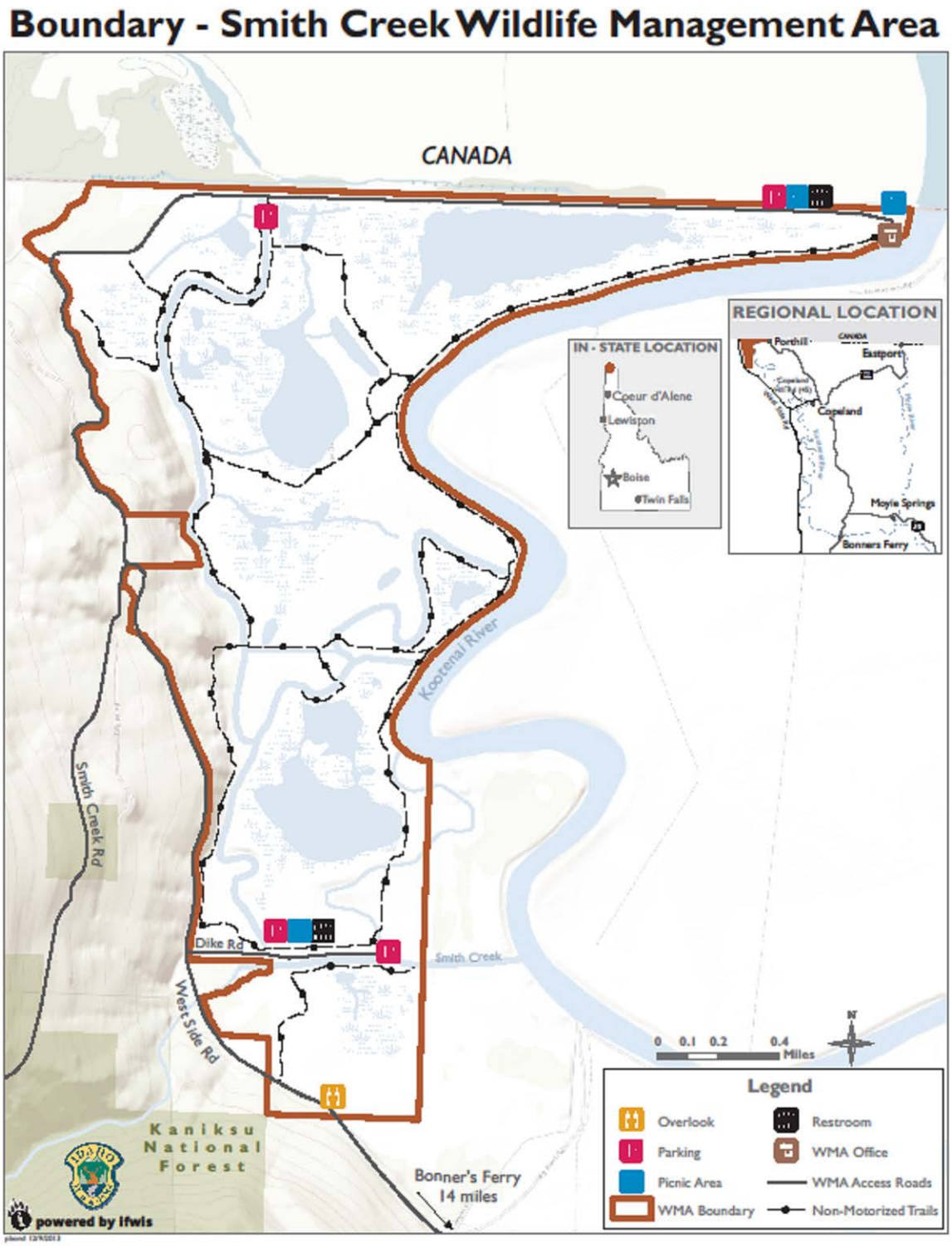

Figure 1. Map of Boundary-Smith Creek Wildlife Management Area.

Summers are generally warm, dry, and sunny. Average daily maximum temperatures in the summer vary from the mid-70s F to the mid-80s F while average daily minimums are in the 40s F.

Topography and Soils

The majority of the BSCWMA is relatively flat except for the western edge. Elevations on the floodplain, excluding the dikes, range from 1,748 feet to 1,760 feet (DU and USDA 2000). The highest elevation on the BSCWMA is about 2,040 feet on the timbered hillside near the southwest corner. The lowest elevation in Boundary County is where the Kootenai River enters Canada near the northeast corner of the property.

While much of the BSCWMA encompasses the flat Kootenai River floodplain, the western edge includes steeply rising glaciated mountainsides at the foot of the Selkirk Mountains. Soils in this area belong to the Pend Oreille-Idamont association and are composed of gravelly sandy loam and rock outcroppings (Chugg and Fosberg 1980).

The floodplain soils and landscape reflect thousands of years of annual flooding. Coarse textured Bane soils occur at the mouths of steep canyons where high energy, spring tributary flows meet the wide, flat Kootenai River floodplain. A portion of the Boundary Creek alluvial fan occurs on the northwest corner of the property and is composed of large boulders, cobble, gravel, and sand. This soil type is excessively drained and formed in granitic alluvium. Soil pH is neutral and permeability is rapid (Chugg and Fosberg 1980).

Finer material was carried onto the floodplain by both tributary creeks and the Kootenai River. As annual floodwaters over-topped creek and riverbanks, silt was deposited forming natural levees. These natural levees make up the Farnhampton soil-mapping unit. Farnhampton soils are composed of silt loam formed in alluvium. This soil is moderately well drained, moderately permeable, mildly alkaline, and calcareous throughout. Snail shells are present in many soil samples (Chugg and Fosberg 1980).

As annual floodwater flowed further onto the floodplain, even finer material was deposited in basins, depressions, and swales. The Schnoorson soil type is composed of silty clay loam with 27-34% clay. Schnoorson soil is poorly drained with moderately slow permeability. The soil type is mildly alkaline and moderately calcareous. Snail shells are common in the upper soil profile (Chugg and Fosberg 1980).

Water Resources and Hydrology

The BSCWMA includes over two miles of frontage along Boundary Creek, approximately three miles along the Kootenai River, and just less than one mile on Smith Creek. Dikes have been constructed along each of these channels to prevent high spring flows from flooding the property. In addition, due to the operation and storage capacity of Libby Dam, Kootenai River flows are much lower than would occur naturally, preventing flooding throughout the Kootenai Valley including the BSCWMA.

Wetland restoration activities on the Boundary Creek and Smith Creek Wetland Reserve Programs (WRPs) were developed to mimic natural historic wetland conditions, relying on water diverted from Boundary Creek, supplemented with local run-off and precipitation, to fill historic wetland basins occurring across the BSCWMA. Restoration was completed on the Boundary Creek parcel in 2001 and on Smith Creek parcel in 2004.

With the acquisition of the Boundary Creek parcel, the Department received a 19.8 cfs water right from Boundary Creek. This water right is available for use from March 15 to November 15 each year with a maximum diversion volume of 2,970 acre-feet. A portion of the Boundary Creek water right, 5 cfs, is available for diversion onto the Smith Creek parcel and is used to supply water to the northern wetland cell of the Smith Creek property. This volume is capable of filling wetland basins rapidly to mimic what occurred naturally prior to the construction of the levees along the Kootenai River and the construction of Libby Dam. Water levels in the wetland cells are managed to mimic the historic hydrograph with water added in the spring to reach full pool, held high until summer, gradually lowered throughout the summer, and then refilled in the fall. Two wetland cells on the southern portion of the Smith Creek property do not have access to diversion flows and therefore depend on snow melt, spring rains, and run-off for storage input, followed by natural receding levels due to infiltration and evaporation.

Vegetation

The predominant current vegetative cover types on the BSCWMA, based on National Vegetation Classification (NVC) Macrogroups, includes 998 acres of Agriculture (no longer in agriculture; converted to planted grassland during wetland restoration), 263 acres Northern Rocky Mountain Lower Montane and Foothill Forest, 89 acres of open water, 119 acres Western North American Montane Wet Meadow and Low Shrubland, 70 acres Rocky Mountain and Great Basin Flooded and Swamp Forest, and 406 acres Northern Rocky Mountain-Vancouverian Montane and Foothill Grassland and Shrubland (Appendix V). However, vegetation classification completed by Department personnel on site compiles largely different acreages for similar habitat types compared to the NVC; for example, the Department vegetation mapping includes 735 acres of wetlands (open water and emergent marsh communities) which relates to the NVC Macrogroups of open water, Wet Meadow and Low Shrubland, and portions of Agriculture. The vegetation descriptions below refer to the Department-implemented vegetation classification and discrepancies from the NVC.

Wetland restoration efforts on the BSCWMA created approximately 735 acres of wetlands, including both open water habitat and emergent marsh communities along the peripheries. Submerged aquatic vegetation includes coon's tail (*Ceratophyllum demersum*), Canadian waterweed (*Elodea canadensis*), *Chara* spp., and pondweed spp. (*Potamogeton* spp.) (Appendix V). Tall emergent marsh vegetation is dominated by stands of broadleaf cattail (*Typha latifolia*) and soft-stem bulrush (*Schoenoplectus tabernaemontani*). Other marsh species include arrowhead spp. (*Sagittaria* spp.), northern water plantain (*Alisma triviale*), spikerush spp. (*Eleocharis* spp.), and dwarf spikerush (*Eleocharis parvula*).

Restoration activities included planting approximately 886 acres of former cropland to perennial grasslands creating upland and mesic meadows. Plantings consisted of orchard grass (*Dactylis glomerata*), intermediate wheatgrass (*Thinopyrum intermedium*), redtop (*Agrostis gigantea*), and timothy (*Phleum pratense*). Non-native grasses that were present along dikes and cropland margins that continue to exist in some areas include smooth brome (*Bromus inermis*), reed canarygrass (*Phalaris arundinacea*), quackgrass (*Elymus repens*), and barnyard grass (*Echinochloa crus-galli*).

Approximately 80 acres of deciduous scrub-shrub wetlands occur across the BSCWMA, some of which were planted in restoration efforts from 2001 to the present. Common shrub species include Douglas hawthorn (*Crataegus douglasii*), rose spiraea, (*Spiraea douglasii*),common snowberry (*Symphoricarpos albus*) , common chokecherry (*Prunus virginiana*), red-osier dogwood (*Cornus sericea*), Saskatoon serviceberry (*Amelanchier alnifolia*), and willow species (*Salix* spp.).

Floodplain forest, totaling approximately 108 acres, occurs along Boundary Creek, the Kootenai River, a former channel of Smith Creek, and along the upper stretch of Smith Creek on the BSCWMA. These riparian areas support trees and shrubs as well as grasses and forbs. Trees in these sites include black cottonwood (*Populus balsam*ifera ssp. *trichocarpa*), aspen (*Populus tremuloides*), paper birch (*Betula papyrifera*), red alder (*Alnus rubra*), western white pine (*Pinus monticola*), western red cedar (*Thuja plicata*), western larch (*Larix occidentalis*), grand fir (*Abies grandis*), and Douglas-fir (*Pseudotsuga menziesii*). Shrubs occupying riparian sites include red-osier dogwood, Douglas hawthorn, Woods' rose (*Rosa woodsii*), common snowberry, blue elderberry (*Sambucus nigra* ssp. *cerulea*), Scouler's willow (*Salix scouleriana*), and bittercherry (*Prunus emarginata*).

The steep mountainside on the western edge of the BSCWMA supports mixed conifer forests on approximately 204 acres. Past timber harvest activities have removed most of the large trees; however, the present forest canopy is relatively dense. Tree species include western red cedar, Douglas-fir, western larch, grand fir, western white pine, black cottonwood, paper birch, aspen, and a few scattered ponderosa pine (*Pinus ponderosa*). Rocky Mountain juniper (*Juniperus scopulorum*) occurs on rock outcrops. Shrubs in this area include buffaloberry (*Shepherdia canadensis*), Rocky Mountain maple (*Acer glabrum*), Saskatoon serviceberry, oceanspray (*Holodiscus discolor*), mallow ninebark (*Physocarpus malvaceus*), Woods' rose, common snowberry, common chokecherry, and redstem ceanothus (*Ceanothus sanguineus*). Shorter shrub species include pachistima (*Paxistima myrsinites*), kinnikinnick (*Arctostaphylos uva-ursi*), and creeping Oregon grape (*Mahonia repens*).

Noxious and highly invasive weeds present on the BSCWMA include Canada thistle (*Cirsium arvense*), common tansy (*Tanacetum vulgare*) , spotted knapweed (*Centaurea stoebe* ssp. *micranthos*), orange hawkweed (*Hieracium aurantiacum*), meadow hawkweed (*Hieracium caespitosum*), St. John's wort (*Hypericum perforatum*), and houndstongue (*Cynoglossum officinale*). The most prevalent noxious weed on the BSCWMA is Canada thistle. Thistle occurs in low-grade infestations throughout the grasslands and in higher concentrations around the

wetland cells where it is often too wet to apply herbicide. Thistle also occurs sporadically along dikes and within open areas of the forests on the western portion of the BSCWMA.

Wildlife

The BSCWMA supports significant wildlife resources (Appendix VI) including big game, upland game, waterfowl, furbearers, and nongame species. White-tailed deer and moose make year-round use of the BSCWMA. Elk frequent the BSCWMA from early spring to winter, and although mule deer are not abundant, they are occasionally observed on the BSCWMA. Black bear and grizzly bear use the BSCWMA a considerable amount during spring, summer, and fall. Mountain lion, beaver, muskrat, otter, and mink all occur on the BSCWMA.

Ring-necked pheasants occur year-long and breed within the floodplain habitat on the BSCWMA. Ruffed grouse, snowshoe hare, mourning doves, and small numbers of wild turkeys also occur on the BSCWMA.

The BSCWMA provides both shallow and deep-water habitats necessary for dabbling and diving ducks and a variety of shorebirds. Waterfowl numbers are abundant from the beginning of spring migration in March until the end of fall migration in November when the wetlands freeze over. Up to 6,000 migratory ducks visit the BSCWMA each spring and fall; primarily tundra swans, Canada geese, mallards, pintails, American widgeon, and green-winged teal. Sixteen species of ducks are known to breed on the BSCWMA, as do grebes and American coots.

Many nongame wildlife species have been observed on the BSCWMA. Avian species known to nest on the BSCWMA include bald eagle, osprey, red-tailed hawk, northern harrier, great horned owl, pileated woodpecker, and black tern. Virginia rails, sora, American bittern, great blue herons, American white pelicans, and double-crested cormorants are common during the summer. Water level fluctuations provide open mud flats for foraging shorebirds. A few individual trumpeter swans, Eurasian widgeon, and Barrow's goldeneye are observed most years. Painted turtles, spotted frogs, pacific tree frog, common garter snake, and western skink have been documented.

Public Access

The BSCWMA is open to public use all year. Access on the BSCWMA off the public roads is non-motorized only. Mowed maintenance roads are used by the public for foot travel and biking, or any other non-motorized means of travel. A public use survey conducted in 2003-2004 estimated a total of 4,167 annual visitor days to the BSCWMA, with 54% of those visits for the purpose of fishing, hunting, or trapping. Seasonally, 22% of those visits occur during the spring, 28% during the summer, 50% in the fall, and little to none during the winter.

Management Issues

This list of issues was developed after extensive public input. Two general groups provided input, WMA users and neighboring landowners. Department policy direction and WMA staff management experience also helped shape the list of current issues. The issues identified were grouped, based on similarity, into three general categories, Habitat Management, Wildlife Management, and Public Use Management. Each issue is summarized and some potential management options discussed.

Issues Identified by the Public

Habitat Management

1. **There is a lack of scrub-shrub communities for big game browse and wildlife habitat on the BSCWMA.**

   Discussion: The BSCWMA Management Priority 3, Enhance and Maintain Scrub-shrub Wetland Habitat, focuses on developing scrub-shrub habitat on the WMA. Performance targets and strategies include native tree and shrub plantings, which will be protected from beaver and ungulate browse until the scrub-shrub community is established. Plantings will be planned in elevation zones that have historically supported scrub-shrub communities based on available historic information.

2. **The presence and spread of noxious weeds can decrease the quality of habitat on BSCWMA.**

   Discussion: Control of noxious weeds is a BSCWMA priority. Performance targets and strategies include employing an integrated noxious weed control program annually on the WMA and will continue to be high priority. Management staff participates on the local Weed Management Area Advisory Board to secure funding, information, and resources to implement successful weed control on the WMA and with public and private landowners in Boundary County.

3. **The grasslands on the BSCWMA should have a higher component of native grass and forb species.**

   Discussion: The BSCWMA Management Priority 4, Enhance and Maintain Grass/forb Habitat, focuses on creating grasslands that are dominated by native grass and forb species. Performance targets and strategies include replanting to native grass species in sections of 10-20 acres of grassland. Different sections will be treated over the years due to the amount of time and level of maintenance required for native grass species to become established. Once the grass species have become established and weed species are under control, native forb species will be inter-seeded into the grass stand.

Wildlife Management

1. **There is a desire from the local community for management of habitat to support a pheasant population.**

   Discussion: There is a small pheasant population on the BSCWMA and the breeding population is monitored annually. Wildlife food plots are planted on the WMA as a food source and winter cover for pheasants. Grasslands are managed to support nesting pheasants and brood rearing. Plantings for scrub-shrub habitat are a goal on the WMA and will provide security and winter cover for pheasants.

   The BSCWMA Management Priority 4, Enhance and Maintain Grass/forb Habitat, focuses on creating grasslands that are dominated by native grass and forb species.

2. **Reduce human/grizzly bear interaction and conflicts.**

   Discussion: Grizzly bears utilize the BSCWMA throughout the spring, summer, and fall. Protecting the safety of both humans and grizzly bears must be ensured. Intense signage on the area warns the public the area is frequented by bears. Visitor use facilities on the WMA are located in open areas and at the end of the county road, furthest away from the Selkirk Mountain foothills.

   Interagency efforts to reduce human-caused mortality of grizzlies have already been taken throughout the Selkirk ecosystem. These include eliminating baiting and hunting with dogs for black bears, road closures, increased public information and education, and increased law enforcement.

3. **Wetlands should be managed for waterfowl nesting and brood rearing.**

   Discussion: Wetlands will be managed with waterfowl reproduction as a primary goal. Water levels will be managed for nesting conditions in the spring (high water levels) and brood rearing in the summer (receding water levels for food availability and loafing areas). Upland and meadow nesting habitat will be protected and maintained. Artificial nesting structures will be employed when natural conditions are not sufficient.

   Wetland management will include periodic drawdowns to maintain dynamic and productive wetland habitat. Drawdowns on the nine wetland cells across the BSCWMA will be conducted on a rotational basis to provide a diversity of wetland habitat in any one year.

   The BSCWMA Management Priority 1, Enhance and Maintain Wetland Habitat, focuses on creating diverse and resilient wetland habitat. Performance targets and strategies include water level management, including occasional drawdowns, to mimic the natural hydrograph and create hemi-marsh conditions. The BSCWMA Management Priority 2, Enhance and Maintain Forested Wetlands, includes strategies to retain snags and employ artificial nest boxes for cavity nesting waterfowl.

4. **Wetlands should be managed for migrating waterfowl.**

   Discussion: Wetlands will be managed to support migrating waterfowl, providing abundant food sources and resting areas. Water levels will be maintained at high levels in the spring and fall on some wetland cells each year. Water levels in some wetlands in the fall may be below full pool to provide an abundant food source for dabbling duck species.

   Wetland management will include periodic drawdowns to maintain dynamic and productive wetland habitat. Drawdowns on the nine wetland cells across the WMA will be conducted on a rotational basis to provide a diversity of wetland habitat in any one year.

   The BSCWMA Management Priority 1, Enhance and Maintain Wetland Habitat, focuses on creating diverse and resilient wetland habitat. Performance targets and strategies include water level management, including occasional drawdowns, to mimic the natural hydrograph and create hemi-marsh conditions.

Public Use Management

1. **There is limited parking and access sites on the BSCWMA.**

   Discussion: Development of access sites on the BSCWMA must comply with the WRP easement and BPA funding regulations. Maintenance and development of access facilities may be improved in alignment with public desires when compatible with wildlife habitat goals. Public input on access needs and development will be sought through public use surveys and visitor contacts.

   The BSCWMA Management Priority 6, Provide for Wildlife-based Recreation and Education, includes performance targets and strategies to provide access and visitor facilities, while ensuring they do not infringe on the WRP easement.

2. **Provide opportunities for youth and mobility-impaired hunting and other recreational opportunities.**

   Discussion: Hunting and non-consumptive use opportunities on the BSCWMA will be advertised and signage on the WMA will be available. A mentored youth hunt is organized each year at WMA and is highly valued by participants. Infrastructure for mobility-impaired hunting opportunities will be sought but must comply with the WRP easement and BPA funding regulations.

   The BSCWMA Management Priority 6, Provide for Wildlife-based Recreation and Education, includes performance targets and strategies to provide hunting, fishing, and trapping opportunities on the BSCWMA, while ensuring they do not infringe on the WRP easement.

3. **There is a lack of access infrastructure and opportunities for non-consumptive users, such as kayakers and birders, across the BSCWMA.**

   Discussion: Development of access sites on the BSCWMA must comply with the WRP easement and BPA funding regulations. The public will be consulted on desires for improvements to WMA access facilities. Access on the WMA will be managed to remain in line with wildlife habitat goals.

   The BSCWMA Management Priority 6, Provide for Wildlife-based Recreation and Education, includes performance targets and strategies to provide access and visitor facilities, while ensuring they do not infringe on the WRP easement.

Issues Identified by the Department

Habitat Management

1. **Emergent wetlands can develop decadent unproductive vegetation and soils over time.**

   Discussion: Stable water levels over several years can negatively impact emergent wetland communities and impact the quality of wildlife habitat. Water level management should include periodic partial (moist-soil management) or complete drawdowns. Drawdowns allow decomposition of aquatic vegetation, freeing nutrients for plant and animal production, and expose mudflats that allow germination of diverse emergent vegetation. When re-flooded, the nutrient and plant rich communities provide an abundant insect and seed food source for waterfowl.

   Complete drawdowns will be conducted on each wetland cell once every five to 10 years. The wetland cells will be re-flooded in the fall or following early spring to prevent impacting nesting waterfowl. Partial drawdowns to produce moist soil plants for waterfowl food will be employed periodically in interim years when Department personnel believe it is necessary. Drawdowns on the nine wetland cells across the BSCWMA will be conducted on a rotational basis to provide a diversity of wetland habitat in any one year.

   The BSCWMA Management Priority 1, Enhance and Maintain Wetland Habitat, focuses on creating diverse and resilient wetland habitat. Performance targets and strategies include water level management, including occasional drawdowns, to mimic the natural hydrograph and create hemi-marsh conditions.

2. **There is a lack of information on forest condition to properly manage the forested acres on the BSCWMA.**

   Discussion: The BSCWMA Management Priority 5, Protect and Maintain Mixed Conifer Forest Habitat, focuses on managing the forested acres on the WMA. A forest inventory and assessment on the WMA is needed to determine forest habitat type, composition, condition,

and trend. This will provide the information to develop forest management plans to address wildlife resource objectives relative to the identified habitat types.

Wildlife Management

1. **There is a lack of large diameter trees along the marshes and rivers resulting in low natural nesting cavities available for cavity-nesting waterfowl species.**

   Discussion: The BSCWMA Management Priority 2, Enhance and Maintain Forested Wetlands, includes strategies to retain snags and employ artificial nest boxes for cavity-nesting waterfowl. Large diameter trees and snags in the forested wetlands will be retained and protected from beaver damage. Density of large diameter trees and snags within the mixed coniferous forest on the WMA will be maintained for cavity-nesting waterfowl and raptor and bald eagle nest/perch trees.

   Native hydrophytic (e.g., black cottonwood, red alder) tree species will be planted in areas that historically supported forested wetlands. Plantings will be protected from beaver and ungulate browse until established.

Boundary-Smith Creek WMA Management Program

The Department is responsible for the conservation, protection, perpetuation, and management of all wildlife, fish, and plants in Idaho. Wildlife Management Areas enable the Department to directly affect habitat to maximize suitability for species in key areas and are an integral component in the Department's approach to fulfill its mandate in Idaho Code. Management to restore and maintain important natural habitats and create hyper-productive habitats that enhance carrying capacity for selected wildlife species remain key strategies on BSCWMA. However, the most pervasive threats to WMA ecological integrity, such as noxious weeds, rural residential/commercial development, increased water diversion, and conflicting land uses on public lands, typically come from outside the WMA's boundary. Therefore, WMA managers must recognize and create opportunities to collaborate with adjacent landowners, expanding our collective conservation efforts for WMA-dependent wildlife.

We propose that an effective way to enable a broader influence over the future of BSCWMA is through the use of Conservation Targets to guide management. Conservation Targets could be either a focal species or a habitat-type that benefits numerous species. According to Noss et al. (1999), focal species are those used by resource managers to determine the appropriate size and configuration of conservation areas. Conservation of species within landscapes used for other enterprises such as forestry, recreation, agriculture, grazing, and commercial development requires managers to determine the composition, quantity, and configuration of landscape elements required to meet the needs of the species present (Lambeck 1997). Since it is impractical to identify key landscape elements for all species dependent on BSCWMA, a carefully selected suite of Conservation Targets can help provide for the conservation needs of many species. Additionally, identifying landscape-scale Conservation Targets across ownership boundaries helps address wildlife-related issues on BSCWMA and creates a platform for conservation partnerships on the surrounding landscape.

The following six-step process was used to create the BSCWMA management program described in this plan. Each of these steps is described in detail on the ensuing pages.

1) Summary of Management Priorities
2) Focal Species Assessment
3) Selection of Conservation Targets
4) Viability Assessment of Selected Conservation Targets
5) Spatial Delineation of Conservation Target Landscapes
6) Creation of Management Program Table

Summary of Management Priorities

Management of BSCWMA is bound to certain legal requirements and obligations imposed by the WRP easement terms and conditions and by BPA regarding the use of wildlife mitigation

funds for acquisition and long-term maintenance of the WMA. These constraints are summarized below and discussed in more detail in Appendix III.

Natural Resource Conservation Service (NRCS) WRP Easement

The purpose and intent of the WRP easement is:

> "The purpose of this easement is to restore, protect, manage, maintain, and enhance the functional values of wetlands and other lands, and for the conservation of natural values including fish and wildlife habitat, water quality improvement, floodwater retention, groundwater recharge, open space, aesthetic values, and environmental education."

Under the easement, certain property rights are purchased by the United States and are prohibited activities on the easement, unless they are later determined by the NRCS to be compatible uses. It is the policy of the NRCS that only those activities that are consistent with both the long-term protection and enhancement of the wetland and other natural values of the easement area may be authorized as compatible uses. Some prohibited activities include: planting or harvesting of crops, hay, or wood products; grazing livestock; altering the vegetation cover; altering water occurrence or flow; or building structures on the easement. All provisions of the WRP easements are binding on the Department as the property owner.

Bonneville Power Administration Wildlife Mitigation Funds

As a condition of accepting funds provided by BPA, the Department is obliged to meet the requirements and objectives defined in the Wildlife Mitigation Program Final Environmental Impact Statement (USDE 1997); Albeni Falls Wildlife Management Plan Final Environmental Assessment (USDE 1996); and Northern Idaho Wildlife Mitigation Agreement (USDE, BPA and IDFG 1997). These requirements are specified in Appendix III. An important note here is that the Department will manage the property according to a site-specific management plan prepared by the Department and approved by the Albeni Falls Interagency Work Group, the Northwest Power Planning Council's Wildlife Caucus, and BPA.

Management Priorities for Boundary-Smith Creek WMA

The management priorities for BSCWMA are responsive to public desires, the Department mission, and the purpose and objectives of the WRP Easement and BPA Wildlife Mitigation. Management priorities guide the direction of management of the WMA. Managing for wetland functions and values is of high priority, particularly as the NRCS WRP Easement included wetland restoration for long term benefits. Managing for additional priority habitats, including forested wetlands, scrub-shrub, grassland and mixed conifer forest, are led by the WRP purpose to manage for the conservation of all natural lands within the WRP and to maintain the values of these lands for wildlife mitigation obligated by BPA. Public desires also include managing present habitats in healthy and resilient states to sustain wildlife and recreational values. Managing the BSCWMA for wildlife-based recreation and education backs the publics' interest

and management goals of the Department, NRCS, and BPA. The Management Priorities were built in response to the Management Issues identified in the previous Section.

Boundary-Smith Creek WMA Management Priorities (in order of priority):

1. Enhance and Maintain Wetland Habitat
2. Enhance and Maintain Forested Wetland Habitat
3. Enhance and Maintain Scrub-shrub Wetland Habitat
4. Enhance and Maintain Grass/forb Habitat
5. Protect and Maintain Mixed Conifer Forest Habitat
6. Provide for Wildlife-based Recreation and Education

Focal Species Assessment

This section of the BSCWMA Plan is an assessment of various fish and wildlife species on BSCWMA in order to identify Conservation Targets to guide management. Table 1 evaluates taxa that are either flagship species (Groves 2003) and/or at-risk species identified by the Department in the Idaho Comprehensive Wildlife Conservation Strategy (IDFG 2005*a*) and key federal agencies.

Flagship species are popular, charismatic species that serve as symbols and catalysts to motivate conservation awareness, support, and action (Heywood 1995). Flagship species often represent a landscape or ecosystem (e.g., Willow Creek watershed or foothills ecotone), a threat (e.g., habitat loss or climate change), organization (e.g., state government or non-government organization) or geographic region (e.g., protected area, Department Region or state; Veríssimo et al. 2009). Waterfowl are an example of a group that fit the criteria as both focal and flagship species. In addition, they are a culturally and economically important species in Idaho and represent a founding priority for establishment of the BSCWMA. Therefore, the waterfowl is an important flagship species group considered in the WMA assessment.

A principal limitation of the flagship species concept is that by focusing limited management resources on culturally and economically important species, more vulnerable species may receive less or no attention (Simberloff 1998). To overcome this limitation, we are explicitly considering a wide variety of at-risk species (Groves 2003); yielding a more comprehensive assessment that includes culturally and economically important species (e.g., mule deer and elk) along with formally designated conservation priorities (e.g., bald eagle and sage-grouse). Categories of at-risk vertebrate species considered in this assessment are: 1) species designated as Idaho Species of Greatest Conservation Need (SGCN); 2) species designated as Sensitive by Region 4 (Intermountain Region) of the U.S. Forest Service (USFS); and 3) species designated as Sensitive by the Idaho State Office of the Bureau of Land Management (BLM).

The Idaho SGCN list was developed as part of the Idaho Comprehensive Wildlife Conservation Strategy (IDFG 2005*a*). The Idaho Comprehensive Wildlife Conservation Strategy document is now referred to as the SWAP. Idaho's SWAP serves to coordinate the efforts of all partners working toward conservation of wildlife and wildlife habitats across the state and serves as

Idaho's seminal document identifying species at-risk. Although the Idaho SWAP SGCN includes most of the special status species identified by land management agencies in Idaho, some species not listed as SGCN are considered priorities by other agencies.

United States Forest Service Sensitive Species are animal species identified by the Intermountain Regional Forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution. The Forest Service Manual (FSM 2670.22) directs the development of sensitive species lists. This designation applies only on USFS–administered lands.

Bureau of Land Management Sensitive Species are designated by State Directors in cooperation with the State fish and wildlife agency (BLM manual 6840). The Idaho State BLM Office updated these designations in 2003. The sensitive species designation is normally used for species that occur on BLM public lands and for which BLM has the capability to significantly affect the conservation status of the species through management.

The Intermountain West Joint Venture (IWJV) also maintains a list of priority species. The IWJV has identified 40 priority species from which to base conservation planning.

Information on species status, occurrence, beneficial management/conservation actions and threats were derived through consultation with Department staff, occurrence records in the Department's Idaho Fish and Wildlife Information System database, consultation with various BLM and USFS species lists, and species summaries provided in the Idaho SWAP.

Suitability of assessed species as a focal species were estimated by Panhandle Regional Habitat and Diversity staff based on descriptions in Groves (2003) and the U.S. Fish and Wildlife Service (USFWS 2005). Potentially suitable focal species may include species with one or more of the following five characteristics:

- *Species with high conservation need*
- *Species or habitats that are representative of a broader group of species sharing the same or similar conservation needs*
- *Species with a high level of current program effort*
- *Species with potential to stimulate partnerships*
- *Species with a high likelihood that factors affecting status can realistically be addressed* (USFWS 2005)

Table 1. Status of Conservation Priority Species on the Boundary-Smith Creek WMA including their Potential Suitability as Focal Species for Management.

Species	Status Designation(s)	Occurrence Context in Boundary-Smith Creek WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Boundary-Smith Creek WMA
Mammals					
Muskrat (*Ondatra zibethicus*)	Flagship	Breeding and year round habitat occur on the BSCWMA and within the Kootenai River floodplain.	BPA chosen target species to evaluate the impacts of habitat loss and mitigation efforts of the Albeni Falls dam facility.	BPA target species to represent aquatic furbearers and herbaceous wetlands.	**Potentially suitable as a focal species**. BPA chose the muskrat as a target species for evaluating habitat enhancements on BPA mitigation properties.
White-tailed Deer (*Odocoileus virginianus*)	Flagship	Deer occur throughout the BSCWMA and surrounding forest.	BPA chosen target species to evaluate the impacts of habitat loss and mitigation efforts of the Albeni Falls dam facility.	BPA target species because of its regional significance and its ties to scrub-shrub habitat.	**Potentially suitable as a focal species.** BPA chose the white-tailed deer as a target species for evaluating habitat enhancements on BPA mitigation properties.
Birds					
Bald Eagle (*Haliaeetus leucocephalus*)	Flagship, ESA Delisted, USFS Sensitive, BLM Sensitive, SGCN	Breeding and migrating populations occur on the BSCWMA and within the Kootenai River floodplain.	Greatest threat to birds in Idaho is disturbance during the nesting period from activities such as forestry, human recreation, and construction projects. BPA chosen target species to evaluate impacts and mitigation of the Albeni Falls dam facility.	Disturbance around nest sites should be minimized or avoided altogether, especially during late–winter/early–spring when eagles are initiating territory establishment and breeding activities. BPA target species because of their national significance and to represent water bodies with sufficient prey availability and nest/perch structures.	**Potentially suitable as a focal species.** BPA chose the bald eagle as a target species for evaluating habitat enhancements on BPA mitigation properties.
Black-capped Chickadee (*Poecile atricapillus*)	Flagship	Breeding and year round populations occur on the BSCWMA and surrounding forest.	BPA chosen target species to evaluate the impacts of habitat loss and mitigation efforts of the Albeni Falls dam facility.	BPA target species to represent species dependent on forested wetlands, including the presence of snags.	**Potentially suitable as a focal species.** BPA chose the black-capped chickadee as a target species for evaluating habitat enhancements on BPA mitigation properties.
Canada Goose (*Branta canadensis*)	Flagship	Breeding and migrating populations occur on the BSCWMA and within the Kootenai River floodplain.	BPA chosen target species to evaluate the impacts of habitat loss and mitigation efforts of the Albeni Falls dam facility.	BPA target species because of their regional significance and to represent nesting and brood rearing habitat.	**Potentially suitable as a focal species**. BPA chose the Canada goose as a target species for evaluating habitat enhancements on BPA mitigation properties.
Mallard (*Anas platyrhynchos*)	Flagship	Breeding and migrating populations occur on the BSCWMA and within the Kootenai River floodplain.	BPA chosen target species to evaluate the impacts of habitat loss and mitigation efforts of the Albeni Falls dam facility.	BPA target species to represent dabbling ducks and herbaceous wetlands.	**Potentially suitable as a focal species.** BPA chose the mallard as a target species for evaluating habitat enhancements on BPA mitigation properties.
Yellow Warbler (*Setophaga petechial*)	Flagship	Breeding populations on the BSCWMA and within the Kootenai River floodplain.	BPA chosen target species to evaluate the impacts of habitat loss and mitigation efforts of the Albeni Falls dam facility..	BPA target species to represent species dependent on scrub-shrub wetland.	**Potentially suitable as a focal species.** BPA chose the yellow warbler as a target species for evaluating habitat enhancements on BPA mitigation properties.
Flammulated Owl (*Psiloscops flammeolus*)	USFS Sensitive, BLM Sensitive, SGCN	Potential habitat occurs in the upland forest on the BSCWMA and surrounding landscape. No known occurrence in the surrounding area.	Direct habitat loss from timber harvest practices; fire exclusion resulting in altered forest structure, stocking rates, and species composition; pesticides; and cutting of dead trees for firewood.	Monitoring programs for nocturnal birds are needed to refine population estimates and trend data for this species. Research on factors influencing clustered spatial distribution of breeding sites is warranted to investigate why large areas of presumably suitable habitat remain unoccupied.	**Unsuitable as a focal species.** Limited information on distribution in the project area.

Species	Status Designation(s)	Occurrence Context in Boundary-Smith Creek WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Boundary-Smith Creek WMA
Peregrine Falcon (*Falco Peregrinus*)	ESA Delisted, USFS Sensitive, BLM Sensitive, SGCN	Individuals observed hunting on the BSCWMA. Foraging habitat occurs on the WMA.	Loss of habitat (nest sites and wetlands) and human activities are the greatest threats to the peregrine population.	Surveys for nest sites should continue. Known nest sites, especially historically occupied cliffs, must be protected from disturbance and/or destruction. Efforts should be made to maintain the integrity of wetlands adjacent to known peregrine eyries.	**Unsuitable as a focal species.** Limited information on distribution in the project area.
Merlin (*Falco columbarius*)	SGCN	Individuals observed hunting on the BSCWMA. Foraging habitat and potential breeding habitat occur in the surrounding area.	An increase in agricultural lands has caused losses of both nest sites and prey species for merlins.	There are currently too few breeding merlins in Idaho to implement habitat management activities designed specifically to benefit this species; and wintering numbers are sufficiently stable to suggest that few local problems exist.	**Unsuitable as a focal species.** Limited information on distribution in the project area.
Black Tern (*Chlidonias niger*)	BLM Sensitive, SGCN	Breeding population on the BSCWMA in emergent marsh vegetation. Habitat occurs in wetland areas within the Kootenai River floodplain.	Greatest threat is loss of marsh habitat. In Idaho, the breeding population of terns is approximately 200 individuals (Ivey and Herziger 2005),nesting in 5–10 different locations per year (Trost and Gerstell 1994).	Protect and maintain suitable shallow marsh habitat with emergent vegetation.	**Potentially suitable as a focal species.** Species is an indicator of wetland systems. Continued use of the BSCWMA would help guide priorities for wetland management.
American White Pelican (*Pelecanus erythrorhynchos*)	BLM Sensitive, SGCN	Nomadic subadult groups of up to 150 pelicans forage on the BSCWMA during July through September. Forage habitat occurs in wetland areas within the Kootenai River floodplain.	Habitat loss due to either flooding or draining areas can destroy foraging areas. Additional threats identified pertain to the two breeding colonies in Southern Idaho.	Protect and maintain wetland habitats and water levels on forage and breeding grounds.	**Potentially suitable as a focal species.** Species is an indicator of wetland systems. Continued use of the BSCWMA as forage grounds would help guide priorities for wetland management.
Common Loon (*Gavia immer*)	USFS Sensitive, SGCN	Rare, non-breeding occurrence on the BSCWMA. Limited breeding occurs on lakes within the county.	Degradation of habitat through shoreline development, campsites, human recreational use of nesting and nursery sites may force loons into marginal, less protected nesting sites.	Artificial nesting platforms were placed in Upper Priest, Priest, Pend Oreille, and Coeur d'Alene Lakes in northern Idaho as part of the Idaho Bird Inventory and Survey program. While none have been used to date, efforts are being made to monitor the loons during the breeding and non–breeding season.	**Unsuitable as a focal species.** The BSCWMA does not provide breeding habitat. Infrequent use of the WMA would not provide feedback to managers.
Hooded Merganser (*Lophodytes cucullatus*)	SGCN	Breeding and migrating populations occur on the BSCWMA and within the Kootenai River floodplain.	Hooded merganser populations have suffered on both breeding and wintering grounds from habitat alteration, mostly associated with changing forestry practices and especially snag removal.	Primary actions should focus on setting forest management goals that include the establishment and conservation of cavity–producing trees (>100 years old, >12 inches diameter at breast height) as well as the maintenance of riparian forested corridors and forests located within 1 mile of suitable brood habitat.	**Potentially suitable as a focal species.** Species is an indicator of wetland systems. Continued use of the BSCWMA as breeding and migrating grounds would help guide priorities for wetland management.
Lesser Scaup (*Aythya affinis*)	SGCN	Breeding and migrating populations occur on the BSCWMA and within the Kootenai River floodplain.	Degradation of wetland habitat has shown to alter migration routes and use of breeding and wintering areas in other part of this species' range.	Primary actions should continue to focus on restoring wetlands through cooperative joint ventures.	**Potentially suitable as a focal species.** Species is an indicator of wetland systems. Continued use of the BSCWMA as breeding and migrating grounds would help guide priorities for wetland management.
Northern Pintail (*Anas acuta*)	SGCN	Breeding and migrating populations occur on the BSCWMA and within the Kootenai River floodplain.	Wetland habitat degradation, such as wetland draining and agricultural alterations, on both breeding and wintering grounds.	Primary actions should focus on restoring wetlands and integrating waterfowl management with farming practices.	**Potentially suitable as a focal species.** Species is an indicator of wetland systems. Continued use of the BSCWMA as breeding and migrating grounds would help guide priorities for wetland management.

Species	Status Designation(s)	Occurrence Context in Boundary-Smith Creek WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Boundary-Smith Creek WMA
Red-necked Grebe (*Podiceps grisegena*)	SGCN	Rare, nonbreeding observations on the BSCWMA. Migration foraging and resting habitat on the WMA and within the Kootenai River floodplain.	Draining of wetlands and/or drought are potentially serious issues for this species in Idaho. They are susceptible to disturbance by recreationists during nesting. Highly susceptible to pollutants, as heavy metals are often detected in adults, eggs, and young	Closing off important breeding areas to recreational activities during the nesting period would help alleviate disturbance pressures. Grebes can become acclimated to human presence if disturbance is minimized during incubation and early brooding. Red–necked grebes readily use artificial wetlands, and would likely respond favorably to wetland restoration.	**Unsuitable as a focal species.** The BSCWMA does not provide breeding habitat. Infrequent use of the WMA would not provide feedback to managers.
Western Grebe (*Aechmophorus occidentalis*)	SGCN	Occasional, nonbreeding observations on the BSCWMA. Migration foraging and resting habitat on the WMA and within the Kootenai River floodplain.	Two of the main issues for grebes nesting in Idaho are water quality and water level fluctuations. Nesting colonies also are sensitive to disturbance by humans, causing adults to leave nests, exposing eggs to increased risk of depredation. Increased boat traffic through foraging and brood–rearing habitat can elevate chick mortality.	Monitoring water quality and reducing drastic water level fluctuation during the breeding season at key sites is recommended, however, some water level fluctuation is necessary to provide suitable nesting habitat (16+ inches water depth in emergent). Closing off important breeding areas to recreational activities during the nesting period would help alleviate disturbance pressures.	**Potentially suitable as a focal species.** Species is an indicator of wetland systems. Continued use of the BSCWMA as migrating and forage grounds would help guide priorities for wetland management.
Transitional Waterbird Guild Wilson's Phalarope (*Phalaropus tricolor*)*	*BLM Sensitive, SGCN	Occasional observations on the BSCWMA. Migration foraging and resting habitat on the WMA and within the Kootenai River floodplain.	The greatest threat to Wilson's phalaropes, and shorebirds in general, in the Intermountain West is loss of high quality fresh water habitat.	Because shorebirds move to deeper, more permanent wetlands in dry years, and likely discover new habitats quickly, wetland complexes that include both seasonal and semi-permanent wetlands should be protected and/or restored. Breeding areas should not be disturbed (i.e., mowed, burned, grazed) during the breeding season (late April through late July). Burning, grazing and mowing may improve upland nesting habitat for this species, however, cattle should not be present in the area during the breeding season.	**Potentially suitable as a focal species.** Species in the Transitional Waterbird Guild are an indicator of wetland systems. Continued use of the BSCWMA as migrating and forage grounds would help guide priorities for wetland management.
Reptiles					
Northern Alligator Lizard (*Elgaria coerulea*)	BLM Sensitive, SGCN	Potential habitat occurs in the upland forest on the BSCWMA and surrounding landscape. No known occurrence in the surrounding area.	Habitat suitability can be affected by surface disturbance from activities such as rock quarrying, timber harvest, and urban or agricultural development. Changes to the invertebrate prey base from habitat alteration, pest control, or non–native species introductions could have negative consequences.	Activities causing surface disturbance should be regulated so that impact to occupied habitat is avoided. Studies assessing distribution, abundance, and population trend are needed.	**Unsuitable as a focal species.** Limited information on distribution in the project area.
Amphibians					
Northern Leopard Frog (*Rana pipiens*)	BLM Sensitive, SGCN	In northern Idaho, the species was found in the Kootenai, Pend Oreille, and Clark Fork rivers prior to 1955, but populations may no longer persist in this	Loss and degradation of wetland and riparian habitat is thought to be the most prevalent threat. Urban and agricultural development, pollution from agricultural	A comprehensive understanding of population status throughout the state is needed. Investigation of the cause of declines may be warranted and would be a	**Unsuitable as a focal species.** Due to their extirpation from northern Idaho, would not provide feedback to managers.

Species	Status Designation(s)	Occurrence Context in Boundary-Smith Creek WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Boundary-Smith Creek WMA
		region.	runoff, mining and mineral processing, water diversion, and livestock wastes and trampling of habitat are the most pervasive stressors to wetland systems. Introduced competitors and predators, such as bullfrogs and sport fishes, can cause amphibian population declines and losses. Disease is also a concern, particularly the chytrid fungus, *Batrachochytrium dendrobatidis*.	priority if regional or state–wide declines are demonstrated. Wetland protection and restoration of degraded sites may be needed.	
Wood Frog (*Lithobates sylvaticus*)	BLM Sensitive, SGCN	In Idaho, the species was found historically at 3 sites in Boundary and Bonner counties. No record has been reported since 1970, and these Idaho populations may have been extirpated.	Threats to any populations that may persist in the State are unknown.	Surveys are needed to determine if the species persists in Idaho. If a population is extant, a habitat protection and monitoring plan should be developed.	**Unsuitable as a focal species.** Due to their extirpation from northern Idaho, would not provide feedback to managers.
Gastropods					
Pygmy Slug (*Kootenaia burkei*)	SGCN	Potential habitat in upland coniferous forest near water on the BSCWMA and surrounding landscape. Endemic to northern Idaho. Known observations in the Selkirk Mountains.	Threats have not been assessed, but may include logging, housing, industrial development, roads, grazing, hiking, and biking.	Surveys to determine population numbers, range, ecology, habitat status, threats, conservation measures, and trends are needed.	**Unsuitable as a focal species.** Limited information on distribution in the project area.
Sheathed Slug (*Zacoleus idahoensis*)	SGCN	Potential habitat occurs in the upland coniferous forest near water on the BSCWMA and surrounding landscape. Known observations in the Selkirk Mountains.	Surveys are needed to assess the current status of Idaho populations and to identify site-specific threats and conservation needs.	This species has a propensity for diverse, intact, and moist habitats and is absent from sites disturbed by timber harvest and livestock grazing. Logging and grazing are prevalent activities throughout the known range and are potential threats.	**Unsuitable as a focal species.** Limited information on distribution in the project area.

Selection of Conservation Targets

The biodiversity of BSCWMA is represented by numerous vertebrates, invertebrates, plants, and ecological communities. It is impractical to evaluate and plan for the conservation of all these elements. Therefore, Conservation Targets, a sub-set of species and communities, were selected to represent the biodiversity of BSCWMA for management and conservation; while still reflecting the management priorities of BSCWMA.

Conservation Targets for the BSCWMA Management Plan were selected from species ranked as potentially suitable focal species in Table 1. Sensitive plants are not included in this assessment due to practical considerations including lack of data and funding. Conservation Targets could also include habitats that effectively represent suites of the flagship and special status species evaluated in Table 1, regardless of their potential suitability as a focal species. A final consideration in the selection of Conservation Targets was the best professional judgment of the Panhandle Regional Habitat Manager and BSCWMA staff. Effective Conservation Targets cannot be selected based solely on species assessments. They must reflect regional threats, priorities, existing conservation partnerships, and the limitations of BSCWMA personnel and funding.

The focal species assessment identified 14 species that are potentially suitable focal species for management on BSCWMA. We selected the bald eagle, black-capped chickadee, Canada goose, mallard, muskrat, and white-tailed deer as focal species because they have been chosen by BPA to evaluate habitat improvements on the WMA in regards to mitigation for the effects of the Albeni Falls dam facility. Eight additional species (black tern, American white pelican, hooded merganser, lesser scaup, northern pintail, western grebe, and Wilson's phalarope) were chosen because they are dependent on a variety of wetland habitats provided on BSCWMA.

The Conservation Targets selected to guide management on BSCWMA (corresponding BSCWMA Priority in parentheses) are:

1. Palustrine Wetland Habitat (Enhance and Maintain Palustrine Wetland Habitat)
2. Forested Wetland Habitat (Enhance and Maintain Forested Wetland Habitat)
3. Scrub-shrub Wetland Habitat (Enhance and Maintain Scrub-shrub Wetland Habitat)
4. Grassland Habitat (Enhance and Maintain Grass/Forb Habitat)

Palustrine Wetland Habitat

We chose to designate palustrine wetlands as a focal habitat for management on BSCWMA due to the number of focal species that are dependent on functional wetland habitat (bald eagle, Canada goose, mallard, muskrat, black tern, American white pelican, hooded merganser, lesser scaup, northern pintail, western grebe, Wilson's phalarope).

Providing quality wetland functions and values on BSCWMA is of high priority for the Department and both the cooperative management agencies NRCS and BPA. A multitude of

wildlife species rely on wetlands for all or a portion of their life requirements, including waterfowl game species and many other focal species chosen here.

Our vision for wetland areas on the BSCWMA is that they will support an array of physical, chemical, and biological processes, and that they will provide a mosaic of habitat components including shoreline and grassland nesting areas near water, herbaceous emergent wetlands, deep water wetlands, shallow wetlands, and mudflats. We envision the wetlands to provide resting and refueling areas for migrating waterfowl and other birds, and that the wetlands will provide connectivity between wetland areas throughout the landscape.

Forested Wetland Habitat

We chose to designate forested wetland habitat as a focal habitat as it provides for important life requirements for three focal species, the bald eagle, black-capped chickadee, and hooded merganser.

Several focal species rely on forested wetlands for a portion of their yearly habitat needs. The bald eagle relies on large old-growth trees in stands greater than 10 acres for nest/perch trees. The black-capped chickadee and hooded merganser require snags for nest cavities, optimally in old-growth trees within one mile of suitable brood habitat for the hooded merganser. The black-capped chickadee's optimal habitat includes trees greater than 15 m in height with 50-75% canopy cover.

Our vision for this conservation target is healthy and functioning forested wetlands that provide linkage and habitat continuity (especially with upland mixed conifer forests) throughout the Kootenai River floodplain. Improving or maintaining forested wetland habitat has the potential to directly benefit many species of wildlife including the bald eagle, black-capped chickadee, hooded merganser, and other species not identified in the focal species assessment table. Selecting forested wetlands as a focal habitat serves as an umbrella for conservation and has a high probability of improving habitat for a large number of species.

Scrub-shrub Wetland Habitat

We chose to designate scrub-shrub habitat as a focal habitat as it provides important habitat features for both the yellow warbler and white-tailed deer.

Scrub-shrub habitat within the floodplain provides cover and browse for white-tailed deer, moose, elk, and beaver, among other species. It provides nesting, foraging, and hiding cover for the yellow warbler and other songbirds. Wetland scrub-shrub habitat is often linear along waterways and provides movement corridors for a variety of wildlife.

Our vision for scrub-shrub wetland habitat is that it will occur in continuous sections large enough to provide cover and travel corridors for wildlife, will be plentiful to provide browse for big game throughout the year, will provide nesting habitat for many bird species, and will provide habitat connectivity throughout the Kootenai River floodplain. Improving quality of this

habitat may directly benefit many species of wildlife and selecting it as a focal habitat may contribute to a healthy ecosystem throughout the Kootenai River Valley.

Grassland Habitat

We chose to designate grassland habitat as a focal habitat as it provides important nesting habitat for bird species, including ground nesting waterfowl (mallard, lesser scaup, northern pintail), and other grassland nesting birds. Grassland areas provide brood-rearing habitat for some waterfowl and upland game birds species, such as the Canada goose and ring-necked pheasant. A multitude of other species find forage and cover in grasslands, including upland game species such as bear, moose, elk, and deer.

Our vision for grassland habitat is that it will include an increased amount of native grass species with a native forb component, will have complex structure and healthy rigor, and will support diverse insect populations. Improving or maintaining highly functional grassland habitat has the potential to directly benefit many species of wildlife.

Coverage Assessment of Selected Conservation Targets

We define an effective Conservation Target as one providing meaningful conservation benefits for multiple species that share similar habitat requirements or life history traits. They are useful for directing limited management resources and maximizing conservation effort. One measure of effectiveness is to assess the number of species that a Conservation Target benefits (or covers) within the management landscape.

Regional Habitat and Diversity staff worked together to complete the coverage assessment table (Table 2). We evaluated each of the Conservation Targets to determine which species from Table 1 would benefit from management activities focused on that target. Evaluations are based on knowledge of species habitat requirements, occurrence within the management landscape, and the scope of current and planned management actions. The assessment considered only those habitat features or needs relevant to the species as it occurs on the management landscape. Our results indicate that the selected Conservation Targets on BSCWMA provide substantial, but variable habitat benefits for an array of assessed species. We found that management efforts directed towards maintaining or enhancing palustrine wetland habitat will provide conservation benefits for 15 of the 24 assessed species while those actions targeting grassland habitat, although important, will benefit only 8 assessed species.

We also evaluated which species or guilds would receive little or no tangible benefit from management actions for specific Conservation Targets; these are designated “conservation needs.” We identified conservation needs for several species or guilds and determined that further data will be useful to inform the next WMA planning process. A prudent management strategy is to consider a landscape where these species may be prioritized for management in the future. Broad strategies for addressing these management needs are identified in the following Management Program Table (pages 36-41), but typically include collection of additional baseline data.

Table 2. Analysis of Conservation Target coverage and identification of conservation needs.

	Conservation Targets[a]				
Species Assessed in Table 1	**Palustrine Wetland Habitat**	**Forested Wetland Habitat**	**Scrub/Shrub Habitat**	**Grassland Habitat**	**Conservation Need**
Bald Eagle	X	X			
Black-capped chickadee		X			
Canada Goose	X			X	
Mallard	X			X	
Muskrat	X				
Yellow Warbler			X		
White Tailed Deer		X	X	X	
Flammulated Owl					Yes
Peregrine Falcon				P	
Merlin		X		X	
Black Tern	X				
American White Pelican	P				
Common Loon	X				
Hooded Merganser	X	X			
Lesser Scaup	X			X	
Northern Pintail	X			X	
Red-necked grebe	X				
Western grebe	X				
Wilsons Phalarope	X			X	
Northern Alligator Lizard					Yes
Northern Leopard Frog	X				
Wood frog	X	X			
Pygmy slug					Yes
Sheathed slug					Yes

[a] Entries marked with "X" indicate that the majority or all habitat needs for an assessed species within the management landscape are being met by management actions benefitting the Conservation Target. Entries marked with "P" indicate only a portion of the species habitat needs are being met by management actions for the Conservation Target. Conservation needs exist where target-specific management actions provide little or no tangible habitat benefit for an assessed species. Blank cells under conservation targets may indicate a conservation need or where dissimilar habitat needs preclude conservation benefits.

Spatial Delineation of Conservation Target Landscape

Each of the focal species selected as Conservation Targets for BSCWMA also utilize habitats off of BSCWMA to meet their annual needs. In the case of the Wetland Habitat Conservation Target, the species that will benefit from improved wetland habitats also range off of BSCWMA. Therefore, it is crucial that we actively participate in habitat conservation efforts within the landscape, beyond the borders of the WMA, if we are to maintain the integrity of the WMA itself.

This section describes the methods used to define spatial landscapes for each of our BSCWMA Conservation Targets. We used the best data available (i.e., species survey data utilizing the WMA, scientific literature, species ecology data from the scientific literature, and local knowledge) to construct these Conservation Target-specific landscapes. These landscapes are then utilized in the Management Program Table (pages 36-41) to identify Conservation Target-specific Management Directions, Performance Targets, and Strategies for both BSCWMA and the landscape.

The following describes the steps we took to delineate the landscape of interest for each of our focal species/habitats (Palustrine Wetland, Forested Wetland, Scrub-shrub Wetland Habitat, and Grassland Habitat). All GIS operations were conducted with ArcGIS 10 unless otherwise specified.

Each of the focal habitats for BSCWMA (Palustrine Wetland, Forested Wetland, Wetland and Scrub-shrub Wetland Habitat, and Grassland Habitat) is associated with the floodplain of the Kootenai River Valley. Together, they provide a spectrum of habitat features, from open water, to wetland herbaceous cover, shrub, and forested cover. Many wildlife species that occur on the WMA also utilize similar habitat across the Kootenai Valley.

The Kootenai River Valley floodplain is one of the highest priority wetland landscapes for conservation and restoration in Idaho (Murphy et al. 2012). The wetlands on the BSCWMA contribute to the network of wetland habitat available cross the valley. The more wetland habitats available, and the more linked each are to each other, the better the Kootenai Valley is able to support resilient populations of wetland dependent wildlife and plant species. Therefore, the larger landscape considered in management of the WMA and the focal habitats, is the Kootenai River floodplain in Boundary County, Idaho (Figure 2).

To delineate the Kootenai River floodplain, GIS was used to select the area below 1,800 feet elevation along the Kootenai River within Boundary County, Idaho.

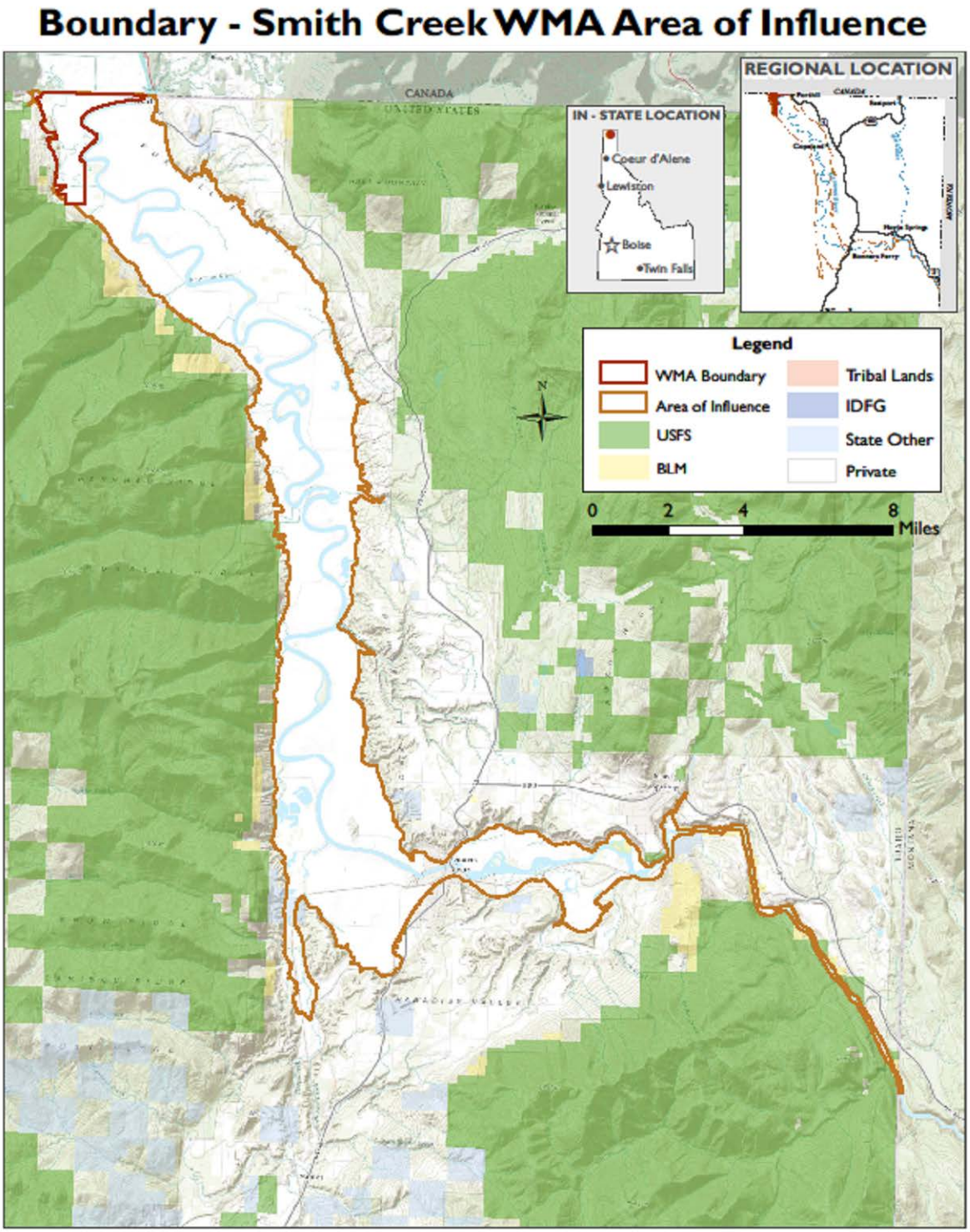

Figure 2. The Kootenai River floodplain as the landscape scale for Focal Habitat consideration for Boundary-Smith Creek WMA.

Boundary-Smith Creek WMA Management Program Table

The following table outlines the Management Directions, Performance Targets, Strategies, and Outcome Metrics BSCWMA staff will use to manage for the Conservation Targets selected (page 30) to represent each BSCWMA Priority (page 24) at both the BSCWMA and Conservation Target-specific landscape scale. The Compass Objective column links the Management Directions in this table to the objectives of the Department's strategic plan, *The Compass* (Appendix I).

WMA Priority 1: Palustrine Wetland Habitat					
Conservation Target: Palustrine Wetland Habitat					
Scope	**Management Direction**	**Performance Targets**	**Strategy**	**Outcome Metric**	**Compass Objective (Appendix I)**
BSCWMA	Provide high quality cover and food sources for migrating waterfowl, waterbirds, shorebirds, and other wildlife, while maximizing potential water quality and ecosystem support functions	During the next 10 years, implement shallow water short-emergent marsh and seasonally flooded wet meadow management (e.g., flooding and periodic drawdowns) at the appropriate times and frequency, annually rotating through the different wetland management units, to improve ecological condition including: increase % floristic diversity by 10%, decrease % of flora comprised of non-native species by 10%	Utilize diversion water to create high spring water levels followed by receding summer water levels across the BSCWMA to mimic the natural hydrograph of the Kootenai River	Percentage of mapped shallow water emergent marsh and wet meadow habitat managed; floristic quality metrics based on species composition	B, C
			Manage water levels across the BSCWMA to provide areas of deep open water, shallow open water, shallow emergent vegetation, and mudflats when appropriate to provide habitat for a variety of wildlife and species' life stages; increase duration of saturation and shallow flooding in seasonal wet meadows and shallow emergent marshes during spring and maintain groundwater closer to surface for longer duration in early summer to maximize invertebrate production		
			Use mechanical disturbance, fire, and other treatments where appropriate to increase diversity and productivity of wet meadow and shallow marsh vegetation, specifically with the objective of decreasing cover of reed canarygrass		
			Manage shoreline and marsh vegetation to provide nesting habitat for waterfowl and black terns, and quality muskrat habitat		
		During the next 5 years, implement moist soil management techniques in at least one wetland basin to create a plant community with >75% of the flora comprised of species with high nutritional value for migrating/staging waterfowl and other waterbirds (e.g., smartweed, beggartick, goosefoot, barnyard grass, etc.)	Manage water levels during the spring (e.g., gradual drawdown) and fall (gradual re-flood to shallow depth) to promote growth of beneficial food plants and provide resting and feeding habitat for migrating waterfowl	Implementation of moist soil management regime in one wetland management unit; composition and cover of plant species with high nutritional value for migrating/staging waterfowl and other waterbirds	
			Use plantings of native wetland vegetation or mechanical disturbance (e.g., disking, mowing) where appropriate to promote desirable early seral wetland vegetation and to provide a food source to migrating and breeding waterfowl		
	Provide high quality and secure waterfowl breeding, nesting (see Grassland Habitat Priority 4), and brood rearing habitat, while enhancing wetland productivity, diversity, and functions (e.g., water quality improvement)	During the next 10 years, treat all deep water marsh units at least once to approach an approximate 60:40 ratio of open water to tall marsh vegetation (e.g., cattail- bulrush) for the benefit of waterfowl breed pairing, brood rearing, and other functions	Install artificial nesting structures for Canada goose, mallard, and cavity nesting ducks if present conditions do not support plentiful, quality nesting conditions	Number of artificial nest structures occupied by nesting waterfowl	
			Critical to marsh habitat maintenance, incorporate full drawdowns and partial drawdowns on each wetland basin over the years to provide for very wet years and drought years over time	Percentage of ponds and deepwater marsh units treated; ratio of open water to tall marsh vegetation	
			Use herbicide applications, mechanical treatments, and fire to rejuvenate stands of depauperate, unproductive marsh vegetation and maintain an approximate 60/40 mix of open water and marsh vegetation for waterfowl and other waterbirds		

WMA Priority 1: Palustrine Wetland Habitat					
Conservation Target: Palustrine Wetland Habitat					
Scope	**Management Direction**	**Performance Targets**	**Strategy**	**Outcome Metric**	**Compass Objective (Appendix I)**
Kootenai River Floodplain Landscape	By coordinating with partners, increase the amount of high quality emergent wetland habitat managed for breeding and/or migrating waterfowl, waterbirds, shorebirds, amphibians, and other wildlife and water-breeding, nesting, brood rearing, and migratory use, while enhancing productivity, diversity, and functions (e.g., water quality improvement)	During the next 10 years, work with at least 2 willing landowners and/or land management agencies in Kootenai River Valley on at least 100 ac to restore or enhance emergent wetland habitat quality and improve management (e.g., flooding and periodic drawdowns at the appropriate times and frequency)	Work with partners (private landowners, federal agencies, Kootenai Tribe, Idaho Dept. of Environmental Quality, Ducks Unlimited, etc.) to fund (e.g., through Department programs such as HIP or cost-share options) emergent wetland restoration or enhancement	Number of willing landowners assisted, and/or acreage of marsh and meadow habitat with improved management or habitat restoration	B, C
			Provide technical assistance to willing landowners on the use of fire, mowing, and herbicide control of noxious weeds (after nesting) to increase diversity, condition, and structure of upland and mesic meadow waterfowl nesting habitat		
			Provide technical assistance to willing landowners on how and when to periodically drawdown water in marshes and treat depauperate bulrush-cattail stands, promote wetland diversity, and to increase duration of saturation in wet meadows for the purpose of maximizing invertebrate and plant production to feed migrating waterfowl, water birds, and shorebirds		
WMA Priority 2: Forested Wetlands					
Conservation Target: Forested Wetland Habitat					
Scope	**Management Direction**	**Performance Targets**	**Strategy**	**Outcome Metric**	**Compass Objective (Appendix I)**
BSCWMA	Provide functioning forested wetland habitat in good to excellent ecological condition to benefit a wide range of fish and wildlife species	During next 10 years, protect and/or enhance 70 acres of existing forested wetlands with the goal of increasing flora comprised of hydric species by 5%, and decreasing flora comprised of non-native species by 10%	Protect areas from big game browsing, beaver, fire, and herbicides to allow woody species to get established and spread; control noxious and invasive weed species, including using methods to reduce cover of reed canarygrass	Acres of forest protected	B, C
		Within 10 years, create, restore, and/or enhance 15 acres of forested wetland through implementation of vegetation improvement projects. (e.g., aim for canopy cover >25% with at least 30% survival of black cottonwood trees and native trees; evidence of natural tree and shrub reproduction)	Plant native hydrophytic tree species within floodplain areas	Acres of trees planted with at least 30% survival	
			Protect natural regeneration of native hydrophytic tree species	Acres of regeneration protected	
		During next 10 years, maintain or increase the density of large diameter trees and snags for cavity nesting birds/mammals and bald eagle nest/perch sites (2/acre)	Protect large diameter trees and retain snags	Acres of forest protected	
			Employ artificial nest boxes for cavity nesting species if snag density is low	Number of artificial nest boxes occupied by cavity nesting birds	
Kootenai River Floodplain Landscape	Provide functioning forested wetland habitat in good to excellent ecological condition to benefit a wide range of fish and wildlife species	During next 10 years, work with private landowners and land management agencies to maintain, restore, and/or establish a diverse mix of riparian species in black cottonwood dominant forested wetland stands, increase cover of black cottonwood trees, and decrease non-native invasive species along river banks and throughout floodplains (50 acres)	Work with private landowners through HIP and other private, state, and federal conservation programs to create and restore healthy floodplain forested wetland habitat on their land (e.g., riparian forest planting projects; weed control)	Number of projects successfully implemented	B, C
			Within constraint of preventing unintended flooding of agricultural or residual lands, identify opportunities to restore natural floodplain processes for the purpose of enhancing black cottonwood reproduction		
			Where possible, provide technical assistance and funding to cooperating agencies on projects that restore or enhance forested wetland habitat in the Kootenai River floodplain (e.g., riparian forest planting projects; weed control)	Number of contacts and implemented projects	

WMA Priority 3: Scrub-shrub Habitat					
Conservation Target: Scrub-shrub Habitat					
Scope	**Management Direction**	**Performance Targets**	**Strategy**	**Outcome Metric**	**Compass Objective (Appendix I)**
BSCWMA	Provide functioning scrub-shrub wetland habitat in good to excellent ecological condition to benefit a wide range of fish and wildlife species	Within 10 years, create, restore, and/or enhance 85 acres of scrub-shrub wetland habitat through implementation of vegetation improvement projects.(e.g., aim for canopy cover >25% with at least 30% survival of native shrubs; evidence of natural shrub reproduction)	Plant native shrub species	Acres of shrubs planted with at least 30% survival	B, C
			Protect natural regeneration of native shrub species	Acres of shrubs protected	
Kootenai River Floodplain Landscape	Provide functioning scrub-shrub wetland habitat in good to excellent ecological condition to benefit a wide range of fish and wildlife species	During next 10 years, work with private landowners and land management agencies to maintain, restore, and/or establish a diverse mix of riparian species in scrub-shrub wetland stands, increase cover of native shrubs, and decrease non-native invasive species along river banks and throughout floodplains (50 acres)	Work with private landowners through private, state and federal conservation programs to create and restore scrub-shrub cover and forage for upland game birds, songbirds, waterfowl, native ungulates, and other wildlife on their land (e.g., riparian shrub planting projects; weed control)	Number of projects successfully implemented	B, C
			Where possible, provide technical assistance and funding to cooperating agencies on projects that restore or enhance scrub-shrub wetland habitat in the Kootenai River floodplain (e.g., riparian shrub planting projects; weed control)	Number of acres meeting desired conditions	

WMA Priority 4: Grassland Habitat					
Conservation Target: Grassland Habitat					
Scope	**Management Direction**	**Performance Targets**	**Strategy**	**Outcome Metric**	**Compass Objective (Appendix I)**
BSCWMA	Provide a mosaic of diverse, productive grassland/forb habitat dominated by native species and forb wildlife food plantings to benefit a wide range of wildlife species	Treat approximately 10% of upland grassland and mesic meadow waterfowl nesting habitat each year during the next 10 years to maintain health and vigor (as measured by floristic quality objectives, including: decrease noxious/invasive weed cover by 50%, decrease non-native species by 10%)	Incorporate grassland disturbance regimes (mechanical treatment, burning, or clip and removing) in areas that need to be rejuvenated	Percentage of mapped upland grassland and mesic meadow habitat area treated per year; floristic quality metrics; cover of noxious weeds species	B, C
		Within 10 years, re-establish native grass dominance on 20 acres of older decadent stands currently dominated by non-native seeded grasses	In candidate areas for native grass replanting, follow a several year process of cultivating the acreage for several years to allow for weed management and soil preparation followed by seeding	Acres of restored grassland dominated by native grasses	
		Within 10 years, increase native forb cover to 10% in grasslands; plant 20 acres of forb strips and wildlife food plots comprised of beneficial non-native, non-invasive wildlife food species	Incorporate native forb species into new grassland plantings after weed control is accomplished	% cover of native forbs in grasslands	
			Plant and maintain forb strips within the grassland habitat, and manage weeds through mechanical methods such as mowing	Acres of forb strips planted and successfully established	
			Plant and maintain wildlife food plots to increase the carrying capacity for wildlife species who's limiting factor is winter food availability, such as ring-neck pheasants	Acres of food plots planted and successfully established	
Kootenai River Floodplain Landscape	Provide a mosaic of diverse, productive grassland/forb habitat dominated by native species and forb wildlife food plantings to benefit a wide range of wildlife species.	During next 10 years, work with private landowners and land management agencies to enhance grassland stands that provide quality habitat for wildlife species (50 acres)	Work with private landowners through private, state and federal conservation programs to create or restore grassland cover for nesting and forage for upland game birds and waterfowl on their lands (e.g., native grass seeding projects)	Number of projects successfully implemented	B, C
			Where possible, provide technical assistance and funding to cooperating agencies on projects that create or restore grassland stands within the Kootenai River floodplain (e.g., native grass seeding projects)	Number of contacts and implemented projects	

WMA Priority 5: Mixed Conifer Forest Habitat					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
BSCWMA	Provide mixed conifer forest in mid to late seral condition, with a diverse, multi-layered canopy and large diameter trees and snags, to benefit a variety of wildlife	Maintain 204 acres of existing mixed conifer forest	Protect the areas from fire and control noxious weeds in open areas	Acres of forest protected	B, C
			Maintain large diameter trees for snags		
		Complete a Forest Inventory and Assessment in three years on all BSCWMA upland forests; Complete a Forest Management/Stewardship Plan in five years	Conduct a forest composition and structure inventory and health assessment, including a map of habitat types and seral stages, using established protocols	Completion of forest inventory and assessment, including habitat type map	
			Based on assessment results, develop strategies and methods within a Forest Stewardship/Management Plan to improve mixed conifer forest health where appropriate	Completion of Forest Stewardship Management Plan	
Kootenai River Floodplain Landscape	Provide mixed conifer forest in good to excellent ecological condition to benefit a variety of wildlife	Work with private landowners and land management agencies to protect and enhance mixed conifer forest, promote retention of large diameter trees and snags on the landscape, and restore the natural disturbance regime while working within the management framework of the landowner (100 acres)	Provide technical assistance when possible to cooperating agencies on projects that affect mixed conifer forest in the Kootenai floodplain	Acres meeting desired conditions	B, C
		Complete a Forest Inventory and Assessment in three years on all MLWMA upland forests; Complete a Forest Management/Stewardship Plan in five years	Conduct a forest composition and structure inventory and health assessment, including a map of habitat types and seral stages, using established protocols	Completion of forest inventory and assessment, including habitat type map	
			Based on assessment results, develop strategies and methods within a Forest Stewardship/Management Plan to improve mixed conifer forest health where appropriate	Completion of Forest Stewardship Management Plan	

WMA Priority 6: Riparian Habitat					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
BSCWMA	Provide functioning riparian habitat along Boundary Creek, Smith Creek and the Kootenai River in good to excellent ecological condition to benefit a wide range of fish and wildlife species	During next 10 yrs., protect and/or enhance approximately 10 miles of existing riparian habitat on Boundary Creek, Smith Creek, and the Kootenai River.	Maintain and protect streambanks from erosion with vegetation, rip rap or other appropriate methods.	Miles of riparian habitat protected	B, C
	Remain open to opportunities to enhance fish habitat on the BSCWMA	Consider/implement opportunities to enhance fish habitat on the BSCWMA if it is compatible with wildlife and habitat objectives	Work cooperatively with the Department Fisheries Bureau to maintain two external rearing burbot ponds established on the BSCWMA	NA	
			Work cooperatively with the Department Fisheries Bureau, and other potential partners, on fish habitat issues on the BSCWMA when appropriate		
Kootenai River Floodplain Landscape	Promote opportunities to enhance fish habitat within the Kootenai River Valley	Work cooperatively with local interest groups, such as private landowners, the Kootenai Tribe of Idaho, Kootenai Valley Resource Initiative, USDA National Resource Conservation Service, and others, on water resource and fish habitat issues within the Kootenai River Valley	Where possible, provide assistance to cooperating agencies on projects that affect water resources and fish habitat within the Kootenai River Valley	NA	B, C

WMA Priority 7: Provide for Wildlife-based Recreation and Education					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
BSCWMA	Provide for public access and recreational use compatible with wildlife and habitat management objectives	Provide full season opportunities for hunting, fishing and trapping on the BSCWMA	Manage fall water levels to provide quality trapping and waterfowl hunting opportunities	Acres of fall season wetland	E, F, G, H, K
			Conduct an annual Mentored Youth Waterfowl Hunt on the BSCWMA	Number of participants	
			Provide fishing access on Boundary Creek when compatible with the WRP easement	Number of access sites	
		Provide access and visitor facilities (maintain 3 parking/access sites, 3 picnic areas and 2 bathroom facilities)	Provide and maintain parking, bathroom and picnic facilities while ensuring they do not infringe on the WRP easement	Number of facilities	
			Provide non-motorized access across the BSCWMA through maintenance of a trail system while ensuring they do not infringe on the WRP easement	Miles of trails	
Kootenai River Floodplain Landscape	Promote public access for recreational use on private land	When working with landowners, encourage landowners to allow public access for recreation in a manner suitable for them	Work with private landowners within available private, state and federal conservation programs and advocate for public recreational access as part of these programs.	Number of projects with public access	F, G, I
			Encourage private landowners to participate in the Access Yes Program to allow public recreational access	N/A	
			Educate and foster communication and understanding between hunters and landowners on desires and concerns of each party		

WMA Priority: Control Noxious Weeds					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
BSCWMA	Control weed infestations on the BSCWMA to avoid displacing desirable vegetation	Annually employ an integrated weed management program (chemical, biological, mechanical) on the BSCWMA to control noxious weeds (1,000 acres)	Treat established weed infestations annually to restrict the spread of noxious weeds on the BSCWMA	Acres Treated for Noxious Weeds; control success as measured by % cover and/or density of weeds	C
			Eradicate newly invading weed species to keep them from becoming established	Number of new invader species populations successfully controlled	
Kootenai River Floodplain Landscape	Prevent weed dispersal between neighboring properties and the BSCWMA	Annually limit the level of weed infestations and dispersal throughout the surrounding landscape working through the local Cooperative Weed Management Area program.	Participate in the local Cooperative Weed Management Area program	Number of meetings	B, C
			Work with adjoining landowners with cooperative weed control projects	Number of contacts	
			Communicate and work with surrounding landowners on weed management issues		

WMA Priority: Information Gaps					
Scope	**Management Direction**	**Gaps Identified**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
BSCWMA	Develop strategies to address gaps identified in the viability assessment	Amphibian and Reptile Guild	With Diversity staff lead, develop an amphibian and reptile monitoring protocol	Plans in development stage	E, F, G, H, J, K, M
			With Diversity staff lead, organize volunteers to conduct amphibian and reptile monitoring		
		Gastropod Guild	With Diversity staff lead, develop a plan to ensure that management considers gastropod guild habitat requirements		
			With Diversity staff lead, recruit volunteers to monitor gastropod populations and to develop a species list.		
			With Diversity staff lead, identify areas of high concentrations of gastropods and identify habitat use.		

WMA Priority: Information Gaps					
Scope	**Management Direction**	**Gaps Identified**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
BSCWMA	Develop strategies to address gaps identified in the viability assessment	Forest Dependent Species	Manage forested areas for diversity of overstory and understory vegetation types by addressing the effects of forest succession	Acres improved	E, F, G, H, J, K, M
			Manage forested areas to more historic species composition consisting of dry forest site habitat of ponderosa pine, western larch and western white pine.		
			Manage forested areas to favor mountain shrub and grass/forb regeneration		
IDL, IDPR, USFS and BLM adjacent lands	Develop strategies to address gaps identified in the viability assessment	Forest Dependent Species	Work with USFS, IDL, IDPR, and BLM to re-introduce fire into the landscape, and to manage forested areas to pre-fire suppression species composition of ponderosa pine, western larch and western white pine. Treatment options include pre-commercial thinning, timber harvest and prescribed fire.	Acres improved	E, F, G, H, J, K, M
			Work with USFS, IDL, IDPR, and BLM to maintain a complex understory in forested areas		
			Work with USFS, IDL, IDPR, and BLM to maintain a canopy mosaic of age and species structure in forest management at a landscape level.		

Monitoring

Monitoring and Reporting

Monitoring and reporting are critical for tracking accomplishment of performance targets identified in the BSCWMA Management Program Table. Monitoring can be separated into three categories: compliance monitoring, biological monitoring, and public use monitoring.

Compliance Monitoring

Compliance monitoring documents the completion of regular management tasks that are essential to WMA operations. These include but are not limited to:

- Maintaining WMA facilities and access sites
- Maintaining infrastructure at ponds and wetlands
- Providing technical assistance to local agency staff and private landowners
- Maintaining public access sites

Compliance monitoring will be reported annually at work plan meetings between regional and headquarters staff.

Biological Monitoring

Wildlife Management Areas across the state have a range of established biological monitoring programs and needs. Additional monitoring needs may have been identified during development of the BSCWMA Management Program Table. Biological monitoring includes wildlife, vegetation, and habitat monitoring. It may also include assessing the effectiveness of management and restoration activities. Monitoring may occur at multiple spatial and temporal scales, depending on objectives.

Current wildlife monitoring on BSCWMA has included waterfowl migration surveys (since 2005), Canada goose nest counts (since 2003), artificial nest box surveys (2000), duck breeding pair and brood counts (2000), waterfowl banding (2001), waterfowl check stations (2002), pheasant crow counts (2005), and hunter surveys (2005/2006 season and 2006/2007 season). Habitat monitoring on the WMA is completed at five-year intervals using the Habitat Evaluation Procedure (HEP) as part of the Department monitoring obligation to BPA. Photo points are established on the WMA to monitor habitat changes over time and repeat photographs are taken at least every five years, or more often, during late-July to early August.

In Table 3, future monitoring needs associated with performance targets and strategies identified in the BSCWMA Management Program Table are summarized. The goal is to measure success or effectiveness of strategies that are implemented to reach performance targets. A detailed

monitoring plan including specific techniques will be completed for the BSCWMA by December 31, 2014.

Table 3. Biological monitoring for Boundary-Smith Creek WMA, 2014-2023.

Performance Target	Survey Type	Survey Frequency
Maintain water levels across nine wetland basins to mimic the natural hydrograph	Measure water levels in each wetland	Monthly
Provide large tree and snags for cavity nesting birds/mammals and bald eagle nest perch sites	Forest stand assessment and inventory, including density of large diameter trees and snags, may be completed if funding is available	Once per 10 years or as needed
Re-establish native grass plantings in 20 acres of older decadent stands when suitable	Vegetation monitoring (cover, frequency of species) for desired establishment	3 years post-planting for initial establishment; 5 and 10 years after for longer term succession
Create and enhance 15 acres of forested wetland through implementation of vegetation improvement projects	Monitor survivability of planted native tree and shrub species	Annually
Create and enhance 85 acres of scrub-shrub habitat through implementation of vegetation improvement projects	Monitor percent survivability of planted native tree and shrub species	Annually
Employ an integrated weed management program (chemical, biological, mechanical) on the BSCWMA to control noxious weeds	Map and monitor (occurrence and distribution) weed distribution and control efforts on the BSCWMA.	Annually

In 2010, the Department initiated a statewide, long-term habitat monitoring program for all WMAs. The goal of the program is to collect quantitative and comparable baseline data to monitor habitat change on all WMAs due to management actions or other causes. The baseline data collected will be specific to each WMA, based on the habitat types present and its unique management issues. Baseline data typically includes:

- Distribution and extent of cover types, including mapping of vegetation cover types
- Vegetation structure, composition, and condition
- Presence or abundance of noxious weeds and other invasive plants
- Riparian and wetland condition and function assessment
- Photo points

To date, this program has collected baseline data on five WMAs, with surveys of all 32 WMAs expected to be completed by 2019. This is a long-term program and will be repeated starting in 2020.

Public Use Monitoring

Wildlife Management Areas use public surveys and monitoring tools (e.g., traffic counters) to evaluate public satisfaction and use patterns as well as identify issues of concern. In some areas, hunter check stations monitor hunter success and satisfaction. These survey data help managers determine whether they are meeting the goals for the BSCWMA.

Public use of the BSCWMA was assessed in 2003/2004 and currently in 2012/2013. Results of the 2003/2004 survey was summarized in the report Boundary Creek Wildlife Management Area 2003-2004 Public Use Survey (IDFG 2005*b*). To estimate total use of the WMA, visitor interviews were conducted and traffic counter data was collected.

Survey technicians conducted verbal visitor interviews when users were encountered, using a standardized survey designed to collect data in support of the total use estimate methodology. In order to obtain year-round public use information, a minimum of 10 user surveys were conducted per month, with a minimum of 250 interviews conducted annually.

During visitor interviews, WMA users were asked to identify their primary trip activity and given an opportunity to list subordinate activities planned for the outing. To determine the economic activity generated by public use of the BCWMA, we asked parties how much money they spent on non-vehicle related expenditures for the current trip and how many one-way miles they drove from their home to the WMA. To obtain information on heavy use periods, we attempted to obtain interviews on at least one weekend per month, and during the opening days for the waterfowl, pheasant, archery deer/elk/black bear, and general deer hunting seasons.

Traffic counters were placed on the Boundary Creek dike road. Traffic counter data was collected during the same time period visitor interviews were conducted. Vehicles using the road were assumed to be visiting the BSCWMA.

Reporting

Each WMA will produce a five-year report on implementation of this WMA plan in 2019, including a summary of accomplishments and progress towards meeting performance targets. During the five-year review, WMA staff will determine whether modifications to the plan are needed to meet performance targets, to accommodate changing conditions and priorities, or to incorporate advancements in management knowledge and techniques.

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Appendices

I. THE COMPASS – THE DEPARTMENT'S STRATEGIC PLAN

In 2006, the Department completed a strategic plan—*The Compass*—based on public input and legislative mandates. It continues to guide the Department in 2014 and is the primary guiding document for all other Department plans developed since 2006. The following table presents the goals, objectives, and strategies from *The Compass* that are most relevant to WMA management. *Compass* objectives are lettered on the left side for reference in the Management Program Table.

The Compass
GOAL—Fish, Wildlife, and Habitat
A. Objective – Maintain or improve game populations to meet the demand for hunting, fishing, and trapping.
B. Objective – Ensure the long-term survival of native fish, wildlife, and plants.
C. Objective – Increase the capacity of habitat to support fish and wildlife.
D. Objective – Eliminate the impacts of fish and wildlife diseases on fish and wildlife populations, livestock, and humans.
GOAL—Fish and Wildlife Recreation
E. Objective – Maintain a diversity of fishing, hunting, and trapping opportunities.
F. Objective – Sustain fish and wildlife recreation on public lands.
G. Objective – Maintain broad public support for fish and wildlife recreation and management.
H. Objective – Increase opportunities for wildlife viewing and appreciation.
I. Objective – Increase the variety and distribution of access to private land for fish and wildlife recreation.
GOAL—Working With Others
J. Objective – Improve citizen involvement in the decision-making process.
K. Objective – Increase public knowledge and understanding of Idaho's fish and wildlife.
GOAL—Management Support
L. Objective – Attract and retain a diverse and professional workforce.
M. Objective – Provide equipment and facilities for excellent customer service and management effectiveness.
N. Objective – Improve funding to meet legal mandates and public expectations.

II. HISTORY

The BSCWMA property was acquired through three separate parcel acquisitions, the Boundary Creek property, Smith Creek property, and Sullivan property. The Boundary Creek and Smith Creek properties are enrolled in the WRP administered by the NRCS. All three properties are BPA wildlife mitigation parcels. The BPA funds annual operation and maintenance costs of managing the properties in meeting their obligations to fund fish and wildlife mitigation activities to the extent affected by development and operation of hydropower projects on the Columbia River system.

The Boundary Creek property, consisting of 1,405 acres, was acquired by the Department in 1999 using funds provided by the sale of Idaho hunting licenses, tags, and state waterfowl stamps, and the BPA. Funding for the conservation easement and restoration of the property's historic wetlands was provided primarily by the NRCS WRP, together with grants from the IWJV, Ducks Unlimited (DU), the USFWS, and Crown Pacific Limited Partnership.

In December 2003, DU, a wetland conservation and waterfowl hunting advocacy organization, acquired the 620-acre Smith Creek property in the Kootenai Valley near Smith Creek. The previous owner obligated the land for wetland restoration through the WRP and the North American Wetlands Conservation Act (NAWCA). Ducks Unlimited signed a Memorandum of Understanding with the Department to manage the property for them, including implementing the requirements of WRP and NAWCA, as well as implementing management actions that are complementary to those programs and desired by the public. In 2007, DU donated title ownership of the property to the Department and management of the property was brought under the umbrella of the BSCWMA.

The 24-acre Sullivan property, located adjacent to the Smith Creek property, was acquired by the Department with BPA funds in 2008. All three parcels are contiguous and managed together as the BSCWMA.

ACQUISITION AND PUBLIC INVOLVEMENT

Prior to acquisition of the Boundary Creek property, the Department met with Boundary County Commissioners and the Boundary County Soil Conservation District Board to discuss the Department's desire to purchase the property once the WRP easement was purchased by the NRCS. The Commissioners and the Board requested the Department to assemble a group of local people to seek public input after the acquisition had been finalized and prior to development of a management plan. The Department agreed to the requests and formed a citizen's task force to provide community input on issues and concerns to be addressed in the management plan for the Boundary Creek property. Twenty-one local residents, representing sportsmen's groups, elected officials, agricultural producers, neighboring landowners, environmental groups, the Kootenai Tribe, and the Chamber of Commerce, were invited to represent a cross-section of the community. A final report was presented to the Department and to the Boundary County Commissioners (Taylor 1999). Management recommendations

identified in the final report were addressed in the original Long Range Management Plan, Boundary Creek WMA (IDFG 2001).

The Smith Creek property, totaling 620 acres, was first enrolled in WRP and ownership transferred to DU, who entered into a Memorandum of Understanding with the Department to manage the property for them. The Boundary County Commissioners requested that the Department manage the property through a citizens management committee and the Smith Creek Management Group was developed in 2004. The management group develops recreational priorities and habitat enhancement goals that meet the requirements of the funding organizations and the WRP easement. Management recommendations supported by group consensus, which are legal, scientifically and biologically sound, are instituted by the Department. The management group shall approve the written WMA Management Plan.

In 2007, DU donated title ownership of the Smith Creek property to the Department. With consensus from the management group, the Department merged the property with the Boundary Creek WMA, creating Boundary-Smith Creek WMA. As management was merged with the BSCWMA, the management group responsibilities were extended to include the whole of BSCWMA and the management group title changed to Boundary-Smith Creek Management Group (BSCMG).

The Department acquired the Sullivan property, 24 acres fronting Smith Creek and adjacent to the Smith Creek property, in 2008 through BPA funding. The Sullivan property was incorporated into the BSCWMA and is managed under the BSCMG.

Acquisition of the properties serves two main purposes: 1) To provide for partial mitigation to the State of Idaho for wildlife losses associated with the inundation of wildlife habitat along the shores of Lake Pend Oreille and its tributaries resulting from the construction of Albeni Falls Dam in 1952, and 2) To provide for the restoration of a portion of the nation's historic wetlands that were lost to development.

ROLE OF COOPERATING AGENCIES AND ORGANIZATIONS

The acquisition of the BSCWMA properties, the wetland restoration, and long-term management plan could not have been accomplished by the Department acting on its own. The financial and technical assistance offered by other public agencies and private organizations allowed this WMA to become a reality, and their assistance was invaluable. This section of the plan briefly identifies the role of each of the primary agencies and organizations involved and the extent of their contribution.

U.S. Department of Agriculture, Natural Resources Conservation Service

The NRCS is the branch of the USDA responsible for providing technical advice and voluntary conservation programs to the nation's farmers and ranchers to conserve and protect natural resources. The WRP is a voluntary program administered by the NRCS that was authorized by

an act of Congress – The Food, Agriculture, Conservation and Trade Act of 1990 (Public Law 101-624) commonly referred to as the 1990 Farm Bill (McKenzie 1997).

The goal of the WRP is to assist landowners in restoring and protecting wetlands through cost-share agreements or the purchase of conservation easements. Under the program, a permanent easement purchases 100% of the agricultural value of a property or an established cap for the area and also funds 100% of the restoration costs. The NRCS purchased a conservation easement on the Boundary Creek and Smith Creek properties from the former landowners and fully funded the restoration of the sites' historic wetlands.

The NRCS is not staffed nor funded to be a land management agency. Once the WRP restoration funds have been spent on a project, the NRCS delegates operations and maintenance of conservation easements to the landowner or other qualified agencies or groups through cooperative agreements. In the case of the WRP easements on the BSCWMA, the Department (landowner) has been delegated the responsibility for operations and maintenance.

U.S. Department of Interior, U.S. Fish and Wildlife Service

As part of the WRP, the USFWS has a statutory consultation role for policy development and implementation (McKenzie 1997). In addition, the USFWS is the lead agency responsible for reviewing all federal agency programs for compliance with the provisions of the Endangered Species Act. The USFWS also administers grant programs to landowners for qualified wildlife habitat developments on wetland sites. The USFWS has contributed financially to restoring native shrub and tree communities on the BSCWMA.

U.S. Department of Energy, Bonneville Power Administration

The BPA is the federal agency that markets and transmits electricity produced by federal hydroelectric facilities constructed by the U.S. Army Corps of Engineers and the U.S. Bureau of Reclamation within the Columbia River Basin in Washington, Oregon, Idaho, and Montana. The Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Public Law 96-501) directed that measures be implemented by BPA to protect, mitigate, and enhance fish and wildlife to the extent affected by development and operation of hydropower projects on the Columbia River system (Martin et al. 1988). The Act created the Northwest Power Planning Council (NPPC), which in turn developed the Columbia River Basin Fish and Wildlife Program (Program). Under the Act, BPA has the authority and obligation to fund fish and wildlife mitigation activities that are consistent with the NPPC's Program (USDE 1996).

Part of the Program was the development of wildlife protection, mitigation, and enhancement plans for each of the hydropower facilities on the Columbia River system and, ultimately, implementation of the plans to mitigate wildlife habitat losses. The Department, assisted by a team of agency and tribal biologists, developed a mitigation plan in 1987 for the Albeni Falls hydroelectric facility that had been constructed by the U.S. Army Corps of Engineers on the Pend Oreille River in Bonner County, Idaho (Martin et al. 1988). The plan identified numerous opportunities to mitigate for past hydroelectric impacts, one of which was acquisition of the area

at Boundary Creek in the Kootenai River drainage. The Albeni Falls Wildlife Protection, Mitigation, and Enhancement Plan was approved by the NPPC in 1990.

The Northern Idaho Wildlife Mitigation Agreement (Agreement) was jointly prepared and approved by the Department and BPA in June 1997 (USDE, BPA, and IDFG 1997). The Agreement formalizes obligations of both parties in the protection, mitigation, and enhancement of wildlife habitat through the acquisition, protection and management of projects. The Agreement specifies that BPA will receive habitat protection credit for an acquisition proportional to its investment. For the Boundary Creek property, BPA contributed 29.8% of the total acquisition cost of the property and funds annual operation and management costs, and receives 29.8% of the habitat credits associated with the property. Acquisition of the Smith Creek property was a donation; however, BPA funds annual operation and management activities for the property and therefore receives 10% of the habitat credits associated with the property. The BPA fully funded the purchase of the Sullivan property and receives 100% of the habitat credits for the property.

Ducks Unlimited, Incorporated

Ducks Unlimited is a private, nonprofit nationwide organization dedicated to conserving wetland habitat for waterfowl and other wildlife in the United States, Canada, and Mexico through private fund raising. The mission statement of DU is to fulfill the annual life cycle needs of North American waterfowl by protecting, enhancing, restoring, and managing wetlands and associated uplands.

After the NRCS purchased a conservation easement on the Smith Creek property, landownership was transferred to DU. The Department managed the property under an MOU with DU for several years. Ducks Unlimited donated ownership of the Smith Creek property to the Department in 2007.

Ducks Unlimited made substantial contributions in the wetland restoration projects on both the Boundary Creek and Smith Creek properties. Ducks Unlimited was contracted by the NRCS through a nationwide Memorandum of Agreement to produce a one-foot contour map of the floodplain, design and engineer the wetland restoration plans, and contract all construction and restoration activities.

Intermountain West Joint Venture, Incorporated

The IWJV is a private, nonprofit organization comprised of representatives from the federal government, state fish and wildlife agencies within the Intermountain West, and private organizations, companies and individuals interested in the conservation of wetland ecosystems.

The purpose of the IWJV is to pool financial resources among the public and private sectors to compete for federal matching funds authorized by the North American Wetlands Conservation Act of 1989, Public Law 101-233 as amended. The IWJV Management Board approved a large

monetary contribution to assist in funding the cost of restoration of the Boundary Creek property wetlands.

Crown Pacific Limited Partnership

Crown Pacific, an integrated forest products company, was formed in 1994 to acquire, own, and operate timberlands and wood product manufacturing assets located in Washington, Oregon, Idaho, and Montana. At the time of wetland restoration of the Boundary Creek WRP, Crown Pacific owned property due west of the Boundary Creek property. As the existing owner of the timberlands in 1999, Crown Pacific donated an easement to allow the NRCS to construct a water diversion in Boundary Creek at a more favorable location upstream from the existing point of diversion. This easement will remain with the property title regardless of current ownership. Crown Pacific also agreed to purchase and install a new bridge across Boundary Creek to facilitate construction of the water diversion, donated equipment time, and donated rock from their property.

HISTORICAL PERSPECTIVE

Natural Hydrology, Floodplain Landscape and Vegetation

The Kootenai River originates in the Canadian Rocky Mountains in southeastern British Columbia approximately 160 miles north of the International boundary. The river flows due south and enters the United States in the northwest corner of Montana. The river continues to flow south in Montana then abruptly turns due west near Libby, Montana, before entering Idaho east of Moyie Springs. The river flows west in Idaho before turning north at Bonners Ferry. From Bonners Ferry, the river flows north to cross the International boundary again at Porthill, Idaho. The river continues north in Canada and enters Kootenay Lake near Sirdar, British Columbia (The Canadian spelling of Kootenai is Kootenay.)

North of Bonners Ferry, the river lies within a portion of the Purcell Trench, a broad, U-shaped valley scoured by great ice sheets approximately 10,000 years ago (Chugg and Fosberg 1980). The river valley includes a floodplain varying from 0.5 to three miles in width bordered by the Purcell Mountains on the east and the Selkirk Mountains on the west. The valley was filled by sediments associated with glacial Lake Kootenay (Chugg and Fosberg 1980). Remnants of these sediments formed high terraces dissected by streams entering the floodplain on both sides of the river.

Historically, the Kootenai River floodplain in Idaho and British Columbia included approximately 70,000 acres of contiguous floodplain wetlands (Chugg and Fosberg 1980 and Don Low, B.C. Ministry of Agriculture, pers. comm.). The watershed of the Kootenai River upstream from the International border at Boundary Creek encompasses 13,700 square miles of mountainous terrain in Idaho, Montana, and British Columbia and amasses an extensive snowpack. The wetlands in the floodplain were created and maintained by flooding from the Kootenai River watershed each year from April through July due to melting snow. The extent and duration of the annual flood was dynamic depending upon the accumulation of snow at high

elevations within the watershed. Each year before rising spring temperatures initiated run-off in the mountains, low-elevation snowmelt and rainfall partially filled depressions in the floodplain.

Tributary streams flowing across the Kootenai River floodplain would reach peak flows each year in May. As the high flows reached the flat river floodplain, the rate of flow diminished and the streams lost energy. Large boulders, gravel, and sand accumulated in alluvial fans at the foot of the mountains. In the floodplain, tributary flows swelled to fill the deeply incised stream channels and over-topped their banks spreading out across the floodplain area. As floodwaters overflowed and lost energy, silt was deposited along the stream banks forming natural levees of higher ground. The first written description of the annual tributary flooding near Boundary Creek was documented by the British explorer David Thompson on May 14, 1808: "The water from the melting snow in the mountains had risen upwards of six feet and overflowed all the extensive fine meadows of this country" (Rockwell 1984).

Tributary flows throughout the watershed were still very high in June, eventually causing the Kootenai River to reach its maximum annual elevation and overtop its banks. As river floodwaters poured onto the floodplain and slowed down, silt was deposited on the riverbanks forming natural levees higher than the adjacent floodplain. The finest material, high in clay content, was deposited on the floodplain farthest from the river's channel. Over thousands of years, this cycle of annual river flooding resulted in deep accumulations of rich alluvial soil on the floodplain.

In July, the annual flooding receded and the wetland basins on the floodplain were left filled with water but isolated from the tributary streams and the main river by the natural levees built up by the deposition of sediments. The length of time the wetland basins retained water varied annually depending upon summer temperatures, precipitation, and the depth of the wetland basins.

The natural hydrodynamics and the resultant floodplain landscape created diverse plant communities and habitats. Amos D. Robinson, a surveyor for the General Land Office (now the BLM), a branch of the U.S. Department of the Interior, provided a basic description of the Boundary Creek area in August 1894: "The body of this township is composed of marsh lands and a narrow strip of rich alluvial bottom along the Kootenai River slightly above ordinary high water." "Land, level bottom and marsh; soil, alluvial, first rate; timber, cottonwood with dense brush" (GLO Notes 1894).

The General Land Office survey of the Boundary Creek property was completed by A.W. Barber in December 1898 (GLO Notes 1898). Barber noted that higher land in the floodplain was occupied by cottonwoods, some as large as three to four feet in diameter, aspen, "dense snowy brush" (probably snowberry), "bearberry" (kinnikinnick), "thorn" (probably hawthorn), and willow. Timber and brush varied from "dense" and "heavy" to "a scattering." Lower portions of the floodplain were described as "meadow," "marshy meadow," "wet marsh," "tule marsh" (probably cattails), "tules and deepmarsh," and "open slough." According to Barber, the steep, forested land adjacent to the floodplain at Boundary Creek was composed of heavy timber including cedar, larch, pine, fir, and cottonwood.

A USFS photograph taken near Smith Creek prior to 1916 provides documentation of what the natural vegetation of the Kootenai River floodplain looked like over 80 years ago (Appendix Figure II-1). At that time, the main channel of Smith Creek entered the floodplain upstream of Boundary Creek and flowed across the southeast corner of the BSCWMA before entering the Kootenai River. The coarse material of the Smith Creek alluvial fan (lower right portion of the photograph) was densely forested and included cottonwoods and conifers. Wetland basins were vegetated by herbaceous species. The natural levee associated with Long Canyon Creek, the next drainage upstream from Smith Creek, runs across the center of the photograph while the natural levee associated with the Kootenai River occurs further out on the floodplain. These natural levees were vegetated by stringers of cottonwoods and shrubs. The natural condition, composed of trees and shrubs on high ground and herbaceous species in floodplain basins, is further borne out by a photograph of the WMA taken in 1931 when the property was owned by Albert and Martha Klockman (Appendix Figure II-2). A USFS aerial photograph of Boundary Creek taken in 1934 indicates the natural pattern of floodplain vegetation was generally still intact even though the Klockman's reclamation efforts (diking, drains) were actively underway (Appendix Figure II-3).

Appendix Figure II-1. United States Forest Service Photograph of the Kootenai River Floodplain near Smith Creek Prior to 1916.

Appendix Figure II-2. Photograph of the Boundary-Smith Creek WMA in 1931 – The Klockman's Colony Ranch.

Appendix Figure II-3. United States Forest Service Aerial Photograph of Boundary Creek in 1934.

Flood Control and Agricultural Development

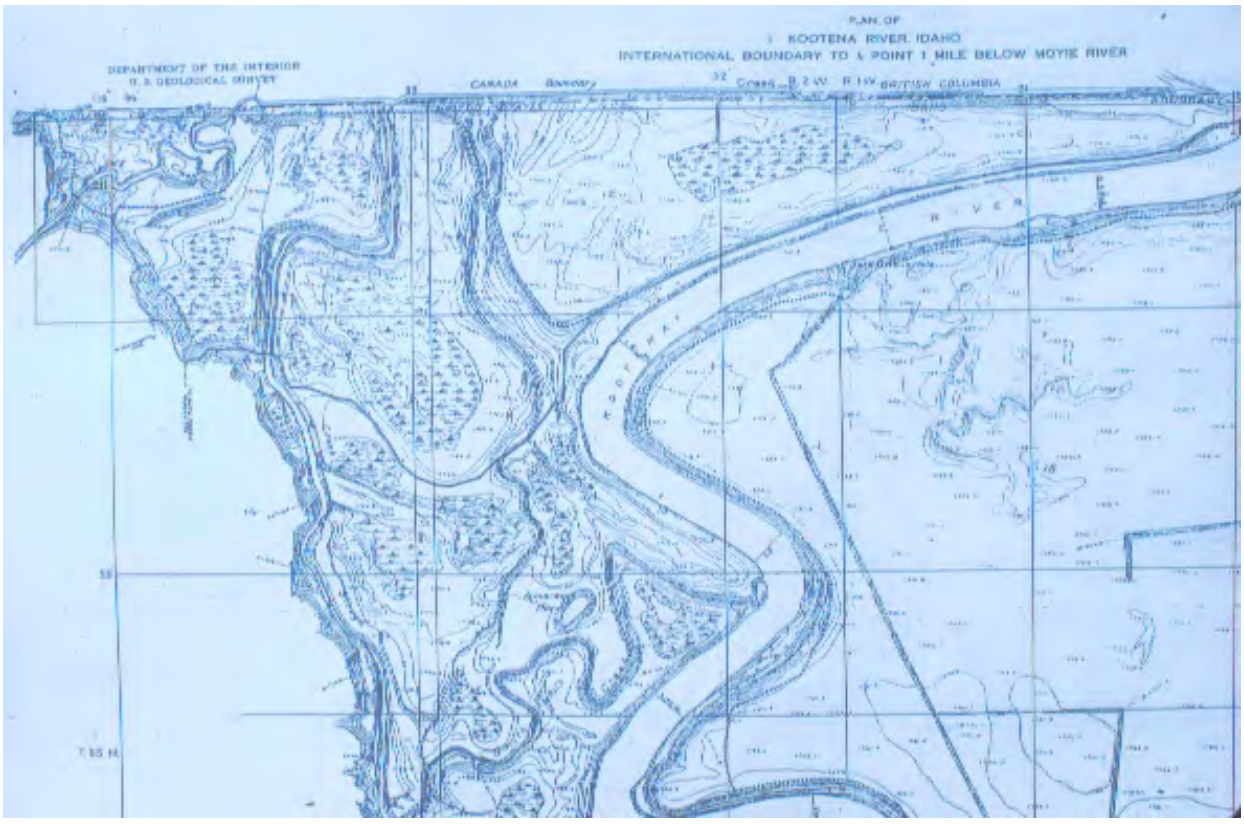
During the last 100 years, the pioneer settlers of the 70,000-acre Kootenai River floodplain in Idaho and British Columbia gradually reclaimed the area for grazing and then farming. Historically, Boundary Creek flowed northeast from Idaho into Canada before entering the Kootenai River. In 1892, the Alberta-British Columbia Exploration Company built a dike along the International border in an attempt to reclaim the floodplain for farmland (Constable 1978). This effort resulted in the diversion of Boundary Creek south into Idaho. This reclamation attempt failed with the great flood of 1894 when the new dike washed out (Constable 1978). In spite of the dike failure, in 1898, A.W. Barber, the General Land Office surveyor, noted that Boundary Creek was flowing south in an old channel of Smith Creek that still exists along the base of the mountain on the western edge of the BSCWMA (GLO Notes 1898). A May 1899 General Land Office survey map shows the diverted channel of Boundary Creek behind a 15-foot high dike built just inside Canada. The channel abruptly turns 90º from the border and flows south into Idaho joining the main channel of Smith Creek a short distance away. The "new" channel of Boundary Creek in Idaho is labeled on the map – "Big Slough, Outlet of Boundary Creek." The map also depicts a breach in the dike approximately 1/4 mile east of the point where Boundary Creek turns 90º south. This breach presumably was evidence of the damage caused by the 1894 flood cited by Constable (1978).

Thirty years later, a U.S. Geological Survey map dated 1928 shows Boundary Creek running in a straight line due east to the Kootenai River immediately north of the International border (Appendix Figure II-4). Two active channels of Smith Creek flowed across the BSCWMA. One channel of Smith Creek flowed north into the new channel of Boundary Creek at the International border. The other channel of Smith Creek forked about 1.5 miles south of the border and flowed northeast to the Kootenai River. The Kootenai Valley Power and Development Company rebuilt the dike along Boundary Creek at the International boundary in 1929-30 (Constable 1978). For the last 70 years, Boundary Creek has remained within its dikes aided by periodic dredging of the lower channel. Smith Creek continued to flow across the WMA until it was re-channeled, straightened, and diked sometime in the 1950s to run due east to the Kootenai River (Albert Thorman pers. comm.).

Floodplain reclamation efforts in the United States mirrored those in British Columbia. Albert and Martha Klockman owned the BSCWMA property in the 1920s and 1930s and made the first efforts to drain and dike the area (Bessler 1990). The first dike along the banks of the Kootenai River to reduce flooding at the WMA was constructed around 1921 (Bessler 1990). Photographic evidence of the Klockman's efforts to drain the property in 1934 can be seen in Appendix Figure II-5. Throughout the 1930s, 1940s, and 1950s, the entire river floodplain in Boundary County was reclaimed for farming with the assistance of U.S. government programs and funding provided by the U.S. Department of Agriculture and the U.S. Army Corps of Engineers. A system of Drainage Districts was created to drain and pump water off of farmland and both sides of the Kootenai River were diked. Tributary streams were channeled, straightened and diked to run directly into the river to eliminate flooding. An aerial photograph of the BSCWMA drained and farmed in 1968 is shown in Appendix Figure II-5.

In spite of the dikes, the Kootenai River still caused flooding and landowners were forced to pump water off their fields until 1973 when Libby Dam was completed on the river upstream near Libby, Montana. Due to its storage capacity, Libby Dam significantly reduced spring flood events and further increased the potential for agricultural development in the Kootenai River Valley.

The Kootenai River Grazing Association owned the BSCWMA prior to 1972 and utilized the property for growing hay and grazing cattle. Deon Hubbard and his brothers purchased the Boundary Creek property in 1972. In 1985, Deon and Louise Hubbard became the sole owners. The Hubbard's systematically improved the drainage system on the property for 25 years, but during high river flows, still had to pump water off the fields. The Hubbard's farmed approximately 1,039 acres of the property annually for wheat production. In August 1999, the last wheat crop was harvested (Appendix Figure II-6). Wetland restoration under the NRCS WRP was completed on the property in 2001, and Appendix Figure II-7 shows the wetland cells in 2003.



Appendix Figure II-4. U.S. Geological Survey Map at Boundary Creek in 1928.

Appendix Figure II-5. Aerial photo of the Boundary-Smith Creek WMA as farmland in 1968.

Appendix Figure II-6. The last crop on the Boundary-Smith Creek WMA property in 1999, before the Wetland Reserve Program restoration began.

Appendix Figure II-7. Wetland restoration on the Boundary-Smith Creek WMA in 2003.

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III. MANAGEMENT REQUIREMENTS AND AUTHORITIES

This section outlines legal requirements and obligations accepted by the Department that were imposed by the WRP easement terms and conditions and by BPA regarding the use of wildlife mitigation funds for acquisition and long-term maintenance of the BSCWMA.

Wetland Reserve Program Conservation Easement

All provisions of the NRCS WRP easements are binding on the Department as the property owner. The easement contains a statement of purpose and intent as follows:

> "The purpose of this easement is to restore, protect, manage, maintain, and enhance the functional values of wetlands and other lands, and for the conservation of natural values including fish and wildlife habitat, water quality improvement, floodwater retention, groundwater recharge, open space, aesthetic values, and environmental education."

Part III.A. of the easement lists in detail the following rights purchased by the United States that are prohibited activities by the owner on the easement area unless they are later determined by the NRCS to be compatible uses:

1. Haying, mowing, or seed harvesting for any reason;
2. Altering of grassland, woodland, wildlife habitat, or other natural features by burning, digging, plowing, disking, cutting or otherwise destroying the vegetative cover;
3. Dumping refuse, wastes, sewage or other debris;
4. Harvesting wood products;
5. Draining, dredging, channeling, filling, leveling, pumping, diking, impounding or related activities, as well as altering or tampering with water control structures or devices;
6. Diverting or causing or permitting the diversion of surface or underground water into, within or out of the easement area by any means;
7. Building or placing buildings or structures on the easement area;
8. Planting or harvesting any crop; and
9. Grazing or allowing livestock on the easement area.

It is the policy of the NRCS that only those activities that are consistent with both the long-term protection and enhancement of the wetland and other natural values of the easement area may be authorized as compatible uses.

The NRCS is not staffed nor funded to be a land management agency. Once the WRP restoration funds have been spent on a project, the NRCS delegates operations and maintenance of conservation easements to the landowner or other qualified agencies or groups through cooperative agreements (Fink 2000). In the case of the WRP easements on the BSCWMA, the Department (landowner) has been delegated the responsibility for operations and maintenance. The NRCS will be responsible for replacing or repairing structures (e.g., water delivery system, dikes, and water control structures) due to normal wear and tear or events beyond the control of

the landowner (Fink 2000). The WRP restoration funds cannot be used to purchase maintenance equipment or buildings (Fink 2000).

Bonneville Power Administration Wildlife Mitigation Funds

As a condition of accepting funds provided by BPA, the Department is obliged to meet the requirements and objectives defined in the Wildlife Mitigation Program Final Environmental Impact Statement (USDE 1997); Albeni Falls Wildlife Management Plan Final Environmental Assessment (USDE 1996); and Northern Idaho Wildlife Mitigation Agreement (USDE, BPA, and IDFG 1997).

Specifically, the Department has agreed to meet the following requirements in the management of the BSCWMA property:

1. Permanently protect, mitigate and enhance wildlife, and wildlife habitat;
2. Manage the property according to a site-specific management plan prepared by the Department and approved by the Work Group, the NPPC's Wildlife Caucus, and BPA;
3. Conduct HEP surveys to measure habitat improvements for target wildlife species;
4. Monitor and evaluate enhancement measures and management activities to document their effectiveness;
5. Protect historic and cultural resources;
6. Provide reasonable public access;
7. Enhancement, operation, and maintenance activities funded by BPA will comply with the guidelines prepared by the Columbia Basin Fish and Wildlife Authority program managers (CBFWA 1998);
8. The deed is encumbered with a covenant that the property can revert to BPA if a 20% reduction occurs in the number of Habitat Units (HU) determined by the HEP survey;
9. Fee-in-lieu of tax payments to Boundary County and fire protection fee payments to the Idaho Department of Lands are not eligible for payment using BPA funds and must be paid out of other Department budgets; and
10. BPA funds are not available for recreation management activities or wildlife law enforcement.

Habitat Evaluation Procedure

The Albeni Falls Interagency Work Group selected seven target species to represent wildlife and habitats affected by Albeni Falls Dam and/or that benefited from mitigation projects such as the BSCWMA. These species are: bald eagle, black-capped chickadee, Canada goose, mallard, muskrat, yellow warbler, and white-tailed deer. These species were chosen because they are high priority according to state, tribal, or federal wildlife programs and/or are indicator species of habitats that were inundated. The ability to determine whether mitigation for Albeni Falls Dam has been achieved will, in part, be determined by whether habitat for the target species improves over time as a result of restoration and management activities undertaken on the BSCWMA.

The HEP, developed by the USFWS in 1980, is a species-habitat based approach used to document existing ecological conditions and the predicted effects of proposed management actions. The HEP can also be used to determine habitat benefits that have accrued after enhancement or restoration activities. The HEP has been endorsed by the NPPC and is the standard methodology used by state, tribal, and federal wildlife managers in the Columbia River basin to evaluate the quality of wildlife habitat purchased with BPA wildlife mitigation funds (USDE 1996).

The HEP utilizes habitat suitability models for target wildlife species found within certain vegetative cover types. The HEP is based on the assumption that habitat for selected wildlife species can be described by a Habitat Suitability Index (HSI). This value is derived from an evaluation of the ability of key habitat components to supply the life requisites of selected wildlife species. Habitat quality, expressed as the index or HSI, measures how suitable the habitat is for a particular species when compared to optimum habitat. The HSI varies from zero to one (optimum). The value of an area to a given species of wildlife is a product of the size of the area and the quality of the area (HSI) for the species. This product is comparable to "habitat value" and is expressed as an HU. One HU is equal to a unit of area (one acre, for example) that has optimum value to the target species.

The objective of using the HEP on the BSCWMA is to document the quality and quantity of available habitat for BPA-selected target species. In this way, HEP provides information on the relative value of the same area at future points in time so that the impact of land use changes on wildlife habitats can be quantified.

Additional Management Requirements

Other federal and state laws also affect management of the BSCWMA. The Department has responsibility under provisions of the Endangered Species Act to ensure that management actions protect threatened and endangered species, and responsibility under the Clean Water Act to ensure that water quality standards and guidelines are in place on WMA lands and waters. Under the National Historic Preservation Act, Department must ensure that historic properties are protected on the BSCWMA.

The Idaho Noxious Weed Law under Idaho Code 22-2405 requires all landowners to eradicate noxious weeds on their lands, except in special management zones. The counties are required to enforce the law and the State of Idaho is required to ensure the counties do so.

Consistent with Idaho Codes 38-101 and 38-111, and through a cooperative agreement with the Idaho Department of Lands, the Department is required to pay a fee for fire protection on all forest and some rangeland acreage it owns, and for residences in forest areas. Fees are submitted annually based on the number of qualified acres and residences owned by the Department.

The Department is required by Idaho Code 63-602A to pay a fee in lieu of taxes (FILT) for lands that are owned by the Department and meet certain code requirements. These fees are submitted annually to affected counties based on the number of qualifying acres and agricultural tax rates.

APPENDIX III LITERATURE CITED

Columbia Basin Fish and Wildlife Authority, Wildlife Caucus. 1998. Enhancement, Restoration, Operation and Maintenance of Columbia Basin Wildlife Mitigation Projects.

Fink, F. 2000. Letter from Frank Fink, State Biologist, NRCS, Boise, to Paul Hanna, IDFG, Coeur d'Alene, dated June 14, 2000. Letter on file at the Regional Office, Idaho Department of Fish and Game, Coeur d'Alene.

U.S. Department of Energy. 1996. Albeni Falls Wildlife Management Plan Final Environmental Assessment. Bonneville Power Administration, Portland, Oregon.

U.S. Department of Energy. 1997. Wildlife Mitigation Program Final Environmental Impact Statement, DOE/EIS-0246. Bonneville Power Administration, Portland, Oregon.

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IV. 2000-2013 ACCOMPLISHMENTS

Since the original Boundary Creek WMA plan was written in 2000, these accomplishments have occurred.

Goal: Implement the NRCS WRP Restoration Plan (DU and USDA 2000) to restore and maintain wetland basins and hydrology.

Objective: Use the Boundary Creek Water Right to supplement local spring run-off to provide adequate water input to the wetland cells to mimic the historic hydrograph, before the development of Kootenai River dikes and the Libby Dam.

Accomplishment:

- A "fish friendly" or inverted fish screen water diversion structure was constructed in the streambed of Boundary Creek. A screw gate and an underground pipe transport the water to the old Smith Creek channel that traverses the BSCWMA. From this channel, water flows through control structures into the wetland basins. This system of water control structures allows water level management of each wetland cell separately.

Objective: Develop wetland basins on the BSCWMA in locations of historic wetlands.

Accomplishment:

- Following the wetland restoration plan, six wetland cells were developed in 2000 on the Boundary Creek parcel. An addition, three wetland cells were developed on the Smith Creek parcel in 2004. Water diversion from Boundary Creek and the system of water control structures are used to maintain wetland hydrology in these wetlands.

Goal: Restore and maintain vegetative communities.

Objective: Establish grasses and forbs.

Accomplishment:

- Planted 850 acres of agricultural fields to a grass/forb mixture. Species planted included tall and intermediate wheatgrass, orchardgrass, timothy, big bluegrass, clover, birdsfoot trefoil, alfalfa, redtop, and tufted hairgrass.

Objective: Establish herbaceous wetland vegetation.

Accomplishment:

- Wetland vegetation was established across 600 acres of wetlands through restoring wetland hydrology and the natural expansion of wetland plants from remnant wetlands and the old Smith Creek channel on the BSCWMA.

Objective: Establish scrub-shrub and floodplain cottonwood forest.

Accomplishment:

- Over the years from 2001 to 2010, a total of 10,197 trees and shrubs were planted on the BSCWMA in areas of the floodplain that were historically vegetated with shrubs and trees. The more common species planted were black cottonwood, common chokecherry, Douglas hawthorn, quaking aspen, red-osier dogwood, Saskatoon serviceberry, western snowberry, Woods' rose, and several willow species. As of spring 2011, 4,418 of those plantings have become successfully established.

Objective: Protect and maintain existing native vegetative communities.

Accomplishment:

- The portion of the BSCWMA contained within the Boundary Creek dike, encompassing approximately 150 acres, is the current floodplain of Boundary Creek and contains remnants of two native riparian communities – floodplain cottonwood forest and scrub-shrub wetlands. Strategies to protect and maintain these vegetation communities include preventing livestock trespass and protecting the area from fire during extended dry periods. The western edge of the BSCWMA contains coniferous forest on steep terrain at the foot of the Selkirk Mountains. Strategies to protect and maintain this community includes controlling noxious weeds in forest openings and protecting the area from fire during extended dry periods.

Goal: Develop facilities for public access and recreational use compatible with wildlife and habitat management objectives.

Objective: Develop public access and use facilities.

Accomplishment:

- Facilities developed include: Four parking areas, two restroom locations, three picnic areas, and non-motorized trail access across the BSCWMA.

Goal: Provide administrative facilities.

Objective: Remove old buildings and structures on the property.

Accomplishment:

- Soon after the property was enrolled in the NRCS WRP, old farm facilities and buildings were removed including: a shop, an open front machine shed, a travel trailer, grain loading and storage facilities, barbed wire fencing, and a diesel engine water pump.

Objective: Build new administrative facilities on the property.

Accomplishment:

- Operational and administrative facilities added to the BSCWMA include: a headquarters building consisting of living quarters, office space and a garage/shop; an open front machine shed; and water well.

Goal: Long term water level management.

Objective: Manage water levels annually to mimic the natural hydrograph.

Accomplishment:

- The general pattern of natural wetlands, involving high spring water levels and receding summer water elevations, has been applied across the wetland complex each year. The resulting wetland basins are characterized by seasonal perimeters and semi-permanent interiors.

Objective: Use complete and moist soil drawdowns intermittently to increase wetland variability.

Accomplishment:

- Repetitive water level manipulations scheduled for specific calendar dates year after year are often associated with declining productivity. The extent of spring flooding and summer water level recession was varied across the BSCWMA to maintain habitat heterogeneity and long-term productivity. Moist soil management drawdowns and/or complete drawdowns have been completed at least once every five years on each of the wetland cells on the BSCWMA.

Goal: Long term grass/forb habitat management.

Objective: Manage grasslands for species diversity, and healthy vigor and density.

Accomplishment:

- Prescribed burns were conducted in 2004-2010 for grassland rejuvenation when needed. Burning removes plant litter, returns nutrients to the soil, breaks up dense, monotypic

stands, and diversifies species and habitat. Only portions of the BSCWMA were treated in any one year in order to provide undisturbed cover for nesting birds.

Goal: Long term tree and shrub habitat management.

Objective: Protect native trees and shrubs already present on the BSCWMA.

Accomplishment:

- Areas with native trees and shrubs were protected from fire and herbicide use. Areas of natural regeneration were fenced to protect against big game browse and beaver damage.

Objective: Protect supplemental tree and shrub plantings from competition and damage until they are adequately established.

Accomplishment:

- Supplemental tree and shrub planting were fenced to protect against big game browse and beaver damage. Herbicides labeled safe for use near woody vegetation was applied to control competing vegetation of grass, forbs, and weed species.

Goal: Artificial nesting structure.

Objective: Install and monitor nest boxes for cavity nesting ducks.

Accomplishment:

- Although 600± acres of wetland brood-rearing habitat exist on the BSCWMA, there is currently a low density of tree cavities of adequate dimensions for cavity-nesting ducks. Thirty wood duck boxes were installed and have been monitored annually.

Objective: Install and monitor nest platforms for Canada geese.

Accomplishment:

- Twelve nesting platforms for Canada geese have been installed as an interim measure to provide nesting habitat which may be wholly or partially replaced by muskrat lodges over time. The nest structures have been monitored annually.

Objective: Install bat boxes and nest boxes for a variety of cavity nesting birds.

Accomplishment:

- Due to the abundance of aquatic insects associated with restored wetlands, bat boxes and nest boxes for insectivorous birds will facilitate more complete utilization of the abundant

insect populations. Fourteen bluebird boxes, two kestrel boxes and one bat box have been installed on the BSCWMA and are monitored annually.

Goal: Wildlife food plots.

Objective: Use wildlife food plots to provide a food source for wildlife.

Accomplishment:

- Food plots have been established and planted annually to different crops over the years. Currently (2012), 50 acres of food plots are established on the BSCWMA.

Goal: Noxious weed control.

Objective: Control noxious weeds to prevent the spread of weeds to neighboring landowners and to prevent the displacement of desirable vegetation.

Accomplishment:

- The control of noxious weeds is addressed annually. An integrated pest management plan is employed on the BSCWMA. Weed populations across the WMA are assessed and monitored. Control efforts include mechanical control, cultural control, bio-control, and chemical control. Herbicides are applied to approximately 300 acres annually as needed.

Goal: Provide for public access and recreational use compatible with wildlife and habitat management objectives.

Objective: Maintain public access and use facilities.

Accomplishment:

- The parking areas, outhouses, picnic areas, and trail system has been maintained. Hunting, trapping, and other recreational use of the BSCWMA is encouraged.

Goal: Consider opportunities to enhance habitat for native fish.

Objective: Consider enhancement of Smith Creek to benefit native fish species.

Accomplishment:

- The possibility of restoring Smith Creek back into its historical channels on the BSCWMA has been extensively researched and discussed. It has been determined the current situation does not allow for completing the task without some unacceptable negative outcomes.

Goal: Employ monitoring and evaluation procedures to measure changes in habitat for both target and non-target wildlife species use.

Objective: Employ habitat monitoring and evaluation to determine when management activities should be employed and whether or not they achieve desired results.

Accomplishment:

- Vegetation and habitat monitoring and evaluation has included: monitoring weed occurrence and effect of control efforts; assessing grassland health for the need of prescribed burning; monitoring of wetland vegetation for the need of wetland drawdowns, cattail control, or additional management options; tree and shrub survival; and success of grassland planting or food plot establishment.

Objective: Monitor and evaluate wildlife species use to determine general trends.

Accomplishment:

- Annual wildlife monitoring and evaluation includes: waterfowl migration surveys, waterfowl breeding pair and brood surveys, artificial nest use surveys, pheasant breeding crow counts, and duck banding.

Objective: Complete HEP monitoring every five years following BPA protocols to monitor changes in vegetation and habitat quality, and provide updated crediting to BPA.

Accomplishment:

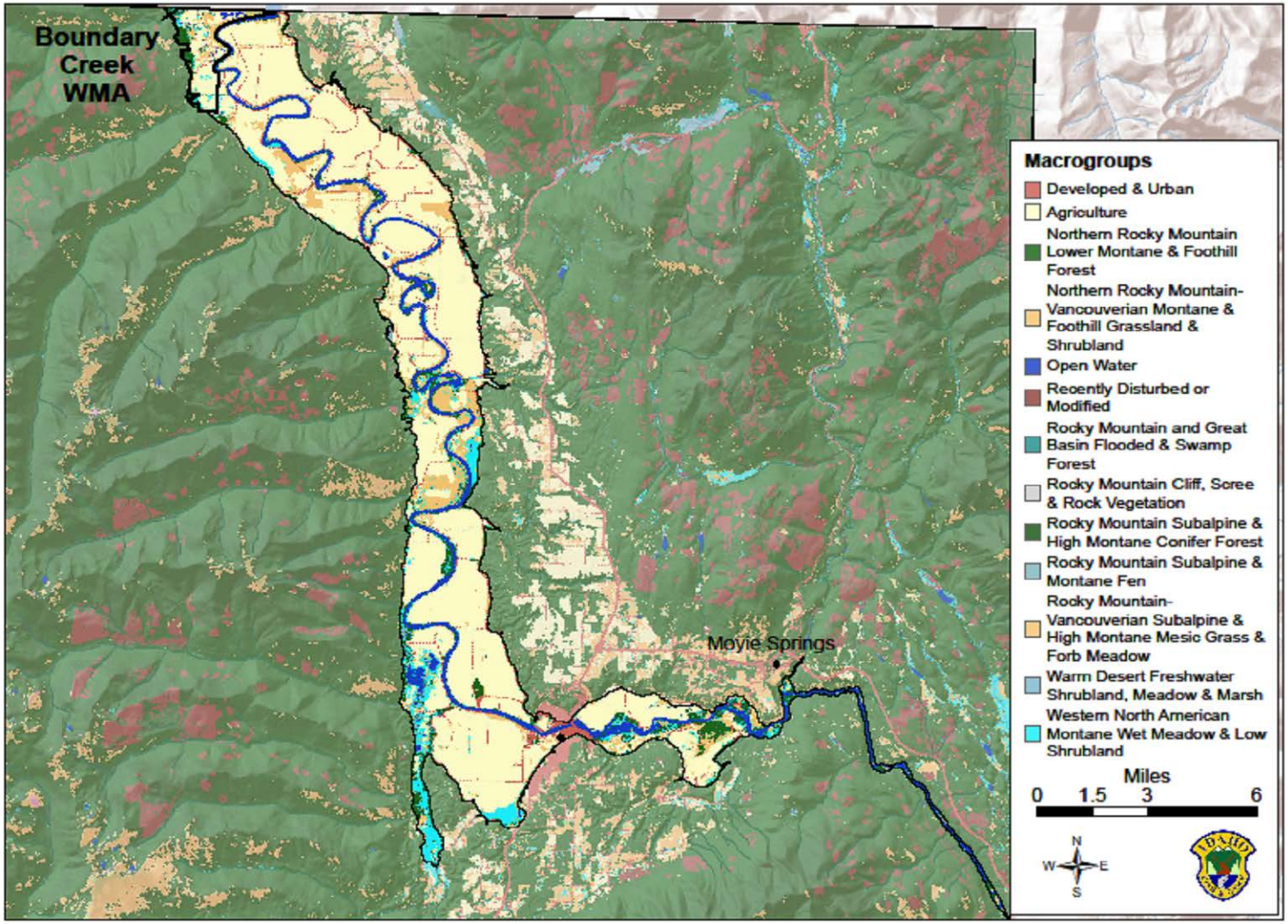
- The baseline HEP was completed in September 1999 and the following post restoration surveys were completed in 2005 and 2011. Vegetation surveys were completed in 2004 and 2007.

V. VEGETATION

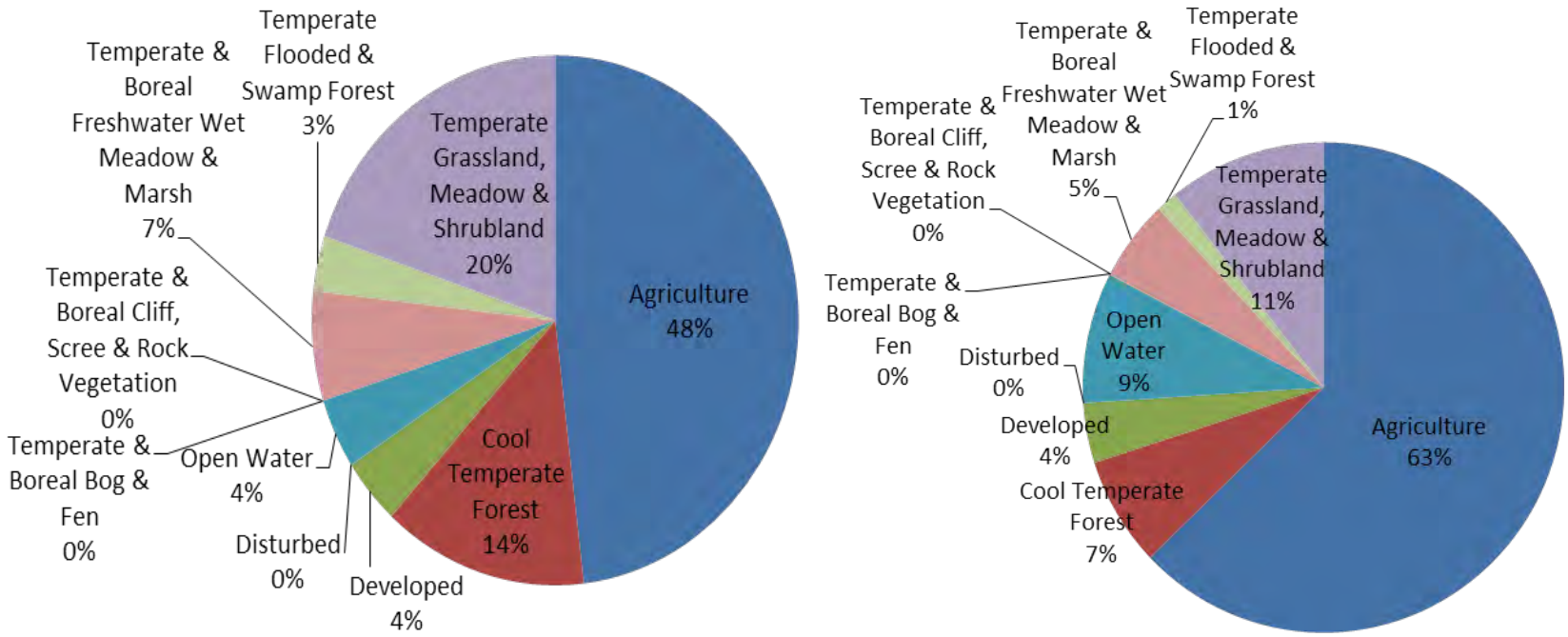
Area of various vegetation types for BSCWMA and surrounding Area of Influence. Data is from Northwest Regional Gap Analysis Program, which delineates vegetation communities from satellite imagery and is not ground-truthed for inaccuracies.

Formation	Macrogroup	Ecological System	BSCWMA	Area of Influence
Agriculture	Agriculture	Cultivated Cropland	993.44	31,305.14
		Pasture/Hay	4.23	338.26
Cool Temperate Forest	Northern Rocky Mountain Lower Montane and Foothill Forest	Northern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest	44.26	741.46
		Northern Rocky Mountain Mesic Montane Mixed Conifer Forest	102.30	1,361.94
		Northern Rocky Mountain Ponderosa Pine Woodland and Savanna	116.09	1,529.18
	Rocky Mountain Subalpine and High Montane Conifer Forest	Rocky Mountain Aspen Forest and Woodland	20.24	179.47
Developed and Urban	Developed and Urban	Developed, Low Intensity	15.79	833.76
		Developed, Medium Intensity		71.61
		Developed, Open Space	68.05	1,085.73
		Developed, High Intensity		18.46
Recently Disturbed or Modified	Recently Disturbed or Modified	Harvested Forest - Grass/Forb Regeneration		0.22
Open Water	Open Water	Open Water (Fresh)	88.96	4,298.44
Temperate and Boreal Bog and Fen	Rocky Mountain Subalpine and Montane Fen	Rocky Mountain Subalpine-Montane Fen		24.02
Temperate and Boreal Cliff, Scree and Rock Vegetation	Rocky Mountain Cliff, Scree and Rock Vegetation	Rocky Mountain Cliff, Canyon and Massive Bedrock		1.11
Temperate and Boreal Freshwater Wet Meadow and Marsh	Warm Desert Freshwater Shrubland, Meadow and Marsh	North American Arid West Emergent Marsh	19.57	298.23
	Western North American Montane Wet Meadow and Low Shrubland	Rocky Mountain Alpine-Montane Wet Meadow	118.76	2,453.01
Temperate Flooded and Swamp Forest	Rocky Mountain and Great Basin Flooded and Swamp Forest	Northern Rocky Mountain Conifer Swamp		1.11
		Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland	69.83	746.36
		Columbia Basin Foothill Riparian Woodland and Shrubland		0.44

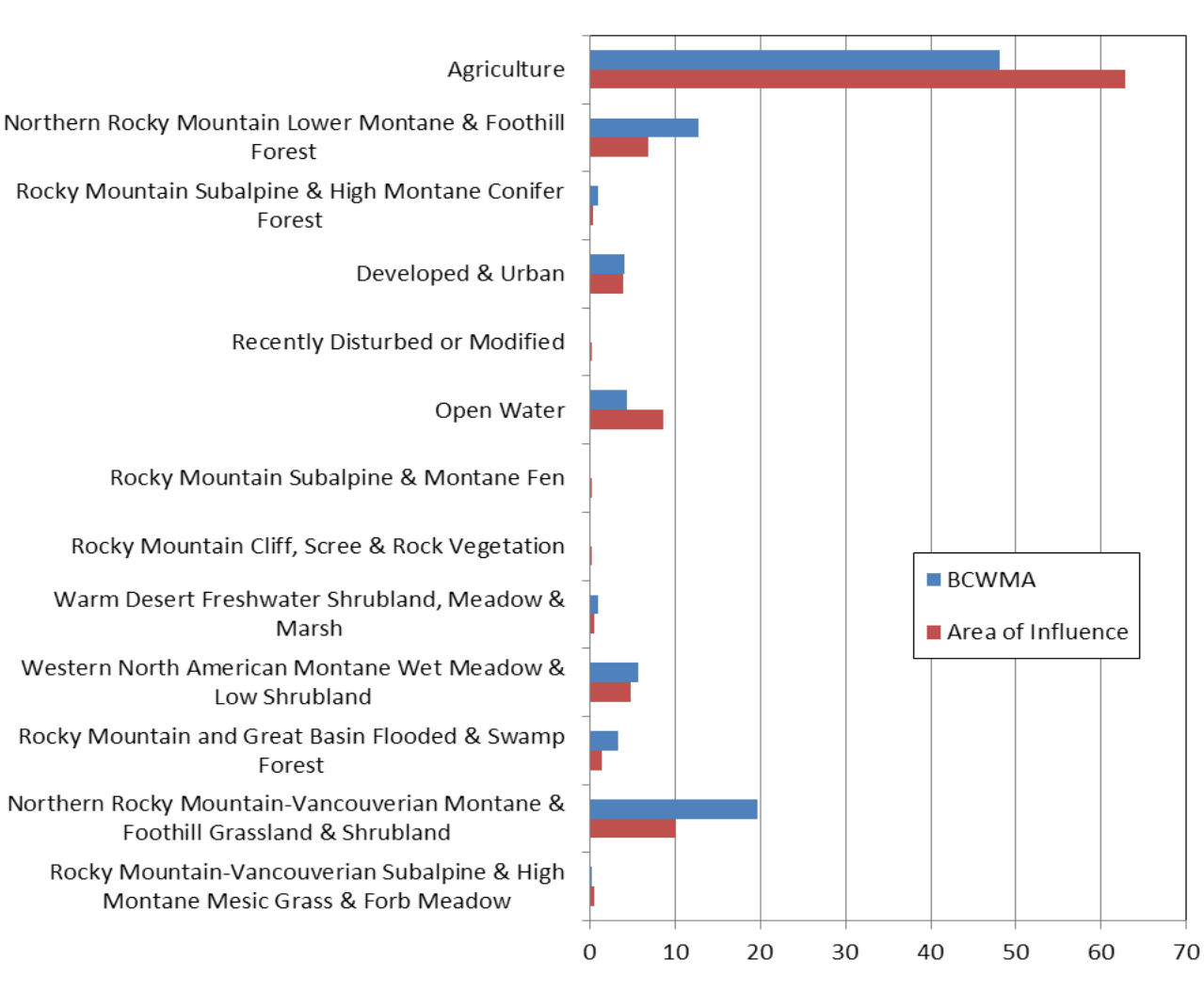
Formation	Macrogroup	Ecological System	BSCWMA	Area of Influence
Temperate Grassland, Meadow and Shrubland	Northern Rocky Mountain-Vancouverian Montane and Foothill Grassland and Shrubland	Northern Rocky Mountain Lower Montane, Foothill and Valley Grassland	399.64	4,771.92
		Northern Rocky Mountain Montane-Foothill Deciduous Shrubland	6.89	538.64
	Rocky Mountain-Vancouverian Subalpine and High Montane Mesic Grass and Forb Meadow	Rocky Mountain Subalpine-Montane Mesic Meadow	5.12	272.43
Total Acres			2,073.16	50,870.96



Re-gap vegetation analysis Macrogroup map for Boundary-Smith Creek WMA and surrounding Area of Influence in the landscape.



Distribution of formation level vegetation types in Boundary-Smith Creek WMA (left) as compared to the surrounding Area of Influence (right).



Percent of Macrogroup level vegetation types in Boundary-Smith Creek WMA as compared to the surrounding Area of Influence.

Plant Species List

(*Selected Common Species; additional information available at www.idfg.idaho.gov*)

Common Name	Scientific Name	Common Name	Scientific Name
Wetland Species		***Grass Species***	
Northern water plantain	*Alisma triviale*	Redtop	*Agrostis gigantea*
Sedge	*Carex* spp.	Orchardgrass	*Dactylis glomerata*
Coon's tail	*Ceratophyllum demersum*	Tufted hairgrass	*Deschampsia cespitosa*
Dwarf spikerush	*Eleocharis parvula*	Great Basin wild rye	*Elymus cinereus*
Spike-rush	*Eleocharis plaustris*	Quackgrass	*Elymus repens*
Canadian waterweed	*Elodea canadensis*	Reed canarygrass	*Phalaris arundinacea*
Pondweed spp.	*Potamogeton* spp.	Timothy	*Phleum pretense*
Arrowhead spp.	*Sagittaria* spp.	Bluebunch wheatgrass	*Pseudoroegneria spicata*
Hardstem bulrush	*Schoenoplectus acutus*	Intermediate wheatgrass	*Thinopyrum intermedium*
Soft-stem bulrush	*Schoenoplectus tabernaemontani*	Tall wheatgrass	*Thinopyrum ponticum*
Narrowleaf cattail	*Typha angustifolia*	***Shrub Species***	
Broadleaf cattail	*Typha latifolia*	Serviceberry	*Amelanchier alnifolia*
Tree Species		Oceans spray	*Holodiscus discolor*
Balsam fir	*Abies balsamea*	Current spp.	*Ribes* spp.
Paper birch	*Betula papyrifera*	Nootka rose	*Rosa nutkana*
Western larch	*Larix occidentalis*	Woods' rose	*Rosa woodsii*
Lodgepole pine	*Pinus contorta*	Western mountain ash	*Sorbus sitchensis*
Western white pine	*Pinus monticola*	Common snowberry	*Symphoricarpos albus*
Ponderosa pine	*Pinus ponderosa*	***Forb Species***	
Black cottonwood	*Populus balsamifera* ssp. *trichocarpa*	Spreading dogbane	*Apocynum androsaemifolium*
Eastern cottonwood	*Populus deltoides*	Spotted knapweed	*Centaurea stoebe*
Douglas-fir	*Pseudotsuga menziesii*	Canada thistle	*Cirsium arvense*
Willow	*Salix* spp.	Bull thistle	*Cirsium vulgare*
Western red cedar	*Thuja plicata*	Morning glory	*Convolvulus* spp.
Western hemlock	*Tsuga heterophylla*	Common hound's tongue	*Cynoglossum officinale*

Common Name	Scientific Name	Common Name	Scientific Name
Forb Species (cont.)		***Forb Species (cont.)***	
Willow-weed	*Epilobium* spp.	Western dock	*Rumex aquaticus*
Field horsetail	*Equisetum arvense*	Curly dock	*Rumex crispus*
Bedstraw spp.	*Galium* spp.	Climbing nightshade	*Solanum dulcamara*
Hawkweed spp.	*Hieracium*	Canada goldenrod	*Solidago canadensis*
Common St. John's wort	*Hypericum perforatum*	Field pennycress	*Thlaspi arvense*
Prickly lettuce	*Lactuca serriola*	Yellow salsify	*Tragopogon dubius*
Oxeye daisy	*Leucanthemum vulgare*		

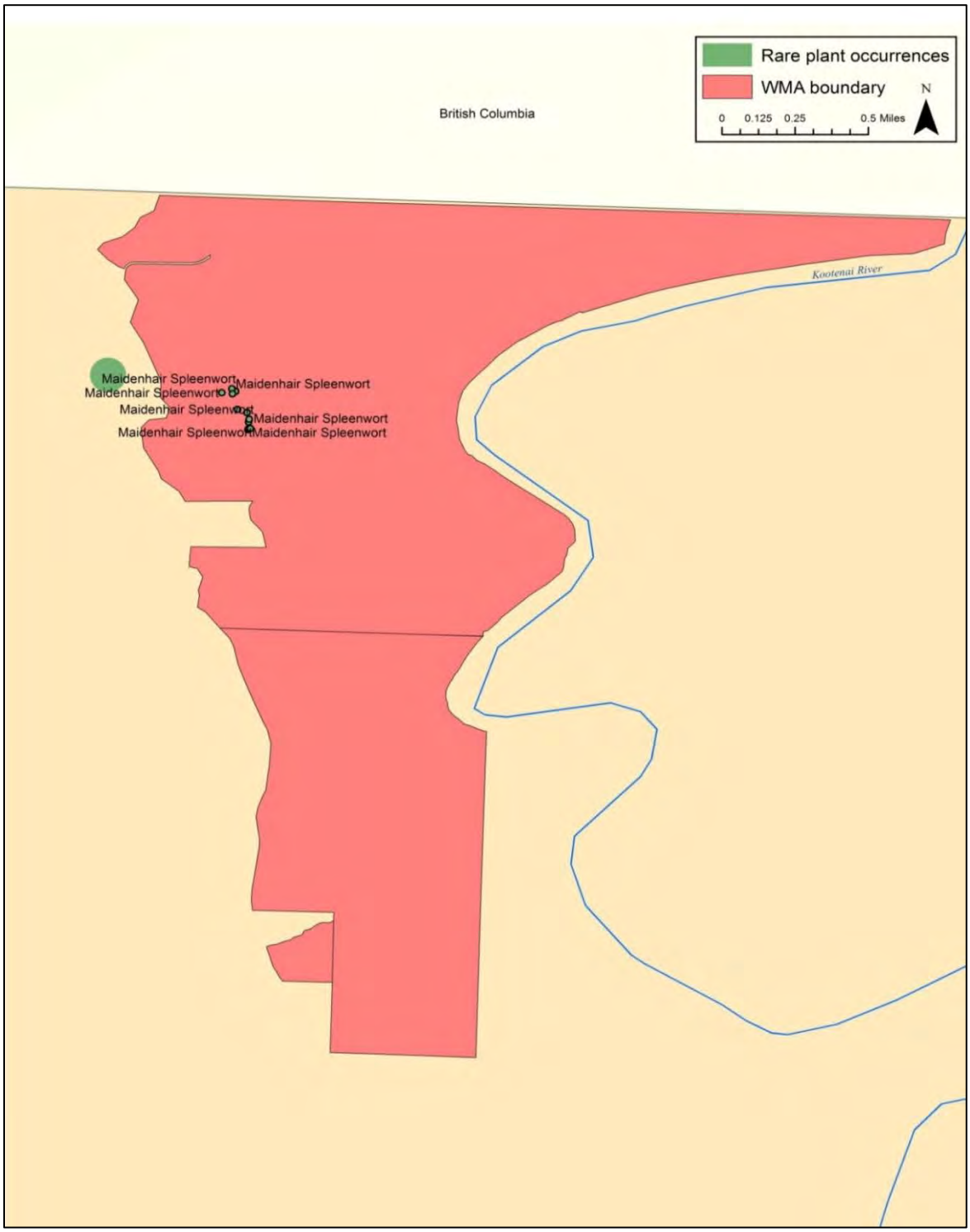
Rare Plants of Boundary Creek WMA

One rare plant species (Maidenhair Spleenwort) has been found within the boundary of BSCWMA, and 64 have been found within 25-miles of the boundary. This WMA has not been thoroughly surveyed for rare plants. Species found within the 25-mile buffer, or other species, have the potential to exist on the WMA.

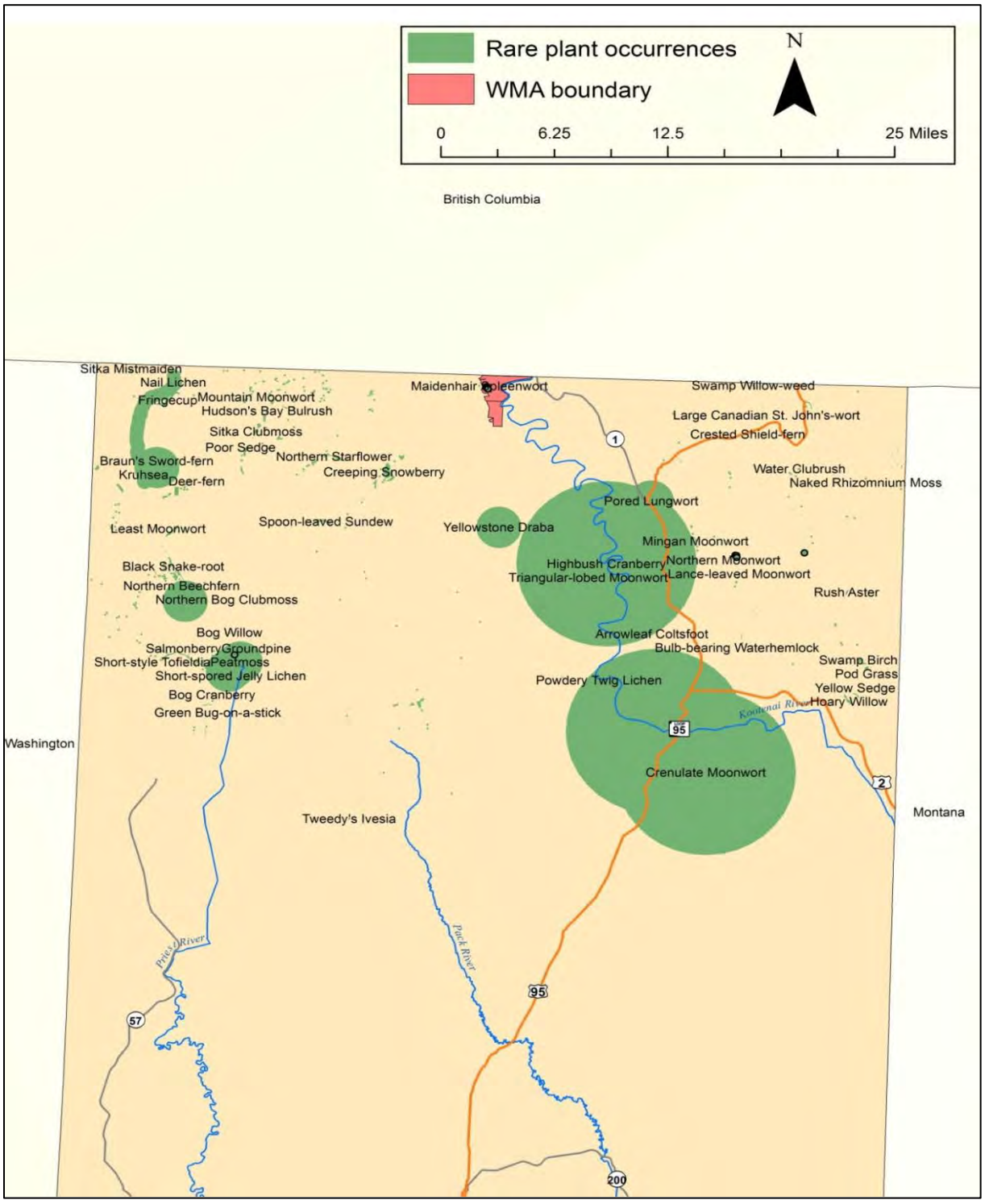
Rare plant species within 25 miles of the BSCWMA. Bold species occur within the WMA boundaries.

Common Name	**Scientific Name**
Bog-rosemary	*Andromeda polifolia*
Maidenhair Spleenwort	***Asplenium trichomanes***
Swamp Birch	*Betula pumila*
Deer-fern	*Blechnum spicant*
Triangular-lobed Moonwort	*Botrychium ascendens*
Crenulate Moonwort	*Botrychium crenulatum*
Lance-leaved Moonwort	*Botrychium lanceolatum var. lanceolatum*
Linear-Leaved Moonwort	*Botrychium lineare*
Mingan Moonwort	*Botrychium minganense*
Mountain Moonwort	*Botrychium montanum*
Stalked Moonwort	*Botrychium pedunculosum*
Northern Moonwort	*Botrychium pinnatum*
Least Moonwort	*Botrychium simplex*
Lichen species	*Buellia chloroleuca*
Green Bug-on-a-stick	*Buxbaumia viridis*
String-root Sedge	*Carex chordorrhiza*
Bristly Sedge	*Carex comosa*
Yellow Sedge	*Carex flava*
Bristle-stalked Sedge	*Carex leptalea*
Pale Sedge	*Carex livida*
Poor Sedge	*Carex magellanica ssp. irrigua*
Beaked Sedge	*Carex rostrata*
Bulb-bearing Waterhemlock	*Cicuta bulbifera*
Transcending Reindeer Lichen	*Cladonia transcendens*
Short-spored Jelly Lichen	*Collema curtisporum*
Yellowstone Draba	*Draba incerta*
Spoon-leaved Sundew	*Drosera intermedia*
Crested Shield-fern	*Dryopteris cristata*
Swamp Willow-weed	*Epilobium palustre*
Giant Helleborine	*Epipactis gigantea*
Green Keeled Cotton-grass	*Eriophorum viridicarinatum*

Common Name	**Scientific Name**
Creeping Snowberry	*Gaultheria hispidula*
Large Canadian St. John's Wort	*Hypericum majus*
Blueflag	*Iris versicolor*
Tweedy's Ivesia	*Ivesia tweedyi*
Pored Lungwort	*Lobaria scrobiculata*
Northern Bog Clubmoss	*Lycopodiella inundata*
Groundpine	*Lycopodium dendroideum*
Sitka Clubmoss	*Lycopodium sitchense*
Arrowleaf Coltsfoot	*Petasites sagittatus*
Northern Beechfern	*Phegopteris connectilis*
Nail Lichen	*Pilophorus clavatus*
Braun's Sword-fern	*Polystichum braunii*
Powdery Twig Lichen	*Ramalina pollinaria*
Naked Rhizomnium Moss	*Rhizomnium nudum*
White Beakrush	*Rhynchospora alba*
Sitka Mistmaiden	*Romanzoffia sitchensis*
Salmonberry	*Rubus spectabilis*
Hoary Willow	*Salix candida*
Bog Willow	*Salix pedicellaris*
Black Snake-root	*Sanicula marilandica*
Pod Grass	*Scheuchzeria palustris*
Water Clubrush	*Schoenoplectus subterminalis*
Peatmoss	*Sphagnum mendocinum*
Kruhsea	*Streptopus streptopoides*
Rush Aster	*Symphyotrichum boreale*
Fringecup	*Tellima grandiflora*
Purple Meadow-rue	*Thalictrum dasycarpum*
Short-style Tofieldia	*Triantha occidentalis* ssp. *brevistyla*
Hudson's Bay Bulrush	*Trichophorum alpinum*
Northern Starflower	*Trientalis europaea ssp. arctica*
Bog Cranberry	*Vaccinium oxycoccos*
Highbush Cranberry	*Viburnum opulus* var. *americanum*
Great-spurred Violet	*Viola selkirkii*



Rare plant locations and distribution maps for Boundary-Smith Creek WMA. Size of point locations reflect the accuracy level of the location data.



Rare plant locations and distribution maps for the landscape area around Boundary-Smith Creek WMA. Size of point locations reflect the accuracy level of the location data.

VI. WILDLIFE SPECIES LIST

(*Selected Common Species; additional information available at www.idfg.idaho.gov*)

Common Name	Scientific Name	Common Name	Scientific Name
Mammals		***Birds***	
Moose	*Alces alces*	Sharp-shinned hawk	*Accipiter striatus*
Coyote	*Canis latrans*	Spotted sandpiper	*Actitis macularius*
North American beaver	*Castor canadensis*	Red-winged blackbird	*Agelaius phoeniceus*
Elk	*Cervus canadensis*	Wood duck	*Aix sponsa*
Red-backed vole	*Clethrionomys gapperi*	Northern pintail	*Anas acuta*
Big brown bat	*Eptesicus fuscus*	American widgeon	*Anas americana*
Mountain lion	*Felis concolor*	Green-winged teal	*Anas carolinensis*
Northern flying squirrel	*Glaucomys sabrinus*	Northern shoveler	*Anas clypeata*
Snowshoe hare	*Lepus americanus*	Cinnamon teal	*Anas cyanoptera*
River otter	*Lontra canadensis*	Blue-winged teal	*Anas discors*
Bobcat	*Lynx rufus*	Mallard	*Anas platyrhynchos*
Striped skunk	*Mephitis mephitis*	Gadwall	*Anas strepera*
Meadow vole	*Microtus pennsylvanicus*	Redhead	*Aythya americana*
Ermine	*Mustela erminea*	Ring-necked duck	*Aythya collaris*
Long-tailed weasel	*Mustela frenata*	Canvasback	*Aythya valisineria*
Mink	*Mustela vison*	Cedar waxwing	*Bombycilla cedrorum*
Mule deer	*Odocoileus hemionus*	Bohemian waxwing	*Bombycilla garrulous*
White-tailed deer	*Odocoileus virginianus*	Ruffed grouse	*Bonasa umbellus*
Muskrat	*Ondatra zibethicus*	Canada goose	*Branta canadensis*
Deer mouse	*Peromyscus maniculatus*	Great-horned owl	*Bubo virginianus*
Raccoon	*Procyon lotor*	Bufflehead	*Bucephala albeola*
Masked shrew	*Sorex cinereus*	Common goldeneye	*Bucephala clangula*
Red squirrel	*Tamiasciurus hudsonicus*	Barrow's goldeneye	*Bucephala islandica*
Black bear	*Ursus americanus*	Red-tailed hawk	*Buteo jamaicensis*
Grizzly bear	*Ursus arctos*	Rough-legged hawk	*Buteo lagopus*

Common Name	Scientific Name	Common Name	Scientific Name
Birds (cont.)		***Birds (cont.)***	
California quail	*Callipepla californica*	Black-billed magpie	*Pica hudsonia*
Brown creeper	*Certhia americana*	Downy woodpecker	*Picoides pubescens*
Killdeer	*Charadrius vociferus*	Hairy woodpecker	*Picoides villosus*
Black tern	*Chlidonias niger*	Western tanager	*Piranga ludoviciana*
American dipper	*Cinclus mexicanus*	Black-capped chickadee	*Poecile atricapillus*
Northern harrier	*Circus cyaneus*	Sora	*Porzana carolina*
Northern flicker	*Colaptes auratus*	Virginia rail	*Rallus limicola*
Common raven	*Corvus corax*	Ruby-crowned kinglet	*Regulus calendula*
Pileated woodpecker	*Dryocopus pileatus*	Golden-crowned kinglet	*Regulus satrapa*
Brewers blackbird	*Euphagus cyanocephalus*	Bank swallow	*Riparia riparia*
Kestrel	*Falco sparverius*	Yellow-rumped warbler	*Setophaga coronata*
American coot	*Fulica americana*	Mountain bluebird	*Sialia currucoides*
Common snipe	*Gallinago gallinago*	Western bluebird	*Sialia mexicana*
Common yellowthroat	*Geothlypis trichas*	Red-breasted nuthatch	*Sitta canadensis*
Bald eagle	*Haliaeetus leucocephalus*	White-breasted nuthatch	*Sitta carolinensis*
Barn swallow	*Hirundo rustica*	Pine siskin	*Spinus pinus*
Varied thrush	*Ixoreus naevius*	American goldfinch	*Spinus tristis*
Dark-eyed junco	*Junco hyemalis*	Chipping sparrow	*Spizella passerina*
Northern shrike	*Lanius excubitor*	Barred owl	*Strix varia*
Hooded merganser	*Lophodytes cucullatus*	Western meadowlark	*Sturnella neglecta*
Belted kingfisher	*Megaceryle alcyon*	Tree swallow	*Tachycineta bicolor*
Turkey	*Meleagris gallopavo*	Violet-green swallow	*Tachycineta thalassina*
Song sparrow	*Melospiza melodia*	House wren	*Troglodytes aedon*
Common merganser	*Mergus merganser*	Winter wren	*Troglodytes hiemalis*
Brown-headed cowbird	*Molothrus ater*	American robin	*Turdus migratorius*
Ruddy duck	*Oxyura jamaicensis*	Western kingbird	*Tyrannus verticalis*
Osprey	*Pandion haliaetus*	Yellow-headed blackbird	*Xanthocephalus xanthocephalus*
American white pelican	*Pelecanus erythrorhynchos*	Mourning dove	*Zenaida macroura*
Ring-necked pheasant	*Phasianus colchicus*		

Common Name	Scientific Name	Common Name	Scientific Name
Amphibians and Reptiles		***Amphibians and Reptiles***	
Western toad	*Anaxyrus boreas*	Pacific tree frog	*Pseudacris regilla*
Painted turtle	*Chrysemys picta*	Columbia spotted frog	*Rana luteiventris*
Western skink	*Eumeces skiltonianus*	Common garter snake	*Thamnophis sirtalis*

VII. LAND ACQUISITIONS AND AGREEMENTS

Land Acquisitions			
Year	**Parcel**	**Acres**	**Acquired From**
Boundary County			
1999	Boundary Creek	1,405	Deon and Louise Hubbard
2007	Smith Creek	620	Elbert Thorman
1964	Sullivan	24	Patty Sullivan

Flowage Easements			
Year	**Parcel**	**Acres**	**Acquired From**
Boundary County			
2000	Easement for diversion structure	--	Crown Pacific Limited Partnership

Water Rights			
Water Right No.	**Priority Date**	**Amount**	**Purpose**
98-07103	1/25/74	19.80 cfs	Diversion to Storage, Wildlife and Wildlife Storage
98-07848	12/21/05	5.00 cfs	Diversion to Storage, Wildlife and Wildlife Storage
98-07909	1/25/11	5.00 cfs	Diversion to Storage, Wildlife and Wildlife Storage

VIII. INFRASTRUCTURE

Building/structures

Bunkhouse and garage
Open-bay storage building
Storage barn
Storage garage
21 Water Control Structures
2 Out-house Bathrooms
3 Picnic areas
3 Parking Areas
Gates

Earthen Structures

Kootenai River Dike
Boundary Creek Dike
Smith Creek Dike
Water Diversion Slough
Maintenance Roads/non-motorized public trail

BOUNDARY-SMITH CREEK

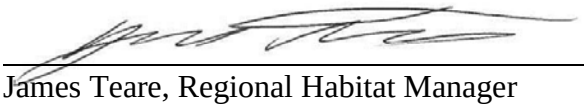
WILDLIFE MANAGEMENT AREA PLAN

Approval

Submitted by:

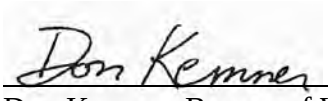
Colleen Trese, Habitat Biologist

Reviewed by:

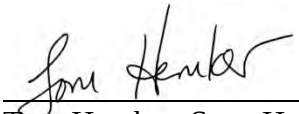


James Teare, Regional Habitat Manager

Chip Corsi, Regional Supervisor

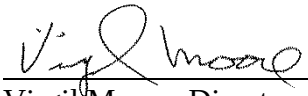


Don Kemner, Bureau of Wildlife



Tom Hemker, State Habitat Manager

Approved by:



Virgil Moore, Director