Portneuf
Wildlife Management Area

Management Plan
2014

Southeast Region

Portneuf
Wildlife Management Area

2014 – 2023 Management Plan
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Idaho Department of Fish and Game
Southeast Region
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Executive Summary

The objective of this updated management plan (Plan) is to report progress since the last revision and to provide direction for future management of Portneuf Wildlife Management Area (PWMA). This revision was completed in 2014 with extensive public input. This plan is tiered off other Idaho Department of Fish and Game (Department) plans and policies summarized below.

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

The Plan includes the vision and mission for PWMA as well as background information. It also reports on the progress of goals identified in the 1999 plan as well as additional accomplishments (Appendix V), and addresses new or continuing issues. It supplements the Department strategic plan (*The Compass*, Appendix I) and was developed with public involvement. An online survey was posted on the Department's website in 2012 to collect public input on the current management of the state wildlife management areas. Suggestions from the survey and other input were incorporated into the planning process wherever possible.

Performance targets were identified through the public input process and from perspectives of Department staff. Given the priorities for PWMA, those performance targets or issues have been addressed within the Management Program section.

The Plan directs the Department to manage the vegetation and public use on PWMA for the benefit of wildlife habitat and fish and wildlife-based public recreation. Some examples of strategies to be employed include habitat improvements (food plots and winter forage plantings), pest control (noxious weeds), providing quality access points for hunting and other wildlife-based recreation, providing public outreach and educational opportunity, and monitoring the effectiveness of all efforts through wildlife and public use surveys.

An effort has been made to broaden the scope of the Plan so the management of PWMA takes into account the role and influence of the WMA on wildlife and habitat within the surrounding landscape, as well as the influence of the surrounding landscape on PWMA. The extent of the

landscape consideration is largely driven by the known or expected occurrence of high priority and at-risk species, as well as land use patterns and topographical features in the area (see Management Program/PWMA Landscape Conservation section). There will be an attempt to recognize and consider all forms of wildlife with particular focus on listed sensitive species known or expected to occur within the PWMA landscape. See Appendices VI and VII for more complete listings pertaining to PWMA.

The Plan will serve as a guide for managers, partners, and the public in making and justifying management decisions that will serve the stated priorities and goals most efficiently. Particular performance targets and strategies are dependent on adequate funding, personnel, and public support.

Introduction

Idaho Department of Fish and Game (Department) manages 32 Wildlife Management Areas (WMAs) distributed throughout seven administrative Regions. Researchers from the University of Idaho and The Nature Conservancy evaluated the value of Idaho's WMAs to wildlife. They found the WMA 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 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.

Wildlife Management Areas often abut other protected lands such as National Forests, Bureau of Land Management lands, Bureau of Reclamation lands, state endowment lands (Idaho Department of Lands), state and local parks, or private lands protected by conservation easement. Due to the wildlife-focused management, WMAs 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 (such as mountain brush uplands and marsh wetlands), and creating enhanced habitat (such as food plots and managed wetlands) to increase the carrying capacity for selected 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* (Appendix I) . Priorities, performance targets, and strategies are then developed to be consistent with the above mentioned documents and to enhance conservation values inherent to the WMA.

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 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.

Other Considerations

All regional WMA programs are funded through a combination of hunting and fishing license revenue, appropriations from federal excise taxes (firearms, ammunition, archery equipment, and fishing tackle), and funding provided by other partners to mitigate habitat loss or simply to contribute to the conservation effort. Hunters and anglers pay a large portion of the management costs. They and other users are rewarded with areas that are open to the public for hunting, trapping, fishing, and viewing. The habitat provided helps to attract and sustain wildlife populations for consumptive and non-consumptive use, including venues for outdoor education activities.

All strategies proposed in this plan are bound by the contractual agreements between cooperating agencies, the mission of PWMA, 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.

The Southeast Region

The Southeast Region, headquartered in Pocatello, manages five WMAs totaling 17,000 acres of land. This includes deeded properties, leases, and cooperative agreements. Management focus is to maintain highly functional wildlife habitat and provide wildlife-based recreation. These areas include:

- Blackfoot River WMA, located in Caribou County, is focused on the important Blackfoot River headwaters fishery, but also provides big game, upland game, and waterfowl habitat. It is also a popular fishing access point.
- Georgetown Summit WMA is an important winter range for deer and elk, but also provides year-round habitat for big game and several species of upland game. The Bear

River flows through the property, and the stream and riparian corridor is important for fisheries, furbearers, and waterfowl.

- Montpelier WMA, also located in Bear Lake County, serves mainly as an elk and mule deer winter range.
- Portneuf WMA in Bannock County is a key part of a mule deer winter range that wraps around the Portneuf Mountains from Inkom to Lava Hot Springs. It is also popular for a variety of outdoor public recreation including big game and upland game hunting.
- Sterling WMA in central Bingham County lies adjacent to American Falls Reservoir and is a mixture of sagebrush steppe and wetlands that provide habitat for a variety of waterfowl and water birds. Upland game, particularly ring-necked pheasant, is also an important habitat management consideration. The area is well used for both upland game and waterfowl hunting.

Nearly all WMAs benefit a variety of nongame and sensitive species of plants and animals. Some examples of sensitive species for the Southeast Region include red glasswort, Idaho sedge, desert valvata, Idaho dunes tiger beetle, Yellowstone cutthroat trout, northern leopard frog, short-eared owl, Columbian sharp-tailed grouse, sandhill crane, trumpeter swan, lesser scaup, northern pintail, white-faced ibis, long-billed curlew, and Brewer's sparrow.

Portneuf WMA

Portneuf WMA (PWMA) is administered through partnerships with the Bureau of Land Management (BLM), the U.S. Forest Service (USFS), and private landowners. It is located in Bannock County 16 miles southeast of Pocatello. Acquisition was initiated to preserve and enhance big game winter range. History of the WMA and current infrastructure is described in Appendices II and VIII. The priorities for PWMA in order of importance include: 1) mule deer winter range, 2) upland game and other wildlife production, 3) public hunting, and 4) general wildlife appreciation. Portneuf WMA funding comes from state hunting and fishing license sales and Pittman-Robertson funds (federal excise tax). This management plan is designed to provide broad guidance for the long-term management of PWMA and replaces an earlier management plan written in 1999.

Portneuf WMA Vision

Portneuf WMA will be managed to benefit wildlife by providing diverse upland and riparian plant communities, and also to provide public access for wildlife-based recreation with emphasis on hunting opportunity.

Portneuf WMA Mission

All wildlife resources of PWMA will be protected and managed as mitigation for habitat losses, and to ensure sufficient quantities of high quality habitat for mule deer, upland game, and a wide variety of other game and nongame species. High quality wildlife-based recreational opportunities will be provided compatible with provisions for wildlife and wildlife habitat.

Modification of Plan

This plan provides broad, long-term management direction for PWMA. 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.

Area Description and Current Status

Portneuf WMA is located in Bannock County 16 miles southeast of Pocatello. The 3,950-acre PWMA is directly west of a large tract of the Caribou-Targhee National Forest. There are also several tracts of BLM land scattered within or adjacent to the WMA, administered cooperatively as part of PWMA (Figure 1). Elevation ranges from 4,680 feet to 6,463 feet. Portneuf WMA is topographically diverse; dissected by steep drainages but with more gently sloped benches on wider ridgetops. Soils are well developed and relatively deep except at the upper elevations where bedrock is near the surface. The lower elevation fan terraces and foothills are covered by well-drained loess and silty alluvium derived from loess. Higher foothills and mountains have well-drained calcareous soils derived from limestone, dolomite, and related rock (McGrath 1984). Temperatures range from -30°F to 103°F. Annual precipitation is 10-14 inches, half of which falls during the growing season. Snow depths may reach three feet at upper elevations, but little or no snow may accumulate at lowest elevations in some years. There are an average of 93 frost-free days between spring and fall. Evaporation rate is about 42 inches per year.

PWMA lies within the Basin and Range geomorphic province on a westerly facing slope of the Portneuf Range overlooking a broad valley drained by the Portneuf River and Marsh Creek. The two stream courses are separated by an ancient lava flow, but Marsh Creek joins the Portneuf River approximately four miles downstream. In addition to natural barriers, the valley floor is also bisected by two county roads, an active railroad line, and a four-lane interstate highway. The valley floor and higher slopes to the north and south of the WMA are developed for agriculture, livestock grazing, and increasingly for rural residential development. The higher elevations to the east are managed as part of the West Side Ranger District of the Caribou-Targhee National Forest. In addition to the public access provided directly by the WMA, PWMA is a popular portal for gaining access to the USFS properties. The deep draws and brush covered slopes of the WMA provide both forage and security cover for mule deer and other wildlife throughout the year. The generally western exposure provides superior winter habitat, especially on more southern aspects. Though federal land ownership (BLM and USFS) to the south offers secure wildlife habitat, that influence is mostly restricted to higher elevations. With the exception of the WMA, nearly all lower elevations adjacent to the main county road are impacted by residential development. County maintained side roads have also led to scattered homes and even subdivisions at the higher elevations, though most land use is still dryland farming and livestock operations. Land use patterns have generally been detrimental to big game winter habitat, though most agricultural operations have left stringers of habitat or even improved habitat components for some species. Residential development on the other hand has led to direct habitat loss, fragmentation, and increased road-kill. Livestock grazing adjacent to the PWMA has actually increased with the enrollment and subsequent retirement of Conservation Reserve Program acres, necessitating increased attention to property boundaries and fencing.

Mountain brush, juniper, and maple occur on upper and north-facing slopes. Aspen and Douglas-fir are also present in scattered locations. Riparian areas are dominated by chokecherry, willows, red osier dogwood, water birch, and cottonwood. Bench areas with gentler slopes were

previously used as dry cropland, but are now generally dominated by bitterbrush, serviceberry, snowberry, and sagebrush.

PWMA is home to a variety of migratory and resident birds and mammals, but also provides habitat for a variety of plants, invertebrates, fish, amphibians, and reptiles. Other wildlife and particularly sensitive species will be considered and evaluated before vegetation manipulations are implemented.

The PWMA was critical winter range for 300-500 mule deer in the early 1990s, but numbers have decreased since 1993. Most recent aerial trend surveys indicate 1,000 mule deer winter within 15 miles of the WMA and about 200 on PWMA itself. Some elk and moose also winter on the area. With continued human population growth in Bannock County, big game winter range is being lost to housing developments and infrastructure. As this trend continues, intact winter range becomes increasingly important. Winter forage for mule deer is provided through a variety of vegetation management approaches. Forage quantity and quality for mule deer and other wildlife is maintained or improved with prescribed burns, brush mowing, plantings, seedings, noxious weed control, and livestock exclusion. Winter security and thermal cover for wildlife is provided by protecting riparian areas and by limiting shrub treatments to those necessary to meet forage objectives. Any of these techniques may be applied when appropriate to achieve site-specific objectives, although vegetation management often requires no intervening action other than permitting natural ecological processes to occur. Evaluation will continue using established vegetation monitoring techniques.

Habitat security is also provided by restricting human activity especially during critical periods. Motorized vehicles are restricted to established roads while non-motorized access is open except during extreme winter conditions. Public use is encouraged though facilities are limited to informational signage, primitive roads, and parking areas. The area is particularly popular for big game hunting and provides good opportunity for youth deer hunting. Upland game hunting (forest grouse, pheasant, sharp-tailed grouse, wild turkey), hiking, and horseback riding are also popular activities. A systematic year-round survey of all public use on PWMA is currently underway.

Other improvements for wildlife habitat have included brush control treatments (prescribed fire, mowing, herbicide), brush plantings, food plot seedings, fertilization treatments, and wildlife-friendly fence maintenance. Noxious weeds continue to be controlled by a variety of methods in order to comply with state law and to protect wildlife habitat. Over 350 acres are chemically treated on an annual basis. Several biological controls have also been released.

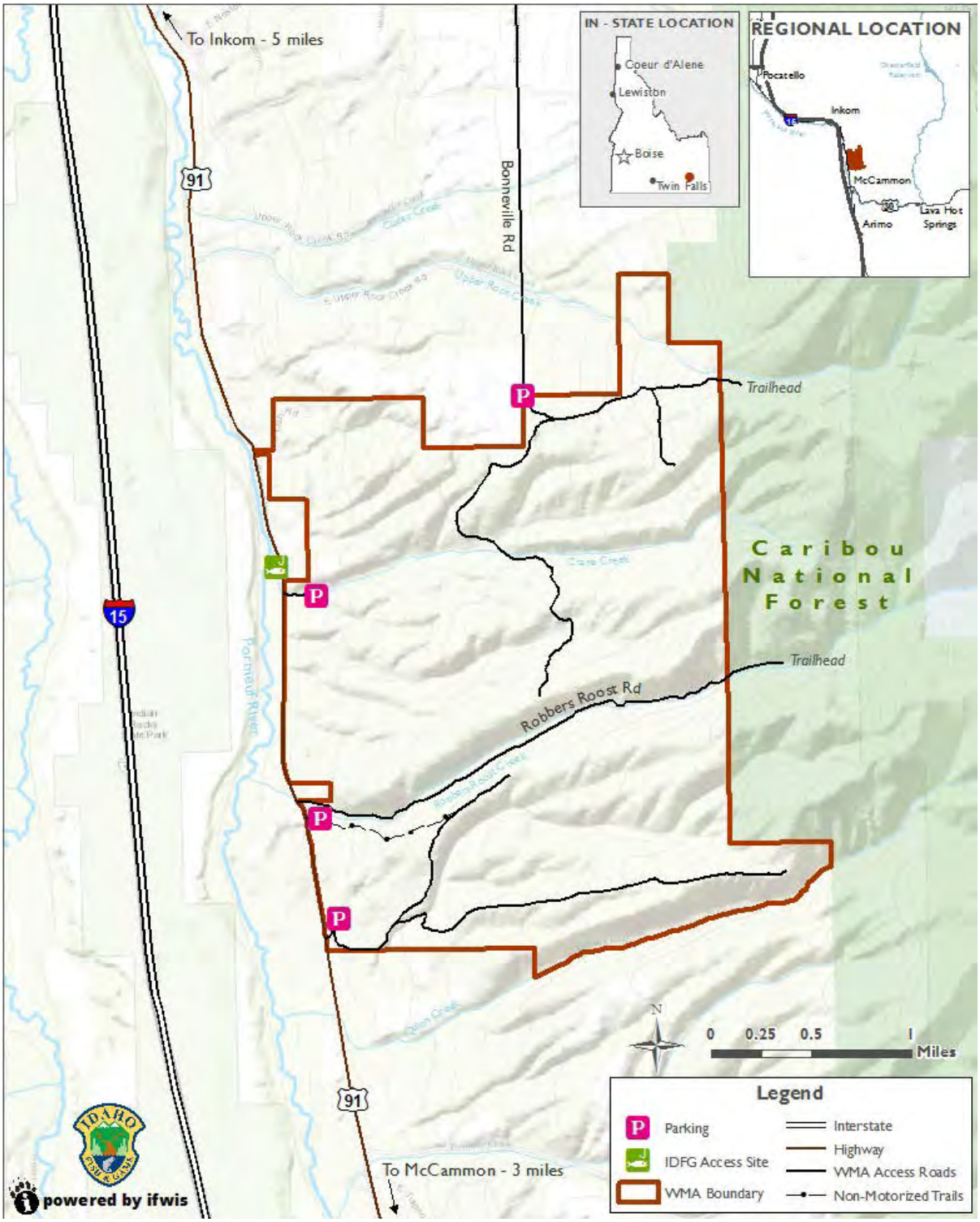

Figure 1. Portneuf Wildlife Management Area.

Management Issues

The list of issues addressed in this plan was generated from public input and from within the Department as described below. Similar issues are grouped into one of two categories: Wildlife Management, and Public Use and Relations Management. The identified issues in turn generated performance targets or issues, which were grouped by management directions within one of the four PWMA priorities (Mule Deer Winter Range, Upland Game and Other Wildlife Production, Public Hunting, and General Wildlife Appreciation). The Performance Targets are all tied to a Department strategic plan objective (Appendix I). Seventy-seven performance targets were identified. Again, an effort has been made to broaden the scope of the plan so the management of PWMA takes into account the role and influence of the WMA on wildlife and habitat within the surrounding landscape, as well as the influence of the surrounding landscape on PWMA. The landscape delineation is largely driven by the known or expected occurrence of high priority and at-risk species potentially impacted by PWMA, but also considers topographical features and land use patterns.

Throughout 2012 (Feb-Dec), an online survey form was available on the Department website and known interested parties were contacted via mailed postcards. Hard copies were also made available at the regional office or mailed out upon request. The survey allowed participants to answer questions and provide feedback on WMA management statewide and the management of specific WMAs.

In addition to sampling type of use and demographics, this tool was meant to collect input from the public on the current management of WMAs and suggestions for improvement. The survey (Appendix IV) included three leading questions meant to garner specific input: #6 – "What could IDFG do to improve your visit to this WMA?", #7 – "Do you have any specific suggestions or comments about the management of this WMA?", and #10 – "Do you have any specific suggestions or comments on how to improve these [statewide] goals or current management of IDFG WMAs?"

From 32 survey responses pertaining to PWMA, 24 comments or suggestions were received related to the questions mentioned above. Occasional unsolicited comments were also gathered from WMA "user sign-in stations" or through word of mouth. Most of the comments came from users who identified hunting/scouting as their primary use of the WMA. Other uses included being outside/hiking, dog training/walking, wildlife viewing/bird watching, ATV riding, and photography. In 2012, users provided 236 entries registering visits at the four voluntary sign-in stations. From that data we know that horseback riding on the PWMA is also a very popular use nearly year-round, and second only to hunting for number of visits; however, no respondents to the survey listed horseback riding as an important activity pursued on PWMA. In 2014, draft copies of all WMA plans were made available and comments solicited. Twenty three responses were provided concerning the PWMA plan. Most respondents agreed with the plan as written with few new issues raised. One respondent suggested a layperson's summary of the Plan would be helpful. Another respondent suggested that use of lead-free ammunition should be considered and that steps should be taken to assure trapping activity does not conflict with other priorities.

Neighbors to the WMA and management partners also have provided input through written correspondence and word of mouth. All input/issues from the public were reviewed and any suggesting changes or improvement are listed below (similar comments have been paraphrased and/or combined).

Issues Identified by the Public

Wildlife Management

- Better agreements and relations with neighbors (cooperative farming agreements should benefit wildlife)
- Better communication and relations with neighbors and other organizations/agencies to improve habitat and public access
- Control predators
- Consider requiring lead-free ammunition on WMAs

Public Use and Relations

- Improve road maintenance
- Provide better maps
- Mark boundaries more clearly
- Stock pheasant and/or additional upland game species
- Provide more motorized access including winter snowmobile access
- Further restrict motorized access, especially during hunting seasons
- Provide more access for camping
- Charge fee for non-license holders and consider other fund raising tools
- Better agreements with neighbors
- Control predator numbers
- Improve signage regarding available access (property boundaries/cooperatives) and to prevent trespass
- Take measures to assure trapping activity does not conflict with other priorities
- Improve information stations (general rules/habitat and wildlife identification/available facilities-ranked opportunities) so literature is always available and protected from weather
- Improve relations with other organizations/agencies to optimize public benefits including additional access

Issues Identified by the Department

Wildlife Management

- Consider artificial propagation techniques or releases (turkey) only if cost effective and neutral to other wildlife

- Extend WMA management considerations onto the surrounding landscape which influences or is influenced by the WMA
- Complete contemporary surveys for all wildlife and plants including aquatic and terrestrial species
- Anticipate equipment/infrastructure needs and budget accordingly

Public Use and Relations

- Accurately assess and summarize year-round public use with an approved systematic and randomized sampling scheme
- Anticipate equipment/infrastructure needs and budget accordingly
- Assure rules/regulations particular to the PWMA (e.g., camping, open fires) are consistent with statewide use policy, are well posted on site and are addressed in printed/electronic format

Portneuf 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 PWMA. 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.

An effective way to enable a broader influence over the future of PWMA is through the use of Conservation Targets to guide management. Conservation Targets can 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 PWMA, 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 the WMA and creates a platform for conservation partnerships on the surrounding landscape.

The following five-step process was used to create the PWMA 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) Coverage Assessment of Selected Conservation Targets
5) Creation of Management Program Table

Portneuf WMA Landscape Conservation

Portneuf WMA includes BLM lands and lies directly adjacent to or in close proximity to additional BLM, USFS, and Idaho Department of Lands (IDL) lands. All of these jurisdictions as well as adjacent private lands include wildlife habitat that serves as core area for the overall landscape. An important role for PWMA is to protect, enhance, or restore habitat functions for all wildlife within the associated landscape.

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 maintain important natural habitat and create enhanced habitat for selected species is a key strategy. However, many threats to species associated with PWMA occur beyond the WMA boundary. Opportunities to cooperate and collaborate with adjacent land managers should be recognized and pursued whenever possible. Both wildlife and public benefits related to healthy wildlife populations will be augmented.

To promote a broader influence over wildlife habitat needs and associated public use, focal species and their particular needs have been identified and will be considered in all actions within PWMA or wherever the Department has opportunity to influence other land management within the landscape. In order to delineate and describe the landscape associated with PWMA, topography, land use patterns, wildlife-based recreation use patterns, and species occupancy have been considered.

When considering species occupancy, we have focused on species that are of high importance given the priorities of PWMA, or those given special status due to depressed or unknown population status. Special status species are those designated as Species of Greatest Conservation Need according to the Idaho Comprehensive Wildlife Conservation Strategy (Idaho Department of Fish and Game 2005) or, for plants, special status ranking assigned by the Idaho Conservation Data Center, or those given special status designation by either the BLM, USFS, or U.S. Fish and Wildlife Service (USFWS).

Combining the factors of topography, land use, and known species occupancy, we have designated a landscape, or area of influence, logically associated with PWMA and management concerns and priorities (Figure 2). The designated landscape represents a minimum five-mile buffer about the PWMA boundary, including topography similar to or influencing the habitat within the PWMA boundary as well as associated land use such as agricultural land, native forest and rangeland, and the variety of land ownership associated with the WMA. The PWMA Landscape includes an area known to be used by migratory mule deer wintering on the WMA as indicated by radio telemetry data, and also takes into account the occurrence records of sensitive plant and animal species in the vicinity.

The focal species or groups of species have been used to designate several Conservation Targets for PWMA priorities in the Management Program table below (pages 34-39). Management Directions, and subsequently Performance Targets, Strategies, and Outcome Metrics are related to a given scope of application being either within just the PWMA boundary, within the surrounding PWMA landscape, or both within the landscape and the PWMA boundary.

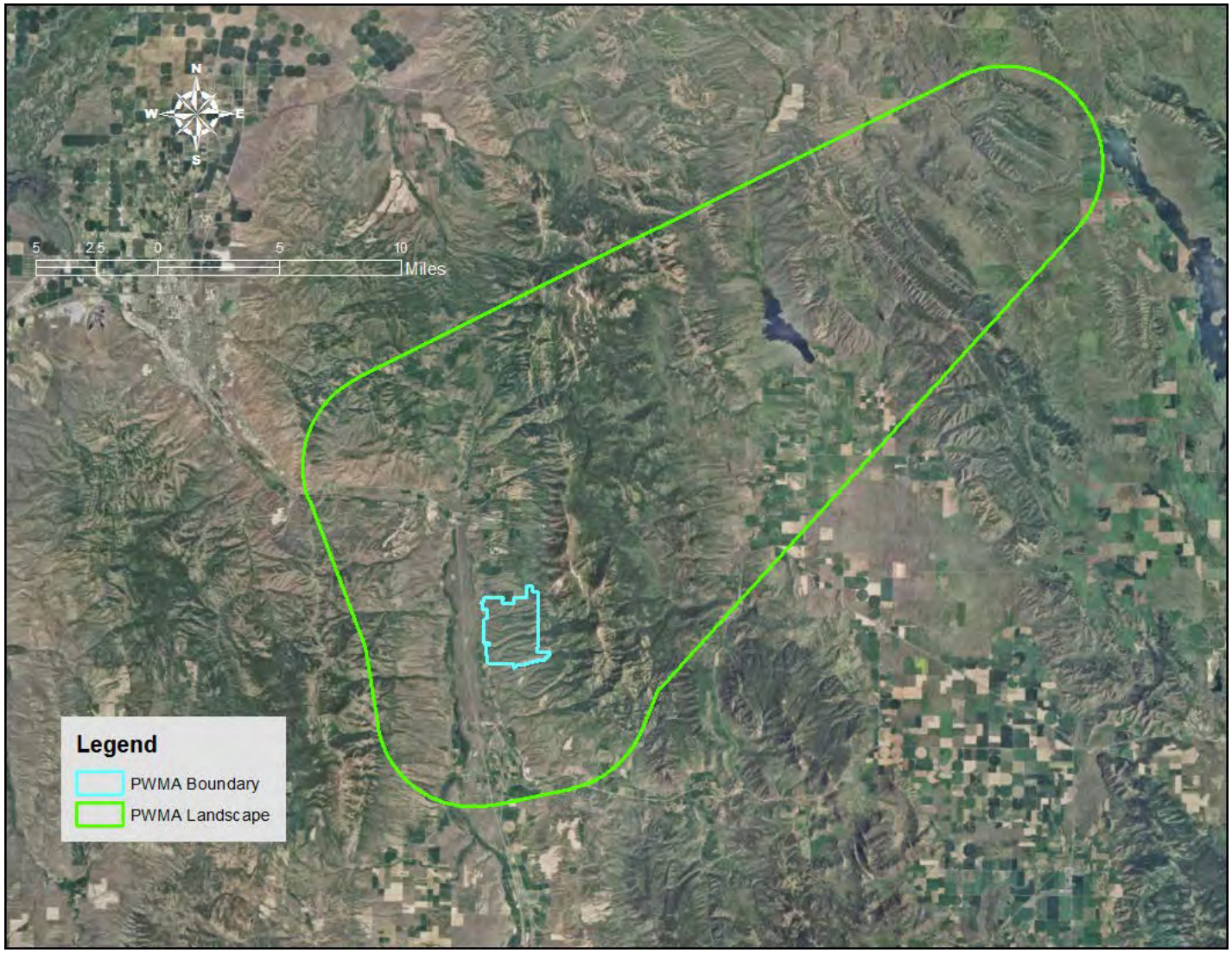

Figure 2. Portneuf WMA Landscape.

Summary of Management Priorities

Portneuf WMA, like many other WMAs, was created for a specific purpose and therefore has inherent management priorities incorporated in the cooperating agency agreements and land ownerships that formed the WMA. Portneuf WMA was acquired to preserve and enhance big game winter range.

Legal mandates associated with the 2001 appropriation of federal funding for the State Wildlife Grants program also guide the Department's management priorities. The U.S. Congress appropriated federal funds through the State Wildlife Grants program to help meet the need for conservation of all fish and wildlife. Along with this new funding came the responsibility of each state to develop a Comprehensive Wildlife Conservation Strategy (CWCS) referred to above. The Department coordinated this effort in compliance with its legal mandate to protect and manage all of the state's fish and wildlife resources (Idaho Department of Fish and Game 2005). The CWCS is currently under revision and is now referred to as the State Wildlife Action Plan (SWAP). The SWAP serves to coordinate the efforts of all partners working toward conservation of wildlife and wildlife habitats across the state. The SWAP does not distinguish between game and nongame species in its assessment of conservation need and is Idaho's seminal document identifying species at-risk. Therefore, at-risk species identified in the SWAP, both game and nongame, are a management priority for the Department.

In addition to the biological goals of preserving, protecting, and perpetuating all fish and wildlife in Idaho, the Department also has a statewide goal of protecting and improving wildlife-based recreation and education. The Department's strategic plan, *The Compass*, outlines multiple strategies designed to maintain or improve both consumptive (e.g., hunting, trapping, fishing) and non-consumptive (e.g., wildlife watching) wildlife-based recreation opportunities across the state.

Taking the biological and funding resources of PWMA into consideration, in concert with these foundational priorities of the WMA and statewide Department priorities, the Department developed the following list of broad-scale PWMA Management Priorities.

Portneuf WMA Management Priorities (listed in order of importance):

1. Mule Deer Winter Range
2. Upland Game and Other Wildlife* Production
3. Public Hunting
4. General Wildlife Appreciation

* "Other Wildlife" to include all wild species – plant and animal

The priorities for PWMA were developed based on the potential of the habitat, and typical or potential wildlife-based use.

Because PWMA is generally low to middle elevation with a westerly aspect, the area is well suited to provide quality winter range for mule deer and other big game. The interspersed draws and associated riparian habitat provide additional security habitat for big game as well as breeding habitat for a variety of other game and nongame species. Protection of large blocks of native brush and riparian habitat will benefit several species of upland game, furbearers, and numerous nongame species that are known to occur on or very near PWMA. The proximity of PWMA to Pocatello, the county road network and trails maintained by the USFS makes the WMA ideally suited for providing public access for hunting and other wildlife-based recreation, in addition to providing good access routes to other public lands. Because many other species occur on PWMA, and because many users visit the WMA for non-consumptive reasons, promoting opportunity for all wildlife appreciation through habitat management and public access provisions is an appropriate fourth priority.

Focal Species Assessment

This section of the Plan is an assessment of conservation priority species that will identify Conservation Targets to guide management within the PWMA Landscape. Table 1 evaluates taxa that are either flagship species (Groves 2003) and/or at-risk species identified by the Idaho SWAP and designated Species of Greatest Conservation Need (SGCN), the Idaho Conservation Data Center, or 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., Big Desert), a threat (e.g., habitat loss), organization (e.g., state government or conservation group) or geographic region (e.g., protected area, Department Region or state; Veríssimo et al. 2009). Mule deer is an example of a species that fits the criteria as both focal and flagship species. In addition, mule deer is a culturally and economically important species in Idaho and represents a founding priority for establishment of the PWMA. Therefore, mule deer is an important flagship species considered in the PWMA 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 also considering a variety of at-risk species (Groves 2003); yielding a more comprehensive assessment that includes culturally and economically important species (e.g., mule deer and upland game birds) along with formally designated conservation priorities (e.g., Brewer's sparrow). Categories of at-risk species considered in this assessment are: 1) species designated as SGCN or, for plants, special status ranking assigned by the Idaho Conservation Data Center; 2) species designated as Sensitive by Region 4 (Intermountain Region) of the USFS; 3) species designated as Sensitive by the Idaho State Office of the BLM; and 4) species listed or candidates for listing under the Endangered Species Act by USFWS.

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. The area surrounding PWMA is comprised of multiple land ownerships including

BLM, IDL, USFS, and private lands. The BLM and USFS in particular are key partners in this landscape as their management actions can directly influence ecological function on PWMA.

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.

Information on species status, occurrence (within WMA boundary and within Landscape boundary), 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.

Southeast Regional Habitat staff, with assistance from regional staff, estimated the suitability of assessed species as a focal species based on descriptions in Groves (2003) and U.S. Fish and Wildlife Service (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* (U.S. Fish and Wildlife Service 2005)

Game species considered for focal species designation include: Moose, mule deer, Columbian sharp-tailed grouse, greater sage-grouse, wild turkey, and Yellowstone cutthroat trout.

Nongame species considered for focal species designation include: Merriam's shrew, North American wolverine, Townsend's big-eared bat, bald eagle, boreal owl, Brewer's sparrow, calliope hummingbird, merlin, northern goshawk, peregrine falcon, Swainson's hawk, Transitional waterbird guild (American avocet, common loon, American white pelican, western grebe, Clark's grebe, white-faced ibis, Wilson's phalarope, black-crowned night heron, black-necked stilt, California gull, Franklin's gull, Caspian tern, Forster's tern, cattle egret, great egret,

snowy egret, trumpeter swan), ring-necked snake, northern leopard frog, western toad, thin-ribbed mountainsnail, western pearlshell, and mayfly.

Table 1. Status of conservation priority species on Portneuf WMA, including potential suitability as a focal species for management.

Species	Status Designation(s)	Occurrence Context in Portneuf WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Portneuf WMA
Mammals					
Mule Deer (*Odocoileus hemionus*)	Flagship	The PWMA is crucial winter range for mule deer from game management units 69, 71, 72 and portions of 76. In recent years PWMA and the immediate vicinity has provided winter habitat for about 1,000 mule deer.	Rural residential/commercial development in the Portneuf River watershed; habitat fragmentation from land use on adjacent public and private lands; loss of aspen habitat. Conflicts with agricultural producers and potential for increased conflicts with loss of CRP contracts.	Protect and expand existing winter range; support management that increases aspen on the landscape; (Eastern Idaho Aspen Working Group); work collaboratively with BLM and USFS to maintain thriving mule deer herds on the landscape. Provide technical assistance to private landowners to expand tolerance and available habitat on private lands; provide technical assistance to county planning and zoning staffs to minimize loss or degradation of habitat.	***Potentially suitable as a focal species.*** Mule deer are a foundational priority for the creation of PWMA. Mule deer are a culturally and economically important wildlife species in eastern Idaho and are a species with good potential for developing conservation partnerships. Mule deer are representative of a broader group of species sharing the same or similar conservation needs.
Moose (*Alces alces*)	Flagship	Moose occur in unknown numbers throughout the PWMA landscape.	Loss and degradation of riparian habitat; rural residential/commercial development in the Portneuf River watershed; regional disease concerns, illegal harvest; migration barriers due to urban development and transportation systems.	Support management that increases high quality riparian habitat on the landscape; provide technical assistance to county planning and zoning staffs to minimize loss or degradation of habitat; provide technical assistance to city planners and transportation managers to facilitate movements; contribute to Department regional disease monitoring efforts.	***Potentially suitable as a focal species.*** Moose are relatively abundant in the PWMA landscape and are dependent on habitats that are representative of a broader group of species sharing the same or similar conservation needs.
Merriam's Shrew (*Sorex merriami*)	SGCN	There are no documented occurrences within the PWMA landscape; however, there is one documented occurrence with six miles and the species does occur primarily in areas dominated by xeric shrubs and grasses. Habitats include sagebrush steppe habitat.	The distribution and status of populations are poorly understood. Livestock grazing has been suggested as a threat to populations since livestock can cause soil compaction, litter layer reduction, and changes in vegetation structure and composition.	Surveys are needed to determine the distribution, current status, and habitat associations of populations.	***Unsuitable as a focal species.*** Occurrence context on PWMA landscape does not reflect the main threats. Limited and unquantified seasonal occurrence limits potential management feedback at the focal species scale.
North American Wolverine (*Gulo gulo*)	SGCN, BLM Type-3, USFS Sensitive, USFWS ESA Proposed threatened	One occurrence within the PWMA landscape	Human disturbance is among the most important causes of habitat fragmentation and degradation in wolverine habitat.	Limiting disturbance to occupied habitat is critical. Would benefit from wilderness designations in subalpine and mid-elevation forests. Incidental take from trapping should be addressed through education.	***Unsuitable as a focal species.*** Occurrence context on PWMA landscape does not reflect the main threats. Limited and unquantified seasonal occurrence limits potential management feedback at the focal species scale.
Townsend's Big-eared Bat (*Corynorhinus townsendii*)	SGCN, BLM Type 3, USFS Sensitive	Documented occurrences within the PWMA landscape.	Individuals are long-lived and exhibit low reproductive potential. Roost sites tend to be colonial, and may be limiting; aggregations are susceptible to disturbance and destruction of roost sites. Distribution and abundance is highly correlated with suitable cavity forming rock formations and historic mining districts. Local populations potentially affected by wind turbine installations situated in flyways or near high-use areas, such as wetlands or roosts.	Minimize broad-spectrum insect control activities that reduce prey base. Where possible, document natural roosting habitat such as cliffs. Create day-and night-roosting habitat through installation of bat boxes. Deploy escapement devices on troughs and water tanks. Track with ongoing efforts of the East Idaho Bat Working Group to identify opportunities to mitigate bat mortalities from wind energy development.	***Potentially suitable as a focal species.*** Unknown scope of occurrence on PWMA would require preliminary work to determine the extent of occurrence. Could possibly be added to the Riparian Habitat assemblage, considering that management of this habitat would be central to meeting the species needs.

Species	Status Designation(s)	Occurrence Context in Portneuf WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Portneuf WMA
Birds					
Columbian Sharp-tailed Grouse (*Tympanuchus phasianellus columbianus*)	Flagship, SGCN, BLM Type-3, USFS Sensitive	Significant regional concentrations of sharp-tailed grouse depend on PWMA and surrounding lands. There are approximately 37 leks (currently active and/or historic) documented within the PWMA landscape.	Population declines are related to habitat loss and degradation. Breeding habitats are dominated by relatively dense herbaceous (grass and forbs) cover and shrubs. Broods depend on areas with abundant forbs and insects, often with high shrub diversity. Sharp–tailed grouse often rely on riparian areas or deciduous hardwood shrub stands during winter, although agricultural fields may be used in milder conditions.	Identify, protect and maintain key breeding and wintering habitats, avoid disturbance to breeding complexes (lands within six mile radius of occupied leks), monitor breeding populations. Work with adjacent private landowners to encourage deferred haying operations.	***Potentially suitable as a focal species.*** Meets all criteria for focal species designation. Sharp-tailed grouse have large home ranges, are capable of extensive movements, and use a mosaic of habitats within PWMA and vicinity.
Greater Sage-grouse (*Centrocercus urophasianus*)	SGCN, BLM Type-2, USFS Sensitive, USFWS ESA Candidate	Greater Sage-grouse wintering has been documented at several locations within the PWMA landscape including one location within 3 miles of the WMA. Three leks have been identified within the landscape and several others recently confirmed active lie within 3 miles of the PWMA landscape.	Loss, degradation, and fragmentation of sagebrush habitat are the major threats to the Greater Sage–grouse in Idaho. Habitat degradation factors include alteration of historical fire regimes, conversion of sagebrush habitat, water developments, use of herbicides and pesticides, invasive species, urbanization, energy development, mineral extraction, and recreation.	In conjunction with BLM, USFS, and East Idaho Uplands Local Sage-grouse Working Group identify, protect, and maintain existing sagebrush seasonal habitats particularly breeding and winter habitats. Where possible, restore damaged and lost sage-steppe habitat. Manage projects to significantly reduce fragmentation of existing sagebrush habitats and to reduce human disturbance.	***Potentially suitable as a focal species.*** Greater Sage-grouse have a high conservation need and are representative of a group of species sharing similar conservation needs. They have a high level of current Department program effort and are a species with potential to stimulate partnerships. They currently do not occur within the PWMA boundary but important habitat lies nearby and within the PWMA landscape.
Wild Turkey (*Meleagris gallopavo*)	Flagship	Introduced within the PWMA landscape in 2001. Population has increased allowing for sport hunting, but also resulting in depredation concerns and potential impacts to native species.	Winter habitat is limited due to elevation and lack of native mast. Broods depend on areas with abundant forbs and insects. Turkey often rely on riparian areas or deciduous hardwood shrub stands and depend on agricultural fields and supplemental feeding during harsh conditions.	Identify and maintain key wintering habitat.	*Unsuitable as a focal species.* A popular, charismatic species that serves as a catalyst to motivate conservation awareness, support, and action. Has been introduced to the area relatively recently and has led to significant depredation issues. May focus limited management resources away from vulnerable native species.
Transitional Waterbird Guild	SGCN	The Blackfoot and Portneuf River watersheds and the PWMA landscape include important transitional habitats for many Idaho waterbirds. Several species also nest in the area.	Threats to most Idaho waterbirds are not related to the use of transitional habitat but are related to disturbance of nesting breeding habitat (e.g., Caspian tern, trumpeter swan) and pesticide contamination (egrets and White-faced ibis) and loss of wetlands (American avocet and Black-necked stilts).	Provide undisturbed nesting habitat.	***Unsuitable as a focal species***. Occurrence context on PWMA landscape does not reflect main threats to the population.
Bald Eagle (*Haliaeetus leucocephalus*)	SGCN, BLM Type-1, USFS Sensitive	Wintering bald eagles are not uncommon in the Portneuf and Blackfoot River watersheds. An occupied nest was recently documented within the PWMA landscape.	The greatest threat to bald eagles in Idaho is disturbance during the nesting period from activities such as forestry and human recreation.	Nest monitoring will continue. 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.	***Unsuitable as a focal species.*** Occurrence context on PWMA landscape does not reflect the main threats. Limited and unquantified seasonal occurrence limits potential management feedback at the focal species scale.
Northern Goshawk (*Accipiter gentilis*)	BLM Type-3, USFS Sensitive	Documented occurrences within the PWMA landscape, including some evidence of breeding activity.	Goshawks are considered sensitive to large-scale changes to forested habitats associated with timber harvesting, livestock grazing, fire suppression and drought (Reynolds et al. 1992).	Work with CTNF biologists to update local status of nesting goshawks in the PWMA landscape. Maintain forested habitat within the PWMA landscape in a variety of vegetation structure stages to provide quality habitat for goshawk prey species (See	***Potentially suitable as a focal species.*** Management recommendations for Northern Goshawk are considered a good surrogate for managing forest species diversity (Reynolds et al. 1992). However, there is limited information on current utilization of PWMA habitats by

Species	Status Designation(s)	Occurrence Context in Portneuf WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Portneuf WMA
				Reynolds et al. 1992 for specific recommendations).	goshawks potentially nesting on adjacent USFS lands.
Swainson's Hawk (*Buteo swainsoni*)	SGCN	Swainson's hawk utilization of PWMA is poorly documented; however, it is a possible breeder and may also utilize PWMA habitats during migration.	Main threats are vulnerability of this species as it congregates in large numbers during migration and on the wintering grounds (e.g., Argentina). On breeding grounds, conversion of native grasslands to crops can degrade or eliminate nesting habitat. Development of wind farms may cause direct mortality if migrating hawks collide with turbines during spring and fall migration.	Maintain and/or restore native grasslands in order to retain adequate foraging and nesting habitats. Avoid disturbance to nest trees during breeding. Migration corridors should be identified and important stopover habitat protected. Better data on mortality rates of migrating Swainson's hawks (and other raptors) as a result of wind farm development are needed.	***Unsuitable as a focal species.*** Occurrence context on PWMA landscape does not reflect the main threats. Limited and unquantified seasonal occurrence limits potential management feedback at the focal species scale.
Merlin (*Falco columbarius*)	SGCN	Merlins are rarely seen on PWMA. Nesting habitat in Idaho has been shrub-steppe dominated by sagebrush and nests were placed in juniper trees. Typically, merlins use abandoned stick nests built by raptors, corvids or other birds . In eastern Idaho, merlins used abandoned black-billed magpie nests.	An increase in agricultural lands has caused losses of both nest sites and prey species for merlins	Continued monitoring of environmental contaminants in merlins is recommended since this is still cause for concern in some parts of their range	***Unsuitable as a focal species.*** Occurrence context on PWMA landscape does not reflect the main threats. Limited and unquantified seasonal occurrence limits potential management feedback at the focal species scale.
Peregrine Falcon (*Falco peregrinus*)	SGCN, BLM Type-3, USFS Sensitive	Nearest known peregrine aerie is approximately 17 miles from the northeast extent of the PWMA landscape. However, in 2007, an injured adult peregrine was captured approximately four miles from the PWMA boundary.	Loss of habitat, particularly at cliff nest sites or adjacent wetlands, is a key threat to peregrine falcons. Disturbance at nest sites during breeding is also a threat to this species.	Suitable nesting cliff walls near PWMA are currently occupied by prairie falcons and golden eagles. The potential for peregrine nesting within the PWMA landscape is unclear. However, management that minimizes disturbance near cliff nesting areas will benefit breeding raptors. Restoring and enhancing riparian and wetland habitats on PWMA landscape will enhance prey abundance.	***Unsuitable as a focal species.*** Occurrence context on PWMA does not reflect the main threats. Limited and unquantified seasonal occurrence on PWMA limits potential management feedback at the focal species scale.
Boreal Owl (*Aegolius funereus*)	SGCN, BLM Type-5, USFS Sensitive	An historical occurrence recorded within the PWMA landscape indicated possible breeding activity	Primary threat to this species is timber harvest (e.g., clearcutting), which often eliminates large-diameter snags and live trees used for nesting, reduces primary prey populations, and removes forest structure needed for foraging and roosting	Management should involve retention of large-diameter snags, protection and restoration of aspen, and retention of subnivean structural features important to the small mammal prey base. A coordinated, statewide, count-based monitoring program for nocturnal birds would help refine population estimates and trend data needed for this species.	***Unsuitable as a focal species.*** Limited information on use of PWMA by boreal owls limits the potential value of management feedback.
Calliope Hummingbird (*Selasphorus calliope*)	BLM Type-3	Calliope hummingbird nesting habitat exists within PWMA landscape; however, nesting is not documented.	Any activities that threaten the quality and extent of aspen, montane shrublands and montane riparian habitats and their associated blooming forb communities are likely detrimental to calliope hummingbird.	Manage montane areas to maintain a multi-age mosaic of deciduous woodlands (willows and aspen), coniferous forest, montane shrubs, and forest openings and meadows that support flowering forbs. Manage for productive forb-rich, flowering meadows.	***Unsuitable as a focal species***. Limited information on distribution within the PWMA landscape. Unknown distribution limits potential management feedback.
Brewer's Sparrow (*Spizella breweri*)	SGCN, BLM Type-3	Brewer's Sparrow is a common breeder in sagebrush habitat within PWMA landscape.	Shrub-steppe obligate species, closely associated with big sagebrush. Habitat destruction and degradation in sage steppe are the primary threats to Brewer's Sparrow populations.	Conservation actions should focus on preserving areas of intact, unfragmented shrub-steppe habitat.	***Potentially suitable as a focal species.*** Brewer's Sparrow is a sagebrush obligate and representative of sagebrush-dependent species sharing similar conservation needs.

Species	Status Designation(s)	Occurrence Context in Portneuf WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Portneuf WMA
Reptiles					
Ring-necked Snake(*Diadophis punctatus*)	SGCN, BLM Type-5	One historical occurrence recorded within the PWMA landscape and several other sightings within 10 miles.	Possible threats include habitat loss and changes in the prey base arising from habitat change and species introductions.	Studies to clarify the status of populations are needed, including investigations of habitat requirements and threats to populations. Protection of occupied sites from large scale habitat destruction associated with timber harvest, damming, and intensive agricultural use is needed.	***Unsuitable as a focal species.*** Limited information on distribution within the PWMA landscape. Unknown distribution limits potential management feedback.
Amphibians					
Northern Leopard Frog (*Rana pipiens*)	SGCN, BLM Type-2	Numerous documented occurrences within the PWMA landscape.	Loss and degradation of wetland and riparian habitat. Introduced competitors and predators can cause population declines and losses. Disease is also a concern, particularly the chytrid fungus, *Batrachochytrium dendrobatidis*.	Wetland protection and/or restoration of degraded sites is beneficial; a comprehensive understanding of population status is needed	***Potentially suitable as a focal species.*** Species is important indicator of riparian and wetland systems in southeast Idaho, the stronghold for this species in Idaho. Continued persistence in the PWMA landscape would help guide priorities for riparian and wetland conservation.
Western Toad (*Anaxyrus boreas*)	BLM Type-3, USFWS Eastern Population Petitioned ESA,	Portneuf River watershed includes historic occurrences of ESA-petitioned subspecies. Current distribution and status in watershed is poorly documented.	Habitat alteration and fragmentation isolates breeding populations and increases the effects of widespread threats such as changes in water quality, timber harvest, livestock grazing, fire, and toxic chemicals. Disease, particularly chytrid fungus *(Batrachochytrium dendrobatidis)* is also a concern.	Managing disease, cataloging and monitoring population status, delineating important habitat, protecting delineated habitat, and identifying and protecting current breeding sites from habitat degradation (Keinath and McGee 2005).	***Unsuitable as a focal species.*** Limited information on distribution within the PWMA landscape. Unknown distribution limits potential management feedback.
Fish					
Yellowstone Cutthroat Trout (*Oncorhynchus clarkii bouvieri*)	SGCN, BLM Type-2, USFS Sensitive	Occurs throughout the Blackfoot and Portneuf River watersheds including tributaries within the PWMA.	Reduction in historically occupied range, habitat loss or degradation, fragmentation of current habitat, and isolation of existing populations, and hybridization with rainbow trout (IDFG 2005).	Maintain population distribution and trend monitoring program; conduct watershed habitat assessment; pursue reestablishment of metapopulation connectivity guided by the habitat assessment.	***Potentially suitable as a focal species***. Occurrence context on PWMA does not reflect main threats to the population; however, species is an important indicator of riparian systems within the PWMA landscape.
Gastropods					
Thin-ribbed Mountainsnail (*Oreohelix tenuistriata*)	SGCN	This terrestrial snail has been documented historically at locations between Lava Hot Springs and McCammon in Bannock County, and within the PWMA landscape. Whether the species is extant is not known (Frest 1999).	Threats are not known.	Henderson and Daniels (1917) found the population in an area dominated by mountain mahogany. Snails were found in openings among the shrubs where balsamroot grew in association with limestone.	***Unsuitable as a focal species.*** Limited information on distribution within the PWMA landscape. Unknown distribution limits potential management feedback.
Bivalves					
Western Pearlshell (*Margaritifera falcate*)	SGCN	This freshwater mussel has been documented within the Blackfoot and Portneuf River watersheds and within the PWMA landscape.	Populations are sensitive to changes in water quality; livestock, agricultural runoff, housing or industrial development, and mining are potential causes of degraded water quality. Small dam construction and	Research is necessary to determine current distribution, population sizes, and population trends throughout the state. Efforts are also needed to evaluate and prioritize site-level threats and conservation	***Unsuitable as a focal species.*** Limited information on distribution within the PWMA landscape. Unknown distribution limits potential management feedback.

Species	Status Designation(s)	Occurrence Context in Portneuf WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Portneuf WMA
			extensive diversions may also impact aquatic habitats. The loss of appropriate host fish populations is also a threat.	needs.	
Insects					
Mayfly (*Ameletus sparsatus*)	SGCN	Populations in Idaho occur in scattered localities across central and eastern parts of the state. One occurrence is recorded within the PWMA landscape.	Specific threats to Idaho populations have not been identified. In general, mayfly populations are affected by changes to aquatic habitat, such as alteration of flow patterns, streambed substrate, thermal characteristics, and water quality. Alteration and degradation of aquatic habitat is the primary concern for Idaho populations.	Surveys are needed to verify the extant status of populations, particularly at sites represented by older collections, such as the single record from within the PWMA landscape	**Unsuitable as a focal species.** Limited information on distribution within the PWMA landscape. Unknown distribution limits potential management feedback.

Selection of Conservation Targets

The biodiversity of PWMA 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 PWMA for management and conservation, while still reflecting the management priorities of PWMA.

The Conservation Targets for the Plan were selected from species ranked as potentially suitable focal species in Table 1. A final consideration in the selection of Conservation Targets was the best professional judgment of the Southeast Regional Habitat Manager and East District Habitat Biologist. Effective Conservation Targets cannot be selected based solely on species assessments. They must reflect regional threats, priorities, existing conservation partnerships, public use, other social considerations, and the limitations of WMA personnel and funding.

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

1. Mule Deer (Mule Deer Winter Range, Upland Game and Other Wildlife Production)
2. Columbian Sharp-tailed Grouse (Upland Game and Other Wildlife Production)
3. Brewer's Sparrow (Upland Game and Other Wildlife Production)
4. Northern Leopard Frog (Upland Game and Other Wildlife Production)

Mule Deer

Mule deer was selected as a Conservation Target to represent Mule Deer Winter Range and Upland Game and Other Wildlife Production on PWMA because:

- Mule deer is a flagship species and is the primary foundational priority for the creation of PWMA.
- Mule deer rely on a broad array of habitat components including aspen, forest, riparian, live streams, mountain shrub, grasslands, and sagebrush to thrive within the PWMA landscape. Efforts to sustain mule deer by conserving these varied habitat components will benefit other big game and a wide range of other species.

Columbian Sharp-tailed Grouse

Columbian sharp-tailed grouse was selected as a Conservation Target to represent Upland Game and Other Wildlife Production on PWMA because:

- Lek locations on PWMA are well documented, providing useful spatial information for planning.
- By delineating leks and estimating likely important nesting habitat and wintering areas, a useful map that serves to identify a crucial landscape and guide offsite activities will help sustain sharp-tailed grouse.

- Columbian sharp-tailed grouse have large home ranges and use a mosaic of habitats within the PWMA landscape such as grassland, sage-steppe, mountain shrub, and riparian. Efforts to sustain sharp-tailed grouse by conserving these varied habitat components will also benefit a wide range of other species.
- Columbian sharp-tailed grouse use of grasslands is particularly valuable as a surrogate for other grasslands-dependent flagship and special status species.

Brewer's Sparrow

Brewer's sparrow was selected as a Conservation Target to represent Upland Game and Other Wildlife Production on PWMA because:

- Upland habitat types associated with Brewer's sparrow benefit several species evaluated in Table 1 not fully covered by other Conservation Targets. Efforts to sustain Brewer's sparrow by conserving associated habitat components will also benefit a wide range of other species including sensitive species.
- Upland habitat associated with sensitive species can be mapped and monitored on PWMA and the adjacent landscape.

Northern Leopard Frog

Northern leopard frog was selected as a Conservation Target to represent Upland Game and Other Wildlife Production on PWMA because:

- Wetland habitat types associated with northern leopard frog benefit nearly all species evaluated in Table 1 as well as most other wildlife. Wetland and riparian protection and restoration is a primary recommended beneficial management and conservation action for most species evaluated.
- Wetland and riparian habitat extent is easily mapped and monitored on PWMA and the adjacent landscape.
- Given the high species value of wetland and riparian habitat—particularly of priority species such as mule deer, Columbian sharp-tailed Grouse, Yellowstone cutthroat trout, etc.—wetland and riparian restoration partnerships are very achievable.

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 other 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 PWMA provide substantial, but variable habitat benefits for an array of 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 34-39), 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	**Mule Deer**	**Columbian Sharp-tailed Grouse**	**Brewer's Sparrow**	**Northern Leopard Frog**	**Conservation Need**
Mule Deer	X	P	P	P	
Moose	X	P	P	P	
Merriam's shrew	P	P	P		
N. American wolverine	P				Yes
Townsend's big-eared bat				P	Yes
Columbian Sharp-tailed Grouse	P	X	P	P	
Greater Sage-grouse	P	P	X	P	
Wild Turkey	P	P	P	P	
Transitional Waterbird Guild				X	
Bald Eagle	P			P	Yes
Northern Goshawk	P	P	P		
Swainson's Hawk	X	X	X	P	
Merlin	X	X	P	P	
Peregrine Falcon	P	P	P		Yes
Boreal Owl	P				Yes
Calliope Hummingbird	X	P	P	P	
Brewer's Sparrow	P	X	X		
Ring-necked Snake	P			X	Yes
Northern Leopard Frog	P			X	
Western Toad	P	P	P	X	
Yellowstone Cutthroat Trout	P			X	
Thin-ribbed Mountainsnail	P	P	P		Yes
Western Pearlshell				P	Yes
Mayfly				P	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.

Portneuf WMA Management Program Table

The following table outlines the Management Directions, Performance Targets, Strategies, and Outcome Metrics PWMA staff will use to manage for the Conservation Targets selected (page 30) to represent each PWMA Priority (page 21) at both the PWMA 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: Mule Deer Winter Range					
Conservation Target: Mule Deer					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
PWMA	Mule deer winter forage and security	Create an accurate vegetation map of PWMA by 2023	With support from other programs, ground truth and further refine ReGap mapping	Vegetation map completed	A, B, C, E, F, H
		Manipulate on average 10 acres annually to maintain diverse and productive plant community	Mow, burn, control grazing to maintain diverse, well balanced and productive plant communities for forage and security	Acres treated	
		Monitor 3950 acres and treat 350 acres per year to control noxious weeds	Use chemical, mechanical, biological and educational methods to control noxious weed infestations		
		Maintain 1,000 acres of thermal and hiding cover distributed throughout PWMA	Mow, burn, control grazing to maintain diverse, well balanced and productive plant communities for forage and security	Acres treated, fence miles maintained	
			Use chemical, mechanical, biological and educational methods to control noxious weed infestations and limit the spread of noxious weeds	Acres treated	
		Annually maintain approximately 20 acres winter wheat or legumes well distributed throughout PWMA	Through contracts or with Department personnel maintain food plots for transition range	Acres maintained	
			Monitor wildlife use		
		Maintain six miles of boundary fences annually	Work with neighboring landowners to maintain fencing	Miles of fence maintained	
		Remove trespass cattle from PWMA promptly (at a maximum, within the timeframe outlined in the Idaho State Trespass of Animals [Title 25, Chapter 22] or Estrays [Title 25, Chapter 23] Laws, whichever is applicable)	Work with neighboring landowners, local Brand Inspector and/or Sheriff to ensure trespass cattle are removed	Lawful removal of trespass cattle	
		Monitor six established vegetation transects by 2016, and then every five years	Supported by other programs, collect and analyze vegetation data from established transects	Data collected and analyzed	
		Big game mortality due to collisions adjacent to WMA reduced	Supported by other programs roadkill history reviewed for Old Hwy 91 and arteries and current conditions adjacent to PWMA monitored	Big game mortality due to collisions adjacent to PWMA reduced	
			Supported by other programs roadkill concentrations identified and addressed through collaboration with highway authorities		
PWMA and Landscape	Mule deer security	Winter disturbance reduced	Compliance with motorized travel rules enforced and human entry to PWMA restricted under severe winter conditions	Disturbance monitored and addressed	A, B, C, E, F, H
			Winter/spring recreation monitored and evaluated for potential conflicts		
			Predator activity monitored and predator control initiated if warranted		
		Monitor for disease, toxins and malnutrition	Supported by other programs, collect samples from suspect mortalities for possible West Nile virus, brucellosis, chronic wasting disease and toxins	Animals affected	
			Monitor weather conditions, mule deer body condition		

WMA Priority: Mule Deer Winter Range					
Conservation Target: Mule Deer					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
PWMA and Landscape	Population monitoring	Monitor wintering mule deer numbers	Supported by Wildlife Bureau survey wintering big game numbers on PWMA and PWMA landscape as funding allows	Survey completed	A, B, C, E, F, H
Landscape	Mule deer migration corridors	Create map depicting connectivity between summer and winter range by 2023	Collaborate with private landowners and government agencies to identify important migration corridors	Maps completed	A, B, C, E, F, H
		Identify and map current or potential migration impediments by 2023	Supported by other programs roadkill history reviewed and current conditions adjacent to PWMA monitored		
			Collaborate with private landowners and government agencies to identify impediments		
	Protect and promote additional Mule deer habitat	Provide long term protection to 5,000 acres of habitat by 2023	Working with willing sellers, acquire additional lands through fee title, easement, lease or legal agreement as opportunities arise	Acres protected	
		Improve 10,000 acres of habitat by 2023	Through the Habitat Improvement Program, Mule Deer Initiative, Farm Bill Coordinator, public outreach and technical assistance (BLM, NRCS, USFS.) encourage and facilitate improvement of transition or winter range		
WMA Priority: Upland Game and Other Wildlife Production					
Conservation Target: Columbian Sharp-tailed Grouse					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
PWMA	Breeding, nesting and brood rearing habitat	Maintain 2,000 acres of high quality breeding, nesting and brood rearing habitat	Maintain display areas for Columbian sharp-tailed grouse through mowing, burning or herbicides. Maintain openings in proximity to quality nesting cover	Acres treated	B, C, F, G, H
			Through mowing, burning, trespass grazing control, herbicides and biological controls, maintain quality nesting cover		
		Monitor 3950 acres and treat 350 acres per year to control noxious weeds	Use chemical, mechanical, biological and educational methods to control noxious weed infestations		
		Provide ten acres of legume seedings dispersed and adjacent to quality nesting cover	Through contracts or with Department personnel maintain food plots for quality brooding cover in proximity to nesting cover		
		Maintain six miles of boundary fences annually	Work with neighboring landowners to maintain fencing	Miles of fence maintained	
		Remove trespass cattle from PWMA promptly (at a maximum, within the timeframe outlined in the Idaho State Trespass of Animals [Title 25, Chapter 22] or Estrays [Title 25, Chapter 23] Laws, whichever is applicable)	Work with neighboring landowners, local Brand Inspector and/or Sheriff to ensure trespass cattle are removed	Lawful removal of trespass cattle	
	Roosting cover, storm cover, and winter forage	Maintain 1,200 acres of woody vegetation for roosting, storm cover	Through mowing, burning, fire suppression, trespass grazing control, herbicides and biological controls maintain a mosaic of dense stands of low and medium height mountain brush, native fruit bearing shrubs, and conifer providing roosting, storm cover, and foraging for Columbian sharp-tailed grouse and other upland game	Acres maintained	
			By mowing pullouts and roads as a method of fire control measures, maintain stands of tall deciduous and conifer providing for roosting and storm cover	Number of pullouts and miles of road mowed	
		Provide ten acres of high energy grains dispersed and adjacent to quality roosting and storm cover winter forage	Through contracts or with Department personnel maintain food plots for early winter forage also benefitting ring-necked pheasant and wild turkey.	Acres planted	

WMA Priority: Upland Game and Other Wildlife Production					
Conservation Target: Columbian Sharp-tailed Grouse					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
PWMA and Landscape	Other game production	Provide long term protection to 5,000 acres of habitat by 2023	Working with willing sellers, acquire additional lands through fee title, easement, lease or legal agreement as opportunities arise	Acres protected	B, C, F, G, H
		Improve 10,000 acres of habitat by 2023	Through the Habitat Improvement Program, Mule Deer Initiative, Farm Bill Coordinator, public outreach and technical assistance, encourage and facilitate improvement of mountain brush and shrub-steppe with functioning understory component, through plantings and control of wildfire, trespass grazing and invasive plants		
		Monitor for disease, toxins and other impacts	Supported by other programs, collect samples from suspect mortalities for possible West Nile virus, chronic wasting disease and toxins	Samples collected	
		Improve ten miles of degraded riparian habitat by 2023	Support other programs to monitor beaver activity, address depredations, and propose possible reintroductions with emphasis on Quinn and Robbers Roost Creeks	Stream miles improved	
			Support other programs to monitor Yellowstone cutthroat trout and other fish habitat with emphasis on Quinn and Robbers Roost Creeks		
			Through the Habitat Improvement Program, Mule Deer Initiative, Farm Bill Coordinator, public outreach and technical assistance, encourage and facilitate improvement of riparian areas from excessive and trespass grazing with maintained fencing or improved pasture management		
Landscape	Protect and promote additional Sharp-tailed grouse habitat	Provide long term protection to 5,000 acres of habitat by 2023 (as above)	Working with willing sellers, acquire additional lands through fee title, easement, lease or legal agreement as opportunities arise	Acres protected	B, C, F, G, H
		Improve 10,000 acres of habitat by 2023 (as above)	Through the Habitat Improvement Program, Mule Deer Initiative, public outreach and technical assistance (BLM, NRCS, USFS.) encourage and facilitate improvement and restoration of sharp-tailed grouse breeding and wintering areas	Acres improved	
	Population monitoring	Monitor 37 leks and 12 wing barrels	Support other programs to monitor lek attendance and facilitate wing collection	Leks monitored, wings collected/ evaluated	
		Monitor for disease, toxins and other impacts	Supported by other programs, collect samples from suspect mortalities for possible West Nile virus and toxins	Samples collected	
			Consider artificial propagation techniques or releases (turkey) only if cost effective and neutral to other wildlife		

WMA Priority: Upland Game and Other Wildlife Production					
Conservation Target: Brewer's Sparrow					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
PWMA	Sensitive species and nongame upland habitat	Complete updated species list and mapped breeding territories by 2018 with emphasis on sensitive gastropods, insects, reptiles, birds and mammals (Appendices VI and VII)	Supported by other programs conduct surveys of migratory and breeding species	Surveys conducted/lists recorded	B, C, F, G, H
		Monitor 3,950 acres and treat 350 acres annually to control noxious weeds	Use chemical, mechanical, biological and educational methods to control noxious weed infestations	Acres treated	
		Protect and enhance 3,200 acres of nesting/brood rearing, foraging and storm cover habitat	Balance other wildlife management needs and recreational use with habitat requirements for sensitive and nongame species	Acres protected	
			Assist promotion of local awareness of existing species and habitat needs		

WMA Priority: Upland Game and Other Wildlife Production					
Conservation Target: Brewer's Sparrow					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
PWMA	Sensitive species and nongame upland habitat	Maintain six miles of boundary fences annually	Work with neighboring landowners to maintain fencing	Miles of fence maintained	B, C, F, G, H
		Remove trespass cattle from PWMA promptly (at a maximum, within the timeframe outlined in the Idaho State Trespass of Animals [Title 25, Chapter 22] or Estrays [Title 25, Chapter 23] Laws, whichever is applicable)	Work with neighboring landowners, local Brand Inspector and/or Sheriff to ensure trespass cattle are removed	Lawful removal of trespass cattle	
Landscape	Sensitive species and nongame upland habitat	Provide long term protection to 5,000 acres of habitat by 2023	Working with willing sellers, acquire additional lands through fee title, easement, lease or legal agreement as opportunities arise	Acres protected	B, C, F, G, H
		Improve 10,000 acres of habitat by 2023	Through the Habitat Improvement Program, Mule Deer Initiative, Farm Bill Coordinator, public outreach and technical assistance, encourage and facilitate improvement of mature forest, mountain brush and shrub-steppe with functioning understory component, through plantings and control of wildfire, trespass grazing and invasive plants		
	Sensitive species and nongame population monitoring	Survey nongame and sensitive species by 2018, and then every ten years	Supported by other programs, identified populations monitored	Surveys completed	
		Monitor for disease, toxins and other impacts	Supported by other programs, collect samples for possible West Nile virus, white-nose syndrome (bats) and other diseases or toxins	Samples collected	

WMA Priority: Upland Game and Other Wildlife Production					
Conservation Target: Northern Leopard Frog					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
PWMA	Sensitive species and nongame wetland and riparian habitat	Complete updated species list and mapped breeding territories by 2018 with emphasis on sensitive bivalves, gastropods, insects, fish, amphibians, reptiles, birds and mammals (Appendices VI and VII)	Supported by other programs conduct surveys of migratory and breeding species	Surveys conducted/lists published	B, C, F, G, H
		Monitor 3,950 acres and treat 350 acres annually to control noxious weeds	Use chemical, mechanical, biological and educational methods to control noxious weed infestations	Acres treated	
		Protect and enhance 650 acres of nesting/brood rearing, foraging and storm cover habitat	Balance other wildlife management needs and recreational use with habitat requirements for sensitive and nongame species	Acres protected	
			Assist promotion of local awareness of existing species and habitat needs		
		Maintain six miles of boundary fences annually	Work with neighboring landowners to maintain fencing	Miles of fence maintained	
		Remove trespass cattle from GSWMA promptly (at a maximum, within the timeframe outlined in the Idaho State Trespass of Animals [Title 25, Chapter 22] or Estrays [Title 25, Chapter 23] Laws, whichever is applicable)	Work with neighboring landowners, local Brand Inspector and/or Sheriff to ensure trespass cattle are removed	Lawful removal of trespass cattle	

WMA Priority: Upland Game and Other Wildlife Production					
Conservation Target: Northern Leopard Frog					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
Landscape	Sensitive species and nongame wetland and riparian habitat	Provide long term protection to 5,000 acres of habitat by 2023	Working with willing sellers, acquire additional lands through fee title, easement, lease or legal agreement as opportunities arise	Acres protected	B, C, F, G, H
		Improve 10,000 acres of habitat by 2023	Through the Habitat Improvement Program, Mule Deer Initiative, Farm Bill Coordinator, public outreach and technical assistance, encourage and facilitate improvement of riparian areas from excessive and trespass grazing with maintained fencing or improved pasture management	Acres improved	
	Sensitive species and nongame population monitoring	Survey nongame and sensitive species by 2018, and then every ten years	Supported by other programs, identified populations monitored	Surveys completed	
		Monitor for disease, toxins and other impacts	Supported by other programs, collect samples for possible West Nile virus, chytrid fungus (*Chytridiomycosis*-amphibians) and other diseases and toxins	Samples collected	
WMA Priority: Public Hunting					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
PWMA	Information aids	Provide five on site information centers	Information centers maintained with posted information and stocked with maps and informational brochures including PWMA brochure and use restrictions	Information centers maintained	A, E, F, G
		Provide off site information	Maps and brochures updated and available web based and at local vendors	Information updated and available	
			Newsletters updated at least annually and available web based and at local vendors		
		Provide directional signage from three approaches, entrance signs at three locations and boundaries marked every 660 feet	Routes, entrances, boundaries and facilities marked with maintained signage	Signs maintained	
	Facilities and hunting areas	Provide four parking areas and seasonally eight miles of motorized travel routes with pull outs every 660 feet	Parking areas, motorized trails and pull outs mowed and maintained	Parking areas and trails maintained	
		Provide 3,900 acres of accessible cover	Provide 10 acres of food plots within .5 mile of maintained trails and dispersed cover throughout PWMA	Acres provided	
Landscape	Off-site access	Provide additional public access	Cooperate with adjacent land managers to facilitate public access	Additional acres available	A, E, F, G
			Working with willing sellers, acquire additional lands through fee title, easement, lease or legal agreement as opportunities arise		
WMA Priority: General Wildlife Appreciation					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
PWMA	Information aids	Provide five on site information centers	Information centers posted with information including interpretive displays and stocked with maps and informational brochures including PWMA brochure and use restrictions	Information centers maintained	A, E, F, G
		Provide off site information	Maps, brochures and interpretive information updated and available web based and at local vendors	Information updated and available	
			Species lists, local history and geology available web based		
			Newsletters updated at least annually and available web based and at local vendors		

WMA Priority: General Wildlife Appreciation					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
PWMA	Information aids	Provide directional signage from three approaches, entrance signs at three locations and boundaries marked every 660 feet	Routes, entrances, boundaries and facilities marked with maintained signage	Signs maintained	A, E, F, G
	Facilities and viewing areas	Provide four parking areas and seasonally eight miles of motorized travel routes with pull outs every 660 feet	Parking areas, motorized trails and pull outs mowed and maintained	Parking areas and trails maintained	
	Public trapping	Accommodate trapping opportunity for two trappers	Provide WMA restrictions (consideration for other use) and require trapping report for PWMA use	Trapping reports	
	Miscellaneous use	Survey year-round public use by 2014, and then every ten years	With systematic sampling scheme assess year-round public use and user satisfaction	Use surveyed and reported	
			Solicit input through newsletters, surveys, public meetings and personal contact		
		Patrol once per month	Limit motorized access or other activity that could negatively impact habitat or legitimate use	Violations detected	
	Education	Promote educational opportunities	Educational tours hosted on request,; all facilities available for youth hunts or educational functions	Requests accommodated	
	Neighbor relations	Control noxious weeds and other pests over 3,900 acres	Supported by Bannock County and weed cooperatives, monitor and control noxious weeds through approved and current methods	Acres controlled	G, J, K
		Prevent inadvertent trespass by PWMA users	All facilities and boundaries clearly marked	Boundaries marked	
		Manage three easements	Water right and trailing easements accommodated without negative impact to the PWMA mission	Easements managed	
	Infrastructure and equipment	Maintain infrastructure and equipment	Anticipate needs and budget accordingly	Infrastructure and equipment maintained	M
			Schedule routine maintenance		
Landscape	Off-site access	Provide additional public access	Cooperate with adjacent land managers to facilitate public access	Additional acres available	A, E, F, G
			Supported by other programs promote Access Yes and periodically report on Access Yes properties offered within PWMA landscape		
			Working with willing sellers, acquire additional lands through fee title, easement, lease or legal agreement as opportunities arise		
	Neighbor relations	Track and minimize depredations	Supported by other programs track depredations occurring within PWMA landscape with particular focus on mule deer and wild turkey	Depredations tracked	G, J, K

Monitoring

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

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

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. At that time, staff will determine whether modifications to the plan are appropriate for meeting performance targets or to accommodate changing conditions or opportunities.

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
- 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 PWMA 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. Past biological monitoring has included:

Big Game Winter Population Surveys

Winter aerial surveys are periodically conducted for deer and elk within the PWMA landscape as part of analysis unit surveys. Surveys are conducted by the regional Wildlife Populations section.

Sage-grouse and Sharp-tailed Grouse Lek Surveys

Lek surveys have been conducted on the PWMA landscape. Surveys are typically conducted by the regional Wildlife Bureau staff but are supported by BLM, USFS, and occasionally private consultants.

Vegetation Monitoring

Vegetation monitoring was initiated in 1993 with the establishment of eight transects in mountain brush and shrub-steppe habitat. Time constraints have limited follow up surveys since 2006.

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 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

Public use surveys are conducted to evaluate use patterns, public satisfaction, and identify issues of concern. Hunter check stations or creel surveys conducted by other programs may also gauge user satisfaction.

Portneuf WMA User Surveys

User information has been gathered on the PWMA using volunteer sign-in boxes since 2002 with a few field contacts during each year. Traffic counters were used during 2011 to assess use and vehicle traffic in and out of the WMA. A trail counter was also used in 2011 at a major trailhead to assess foot and horse traffic. A random survey took place all of 2013 to help assess quantity, timing, and purpose of visits and other information. The sign-in boxes will continue to be used every year.

Table 3. Monitoring for Portneuf WMA, 2014-2023.

Performance Target	**Survey Type**	**Survey Frequency**
Monitor six established vegetation transects every five years	Vegetation structure and diversity	Every five years
Monitor 37 leks and 12 wing barrels	PWMA sharp-tailed grouse lek attendance counts	Annually
Monitor wintering big game herd numbers	Supported by Wildlife Bureau survey wintering big game numbers on PWMA and PWMA landscape	As Wildlife Bureau priority allows
Identified breeding populations monitored (nongame and sensitive species)	Presence/absence	Every 10 years
Survey year-round public use and user satisfaction	Systematic sampling through on site and web-based surveys	Every 10 years beginning in 2014

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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

Portneuf WMA has a history as mule deer winter range, pasture for domestic livestock, and dry-land agriculture prior to acquisition by the Department. The first and largest purchase of land was 2,820 acres in 1970. Three smaller parcels were purchased by 1974 to achieve the present area of 3,104 acres. An additional 802 acres of BLM land are managed for wildlife values under a cooperative agreement for a total of 3,906 acres. The area has been previously referred to as the Portneuf Winter Range Wildlife Management Area and the Portneuf Game Range. Informally it has often been called Robber's Roost in reference to a gold shipment robbery that occurred in the vicinity during the 19th Century. Prior to settlement, the area of Portneuf Canyon was known as a dangerous stretch to pass through on a stagecoach due to the gangs of bandits frequenting the area. A well-publicized robbery involved the theft of $60,000 in gold from a Virginia City stage coach, and rumored to have been hidden in what became known as Robber's Roost. However, the area's historical use as mule deer winter range is its most significant value and it is now designated the Portneuf Wildlife Management Area.

Since its acquisition, PWMA has been managed for mule deer winter range and public hunting, although it is also increasingly visited for wildlife appreciation and other outdoor recreation. Wild turkeys were introduced in 2002 at three locations within Big Game Management Unit 71 and within the PWMA landscape. One release site was Robbers Roost Canyon within the WMA boundary. Populations have grown and controlled hunting has been permitted since 2004. Depredation issues have occasionally developed relating to wintering deer and more recently turkey. During especially harsh conditions, all human entry onto the WMA has been restricted. Emergency winter feeding of mule deer has been undertaken within the PWMA landscape when determined appropriate by the Regional Winter Feeding Advisory Committee. Vehicle collisions can become significant during harsh winter conditions.

There has been no domestic livestock grazing. Interior and extraneous fences have been removed. Boundary fences have been relocated on property lines, replaced, repaired or in some cases replaced by markers only. Sections of fence which inhibit big game movements have been removed or modified.

Road work has been completed in coordination with Bannock County and adjacent landowners. Several interior roads have been closed to motorized vehicles to reduce risk to area users and reduce disturbance. Water bars have been installed and maintained on remaining motorized trails to reduce erosion. Some established road sections have been graded and graveled as needed. Fenced parking areas have been maintained near four access points with the most recent completed in 2012. These provide off-road parking and facilitate non-motorized access when the interior roads are closed to motorized traffic.

Numerous techniques are available to manage vegetation, each depending on the objectives, limitations, potential natural vegetation, and present state of a given site. Soils and climate are the primary constraints that determine the long-term potential for the plant species diversity and abundance on a site, which in turn determine the presence and carrying capacity of animal species there (Bookhout 1994). The habitat management program for PWMA will apply

techniques such as planting desirable species; chemical, biological, and mechanical control of less desirable species including noxious weeds; fertilization of selected areas; prescribed burns; and exclusion of livestock to reduce competition for forage. Any of these techniques may be applied when appropriate to achieve site-specific objectives, although vegetation management often requires no intervening action other than permitting natural ecological processes to occur.

Planting desirable species on PWMA improves its value as deer winter range. Bitterbrush and Hobble Creek sagebrush remain the primary species planted, although others may be included in future plantings. Sagebrush and bitterbrush seed are collected annually on the PWMA. This seed is grown to bare root seedlings by USFS Lucky Peak Nursery and planted throughout the Southeast Region to re-establish burned areas or enhance diminished brush stands. Vegetation monitoring has been carried out periodically to evaluate the long-term effects of forage manipulation for wintering mule deer.

The PWMA is managed along with three other WMAs by the Regional Wildlife Biologist assigned to the East Habitat District of the Southeast Region under the supervision of the Regional Habitat Manager. The habitat management program on PWMA is focused primarily on vegetation management in order to carry out the mission of enhancing mule deer winter range and providing quality habitat for other wildlife and fish.

III. MANAGEMENT REQUIREMENTS AND AUTHORITIES

Federal funds, including those derived from the Land and Water Conservation Fund and USFWS Federal Aid Program, have been used in part to acquire and manage PWMA lands. Certain activities are prohibited from funding with Federal Aid funds, and all provisions of Federal Aid funding will be followed.

Other federal and state laws also affect management of the PWMA. 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 PWMA lands and waters. Under the National Historic Preservation Act, the Department must ensure that historic properties are protected on the PWMA.

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.

IV. VISITOR USE DATA AND USER SURVEY

Voluntary sign-in stations to assess public use have been maintained on PWMA since 2002. Visitors are asked to register their visit using sign-in boxes provided at main entrances. The following table indicates documented types of use compiled mostly from these voluntary sign-in stations. Traffic counter data suggests in excess of 6,000 user visits per year with visitation peaking in the fall (based on the assumption of two visitors per vehicle – suggested by visitors/entry at voluntary registration stations). A systematic year-round survey of all public use on PWMA was completed in December 2013 and is currently being analyzed.

Portneuf WMA user visits based on voluntary registration (2002-2012).

Entries	Visitors	Hunting	Viewing	Other
1,424	2,966	1,421	572	935

Access Facilities

All lands are available for wildlife-based recreation with some restrictions regarding motorized traffic (see below).

Four parking areas are provided around the perimeter of PWMA with numerous pull-outs provided along interior trails during the summer/fall months. All parking areas are posted with pertinent information and are equipped with the voluntary sign-in stations referenced above. “Information centers” and are stocked with maps and brochures including pertinent harvest regulations. Gated parking areas are equipped with “horse stiles” intended to facilitate foot and horse travel when motorized vehicles are restricted.

Educational Use

Use of the property for outdoor education and workshops by schools and other organizations is encouraged. Tours of the PWMA are provided by appointment, but most organized educational opportunity to date has been limited to volunteer efforts with plantings and other habitat projects.

Restrictions and Special Use

The PWMA is open to public travel use with the following restrictions:

- Motorized vehicles must remain on established, open roads/parking areas
- Motorized access is restricted from November 15 to June 1
- Open fires and firewood cutting are not permitted
- All animal feed, straw or mulch must be certified weed-free

All rules pertaining to public use of Department-controlled lands are in effect (IDAPA 13.01.03, posted at maintained parking areas), and users must also comply with pertinent Idaho hunting,

trapping, and fishing regulations (available at all license vendors and PWMA information centers). Special use provisions can be authorized by permit issued from the Pocatello Regional Office.

2012 USER SURVEY

The Idaho Department of Fish and Game (IDFG) has 32 Wildlife Management Areas (WMAs) covering 350,000 acres. In 2012, the Department will begin updating the long-term management plans for each WMA. This survey will help us know more about the public uses and opinions about these important wildlife habitats.

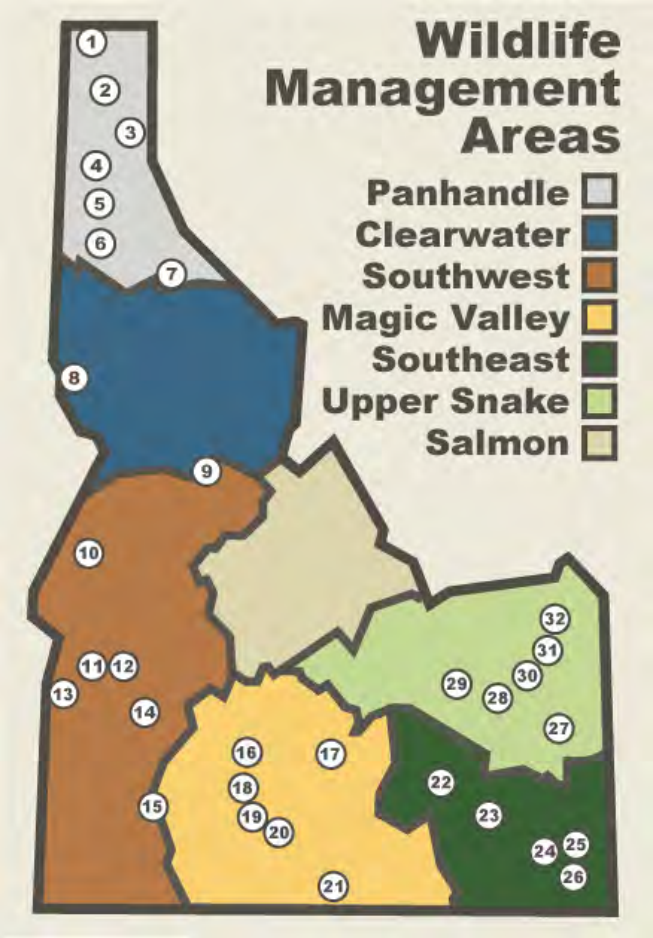
If you have any questions about the management of the WMA contact the regional office associated with that WMA.

1. Have you visited any of the WMAs in Idaho during 2011?

   ☐ Yes ☐ No

2. During 2011 which WMAs have you visited and how many days did you spend at each? Please count partial days as one day. (An estimate is fine)

Days	WMAs
_____	1 Boundary Creek WMA
_____	2 McArthur Lake WMA
_____	3 Pend Oreille WMA
_____	4 Farragut WMA
_____	5 Coeur d' Alene WMA
_____	6 St. Maries WMA
_____	7 Snow Peak WMA
_____	8 Craig Mountain WMA
_____	9 Red River WMA
_____	10 Andrus (formerly Brownlee) WMA
_____	11 Payette River WMA
_____	12 Montour WMA
_____	13 Fort Boise WMA
_____	14 Boise River WMA
_____	15 C. J. Strike WMA
_____	16 Camas Prairie/Centennial Marsh WMA
_____	17 Carey Lake WMA
_____	18 Billingsley Creek WMA
_____	19 Hagerman WMA
_____	20 Niagara Springs WMA
_____	21 Big Cottonwood WMA
_____	22 Sterling WMA
_____	23 Portneuf WMA
_____	24 Blackfoot River WMA
_____	25 Georgetown Summit WMA
_____	26 Montpelier WMA
_____	27 Tex Creek WMA
_____	28 Market Lake WMA
_____	29 Mud Lake WMA
_____	30 Deer Parks WMA
_____	31 Cartier Slough WMA
_____	32 Sand Creek WMA
_____	32 Sand Creek – Chester Segment WMA



Please answer the following questions for <u>each WMA</u> that you visited during 2011.

If you did not spend time at any WMAs, please skip to Question 8.

IF you visited more than 4 WMAs during 2011 please answer for the 5 WMAs that you spent the **most** days at.

_____WMA (please write the WMA you spent time at)

3. What were the three most important activities at **this** WMA? Please number 1 – 3 with 1 being the **most** important.

_____	ATV Riding	_____	Horseback Riding
_____	Being outside	_____	Hunting/Scouting
_____	Biking	_____	Photography
_____	Birding	_____	Picnicking
_____	Camping	_____	Running
_____	Canoe/Kayak/Boat	_____	Snowmobiling
_____	Dog training	_____	Swimming
_____	Dog Walking	_____	Trapping
_____	Fishing	_____	Wildlife Viewing
_____	Hiking	_____	Other (please describe) _____

4. How satisfied were you with your visit to this WMA?

Very Unsatisfied	Unsatisfied	Neutral/No Opinion	Satisfied	Very Satisfied
☐	☐	☐	☐	☐

5. How likely is it that you will visit this WMA again?

Very Unlikely	Unlikely	Neutral/No Opinion	Likely	Very Likely
☐	☐	☐	☐	☐

6. What could IDFG do to improve your visits to this WMA?

_____

_____

7. Do you have any specific suggestions or comments about the management of this WMA?

8. Where do you get most of your information about WMAs?

_____	Fish & Game office
_____	Fish & Game website
_____	Newspaper
_____	Radio
_____	Signage

_____ Social media (such as Facebook or Twitter)

_____ Television

_____ Word of mouth

_____ Other internet site, please list: _____

_____ Other, please tell us how you get information about IDFG WMAs:

_____

_____

IDFG manages Idaho WMAs to achieve these goals:

- Provide high quality habitat
- Provide high quality wildlife-based public recreation (hunting, fishing, wildlife viewing, etc.)
- Educate users about wildlife and the habitats they use
- Maintain positive working relations with neighbors

9. Do you agree with these goals?

Strongly Disagree	**Somewhat Disagree**	**Neutral/No Opinion**	**Somewhat Agree**	**Strongly Agree**
☐	☐	☐	☐	☐

10. Do you have specific suggestions or comments on how to improve these goals or current management of IDFG WMAs?:

_____

_____

11. To the best of your knowledge, what is the primary source of funding for operation and maintenance of IDFG WMAs?

_____ State taxes

_____ Federal taxes

_____ Idaho Fish & Game license sales

_____ I don't know

_____ Other, please describe _____

Historically, hunters and anglers have been Fish and Game's primary constituents. They have provided most of our agency funding through the sale of licenses and tags and through a FEDERAL tax on firearms, ammunition, and fishing supplies. No State taxes are used to operate WMAs.

Fish and Game is experiencing increasing demands on its lands and services by a growing constituency who are neither hunters nor anglers. This includes use of Fish and Game land for outdoor recreation other than hunting and fishing.

12. One option to better fund operation of these WMAs is to require WMA users 18 or older who do not possess a fishing, hunting or trapping license to purchase conservation permit to use Fish & Game WMAs.

    To what extent do you disagree or agree with this option?

Strongly Disagree	Somewhat Disagree	Neutral/No Opinion	Somewhat Agree	Strongly Agree
☐	☐	☐	☐	☐

13. If a conservation permit is required for WMA users who do not possess a hunting, fishing or trapping license how much should it cost?

    _____ $ 5 - $10
    _____ $ 11 - $15
    _____ $ 16 - $20
    _____ $ 21 - $30
    _____ Do not support requiring a permit.

14. If WMA users were required to purchase either a hunting, fishing, or trapping license OR a conservation permit to use WMAs, how likely are you to continue to use WMAs?

Very Unlikely	Unlikely	Neutral/No Opinion	Likely	Very Likely
☐	☐	☐	☐	☐

15. Do you have other specific suggestions or comments on a potential WMA conservation permit?

    _____
    _____

16. Do you have other specific suggestions or comments on how to fund management of WMAs?

    _____
    _____

Are you an Idaho resident? (If no, please go to Question 19.)

☐ Yes ☐ No

17. If you are an Idaho resident, what county do you live in? _____

18. If you are not an Idaho resident, what City and State do you live in?

    City: _____ State: _____

19. In 2011, did you purchase an Idaho fishing, hunting or trapping license?

- ☐ Yes
- ☐ No
- ☐ Not in 2011, but I have before

If you would like to be informed about WMA management in the future, including availability of new draft management plans during the summer of 2012, please provide us your contact information:

Email: _____

Name: _____

Address: _____

_____

City, ST: _____

Zip code: _____

V. 1999-2013 ACCOMPLISHMENTS

Since the 1999 Portneuf WMA Plan approval, the following accomplishments have occurred:

Goal: Provide secure winter habitat for big game and year-round habitat for upland game, nongame wildlife, and fish.

Objective: Provide winter forage for mule deer and elk.

Accomplishments:

- Forage was protected from trespass or excessive grazing by livestock with boundary fencing. Two miles of new fence were constructed and six miles of boundary fences are maintained annually.
- Forage was also maintained in optimum condition using a combination of treatments. Brush density was reduced by mowing 16 acres in scattered patches. Fifteen additional acres were treated with Tebuthiuron to thin sagebrush in 2003. A wildfire in 2002 opened up an additional 207 acres.
- Bitterbrush and sagebrush seed was collected annually and turned over to a nursery contractor to raise seedlings for transplanting on disturbed sites throughout the region. Over 500,000 brush plants from seed harvest on the PWMA have been planted to enhance big game and upland game habitat across the Southeast Region.
- Five acres of forb plots have been planted for big game forage.
- Chemically treated over 350 acres of noxious weeds annually.

Objective: Provide secure winter habitat by restricting access and managing vegetation.

Accomplishments:

- Motorized entry onto PWMA is restricted from November 15 to June 1 each year to prevent harassment of big game.
- Boundaries are clearly marked and roads gated to prevent closed-season entry by motorized vehicles.
- Information signs are posted to explain the purpose of any closures.
- All gates and signs are maintained.
- Security and thermal cover are maintained by minimizing impacts to tall brush and timber in riparian areas and aspen/shrub communities during fire or herbicide treatments.

Goal: Provide good breeding habitat for upland game species.

Objective: Provide for upland game bird production.

Accomplishments:

- Developed sharp-tailed grouse breeding complexes by mowing 16 acres of dense brush. Fifteen acres were treated with Tebuthiuron to thin sagebrush. A wildfire in 2002 opened up an additional 207 acres.
- Protected grouse nesting cover by maintaining six miles boundary fences to control trespass grazing.
- Preserved trees and shrubs in riparian areas and juniper communities by minimizing impacts from fire and herbicide treatments.
- Five acres of forb plots have been planted for brood rearing areas.
- Eight acres of grain food plots area planted annually on or adjacent to the PWMA.
- Planted 45 soft and hard mast producing trees for turkeys and other game and nongame birds.
- Chemically treated over 350 acres of noxious weeds annually.

Goal: Maintain or increase populations of nongame wildlife species.

Objective: Maintain or improve vegetation diversity.

Accomplishments:

- Vegetation was protected from trespass or excessive grazing by livestock with boundary fencing. Two miles of new fence were constructed and six miles of boundary fences are maintained annually.
- Reduced areas of dense brush by mowing 16 acres. Fifteen additional acres were treated with Tebuthiuron to thin sagebrush. Two hundred seven acres were burned during a wildfire in 2002.
- Security and thermal cover are maintained by minimizing impacts to tall brush and timber in riparian areas and aspen/shrub communities during fire or herbicide treatments.
- Five acres of forb plots have been planted for brood rearing areas.
- Eight acres of grain food plots area planted annually on or adjacent to the PWMA.
- Chemically treated over 350 acres of noxious weeds annually.

Goal: Manage access to provide quality opportunities for hunting, trapping, and wildlife appreciation.

Objective: Manage type and timing of use.

Accomplishments:

- Maintained security cover for game animals during the hunting season by limiting motorized vehicles to open and maintained roads and providing parking areas at selected access points.

- Horse access is allowed, but no facilities are provided, other than parking sufficient to accommodate stock trailers and fence stiles meant to exclude motorized vehicles, while allowing horse passage.
- Primitive camping is allowed, but no facilities are provided.
- Graveled 2.25 miles of access roads and put in water bars on three miles of access roads.
- Motorized vehicle access prohibited from November 15 to June 1 each year for wintering wildlife security.
- Non-motorized public access, such as hiking and cross-country skiing, is allowed. Signs are placed at access sites addressing wintering big game.
- Collected user survey forms throughout the year and compiled results annually.
- Area use is monitored to ensure enforcement of motorized vehicle restrictions and to evaluate impacts of area users on wildlife.

Goal: Control dyer's woad, whitetop, thistle, and other noxious weeds on PWMA.

Objective: Use available resources to control noxious weeds through chemical, biological, and mechanical means.

Accomplishments:

- An annual effort is made to control thistle, whitetop, dyer's woad, and dalmatian toadflax through spraying, pulling, and insect releases as time and funding allowed. Chemically treated over 350 acres of noxious weeds annually.
- Noxious weed problem areas were identified and mapped.
- Consultation and working relation was maintained with Bannock County weed supervisor.
- Seasonal temporary employees, volunteers, and permanent staff applied chemical herbicides using a truck sprayer, four-wheeler, and backpack sprayers. Bannock County Sheriff's Commission Inmate Labor Detail and Idaho Department of Corrections Women's Inmate Crew physically removed plants when herbicide application was not appropriate due to weather or plant growth stage and funding allowed.
- Logs documenting details of chemical and biological weed treatments were maintained.
- Worked with Bannock County weed supervisor to identify and help control noxious weeds by participating in training and remaining apprised of new weed control problems.

Goal: Establish all boundaries, monitor easements, and address other common concerns.

Objective: Clearly mark boundaries.

Accomplishments:

- Surveyed all boundaries not established on the ground.
- Placed or replaced markers on PWMA boundary.
- Maintained boundary fences.

- Coordinated with neighbor with whom the Department shares Quinn Creek as a common boundary and developed cooperative agreement on fence placement and maintenance.

Goal: Maintain forum for information exchange.

Objective: Use local working group to inform about PWMA projects and operations, and as a source to learn of local issues and concerns.

Accomplishments:

- Met formally with local working group.
- Contacted working group members and public regarding projects and accomplishments yearly via the annual PWMA newsletter.

Goal: To improve and protect wildlife habitat by acquiring land or easements.

Objective: Purchase land adjacent to WMA.

Accomplishments:

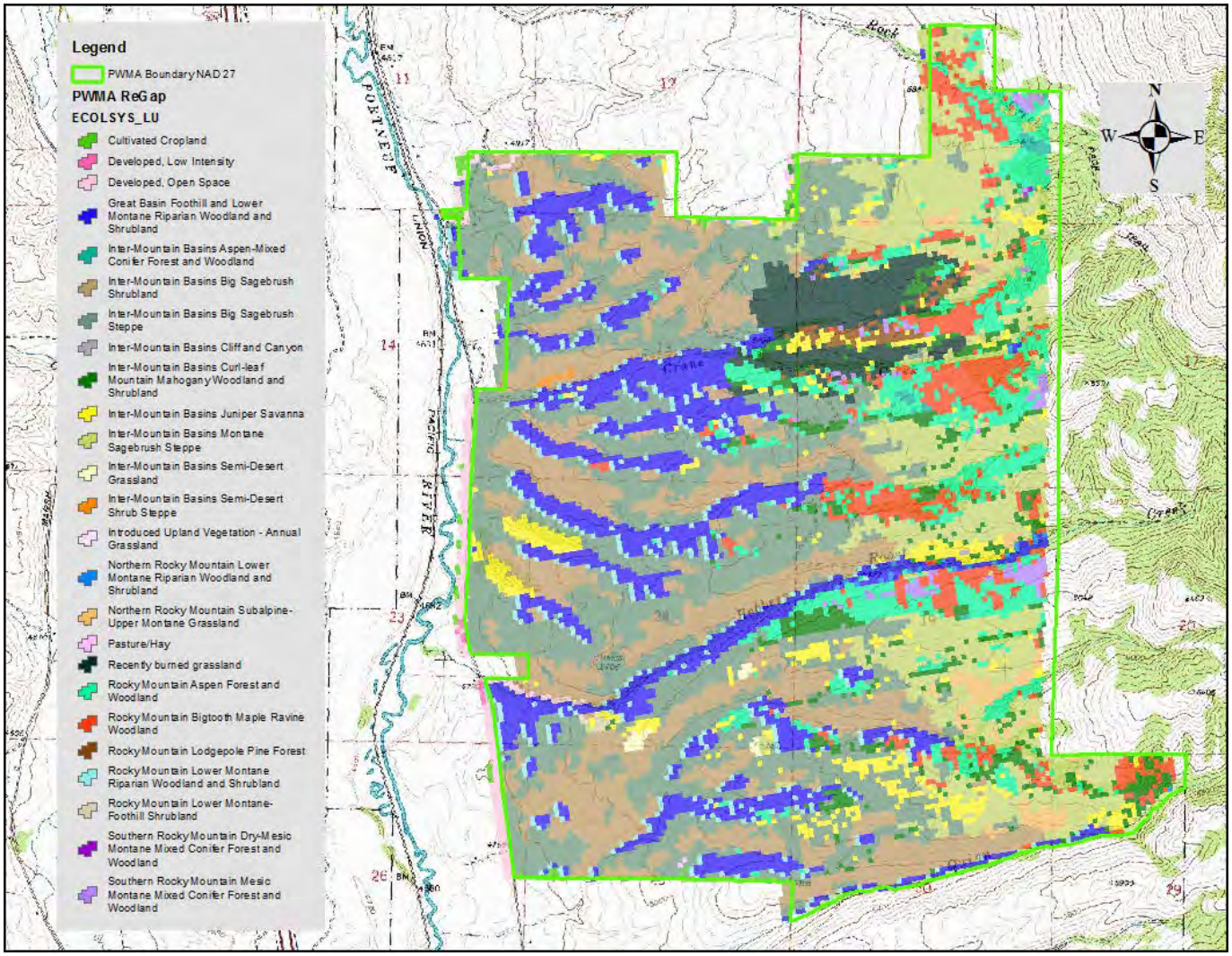
- Identified land that is being offered for sale and/or that falls within guidelines.
- Approached owners with proposals that follow all Department policies.
- Made neighbors and other agencies aware that the Department is interested in land purchases from willing sellers.
- Identified land that may be acquired through trades with other individuals and/or agencies.

VI. VEGETATION

Cover Types

Northwest GAP Analysis Project Land Cover, version 2.0 spatial data (U.S. Geological Survey, Gap Analysis Program, Moscow, Idaho; http://gapanalysis.usgs.gov) was used to estimate the ecological system type composition of PWMA (Some obvious misclassifications; e.g., Recently Burned Grassland/event occurred in 2002 and has returned to shrubland-grassland-woodland or Rocky Mountain Lodgepole Pine Forest/likely a mix of Douglas-fir and Rocky Mountain juniper; have been have been corrected by combining with verified adjacent types).

Ecological System	Acres	Percentage
Inter-Mountain Basins Big Sagebrush Steppe	812	26%
Inter-Mountain Basins Big Sagebrush Shrubland	638	21%
Inter-Mountain Basins Montane Sagebrush Steppe	410	13%
Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland	365	12%
Rocky Mountain Aspen Forest and Woodland	260	8%
Rocky Mountain Bigtooth Maple Ravine Woodland	207	7%
Inter-Mountain Basins Curl-leaf Mountain-Mahogany Woodland and Shrubland	118	4%
Inter-Mountain Basins Juniper Savanna	118	4%
Rocky Mountain Lower Montane Riparian Woodland and Shrubland	88	3%
Northern Rocky Mountain Subalpine-Upper Montane Grassland	36	1%
Southern Rocky Mountain Mesic Montane Mixed Conifer Forest and Woodland	23	<1%
Inter-Mountain Basin Aspen-Mixed Conifer Forest and Woodland	17	<1%
Cultivated Cropland	11	<1%
Inter-Mountain Basins Semi-Desert Grassland	5	<1%
Inter-Mountain Basins Semi-Desert Shrub-steppe	4	<1%
Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland	4	<1%
Developed Low Intensity	2	<1%
Rocky Mountain Lower Montane-Foothill Shrubland	2	<1%
Introduced Upland Vegetation-Annual Grassland	1	<1%
Inter-Mountain Basins Cliff and Canyon	1	<1%
Southern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest and Woodland	1	<1%



Ecological system type composition of PWMA.

Surveys

No recent vegetation surveys have been conducted. Transects set up on Georgetown Summit, Montpelier, and Portneuf WMAs were last surveyed in 2006. The listing of plant species below is based on previous plans, known plantings, and records of occurrence according to the Idaho Fish and Wildlife Information System. There is a need for more current surveys to assess occurrence and abundance of a number of groups.

Plant Species List

Common and special status plant species: additional information available at www.idfg.idaho.gov. Status Designation: Idaho Conservation Data Center -sensitive = 1; Federal listing = 2, -e(endangered), -t(threatened), -c(candidate); USFS ranking = 3, -e(endangered), -t(threatened), -s(sensitive); BLM ranking = 4, -1(Type 1), -2(Type 2), -3(Type 3), -4(Type 4), -5(Type 5). Occurrence: Record within PWMA managed lands = 1, Record within PWMA landscape =2.

Common Name	Scientific Name	Status Designations	Occurrence
Trees			
Sub-alpine Fir	*Abies lasiocarpa*		2
Mountain Maple	*Acer glabrum*		1
Bigtooth Maple	*Acer grandidentatum*		1
Box-Elder	*Acer negundo*		1
Mountain Alder	*Alnus incana*		1
Water Birch	*Betula occidentalis*		1
Curl Leaf Mountain Mahogany	*Cercocarpus ledifolius*		1
Black Hawthorn	*Crataegus douglasii*		1
Utah Juniper	*Juniperus osteosperma*		1
Rocky Mountain Juniper	*Juniperus scopulorum*		1
Engelmann Spruce	*Picea engelmannii*		2
Narrowleaf Cottonwood	*Populus angustifolia*		1
Quaking Aspen	*Populus tremuloides*		1
Common Chokecherry	*Prunus virginiana*		1
Douglas-fir	*Pseudotsuga menziesii*		1
Coyote Willow	*Salix exigua*		1
Shrubs			
Western Serviceberry	*Amelanchier alnifolia*		1
Utah Serviceberry	*Amelanchier utahensis*		1
Basin Big Sagebrush	*Artemisia tridentata tridentata*		1
Mountain Big Sage	*Artemisia tridentata vaseyana*		1
Three-tipped sage	*Artemisia tripartita*		1
Creeping Oregon Grape	*Berberis repens*		1
Redstem Ceanothus	*Ceanothus sanguineus*		1
Green Rabbitbrush	*Chrysothamnus viscidiflorus*		1
Red osier Dogwood	*Cornus stolonifera*		1
Gray Rabbitbrush	*Ericameria nauseosa*		1
Winterfat	*Eurotia lanata*		1

Common Name	Scientific Name	Status Designations	Occurrence
Shrubs (cont.)			
Mountain Lover	*Pachystima myrsinites*		1
Common Silverweed	*Potentilla anserina*		1
Slender Cinquefoil	*Potentilla gracilis*		1
Antelope Bitterbrush	*Purshia tridentata*		1
Skunkbush Sumac	*Rhus trilobata*		1
Whitestem Gooseberry	*Ribes inerme*		1
Woods' Rose	*Rosa woodsii*		1
Mountain Ash	*Sorbus scopulina*		1
Mountain Snowberry	*Symphoricarpos oreophilus*		1
Forbs			
Western Yarrow	*Achillea millefolium*		1
Wild Onion	*Allium* spp.		1
Colorado Columbine	*Aquilegia coerulea*		1
White Sagebrush	*Artemisia ludoviciana*		1
Long-leaved Aster	*Aster adscendens*		1
Engelmann's Aster	*Aster engelmannii*		1
Few-flowered Aster	*Aster modestus*		1
Elegant Aster	*Aster perelegans*		1
Purple Milk-vetch	*Astragalus agrestis*		1
Lesser Rushy Milk-vetch	*Astragalus convallarius*		1
Newberry's Milk-vetch	*Astragalus newberryi*		1
Arrowleaf Balsamroot	*Balsamorhiza sagittata*		1
Western Sticktight	*Bidens vulgata*		1
White Mariposa Lily	*Calochortus eurycarpus*		1
Small Stalk False Flax	*Camelina microcarpa*		1
Hoary Cress	*Cardaria draba*		1
Water Hemlock	*Cicuta douglasii*		1
Canada Thistle	*Cirsium arvense*		1
Musk Thistle	*Cirsium nutans*		1
Bushy Birds Beak	*Cordylanthus ramosus*		1
Hawksbeard	*Crepis acuminata*		1
Fireweed	*Epilobium angustifolium*		1
Willowherb	*Epilobium* spp.		1
Daisy Fleabane	*Erigeron strigosus*		1
Buckwheat spp.	*Eriogonum* spp.		1
Sticky Geranium	*Geranium richardsonii*		1
Curlycup Gumweed	*Grindelia squarrosa*		1
Halogeton	*Halogeton glomeratus*		1
Little Sunflower	*Helianthella quinquenervis*		1
Hairy Gold Aster	*Heterotheca villosa*		1
Dyers Woad	*Isatis tinctoria*		1
Kochia	*Kochia scoparia*		1
Prickly Lettuce	*Lactuca serriola*		1
Field Cress	*Lepidium campestre*		1

Common Name	Scientific Name	Status Designations	Occurrence
Forbs (cont.)			
Clasping Pepperweed	*Lepidium perfoliatum*		1
Blue Flax	*Linum perenne*		1
Western Stoneseed	*Lithospermum ruderale*		1
Large-fruited Biscuitroot	*Lomatium macrocarpum*		1
Lupine	*Lupinus* spp.		1
Yellow Sweet Clover	*Melilotus officinalis*		1
Penstemon	*Penstemon* spp.		1
Smartweed	*Polygonum* spp.		1
Thimbleberry	*Rubus parviflorus*		1
Lance-leaved Stonecrop	*Sedum lanceolatum*		1
Jim Hill Mustard	*Sisymbrium altissimum*		1
Climbing Nightshade	*Solanum dulcamara*		1
Prairie Goldenrod	*Solidago missouriensis*		1
Scarlet Globemallow	*Sphaeralcea coccinea*		1
Dandelion	*Taraxacum officinale*		1
Western Salsify	*Tragopogon dubius*		1
Stinging Nettle	*Urtica dioica*		1
Moth Mullein	*Verbascum blattaria*		1
Violet	*Viola* spp.		1
Graminoids			
Crested Wheatgrass	*Agropyron cristatum*		1
Cheatgrass	*Bromus tectorum*		1
Pine Reedgrass	*Calamagrostis rubescens*		1
Elk Sedge	*Carex geyeri*		1
Nebraska Sedge	*Carex nebrascensis*		1
Idaho Fescue	*Festuca idahoensis*		1
Basin Wild Rye	*Leymus cinereus*		1
Oniongrass	*Melica bulbosa*		1
Muhlenbergia	*Muhlenbergia asperifolia*		1
Indian Ricegrass	*Oryzopsis hymenoides*		1
Western Wheatgrass	*Pascopyrum smithii*		1
Bulbous Bluegrass	*Poa bulbosa*		1
Nevada Bluegrass	*Poa nevadense*		1
Kentucky Bluegrass	*Poa pratensis*		1
Bluebunch Wheatgrass	*Pseudoroegneria spicata*		1
Tall Wheatgrass	*Thinopyrum ponticum*		1
Intermediate Wheatgrass	*Thinopyrum intermedium*		1
Common Cattail	*Typha latifolia*		1
Primitive Plants			
Common Horsetail	*Equisetum arvense*		1
Clubmoss	*Lycopodium* spp.		1

VII. WILDLIFE AND FISH SPECIES LIST

Surveys

Several wildlife management surveys are undertaken regularly. Species occurrence and abundance surveys have been less thorough. The listing below is based on previous plans, incidental observations, and records of occurrence according to the Idaho Conservation Data Center. There is a need for more current surveys to assess occurrence and abundance of a number of groups.

Common and special status animal species (fish, amphibians, reptiles, birds and mammals) and special status species only of invertebrates: additional information available at www.idfg.idaho.gov. Status Designation: Idaho Species of Greatest Conservation Need = 1; Federal listing = 2, -e(endangered), -t(threatened), -c(candidate); USFS ranking = 3, -e(endangered), -t(threatened), -s(sensitive); BLM ranking = 4, -1(Type 1), -2(Type 2), -3(Type 3), -4(Type 4), -5(Type 5). Occurrence: Record within PWMA managed lands = 1, Record within PWMA landscape =2.

Common Name	Scientific Name	Status Designations	Occurrence
Mammals			
House Mouse*Mus musculus*			2
Moose	*Alces alces*		1
Coyote	*Canis latrans*		1
Beaver	*Castor canadensis*		1
Elk	*Cervus canadensis*		1
Townsend's Big–eared Bat	*Corynorhinus townsendii*		2
Big Brown Bat	*Eptesicus fuscus*		2
Porcupine	*Erethizon dorsatum*		1
Northern Flying Squirrel	*Glaucomys sabrinus*		1
Wolverine	*Gulo gulo*	1, 2-c, 3-s, 4-3	2
Silver–haired Bat	*Lasionycteris noctivagans*		1
Hoary Bat	*Lasiurus cinereus*		1
Snowshoe Hare	*Lepus americanus*		1
White–tailed Jackrabbit	*Lepus townsendii*		1
River Otter	*Lontra canadensis*		2
Bobcat	*Lynx rufus*		1
Yellow–bellied Marmot	*Marmota flaviventris*		1
Striped Skunk	*Mephitis mephitis*		1
Montane Vole	*Microtus montanus*		1
Meadow Vole	*Microtus pennsylvanicus*		1
Ermine	*Mustela erminea*		1
Long–tailed Weasel	*Mustela frenata*		1
American Mink	*Mustela vison*		1
Western Small–footed Myotis	*Myotis ciliolabrum*		2
Long–eared Myotis	*Myotis evotis*		2
Little Brown Myotis	*Myotis lucifugus*		1
Fringed Myotis	*Myotis thysanodes*		2

Common Name	Scientific Name	Status Designations	Occurrence
Mammals (cont.)			
Long–legged Myotis	*Myotis volans*		2
Least Chipmunk	*Neotamias minimus*		1
Bushy–tailed Woodrat	*Neotoma cinerea*		1
Mule or Black–tailed Deer	*Odocoileus hemionus*		1
White–tailed Deer	*Odocoileus virginianus*		2
Common Muskrat	*Ondatra zibethicus*		2
Northern Grasshopper Mouse	*Onychomys leucogaster*		2
Deer Mouse	*Peromyscus maniculatus*		1
Northern Raccoon	*Procyon lotor*		1
Mountain Lion–	*Puma concolor*		1
Eastern Fox Squirrel	*Sciurus niger*		2
Merriam's shrew	*Sorex merriami*	1	2
Uinta Ground Squirrel	*Spermophilus armatus*		1
Golden–mantled Ground Squirrel	*Spermophilus lateralis*		2
Western Spotted Skunk	*Spilogale gracilis*		1
Mountain Cottontail	*Sylvilagus nuttallii*		1
Red Squirrel	*Tamiasciurus hudsonicus*		1
American Badger	*Taxidea taxus*		1
Northern Pocket Gopher	*Thomomys talpoides*		1
American Black Bear	*Ursus americanus*		2
Red Fox	*Vulpes vulpes*		1
Birds			
Coopers Hawk	*Accipiter cooperii*		1
Northern Goshawk	*Accipiter gentilis*		1
Sharp–shinned Hawk	*Accipiter striatus*		1
Spotted Sandpiper	*Actitis macularius*		2
Clark's Grebe	*Aechmophorus clarkii*	1	2
Western Grebe	*Aechmophorus occidentalis*	1	2
Red–winged Blackbird	*Agelaius phoeniceus*		1
Northern Pintail	*Anas acuta*	1	2
American Widgeon	*Anas americana*		2
Green–winged Teal	*Anas carolinensis*		2
Northern Shoveler	*Anas clypeata*		2
Cinnamon Teal	*Anas cyanoptera*		2
Blue–winged Teal	*Anas discors*		2
Mallard	*Anas platyrhynchos*		1
Gadwall	*Anas strepera*		2
Golden Eagle	*Aquila chrysaetos*		1
Black–chinned Hummingbird	*Archilochus alexandri*		1
Great Blue Heron	*Ardea herodias*		1
Short-eared Owl	*Asio flammeus*		2
Lesser Scaup	*Aythya affinis*	1	2
Ring–necked Duck	*Aythya collaris*		2

Common Name	Scientific Name	Status Designations	Occurrence
Birds (cont.)			
Greater Scaup	*Aythya marila*		2
Cedar Waxwing	*Bombycilla cedrorum*		1
Bohemian Waxwing	*Bombycilla garrulus*		1
Ruffed Grouse	*Bonasa umbellus*		1
American Bittern	*Botaurus lentiginosus*		2
Canada Goose	*Branta canadensis*		2
Bufflehead	*Bucephala albeola*		2
Common Goldeneye	*Bucephala clangula*		2
Red–tailed Hawk	*Buteo jamaicensis*		1
Rough–legged Hawk	*Buteo lagopus*		2
Swainson's Hawk	*Buteo swainsoni*	1, 4-5	1
Wilson's Warbler	*Cardellina pusilla*		1
Turkey Vulture	*Cathartes aura*		1
Greater Sage–grouse	*Centrocercus urophasianus*	1, 2-c, 3-s, 4-2	2
Brown Creeper	*Certhia americana*		1
Killdeer	*Charadrius vociferus*		2
Common Nighthawk	*Chordeiles minor*		2
Northern Harrier	*Circus cyaneus*		1
Marsh Wren	*Cistothorus palustris*		2
Northern Flicker	*Colaptes auratus*		1
Rock Pigeon	*Columba livia*		1
Olive–sided Flycatcher	*Contopus cooperi*		1
Western Wood–pewee	*Contopus sordidulus*		1
American Crow	*Corvus brachyrhynchos*		1
Common Raven	*Corvus corax*		1
Trumpeter Swan	*Cygnus buccinator*	1, 3-s, 4-3	2
Tundra Swan	*Cygnus columbianus*		2
Dusky Grouse	*Dendragapus obscurus*	4-5	1
Snowy Egret	*Egretta thula*	1	2
Hammond's Flycatcher	*Empidonax hammondii*		1
Willow Flycatcher	*Empidonax traillii*		1
Horned Lark	*Eremophila alpestris*		2
Brewer's Blackbird	*Euphagus cyanocephalus*		2
Merlin	*Falco columbarius*	1	1
Prairie Falcon	*Falco mexicanus*		2
Peregrine Falcon	*Falco peregrinus*	1, 3-s, 4-3	2
American Kestrel	*Falco sparverius*		1
American Coot	*Fulica americana*		2
Wilson's Snipe	*Gallinago delicata*		1
Common Loon	*Gavia immer*	1, 3-s	2
MacGillivray's Warbler	*Geothlypis tolmiei*		1
Common Yellowthroat	*Geothlypis trichas*		2
Sandhill Crane	*Grus canadensis*	1	2
House Finch	*Haemorhous mexicanus*		2

Common Name	Scientific Name	Status Designations	Occurrence
Birds (cont.)			
Bald Eagle	*Haliaeetus leucocephalus*	1, 3-s,4-1	2
Black-necked Stilt	*Himantopus mexicanus*	1	2
Barn Swallow	*Hirundo rustica*		2
Yellow–breasted Chat	*Icteria virens*		2
Bullocks Oriole	*Icterus bullockii*		1
Dark–eyed Junco	*Junco hyemalis*		1
Loggerhead Shrike	*Lanius ludovicianus*		1
California Gull	*Larus californicus*	1	2
Ring–billed Gull-	*Larus delawarensis*		2
Franklin's Gull	*Larus pipixcan*	1	2
Hooded Merganser	*Lophodytes cucullatus*	1	2
Belted Kingfisher	*Megaceryle alcyon*		1
Western Screech–owl	*Megascops kennicottii*		2
Wild Turkey	*Meleagris gallopavo*		1
Song Sparrow	*Melospiza melodia*		1
Common Merganser	*Mergus merganser*		2
Brown–headed Cowbird	*Molothrus ater*		1
Townsend's Solitaire	*Myadestes townsendi*		1
Long-billed Curlew	*Numenius americanus*	1, 4-5	2
Black-crowned Night Heron	*Nycticorax nycticorax*	1	2
Sage Thrasher	*Oreoscoptes montanus*		1
Ruddy Duck	*Oxyura jamaicensis*		2
Osprey	*Pandion haliaetus*		2
House Sparrow	*Passer domesticus*		2
Savannah Sparrow	*Passerculus sandwichensis*		2
Lazuli Bunting	*Passerina amoena*		1
American White Pelican	*Pelecanus erythrorhynchos*	1, 4-2	2
Gray Partridge	*Perdix perdix*		1
Cliff Swallow	*Petrochelidon pyrrhonota*		2
Double–crested Cormorant	*Phalacrocorax auritus*		2
Red–necked Phalarope	*Phalaropus lobatus*		2
Wilson's Phalarope	*Phalaropus tricolor*	1, 4-5	2
Ring–necked Pheasant	*Phasianus colchicus*		1
Black–headed Grosbeak	*Pheucticus melanocephalus*		1
Black–billed Magpie	*Pica hudsonia*		1
Downy Woodpecker	*Picoides pubescens*		1
Hairy Woodpecker	*Picoides villosus*		1
Green–tailed Towhee	*Pipilo chlorurus*		1
Spotted Towhee	*Pipilo maculatus*		1
Western Tanager	*Piranga ludoviciana*		1
White-faced Ibis	*Plegadis chihi*	1, 4-4	2
Horned Grebe	*Podiceps auritus*		2
Red-necked Grebe	*Podiceps grisegena*		2
Eared Grebe	*Podiceps nigricollis*		2

Common Name	Scientific Name	Status Designations	Occurrence
Birds (cont.)			
Pied–billed Grebe	*Podilymbus podiceps*		2
Black–capped Chickadee	*Poecile atricapillus*		1
Mountain Chickadee	*Poecile gambeli*		1
Vesper Sparrow	*Pooecetes gramineus*		1
Sora	*Porzana carolina*		2
Virginia Rail	*Rallus limicola*		2
American Avocet	*Recurvirostra americana*	1	2
Ruby–crowned Kinglet	*Regulus calendula*		1
Bank Swallow	*Riparia riparia*		2
Calliope Hummingbird	*Selasphorus calliope*		1
Broad–tailed Hummingbird	*Selasphorus platycercus*		1
Rufous Hummingbird	*Selasphorus rufus*		1
Yellow–rumped Warbler	*Setophaga coronata*		1
Yellow Warbler	*Setophaga petechia*		1
Mountain Bluebird	*Sialia currucoides*		1
Red–breasted Nuthatch	*Sitta canadensis*		1
White–breasted Nuthatch	*Sitta carolinensis*		1
Red–naped Sapsucker	*Sphyrapicus nuchalis*		1
American Goldfinch	*Spinus tristis*		1
Brewer's Sparrow	*Spizella breweri*	1, 4-3	1
Chipping Sparrow	*Spizella passerina*		1
Northern Rough–winged Swallow	*Stelgidopteryx serripennis*		2
Caspian Tern	*Sterna caspia*	1	2
Forster's Tern	*Sterna forsteri*	1	2
Eurasian Collared Dove	*Streptopelia decaocto*		2
Western Meadowlark	*Sturnella neglecta*		1
European Starling	*Sturnus vulgaris*		1
Tree Swallow	*Tachycineta bicolor*		1
Lesser Yellowlegs	*Tringa flavipes*		2
Greater Yellowlegs	*Tringa melanoleuca*		2
Willet	*Tringa semipalmata*		2
House Wren	*Troglodytes aedon*		1
American Robin	*Turdus migratorius*		1
Sharp–tailed Grouse	*Tympanuchus phasianellus*	1,3-s, 4-3	1
Eastern Kingbird	*Tyrannus tyrannus*		2
Western Kingbird	*Tyrannus verticalis*		1
Barn Owl	*Tyto alba*		2
Yellow–headed Blackbird	*Xanthocephalus xanthocephalus*		2
Mourning Dove	*Zenaida macroura*		1
White–crowned Sparrow	*Zonotrichia leucophrys*		1

Common Name	Scientific Name	Status Designations	Occurrence
Reptiles			
Rubber Boa	*Charina bottae*		1
Western Yellow-bellied Racer	*Coluber constrictor mormon*		1
Western Rattlesnake	*Crotalus oreganus*		1
Ring–necked Snake	*Diadophis punctatus*	1, 3-s, 4-5	2
Western Skink	*Eumeces skiltonianus*		1
Striped Whipsnake	*Masticophis taeniatus*		2
Gopher Snake	*Pituophis catenifer*		1
Common Sagebrush Lizard	*Sceloporus graciosus*		1
Western Fence Lizard	*Sceloporus occidentalis*		1
Terrestrial Garter Snake	*Thamnophis elegans*		1
Common Garter Snake	*Thamnophis sirtalis*		2
Amphibians			
Tiger Salamander	*Ambystoma tigrinum*		1
Western Toad	*Anaxyrus boreas*	1, 4-3	2
Boreal Chorus Frog	*Pseudacris maculata*		1
Northern Leopard Frog	*Rana pipiens*	1, 4-2	1
Fish			
Utah Sucker	*Catostomus ardens*		2
Bluehead Sucker	*Catostomus discobolus*		2
Mottled Sculpin	*Cottus bairdii*		1
Common Carp	*Cyprinus carpio*		2
Utah Chub	*Gila atraria*		2
Yellowstone Cutthroat Trout	*Oncorhynchus clarkii bouvieri*	1, 3-s, 4-2	1
Rainbow Trout	*Oncorhynchus mykiss*		2
Mountain Whitefish	*Prosopium williamsoni*		2
Longnose Dace	*Rhinichthys cataractae*		1
Speckled Dace	*Rhinichthys osculus*		1
Redside Shiner	*Richardsonius balteatus*		2
Brown Trout	*Salmo trutta*		2
Brook Trout	*Salvelinus fontinalis*		2
Bivalves			
Western Pearlshell	*Margaritifera falcata*		2
Gastropods			
Thin–ribbed Mountainsnail	*Oreohelix tenuistriata*		1
Insects			
Mayfly	*Ameletus sparsatus*		2

VIII. LAND ACQUISITIONS, AGREEMENTS, AND INFRASTRUCTURE

Land Acquisitions – Fee Title			
Year	**Funds Used**	**Acres**	**Acquired From**
1970	PR	2,819.59	Merlin S. and Christie C. Bastian
1970	PR	40.00	Edythe Shumway
1973	IDFG	34.61	Lynn Crump
1974	IDFG	210.26	Frank Hough
	Subtotal	3,104.46	
Cooperative Land Agreements			
Year	**Type**	**Acres**	**Leased From**
1970		800.00	Bureau of Land Management
1990	Road Easement	2.18	McNabb, Orders, Wanner
	Subtotal	802.18	
	PWMA Total	**3,906.64**	

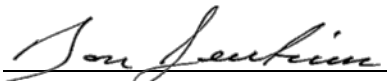
Infrastructure
4 – Parking Areas/Information Centers
11 – Roads/Trails (Miles)
6 – Fences (Miles)
Easements / Inholdings
Frank and Mary Hough-Irrigation Diversion, Robbers Roost
Darlene Samuelson-Irrigation Diversion, Robbers Roost
Carol C. and Douglas P. Norman-Irrigation Diversion, Robbers Roost
Ray Onstine-Irrigation Diversion, Blue Crane

PORTNEUF

WILDLIFE MANAGEMENT AREA PLAN

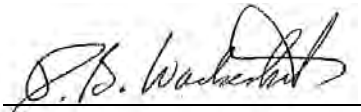
Approval

Submitted by:

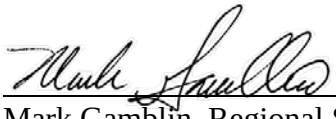


Don Jenkins, Habitat Biologist

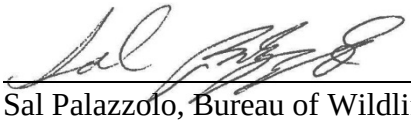
Reviewed by:



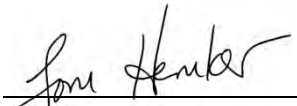
Paul Wackenhut, Regional Habitat Manager



Mark Gamblin, Regional Supervisor

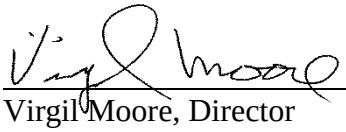


Sal Palazzolo, Bureau of Wildlife



Tom Hemker, State Habitat Manager

Approved by:



Virgil Moore, Director