



Pend Oreille Wildlife Management Area



Management Plan
2014

Panhandle Region



Pend Oreille Wildlife Management Area

**2014 – 2023 Management Plan
December 2014**

Idaho Department of Fish and Game
Panhandle Region
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Executive Summary

Idaho Department of Fish and Game (Department) manages 32 Wildlife Management Areas (WMAs). Researchers from the University of Idaho and The Nature Conservancy evaluated the value of Idaho's WMAs to wildlife. They found the 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 on Panhandle WMAs confirms their value to big game, nongame, and many at-risk species identified in Idaho's State Wildlife Action Plan. In many cases, WMAs provide the principal habitat for at-risk species in the Panhandle Region.

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

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

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

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

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

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

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

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

The Pend Oreille WMA (POWMA) is located in Bonner County and consists of 25 discontinuous parcels of land ranging in size from two acres to 1,729 acres. These properties are scattered across an area of nearly 800 square miles from just east of the town of Clark Fork; west to the city of Old Town; north to Gold Creek, a tributary of the lower Pack River; and south to the northern end of Hayden Lake (Figures 1-3).

This document provides direction in the form of Priorities, Management Directions, Performance Targets, and Strategies for the management of POWMA. The Priorities and Issues for the

POWMA were determined through a combination of public and staff input, mitigation requirements identified in the cooperative agreements that formed the WMA, and Department statewide priorities identified in “*The Compass*.” A draft version of the POWMA Management Priorities, Management Directions, Performance Targets, and Strategies was offered for public inspection and comment in July 2013.

Priorities for POWMA include Emergent Wetland Habitat, Forested Wetland Habitat, Scrub-shrub Wetland Habitat, Northern Rocky Mountain Mesic and Dry-Mesic Mixed Conifer Forest Habitat, Mesic Meadows Habitats, and Wildlife-based Recreation and Education. Management Direction for POWMA staff is to provide high quality and secure waterfowl breeding, nesting, and brood-rearing habitat; provide high quality cover and food sources for migrating waterfowl, waterbirds, shorebirds, and other wildlife; provide functioning forested wetland habitat in good to excellent ecological condition; provide productive, functioning scrub-shrub wetland habitat in good to excellent ecological condition; provide diverse and resilient stands of mixed age-class conifer forest habitat in good to excellent ecological condition; provide a mosaic of diverse, productive grassland/forb habitat dominated by native species and forb wildlife food plantings; provide access for hunters, anglers, boaters, and nongame users; and promote public access for recreational use on private land.

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

Introduction

This management plan is designed to provide broad guidance for the long-term management of Pend Oreille Wildlife Management Area (POWMA). It replaces an earlier management plan written in 2008. This updated plan was completed during 2012 and 2013 with extensive public input. This plan is tiered off other Idaho Department of Fish and Game (Department) plans and policies 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)

Department Mission

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

Department Strategic Goals

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

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

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

Pend Oreille WMA Vision

Pend Oreille WMA is managed by the Department to enhance and protect wildlife habitat, as mitigated for habitat losses due to the Albeni Falls Dam, and to provide for public access for hunting, fishing, wildlife viewing, and other wildlife-based recreation and education opportunities. Habitat management emphasis has primarily been for waterfowl production and protection of wetland areas used by migrating birds in the spring and fall.

Modification of Plan

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

Other Considerations

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

Area Description and Current Status

History

Prior to the construction of Albeni Falls Dam, Lake Pend Oreille fluctuated naturally. Each spring runoff from the large watershed raised the level of the lake an average of 12 feet, normally peaking in May. By late summer, the lake would recede to its normal level and remain there for approximately eight months. Low lying areas adjacent to the lake and Pend Oreille River were seasonally flooded and supported a diverse array of vegetation and associated wildlife.

Construction of Albeni Falls Dam by the U.S. Army Corps of Engineers (USACE) began in January 1951 and regulation of the lake level subsequently began in June 1952. Power generation began in 1955. The dam stabilized and maintained the summer pool elevation at a higher level and for a longer time period than the natural hydrology of the system. Areas that were historically flooded for a short period were inundated during the growing season. The higher summer pool inhibited most plant growth and converted these areas from wetlands to seasonally exposed mud flats (Appendix II).

Acquisition

Much of the land originally included in the POWMA was licensed to the Department by the USACE in 1956 as partial mitigation for wildlife habitat impacted by the construction of the Albeni Falls Dam. The Department purchased additional land in fee title in 1955, 1959, and 1974. In 1976, the Idaho Department of Lands (IDL) transferred one parcel to the POWMA. The USACE licensed three additional parcels to the Department in 1996.

In 1997, the Department began receiving wildlife mitigation funds from the Bonneville Power Administration (BPA) for the acquisition of wildlife habitat to mitigate for the remaining wetlands impacts of the construction of Albeni Falls Dam. The Department has periodically used these funds to acquire additional property for the POWMA. Future acquisitions may be included as part of the WMA.

Pend Oreille WMA (Figures 1-3) currently consists of approximately 4,048 acres of USACE property licensed to the Department and 2,581 acres purchased from private landowners for a total of 6,629 acres (Appendix VIII).

Geographic Features

The most prominent features on the WMA are Lake Pend Oreille and the Clark Fork and Pend Oreille rivers. Lake Pend Oreille encompasses 94,600 surface acres at full pool and is one of the largest and deepest natural lakes in the western United States.

The lake is fed primarily by the Clark Fork River (86% of the inflow) which enters the eastern end of the lake. The lake is also the source of the Pend Oreille River which flows out of the

northwestern end of the lake at Sandpoint. The Pend Oreille River ultimately flows into the Columbia River just north of the international boundary in British Columbia, Canada.

Lake Pend Oreille lies in the Purcell Trench, a deep glacially carved, u-shaped valley separating the Selkirk Mountains on the northwest, the Cabinet Mountains on the north and east, and the Coeur d'Alene Mountains on the south. Much of the lake's shoreline is steep rock cliffs. The remainder of the lake's perimeter is a combination of shifting river deltas, floodplains, and relict glacial deposits.

Albeni Falls Dam was constructed on the Pend Oreille River in Idaho 25 miles downstream from the original outlet of the lake at Sandpoint and 2.5 miles east of the Idaho-Washington border. The Pend Oreille River at Albeni Falls Dam drains a watershed of 24,200 square miles that extends east to the continental divide at Butte, Montana and supplies an average stream flow of 25,930 cubic feet per second. The Cabinet Gorge Dam was constructed on the Clark Fork River in Idaho about one mile west of the Idaho-Montana border, and the Noxon Dam further upstream. Construction of Cabinet Gorge Dam and Noxon Dams effectively shut off the bedload sediment supply from upstream sources, and also removed some of the suspended sediment. This altered sediment balance prevents establishment of channel mouth bars and a protective lake-side beach.

The Clark Fork River at Cabinet Gorge Dam drains a watershed of 22,073 square miles. The dam maintains a minimum flow of 5,000 cubic feet per second in the Clark Fork River below the dam.

Vegetation

The construction of Albeni Falls Dam raised the average level of Lake Pend Oreille. It largely eliminated spring flooding and stabilized the summer pool level. Each year, water levels fluctuate an average of 11.5 feet, and much of the WMA is inundated for four to five months each year. Less than 25% of the property licensed from the USACE is above the high water line. Habitat conditions range from unproductive mud flats exposed during the reservoir drawdown in the winter to submerged lands with rooted aquatic plants to forested uplands. Extensive bank erosion has occurred to islands and shorelines in the Clark Fork River Delta, resulting in significant losses of soil, native riparian and wetland vegetation, as well as the quantity and quality of fish and wildlife habitat. This erosion is the result of wave action and water level fluctuations of Lake Pend Oreille and the erosive action of flowing water in the Clark Fork River. This type of erosion is also found in the Pack River and Priest River deltas. Both the Clark Fork River Delta and the Pack River Delta are listed as the two top mitigation priorities under the Albeni Falls Wildlife Protection, Mitigation, and Enhancement Plan (Martin et al. 1988).

At full pool, most of the WMA is classed as a shallow marsh with an average water depth of two to four feet surrounded by a narrow riparian zone of sedges (*Carex* spp.), black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), and willows (*Salix* spp.). Next to the riparian zone is a fringe of conifers. Prior to dam construction, much of the WMA consisted of extensive black cottonwood stands and seeded hay fields.

Typical aquatic vegetation includes pondweed (*Potamogeton* spp.), waterweed (*Elodea* spp.), milfoil (*Myriophyllum* spp.), and *Chara*. The abundance of aquatic macrophytes is limited to areas below the winter drawdown zone due to deep inundation during the growing season followed by exposure to freezing and desiccation during winter. Emergent plant species primarily include cattail (*Typha latifolia*), bulrush species (e.g., *Schoenoplectus* spp.), woolgrass (*Scirpus cyperinus*), spikerush (*Eleocharis* spp.), and sedges. However, shorelines are typified by a stark contrast from poorly vegetated mudflats to dense stands of non-native, invasive reed canarygrass (*Phalaris arundinacea*). Shrub habitats include mountain alder (*Alnus incana*), red-osier dogwood (*Cornus sericea*), and willows. Hardwood stands are dominated by black cottonwood, but may also include red alder (*Alnus rubra*) and paper birch (*Betula papyrifera*), and typically include an understory of common snowberry (*Symphoricarpos albus*). Conifer stands include Douglas-fir (*Pseudotsuga menziesii*), grand fir (*Abies grandis*), western red-cedar (*Thuja plicata*), western white pine (*Pinus monticola*), ponderosa pine (*Pinus ponderosa*), lodgepole pine (*Pinus contorta*), western hemlock (*Tsuga heterophylla*), and western larch (*Larix occidentalis*), and are often mixed with black cottonwood. Most of the conifers occur in the Clark Fork River Delta where some stands approach an old-growth condition.

Waterfowl

Pend Oreille WMA provides important habitat for migrating and wintering waterfowl. Sites that typically support thousands of waterfowl during migration include Morton Slough, Oden Bay, the Pack River Delta, Denton Slough, and the Clark Fork River Delta. Other portions of the WMA are also important but typically support fewer waterfowl numbers. Common migrants include tundra swans (*Cygnus columbianus*), Canada geese (*Branta canadensis*), American widgeon (*Anas americana*), redheads (*Aythya americana*), lesser scaup (*Aythya affinis*), mallards (*Anas platyrhynchos*), common mergansers (*Mergus merganser*), common goldeneye (*Bucephala clangula*), buffleheads (*Bucephala albeola*), and ring-necked ducks (*Aythya collaris*).

The greatest waterfowl use of the WMA occurs in the fall. Maximum waterfowl counts usually occur in November and December. Waterfowl numbers have been as high as 60,000 ducks, 15,000 Canada geese, and 2,000 tundra swans. Diving ducks are especially numerous on the deeper bays, primarily redheads, scaup, and ring-necked ducks. A large portion of the Pacific Flyway's redhead duck population winters on Lake Pend Oreille and redhead counts have reached 20,000 ducks.

The WMA also provides important breeding and nesting habitat for waterfowl. Canada goose nesting sites include nests built by ospreys, and ground nesting on the various islands scattered around the Pend Oreille Lake, Clark Fork River, and deltas. Numbers of nesting Canada geese have also been increased through placement and maintenance of approximately 200 man-made nesting platforms designed to protect nests from flooding and mammalian predators.

Cavity-nesting ducks, including wood ducks (*Aix sponsa*), common goldeneyes, buffleheads, and hooded mergansers (*Lophodytes cucullatus*) also nest on the WMA. These species are dependent on naturally occurring cavities or woodpecker excavated holes in large trees for nest sites. Old

stands of black cottonwoods or conifers such as those in the Clark Fork River Delta are particularly important. About 100 artificial nesting boxes have also been placed across the WMA for cavity-nesting ducks.

Other ducks known to nest on the WMA include mallards, American widgeons, gadwalls (*Anas strepera*), shovelers (*Anas platalea*), ring-necked ducks, and green-winged (*Anas carolinensis*), blue-winged (*Anas discors*), and cinnamon teal (*Anas cyanoptera*). Uncommon nesters include pintails (*Anas acuta*), redheads, and buffleheads.

The POWMA is a significant destination for waterfowl hunting in northern Idaho each fall. Hunting is excellent for ducks and geese early in the season, before Lake Pend Oreille has been drawn down to winter levels. As the lake is lowered, near-shore areas are dewatered, mudflats appear, and hunting becomes more difficult. Extensive beds of rooted, aquatic plants in limited areas due to dam operations and fluctuating water levels, also become available, providing migrating waterfowl a much-needed food source before they move further south.

Big Game

White-tailed deer (*Odocoileus virginianus*) occur on most WMA sites and are the most abundant big game species utilizing the WMA. Moose (*Alces alces*), elk (*Cervus canadensis*), black bear (*Ursus americanus*), and mountain lion (*Puma concolor*) also frequent portions of the WMA. Big game hunting is popular on the WMA's larger tracts but limited on smaller WMA parcels.

Other Game Species

Snowshoe hare (*Lepus americanus*), ruffed grouse (*Bonasa umbellus*), and wild turkeys (*Meleagris gallopavo* ssp.) are abundant year-round residents of the WMA. Mourning doves (*Zenaida macroura*) and common snipe (*Gallinago gallinago*) migrate through and nest on the WMA. American coots breed and nest in small numbers on the WMA. However, thousands of coots (*Fulica americana*) utilize WMA sites during migration, and up to 25,000 may be counted on Lake Pend Oreille during mid-winter.

Furbearers

The POWMA does not provide optimum habitat for aquatic furbearing mammals because of the annual drawdown of Lake Pend Oreille. Beaver (*Castor canadensis*) and muskrat (*Ondatra zibethicus*) populations are inhibited by the annual winter drawdown that reduces the occurrence of emergent and aquatic vegetation, and exposes any lodges that may have been established. Populations of muskrat, beaver, and mink (*Neovison vison*) would be much higher if water levels fluctuated naturally. Although beaver, muskrat, raccoon (*Procyon lotor*), mink, and otter (*Lontra canadensis*) tracks are frequently noted, many of these animals likely come from nearby wetlands and streams that support better year-round habitat. Bobcat (*Lynx rufus*), fox (*Vulpes vulpes fulvus*), coyote (*Canis latrans*), skunks (*Mephitis mephitis*), marten (*Martes martes*), and weasels (*Mustela nivalis*) are common on upland sites.

Other Notable Wildlife

Several pairs of bald eagles (*Haliaeetus leucocephalus*) currently nest on the POWMA. Some of these nests have been active for over 10 years. Lake Pend Oreille is also an important wintering area for bald eagles migrating south from Canada. Many of these birds use WMA lands for foraging and perching. Migrating eagles begin arriving in late October to take advantage of spawned out kokanee as a food source. Eagle numbers normally peak in late November - early December and decline through the end of March. Peak numbers can exceed 300 birds.

Lake Pend Oreille is also an important nesting area for ospreys (*Pandion haliaetus*). Ospreys nest on or near all WMA parcels with the greatest densities occurring in the Clark Fork River Delta and near Morton Slough on the Pend Oreille River.

Other common raptors using WMA lands include red-tailed hawks (*Buteo jamaicensis*) during the summer and rough-legged hawks (*Buteo lagopus*) during the winter. Goshawks (*Accipiter gentilis*), sharp-shinned hawks (*Accipiter striatus*), and Cooper's hawks (*Accipiter cooperii*) are infrequently observed mainly in spring and fall.

Great blue herons (*Ardea herodias*) are frequent year-round residents to WMA wetlands. One of three Lake Pend Oreille heron rookeries occurs on the WMA in the Clark Fork River Delta. Pend Oreille WMA wetlands support a second heron rookery located near Morton Slough where up to 10 herons may be observed during the nesting period.

Western grebes (*Aechmophorus occidentalis*) are abundant on POWMA sites, particularly in Denton Slough where one of only a few north Idaho nesting colonies occurs. Courtship displays are common in spring and early summer when up to 100 western grebes have been noted. Up to 30 nests constructed from aquatic vegetation have been counted in Denton Slough in July. This nesting colony was established sometime in the last 20-25 years. Pied-billed grebes (*Podilymbus podiceps*) are also common during spring and summer. Large mixed groups of western, eared (*Podiceps nigricollis*), and horned (*Podiceps auritus*) grebes (up to 350) have been noted on Lake Pend Oreille in mid-winter.

Common loons (*Gavia immer*) are often observed at POWMA sites during spring and fall migrations. Smaller numbers of common loons occur on Lake Pend Oreille in the winter. While no nests have been observed on Lake Pend Oreille for many decades, adult common loons with young were observed in the Clark Fork River Delta in 1995.

Virginia (*Rallus limicola*) and sora (*Porzana carolina*) rails use POWMA land during the spring, summer, and fall. Common shorebirds include killdeer (*Charadrius vociferous*), greater yellowlegs (*Tringa melanoleuca*), spotted sandpipers (*Actitis macularius*), and western sandpipers (*Calidris mauri*). A wide variety of other resident and migrant birds, small mammals, reptiles, and amphibians utilize POWMA lands, reflecting the diverse array of habitats.

Fisheries

When Lake Pend Oreille is at full pool, fishing opportunity is at its peak on the POWMA. Bullhead (*Ameiurus melas*), crappie (*Pomoxis nigromaculatus*), perch (*Perca flavescens*), pumpkinseed (*Lepomis gibbosus*), largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), and cutthroat trout (*Oncorhynchus clarkii*) provide a popular fishery in the near-shore sloughs and deep-water bays. Walleye (*Sander vitreus*), a relatively new species to the lake, are showing up in the northern end of Lake Pend Oreille, especially in the area of the Pack River Delta. The public boat launching sites on the WMA provide access for many anglers whose ultimate destination is Lake Pend Oreille.

Historically, Lake Pend Oreille was well-known for its kokanee (*Oncorhynchus nerka*) fishing and trophy Gerrard rainbow trout (*Oncorhynchus mykiss*). In 2000, the kokanee fishery was closed and the limits on both lake trout and rainbow were liberalized to reduce predation and prevent a kokanee collapse. Currently, this has changed with limited kokanee and rainbow trout harvest. The lake and its tributaries provide important habitat for bull trout (*Salvelinus confluentus*), a federally threatened species. Johnson Creek flows into the Clark Fork River within the WMA. The lower end of this stream is an important spawning and staging area for bull trout.

Fish habitat in the Pend Oreille River is limited due to the impacts from current water level management. The river fluctuates between a warm slack water reservoir in the summer to a cold flowing river in the winter. Recently, higher winter pool levels have created more overwintering habitat for largemouth and smallmouth bass and black crappie, and fishing for these species is improving. Populations of native nongame species like northern pike-minnow (*Ptychocheilus oregonensis*) and peamouth (*Mylcheilus caurinus*) have declined dramatically as smallmouth bass numbers have increased. Suckers, tench, perch, and bullheads are also present. Rainbow, cutthroat, brown trout (*Salmo trutta*), and bull trout use the river seasonally when the river is cold and flowing.

Recreation

The POWMA is open to public use all year. Access on the WMA off the public roads is non-motorized only. Mowed maintenance trails on some segments are used by the public for foot travel, biking, horse riding, skiing, or any other non-motorized means of travel.

Pend Oreille River Wildlife Management Area - West of Hwy 95

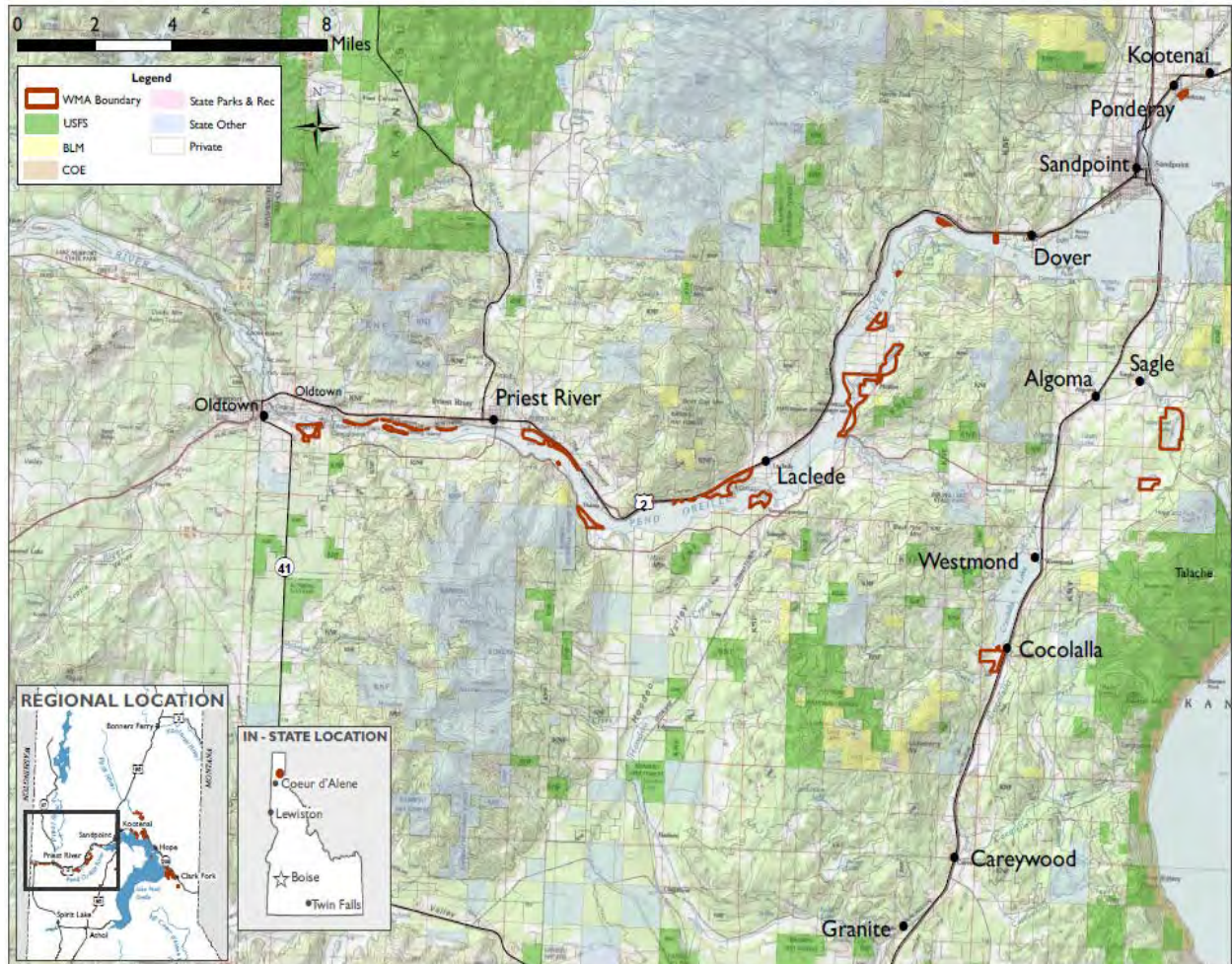


Figure 1. Map of western portion of the Pend Oreille Wildlife Management Area.

Pend Oreille River Wildlife Management Area - East of Hwy 95



Figure 2. Map of eastern portion of the Pend Oreille Wildlife Management Area.

Pend Oreille WMA - Outlying Parcels

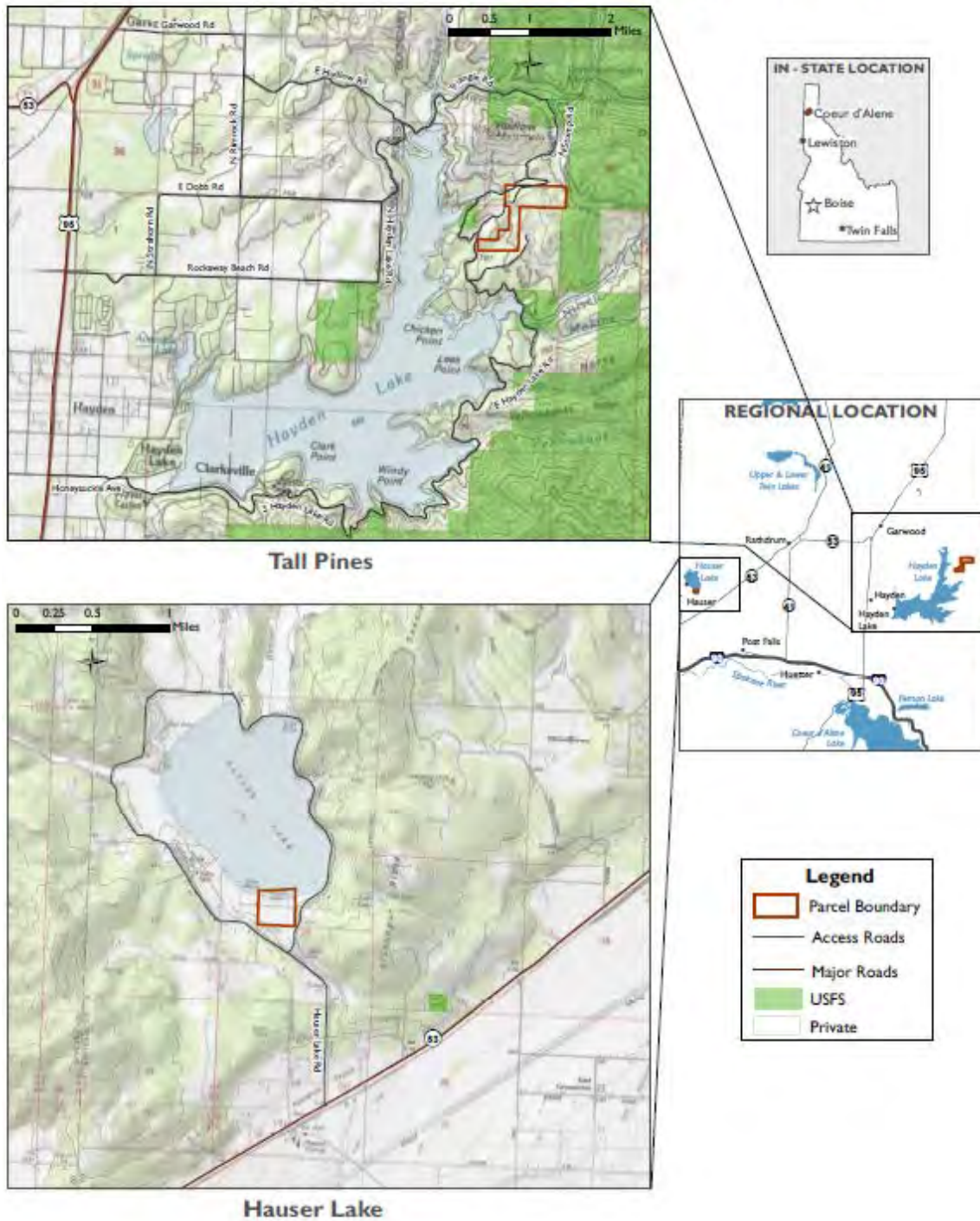


Figure 3. Map of the Pend Oreille Wildlife Management Area outlying parcels.

Management Issues

This list of Management Issues was developed after internal- and external-agency and public input was completed. Three general groups provided input, WMA users, State and Federal agencies which include IDL, U.S. Forest Service (USFS), Bureau of Land Management (BLM), and neighboring landowners including several corporate timber companies and private landowners. Department policy direction and WMA staff management experience also helped shape the list of current issues. The issues identified were grouped, based on similarity, into three general categories: Habitat Management, Wildlife Management, and Public Use Management. Each issue is summarized and some potential management options discussed.

Habitat Management

- 1. Past agricultural uses of the property have reduced the amount of shrub and tree cover on some segments of the WMA. (Issue identified by the Department and others)**

Discussion: Mallards and other upland nesting ducks in north Idaho seek out low-growing, dense shrubs adjacent to wetlands for overhead nesting cover for protection from avian predators. Taller shrubs and trees on drier sites meet the breeding requirements of the yellow warbler (*Setophaga petechia*) and other passerine birds, and provide cover and browse for white-tailed deer. The POWMA Management Priority #3, Enhance & Maintain Scrub-shrub Wetland Habitat focuses on establishing low-growing shrubs and wetland adapted trees along the perimeters of wetlands where no shrubs currently exist.

- 2. The Cocolalla Lake segment emergent herbaceous wetland is mainly a stand of reed canarygrass, sedges, and rushes that lacks much open water. The Cocolalla Lake shoreline area does not provide significant open water habitat due to its short length and relatively shallow water. The lack of open water areas is the most limiting factor to wetland wildlife on this management area. (Issue identified by the Department and others)**

Discussion: The POWMA Management Priority #1, Enhance & Maintain Emergent Wetland Habitat focuses on development of an open water complex and expanding wetland area which will benefit a wide variety of wildlife species including the mallard, Canada goose, and muskrat used in HEP analysis. The level topography and high water table limit the opportunity for banked impoundments with water control structures for water level management at this site. Consequently newly-created excavated shallow ponds and potholes with passive water level management will be used to increase the presence of this habitat component.

- 3. Some segment forest stands are dense and contain disease pockets, significant down wood that creates a potential fire hazard. (Issue identified by the Department and the public)**

Discussion: Implementing healthy forest management is important on all WMA segments to limit fire danger, control excessive disease, maintain habitat and wildlife diversity, and protect and perpetuate mature/old growth forest. Forest stands will be evaluated with the assistance of a professional forester. The POWMA Management Priority #4, Enhance & Maintain Mixed Forest Habitat focuses on commercial thinning to reduce fire danger, manage forest disease, and improve wildlife habitat may be implemented on the basis of that evaluation.

4. The Clark Fork Delta continues to erode due to the current reservoir and river operating plans and seasonal water patterns. (Issue identified by the Department and others)

Discussion: The current operation of Albeni Falls Dam resulted in a loss of wetlands and seasonally flooded areas that effectively limited erosion prior to dam construction. During the drawdown in the fall, steep banks that are saturated slump and fall as water levels recede. Further, poorly vegetated mudflats are eroded by high winter and spring river and stream flows. The leeward sides of the island and river banks are subject to high wave erosion with waves reaching six to eight feet in height during severe weather. Erosion results in a significant loss of land on an annual basis. In the Clark Fork River Delta, erosion is compounded by daily fluctuating river flows from Cabinet Gorge Dam. Cabinet Gorge and Noxon Rapids dams also inhibit sediment transport to the delta, thereby preventing the rebuilding of delta islands. Bank protection needs to occur to first prevent further degradation of delta and riverine habitats, followed by rebuilding and vegetating lost island habitats. Projects of this magnitude are extremely costly and permitting will be challenging. All delta restoration projects will have to be done in collaboration with fellow conservation agencies and organizations to be successful.

5. The current condition of the herbaceous uplands on some WMA segments can be characterized as abandoned hay fields consisting of a monoculture of non-native grasses which are not conducive to productive wildlife habitat. (Issue identified by the Department and others)

Discussion: Wildlife species diversity and community stability are positively correlated with habitat diversity. The POMWA Management Priority #5, Enhance Grassland/Forb & Hayland Habitat focuses on increasing structural and compositional diversity of herbaceous uplands on specific WMA segments. It will be very difficult to get native grass and forb species established in the face of competition from the dense stand of established non-native competitive species. A variety of labor intensive and costly re-vegetation practices will have to be applied to restore native grassland and wet meadow habitats.

6. There is a lack of Canada goose foraging areas with open, low-height grass. (Issue identified by the Department and others)

Discussion: Canada geese require an open grass area to protect their young from approaching predators and typically seek out closely cropped grasslands adjacent to water as

feeding areas prior to and during the brood-rearing season. Most adjacent grasslands consist of tall reed canarygrass or forage hay species not conducive to goose feeding pasture. The POMWA Management Priority #5, Enhance Grassland/Forb & Hayland Habitat focuses on mowing or burning these areas for goose pasture maintenance and controlling noxious weeds as required.

Wildlife Management

1. Trespass grazing on WMA lands can be a problem from adjacent open range areas. (Issue identified by the Department and others)

Discussion: Unmanaged cattle on POWMA segments can result in damage to grassland, shrub, and wetland components. Efforts need to be made to cooperate with neighboring landowners and ranchers, and performing annual fence maintenance is important to prevent trespass grazing on WMA lands.

2. Annual Canada goose pasture management can sometimes conflict with grassland bird nesting season due to seasonal weather factors. (Issue identified by the Department and the public)

Discussion: The POMWA Management Priority #5, Enhance Grassland/Forb & Hayland Habitat promotes mowing and/or burning of Canada goose pasture twice a season to provide brood forage during the spring and summer months. The timing of mowing is critical due to the spring grassland bird nesting season also taking place. Mowing and/or burning must begin as early in the spring as possible to prevent disturbance to ground nesting birds. Pasture management priorities can change depending on spring weather and field conditions. Spring rain showers and saturated soil conditions can prevent timely pasture management resulting in postponement of mowing and/or burning until after the grassland bird nesting season.

3. High resident Canada goose populations on the POWMA can cause nuisance and property damage complaints from neighboring landowners. (Issue identified by the public)

Discussion: More than 75% of the human population lives in urban areas. While population growth of the area displaces some Canada geese, many continue to live in the habitat available in parks, undeveloped parcels of land and vacant lots, along stream and river corridors, and in residential backyards. Canada geese are probably the most adaptable and tolerant of all native waterfowl. However, there may be times when conflicts arise. High nest success and low hunter harvest rates can result in resident Canada goose populations that exceed WMA population goals. High densities of Canada geese in urban settings can result in private property damage to landscaping and waterfront areas. Depredation population control, higher harvest limits, and public education are options to avoid conflict between wildlife and the public. Department Canada goose banding will continue to be implemented to help determine hunter harvest rates and help guide other modes of action to prevent public conflict.

4. Threats to nesting habitat for the common loon can cause their population to decline. (Issue identified by the Department and public)

Discussion: Common loons are often observed at POWMA sites during spring and fall migrations. Smaller numbers of common loons occur on Lake Pend Oreille in the winter. While no nests have been observed on Lake Pend Oreille for many decades, adult common loons with young were observed in the Clark Fork River Delta in 1995. The cause for their little to no nesting success is unknown, but conservation steps can be taken to promote nesting activity. The POWMA Management Priority #1, Enhance & Maintain Emergent Wetland Habitat focuses on informing the public of threats to common loons and construction of floating nesting platforms which can help promote nesting success, and provide birdwatchers with higher sightings of this popular bird species.

Public Use Management

1. Undesirable off-road vehicle use can cause damage to habitat areas and disturbance to wildlife on some WMA segments. (Issue identified by the Department and public)

Discussion: The POWMA Management Priority #6, Provide for Wildlife-based Recreation and Education promotes public use of the property for hunting, fishing, trapping, and/or wildlife viewing and is encouraged as per Department regulations, provided these uses are compatible with management objectives. Public use of motorized vehicles on WMA segments will be prohibited. We will continue to monitor problem areas and install signs and gates to prevent undesirable off-road vehicle use on public WMA property.

2. Concern has been expressed for the protection of the western grebe nesting colony in Denton Slough. The western grebe nesting colony in Denton Slough may be threatened due to wave action and nearby recreational boating. (Issue identified by the Department and public)

Discussion: In Denton Slough, western grebes use aquatic vegetation as nest material. The nests are floating, and are susceptible to destruction due to wave action. While recreational boating is an obvious concern regarding wave action and disturbance, the colony was established and has apparently grown without boating restrictions. However, recreational boating may increase in the future, and the impact of boats on the western grebe colony should be monitored. To monitor grebe nesting success, the breeding population, the number of nests, and the number of broods will be counted. Information regarding inclement weather, human activity, etc., will be obtained during counts and from concerned individuals to help in assessing nest fate. Volunteers will be needed to participate in coordinated nesting colony status assessments. The POWMA Management Priority #1, Enhance & Maintain Emergent Wetland Habitat promotes recommendations such as nesting platforms or waterway closure during nesting season, and to the appropriate regulatory agency if the integrity of the nesting colony is threatened.

- 3. Public camping at Shepherd Lake has generated public complaints of excessive noise, litter, and alcohol consumption by large groups whose primary intent is to party rather than camp and enjoy the natural surroundings. (Issue identified by the public)**

Discussion: Measures must be implemented to improve compliance with regulations and maintain/improve public camping opportunity at the Shepherd Lake segment. Camping at this site is limited to no more than three days out of any five-day period for most of the year and a winter closure on the west side of the lake. The POWMA Management Priority #6, Provide for Wildlife-based Recreation and Education promotes the framework of camping opportunity to sportsmen during the fall waterfowl hunting season.

Pend Oreille WMA Management Program

The Department is responsible for the preservation, protection, perpetuation, and management of all wildlife, fish, and plants in Idaho. Wildlife Management Areas allow the Department to directly affect habitat to maximize suitability for species in key areas. Management to restore and maintain important natural habitats, and create hyper-productive habitats to enhance carrying capacity for selected wildlife species remains a key strategy on POWMA. However, the most pervasive threats to WMA ecological integrity, such as noxious weeds, rural residential/commercial development, water level management, and conflicting land uses on public lands, likely come from outside their boundaries. Therefore, WMA managers must recognize and create opportunities to participate in collaborative conservation and management programs with adjacent landowners, enabling broader influence to maintain the ecological functions that sustain WMA-dependent wildlife.

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

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

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

Summary of Management Priorities

Pend Oreille WMA is managed as a conglomerate of properties with different administrative reporting requirements, general and dedicated sources of operations and management funding, and a varying intensity of active management that ranges from custodial to highly manipulative active reclamation. The largest land base of the WMA is not owned by the Department, but

licensed to the Department by the USACE for wildlife management and public recreational access purposes. The license agreements carry no corresponding operations funding. Consequently, management funds for these properties are limited and management is often custodial. An annual report is filed with the USACE.

The second largest land base of the POWMA is lands purchased through the BPA wildlife mitigation program for the Albeni Falls Dam. These properties carry a BPA operations and management obligation. Management of these properties is better funded and more proactive. Several of the parcels purchased by the BPA wildlife mitigation program were wetlands previously converted to agriculture that are now undergoing active restoration back to their near historic wetland function.

The smallest land base of the POWMA is property that the Department has acquired through direct purchase with license funds. Management funding for these properties is often limited and management actions tend to be custodial. Restoration and proactive habitat management projects often are completed through outside funding opportunities or other state habitat improvement programs such as HIP or Access YES.

Taking the biological and funding resources of POWMA into consideration, in concert with these foundational priorities of POWMA and statewide Department priorities, the Department developed the following list of broad-scale POWMA Management Priorities. Previous accomplishments performed on the WMA can be examined in Appendix V.

Pend Oreille WMA Management Priorities (listed in order of priority):

1. Emergent Wetland Habitat
2. Forested Wetland Habitat
3. Scrub-shrub Wetland Habitat
4. Mesic and Dry-Mesic Montane Mixed Conifer Forest Habitats
5. Grassland/Forb and Hayland Habitat
6. Wildlife-based Recreation and Education

Focal Species Assessment

This section of the POWMA Plan is an assessment of various conservation priority fish and wildlife species on the POWMA and the adjacent Clark Fork, Pend Oreille, and Pack River watersheds in order to identify Conservation Targets to guide management. Table 1 evaluates taxa that are either flagship species (Groves 2003) and/or at-risk species identified by the Department in the Idaho Comprehensive Wildlife Conservation Strategy (IDFG 2005) and key federal agencies.

Flagship species are popular, charismatic species that serve as symbols and catalysts to motivate conservation awareness, support, and action (Heywood 1995). Flagship species often represent a landscape or ecosystem (e.g., Clark Fork or Pack River watershed), a threat (e.g., habitat loss or climate change), organization (e.g., state government or non-government organization), or

geographic region (e.g., protected area, Department Region or state; Veríssimo et. al. 2009). Waterfowl game species are an example of a group that fit the criteria as both focal and flagship species. In addition, they are a culturally and economically important species in Idaho and represent a founding priority for establishment of the POWMA. Therefore, waterfowl game species is an important flagship species group considered in the WMA assessment.

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

The Idaho SGCN list was developed as part of the Idaho Comprehensive Wildlife Conservation Strategy (IDFG 2005). The Idaho Comprehensive Wildlife Conservation Strategy document is now referred to as the State Wildlife Action Plan (SWAP). Idaho's SWAP serves to coordinate the efforts of all partners working toward conservation of wildlife and wildlife habitats across the state and serves as Idaho's seminal document identifying species at-risk. Although the Idaho SWAP SGCN includes most of the special status species identified by land management agencies in Idaho, some species not listed as SGCN are considered priorities by other agencies.

The Clark Fork and Pack River watershed, including POWMA, is a mosaic of land ownerships including private lands, USACE, USFS, BLM, and IDL lands and lands managed by the Department. The BLM, USFS, and IDL are key partners in this landscape as their management actions directly influence ecological function on POWMA. To maximize coordination, communication, and partnership opportunity, we include both USFS and BLM sensitive species in our biodiversity assessment.

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

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

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

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

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

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

Table 1. Status of Conservation Priority Species on the Pend Oreille WMA including their potential suitability as focal species for management.

Species	Status Designation(s)	Occurrence Context in Pend Oreille WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Pend Oreille WMA
Emergent Wetland Habitat Waterfowl Spp. – Dabblers Mallard Canada Goose Northern Pintail ¹	Flagship SGCN ¹	Migrating, feeding and breeding populations are present on the POWMA and Pend Oreille Watershed.	Degradation of habitat for wintering and breeding populations in Idaho; regional threats and decreasing long-term trend. Drainage of wetlands and agricultural alterations. Wintering populations are of primary concern, especially as ducks on winter wetlands compete against agricultural and urban users for limited water and space as human populations escalate (Austin and Miller 1995).	Primary actions should focus on restoring wetlands and integrating waterfowl management with farming practices. Management activities could follow recommendations made by Idaho Partners in Flight (IDPIF 2000) or the Idaho Steering Committee of the Intermountain West Joint Venture (IWJV 2005) for wetland restoration. Monitoring of wintering pintail population numbers as part of Idaho's coordinated, statewide all-bird monitoring program is recommended. Primary actions should continue to focus on restoring wetlands through cooperative joint ventures of federal, state, and provincial resource agencies, private organizations such as Ducks Unlimited and state waterfowl associations, and private landowners.	Potentially suitable as a focal species. The BPA selected the mallard and Canada goose as a representative target species to assess the quantity and quality of habitat available on BPA mitigation properties for this species.
Forested and Emergent Wetland Habitat Waterfowl Spp. – Divers Hooded Merganser ¹	Flagship SGCN ¹	Migrating, feeding and breeding populations are present on the POWMA and Pend Oreille Watershed.	Range wide declining population trend. Loss or degradation of wetlands due to drainage and conversion to agriculture, dredging and filling, modification of water levels, levee construction, changes in salinity, siltation, and introduction of exotic plants are all potential issues of concern that may impact both breeding and wintering habitats for these species.	Primary actions should focus on setting forest management goals that include the establishment and conservation of cavity-producing trees (>100 years old, >30 cm [12 in] diameter at breast height) as well as the maintenance of riparian forested corridors and forests located within 1.6 km (1 mi) of suitable brood habitat for cavity-nesting waterfowl.	Potentially suitable as a focal species. The BPA selected the Redhead duck as a representative evaluation species to assess the quantity and quality of habitat available on BPA mitigation properties for this species.
Emergent Wetland Habitat Muskrat (<i>Ondatra zibethicus</i>)	Flagship	Year-round and seasonal habitat and breeding occur on some WMA segments and within the Pend Oreille, Clark Fork and Pack River floodplain. BPA target species for Habitat Suitability Index (HSI) models.	The muskrat is used as an evaluation species to assess the impacts and mitigation of the Albeni Falls hydroelectric power dam operation.	BPA evaluation species to represent herbaceous wetlands and open water cover types.	Potentially suitable as a focal species. The BPA selected the muskrat as a representative evaluation species to assess the quantity and quality of habitat available on BPA mitigation properties for this species.
Emergent Wetland Habitat Black Tern (<i>Chlidonias niger</i>)	BLM Sensitive, SGCN	Nesting and breeding populations are present on the POWMA and Pend Oreille Watershed.	Greatest threat is loss of marsh habitat resulting from extraction of ground water (Shuford 1999). Disturbance is a potential threat in some locations, although black terns appear to be tolerant of nearby human activity as long as the colony is not entered (Gerson 1987).	Limiting access to colonies during the nesting season should be implemented. In addition, because black terns respond well to artificial wetlands, including restored wetlands, efforts should be made to restore or create suitable marsh habitat in historic nesting areas.	Potentially suitable as a focal species. Species is an indicator of functioning wetland systems.
Wetland and Riparian Habitat Spotted Sandpiper (<i>Actitis macularia</i>)	BLM Sensitive, SGCN	Occasional observations on the WMA. Migration foraging and resting habitat on the WMA and within the Pend Oreille River Valley	Habitat conversion to agriculture lands, dredging & channelization of wetlands, and altered hydrologic regimes.	Any remaining habitat in Idaho should be extensively surveyed. If any sandpipers are discovered in the area, extreme efforts should be taken to work with landowners to protect remaining habitat.	Potentially suitable as a focal species. Species is an indicator of functioning wetland systems and a good representative of the waterbird guild.
Emergent Wetland Habitat Western Grebe (<i>Aechmophorus occidentalis</i>)	SGCN	Western grebes are abundant on WMA sites, particularly in Denton Slough where one of only a few north Idaho nesting colonies occurs. Courtship displays are common in spring and early summer when up to 100 western grebes have been	Two of the main issues for grebes nesting in Idaho are water quality and water level fluctuations. Nesting colonies also are sensitive to disturbance by humans approaching the colony on foot or by boat. Adults leave nests approached by humans,	Monitoring water quality and reducing drastic water level fluctuation during the breeding season at key sites even through some water level fluctuation is necessary to provide suitable nesting habitat (40+ cm [16+ in] water depth in emergent. Closing off important breeding areas to recreational activities	Potentially suitable as a focal species. Species is an indicator of functioning wetland systems and recreational use management.

Species	Status Designation(s)	Occurrence Context in Pend Oreille WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Pend Oreille WMA
		noted. Up to 30 nests constructed from aquatic vegetation have been counted in Denton Slough in July. This nesting colony was established sometime in the last 20-25 years.	exposing eggs to increased risk of depredation by gulls, crows, or ravens. Increased boat traffic through foraging and brood-rearing habitat can elevate chick mortality.	during the nesting period would help alleviate disturbance. Minimize human influence by implementing seasonal closures to protect nesting waterbird. Minimize increased resort development along the shoreline and its associated increase in recreational boating poses a threat to this population. Consistent monitoring of existing breeding colonies should be implemented, through the Idaho Bird Inventory and Survey program.	
White-tailed Deer (<i>Odocoileus virginianus</i>)	Flagship	POWMA provides important yearlong range for white-tailed deer. BPA evaluation species for Habitat Suitability Index (HSI) models.	Urban development; loss of habitat diversity from brush control operations, logging operations, noxious weed problems, loss of native plant species.	BPA evaluation species because of its regional significance and its ties to scrub-shrub and forested wetland habitat.	Potentially suitable as a focal species. The BPA selected the White-tailed deer as a representative evaluation species to assess the quantity and quality of habitat available on BPA mitigation properties for this species.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Flagship, SGCN, USFS Sensitive, BLM Sensitive	Several pairs of bald eagles currently nest on the WMA. Some of these nests have been active for over 10 years. The WMA also provides important foraging habitat for other nesting eagles on Lake Pend Oreille. Lake Pend Oreille is also an important wintering area for bald eagles migrating south from Canada. Many of these birds use WMA lands for foraging and perching. Migrating eagles begin arriving in late October to take advantage of spawned out kokanee as a food source. BPA target species for Habitat Suitability Index (HSI) models.	Greatest threat to birds in Idaho is disturbance during the nesting period from activities such as forestry (e.g., timber harvest operations), human recreation (e.g., hiking, boating, off-road vehicles, hunting), and construction projects (e.g., home-site development in forested areas overlooking lakes and other large bodies of water) (Buehler 2000).	Buffer zones around active nests should be strictly adhered to as recommended in site-specific management plans. 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.	Potentially suitable as a focal species. The BPA selected the Bald eagle as a representative evaluation species to assess the quantity and quality of habitat available on BPA mitigation properties for this species.
Forested Wetland Habitats Black-capped Chickadee (<i>Parus atricapillus</i>)	Flagship	Year-round and seasonal habitat and breeding occur on some WMA segments and within the Pend Oreille, Clark Fork and Pack River floodplain. BPA target species for Habitat Suitability Index (HSI) models.	The Black-capped chickadee is used as an evaluation species to assess the impacts and mitigation of the Albeni Falls hydroelectric power dam operation.	BPA evaluation species to represent deciduous forested wetland cover type	Potentially suitable as a focal species. The BPA selected the Black-capped Chickadee as a representative evaluation species to assess the quantity and quality of habitat available on BPA mitigation properties for this species.
Scrub-Shrub Wetland Habitat Yellow Warbler (<i>Setophaga petechia</i>)	Flagship	Nesting and breeding populations are present on the POWMA and Pend Oreille Watershed shrub-scrub habitats.	The Yellow Warbler is used as an evaluation species to assess the impacts and mitigation of the Albeni Falls hydroelectric power dam operation.	BPA evaluation species to represent shrub-scrub cover type.	Potentially suitable as a focal species. The BPA selected the Yellow Warbler as a representative evaluation species to assess the quantity and quality of habitat available on BPA mitigation properties for this species.
Scrub-Shrub Wetland Habitat Willow Flycatcher (<i>Empidonax traillii</i>)	BLM Sensitive, SGCN	Documented occurrences during the breeding season in riparian habitats on POWMA.	Loss, degradation, and fragmentation of lowland riparian habitat due to water diversions, impoundments, heavy livestock grazing etc... Increase in nest predator access due to meadow desiccation and conifer encroachment is also an issue.	Riparian, and springs habitat conservation strategies benefit this species. Maintain or restore shrub willow patches, preferably in multiple patches along a given riparian reach. Manage grazing such that it does not significantly fragment or reduce the density of willow patches. Maintain the presence of wet soils and nearby surface water. Reduce nest predator access by preventing conifer encroachment into montane riparian habitat.	Potentially suitable as a focal species. Willow flycatcher is a riparian obligate and representative of riparian-dependent species sharing similar conservation needs. Unqualified scope of occurrence on POWMA would require preliminary work to determine the extent of breeding.

Species	Status Designation(s)	Occurrence Context in Pend Oreille WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Pend Oreille WMA
Grassland Habitat Grasshopper Sparrow (<i>Ammodramus savannarum</i>)	SGCN; IWJV	Unconfirmed presence during the breeding season on POWMA. Extent of breeding population is unknown, however, some habitat on POWMA is optimal.	Loss, fragmentation, and degradation of grassland habitat are the primary reasons for population declines of the grasshopper sparrow. This includes rural residential and commercial development, conversion of native grasslands to agricultural land, extensive and intensive livestock grazing, early season mowing of hayfields and other agricultural lands.	Quantify use of grassland habitat on POWMA by grasshopper sparrows. Maintain larger patches of vigorous native grassland habitat. Work with adjacent private landowners to encourage deferred haying operations.	Unsuitable as a focal species. Grasshopper sparrow is representative of a group of grassland-dependent species sharing similar conservation needs. However, unknown scope of occurrence on POWMA would require preliminary work to determine the extent of breeding.
Forested Habitat Flammulated Owl (<i>Psiloscops flammeolus</i>)	USFS Sensitive, BLM Sensitive, SGCN	Potential habitat occurs in the upland forest on the WMA and surrounding landscape. No known occurrence in the surrounding area.	Direct habitat loss from timber harvest practices; fire exclusion resulting in altered forest structure, stocking rates, and species composition; pesticides; and cutting of dead trees for firewood.	Monitoring programs for nocturnal birds are needed to refine population estimates and trend data for this species. Research on factors influencing clustered spatial distribution of breeding sites is warranted to investigate why large areas of presumably suitable habitat remain unoccupied.	Unsuitable as a focal species. Limited information on distribution in the project area.
Forest Habitat- N. Rocky Mountain Ponderosa Pine Woodland and Savanna dependent species: Cassin's Finch ^{2,5} Northern Pygmy Owl ^{2,5} Black-backed Woodpecker ² Long-eared Myotis ^{2,5} Long-legged myotis ^{2,1,5}	USFS Sensitive ¹ BLM Sensitive ^{3,5} SGCN ²	Species listed have been documented to occur on or near the POWMA but overall use, abundance and distribution occurrence and use is poorly documented	The Ponderosa pine old growth habitat type has seen a significant decline all across the western U.S.	Prescribed burns through forest understorey to promote grass savanna habitat and Ponderosa pine regeneration. Forest management to include thinning of shade tolerant tree species to allow open forest understorey.	Potentially Suitable as a focal habitat This extensive list of N. Rocky Mountain. Ponderosa Pine Woodland and Savanna habitat dependent species includes birds, mammals and a reptile. This habitat type represents a broad group of species sharing the same or similar conservation needs.
Forest Habitat -N. Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest dependent species: Cordilleran Flycatcher ^{2,5} Hammond's Flycatcher ^{2,3} Olive Sided Flycatcher ^{2,3} Red-naped Sapsucker ^{2,5}	USFS Sensitive ¹ BLM Sensitive ^{3,5} SGCN ²	Species listed have been documented to occur on or near the POWMA but overall use, abundance and distribution occurrence and use is poorly documented	Salvage logging, by reducing snag densities, diminishes preferred habitat. Clear cutting also poses a great risk to these species.	In areas where fire suppression has reduced the heterogeneity of the forest, fire management techniques that promote a more historic pattern of disturbance would benefit these species. Several other management techniques to benefit the species include retaining forested habitat around riparian and wetland habitats and retaining snags and large trees post-fire. Select logging practices that retain medium to large trees with a relatively open canopy closure may also provide appropriate habitat.	Potentially Suitable as a focal habitat. This extensive list of Dry Conifer Forest habitat dependent species includes birds, mammals and a reptile. This habitat type represents a broad group of species sharing the same or similar conservation needs.
Common Loon (<i>Gavia immer</i>)	BLM Sensitive, USFS Sensitive, SGCN	Common loons are often observed at WMA sites during spring and fall migrations. Smaller numbers of common loons occur on Lake Pend Oreille in the winter. While no nests have been observed on Lake Pend Oreille for many decades, adult common loons with young were observed in the Clark Fork River Delta in 1995.	Degradation of habitat through shoreline development, campsites, human recreational use of nesting and nursery sites may force loons into marginal, less protected nesting sites. Chicks are more susceptible to predation when forced to separate from their parents by boats, jet skis, or any human intrusion; chicks are also killed by direct impact from outboard propellers and jet skis.	Install artificial nesting platforms in Upper Priest, Priest, and Pend Oreille Lakes. Monitor the loons during the breeding and non-breeding season. Increased study into the toxic sensitivity of loons is needed. Public education and cooperation could contribute to reversal of population decline and should be expanded in Idaho.	Unsuitable as a focal species. Trend data for Idaho is not available, likely because of low detection rates along BBS routes.

Species	Status Designation(s)	Occurrence Context in Pend Oreille WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Pend Oreille WMA
Fisher (<i>Martes pennant</i>)	BLM Sensitive, USFS Sensitive, SGCN	Various small-scale survey efforts have been conducted in northern Idaho and western Montana in order to determine their presence and distribution. Fishers are present in the study area, and may represent a stronghold for the northern Rockies population.	Habitat loss and degradation continue to threaten populations. Loss of forested habitat, particularly old growth forests, to fire and timber harvest results in the reduction and fragmentation of suitable habitat.	Protection and restoration of important habitat may be necessary. Forest management that maintains a balance of old growth and early seral-stage forests and protects riparian habitat may be required to sustain viable fisher populations.	Unsuitable as a focal species. Limited information on distribution in the project area. More study efforts, particularly random surveys, would be needed to address the lack of detections in certain areas, as well as to learn more about the population attributes and habitat selection of fishers in the region.
Riparian and Aquatic Habitat Species - Westslope Cutthroat Trout Bull Trout	BLM Sensitive, USFS Sensitive, SGCN	Historically, Lake Pend Oreille was well-known for its kokanee fishing. The lake and its tributaries provide important habitat for bull trout, a federally threatened species. Johnson Creek flows into the Clark Fork River within the WMA. The lower end of this stream is an important spawning and staging area for bull trout. Westslope cutthroat trout inhabit areas within the Clark Fork River drainage.	Disturbed stream habitats have reduced the size and the quality of spawning areas for kokanee in the drainage. Threats to bull trout and Westslope cutthroat trout include the combined effects of habitat degradation, fragmentation and alterations associated with dewatering, road construction and maintenance, mining, grazing; the blockage of migratory corridors by dams or other diversion structures; poor water quality, entrainment into diversion channels, and introduced non-native fish species in the watershed.	Protection of riparian and wetland habitat. Disturbed stream habitats have reduced the size and the quality of spawning areas for kokanee in the drainage. State and federal agencies, Indian Tribes, water managers, and hydroelectric operators should continue working collaboratively to assess ways to improve and enhance habitat conditions for bull trout across its range. In addition, conservation efforts in Idaho should work with neighboring states on shared drainages.	Unsuitable as a focal species. Management actions on the POWMA do not directly impact fish species, though species will be taken into account.
Riparian Habitat Coeur d'Alene Salamander (<i>Plethodon idahoensis</i>)	BLM Sensitive, USFS Sensitive, SGCN	Species listed have been documented to occur on or near the POWMA but overall use, abundance and distribution occurrence and use is poorly documented	Loss and degradation of wetland and riparian habitat is the most prevalent threat to populations.	Wetland and riparian vegetation protection and/or restoration of degraded sites are beneficial; maintaining riparian vegetation to retain cool stream temperatures; maintain stream/river connectivity; a comprehensive understanding of population status is needed.	Unsuitable as a focal species. The distribution of this species in the state is incompletely documented, and few data indicate habitat needs.
Gastropod Species Fir Pinwheel, Kingston Oregonian, Sheathed Slug	SGCN	Current distribution and status on WMA or in watershed is not documented. All gastropods will be surveyed for on and around POWMA during summer of 2013.	Much of the habitat has been lost to logging, grazing, roads, and forest fires.	Surveys are needed throughout the known range of this species, particularly in and near historically occupied sites, to determine the current status of this species in the state.	Unsuitable as a focal species. The distribution of this species in the state is incompletely documented, and few data indicate habitat needs.
Peregrine Falcon (<i>Falco peregrinus</i>)	ESA Delisted, USFS Sensitive, BLM Sensitive, SGCN	Individuals observed hunting on the WMA. Foraging habitat occurs on the WMA.	Loss of habitat (nest sites and wetlands) and human activities are the greatest threats to the peregrine population.	Surveys for nest sites should continue. Known nest sites, especially historically occupied cliffs, must be protected from disturbance and/or destruction. Efforts should be made to maintain the integrity of wetlands adjacent to known peregrine eyries.	Unsuitable as a focal species. Limited information on distribution in the project area.
Northern Goshawk (<i>Accipiter gentilis</i>)	USFS Sensitive, BLM Sensitive SGCN	No nesting pairs identified. POWMA likely provides foraging habitat for goshawks nesting on adjacent properties.	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).	Maintain forested habitat on the margins of POWMA in a variety of vegetation structure stages to provide quality habitat for goshawk prey species and that enhance foraging opportunities for goshawk.	Unsuitable as a focal species Do to the high public recreation use of the WMA it is unlikely that Goshawks would breed or use the WMA consistently due to disturbance.
Great Gray Owl (<i>Strix nebulosa</i>)	USFS Sensitive, BLM Sensitive SGCN	POWMA likely provides foraging habitat for Great Gray owls during winter.	Habitat loss and fragmentation through timber harvest and development are the primary threats facing Great Gray Owl populations. Other threats include fire suppression (leading to forested-stand density increases and conifer encroachment into meadows) (Williams 2012).	Retain beneficial habitat features at the landscape-level; particularly open areas for foraging adjacent to stands of mature or old-growth trees for nesting and roosting. When implementing forest management, limit timber harvest unit sizes; utilize variable harvest patch sizes or timber harvests with	Unsuitable as a focal species. Limited information on distribution in the project area. Unknown distribution limits potential management feedback.

Species	Status Designation(s)	Occurrence Context in Pend Oreille WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Pend Oreille WMA
Vaux's Swift (<i>Chaetura vauxi</i>)	BLM Sensitive SGCN	Occurs on or near the POWMA but context of occurrence is poorly documented.	Loss of potential nest and roost sites are probably the primary threats. Hazard tree removal and fire-control programs destroy potential nest and roost trees and preclude their development.	Require the retention of residual old-growth trees and snags in managed forests. Evaluate habitat-use patterns and threats on their range.	Unsuitable as a focal species. Limited information on utilization of POWMA habitats limits the potential value of management feedback
Common Garter Snake (<i>Thamnophis sirtalis</i>)	USFS Sensitive, BLM Sensitive SGCN	Occurs on POWMA but context of occurrence is poorly documented.	Threats to common garter snakes are most likely related to loss and degradation of riparian and wetland habitats and hibernacula.	Management that protects, restores wet habitats (seeps, springs) and enhances prey species availability (i.e., earthworms, insects, amphibians, and small mammals) will benefit common garter snake. Identifying and protecting hibernacula will also benefit common garter snake	Unsuitable as a focal species. Limited information on utilization of POWMA habitats limits the potential value of management feedback
Western Small Footed Myotis (<i>Myotis ciliolabrum</i>) Yuma Myotis (<i>Myotis yumanensis</i>)	SGCN	Occurs on POWMA but context of occurrence is poorly documented.	Individuals are long-lived and exhibit low reproductive potential. Roost sites tend to be colonial, and may be limiting in some areas; aggregations are susceptible to disturbance and intentional persecution. High prey densities are often associated with wetlands and other highly productive habitat. Habitat use rates and, at the population level, survival and recruitment rates likely track aerial insect prey availability. Accessible surface water also likely affects local distribution and abundance.	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.	Unsuitable as a focal species. Limited information on distribution in the project area. Unknown distribution limits potential management feedback.
Western Toad (<i>Anaxyrus boreas</i>)	USFS Sensitive, BLM Sensitive SGSN	Occurs on POWMA but context of occurrence is poorly documented.	Chytrid fungus, <i>Batrachochytrium dendrobatidis</i> , is the primary threat to western toad populations throughout the Southern Rocky Mountains. This is compounded by habitat alteration around wetlands and human-facilitated expansion of natural and introduced predators. Habitat fragmentation isolates breeding populations, which increases the effects of these widespread threats and the risk associated with other threats, such as local changes in water quality, timber harvest, livestock grazing, fire, and toxic chemicals (Keinath and McGee 2005).	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 in the project area. Unknown distribution limits potential management feedback.
Columbia Spotted Frog (<i>Rana luteiventris</i>)	BLM Sensitive, SGCN	Occurs on POWMA but context of occurrence is poorly documented.	The loss of wetland and riparian habitats is a pervasive threat. Agricultural activities, such as water withdrawal, diversion, and livestock use, can contribute to habitat loss and degradation.	Actions to include stabilization and rehabilitation of habitat for extant breeding populations. In many areas, habitat improvements may be accomplished through grazing management. Emphasis is needed in stream and riparian restoration to increase available wetland habitat and restore connective corridors among occupied habitats.	Unsuitable as a focal species. Limited information on distribution in the project area. Unknown distribution limits potential management feedback.

Species	Status Designation(s)	Occurrence Context in Pend Oreille WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Pend Oreille WMA
Northern Leopard Frog (<i>Rana pipiens</i>)	BLM Sensitive, SGCN	In northern Idaho, the species was found in the Kootenai, Pend Oreille, and Clark Fork rivers prior to 1955, but populations may no longer persist in this region.	Loss and degradation of wetland and riparian habitat is thought to be the most prevalent threat. Urban and agricultural development, pollution from agricultural runoff, mining and mineral processing, water diversion, and livestock wastes and trampling of habitat are the most pervasive stressors to wetland systems. Introduced competitors and predators, such as bullfrogs and sport fishes, can cause amphibian population declines and losses. Disease is also a concern, particularly the chytrid fungus, <i>Batrachochytrium dendrobatidis</i> .	A comprehensive understanding of population status throughout the state is needed. Investigation of the cause of declines may be warranted and would be a priority if regional or state-wide declines are demonstrated. Wetland protection and restoration of degraded sites may be needed.	Unsuitable as a focal species. Due to their extirpation from northern Idaho, would not provide feedback to managers.
Wood Frog (<i>Lithobates sylvaticus</i>)	BLM Sensitive, SGCN	In Idaho, the species was found historically at three sites in Boundary and Bonner counties. No record has been reported since 1970, and these Idaho populations may have been extirpated.	Threats to any populations that may persist in the State are unknown.	Surveys are needed to determine if the species persists in Idaho. If a population is extant, a habitat protection and monitoring plan should be developed.	Unsuitable as a focal species. Due to their extirpation from northern Idaho, would not provide feedback to managers.

Selection of Conservation Targets

The biodiversity of POWMA is represented by numerous vertebrates, invertebrates, plants, and ecological communities (Appendices VI and VII). 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 the WMA for management and conservation; while still reflecting the management priorities of POWMA.

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

Five habitats potentially suitable as a focal species or groups were identified from the focal species assessment for the POWMA and are also listed as flagship species. These species are also used as BPA evaluation species for the crediting matrix that follows how the wildlife losses are calculated for the construction of the Albeni Falls Dam.

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

1. Emergent Wetland Habitat (Enhance and Maintain Emergent Wetland Habitat)
2. Forested Wetland Habitat (Enhance and Maintain Forested Wetland Habitat)
3. Scrub-shrub Wetland Habitat (Enhance and Maintain Scrub-shrub Wetland Habitat)
4. Mesic Montane Mixed Conifer Forest and Dry-Mesic Montane Mixed Conifer Forest Ecological Systems (Enhance and Maintain Mixed Forest Habitat)
5. Grassland/Forb and Hayland Habitat (Enhance Grassland/Forb and Hayland Habitat)

Emergent Wetland Habitat

Emergent wetland habitats were chosen as priority habitats for management on the POWMA due to the number of focal species that rely on functioning wetlands. Species include the mallard, northern pintail, Canada goose, lesser scaup, redhead duck, western grebe, common loon, and the black tern.

Forested Wetland Habitat

Forested wetland habitats were chosen as a focal habitat as it provides for important life requirements for three focal species, the bald eagle, black-capped chickadee (*Poecile atricapillus*), and hooded merganser.

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

Scrub-shrub Wetland Habitat

Scrub-shrub wetlands were chosen as a habitat for management on the POWMA due to its use by focal species, the white-tailed deer and yellow warbler. This type of habitat also provides forage and security cover for many other ungulate and furbearing species. A broad range of passerine bird species also use this type of cover for foraging, nesting, and cover.

Mixed Conifer Forest Stands

Mesic Montane Mixed Conifer Forest Dry-Mesic Montane Mixed Conifer Forest Ecological Systems were selected as a priority habitat for management on the POWMA due to focal species such as the bald eagle, Cassin's finch and olive-sided flycatcher that rely on this type of habitat for nesting and breeding habitat. A multitude of other amphibian, arthropod, reptilian, and avian bird species listed above utilize these habitat types for nesting, forage, and shelter.

Grassland/Forb and Hayland Habitat

Grassland/forb and hayland habitat which includes grasslands, broadleaf forb pastures, and hayfields were selected as a focal habitat for management on the POWMA due to focal species such as the Canada goose that use this type of habitat for nesting and brood rearing. White-tailed deer also utilize these areas for browse. Passerine songbirds such as the grasshopper sparrow rely on dense grasslands for nesting and cover.

Viability Assessment of Selected Conservation Targets

Some analysis of the amount of coverage that a Conservation Target provides toward conservation of other species is essential to determining if the selected targets are viable. For this analysis, each of the five Conservation Targets was carefully evaluated to determine what other species would benefit from management actions taken to conserve the target. Table 2 indicates that the suite of species and habitats selected for Conservation Targets on POWMA satisfy beneficial management and conservation actions and address threats for a number of species examined as potential focal species.

This assessment identified several guilds for which there is little or no management action being taken and/or where further data would be useful to inform the next planning process. These management needs merit attention and broad strategies are identified in the following Management Program Table (pages 40-45) that further conservation for these species.

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

Species Assessed in Table 1	Conservation Targets ^a					Conservation Need
	Forested Wetland Habitats	Emergent Wetland Habitats	Scrub-shrub Wetland Habitats	Mixed Conifer Forest Habitats	Grassland Habitats	
White-tailed Deer	P		X	X	X	
Muskrat		X				
Fisher			X	X		
Mallard	X				X	
Canada Goose		X			X	
Northern Pintail		X				
Hooded Merganser	X		P	X		
Lesser Scaup		X				
Redhead Duck		X				
Western Grebe		X				
Black Tern		X				
Common Loon	X					
Spotted Sandpiper	X					
Black-capped Chickadee			X	X		
Yellow Warbler			X			
Grasshopper Sparrow					X	
Vaux's Swift				X		
Cassin's Finch				X		
Black-backed Woodpecker				X		
Willow Flycatcher				X		
Cordilleran Flycatcher				X		
Hammond's Flycatcher				X		
Olive Sided Flycatcher				X		
Red-naped Sapsucker				X		
Bald Eagle				X		
Peregrine Falcon	X			X		
Northern Goshawk				X		
Great Gray Owl				X		
Flammulated Owl				X		
Northern Pygmy Owl				X		

Species Assessed in Table 1	Conservation Targets ^a					Conservation Need
	Forested Wetland Habitats	Emergent Wetland Habitats	Scrub-shrub Wetland Habitats	Mixed Conifer Forest Habitats	Grassland Habitats	
Westslope Cutthroat Trout	X					
Bull Trout	X					
Long-eared Myotis				X		
Long-legged myotis				X		
Western Small-footed Myotis				X		
Yuma Myotis				X		
Common Garter Snake				X		
Western Toad				X		
Northern Leopard Frog				X		
Wood Frog				X		
Columbia Spotted Frog				X		
Coeur d'Alene Salamander						Yes
Fir Pinwheel						Yes
Kingston Oregonian						Yes
Sheathed Slug						Yes

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

Spatial Delineation of Selected Focal Species/Habitat Landscapes

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

The section describes the methods used to define spatial landscapes for each of our POWMA Conservation Targets. We used the best data available (i.e., wildlife surveys, the scientific literature, species ecology data from the scientific literature, and local knowledge) to construct these Conservation Target-specific landscapes. These landscapes are then utilized in the Management Program Table (pages 40-45) to identify Conservation Target-specific Management Directions, Performance Targets, and Strategies for both POWMA and the landscape.

ArcGIS10 was used to delineate the landscape of interest for each of our focal habitats which include Emergent Wetland, Forested Wetland Habitat, Scrub-shrub Wetland Habitat, Mixed Conifer Forest Habitats (dry and mesic), and Grassland/Forb and Hayland Habitat. Each focal habitat is present in the Pend Oreille drainage system and when combined, it provides a landscape that is interconnected with each other. Different wildlife species use each habitat type for a specific purpose, and looking at the larger landscape as a whole can help support species dependent on these types of habitats. As a result, a spatial delineation of the Pend Oreille watershed in Bonner County, North Idaho, was created (Figure 4). GIS was used to outline the area in the Pend Oreille Valley basin below 2,300 feet in elevation surrounding the Lake Pend Oreille basin. The selected area contained foothill forests and valley bottom floodplains and wetlands influenced by the lake, river, and tributaries that are most at-risk and in need of conservation and restoration.

Pend Oreille River WMA - Area of Influence

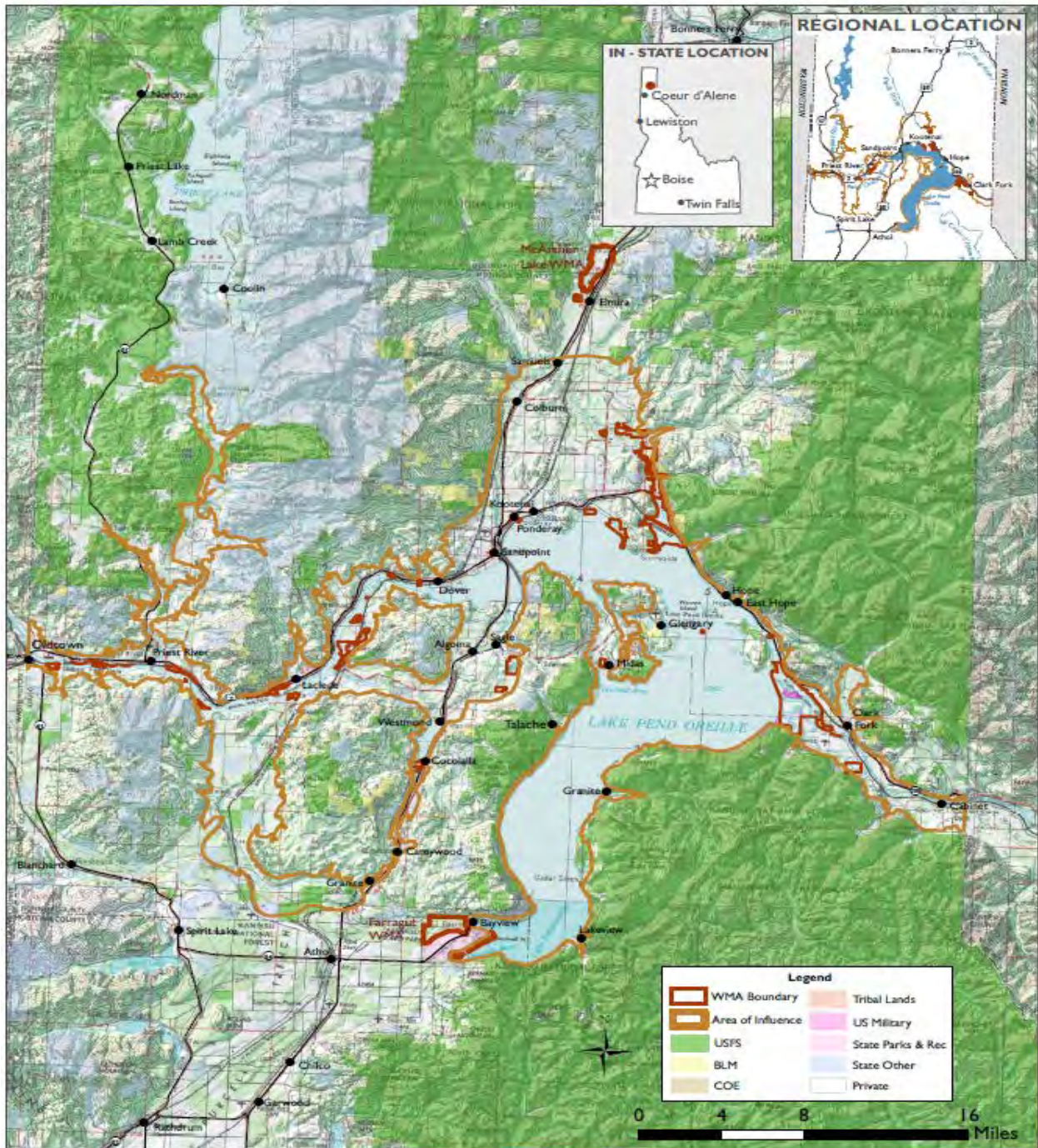


Figure 4. The Pend Oreille basin below 2,300 feet elevation as the landscape scale for Focal Habitat consideration for Pend Oreille WMA.

Pend Oreille WMA Management Program Table

The following table outlines the Management Directions, Performance Targets, Strategies, and Outcome Metrics POWMA staff will use to manage for the Conservation Targets selected (page 34) to represent each POWMA Priority (page 25) at both the POWMA and Conservation Target-specific landscape scale. The last section of the table outlines strategies that will be used to increase our knowledge of the Conservation Needs identified in the Conservation Target coverage assessment (Table 2). 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: Emergent Wetland Habitat					
Conservation Target: Enhance and Maintain Emergent Wetland Habitat					
Scope	Management Direction	Performance Target	Strategy	Metric	Compass Objective (Appendix I)
POWMA	Provide high quality and secure waterfowl breeding, nesting (also see Grassland Habitat Priority 5), and brood-rearing habitat, while enhancing wetland productivity, diversity, and functions (e.g., water quality improvement)	Annually, reduce human disturbance, predation, and other disruptions during waterfowl breeding, nesting and brood rearing times in all wetlands susceptible to disturbance; take actions to enhance secure breeding opportunities (e.g., maintain/replace Canada goose nesting structures per year where necessary)	Maintain Canada goose nesting structures	Number of installed nesting structures occupied by Canada goose. Number of violations from closed access.	A, B, C, E
			Implement seasonal human activity closures to minimize disturbance to waterfowl and other nesting waterbirds at critical times of the year.		
		Annually, enhance wetland plant diversity and productivity within water management constraints across each WMA segment with existing emergent wetlands. Plant at least one acre of native emergent wetland plants (obtaining a 25% cover increase in five years at each planting) beneficial for waterfowl per year at WMA segments that lack food sources or are unproductive.	Plant native emergent wetland plants around wetland segments that provide food sources for breeding waterfowl	Acres of successfully established wetland plantings	
		By 2023, where possible, treat up to 50 acres of deep water marsh units at least once to approach an approximate 60:40 ratio of open water to tall marsh vegetation (e.g., cattail- bulrush) and to maximize plant diversity for the benefit of waterfowl breed pairing, brood rearing, and other functions	Use herbicide applications, mechanical treatments, and fire to rejuvenate stands of depauperate, unproductive, low diversity marsh vegetation and maintain an approximate 60/40 mix of open water and marsh vegetation for waterfowl and other waterbirds.	Acres of ponds and deepwater emergent marsh units treated; ratio of open water to tall marsh vegetation	
	Incorporate full drawdowns and partial drawdowns (where possible) provide for very wet years and drought years over time				
	Provide high quality cover and food sources for migrating waterfowl, waterbirds, shorebirds, and other wildlife, while maximizing potential water quality and ecosystem support functions	Annually, maintain existing water control structure (WCS) water levels to provide 23.5 acres of wetlands across WMA segments to mimic natural wetland function at Albeni, Derr, Rapid Lightning, Cocolalla, and Shepherd Lake WMA segments.	Capture and hold spring water runoff and slowly release water to create receding summer water levels on the segments; time summer drawdown to increase duration of saturation and shallow flooding in seasonal wet meadows and shallow emergent marshes during early summer and maintain groundwater closer to surface for longer duration in summer to maximize invertebrate production	Percentage of mapped shallow water emergent marsh and wet meadow habitat managed; floristic quality index metrics based on species composition	A, B, C
			Use mechanical disturbance, fire, and other treatments where appropriate to increase diversity and productivity of wet meadow and shallow marsh vegetation, specifically with the objective of decreasing cover of reed canarygrass		
		Annually, restore and/or create at least 50 acres of wetlands over 10 years; aim to create diverse and productive shallow water emergent plants.	Plant native emergent wetland plants in degraded or minimally diverse wetland segments that provide food sources for migratory waterfowl and other waterbirds	Acres of successfully created and restored wetlands	
Control noxious weeds and highly invasive plant species					

WMA Priority: Emergent Wetland Habitat					
<i>Conservation Target: Enhance and Maintain Emergent Wetland Habitat</i>					
Scope	Management Direction	Performance Target	Strategy	Metric	Compass Objective (Appendix I)
POWMA Landscape	By coordinating with partners, increase the amount of high quality emergent wetland habitat managed for breeding and/or migrating waterfowl, waterbirds, shorebirds, amphibians, and other wildlife, while enhancing productivity, diversity, and functions (e.g., water quality improvement)	Annually, cooperate with neighboring private landowners, in partnership with state and federal agencies, in Pend Oreille basin to restore, create, enhance, and/or maintain at least five acres per year of functioning emergent wetland habitat for the purpose of improving habitat quality and management (e.g., flooding and drawdowns at the appropriate times and frequency)	Work with private land owners through HIP and other conservation programs to restore and/or create emergent wetland habitat on their land.	Acres of emergent wetland successfully created, enhanced, or restored acres	B, C, H, I
		Annually, cooperate with state and federal agencies in the Pend Oreille basin, to create, restore, enhance, and/or maintain at least one acre per year of functioning emergent wetland habitat for the purpose of improving habitat quality and management (e.g., flooding and drawdowns at the appropriate times and frequency)	Coordinate with conservation agencies (BLM, USFS, tribes, etc.) and non-governmental organizations (e.g., Ducks Unlimited, etc.) to create wetland habitats and restore/rejuvenate existing wetlands		
WMA Priority: Forested Wetland Habitat					
<i>Conservation Target: Enhance and Maintain Forested Wetland Habitat</i>					
Scope	Management Direction	Performance Target	Strategy	Metric	Compass Objective (Appendix I)
POWMA	Provide functioning forested wetland habitat in good to excellent ecological condition to benefit a wide range of fish and wildlife species	During next 10 years, protect and/or enhance 20 acres of existing forested wetlands with the goal of increasing native tree cover by 10%, increasing the Floristic Quality Index by 5%, increasing % of flora comprised of hydric species by 5%, and decreasing % of flora comprised of non-native species by 10%	Protect areas from big game browsing, beaver, fire, and herbicides to allow woody species to get established and spread; control noxious and invasive weed species, including using methods to reduce cover of reed canarygrass	Acres of forest protected	B, C
		Within 10 years, create, restore, and/or enhance 20 acres of forested wetland through implementation of vegetation improvement projects (e.g., aim for canopy cover > 25% with at least 30% survival of black cottonwood trees and native trees; evidence of natural tree and shrub reproduction)	Plant native hydrophytic tree species within wetland and riparian areas	Acres of trees planted with at least 30% survival	
		During next 10 years, maintain or increase the density of large diameter trees and snags for cavity nesting birds, mammals, and bald eagle nest/perch sites (2/acre)	Protect natural regeneration of native hydrophytic tree species	Acres of regeneration protected	
			Protect large diameter trees and retain snags	Acres of forest protected	
POWMA Landscape	Provide functioning forested wetland habitat in good to excellent ecological condition to benefit a wide range of fish and wildlife species	During next 10 years, work with private landowners and land management agencies to maintain, restore, and/or establish 50 acres of diverse mix of riparian species in black cottonwood dominant forested wetland stands, increase cover of black cottonwood trees, and decrease non-native invasive species along river banks and throughout floodplains.	Work with private land owners through HIP and other private, state, and federal conservation programs to create and restore healthy floodplain forested wetland habitat on their land (e.g., riparian forest planting projects; weed control)	Acres of forested wetland habitat created	B, C
			Within constraint of preventing unintended flooding of agricultural or residential lands, identify opportunities to restore natural floodplain processes for the purpose of enhancing black cottonwood reproduction		
			Where possible, provide technical assistance and funding to cooperating agencies on projects that restore or enhance forested wetland habitat in the Pend Oreille basin (e.g., riparian forest planting projects; weed control)	Number of contacts and implemented projects	

WMA Priority: Scrub-shrub Habitat					
<i>Conservation Target: Enhance and Maintain Scrub-shrub Habitat</i>					
Scope	Management Direction	Performance Target	Strategy	Metric	Compass Objective (Appendix I)
POWMA	Provide productive, functioning scrub-shrub wetland habitat in good to excellent ecological condition to benefit a variety wildlife species	Within five years, create, restore, and/or enhance 20 acres of scrub-shrub wetland habitat through implementation of vegetation improvement projects (e.g., aim for canopy cover > 25% with at least 30% survival of native shrubs; evidence of natural shrub reproduction)	Plant native shrub species on WMA segments where shrubs are lacking due to historical land use or other disturbance (e.g., agriculture, river bank or lake shore erosion)	Acres of shrubs planted with at least 30% survival	A, B, C
			Where very high levels of wildlife browse are observed, construct enclosures to prevent excessive browsing until shrubs have recovered.	Acres of shrubs protected	
			Prune/trim older, unproductive shrubs to rejuvenate shrub growth and provide higher quality browse/forage.		
POWMA Landscape	Provide productive, functioning scrub-shrub wetland habitat in good to excellent ecological condition to benefit a variety wildlife species	Annually, cooperate with neighboring private landowners, in partnership with state and federal agencies in the Pend Oreille basin, to create, restore, and/or maintain at least 15 acres over 10 years of diverse, native scrub-shrub habitat with objective of increasing cover of native shrubs and decreasing non-native invasive species	Work with private land owners through HIP and other conservation programs to create and restore scrub-shrub wetland habitat on their land (e.g., shrub planting projects; weed control)	Acres created, restored, or maintained scrub-shrub habitat	A, B, C, H, J, K
WMA Priority: Mesic Montane Mixed Conifer Forest and Dry-Mesic Montane Mixed Conifer Forest Ecological Systems					
<i>Conservation Target: Enhance and Maintain Mesic Montane Mixed Conifer Forest and Dry-Mesic Montane Mixed Conifer Forest Ecological Systems</i>					
Scope	Management Direction	Performance Target	Strategy	Metric	Compass Objective (Appendix I)
POWMA	Provide diverse and resilient stands of mixed age-class conifer forest habitat in good to excellent ecological condition to benefit a variety of wildlife species	Complete a Forest Inventory and Condition Assessment on all WMA segments in five years. Complete a Forest Management/Stewardship Plan in 10 years Maintain or restore > 200 acres of mixed species conifer stands over 10 years to create a mix of early to mid-seral Douglas-fir - Grand fir stands and Douglas-fir - Ponderosa Pine stands; maintain as many large diameter (> 20 inch dbh) trees and snags as possible for wildlife	Conduct a forest composition and structure inventory and health assessment (including seral stages) using established protocols; develop a forest Management/Stewardship Plan based on assessment	Completion of forest inventory and assessment; Forest Management/ Stewardship Plan	A, B, C
			Control invasive and noxious weed species in disturbed forest openings	Acres restored to early to mid-seral mixed conifer stands	
			Use pre-commercial and commercial thinning to restore stands to historical conditions and reduce wildfire threat and disease extent. Use small direct sales to begin restoration activities. Protect old growth and mature trees or stands from human disturbance, such as road and trail building, commercial logging, etc.		
POWMA Landscape	Provide diverse and resilient stands of mixed age-class conifer forest habitat in good to excellent ecological condition to benefit a variety of wildlife species.	Cooperate with state and federal agencies in Pend Oreille basin to create/maintain/restore/protect (from urban or other development) healthy, early to mid-seral mixed conifer forest habitat; treat or protect > 200 ac in 10 years Cooperate with neighboring private landowners and non-governmental organizations, in partnership with state and federal agencies, in Pend Oreille basin to protect (from urban or other development), maintain, and restore healthy, early to mid-seral mixed conifer forest habitat; treat or protect > 200 ac in 10 years	Work with state and federal agencies by providing technical assistance on projects that protect, maintain, and restore healthy mixed conifer habitat; potential projects include prescribed fire, commercial or non-commercial thinning, conservation of forest land through easements, etc.)	Acres of habitat restored or protected meeting desired conditions.	A, B, C, H, J, K
			Work with private land owners and other partners through HIP and other conservation programs to protect, maintain, and restore healthy mixed conifer habitat on their land; potential projects include prescribed fire, commercial or non-commercial thinning, conservation of forest land through easements, etc.)	Acres of habitat restored or protected meeting desired conditions	

WMA Priority: Grassland/Forb and Hayland Habitat

Conservation Target: Enhance and Maintain Grassland/Forb and Hayland Habitat

Scope	Management Direction	Performance Target	Strategy	Metric	Compass Objective (Appendix I)
POWMA	Provide a mosaic of diverse, productive grassland/forb habitat dominated by native species and forb wildlife food plantings to benefit a wide range of wildlife species	Treat approximately 20 ac of pasture and hayfield waterfowl nesting habitat each year during the next 10 years to restore health, vigor, and diversity by inter-planting native grass (as measured by floristic quality objectives, including: increase the Floristic Quality Index by 5%, increase native species richness by 10%, decrease noxious/invasive weed cover by 50%, decrease % of flora comprised of non-native species by 10%).	Mow grass stand and no-till drill native grass seed mix into existing non-native grass stand to increase diversity.	Acres of pasture and hayfields treated per year; floristic quality index metrics based on species composition; cover of noxious and highly invasive weeds species % cover of native grass and forbs in grasslands; other floristic quality metrics.	A, B, C, E, F, H
			Incorporate native forb species into native plantings within pastures and hayfields (after weed control is accomplished)		
		Annually, create one acre per year of forb plots/strips near woody cover habitat areas. Species include both native and beneficial non-native, non-invasive wildlife food species to increase the carrying capacity for wildlife species who's limiting factor is winter food availability	Plant and maintain forb plots/strips within grassland habitat through mowing and chemical seed bed preparation.	Acres of forb strips planted and successfully established; Acres of food plots planted and successfully established	
		Annually, provide 10 acres of low grass cover for Canada Goose brood rearing	Mow designated areas to provide low grass cover for goose rearing pasture	Acres mowed	
POWMA Landscape	Provide grassland and broadleaf pasture habitat to benefit a variety of wildlife species.	During next 10 years, work with private landowners and land management agencies in the Pend Oreille basin to enhance or restore 15 acres of pasture and hayfield (no longer utilized) to functioning, diverse grassland and forb habitat that provide quality food and cover for wildlife species	Work with private land owners through private, state and federal conservation programs (e.g., HIP) to create or restore grassland cover and forb food species for nesting and forage for upland game birds and waterfowl on their lands (e.g., native grass seeding projects; forb planting)	Acres of old pasture and hayfield successfully enhanced or restored	A, B, C, H, J, K
			Provide technical assistance and funding to cooperating agencies on projects that create or restore grassland stands (e.g., native grass and forb seeding projects)		

WMA Priority: Wildlife-based Recreation and Education

Scope	Management Direction	Performance Target	Strategy	Metric	Compass Objective (Appendix I)
POWMA	Provide access for hunters, angler's boaters and nongame users.	Annually maintain parking areas, access sites, and trails for non-motorized use	Maintain trails/parking areas/ramps/facilities and improve access site signage to direct user to WMA segments.	Number of public users	H
POWMA Landscape	Promote public access for recreational use on private land	Encourage landowners to allow public access for recreation in a manner suitable for the landowners.	Work with private landowners with the Access YES! program	Acres of private land enrolled in Access Yes!	H, I, J, K
			Work with private landowners within available private, state and federal conservation programs and advocate for public recreational access as part of their programs.	Acres of public access	
		Educate and foster communication and understanding between hunters and landowners on desires and concerns of each party			
		Encourage state and federal land management agencies to develop conservation friendly public access opportunities and programs	Work with state and federal land management agencies to promote public access	Acres of public access	

WMA Priority: Control Noxious Weeds					
Scope	Management Direction	Performance Target	Strategy	Metric	Compass Objective (Appendix I)
POWMA	Control weed infestations on the WMA to avoid displacing desirable vegetation	Annually, employ the integrated weed management program (chemical, biological, mechanical) on the WMA to control noxious weeds; survey total POWMA over 10 years (30% over 3 years) for noxious weed spread monitoring	Treat established weed infestations annually to restrict the spread of noxious weeds on the WMA	Acres Treated for Noxious Weeds; control success as measured by % cover and/or density of weeds	B, C
			Eradicate newly invading weed species to keep them from becoming established	Number of new invader species successful control or eliminated	
POWMA Landscape	Prevent weed dispersal between neighboring properties and the WMA	Limit the level of weed infestations and dispersal throughout the surrounding landscape	Participate in the local Cooperative Weed Management Area program	Number of projects completed	
			Work with adjoining landowners with cooperative weed control projects		
			Communicate and work with surrounding landowners on weed management issues		
WMA Priority: Monitor and Evaluate Habitat Conditions and Wildlife Use					
Scope	Management Direction	Performance Target	Strategy	Metric	Compass Objective (Appendix I)
POWMA	Monitor and evaluate habitat conditions and wildlife use to consider the effectiveness of management measures	Monitor and evaluate habitat conditions to determine when management actions should be employed and assess desired results of activities	Monitor water levels monthly, throughout the year, for each wetland basin across the WMA. Record dates of specific management actions conducted on each wetland, such as drawdowns, over the years.	Annual Report Completed	K
			Monitor and record water diversion rates from Trout Creek to adhere to water right conditions and to report beneficial use of the water right		
			Conduct HEP analysis every five years to monitor changes in vegetation and habitat quality, and provide updated crediting to BPA		
			Monitor permanent photo points in July/August at least every five years to monitor changes in plant communities over time.		
			Monitor established vegetation transects at least every five years to document changes in plant communities over time and map habitat cover types		
			Conduct aerial photo monitoring during July/August annually or when a flight over the WMA can be scheduled by the WMA Manager or other Regional Department staff		
		Monitor wildlife use and reproductive success to determine general trends			
		Monitor waterfowl migration numbers once a week from ice-out through April in the spring and September through ice-up in the fall			
POWMA Landscape	Promote opportunities to inventory and assess wildlife habitat and use throughout the Pend Oreille River Valley	Work cooperatively with agencies and local interest groups in efforts to collect and share information on current and historic habitat conditions and wildlife use within the Pend Oreille Lake and River Valley	Monitor bald eagle nests on the WMA and within the Pend Oreille River valley, as part of Department statewide monitoring. Monitor nests every five years to determine presence, nest initiation, number of young, and fledging rate	Annual Report Completed	
			Conduct waterfowl banding each year in August, on the WMA and other locations in the valley, in coordination with the USFWS Office of Migratory Bird Management		

WMA Priority: Information Gaps					
Scope	Management Direction	Gaps Identified	Strategy	Metric	Compass Objective (Appendix I)
POWMA	Develop strategies to address gaps identified in the viability assessment	Waterbird Guild	With Wildlife Diversity Program staff, develop a monitoring protocol to address waterbird use POWMA.	Projects Completed	E, F, G, H, J, K, M
			Recruit volunteers to conduct monitoring of waterbird use according to protocols developed.		
		Raptor Guild	With Diversity staff lead, develop a raptor management plan with special emphasis on cliff nesting species, particularly eagles		
			With Diversity staff lead, develop a raptor monitoring protocol		
			With Diversity staff lead, organize volunteers to conduct raptor monitoring		
		Bat Guild	With Diversity staff lead, develop a plan to ensure that management considers bat habitat requirements		
			With Diversity staff lead, recruit volunteers to monitor bat populations and to develop a species list.		
			With Diversity staff lead, identify areas of high concentrations of bats and identify habitat use.		
		Forest Dependent Species	Manage forested areas for diversity of overstory and understory		
			Manage forested areas to favor aspen regeneration		
National Forest lands within all landscapes	Develop strategies to address gaps identified in the viability assessment	Forest Dependent Species	Work with USFS to re-introduce fire into the landscape	Projects Completed	
			Work with USFS to maintain a complex understory in forested areas		
			Work with USFS to maintain a canopy mosaic of age and species structure in forest management at a landscape level.		

Monitoring

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

Compliance Monitoring

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

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

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

Biological Monitoring

Wildlife Management Areas across the state have a range of established biological monitoring programs and needs. Additional monitoring needs may have been identified during development of the POWMA 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.

Noxious Weed Control

Noxious weed monitoring includes assessing and mapping weed infestations on the WMA, mapping treatment areas, recording method and timing of treatment, recording amount and type of herbicides used, and tracking the results of control efforts. Monitoring information is summarized in an annual weed report for BPA monitoring purposes and will be used in future weed control planning.

Habitat Evaluation Procedures

The objective of Habitat Evaluation Procedures (HEP) is to assess the quantity and quality of habitat available for the targeted wildlife species listed in the Albeni Falls Wildlife Protection, Mitigation, and Enhancement Plan (Martin et al. 1988), and to provide recommendations for the ongoing enhancement efforts.

The U.S. Fish and Wildlife Service (USFWS) developed HEP as a habitat-based evaluation methodology for use in impact assessment and project planning (USFWS 1980, USFWS 1981). HEP is based on the assumption the habitat quality for selected wildlife species can be described by a Habitat Suitability Index (HSI). The HSI is a value between 0.0 and 1.0 with 0.0 being habitat with no value for the selected species and 1.0 being optimum habitat for the selected species. The HSI can be multiplied by the number of acres of habitat available to obtain Habitat Units (HU) for the selected wildlife species.

The Northwest Power Planning Council (now the Northwest Power and Conservation Council) endorsed the use of HEP for evaluating impacts and mitigation of hydroelectric projects on the Columbia River System. An interagency working group of biologists used HEP to estimate the wildlife habitat losses attributed to the Albeni Falls hydroelectric project in terms of HU (Martin et al. 1988). The working group selected eight target species to represent wildlife and habitats affected by the Albeni Falls hydroelectric facility. The Albeni Falls dam project area includes portions of the shoreline along the Pend Oreille River and all shorelines and low lying marshes along Lake Pend Oreille. The eight species chosen to represent these habitat types include the bald eagle, both winter and breeding populations); black-capped chickadee, Canada goose, mallard duck, muskrat, redhead duck, white-tailed deer, and the yellow warbler. The interagency working group estimated that a net loss of 28,587 HU occurred for the eight target species in the project area. HEP surveys are conducted at five-year intervals on each POWMA segment as part of the Department monitoring obligation to BPA.

In Table 3, future monitoring needs associated with performance targets and strategies identified in the POWMA Management Program Table are summarized. The goal is to measure success or effectiveness of strategies that are implemented to reach performance targets. A detailed monitoring plan including specific techniques will be completed for the WMA by December 31, 2014.

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

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

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

Public Use Monitoring

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

Public Use Surveys

Acquisition and management of land for wildlife habitat and public access by the Department is a primary and sometime controversial mission of the Department. Consequently, it is important to periodically assess what public benefits are achieved through Department land acquisition and management, gauge public satisfaction with the program, and identify opportunities for program enhancement. Department lands are managed for wildlife viewing, hunting and fishing access, hiking, picnicking, and other forms of outdoor recreation.

Developed access sites are heavily used by the public seeking access to Lake Pend Oreille for fishing, hunting, sight-seeing, or other recreation. Visitor interviews involved personal interviews conducted by Department personnel and Department volunteers with willing POWMA visitors using a standardized survey instrument. The instrument was designed to collect data in support of the total use estimate methodology as well as address the breadth of purposes identified above. Public use assessments were conducted on one weekday and one weekend day each week throughout the year beginning in mid-July 2003 and ending in mid-July 2004, and in 2012/2013. In order to obtain year-round public use information, we attempted to obtain a minimum of 10 user interviews per month and 250 interviews for the year.

Waterfowl Check Stations

Waterfowl check stations have been conducted during the opening weekend of duck season on the POWMA since 1984. Vehicle counts are conducted on the Pack River Delta and Clark Fork Driftyard. The number of waterfowl hunters, hours hunted, and the number of waterfowl harvested by species is collected at the Clark Fork Driftyard. The check station is operated until all hunters are surveyed.

Canada Goose Nest Counts

Canada goose nest counts have been conducted on POWMA since 1989. Canada goose nest counts are conducted on approximately April 15 to include both early and late nesting pairs. Priest River Delta and Pearl Island nesting areas are ground nest searched each year to determine the number of observed nests present (i.e., goose in incubation posture on nest). This survey also includes all observed nests done by binocular or spotting scope (e.g., nests on nesting structures, natural islands, muskrat houses, osprey nest sites, etc.) that are present on each WMA segment.

Wood Duck Nest Box Surveys

Cavity nesting nest box inspections have been conducted on POWMA since approximately 1992. Artificial duck nest boxes are inspected and serviced in late summer to determine duck species use and nest success. Approximately 100 nest boxes total are checked throughout the POWMA.

Waterfowl Banding

Waterfowl banding is conducted under the authority of the federal government. Federal permits, banding protocols, bands, and banding records are administered through the USFWS Office of Migratory Bird Management. Waterfowl banding has been conducted as an annual monitoring effort on POWMA since 2001. All banding data are forwarded to the U.S. Geological Survey Bird Banding Laboratory.

Blue Heron Rookery Survey

Great blue herons are frequent year-round visitors to POWMA wetlands. One of three Lake Pend Oreille heron rookeries occurs on WMA land in the Clark Fork River Delta. Active heron nests are counted once in early-mid spring.

Bald Eagles

Bald eagle nest monitoring on POWMA is conducted on WMA parcels as part of the mitigation properties monitoring plan with the BPA. Eight known nest sites present on the WMA are visited every three weeks from the beginning of March to mid-July to determine nesting success.

Western Grebe and Black Tern Surveys

Denton Slough and Westmond Lake segments are listed as Idaho Important Bird Areas. A waterbird census is conducted for western grebes and black terns present on the POWMA each year during the nesting period as part of mitigation properties monitoring plan with the BPA.

Photo Points

Photo points are taken on the eight BPA WMA segments since 2001 to allow managers to note any changes in habitat over time. Pictures are taken twice a year: the first week of May and the first week of August. Each segment has a protocol for the number of photo points required from each segment where photos are taken in each cardinal direction: north, east, south, and west. Photo points are very useful to monitor any habitat changes over time and can be used to monitor baseline conditions for each WMA segment.

Reporting

Each WMA will produce a five-year report on implementation of this WMA plan in 2019, including a summary of accomplishments and progress towards meeting performance targets. During the five-year review, POWMA staff will determine whether modifications to the plan are

needed to meet performance targets, to accommodate changing conditions and priorities, or to incorporate advancements in management knowledge and techniques.

Table 3. Biological monitoring for Pend Oreille WMA, 2014-2023.

Performance Target	Survey Type	Survey Frequency
Maintain existing water control structure (WCS) water levels to provide 23.5 acres of wetlands across WMA segments to mimic natural wetland function at Albeni, Derr, Rapid Lightning, Cocolalla, and Shepherd Lake WMA segments	Check and adjust water levels as necessary for each water control structure	Monthly
Maintain or restore > 200 acres of mixed species conifer stands to create a mix of early to mid-seral Douglas-fir - Grand fir stands and Douglas-fir - Ponderosa Pine stands; maintain as many large diameter (> 20 inch dbh) trees and snags as possible for wildlife	Forest stand assessment and inventory, including density of large diameter trees and snags	Once per 10 years or as needed
Treat approximately 20 ac of pasture and hayfield waterfowl nesting habitat each year during the next 10 years to restore health, vigor, and diversity by inter-planting native grass	Vegetation monitoring (cover, frequency of species) for desired establishment	Two years post-planting for initial establishment; 5 and 10 years after for longer term succession
Create, restore, and/or enhance 20 acres of forested wetland through implementation of vegetation improvement projects	Monitor survivability of planted native tree and shrub species	Annually
Create, restore, and/or enhance 20 acres of scrub-shrub wetland habitat	Monitor percent survivability of planted native tree and shrub species	Annually
Employ an integrated weed management program (chemical, biological, mechanical) on the POWMA to control noxious weeds	Map and monitor (occurrence and distribution) weed distribution and control efforts on the POWMA	Annually

References

- Austin, J. E., and M. R. Miller. 1995. Northern Pintail (*Anas acuta*). In *The Birds of North America*, No. 163 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, and The American Ornithologists' Union, Washington, D.C.
- Buehler, D. A. 2000. Bald Eagle (*Haliaeetus leucocephalus*). In *The Birds of North America*, No. 506 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, Pennsylvania.
- Gerson, H. 1987. The status of the black tern (*Chlidonias niger*) in Canada. Committee on the status of endangered wildlife in Canada. Unpublished Report. Committee on the Status of Endangered Wildlife in Canada, Toronto, Ontario.
- Groves, C. 2003. *Drafting a Conservation Blueprint: A Practitioner's Guide to Planning for Biodiversity*. Island Press, Washington, D.C.
- Heywood, V. H. 1995. *Global biodiversity assessment*. Cambridge University Press, Cambridge.
- Idaho Department of Fish and Game. 2005. *Idaho Comprehensive Wildlife Conservation Strategy*. Idaho Conservation Data Center, Idaho Department of Fish and Game, Boise. <https://fishandgame.idaho.gov/public/wildlife/cwcs/> [Accessed March 3, 2014].
- Idaho Partners in Flight 2000. *Idaho Bird Conservation Plan*. <http://fishandgame.idaho.gov/public/wildlife/nongame/?getPage=244> [Accessed March 11, 2014 under Brochures].
- Intermountain West Joint Venture (IWJV), Idaho State Steering Committee. 2005. *Coordinated Implementation Plan for Bird Conservation in Idaho*. Idaho Department of Fish and Game, Boise.
- Karl, J. W., J. M. Scott, and E. Strand. 2005. An assessment of Idaho's wildlife management areas for the protection of wildlife. *Natural Areas Journal* 25:36-45.
- Keinath, D., and M. McGee. 2005. *Boreal Toad (Bufo boreas boreas): a technical conservation assessment*. USDA Forest Service, Rocky Mountain Region. Available: <http://www.fs.fed.us/r2/projects/scp/assessments/borealtoad.pdf> [Accessed March 11, 2014].
- Lambeck, R. J. 1997. Focal Species: A Multi-Species Umbrella for Nature Conservation. *Conservation Biology*. Volume 11, Issue 4, pages 849–856, August 1997.
- Martin, R. C., H. J. Hansen, and G. A. Meuleman. 1988. *Albeni Falls Wildlife Protection, Mitigation, and Enhancement Plan*. Idaho Department of Fish and Game, Boise.

- Noss, R. F., E. Dinerstein, B. Gilbert, M. Gilpin, B. J. Miller, J. Terborgh, and S. Trombulak. 1999. Core areas: where nature begins. *In* J. Terborgh and M. Soule, eds., *Continental Conservation: Scientific Foundations of Regional Reserve Networks*, pp. 92-128. Washington D.C.: Island Press.
- Reynolds, R. T., R. T. Graham, M. H. Reiser, R. L. Bassett, P. L. Kennedy, D. A. Boyce, Jr., G. Goodwin, R. Smith, and E. L. Fisher. 1992. Management recommendations for the northern goshawk in the southwestern United States. Gen. Tech. Rep. RM-217, Ft. Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station.
- Shuford, W. D. 1999. Status Assessment and Conservation Plan for the Black Tern in North America. U.S. Fish and Wildlife Service.
- Simberloff, D. 1998. Flagships, umbrellas, and keystones: Is single-species management passé in the landscape era? *Biological Conservation* 83:247-257.
- U.S. Fish and Wildlife Service. 1980. Habitat Evaluation Procedure (HEP) Manual (102 ESM). U.S. Fish and Wildlife Service, Washington, D.C.
- U.S. Fish and Wildlife Service. 1981. Standards for the Development of Habitat Suitability Index Models (103 ESM). U.S. Fish and Wildlife Service, Washington, D.C.
- U.S. Fish and Wildlife Service. 2005. The U.S. Fish and Wildlife Service's Focal Species Strategy for Migratory Birds Measuring success in bird conservation. <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/FocalSpecies/The%20Focal%20Species%20Fact%20Sheet%20and%20Table.pdf> [Accessed December 6, 2012].
- Veríssimo, D., I. Fraser, R. Bristol, J. Groombridge, and D. MacMillan. 2009. Birds as tourism flagship species: A case study on tropical islands. *Animal Conservation* 12:549-558.
- Williams, E. J. 2012. Conservation assessment for Great Gray Owl (*Strix nebulosa*). USDA Forest Service Region 6 and USDI Bureau of Land Management, Oregon and Washington. Available: <http://www.fs.fed.us/r6/sfpnw/issssp/documents2/ca-bi-strix-nebulosa-2012-05.pdf> [Accessed January 15, 2014].

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.

<i>The Compass</i>	
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

Prior to the construction of Albeni Falls Dam, Lake Pend Oreille fluctuated naturally. Each spring, runoff from the large watershed raised the level of the lake an average of 12 feet, normally peaking in May. By late summer the lake would recede to its normal level and remain there for approximately eight months. Low lying areas adjacent to the lake and Pend Oreille River were seasonally flooded and supported a diverse array of vegetation and associated wildlife.

Construction of Albeni Falls Dam by the U.S. Army Corps of Engineers (USACE) began in January 1951, and regulation of the lake level began in June 1952. Power generation began in 1955. The dam stabilized and maintained the summer pool elevation at a higher level and for a longer time period than the natural hydrology of the system. Areas that were historically flooded for a short period were inundated during the growing season. The higher summer pool inhibited most plant growth and converted these areas from wetlands to seasonally exposed mud flats.

Much of the land originally included in the Pend Oreille WMA (POWMA) was licensed to the Department by the USACE in 1956 as partial mitigation for wildlife habitat impacted by the construction of the Albeni Falls Dam. The Department purchased additional land in fee title in 1955, 1959, and 1974. In 1976, the IDL transferred one parcel to the POWMA. The USACE licensed three additional parcels to the Department in 1996.

In 1997, the Department began receiving wildlife mitigation funds from the BPA for the acquisition of wildlife habitat to mitigate for the remaining wetlands impacts of the construction of Albeni Falls Dam. The Department has periodically used these funds to acquire additional property for the POWMA. Future acquisitions may be included as part of the POWMA.

Pend Oreille WMA currently consists of approximately 4,048 acres of USACE property licensed to the Department and 2,581 acres purchased from private landowners for a total of 6,629 acres (Appendix VIII).

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 POWMA 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 POWMA. 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 POWMA lands and waters. Under the National Historic Preservation Act, the Department must ensure that historic properties are protected on the POWMA.

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.

Boating and Fishing Access

Boating and fishing access sites are maintained under the umbrella of the Panhandle Regional Access Program. These access sites are maintained for public use and include parking lot development, fishing/boat dock maintenance, and noxious weed control. Access areas that are out of compliance or have public issues are reported to the Regional Fishing/Boating Access Program Manager.

IV. PUBLIC INPUT SUMMARY

Final draft WMA plans were made available to the public on the Department website for review and comment during May-June 2014. Their availability was advertised by mailings, news releases, and on the Department website to inform Idaho's citizen of this opportunity to provide additional comment before plans are submitted to the Director for approval and adoption.

The two comments received online indicated the public agreed with the POWMA management plan priorities and plan as written. No specific comments were received about the plan.

V. 2008-2013 ACCOMPLISHMENTS

Since the original Pend Oreille WMA plan was written in 2008, these accomplishments have occurred. The following goals have been developed to guide management on the POWMA. The goals are responsive to the identified issues, the purpose for which the WMA was originally acquired, the Department's current Waterfowl Management Plan, and the Idaho Department of Fish and Game Strategic Plan, *The Compass* (IDFG 2005).

Goal: Manage wetland habitats for waterfowl production.

Objective: Install and monitor nest platforms for Canada goose management.

Accomplishment:

- Approximately 180 nesting structures are maintained annually. Approximately five nest structures were replaced or relocated each year.

Objective: Create and maintain goose pasture through a combination of new plantings and periodic mowing or burning for maintenance.

Accomplishment:

- Approximately eight acres of goose pasture is mowed throughout the POWMA to provide goose brood-rearing pasture.

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

Accomplishment:

- Approximately 100 wood duck nest boxes are annually inspected for nesting success. The management goal for the POWMA is typically over 50% use and over 65% success for used boxes.

Objective: Protect and improve riparian and wetland habitats in the Pack River Delta, and enhance important bird, fish, and wildlife habitat.

Accomplishment:

- During the months of December 2008 to March 2009, a total of eight islands in the Pack River Delta were rebuilt to approximately 18-24 inches above the summer pool elevation of Lake Pend Oreille. Erosion protection measures consisting of large woody debris were utilized on the leading edges of some rebuilt islands and also incorporated was the use of rock armor.

Goal: Provide habitat for breeding, migrating, and wintering waterfowl.

Objective: Create or expand wetlands and riparian areas within the WMA where opportunities exist to do so. Emphasize emergent herbaceous hemi-marsh conditions most beneficial to waterfowl.

Accomplishment:

- Dense monotypic seasonally flooded wetlands at the Westmond Lake segment were deep plowed to improve the diversity and heterogeneity of both the plant community and water column depth. Anecdotal observation suggests a good response to this disturbance. Waterfowl were noted to be preferentially feeding the treated areas.

Goal: Manage wetland and upland habitats for a variety of other game and nongame species.

Objective: Conduct habitat manipulations including timber management to increase wildlife food and cover resources. Restore ponderosa pine forests where fire protection has resulted in a decline in this forest type.

Accomplishment:

- Sixteen million board feet were harvested on 20 acres of the 31-acre project area of the Sunnyside segment. A dense understory was present with shade tolerant tree species. Project area was restored to its historical open canopy ponderosa pine grass savannah type habitat.

Objective: Inspect and maintain the POWMA segment water control structures to operate at optimum capacity.

Accomplishment:

- All water control structures were inspected and maintained as needed to ensure a safe and functional condition. Beavers have continued to be problematic at the Albeni Cove Habitat Segment where they repeatedly plug the smaller structures. We fabricated a modification to the inlet structure that consists of a plate to protect the drop logs from beaver access and a 20-foot section of perforated culvert. A grate was installed at the end of the culvert to prevent debris obstruction. The Derr Creek water control structure failed to hold water at full capacity and was replaced.

Goal: Control noxious weeds.

Objective: All wildlife mitigation parcels purchased under the Albeni Falls Wildlife Mitigation Project were inspected and treated for noxious weeds. Continued annual noxious weed control

program and coordinated weed management activities with Bonner County and the Selkirk Cooperative Weed Management Area.

Accomplishment:

- Herbicides are applied to approximately 150 acres annually on the WMA mitigation parcels to control noxious weed infestations. Newer acquisitions to the Cocolalla Lake and Trout Creek Habitat segments were heavily infested and required focused efforts. Parcels that have been under management for some time mostly require spot treatments or work focused on hand-spraying difficult to access portions of the property.

Goal: Conduct general land and facility management protocols.

Objective: Maintain fences in good repair to direct public access and prevent unmanaged livestock grazing within the POWMA.

Accomplishment:

- Three WMA segments have wildlife-friendly fencing installed to prevent livestock trespass from neighboring properties. Two miles of fence were installed and maintained at the Gold Creek Habitat segment. Eight hundred feet were maintained at the Denton Slough and two miles of fence at Tall Pines Habitat Segment to exclude grazing cattle. These properties are located in open range herd districts and it is the landowner's responsibility to fence cattle off their ownership.

Objective: Maintain access site facilities - parking areas, outdoor restrooms, fishing docks, and boat ramps.

Accomplishment:

- Parking areas and signage have been placed at 12 of the total 17 access sites with standardized WMA signs.

Objective: Improve administrative access for WMA segments.

Accomplishment:

- In cooperation with BPA, roads for administrative access and power line maintenance were improved on the Derr Creek Habitat Segment. This included some widening and realignment of roads and graveling them to allow wet weather access. Roads were placed to minimize disturbance to waterfowl and other wildlife.

Objective: Remove old buildings and structures on the POWMA.

Accomplishment:

- A manufactured home acquired with the new Cocolalla Lake addition was sold and removed. The foundation was broken and the rubble buried in place. The existing gravel drive and re-graded former home site was revised to provide a public access parking area. Unneeded infrastructure including gates, fences, and corrals used to manage livestock were also removed.

Accomplishment:

- An existing vacant frame-built cabin on the Trout Creek segment was dismantled and the foundation leveled to provide for a wildlife viewing and picnic area. Construction materials were salvaged for other Department projects.

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

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

Accomplishment:

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

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

Accomplishment:

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

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

Accomplishment:

- The baseline HEP was completed in September 1997 and will continue on each WMA segment on a five-year rotation.

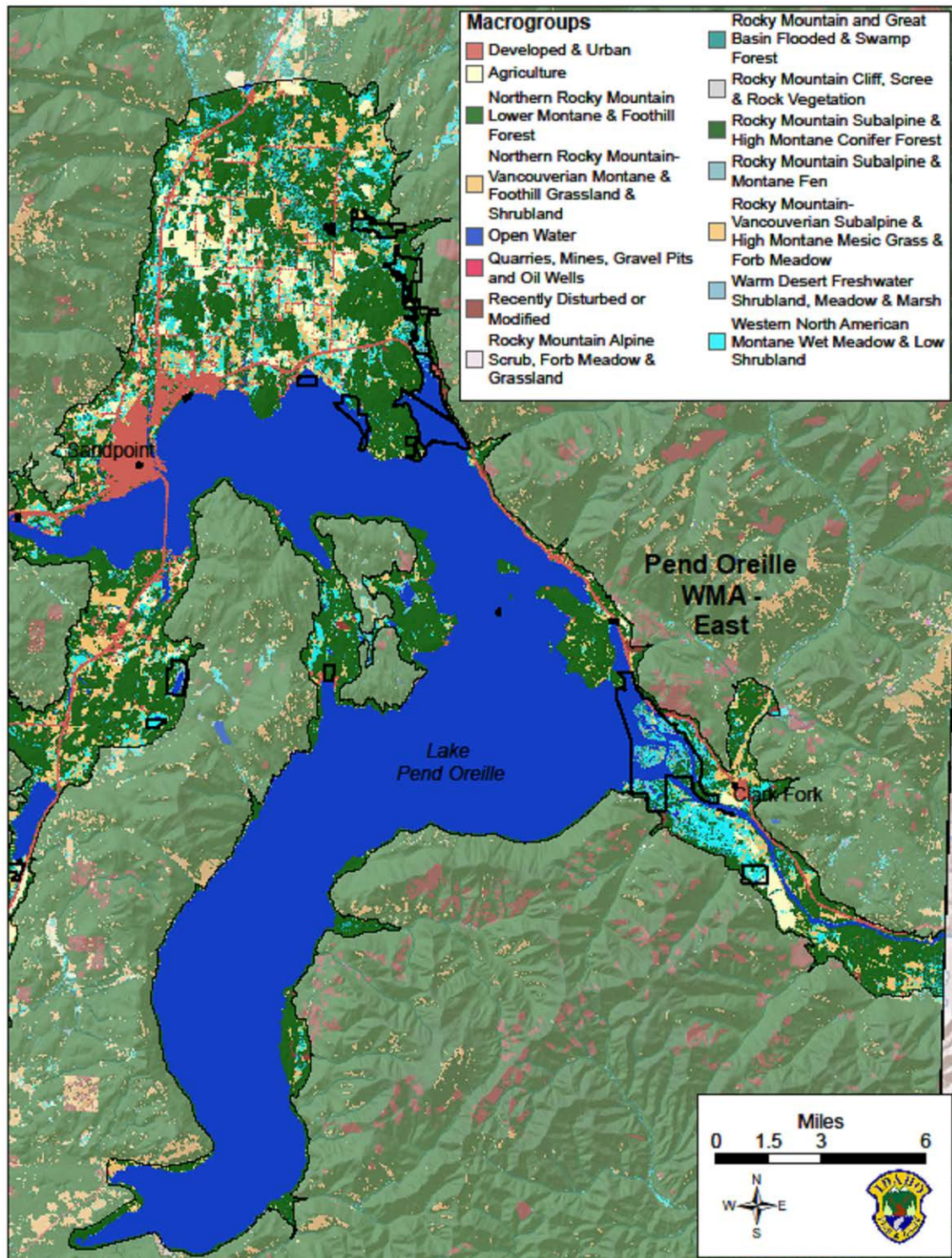
VI. VEGETATION

Area of various vegetation types for Pend Oreille WMA, access sites, and surrounding area of influence. Data is from Northwest Regional Gap Analysis Program, which delineates vegetation communities from satellite imagery and is not ground-truthed for inaccuracies.

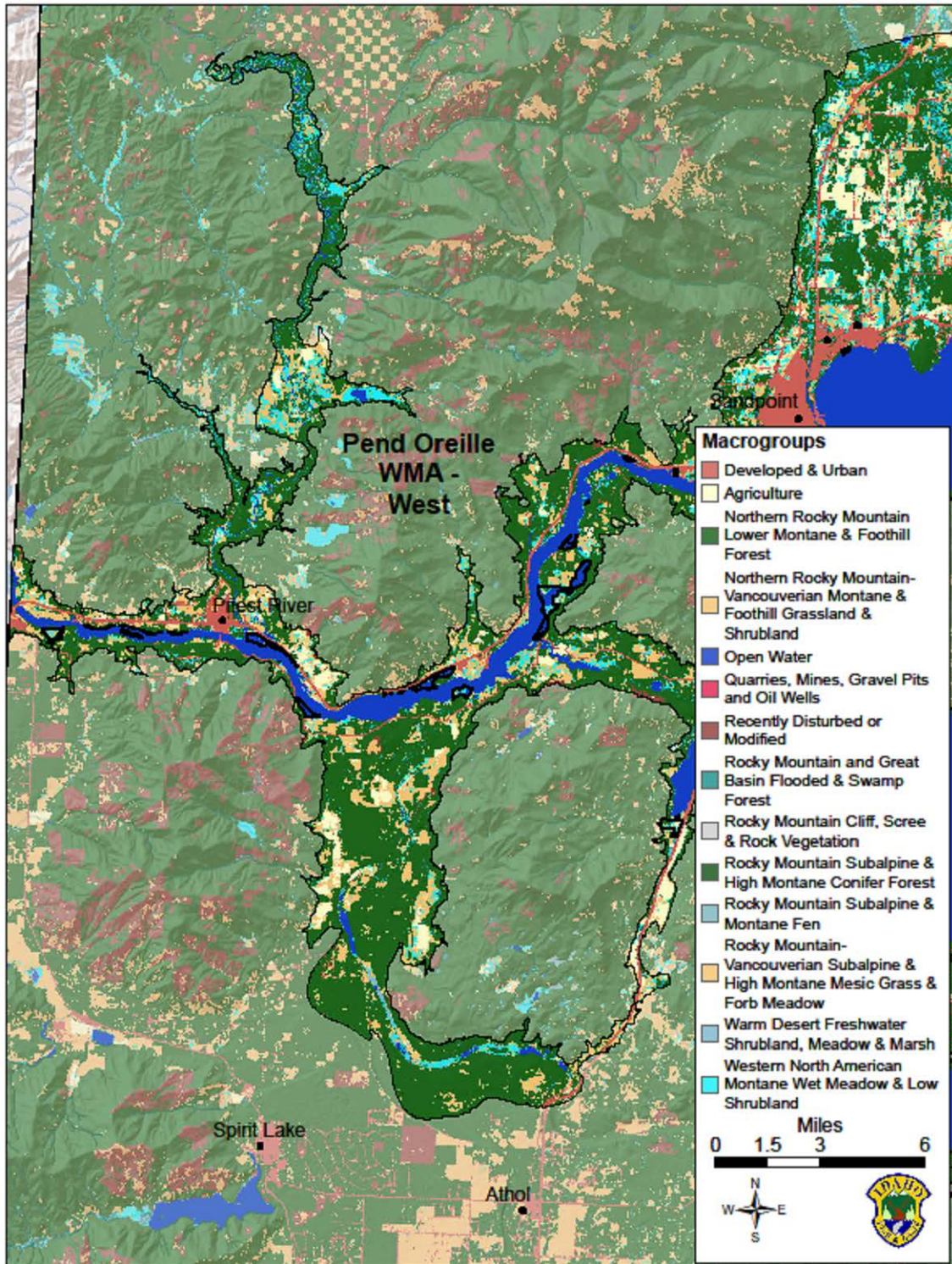
Formation	Macrogroup	Ecological System	Hauser Lake Access Site	Tall Pines Habitat Segment	Pend Oreille WMA	POWMA Area of Influence
Agriculture	Agriculture	Cultivated Cropland			35.14	2,860.44
		Pasture/Hay			87.40	6,941.82
Cool Temperate Forest	Northern Rocky Mountain Lower Montane & Foothill Forest	Northern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest	0.67	120.76	590.01	36,514.51
		Northern Rocky Mountain Mesic Montane Mixed Conifer Forest	2.67	53.60	971.20	36,484.71
		Northern Rocky Mountain Ponderosa Pine Woodland and Savanna	2.00	19.79	166.13	15,610.54
	Rocky Mountain Subalpine & High Montane Conifer Forest	Rocky Mountain Aspen Forest and Woodland			0.22	6.89
		Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland			0.44	11.34
		Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland			0.44	6.23
	Developed & Urban	Developed & Urban	Developed, Low Intensity	0.67		67.83
Developed, Medium Intensity					6.89	1,402.42
Developed, Open Space					105.41	4,053.81
Developed, High Intensity						181.70
Quarries, Mines, Gravel Pits and Oil Wells		Quarries, Mines, Gravel Pits and Oil Wells				0.67
Recently Disturbed or Modified	Recently Disturbed or Modified	Harvested Forest - Grass/Forb Regeneration			1.11	177.03
		Harvested Forest - Northwestern Conifer Regeneration		0.22	0.67	483.04
		Harvested Forest-Shrub Regeneration				36.47
Open Water	Open Water	Open Water (Fresh)	0.67		3,707.09	94,884.39
Temperate & Boreal Bog & Fen	Rocky Mountain Subalpine & Montane Fen	Rocky Mountain Subalpine-Montane Fen			0.22	36.70

Pend Oreille Wildlife Management Area
Management Plan 2014

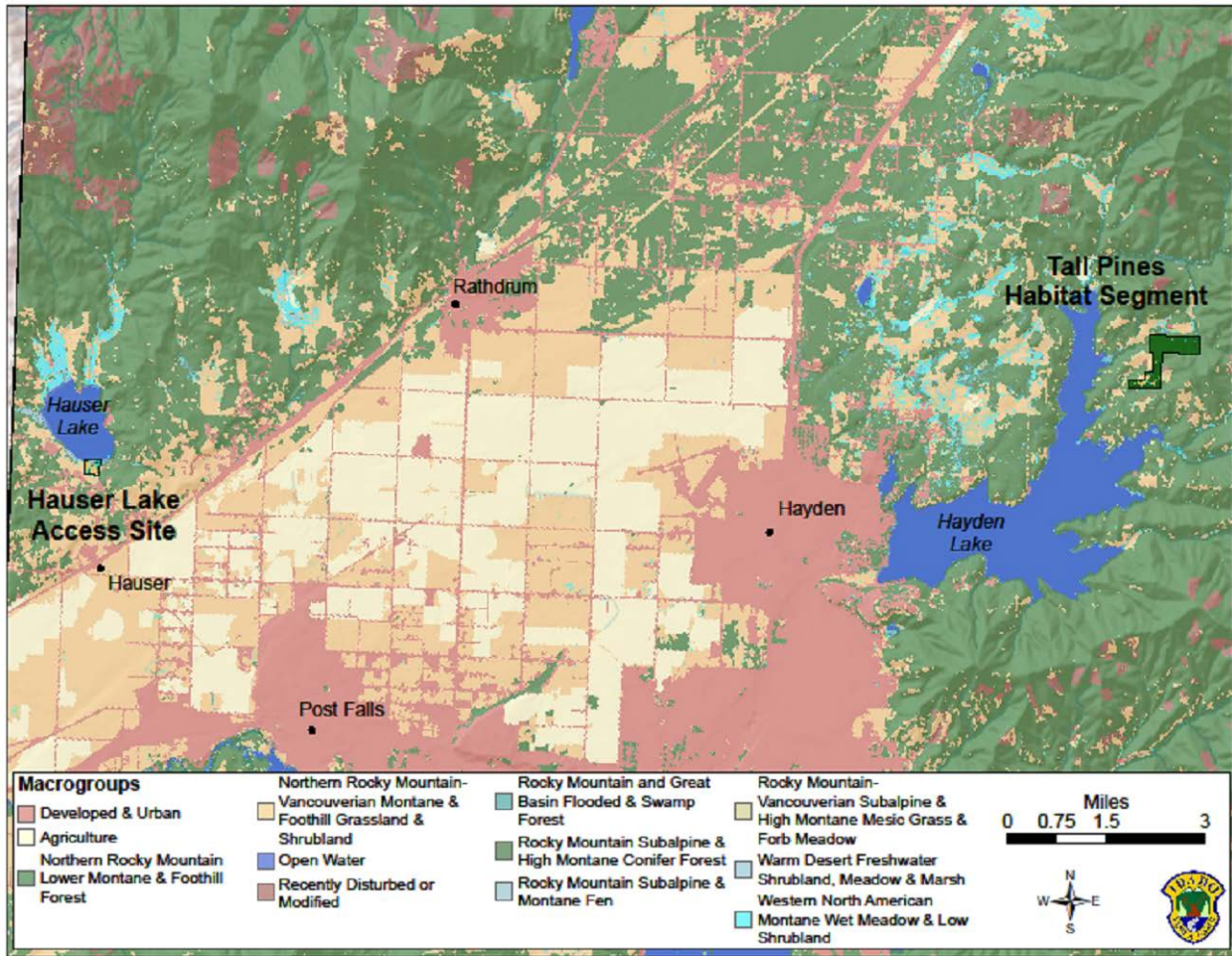
Formation	Macrogroup	Ecological System	Hauser Lake Access Site	Tall Pines Habitat Segment	Pend Oreille WMA	POWMA Area of Influence
Temperate & Boreal Cliff, Scree & Rock Vegetation	Rocky Mountain Cliff, Scree & Rock Vegetation	Rocky Mountain Cliff, Canyon and Massive Bedrock			4.23	29.80
Temperate & Boreal Freshwater Wet Meadow & Marsh	Warm Desert Freshwater Shrubland, Meadow & Marsh	North American Arid West Emergent Marsh	2.00		461.47	1,536.75
	Western North American Montane Wet Meadow & Low Shrubland	Rocky Mountain Alpine-Montane Wet Meadow	3.56	2.22	1,024.79	12,350.90
Temperate Flooded & Swamp Forest	Rocky Mountain and Great Basin Flooded & Swamp Forest	Northern Rocky Mountain Conifer Swamp			0.67	42.25
		Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland	3.34	4.45	501.28	6,334.91
Temperate Grassland, Meadow & Shrubland	Northern Rocky Mountain-Vancouverian Montane & Foothill Grassland & Shrubland	Northern Rocky Mountain Lower Montane, Foothill and Valley Grassland	5.78	4.00	269.54	21,161.73
		Northern Rocky Mountain Montane-Foothill Deciduous Shrubland	1.56	8.01	46.04	2,093.84
	Rocky Mountain-Vancouverian Subalpine & High Montane Mesic Grass & Forb Meadow	Rocky Mountain Subalpine-Montane Mesic Meadow	12.90	0.22	28.69	1,226.06
Alpine Scrub, Forb, Meadow & Grassland	Rocky Mountain Alpine Scrub, Forb Meadow & Grassland	Rocky Mountain Alpine Fell-Field				1.56
Total Acres			35.81	213.28	8,076.92	250,874.12



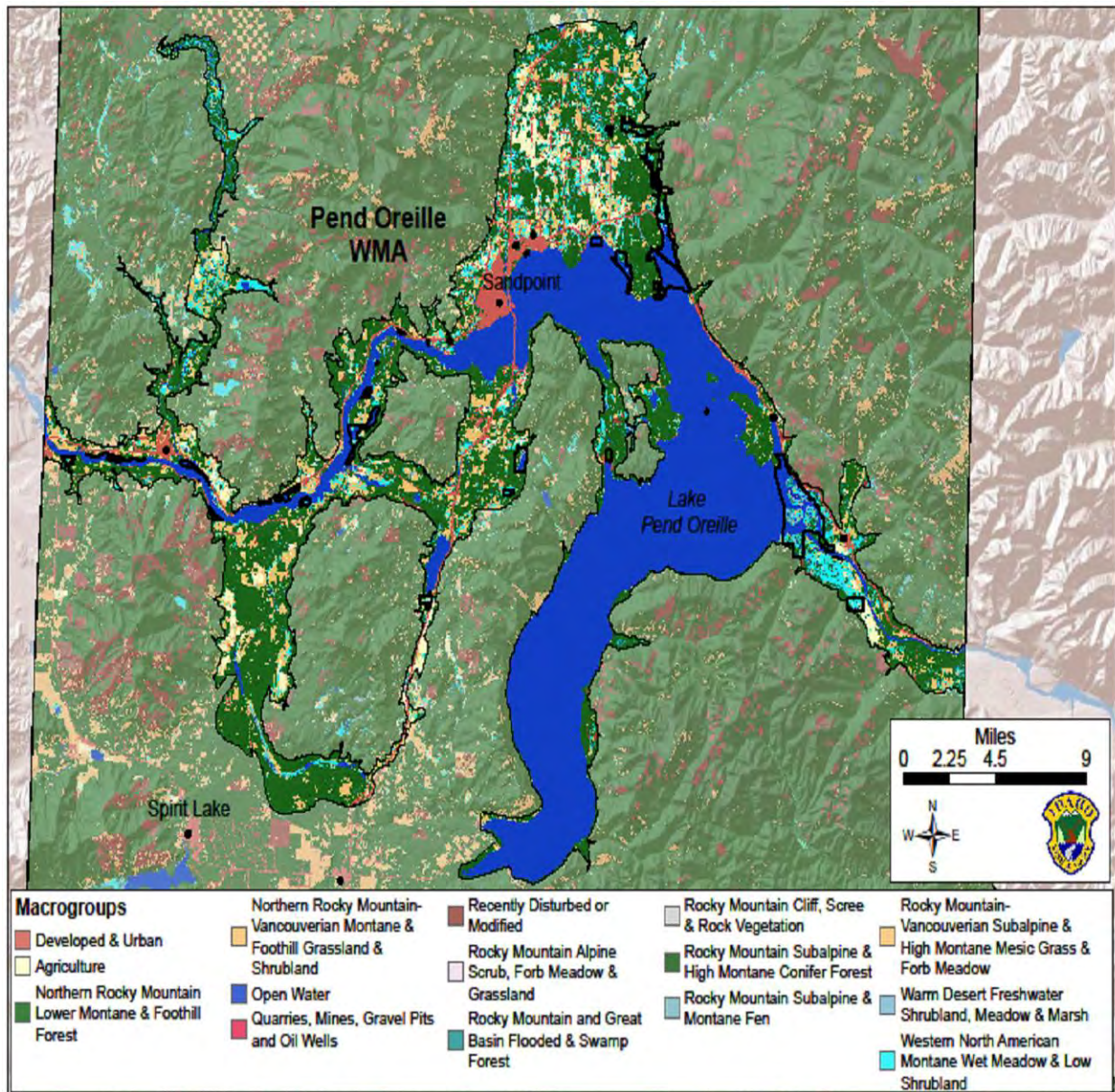
Re-gap vegetation analysis macro group map Pend Oreille WMA East.



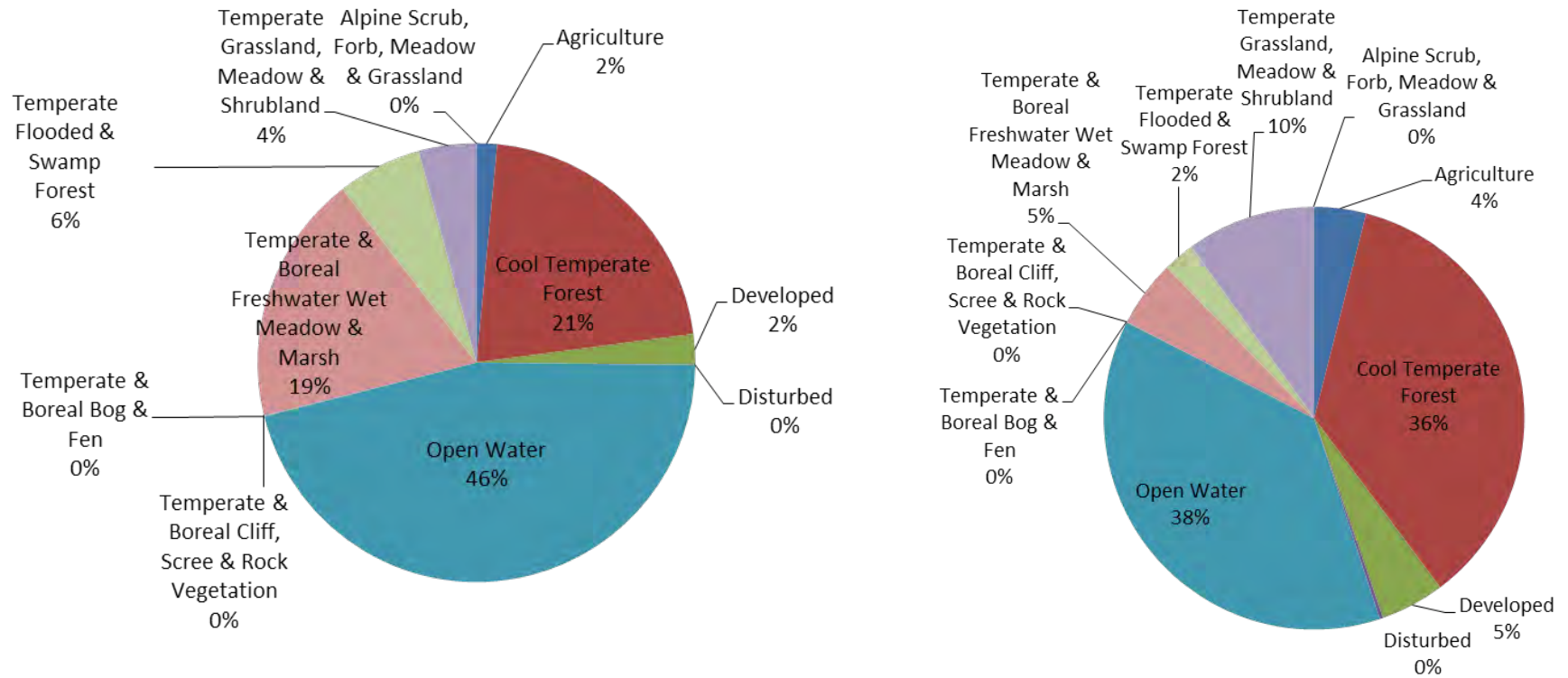
Re-gap vegetation analysis macro group map Pend Oreille WMA West.



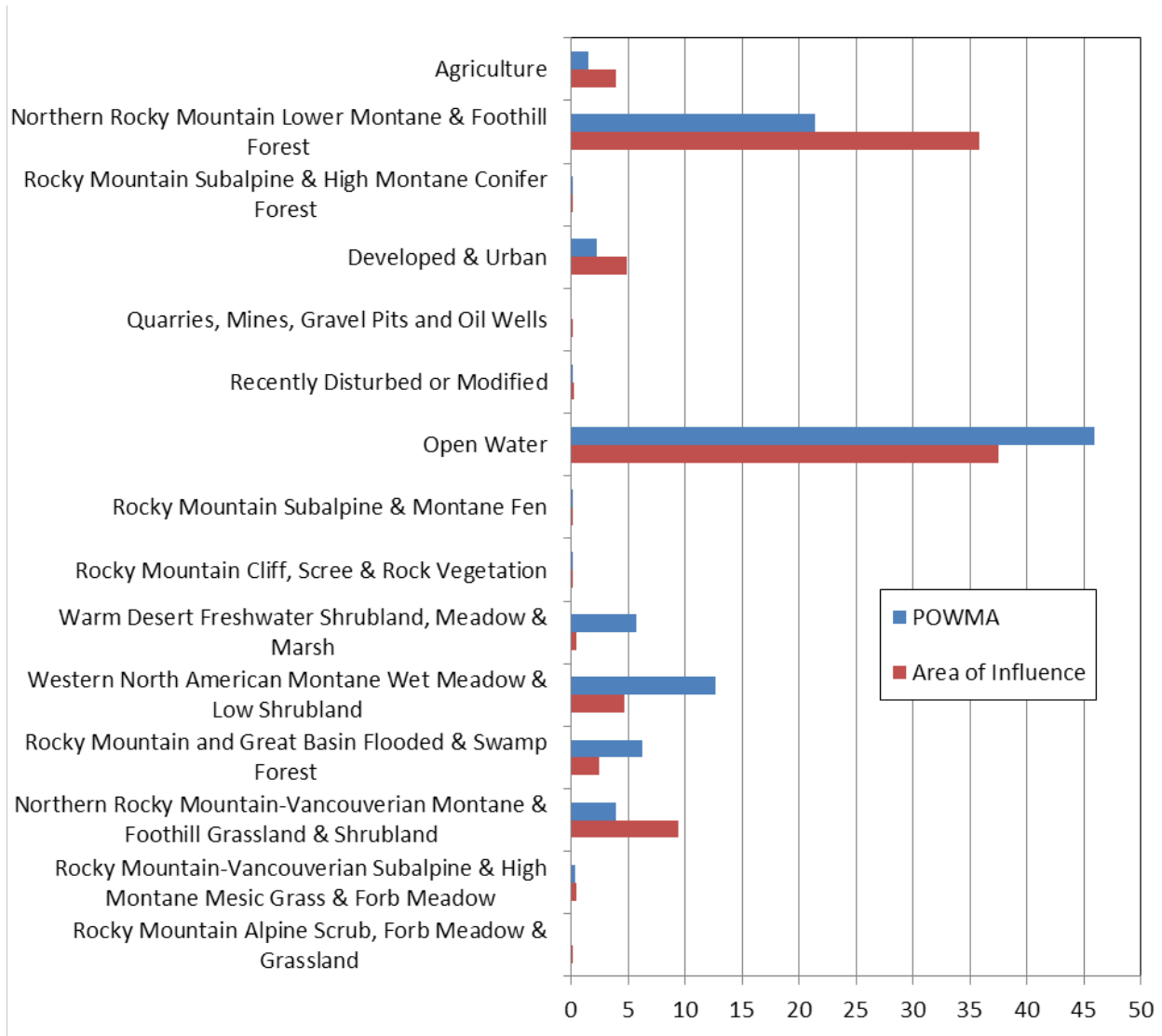
Re-gap vegetation analysis macro group map Pend Oreille WMA Hauser Tall Pines.



Re-gap vegetation analysis macro group map Pend Oreille MWA Landscape.



Distribution of Formation level vegetation types in Pend Oreille WMA (left) as compared to the surrounding Area of Influence (right).



Percent of Macrogroup level vegetation types in Pend Oreille WMA as compared to the surrounding Area of Influence.

Plant Species List

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

Common Name	Scientific Name	Common Name	Scientific Name
Wetland		Trees	
Sedge	<i>Carex</i> spp.	Grand fir	<i>Abies grandis</i>
Clubmoss	<i>Lycopodium</i> spp.	Paper birch	<i>Betula papyrifera</i>
Bulrush	<i>Schoenoplectus acutus</i>	Engelmann spruce	<i>Picea engelmannii</i>
Cattails	<i>Typha latifolia</i>	Lodgepole pine	<i>Pinus contorta</i>
Shrubs		Ponderosa pine	<i>Pinus ponderosa</i>
Rocky Mountain maple	<i>Acer glabrum</i>	Black cottonwood	<i>Populus balsamifera</i> ssp. <i>trichocarpa</i>
Red-osier dogwood	<i>Cornus sericea</i>	Quaking aspen	<i>Populus tremuloides</i>
Black hawthorn	<i>Crataegus douglasii</i>	Douglas-fir	<i>Pseudotsuga menziesii</i>
Oceanspray	<i>Holodiscus discolor</i>	Bebb willow	<i>Salix bebbiana</i>
Chokecherry	<i>Prunus virginiana</i>	Scouler's willow	<i>Salix scouleriana</i>
Woods' rose	<i>Rosa woodsii</i>	Western redcedar	<i>Thuja plicata</i>
Common snowberry	<i>Symphoricarpos albus</i>	Western hemlock	<i>Tsuga heterophylla</i>
Forbs		Grasses	
Canada thistle	<i>Cirsium arvense</i>	Bluejoint	<i>Calamagrostis canadensis</i>
Morning glory	<i>Convolvulus</i> spp.	Tufted hairgrass	<i>Deschampsia caespitosa</i>
Fragrant bedstraw	<i>Galium triflorum</i>	Blue wildrye	<i>Elymus glaucus</i>
Common St. John's wort	<i>Hypericum perforatum</i>	Field horsetail	<i>Equisetum arvense</i>
Oxeye daisy	<i>Leucanthemum vulgare</i>	Reed canarygrass	<i>Phalaris arundinacea</i>
Starry false lily of the valley	<i>Maianthemum stellatum</i>	Timothy	<i>Phleum pratense</i>
Cinquefoil	<i>Potentilla</i> spp.	Kentucky bluegrass	<i>Poa pratensis</i>
Common tansy	<i>Tanacetum vulgare</i>	Woolgrass	<i>Scirpus cyperinus</i>
White clover	<i>Trifolium repens</i>		
American vetch	<i>Vicia americana</i>		

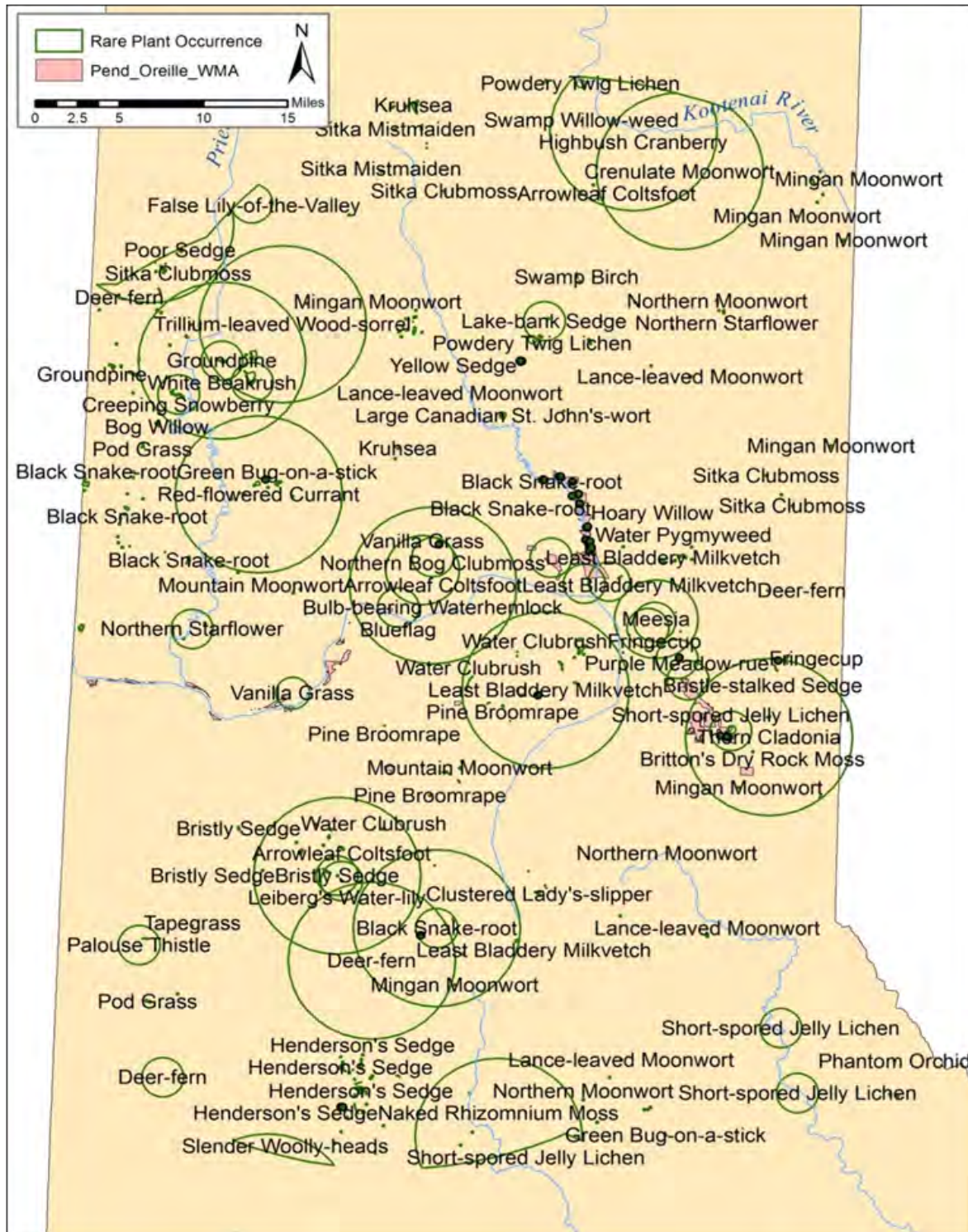
Rare Plants of Pend Oreille WMA

Seventeen rare plant species have been found within the boundary of this WMA, and 78 have been found within 25 miles of the boundary. This WMA has not been thoroughly surveyed for rare plants. Species found within the 25-mile buffer, or other species, have the potential to exist on this WMA.

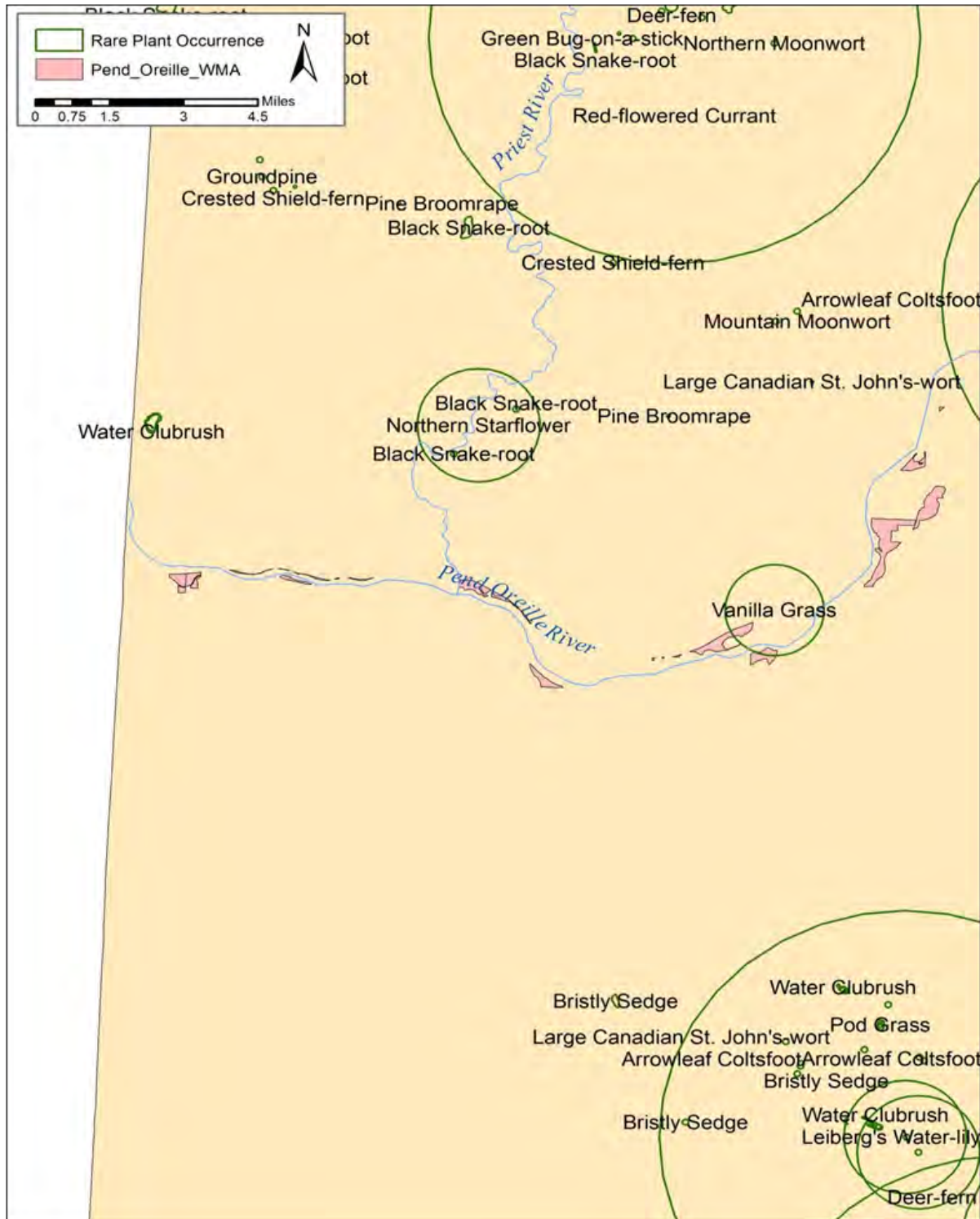
Rare plant species within 25 miles of Pend Oreille WMA. Bold species occur within the WMA boundaries.

Common Name	Scientific Name	Common Name	Scientific Name
Least bladderly Milkvetch	<i>Astragalus microcystis</i>	Pale sedge	<i>Carex livida</i>
Swamp birch	<i>Betula pumila</i>	Poor sedge	<i>Carex magellanica ssp. irrigua</i>
Deer-fern	<i>Blechnum spicant</i>	Beaked sedge	<i>Carex rostrata</i>
Triangular-lobed moonwort	<i>Botrychium ascendens</i>	Phantom orchid	<i>Cephalanthera austiniiae</i>
Crenulate moonwort	<i>Botrychium crenulatum</i>	Bulb-bearing waterhemlock	<i>Cicuta bulbifera</i>
Lance-leaved moonwort	<i>Botrychium lanceolatum var. lanceolatum</i>	Palouse thistle	<i>Cirsium brevifolium</i>
Mingan moonwort	<i>Botrychium minganense</i>	Thorn cladonia	<i>Cladonia uncialis</i>
Mountain moonwort	<i>Botrychium montanum</i>	Short-spored jelly lichen	<i>Collema curtisporum</i>
Stalked moonwort	<i>Botrychium pedunculosum</i>	Water pygmyweed	<i>Crassula aquatica</i>
Northern moonwort	<i>Botrychium pinnatum</i>	Clustered lady's-slipper	<i>Cypripedium fasciculatum</i>
Least moonwort	<i>Botrychium simplex</i>	Small yellow lady's-slipper	<i>Cypripedium parviflorum var. pubescens</i>
Green bug-on-a-stick	<i>Buxbaumia viridis</i>	Crested shield-fern	<i>Dryopteris cristata</i>
String-root sedge	<i>Carex chordorrhiza</i>	Swamp willow-weed	<i>Epilobium palustre</i>
Bristly sedge	<i>Carex comosa</i>	Giant helleborine	<i>Epipactis gigantea</i>
Yellow sedge	<i>Carex flava</i>	Green keeled cotton-grass	<i>Eriophorum viridicarinatum</i>
Henderson's sedge	<i>Carex hendersonii</i>	Creeping snowberry	<i>Gaultheria hispidula</i>
Lake-bank sedge	<i>Carex lacustris</i>	Britton's dry rock moss	<i>Grimmia brittoniae</i>
Bristle-stalked sedge	<i>Carex leptalea</i>	Vanilla grass	<i>Hierochloe odorata</i>

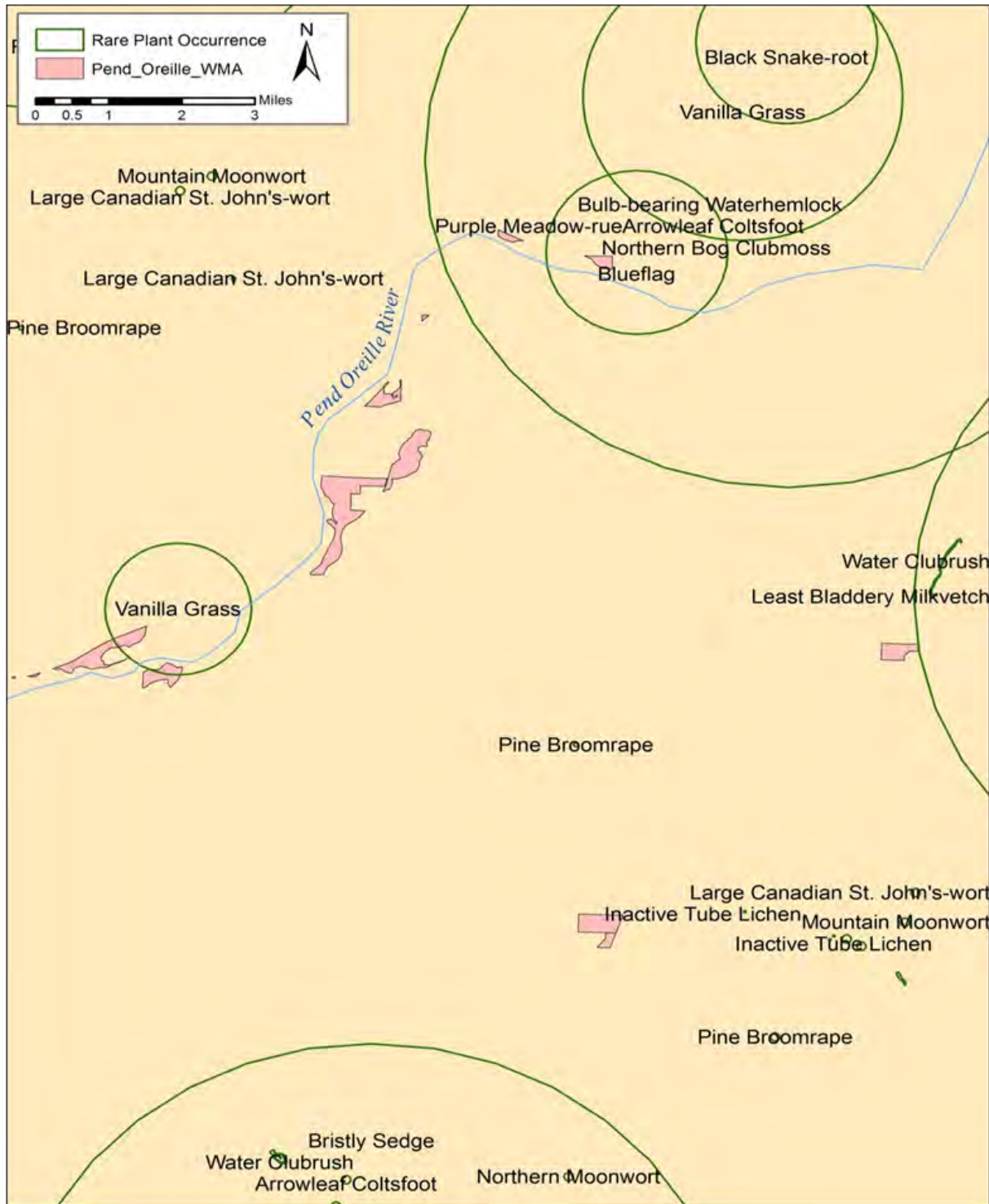
Common Name	Scientific Name	Common Name	Scientific Name
Large St. John's wort	<i>Hypericum majus</i>	White beakrush	<i>Rhynchospora alba</i>
Inactive tube lichen	<i>Hypogymnia inactiva</i>	Red-flowered currant	<i>Ribes sanguineum</i>
Blueflag	<i>Iris versicolor</i>	Sitka mistmaiden	<i>Romanzoffia sitchensis</i>
Tweedy's ivesia	<i>Ivesia tweedyi</i>	Hoary willow	<i>Salix candida</i>
Northern bog clubmoss	<i>Lycopodiella inundata</i>	Bog willow	<i>Salix pedicellaris</i>
Groundpine	<i>Lycopodium dendroideum</i>	Black snake-root	<i>Sanicula marilandica</i>
Sitka clubmoss	<i>Lycopodium sitchense</i>	Pod grass	<i>Scheuchzeria palustris</i>
False lily-of-the-valley	<i>Maianthemum dilatatum</i>	Water clubbrush	<i>Schoenoplectus subterminalis</i>
Meesia	<i>Meesia longiseta</i>	Western ladies' tresses	<i>Spiranthes porrifolia</i>
Leiberg's water-lily	<i>Nymphaea leibergii</i>	Kruhsea	<i>Streptopus streptopoides</i>
Pine broomrape	<i>Orobanche pinorum</i>	Rush aster	<i>Symphyotrichum boreale</i>
Trillium-leaved wood-sorrel	<i>Oxalis trilliifolia</i>	Fringecup	<i>Tellima grandiflora</i>
Arrowleaf coltsfoot	<i>Petasites sagittatus</i>	Purple Meadow-rue	<i>Thalictrum dasycarpum</i>
Northern beechfern	<i>Phegopteris connectilis</i>	Northern starflower	<i>Trientalis europaea ssp. arctica</i>
Herre's ragged lichen	<i>Platismatia herrei</i>	Western starflower	<i>Trientalis latifolia</i>
Braun's sword-fern	<i>Polystichum braunii</i>	Lichen	<i>Tuckermannopsis sepincola</i>
Pseudocyphellaria lichen	<i>Pseudocyphellaria anomala</i>	Large-spored ulota	<i>Ulota megalospora</i>
Slender woolly-heads	<i>Psilocarphus tenellus</i>	Bog cranberry	<i>Vaccinium oxycoccos</i>
Powdery twig lichen	<i>Ramalina pollinaria</i>	Tapegrass	<i>Vallisneria americana</i>
Naked rhizomnium Moss	<i>Rhizomnium nudum</i>	Highbush cranberry	<i>Viburnum opulus var. americanum</i>



Rare plant locations and distribution maps for the landscape area around Pend Oreille WMA. Size of point locations reflect the accuracy level of the location data.



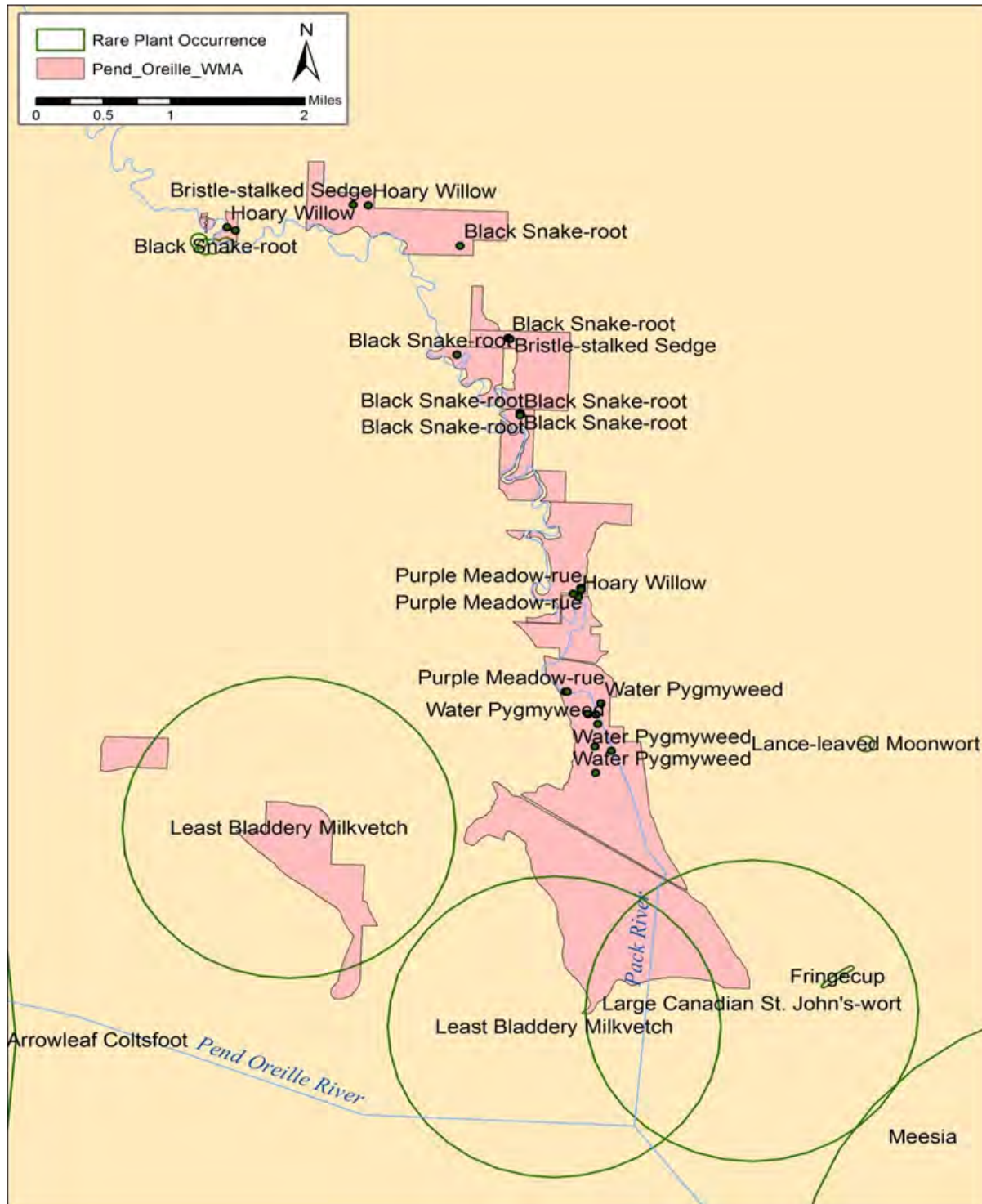
Rare plant locations and distribution maps for the landscape area around Pend Oreille WMA. Size of point locations reflect the accuracy level of the location data.



Rare plant locations and distribution maps for the landscape area around Pend Oreille WMA. Size of point locations reflect the accuracy level of the location data.



Rare plant locations and distribution maps for the landscape area around Pend Oreille WMA. Size of point locations reflect the accuracy level of the location data.



Rare plant locations and distribution maps for the landscape area around Pend Oreille WMA. Size of point locations reflect the accuracy level of the location data.

VII. WILDLIFE SPECIES LIST

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

Common Name	Scientific Name	Common Name	Scientific Name
Birds		Birds (cont.)	
Cooper's Hawk	<i>Accipiter cooperii</i>	MacGillivray's Warbler	<i>Geothlypis tolmiei</i>
Northern Goshawk	<i>Accipiter gentilis</i>	Northern Pygmy Owl	<i>Glaucidium gnoma</i>
Sharp-shinned Hawk	<i>Accipiter striatus</i>	Bald Eagle	<i>Haliaeetus leucocephalus</i>
Northern Saw-Whet Owl	<i>Aegolius acadicus</i>	Evening Grosbeak	<i>Hesperiphona vespertina</i>
Black-chinned Hummingbird	<i>Archilochus alexandri</i>	Barn Swallow	<i>Hirundo rustica</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Varied Thrush	<i>Ixoreus naevius</i>
Ruffed Grouse	<i>Bonasa umbellus</i>	Dark-eyed Junco	<i>Junco hyemalis</i>
Great-horned Owl	<i>Bubo virginianus</i>	Red Crossbill	<i>Loxia curvirostra</i>
Bufflehead	<i>Bucephala albeola</i>	Turkey	<i>Meleagris gallopavo</i>
Common Goldeneye	<i>Bucephala clangula</i>	Brown-headed Cowbird	<i>Molothrus ater</i>
Barrow's Goldeneye	<i>Bucephala islandica</i>	Townsend's Solitaire	<i>Myadestes townsendi</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>	Orange-crowned Warbler	<i>Oreothlypis celata</i>
Turkey Vulture	<i>Cathartes aura</i>	Nashville Warbler	<i>Oreothlypis ruficapilla</i>
Swainson's Thrush	<i>Catharus ustulatus</i>	Savannah Sparrow	<i>Passerculus sandwichensis</i>
Brown Creeper	<i>Certhia americana</i>	Gray Jay	<i>Perisoreus canadensis</i>
Killdeer	<i>Charadrius vociferus</i>	Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>
Northern Flicker	<i>Colaptes auratus</i>	Black-billed Magpie	<i>Pica hudsonia</i>
Olive-sided Flycatcher	<i>Contopus cooperi</i>	Downy Woodpecker	<i>Picoides pubescens</i>
Common Raven	<i>Corvus corax</i>	Hairy Woodpecker	<i>Picoides villosus</i>
Steller's Jay	<i>Cyanocitta stelleri</i>	Pine Grosbeak	<i>Pinicola enucleator</i>
Pileated Woodpecker	<i>Dryocopus pileatus</i>	Spotted Towhee	<i>Pipilo maculatus</i>
Hammond's Flycatcher	<i>Empidonax hammondi</i>	Western Tanager	<i>Piranga ludoviciana</i>
Dusky Flycatcher	<i>Empidonax oberholseri</i>	Mountain Chickadee	<i>Poecile gambeli</i>
Brewers Blackbird	<i>Euphagus cyanocephalus</i>	Chestnut-backed Chickadee	<i>Poecile rufescens</i>
American Kestrel	<i>Falco sparverius</i>	Vesper Sparrow	<i>Pooecetes gramineus</i>

Common Name	Scientific Name	Common Name	Scientific Name
<i>Birds (cont.)</i>		<i>Mammals</i>	
Flammulated Owl	<i>Psiloscops flammeolus</i>	Moose	<i>Alces alces</i>
Ruby-crowned Kinglet	<i>Regulus calendula</i>	Coyote	<i>Canis latrans</i>
Golden-crowned Kinglet	<i>Regulus satrapa</i>	Elk	<i>Cervus elaphus</i>
Calliope Hummingbird	<i>Selasphorus calliope</i>	Columbian Ground Squirrel	<i>Citellus columbianus</i>
Rufous Hummingbird	<i>Selasphorus rufus</i>	Red-backed Vole	<i>Clethrionomys gapperi</i>
Yellow-rumped Warbler	<i>Setophaga coronata</i>	Big Brown Bat	<i>Eptesicus fuscus</i>
Townsend's Warbler	<i>Setophaga townsendi</i>	Porcupine	<i>Erethizon dorsatum</i>
Mountain Bluebird	<i>Sialia currucoides</i>	Yellow Pine Chipmunk	<i>Eutamias amoenus</i>
Western Bluebird	<i>Sialia mexicana</i>	Red-tailed Chipmunk	<i>Eutamias ruficaudus</i>
Red-breasted Nuthatch	<i>Sitta canadensis</i>	Northern Flying Squirrel	<i>Glaucomys sabrinus</i>
White-breasted Nuthatch	<i>Sitta carolinensis</i>	Silver-haired Bat	<i>Lasionycteris noctivagans</i>
Pygmy Nuthatch	<i>Sitta pygmaea</i>	Snowshoe Hare	<i>Lepus americanus</i>
Pine Siskin	<i>Spinus pinus</i>	Bobcat	<i>Lynx rufus</i>
American Goldfinch	<i>Spinus tristis</i>	Marten	<i>Martes americana</i>
Chipping Sparrow	<i>Spizella passerina</i>	Striped Skunk	<i>Mephitis mephitis</i>
Barred Owl	<i>Strix varia</i>	Meadow Vole	<i>Microtus pennsylvanicus</i>
Western Meadowlark	<i>Sturnella neglecta</i>	Ermine	<i>Mustela frenata</i>
Tree Swallow	<i>Tachycineta bicolor</i>	Little Brown Bat	<i>Myotis lucifugus</i>
Violet-green swallow	<i>Tachycineta thalassina</i>	White-tailed Deer	<i>Odocoileus virginianus</i>
House Wren	<i>Troglodytes aedon</i>	Deer Mouse	<i>Peromyscus maniculatus</i>
Winter Wren	<i>Troglodytes hiemalis</i>	Raccoon	<i>Procyon lotor</i>
American Robin	<i>Turdus migratorius</i>	Masked Shrew	<i>Sorex cinereus</i>
Cassin's Vireo	<i>Vireo cassinii</i>	Red Squirrel	<i>Tamiasciurus hudsonicus</i>
Warbling Vireo	<i>Vireo gilvus</i>	Black Bear	<i>Ursus americanus</i>
Red-eyed Vireo	<i>Vireo olivaceus</i>	<i>Amphibians & Reptiles</i>	
Mourning Dove	<i>Zenaida macroura</i>	Northern Alligator Lizard	<i>Elgaria coerulea</i>
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	Western Skink	<i>Eumeces skiltonianus</i>
		Common Garter Snake	<i>Thamnophis sirtalis</i>

VIII. LAND ACQUISITIONS AND AGREEMENTS

<i>Land Acquisitions</i>			
Year	Segment	Acres	Acquired From
1955	IDFG	211.93	Fred Hoffman
1959	IDFG	5.00	Earl Beach
1974	IDFG	119.00	Alvin C. Jacobson
1974	IDFG	419.25	Compton I. White
1997	BPA	240.00	David Lewis
1997	BPA	95.90	White Family
1997	BPA	16.76	Lois and Joseph Wythe
1999	BPA	109.95	Harold and Annie Ginter
1999	BPA	30.05	McMahon Trust
1999	BPA	38.00	Meland Living Trust
1999	BPA	31.00	Frank Baird and Michael Cicero
1999	BPA	216.00	Kenneth H. Hunter Jr.
1999	BPA	98.00	J.D, M.R., D.W.,& D.J. Eich
1999	BPA	65.00	William C. Fletcher
2006	BPA	316.00	Albertson Family
2006	BPA	41.00	Timothy and Tammy Shields
2006	BPA	0.29	Scott and Dorothy Conner
2007	BPA`	210.49	Harold and Annie Ginter
2007	BPA	0.55	Liu Estate
2007	BPA	0.74	Wilson Estate
2007	Avista	27.50	Avista Corp.
2008	BPA	5.00	Mary Stevens
2008	BPA	27.00	Anselmo Trust
2009	BPA	12.09	Estate of Lorraine Hacker
2009	BPA	20.02	Alan and Pamela Kline
2010	BPA	131.58	Judith and Jay White
2012	BPA	26.24	Harold Ginter
	<i>Subtotal</i>	2,581.29	

<i>Cooperative Agreements</i>			
Year	Segment	Acres	Acquired From
1956	Carey Creek	60.68	USACE License
1956	Carr Creek	15.34	USACE License
1956	Clark Fork Delta	1,155.00	USACE License
1956	Hoodoo Creek	81.99	USACE License
1956	Hornby Creek	9.27	USACE License
1956	Morton Slough	402.34	USACE License
1956	Strong's Island	53.13	USACE License
1956	Oden Bay	350.00	USACE License
1956	Pack River Delta	1,373.96	USACE License
1956	Priest River	115.14	USACE License
1956	Riley Creek	148.10	USACE License
1956	Muskrat Lake	2.00	USACE License
1976	Sunnyside	78.55	Idaho Dept. of Lands
1996	Clark Fork Delta	154.20	USACE License
1996	Oden Bay	48.19	USACE License
	<i>Subtotal</i>	4047.89	
	<i>WMA Total</i>	6,629.16	

<i>Water Rights</i>		
Year	Segment	Acquired From
1974	Trout Creek	USACE

IX. INFRASTRUCTURE

Building/structures

- 25' x 50' - 1998 model manufactured house
- 15' x 35' – Wood frame bunkhouse
- 25' x 35' – Open type pole shed
- 25' x 50' – Open type pole shed
- 30' x 45' – Shop/pole shed

Water control structures

- 7 – drop-log type

Access Parking Sites

- 17 public access parking areas

Roads and trails

- 5 miles of roads maintained by the Department

Fences

- 5 miles of 3-strand

Campsites

- 5 approved primitive campsites

Restrooms

- 4 – CXT concrete pit-type outhouses

PEND OREILLE

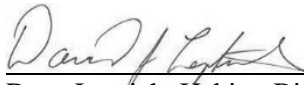
WILDLIFE MANAGEMENT AREA PLAN

Approval

Submitted by:



Jim Derrig, Habitat Biologist




Dave Leptich, Habitat Biologist


Reviewed by:



James Teare, Regional Habitat Manager



Chip Corsi, Regional Supervisor



Don Kemner, Bureau of Wildlife

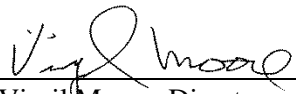


Chris Murphy, Bureau of Wildlife



Tom Hemker, State Habitat Manager

Approved by:



Virgil Moore, Director