

LOWER DESCHUTES WILDLIFE AREA MANAGEMENT PLAN

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**Oregon Department of Fish and Wildlife
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Executive Summary

Purpose of the Plan

This plan will guide management of Lower Deschutes Wildlife Area (LDWA) for the next 10 years. Purposes of this plan are:

- To provide clear direction for management of LDWA;
- To provide long-term continuity in wildlife area management;
- To communicate the Department's management priorities for LDWA to its neighbors, visitors, and to the public;
- To ensure that management programs on LDWA are consistent with the original mandate and purpose of the area when it was first established;
- To ensure that management of LDWA is consistent with Federal, State, and local natural resource plans;
- To ensure that management activities address conservation priorities and recommendations described in the 2016 Oregon Conservation Strategy (OCS), and;
- To provide a basis for budget request to support the LDWA needs for staffing, operations, maintenance, and capital improvements.

Historical Background

Located within the lower Deschutes River canyon in the north central part of Oregon, LDWA encompasses 18,724 acres of land and water owned by the Oregon Department of Fish and Wildlife (Department). LDWA consists of three separate acquisitions. In 1983 the initial donation of land by the Oregon Wildlife Heritage Foundation (OWHF) consisted of 2,758 acres primarily along the banks of the Deschutes River. In 1986 OWHF donated an additional 5,158 acres of mixed riparian and upland habitats. The third parcel, totaling 10,198 acres, was acquired in 2015 in collaboration with the Trust for Public Land (TPL). This parcel consists of primarily upland habitats, along with approximately 5 miles of riparian habitats. In 2017 the commission officially designated the third parcel as the Woosley tract in honor of the tireless dedication Chuck and Gail Woosley have shown to the Department's mission and land management. The LDWA was initially established to provide permanent public angler access. However the wildlife area has grown to provide enhanced wildlife and fish habitat (i.e. through removal of livestock, riparian vegetation improvements, etc.) and more outdoor oriented recreational activities such as hunting, boating, hiking and biking.

Planning Approach

The 2009 LDWA plan was the first formally adopted plan for the area. This current planning project will not only update the original effort, but also provide additional actions associated with the management of the Woosley tract.

Lower Deschutes Wildlife Area Vision

The vision for LDWA is as follows:

Habitat for threatened and endangered fish species, conservation strategy species, bighorn sheep, mule deer and other fish and wildlife species is enhanced and managed through sound stewardship practices while providing recreational opportunities and access along the lower 39 miles of the Deschutes River for present and future generations.

Lower Deschutes Wildlife Area Goals and Objectives

The goals of the LDWA are:

Goal 1: To protect, enhance and restore aquatic and riparian habitats to benefit native fish and wildlife, and desired game species.

Goal 2: To protect, enhance and manage upland habitats to benefit native wildlife and desired game species.

Goal 3: To provide and promote fish and wildlife oriented recreational and educational opportunities to the public which are compatible with Goals 1 and 2.

Specific objectives and strategies to implement each goal, as well as detailed rationale are provided in this plan on pages 27-31.

Introduction

Purpose of the Plan

This document will guide management of the LDWA for the next ten years. The Department's management planning process for wildlife areas involves the development of broad goals, formulation of specific objectives and management strategies to achieve those goals. The purposes of this plan are to:

- Provide clear direction for the management of the LDWA;
- Provide long-term continuity in wildlife area management;
- Communicate the Department's management priorities for the LDWA to its neighbors, visitors, and to the public;
- Ensure that management programs on the LDWA are consistent with the original mandate and purpose of the area when it was first established;
- Ensure that management of the LDWA is consistent with Federal, State and local natural resource plans,
- Ensure that management activities address conservation priorities and recommendations described in the OCS, and;
- Provide details on staffing, operations, maintenance, and capital improvement needs on the LDWA.

Oregon Department of Fish and Wildlife Mission and Authority

The mission of the Department is to protect and enhance Oregon's fish and wildlife and their habitats for use and enjoyment by present and future generations. The Department is the only state agency charged exclusively with protecting Oregon's fish and wildlife resources. The state Wildlife Policy (Oregon Revised Statute 496.012) and Food Fish Management Policy (Oregon Revised Statute 506.109) are the primary statutes that govern the management of fish and wildlife resources.

Purpose and Need of the Lower Deschutes Wildlife Area

Since the first acquisition, management of LDWA has evolved to not only include maintenance of access for angling, but to include a broad suite of priorities to benefit both fish and wildlife species within the Deschutes River canyon. Recreation opportunities within the canyon have also evolved, with more users now enjoying fishing, hunting, hiking, boating and biking in a manner that is compatible with the species and habitat goals of LDWA. The natural resources available on the LDWA will be managed in such a manner as to protect, maintain, enhance and restore fish and wildlife habitats to support optimum population levels of species for the enjoyment of present and future citizens. To protect these natural resources, management programs and strategies utilized on the LDWA will meet or exceed habitat protection policies and standards set by the Department.

The OCS (ODFW, 2016) is the state's overarching strategy for conserving fish and wildlife, to help ensure that Oregon's natural treasures are passed on to future generations. The lower Deschutes River is specifically described in the OCS and contains key habitats such as grasslands, riparian and sagebrush shrub-steppe and key species such as sagebrush lizard and summer steelhead. Recommended conservation actions include:

- Maintain or enhance in channel watershed function, connection to riparian habitat, flow and hydrology
- Promote early detection and suppression of invasive weeds
- Restore and maintain complex, continuous sage habitat
- Restore and maintain riparian habitats

Many habitat management activities which occur on the LDWA address conservation actions recommended in the OCS and these will be identified throughout this management plan.

Lower Deschutes Wildlife Area Vision Statement

The vision for the LDWA is as follows:

Habitat for threatened and endangered fish species, conservation strategy species, bighorn sheep, mule deer and other fish and wildlife species is enhanced and managed through sound stewardship practices, while providing recreational opportunities and access along the lower 39 miles of the Deschutes River for present and future generations.

Wildlife Area Goals and Objectives

Wildlife area goals are broad, open-ended statements of desired future conditions that convey a purpose but do not define measurable units. In contrast, objectives are more concise statements of what the Department wants to achieve, how much the Department wants to achieve, when and where to achieve it, and who will be responsible for the work. Objectives derive from goals and provide the basis for determining strategies, monitoring wildlife area accomplishments, and evaluating the success of strategies.

The goals and objectives for the LDWA are:

Goal 1: To protect, enhance and restore aquatic and riparian habitats to benefit native fish and wildlife and desired game species.

Objective 1.1: Protect, enhance, and restore approximately 310 acres of freshwater aquatic and 64 acres of riparian habitats.

Goal 2: To protect, enhance and manage upland habitats to benefit native wildlife and desired game species.

Objective 2.1: Protect, enhance, and restore approximately 11,100 acres of sage steppe and 5,000 acres of grassland habitats.

Objective 2.2: Enhance and manage approximately 140 acres of agricultural upland habitats.

Goal 3: To provide and promote fish and wildlife oriented recreational and educational opportunities to the public which are compatible with Goals 1 and 2.

Objective 3.1: Provide approximately 12,000 hunting and angling use days annually.

Objective 3.2: Provide approximately 8,000 wildlife viewing and education/ interpretation use days annually.

Wildlife Area Establishment

Around 1920, the Eastern Oregon Land Company acquired approximately 3,700 acres with 15 miles of river frontage in the lower Deschutes River canyon. The company's objective was to build hydroelectric dams to provide power to an expanding Pacific Northwest population. Two large dams were engineered for construction along the river. However, economic downturn and subsequent governmental regulations prevented the company from realizing its plans.

In 1970, the lower 100 miles of the Deschutes River were designated a component of the Oregon State Scenic Waterways System. This program is designed to protect and enhance the scenic, aesthetic, natural, recreation, and fish and wildlife values along scenic waterways. Designation as a Scenic Waterway effectively ended all plans for dams on the lower Deschutes River.

By 1983, the Eastern Oregon Land Company, having abandoned its dam building plans, sought to sell its Deschutes River properties. Victor Atiyeh, then governor of Oregon, was interested in preserving and enhancing the recreational attributes and public access to the river. The OWHF was called upon to raise money to acquire and preserve this land for the people of the state of Oregon. During the first round of fund raising, over 10,000 individuals contributed to the purchase fund. The second round of fund raising consisted of corporate donations. Plaques with the major donors names were placed on rock monuments scattered along the Deschutes River.

Concurrently, the Lower Deschutes River Management Plan was written. This planning process involved all entities that had an interest in the management of the lower Deschutes River, including federal, tribal, state, and local agencies, a private landowner, as well as commercial and private users of the river. One private landowner who was a key player in this process was Ed Sharp, who owned 5,158 acres of land along the Deschutes River. In 1986, Mr. Sharp sold his property to the OWHF.

Purchase of the Eastern Oregon Land Company and Sharp properties was accomplished with private and corporate contributions, river pass and user fees, fishing and hunting license fees, non-game state tax check off monies and Wildlife Restoration funds, a federal excise tax on fishing tackle, ammunition and guns. In total the OWHF deeded 7,916 acres to the Department along the lower Deschutes River.

In 1988, the U.S. Congress designated the lower 100 miles of the Deschutes River (from the Pelton Re-regulating Dam to its confluence with the Columbia River) as a component of the National Wild and Scenic River system and it was also adopted by the Warm Springs Wild and Scenic Rivers Act as Tribal Ordinance 73 in 1992 (Bureau of Land Management et al. 1993). A final joint river management plan and Environmental Impact Statement was completed in January 1993 after almost five years of planning and public review. The LDWA is included in

the river reach as part of Segment 4, which extends from Macks Canyon, 23 miles downstream to the confluence with the Columbia River.

In 2013, the Trust for Public Land approached the Limmeroth family regarding their River Ranch property, which was listed for sale. The original intent was to identify a mitigation parcel suitable to offset the impacts of a large scale energy project that was in the initial planning phases. TPL, in collaboration with the Department, began a grant writing effort to secure funds for the acquisition. In 2015 the transaction was completed and approved by the Commission using funds from TPL, Land and Water Conservation Fund, Portland General Electric Pelton Fund, Wild Sheep Foundation, Oregon Foundation of North American Wild Sheep, USFWS Wildlife Restoration Funds, as well as mitigation funds through the Department. In 2017 the River Ranch parcel was dedicated as the Woosley tract, in honor of Chuck and Gail Woosley. This effort added 10,198 acres to LDWA.

Additionally, within a mile radius of the LDWA, there are approximately 26,000 acres of Bureau of Land Management (BLM) and 920 acres of Oregon State Parks and Recreation Department (OPRD) property that directly border the wildlife area. Acquisition of the LDWA has guaranteed public access to approximately 45,000 acres of state and federal land in the lower 40 miles of the Deschutes River.

Description and Environment

Physical Resources

Location

The LDWA is located approximately 15 miles east of The Dalles in Wasco County and three miles west of Moro in Sherman County, Oregon. The LDWA consists of properties stretching 18 river miles along both sides of the lower Deschutes River, and property extending to river mile 39 on the west side of the river. (**Figures 1 and 2**). The BLM manages lands along all sides of the boundary and multiple in-holdings within the LDWA. Private lands are located along both the east and west boundaries. LDWA is located in the Biggs Wildlife Management Unit.

Climate

The LDWA is characterized by light annual precipitation and extreme temperatures in the summer and winter seasons. Specifically, the Deschutes River Basin averages 10 inches of annual precipitation, with 70-80% of this occurring between November and March. Although the area may receive snow fall during the winter, the majority of precipitation annually is a result of rainfall. Temperature extremes range from -30⁰F to 115⁰F. Minimum and maximum average temperatures are 37.4⁰F and 63.3⁰F, with annual average temperature at 50.4 ⁰F (Taylor and Hannon 1999).

Lower Deschutes Wildlife Area Surrounding Ownership

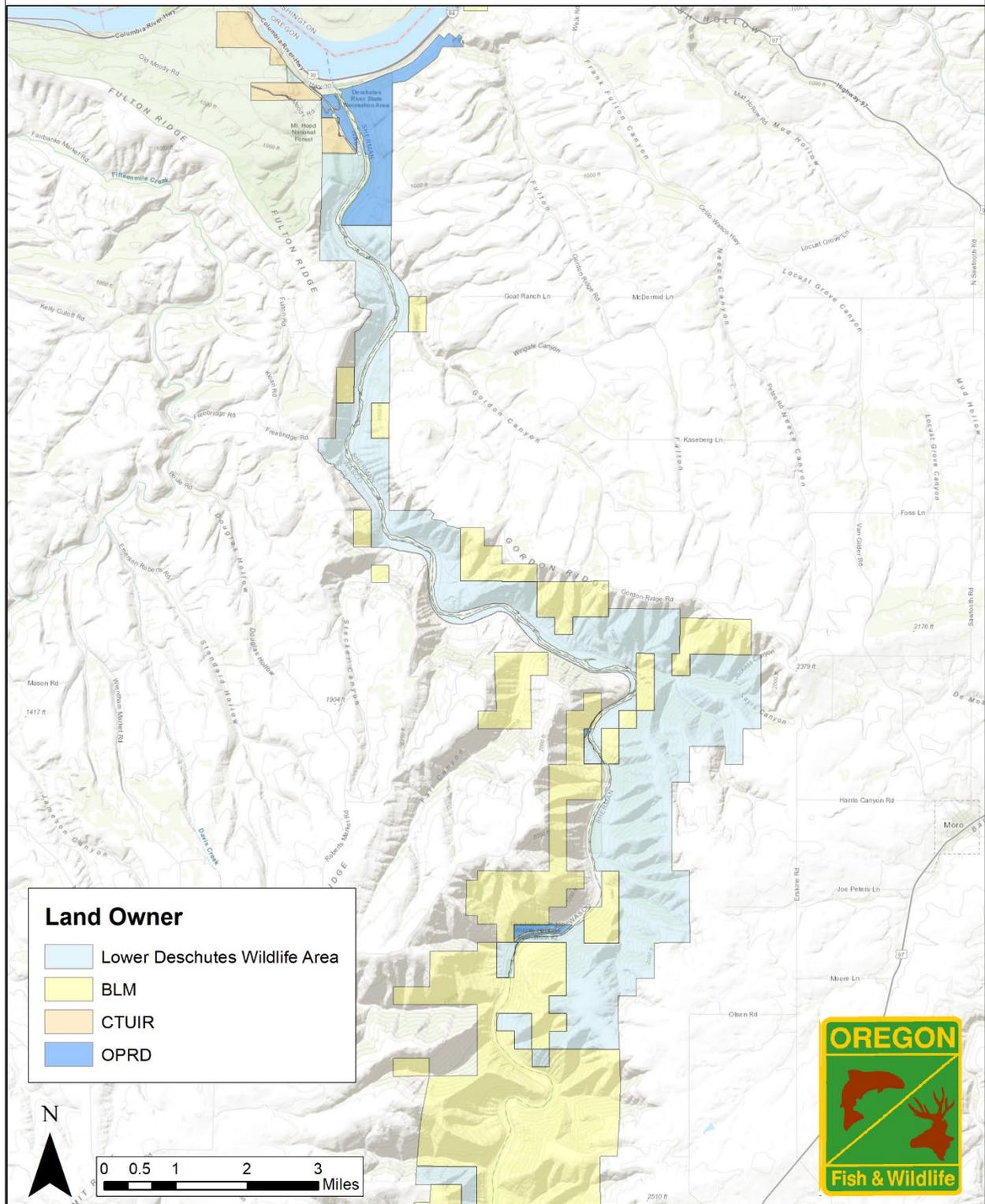


Figure 1: LDWA surrounding ownership

Woosley Tract Surrounding Ownership

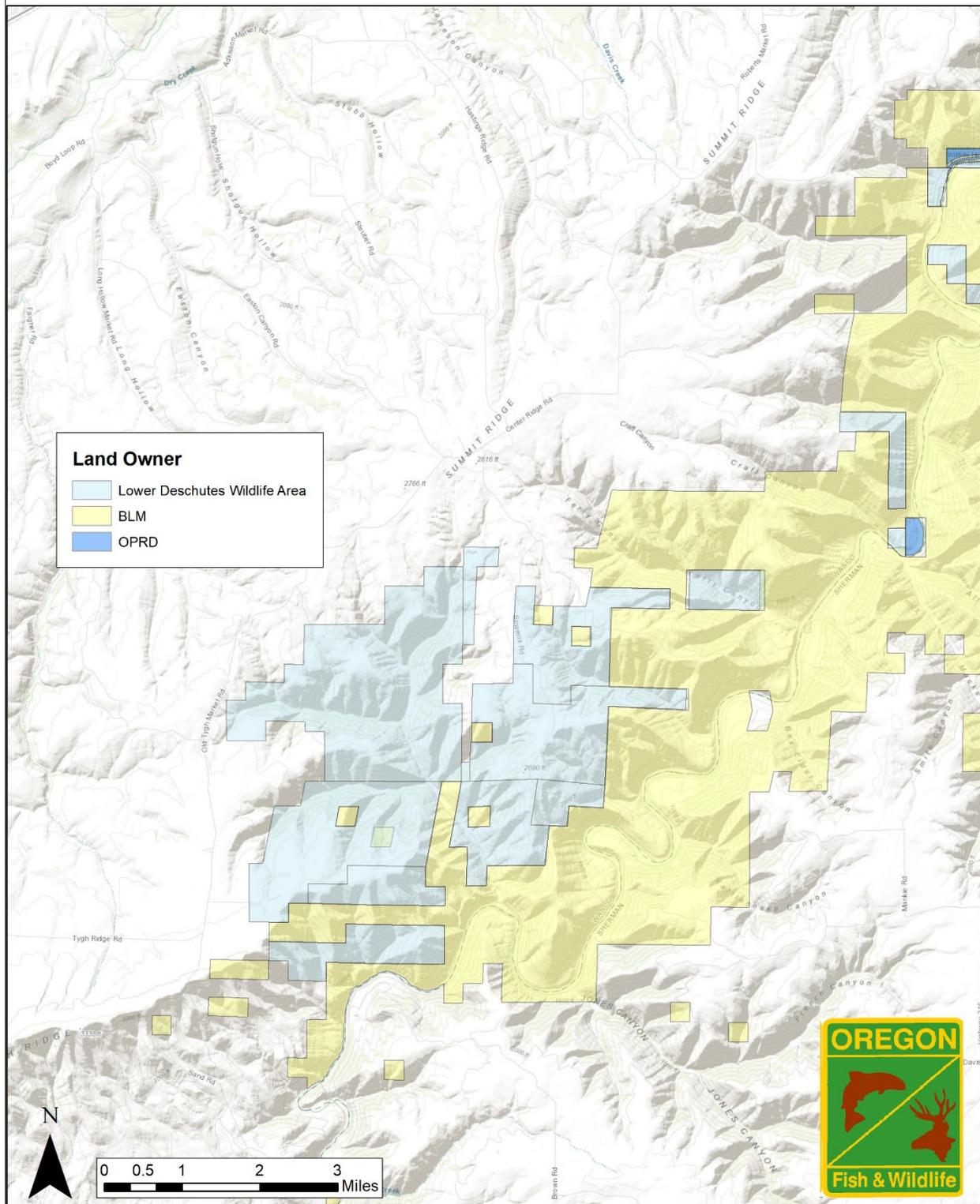


Figure 2: Woosley tract surrounding ownership

Topography and Soils

LDWA is characterized primarily by the Lickskillet Soil Series which occur on the south facing slopes, and the Wrentham Soil Series on the north facing slopes. The geology consists generally of Columbia River basalt. Sediment and pieces of granite from Idaho and Montana, deposited from the numerous Missoula floods can be found on the area. Petrified wood buried from these deposits has been found along a narrow band. The Lower Deschutes River basin is a high basaltic plateau with deeply cut canyons.

The entire wildlife area has been surveyed by the federal Soil Conservation Service resulting in the mapping of 44 soil types (Green, 1982 and MacDonald, 1999). The five most common soils types on the area, which make up 86% of the soils, are the Lickskillet extremely stony loam (LsDS), the Nansene rocky silt loam (NaD), Bakeoven-Condon Complex and rock outcrops. The LsDS soils consist of very stony to extremely stony soils that are most commonly on south-facing canyon walls and on breaks to rivers. They were formed from weathered basalt mixed with loess. The native vegetation associated with this soil type is mainly bluebunch wheatgrass (*Pseudoroegneria spicata*) and Sandberg bluegrass (*Poa secunda*). The NaD soils occur on very steep north-facing slopes. It is dark colored and is uniform in texture. It has formed from loess, under native vegetation consisting mainly of Idaho fescue (*Festuca idahoensis*) and bluebunch wheatgrass.

Table 1: Acres by soil type

Soil Series	Acres
Lickskillet	7858.2
Wrentham	2923.8
Bakeoven-Condon	1990.0
Nansene	1847.0
Rock Outcrop	1212.7
Sagemoor	614.1
Condon	555.9
Misc. Other Soils	1303.5
Grand Total	18305.1

Elevations on LDWA range from 270 feet along the Deschutes River near the mouth to 2,800 feet on the southern end of the area. Topography ranges from the low areas of riparian zone along the Deschutes River to grassy hillsides and rock cliffs that extend toward relatively even landscapes at the top of the canyons.

LDMA Soils

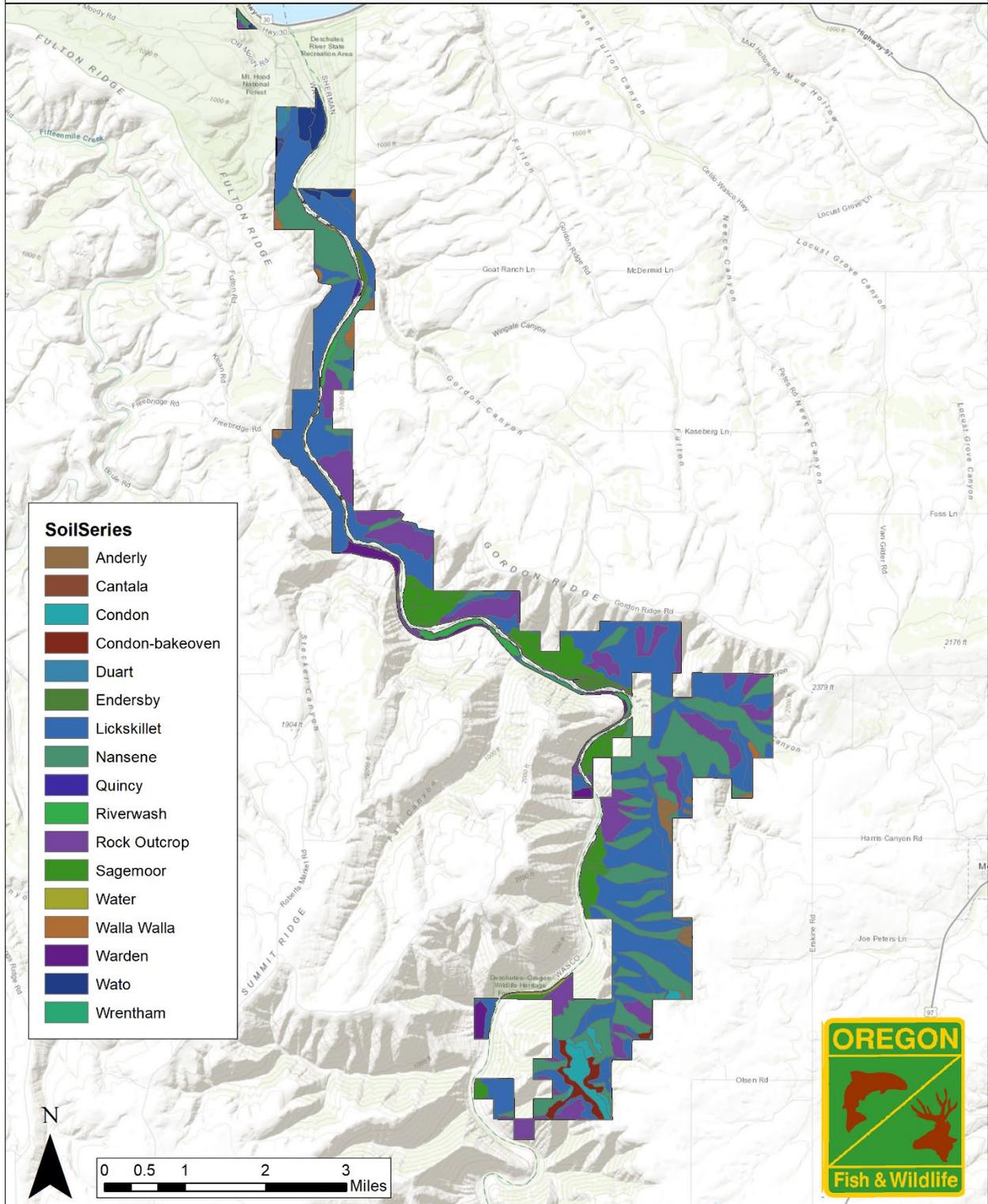


Figure 3: Soils on LDMA

Woosley Tract Soils

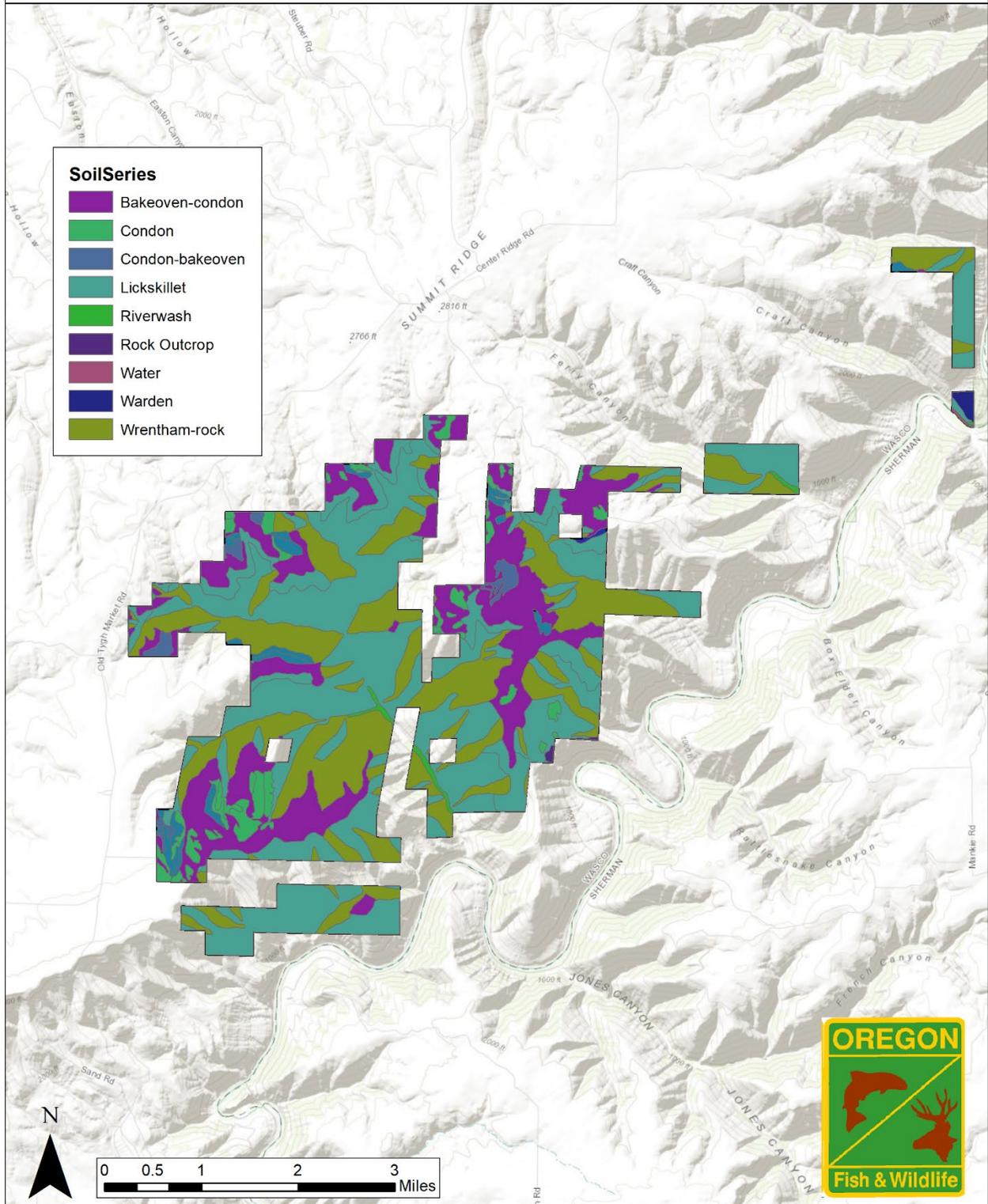


Figure 4: Soils on Woosley tract

Habitat Types

Many of the plant communities on the LDWA have been altered from their natural state by various types of human activities and subsequent introduction of non-native plants. Historically portions of the LDWA were cleared for agriculture or grazed by cattle and domestic sheep. Since the last planning effort, much of LDWA has experienced multiple fires, and conversion of previous sage steppe to either grassland or exotic habitats has occurred. The lower river tract previously contained 7,836 acres classified as sage steppe, while current estimates show only 5,651 acres, a 28% reduction in 10 years.

Currently, five habitat types are found within the borders of the LDWA (**Figure 2**). The largest habitat type (by acreage) is sagebrush steppe and shrubland while the smallest type is agriculture (**Table 1**). Grasslands, sagebrush steppe and riparian are considered Key Habitats within the Columbian Plateau ecoregion as defined in the OCS (ODFW, 2006). The OCS recommends conservation actions such as restoring and maintaining sagebrush steppe and riparian habitats.

Sagebrush steppe and shrubland

Located throughout the LDWA, the sagebrush and grassland mixed habitat type comprises the vast majority of the area with over 11,100 acres. Sagebrush (*Artemisia* spp.) is the dominant shrub component on the area. Bitterbrush (*Purshia tridentata*) can be found in isolated pockets and is a valuable component in the diet of wintering mule deer (*Odocoileus hemionus hemionus*) in the area.

Freshwater Aquatic

309 acres of open water exists where the Deschutes River flows through or borders the LDWA.

Grassland

The 5,000 acres of grasslands on the area are a combination of native and introduced species. The areas that have been reseeded generally contain a combination of bluebunch wheatgrass, sheep fescue (*Festuca ovina*), Sherman big bluegrass (*Poa ampla*), small burnet (*Sanguisorba minor*), and alfalfa (*Medicago sativa*). Within areas of existing native vegetation, the predominant grass species consist of Bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass, and Squirreltail bottlebrush. Many areas within grassland habitats show impact from annual grass invasion (cheatgrass, or medusahead).

Riparian

Approximately 60 acres of riparian habitat exist along the reaches of the Deschutes River and within areas of Harris, Oak and Ferry canyons. The riparian plant communities which border these streams are comprised mainly of red alder (*Alnus rubra*), with periodic spirea (*Spiraea* spp.), common chokecherry (*Prunus virginiana*), and Lewis' mock orange (*Philadelphus lewisii*) also being found.

Cultivated Crops

LDWA contains 164 acres of agricultural lands. Seven acres of this habitat exist along the lower river, and is regularly planted into various crops for wildlife forage. The majority of this habitat exists within the Woosley tract, and is actively being restored into grassland habitat.

Table 2: Habitat types and approximate acreages

Habitat Type	Acre*
Sagebrush Shrublands and Steppe	11,135
Columbia Basin Grasslands and Prairie	4,319
Exotics	754
Alkali and Desert Grasslands	682
Low, Rigid, Black and Early Sagebrush Shrublands and Steppe	541
Water (Lakes and Ponds, Rivers and Streams, Bays)	315
Cliff and Canyon	242
Cultivated Crops	140
Oak Woodland	87
Juniper Woodlands and Savanna	57
Interior Lowland and Foothill Riparian Woodlands and Shrublands	30
<i>Other Misc. Habitats</i>	45

*These approximate acreages, which were developed from the Oregon Statewide Habitat Map, Institute for Natural Resources 2018

LDMA Habitats

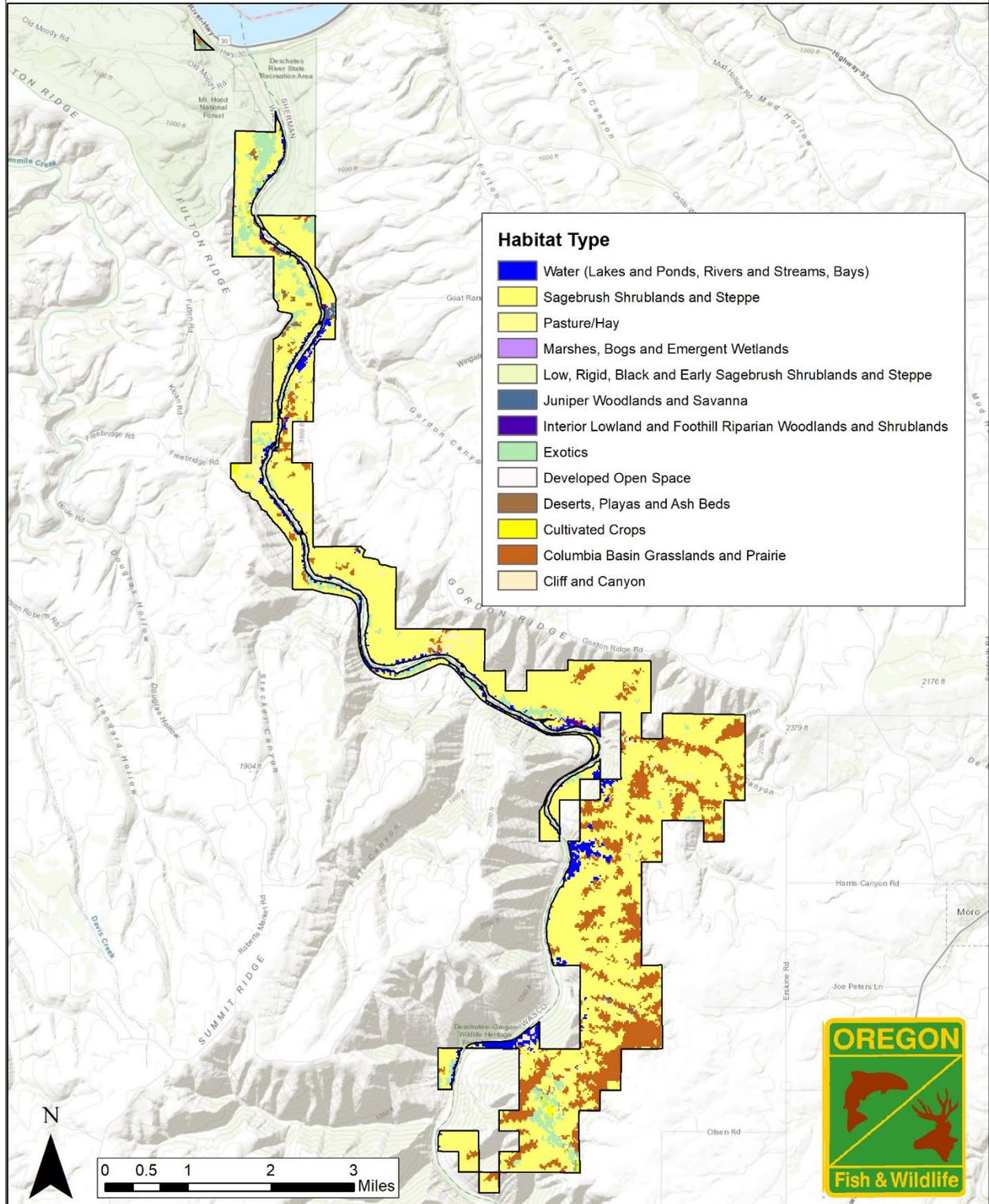


Figure 5: LDMA Habitats

Woosley Tract Habitats

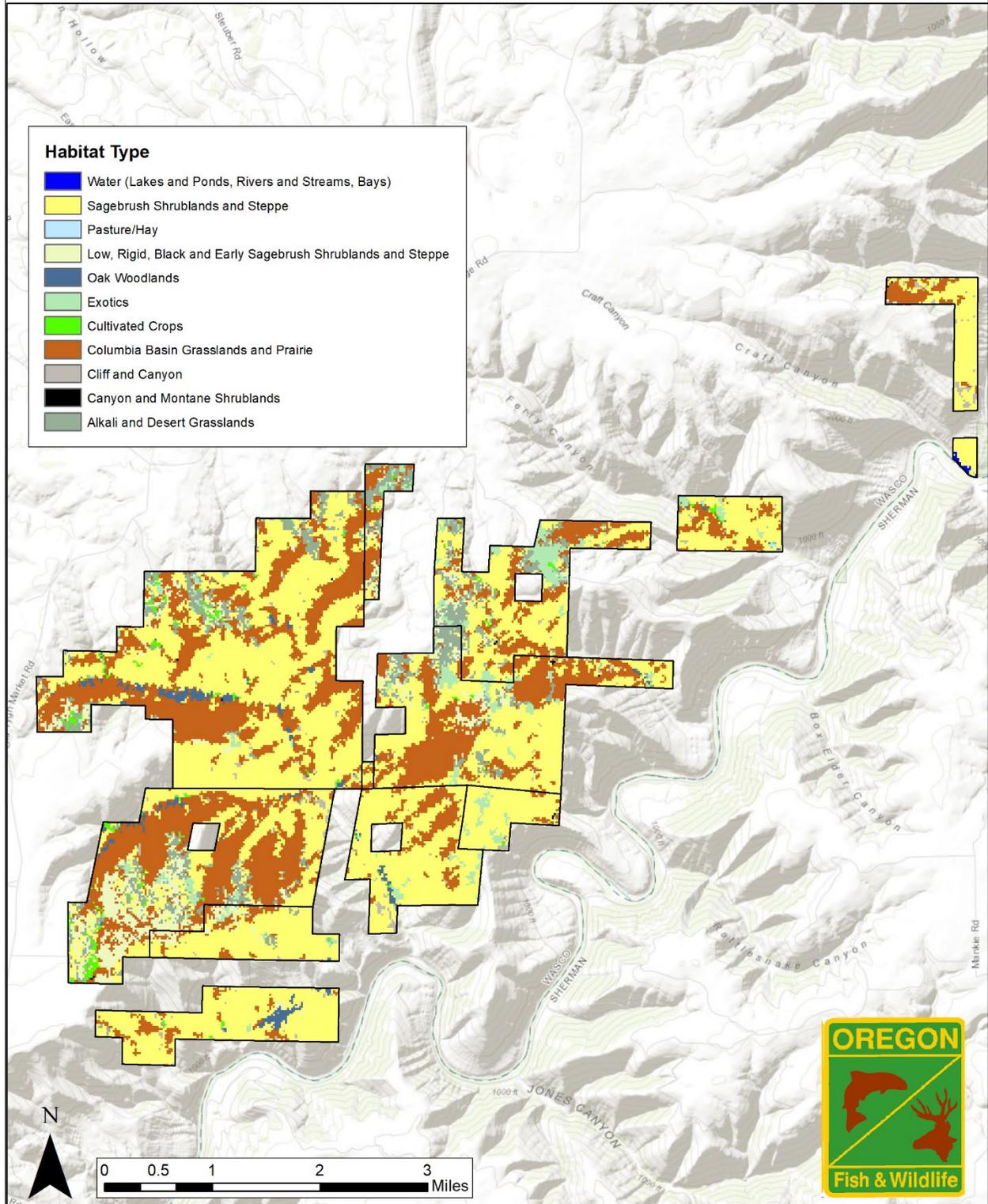


Figure 6: Woosley tract habitats

A list of trees, shrubs, forbs, legumes, composites, and grasses that are known to occur on the LDWA is located in **Appendix A and B**.

Biological Resources

Due to its habitat diversity and water availability, the LDWA supports numerous fish and wildlife species. Management actions that benefit deer and bighorn sheep also provide benefits for furbearers, upland game birds, waterfowl, songbirds, reptiles, amphibians and fish.

Currently 191 species have been identified on the LDWA, including 141 species of birds, 15 species of fish, 31 species of mammals and 14 species of amphibians and reptiles (**Appendix C**).

Birds

Of the 141 bird species documented on the area, many are migratory, occurring only during spring and fall migration periods. Resident species that nest on the area vary, with common species including canyon wren (*Catherpes mexicanus*), Canada geese (*Branta canadensis*), and multiple raptor species.

The only native upland game bird on the area is the mourning dove (*Zenaida macroura*).

Non-native upland game bird species that nest in the area include chukar partridge (*Alectoris chukar*), Hungarian (gray) partridge (*Perdix perdix*) ring-necked pheasant (*Phasianus colchicus*), Rio Grande turkey (*Meleagris gallopavo intermedia*), and California quail (*Callipepla californica*).

Fish

The LDWA contains migration, rearing, and spawning habitat important to a variety of native fish species. There are five species of federally listed Threatened and Endangered (T&E) species in the Deschutes River but only the summer steelhead (*Oncorhynchus mykiss*) rears and spawns within the LDWA (**Appendix C**). Other T&E fish species that have been found are migrants or strays from other river systems.

Fish species that are popular with anglers in the lower Deschutes River include spring and fall Chinook salmon (*Oncorhynchus tshawytscha*), summer steelhead/redband trout (*Oncorhynchus mykiss*), and bull trout (*Salvelinus confluentus*). Pacific lamprey (*Lampetra tridentata*), a culturally significant species for local indigenous people is also present. The Deschutes River within the LDWA is also an important migratory corridor for these species, especially adult summer steelhead, which attracts anglers from around the world. Middle Columbia River summer steelhead and bull trout are federally listed as threatened under the ESA. Oak and Ferry canyons within the Woosley tract are both documented as spawning habitat for Middle Columbia summer steelhead.

Mammals

A total of 31 mammalian species have been documented on LDWA. Common species include mule deer (*Odocoileus hemionus hemionus*), and California bighorn sheep (*Ovis canadensis californicus*), cougar (*Puma concolor*), bobcat (*Lynx rufus*), raccoon (*Procyon lotor*), river otter (*Lutra canadensis*), California ground squirrel (*Spermophilus beecheyi*), mountain cottontail (*Sylvilagus nutallii*) and white-tailed jackrabbit (*Lepus townsendii*), an Oregon Conservation Strategy Species.

Acoustic surveys adjacent have been conducted to detect bat presence within the area during the summer period from 2016 to present. Species positively identified during these surveys include big brown bat (*Eptesicus fuscus*), western small-footed myotis (*Myotis ciliolabrum*), pallid bat (*Antrozous pallidus*), little brown bat (*Myotis lucifigus*), hoary bat (*Lasiurus cinerus*), silver-haired bat (*Lasionycteris noctivagans*), Canyon Bat (*Parastrellus hesperus*), California myotis (*Myotis californicus*), Yuma myotis (*Myotis yumanensis*), Long-legged myotis (*Myotis Volans*), and western long-eared myotis (*Myotis evotis*).

No recent surveys have been conducted for furbearers or small mammals. In order to determine population levels of these species, additional resources would be required.

Amphibians and Reptiles

No active management for amphibians and reptiles exists at this time on the LDWA. Amphibian and reptile species include, but are not limited to, rough-skinned newt (*Taricha granulosa*), western toad (*Bufo boreas*), Pacific treefrog (*Pseudacris regilla*), northern sagebrush lizard (*Sceloporus graciosus*), western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis catenifer*), common garter snake (*Thamnophis sirtalis*) and western rattlesnake (*Crotalus viridis*). No threatened or endangered amphibians or reptiles are known to be present on the LDWA.

Species of Conservation Concern

There have been no formal surveys on the LDWA specifically to document the presence of state or federally listed endangered, threatened, candidate or sensitive species. Currently, there have been no surveys for sensitive plants conducted on LDWA.

Table 3. Federal and State Listed Endangered, Threatened, Candidate and Species of Concern Potentially Present on the Lower Deschutes Wildlife Area

(Federal Status: C – Candidate; LT– Threatened; LE – Endangered; SOC – Species of Concern.
State Status: LE – Endangered; LT – Threatened; SC – Sensitive Species, Critical; SV – Sensitive Species, Vulnerable. Oregon Conservation Strategy (OCS) Strategy Species present - X)

Common Name	Scientific Name	Federal Status	State Status	OCS
Steelhead (Middle Columbia River ESU summer run)	<i>Oncorhynchus mykiss</i>	LT	SC	X
Chinook Salmon (Middle Columbia ESU/SMU fall, spring runs)	<i>Oncorhynchus tshawytscha</i>	LT	SC	X
Bull Trout (Deschutes Bull trout SMU)	<i>Salvelinus confluentus</i>	LT	SC	X
Columbia Basin Rainbow Trout	<i>Oncorhynchus mykiss gairdneri</i>		SC	
Pacific Lamprey	<i>Lampetra tridentate</i>	SOC	SV	X
Ferruginous Hawk	<i>Buteo regalis</i>	SOC	SC	X
Swainson's Hawk	<i>Buteo swainsoni</i>		SV	X
Lewis's Woodpecker	<i>Melanerpes lewis</i>	SOC	SC	X
Loggerhead Shrike	<i>Luanius ludovicianus</i>		SV	
Western Bluebird	<i>Sialia Mexicana</i>		SV	
Brewer's Sparrow	<i>Spizella breweri breweri</i>	SOC	SV	X
Common Nighthawk	<i>Chordelles minor</i>		SV	X

Grasshopper Sparrow	<i>Ammodramus savannarum perpallidus</i>		SV	X
Sagebrush Sparrow	<i>Artemisiospiza nevadensis</i>		SC	X
Hoary Bat	<i>Lasiurus cinereus</i>		SV	X
Pallid Bat	<i>Antrozous pallidus</i>		SV	X
Silver-haired Bat	<i>Lasionycteris noctivagans</i>		SV	X
Townsend's Bid-eared Bat	<i>Corynorhinus townsendii</i>		SC	X
Spotted Bat	<i>Euderma maculatum</i>		SV	X
Western Toad	<i>Bufo boreas</i>		SV	X
Northern Sagebrush Lizard	<i>Sceloporus graciosus</i>		SV	X

There are several species of federal or state concern that are present at least part of the year on LDWA (**Table 3**) (ODFW, 2019). Several species identified in Table 2 are also Strategy Species as defined in the OCS. The OCS prescribes conservation activities to be implemented that contribute to the overall health of strategy habitats and species in the Columbia Plateau Ecoregion. For example, LDWA's diverse habitat restoration projects contribute to the conservation of strategy species

Non-native Species

Non-native wildlife species present on the LDWA include rock pigeon (*Columba livia*) and house mouse (*Mus musculus*) and introduced game species such as chukar, California quail and ring-necked pheasant (**Table 4**).

The Dalles Wildlife District staff conduct ring-necked pheasant, chukar, and California quail counts on the LDWA during the summer of each year. Except for the authorized hunting seasons for introduced upland game birds, there is no active management effort on the LDWA aimed specifically at control of non-native species.

Table 4. Non-native Wildlife Species Known to Occur on the Lower Deschutes Wildlife Area.

Common Name	Scientific Name	Common Name	Scientific Name
Chukar	<i>Alectoris chukar</i>	European starling	<i>Sturnus vulgaris</i>
Hungarian (Gray) partridge	<i>Perdix perdix</i>	House sparrow	<i>Melospiza melodia</i>
California quail	<i>Callipepla californica</i>	Rock pigeon	<i>Columba livia</i>
Wild turkey	<i>Meleagris gallopavo</i>	House mouse	<i>Mus musculus</i>
Ring-necked pheasant	<i>Phasianus colchicus</i>	Bullfrog	<i>Rana catesbeiana</i>

Many non-native plants occur on the LDWA (**Table 5**). Some non-native plants are actively controlled by biological, chemical and mechanical means. Much of the current invasive plant control work is coordinated through the Lower Deschutes Cooperative Weed Management Area, a collaborative effort between ODFW, Sherman County, Wasco County, BLM, OPRD, and adjoining private landowners. This collaboration has allowed work to occur regardless of ownership, focusing invasive control efforts to areas with the greatest potential for restoration.

Table 5. Wasco and Sherman County List of Noxious Weed Species Known to Occur on the Lower Deschutes Wildlife Area

Common Name	Scientific Name	Common Name	Scientific Name
Poison Hemlock	<i>Conium maculatum</i>	Diffuse Knapweed*	<i>Centaurea diffusa</i>
Whitetop*	<i>Cardaria draba</i>	Puncturevine*	<i>Tribulus terrestris</i>
Yellow Star-Thistle*	<i>Centaurea solstitialis</i>	Wild Oat	<i>Avena fatua</i>
Scotch Thistle*	<i>Onopordum acanthium</i>	Prickly Lettuce	<i>Lactuca serriola</i>
Spotted Knapweed*	<i>Centaurea stoebe</i>	Russian Knapweed*	<i>Centaurea repens</i>
Rush Skeletonweed*	<i>Chondrilla juncea</i>	Jointed Goatgrass	<i>Aegilops cylindrica</i>
Medusahead*	<i>Taeniatherum caput-medusae</i>	Russian Thistle*	<i>Salsola kali</i>
Fuller's Teasel	<i>Dipsacus fullonum</i>	Common Mullein	<i>Verbascum thapsus</i>
Cheatgrass Brome*	<i>Bromus tectorum</i>	Cereal Rye*	<i>Secale cereale</i>
Canada Thistle*	<i>Cirsium arvense</i>	Field Bindweed	<i>Convolvulus arvensis</i>
Himalayan Blackberry*	<i>Rubus discolor</i>	Bull Thistle*	<i>Cirsium vulgare</i>

* Species known to be present on the LDWA and subject to mechanical, biological and/or chemical control. Species in bold are identified in the OCS.

Monitoring

Annual program activities are in place to monitor wildlife populations, habitat use and other features. Data are collected within the wildlife area and in some cases, specific localities, habitats or vegetative types based upon survey objectives. Population data are used to monitor effectiveness of population management plans, especially for selected big game species.

Recreational use

Monitoring of recreational activities is completed by Department, OPRD, and BLM staff. Informal monitoring of public during their visits is also conducted during random contacts during the year. Below are examples of recreational use monitoring activities:

1. Creel Census. Each year from July 1 through October 30, district fish staff conducts creel checks at Heritage Landing on the west side of the mouth of the Deschutes River. Information of species caught, number of hours spent fishing and month of use is gathered on anglers that use the lower 22 miles of the river.
2. Boater Pass information on Segment IV (Macks Canyon to Mouth of Deschutes) of the Deschutes River is gathered by the BLM.

Habitat

Multiple efforts are used to monitor habitat condition and restoration effectiveness on the area. Vegetation monitoring plots have been established to measure canopy cover and species composition on multiple sites on LDWA. In addition, BLM range staff conduct an assessment of the area on average every 5 years in conjunction with their grazing monitoring program. General

conditions on the area are also assessed annually by area staff during other survey efforts. Methods used for monitoring include:

1. Ocular Estimates:

This is the most frequently used technique by area personnel. Ocular observations are made year round and cover a broad spectrum of applications. It is relied on most heavily to determine range readiness and proper cattle movement patterns.

2. Photo Points:

BLM range staff maintain seven photo points on BLM lands adjacent to the LDWA lands along the lower 18 miles of the Deschutes River. Photos are taken during the spring and fall seasons to determine habitat conditions.

3. Range Condition Analysis:

BLM range staff conduct ten 100-foot nested frequency transects, which includes a series of photographs taken at each transect on the lower 18 miles of the Deschutes River (eight on LDWA, one on BLM lands and one on OPRD property).

4. Vegetation Plot Monitoring:

Department staff, in collaboration with NRCS, established a series of baseline habitat condition monitoring points within the Woosley tract prior to its acquisition. These plots are now used to track vegetative condition and assess management actions.

Big Game

Annual sex/age and survival surveys are conducted in late fall and spring annually on the area in conjunction with larger survey efforts within the Biggs Wildlife Management unit. These surveys collect data on deer, elk and bighorn sheep in the area and the data is used for population estimation and modeling. In addition, species specific collaring studies are used to determine areas of greater use on the wildlife area, and help inform habitat preferences.

Other Wildlife

The district wildlife staff conducts annual surveys for waterfowl in January and upland gamebirds in July. The waterfowl count surveys total numbers and species composition. The upland gamebird count surveys species and adult/young ratios to determine annual recruitment.

Multiple other data collection efforts have been undertaken adjacent to the area, primarily in conjunction with proposed energy facilities. Data collected in these efforts can better inform potential species use on the area, and direct needed future surveys.

Fish

Monitoring is conducted opportunistically and/or as scheduled by Department fisheries personnel. Statistical harvest census of steelhead and rainbow trout is annually conducted at Heritage Landing by the Mid-Columbia Fish District from July 1 to October 31. Boat anglers are interviewed after completion of their trip while bank anglers are interviewed on the west side of the river around Heritage Landing and the west side trail. Since 1977 harvest, number of anglers and angler hours has been estimated from Macks Canyon downstream to Heritage Landing.

Aerial fall Chinook redd counts are conducted annually on the lower 100 miles of the Deschutes to aid in monitoring run strength. Two independent counts are typically conducted during the spawning period. The redd counts are used to determine the ratio of redds above Sherars Falls to redds below Sherars Falls. This ratio is used to estimate the number of spawning fall Chinook below Sherars Falls by expanding a mark-recapture estimate above Sherars Falls.

Wildlife Diseases

Multiple wildlife diseases have the potential to impact managed species on the area. Current diseases of concern include *Mycoplasma ovipneumoniae* in bighorn sheep, hemorrhagic diseases in deer, and White-nose syndrome in bats. Staff continues to monitor conditions on the area, and sample potentially infected individuals as opportunity and need arises.

Grazing

Domestic livestock have grazed the area since the time of Euro-American settlement. Currently the area has two grazing agreements. Grazing is managed for two purposes on the wildlife area; fall forage conditioning to enhance conditions for wintering ungulates and early season grazing to reduce vigor and seeding of annual grasses.

The Department prescribes the number of AUMs depending on winter and spring range conditions. OAR 635-008-0040 (Forage Removal from Department Lands) guides the permit process.

Allotments will be monitored and evaluated throughout the grazing season by area personnel. When funding is available, the Department contracts with BLM range staff to conduct forage utilization and record photo points on a rotational basis.

Water Use

Irrigation water from Harris Spring is monitored by LDWA staff and usage is annually reported to the Oregon Water Resources Department. Since the spring is on BLM land, a cooperative agreement with BLM was signed in 1990 to utilize the water. Water is delivered through an underground pipe system to water grain fields and tree and shrub plantings. Monitoring is conducted using flow devices at the discharge locations.

Public Use

Monitoring public use (hunting, trapping, fishing, viewing, horseback riding) on the area is conducted to determine if LDWA is providing the type of wildlife oriented recreational opportunities and experiences desired by the public. Hunting and angling activity surveys include: 1) interviews conducted in the field, at hunting camps, fishing sites, creel checks and 2) Non-consumptive use of the area is estimated based on random counts of individuals visiting the wildlife area and yearly BLM boater pass permits issued in Section IV of the Deschutes River. Besides the Department, public contacts are made by OPRD, BLM and Oregon State Police (OSP) personnel primarily during the peak summer usage period.

Cultural Resources

For thousands of years, Native Americans have inhabited the region. Long before Europeans set foot on the North American continent, the three tribes of the Warm Springs Reservation (Wasco, Warm Springs, and Paiute) had developed societies beside the Columbia River, the Cascade Mountains, and other parts of Oregon (CTWS, 2008). In 1855, the Warm Springs and Wasco

Tribes entered into a treaty with the United States of America. The two treaty tribes eventually invited the Paiutes to join their government. In 1938, the Warm Springs, Wasco, and Northern Paiute Tribes officially formed a confederacy, established a common government, and adopted a written constitution. All three tribes have long held ties with either the lower Columbia River and/or the Deschutes and John Day basins (CRITFC 2008, Wikipedia 2008a).

The Deschutes River was originally named the *Riviere des Chutes* or *Riviere aux Chutes*, which was French for *River of the Falls*, during the period of fur trading (Wikipedia 2008b). The waterfall it referred to was Celilo Falls on the Columbia River near the mouth of the Deschutes. These falls no longer exist, having been inundated by the lake behind The Dalles Dam. The Deschutes River provided a major route to and from the Columbia for Native Americans and later, pioneers on the Oregon Trail.

Euro-American migrants, mostly from eastern North America, began arriving in the early 1800s and by the late 1800s represented the majority of the population (Wikipedia 2008b). During the middle 19th century, the river was a major obstacle for immigrants on the Oregon Trail. The major crossing point on the river was near the mouth in present-day Deschutes River State Recreation Area. Many immigrants camped on the bluff on the west side of the river after making the crossing. The remains of the trail leading up to the top of the bluff are still visible.

In 1910-1911, the Oregon Trunk Railroad, owned by James Hill, laid a line up the west bank of the Deschutes at the same time that Deschutes Railroad owner E. H. Harriman built the east side in a race to extend the track up the Deschutes canyon. Hill and Harriman were engaged in a fierce ongoing competition to outdo each other. Gangs of workers blasted rock and dug tunnels along the riverbank, each side striving to win. At Madras only one line could pass through the canyon, so the federal government stepped in to enact the Canyon Act which forced both sides to combine and build only one line. The Oregon Trunk Railroad was the only railroad to make a connection to Bend (Harris 1983). The east side grade which was abandoned in the 1930s is now used as the access road for the river portion of the LDWA. All former historical resources associated with the railroad, including trestles, boxcars and the Harris watertower have been lost to wildfires over the past 30 years.

A homestead was established near the mouth of Harris Canyon in the late 1800s. In the early-mid 1900s a domestic sheep operation occurred near this site. The brick root cellar remnants of the house are still present, while the rest of the structures associated with the homestead were lost to the Substation fire in 2018.

Historic resources are often grouped into three types of resources: archaeological, historic, and traditional cultural properties (TCPs) (PGE and CTWS 2003). Archaeological resources are material remains of human life or activities such as Native American tools, flakes, rock shelters, and other objects and artifacts. Historic resources are districts, sites, buildings, structures, or other objects that are associated with American history, such as homestead sites and stone walls. TCPs are sites, buildings, structures, or objects that embody traditional cultural values and include resource areas for fishing, plant gathering, ritual sites; and areas of mythological, symbolic, or historic significance.

No formal cultural surveys have been conducted for archeological, historic and TCP sites. All documented cultural sites on the wildlife area have been reported to SHPO, and their location

remains protected. Any site, whether documented or undiscovered will be protected and preserved by the Department.

The Department is responsible for coordinating with the State Historic Preservation Office (SHPO) on an annual basis, when applying for federal grants for all wildlife areas and through the annual operating plans, to ensure that proposed area management activities comply with State and Federal cultural resource laws. Prior to new ground-disturbing activities within any of the wildlife areas, consultation is sought through the appropriate agencies to protect potential culturally significant sites.

State, federal, and tribal laws prohibit the disturbance or removal of cultural resources. Violators are subject to criminal and civil penalties. Cultural resources include but are not limited to foods, weapons, weapon projectiles, tools, structures, pit houses, rock paintings, rock carvings, graves, human skeletal materials, or any portion or piece thereof. Visitors are urged to report suspicious activities to the Department or OSP.

Social Environment

Demographics

The LDWA is located along the Deschutes River in both Wasco and Sherman Counties. The community of Moro (county seat of Sherman County), Oregon is the nearest town. The LDWA stretches from along the lower 39 miles of the Deschutes River and is bordered by agricultural and rangelands.

According to 2010 census figures, the estimated population of Wasco County was 25,213 and Sherman County was 1,765. The populations of the county seats of The Dalles and Moro were 13,620 and 324 respectively.

Land Use

The LDWA is surrounded by a mixture of private, state, and federal lands. The primary land use surrounding the LDWA is for agriculture with grain crops and some livestock grazing.

Infrastructure

Developments/Facilities

The LDWA is administered in collaboration between the Mid-Columbia Wildlife District office and White River Wildlife area. Most of the buildings located on the wildlife area are old historic buildings that are not currently being used (**Table 4**). Two of historic buildings (box car and line shack) burned down during two fire events in the summer of 2008, and the five buildings associated with the Harris Homestead, as well as the final boxcar on the area were lost in fires in 2018.

There are no developed campgrounds although the OPRD owns and maintains eight outhouses within the area.

The LDWA has approximately 40 miles of boundary and livestock fencing, and 53 miles of roads and trails.

Table 6. Facilities and Developments on the Lower Deschutes Wildlife Area

Development Type	Location
Fencing (40 miles)	Throughout the Wildlife Area
Old House	Kunz easement-Woosley
Corrals	Kunz access-Woosley
Barn	Kunz access-Woosley
Bridge	Access Road at Road Mile 5
Roads and Trails (53 miles)	Throughout the Wildlife Area
Guzzler (1)	Deadhorse Seeding

Water Rights

There is one active and two inactive water rights that have been issued by the Oregon Water Resources Department to serve the wildlife area (**Appendix D**). The active water right (4 gallons per minute) of water is taken from Harris Spring to irrigate eight acres of agricultural land.

Easements/Access Agreements

There are six easements in effect on the wildlife area. Easements include power transmission lines and grazing access. **Appendix E** provides details of the various easements within LDWA.

Woosley Tract Roads, Trails, and Springs

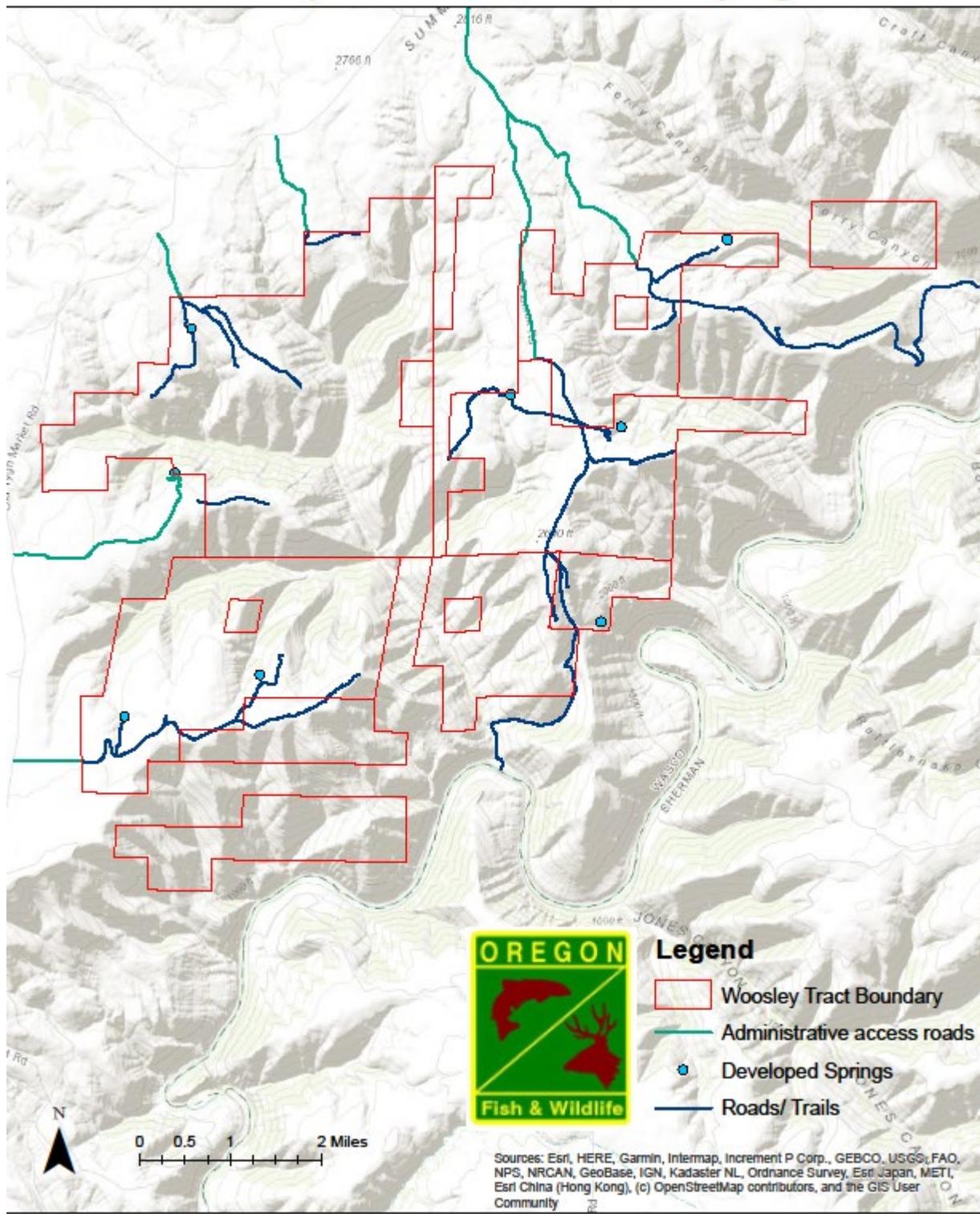


Figure 7. Trails, springs and administrative access on Woosley tract

Acquisition and Adjustment

It is the policy of the Department to only acquire land or interests in lands, including easements and leases, from willing sellers consistent with statutory authority and the Department's mission. Acquisitions and adjustments must be for the conservation of fish and wildlife and their habitats and to provide fish and wildlife oriented public use for educational and recreational purposes. Land adjustments would allow for the sale, trade or exchange of land with willing landowners to enable the department to consolidate wildlife area boundaries.

There are three categories of lands that may be considered for acquisition. These include: 1) Significant or unique habitats, especially those beneficial to threatened or endangered sensitive species; 2) Sites, or access to sites that provide wildlife-related recreational opportunities; and, 3) Properties to facilitate the performance of the Department's mandated duties (e.g. storage and warehouse).

Appendix F lists the changes in property ownership including the original purchase in 1983.

As other lands adjacent to or within current wildlife area boundaries become available and would enhance LDWA operations or management capabilities, additional acquisitions or land trades will be considered on an individual basis.

Public Use

Public Access

The LDWA is open year-round to the public for wildlife oriented recreational activities. The area is open to foot, boat, horseback and mountain bike use. All roads are closed to motorized vehicles, except for administrative access. Horseback riders are permitted March 1 – June 30 and are only allowed on the east side access road up to the former Harris bunkhouse with permits being issued through the OPRD. Public access points are limited to the following: Deschutes River at mouth by sled boat or Mack's Canyon via drift boat, raft, or sled boat; east side road/trail access at mouth of Deschutes through Deschutes State Park south to Mack's Canyon; trail along west side of Deschutes through Deschutes State Park; Kloan Road or two access points on Gordon Ridge through BLM property. Access to the Woosley tract is currently allowed only through BLM lands from the Deschutes River.

Hunting, Trapping and Angling

The LDWA is open to hunting, trapping and angling during authorized seasons. The hours of use of hunting, trapping and angling activity is estimated via patrols by wildlife area personnel and OSP, creel check at the mouth of the Deschutes or boater pass permits for Section IV of the Deschutes River (**Table 6**). Estimated use by anglers on the LDWA is approximately 10,000 angler days annually.

Wildlife Viewing

An increasing number of people are using the area to observe and photograph wildlife, camp, float, horseback ride, mountain bike and pursue other outdoor recreation opportunities. Wildlife oriented use of the area is estimated based on random counts at wildlife viewing areas, informal interviews of users and information from BLM on boater pass use in Section IV of the Deschutes River (Table 8).

Table 7. Estimated Annual Wildlife Viewing Use Days on the Lower Deschutes Wildlife Area

Activity	Estimated Annual Use Days
Boating	4,000
Hiking	2,000
Biking	2,000
Horseback Riding	75
Total	8,075

Educational/Interpretive

Due to administrative road closures on the LDWA, the area has had very limited use as a site for education and interpretive purposes. The vast majority of information is conveyed to the public via the Department, OSP, BLM and OPRD staff during river patrols and incidental encounters.

Objectives and Strategies

Objectives and Strategies

Objectives are concise statements of what the Department wants to achieve, how much the Department wants to achieve, when and where to achieve it and who will be responsible for the work. Objectives derive from goals and provide the basis for determining strategies. Strategies describe the specific actions, tools, techniques or a combination of these elements used to meet an objective.

The following objectives and strategies are based on the three goals described on page 2. They identify the management activities and priorities of the Lower Deschutes Wildlife Area Management Plan:

Goal 1: To protect, enhance and restore aquatic and riparian habitats to benefit native fish and wildlife and desired game species.

Objective 1.1: Protect, enhance, and restore approximately 310 acres of freshwater aquatic and 60 acres of riparian habitat.

Rationale

Terrestrial and aquatic species both rely heavily upon healthy riparian ecosystems during various life stages. Prior to 1983 the habitat condition of riparian systems were severely degraded by 80 or more years of heavy grazing. Regulations and fencing that prevent cattle grazing in riparian areas has stabilized or improved the vegetative component of riparian areas thereby reducing potential for runoff into the Deschutes River. Improved riparian areas provide shading with increased leaf and insect drop which increases nutrient recycling in the lower 18 miles of the Deschutes River. The portion of the Deschutes River which passes through the LDWA has shown the classic narrowing and deepening of the river channel due to the removal of cattle and improved riparian area.

Riparian areas offer forage and cover for birds, small mammals and bats, and provide materials for nesting resident waterfowl, shorebirds and passerines. Department staff actively maintains and enhances riparian systems for high quality instream habitat to benefit resident fish and to improve water quality and quantity. Wildlife area streams support a variety of reptiles, amphibians, mammals, and insects. Aquatic habitats on the LDWA are important recreational and educational attractions for the public. The strategies listed below also support many of the aquatic habitat conservation actions described in the OCS.

Strategy 1. Provide stream shade by protecting and enhancing streamside vegetation. Work will entail maintaining riparian fences to exclude livestock, planting native tree and shrub species and developing water gaps, where necessary.

Strategy 2. Control or eliminate noxious weeds to reduce competition with native vegetation by chemical, mechanical or manual methods depending on the most effective means for the particular weed species.

Strategy 3. Work with fish district staff to identify fish habitat improvement projects such as planting riparian vegetation. Seek partnerships with other agencies, sport groups or volunteers for implementation of such projects.

Strategy 4. Partner with other agencies, sport groups or volunteers to place large wood or gravel in the river channel to improve instream habitat for fish.

Goal 2: To protect, enhance and manage upland habitats to benefit native wildlife and desired game species.

Objective 2.1: Protect, enhance, and restore approximately 11,100 acres of mixed sagebrush/grassland and 5,000 acres of grassland habitats.

Rationale

Upland habitats provide cover and forage for a wide variety of game and nongame species including mule deer, bighorn sheep, fence lizards and red-tailed hawks. These upland habitats, which comprise the vast majority of the LDWA, suffer from long term impacts associated with the intensive grazing from domestic sheep that occurred at the time of European settlement. More recently, impacts have been due to the altered fire regimes in the region, including large wildfires in 2018. Frequent, repeated high intensity fires have increased the threat and invasion

of annual grasses and reduced native shrubs and riparian vegetation within the wildlife area footprint.

Grassland habitats are improved where feasible to provide quality forage and cover for numerous species. For example, various raptors rely on grassland habitats which harbor prey species of small mammals and reptiles. Maintaining the uplands in good condition also impacts the riparian and aquatic habitats by reducing sediment deposition into these areas. Strategies employed by LDWA staff also support upland habitat conservation actions described in the OCS.

Strategy 1. Maintain and enhance native bunchgrass communities. This can be accomplished through prescribed burning, seeding, mowing and herbicide use to address weed infestations.

Strategy 2. Continue to delineate areas suitable for the re-establishment of native grasses and forbs through re-seeding projects.

Strategy 3. Enhance, re-establish and protect upland shrub habitats through the planting of native shrubs and trees.

Strategy 4. Develop an integrated weed management plan for these habitat types.

Strategy 5. Partner with neighboring landowners and agencies to increase fire awareness and education. Develop work schedules to limit field work during high fire conditions.

Strategy 6. Coordinate contracting, roles and responsibilities of firefighting activities with BLM, ODF, Sherman County and Columbia Rural Fire Protection District.

Objective 2.2: Enhance and manage approximately 7 acres of agricultural upland habitats.

Rationale

The annual planting of wildlife forage crops on historically farmed ground can provide valuable supplemental feed for various wildlife species including voles, neo tropical migrant songbirds, geese and mule deer. Historically a beardless variety of spring barley has been planted. Due to the amount of broadleaf weed species that need to be managed in these fields, cereal grains are the most applicable crop species to use for wildlife benefit. Other crop species that require less intensive management will also be considered. Approximately five acres can be irrigated utilizing the spring at Harris Canyon.

Strategy 1. Continue to plant annual forage crops and when feasible; seek new varieties of annual, perennial or shrub species which provide a diversity of forage and cover.

Strategy 2. Maintain farm implements and related infrastructure to conduct agricultural activities.

Strategy 3. Actively monitor, evaluate and treat weed infestations.

Strategy 4. Develop an integrated weed management plan that includes the planted forage crop areas.

Goal 3: To provide and promote fish and wildlife oriented recreational and educational opportunities to the public which are compatible with Goals 1 and 2.

Objective 3.1: Provide approximately 12,000 hunting and angling use days annually.

Rationale

The Deschutes River is nationally known for summer steelhead and trout angling. Maintaining these fishing opportunities is important to the anglers and local economies. The LDWA is funded entirely by hunter and angler dollars through the Federal Aid to Wildlife Restoration (Pittman-Robertson) and Sport Fish Restoration (Dingell-Johnson) Acts (75%) and state hunting and angling license receipts (25%). The wildlife area is a common destination for hunters and anglers. The Department staff is committed to providing fish and wildlife oriented recreational opportunities for the citizens of Oregon. Department staff will continue to improve non-motorized access and opportunities by providing quality fish and wildlife habitat and information on the wildlife area. Usage will be monitored on the area to make sure all rules and regulations are followed.

Strategy 1. Maintain east side access road to provide non-motorized access (except for administrative uses) to 18 miles of the lower Deschutes River.

Strategy 2. To improve fishing access, control invasive plant species (i.e. Himalayan blackberries) that take over riparian areas and impede shore access.

Strategy 3. Maintain 53 miles of roads, trails, signs, fences, and gates to provide access and facilities for hunting, trapping and angling use.

Strategy 4. Annually monitor hunting and angling use, via creel checks, OSP/volunteer hunter checks and boater use passes.

Objective 3.2: Provide approximately 8,000 wildlife viewing, education and interpretation use days annually.

Rationale

Wildlife oriented and educational activities constitute a significant portion of the use on the LDWA. The LDWA provides many outdoor opportunities within a two hour drive from Bend and Portland. The wildlife area and neighboring communities, especially The Dalles and Biggs Junction, experience an increased amount of use on holidays and weekends.

Department staff will seek to expand opportunities for interpretation and environmental education that will foster visitors' appreciation, understanding, and stewardship of the wildlife area's fish and wildlife species and their associated habitats.

Strategy 1. Prioritize and catalog potential inventory, monitoring, habitat restoration, and recreation projects for educators and volunteer groups interested in using the wildlife area as an outdoor classroom and volunteer projects.

Strategy 2. Continue to provide access and area information to the public via brochures, maps dispensed at area kiosks, hunting regulation booklets and posting signs.

Strategy 3. Continue to educate river users on ways to reduce impacts to riverside camping and recreation through personnel contact while in the field.

Strategy 4. Develop and/or expand internship programs with colleges and universities to support educational opportunities as well as Department management, inventory, and monitoring needs.

Strategy 5. Increase the level of wildlife area related information through Department web page postings, weekly recreational reports, local media outlets, brochures, maps, and regulations.

Strategy 6. Maintain existing public facilities during the non-hunting period to provide recreational opportunities for the non-hunting public.

Strategy 7. Explore the feasibility of expanding the existing boater use pass to generate funds to enable staff to protect resources (i.e. restore riparian habitat impacted by dispersed camping sites).

Plan Implementation

Funding

Since its inception in 1983, funding for the operation and maintenance of the LDWA has been accomplished through an annual federal grant under the Federal Aid to Wildlife Restoration (WR) and Sport Fish Restoration (SFR) Programs. These programs were created with the passage of the Pittman- Robertson (PR) Act in 1937 and the Dingell- Johnson (DJ) Act in 1950. The PR and SFR Acts authorize the U.S. Fish and Wildlife Service to cooperate with the states, through their respective state fish and wildlife departments, to fund wildlife and fish restoration projects. Eligible types of projects include restoration, conservation, management, and enhancement of wild birds, wild mammals and their habitats, and providing for public use and benefit from these resources.

Funding for WR and SFR is derived from a federal excise tax on the sale of firearms, ammunition, archery equipment, sport fishing equipment and electric motors. Funding is then apportioned to states based on a mathematical formula of area of the state in square miles (50%) and total number of hunting licenses sold annually (50%). Under the program no state may receive more than 5%, or less than 0.5%, of the total money available.

To be eligible, states must have assented to the provisions of the PR and SFR Act and passed laws for the conservation of wildlife that include a prohibition against the diversion of license fees paid by hunters for any other purpose than the administration of the state fish and wildlife department. Another major requirement is that states have to contribute up to 25% of the total grant cost since federal participation is limited to 75% of eligible costs incurred under a grant. The department provides its 25% cost share from annual hunting and fishing license and tag revenues.

Over the past five years, funding for the operation and maintenance of the LDWA has averaged approximately \$120,000 annually with 75% of the federal contribution funded by PR and 25% funded through SFR. To implement many of the management actions and achieve the objectives

and goals of this management plan, the Department will need additional funding and staff to undertake the following types of projects: upgrades of historical facilities, and species and habitat monitoring.

Accomplishments

During the previous plan cycle, the following was accomplished on LDWA:

- Worked with outside partners to add Woosley tract, increasing habitat management capacity in the Deschutes corridor and adding to public access and recreation opportunities.
- Treated approximately 15,000 acres for annual grasses following the fire season of 2018, where nearly the entire wildlife area was impacted by wildfire.
- Created the Lower Deschutes Cooperative Weed Management Area in partnership with NRCS, Sherman and Wasco SWCD's, BLM, and State Parks. Coordinated the hiring of a CWMA manager to manage noxious weed treatments in the canyon regardless of property ownership.
- Developed increased volunteer participation in area management, engaging a more diverse group of constituents to help with area maintenance and vegetation treatments.
- Coordinated habitat treatments on adjacent private lands to complement strategies employed on LDWA

Staffing/Organization

In total, the Department manages 17 major wildlife areas statewide. The wildlife areas encompass approximately 200,000 acres and are found in all four department administrative regions; LDWA is located in the East Region.

The LDWA is currently staffed by one seven month seasonal technician. The White River Wildlife area manager oversees the budget and directs the daily duties of the seasonal technician.

Compliance Requirements

This management plan was developed to comply with all Federal and State laws (ORSs), Administrative Rules (OARs), and Department policies. Full implementation of all components of this plan will require compliance with applicable laws, regulations, rules, and policies (**Appendix G**).

Most of the guiding regulations complement the mission of the LDWA. However, the requirements of some regulations may limit management options in a variety of ways. While the intent of the regulations is generally resource protection, the cost of compliance through significant research and reporting is often prohibitive and precludes action, including some habitat enhancement, on the LDWA.

Partnerships

A number of other public agencies and private sportsman's groups assist with management activities on or adjacent to the LDWA. The following groups have contributed significant financial support and manual labor to the management of habitat and wildlife on the LDWA:

- Oregon Foundation for North America Wild Sheep
 - Weed Control

- Purchase Grass Seed
- Bighorn Sheep Research
- Sherman County Weed District
 - Supervision of Cooperative Weed Manager
- Oregon Heritage Foundation
 - Funding for ongoing restoration efforts
- Mule Deer Foundation
 - Purchase Grass Seed
 - Purchase Shrubs and Irrigation Supplies
 - Fence Construction
- Oregon Hunters Association
 - Guzzler Installation
 - Bighorn Sheep Research
- Oregon Trout
 - Weed Control
 - Riparian Plantings
- BLM
 - Co-mingled lands and fire protection
 - Vegetative Monitoring
- Sherman County and Columbia RFPD
 - Fire Fighting

These partners play an important role helping the Department achieve its mission and the LDWA goals. The Department will continue to rely on these and other partners in the future to help implement this plan and provide input for future updates. This plan identifies projects that provide new opportunities for existing or new partners. The Department welcomes and encourages more public participation in the administration of the wildlife area.

Adaptive Management

This plan provides for adaptive management of the wildlife area. Adaptive management is a flexible approach to long-term management of resources that is directed by the results of ongoing monitoring activities and latest data. Management techniques and strategies are regularly evaluated in light of monitoring results, new scientific understanding, and other new information. These periodic evaluations are used over time to adapt both management techniques and strategies to better achieve the area goals.

Monitoring is an essential component of adaptive management in general, and of this plan in particular; specific monitoring strategies have been integrated into the goals and objectives described in this plan whenever possible. Where possible, habitat management activities will be monitored to assess whether the desired effects on wildlife and habitat components have been achieved.

Plan Amendment and Revision

Wildlife area management plans are meant to evolve with each individual area, and as such each plan will be formally revisited after five years and updated every ten years. In the meantime, however, the Department will be reviewing and updating this plan periodically (at least every five years) based on the results of the adaptive management program. This plan will also be

informally reviewed by area staff while preparing annual work plans. It may also be reviewed during routine inspections or programmatic evaluations. Results of any or all of these reviews may indicate a need to modify the plan. The goals and objectives described in this plan will not change until they are re-evaluated as part of the formal plan revision process. However, the strategies may be revised to better address changing circumstances or due to increased knowledge of the resources on the area. If changes are required, the level of public involvement and associated compliance requirements will be determined by the Department.

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Appendices

Appendix A. Native Plant Species Known to Occur on the Lower Deschutes Wildlife Area.

Conifer trees

Western Juniper (*Juniperus occidentalis*)
Ponderosa Pine (*Pinus ponderosa*)

Deciduous Trees and Shrubs

White Alder (*Alnus rhombifolia*)
Black Cottonwood (*Populus trichocarpa*)
Hackberry (*Celtis reticulata*)
Pacific Poison Oak (*Toxicodendron diversilobum*)
Red-Osier Dogwood (*Cornus stolonifera*)
Common Chokecherry (*Prunus virginiana*)
Lewis' Mock Orange (*Philadelphus lewisii*)
Rubber rabbitbrush (*Ericameria nauseosa*)
Big Sagebrush (*Artemisia tridentata*)
Spirea (*Spiraea spp*)
Grey Rabbitbrush (*Chrysothamnus nauseosus*)
Blue Elderberry (*Sambucus glauca*)
Scabland Sagebrush (*Artemisia rigida*)
Wild Rose (*Rosa spp*)
Blackcap (*Rubus leucodermis*)
Smooth Sumac (*Rhus glabra*)
Antelope Bitterbrush (*Purshia tridentata*)
Oceanspray (*Holodiscus discolor*)
Willow (*Salix spp*)
Golden Currant (*Ribes aureum*)

Grasses and Sedges

Beardless Wheatgrass (*Pseudoroegneria spicata inermis*)
Bottlebrush Squirreltail (*Elymus elymoides*)
Bluebunch Wheatgrass (*Pseudoroegneria spicata*)
Idaho Fescue (*Festuca idahoensis*)
Sandberg Bluegrass (*Poa secunda*)
Sand Dropseed (*Sporobolus cryptandrus*)
Saltgrass (*Distichlis spicata*)
Basin Wildrye (*Leymus cinereus*)
Rush (*Juncus spp*)
Sedge (*Carex spp*)
Broadleaf Cattail (*Typha latifolia*)

Forbs

Wild Onion (*Allium acuminatum*)
Columbine (*Aquilegia spp*)
Dagger Pod (*Phoenicaulis cheiranthoides*)
Douglas' Bladderpod (*Lesquerella douglasii*)
Smoothstem Blazingstar (*Mentzelia laevicaulis*)
Paintbrush (*Castilleja spp*)
Pale Wallflower (*Erysimum occidentale*)
Arrowleaf Buckwheat (*Eriogonum compositum*)
Desertparsley/Biscuitroot (*Lomatium spp*)
Thymeleaf Buckwheat (*Eriogonum thymoides*)
Giant Goldenrod (*Solidago gigantea*)
Darkthroat Shootingstar (*Dodecatheon pulchellum*)
Hoary Tanseyaster (*Machaeranthera canescens*)
Rough Cocklebur (*Xanthium strumarium*)
Lupine (*Lupinus spp*)
White Sagebrush (*Artemisia ludoviciana*)
Paintbrush (*Castilleja spp*)
Wild Mint (*Mentha arvensis*)
Canadian Horseweed (*Conyza canadensis*)
Wavyleaf Thistle (*Cirsium undulatum*)
Arrowleaf Balsamroot (*Balsamorhiza sagittata*)
Milkvetch (*Astragalus spp*)
Menzies' Fiddleneck (*Amsinckia menziesii*)
Twolobe Larkspur (*Delphinium nuttallianum*)
Yellow Bell (*Fritillaria pudica*)
Wild Cucumber (*Echinocystis lobata*)
Douglas' Grasswidow (*Olsynium douglasii*)
Clematis (*Clematis spp*)
Curlycup Gumweed (*Grindelia squarrosa*)
Nettle (*Urtica spp*)
Phlox (*Phlox spp*)
Taragon (*Artemisia dracunculoides*)

Appendix B. Non-native Plant Species Known to Occur on the Lower Deschutes Wildlife Area.

(*) Indicates species planted for wildlife or aesthetic values

Conifer Trees

- Rocky Mtn Juniper (*Juniperus scopulorum*)*
- Austrian Pine (*Pinus nigra*)*

Deciduous Trees and Shrubs

- Russian Olive (*Elaeagnus angustifolia*)*
- Poplar (*Populus spp*)*
- Siberian Peashrub (*Caragana arborescens*)*
- Common Lilac (*Syringa vulgaris*)*
- Black Walnut (*Juglans nigra**)
- Himalayan Blackberry (*Rubus discolor*)
- Black Locust (*Robinia pseudoacacia*)*
- Silver Buffaloberry (*Shepherdia argentea*)*
- Golden Currant (*Ribes aureum*)*

- Tatarian Honeysuckle (*Lonicera tatarica*)*
- Fourwing Saltbush (*Atriplex canescens*)*
- Fruit Trees (various)*
- Skunkbush Sumac (*Rhus trilobata*)*
- Tree of Heaven (*Ailanthus altissima*)
- Western Sandcherry (*Prunus besseyi*)*
- Rose (*spp*)

Grasses and Sedges

- Sheep Fescue (*Festuca ovina*)*
- Intermediate Wheatgrass (*Agropyron intermedium*)*
- Ripgut Brome (*Bromus rigidus*)
- Medusahead (*Taeniatherum caput-medusae*)
- Cheatgrass Brome (*Bromus tectorum*)
- Wild Oat (*Avena fatua*)
- Sherman Big Bluegrass (*Poa ampla*)*

- Common Barley (*Hordeum vulgare*)*
- Bulbous Bluegrass (*Poa bulbosa*)
- Hare Barley (*Hordeum leporinum*)
- Reed Canarygrass (*Phalaris arundinacea*)
- Jointed Goatgrass (*Aegilops cylindrical*)
- Cereal Rye (*Secale cereale*)

Forbs

- Tumble Pigweed (*Amaranthus albus*)
- Tall Tumblemustard (*Sisymbrium altissimum*)
- Blue Mustard (*Chorispora tenella*)
- Bull Thistle (*Cirsium vulgare*)
- Alfalfa (*Medicago sativa*)*
- White Sweetclover (*Melilotus alba*)*
- Common Mullein (*Verbascum thapsus*)
- Field Bindweed (*Convolvulus arvensis*)
- Spotted Knapweed (*Centaurea stoebe*)
- Sainfoin (*Onobrychis viviaefolia*)*
- Small Burnet (*Sanguisorba minor*)*
- Fuller's Teasel (*Dipsacus fullonum*)
- Rush Skeletonweed (*Chondrilla juncea*)

- Common Teasel (*Dipsacus sylvestris*)
- Whitetop (*Cardaria draba*)
- Poison Hemlock (*Conium maculatum*)
- Yellow Star-thistle (*Centaurea solstitialis*)
- Scotch Thistle (*Onopordum acanthium*)
- Canada Thistle (*Cirsium arvense*)
- Prickly Lettuce (*Lactuca serriola*)
- Redstem Stork's Bill (*Erodium cicutarium*)
- Russian Thistle (*Salsola kali*)
- Common Mallow (*Malva neglecta*)
- Puncturevine (*Tribulus terrestris*)
- Diffuse Knapweed (*Centaurea diffusa*)
- Russian Knapweed (*Centaurea repens*)

Appendix C. Fish and Wildlife Species Known to Occur on the Lower Deschutes Wildlife Area.

The following table and letter keys identify the bird species presence/sightability by season and relative abundances: Occurrence for bird species according to (Miller, C. 1999): C = Common, U = Uncommon, R = Rare, X = Extremely Rare, * = Regular breeder in the area, Bird season symbols: Spring(Sp) = March-May, Summer(Su) = June-August, Fall(F) = September-November, Winter(W) = December-February

Common Name	Scientific Name	Sp	Su	F	W
Pacific Loon	(<i>Gavia pacifica</i>)			X	X
Common Loon	(<i>Gavia immer</i>)	R		R	R
Pied-billed Grebe	(<i>Podilymbus podiceps</i>)	U	R	U	R
Horned Grebe	(<i>Podiceps auritus</i>)			U	U
Red-necked Grebe	(<i>Podiceps grisegena</i>)				X
Eared Grebe	(<i>Podiceps nigricollis</i>)			R	R
Western Grebe	(<i>Aechmophorus occidentalis</i>)	U		U	R
Double-crested Cormorant*	(<i>Phalacrocorax auritus</i>)	C	C	C	C
Great Blue Heron*	(<i>Ardea herodias</i>)	C	C	C	C
Great Egret	(<i>Ardea alba</i>)	X			
Black-crowned Night-Heron	(<i>Nycticorax nycticorax</i>)	X			
Greater White-fronted Goose	(<i>Anser albifrons</i>)	R		R	
Canada Goose*	(<i>Branta canadensis</i>)	C	C	C	C
Tundra Swan	(<i>Cygnus cygnus</i>)		R	R	
Trumpeter Swan	(<i>Cygnus buccinator</i>)		X		
Wood Duck	(<i>Aix sponsa</i>)			X	
Mallard*	(<i>Anas platyrhynchos</i>)	C	C	C	C
Northern Pintail	(<i>Anas acuta</i>)			R	R
Gadwall	(<i>Anas strepera</i>)			R	R
American Wigeon	(<i>Anas americana</i>)	U		C	C
Eurasian Wigeon	(<i>Anas penelope</i>)			X	
Northern Shoveler	(<i>Anas clypeata</i>)	R		R	R
Blue-winged Teal	(<i>Anas discors</i>)	R			
Cinnamon Teal	(<i>Anas cyanoptera</i>)	U			
Green-winged Teal	(<i>Anas crecca</i>)	U		U	U
Ring-necked Duck	(<i>Aythya collaris</i>)	U		U	C
Harlequin Duck	(<i>Histrionicus histrionicus</i>)				X
Redhead	(<i>Aythya americana</i>)	U		U	U
Canvasback	(<i>Aythya valisineria</i>)	R		R	R
Barrow's Goldeneye	(<i>Bucephala islandica</i>)			R	U
Common Goldeneye	(<i>Bucephala clangula</i>)	C		C	C
Bufflehead	(<i>Bucephala albeola</i>)	C		C	C
Greater Scaup	(<i>Aythya marila</i>)				U
Lesser Scaup	(<i>Aythya affinis</i>)	U		U	C
Common Merganser*	(<i>Mergus merganser</i>)	C	C	C	C
Hooded Merganser	(<i>Lophodytes cucullatus</i>)	R		R	U
Red-breasted Merganser	(<i>Mergus serrator</i>)	X			X
Ruddy Duck	(<i>Oxyura jamaicensis</i>)				R
Turkey Vulture	(<i>Cathartes aura</i>)	C	C		
Northern Harrier	(<i>Circus cyaneus</i>)	R			
Cooper's Hawk	(<i>Accipiter cooperii</i>)	R		R	R
Sharp-shinned Hawk	(<i>Accipiter striatus</i>)	R		R	R

Common Name	Scientific Name	Sp	Su	F	W
Red-tailed Hawk*	(<i>Buteo jamaicensis</i>)	C	C	C	C
Rough-legged Hawk	(<i>Buteo lagopus</i>)				U
Osprey	(<i>Pandion haliaetus</i>)	U	U	U	
Golden Eagle*	(<i>Aquila chrysaetos</i>)	U	U	U	U
Bald Eagle	(<i>Haliaeetus leucocephalus</i>)	R		R	U
American Kestrel*	(<i>Falco sparverius</i>)	C	C	C	U
Prairie Falcon*	(<i>Falco mexicanus</i>)	U	U	U	U
Peregrine Falcon	(<i>Falco peregrinus</i>)	R	R	R	R
Ring-necked Pheasant*	(<i>Phasianus colchicus</i>)	U	U	U	U
Hungarian (Gray) Partridge*	(<i>Perdix perdix</i>)	U	R	R	R
American Coot	(<i>Fulica americana</i>)	C		C	C
Chukar*	(<i>Alectoris chukar</i>)	C	C	C	U
California Quail*	(<i>Callipepla californica</i>)	C	C	C	C
Wild Turkey	(<i>Meleagris gallopavo</i>)	C	C	C	C
Ring-billed Gull	(<i>Larus delawarensis</i>)	C	C	C	C
California Gull	(<i>Larus californicus</i>)	C	U	C	C
Herring Gull	(<i>Larus argentatus</i>)	R		R	
Thayer's Gull	(<i>Larus thayeri</i>)	R		R	
Glaucous-winged Gull	(<i>Larus glaucescens</i>)	U		U	U
Caspian Tern	(<i>Sterna caspia</i>)	U	U	U	
Killdeer*	(<i>Charadrius vociferus</i>)	C	C	C	U
Spotted Sandpiper*	(<i>Actitis macularia</i>)	R	R	R	
Black-necked Stilt	(<i>Himantopus mexicanus</i>)	U	U	U	
Rock Pigeon*	(<i>Columba livia</i>)	C	C	C	C
Mourning Dove*	(<i>Zenaida macroura</i>)	C	C	C	U
Western Screech-Owl	(<i>Megascops kennicottii</i>)	U	U	U	U
Great Horned Owl*	(<i>Bubo virginianus</i>)	U	U	U	U
Great Gray Owl	(<i>Strix nebulosa</i>)			X	
Common Nighthawk	(<i>Chordeiles minor</i>)		C		
White-throated Swift	(<i>Aeronautes saxatalis</i>)	R		R	
Vaux's Swift	(<i>Chaetura vauxi</i>)	R		R	
Belted Kingfisher	(<i>Ceryle alcyon</i>)	C	C	C	C
Rufous Hummingbird	(<i>Selasphorus rufus</i>)	R	U		
Northern Flicker	(<i>Colaptes auratus</i>)	C	C	C	C
Lewis's Woodpecker	(<i>Melanerpes lewis</i>)	R	U	U	R
Downy Woodpecker	(<i>Picoides pubescens</i>)	R	R	R	R
Western Wood-pewee	(<i>Contopus sordidulus</i>)		U		
Gray Flycatcher	(<i>Empidonax wrightii</i>)	U	U		
Say's Phoebe*	(<i>Sayornis saya</i>)	U	U		
Western Kingbird	(<i>Tyrannus verticalis</i>)	U	C		
Eastern Kingbird	(<i>Tyrannus tyrannus</i>)		R		
Northern Shrike	(<i>Lanius excubitor</i>)			R	R
Loggerhead Shrike*	(<i>Lanius ludovicianus</i>)	U	U		
Warbling Vireo	(<i>Vireo gilvus</i>)	U	U		
Black-billed Magpie*	(<i>Pica hudsonia</i>)	C	C	C	C
American Crow*	(<i>Corvus brachyrhynchos</i>)	C	C	C	C
Common Raven	(<i>Corvus corax</i>)	C	C	C	C
Horned Lark*	(<i>Eremophila alpestris</i>)	C	C	C	C
Tree Swallow*	(<i>Tachycineta bicolor</i>)	C	C	U	
Violet-green Swallow	(<i>Tachycineta thalassina</i>)	C	C	C	

Common Name	Scientific Name	Sp	Su	F	W
Northern Rough-winged Swallow	(<i>Stelgidopteryx serripennis</i>)	C	C	U	
Bank Swallow*	(<i>Riparia riparia</i>)	C	C	C	
Barn Swallow*	(<i>Hirundo rustica</i>)	C	C	C	
Cliff Swallow	(<i>Petrochelidon pyrrhonota</i>)	C	C	C	
Black-capped Chickadee*	(<i>Poecile atricapillus</i>)	C	C	C	C
Mountain Chickadee	(<i>Poecile gambeli</i>)	R		R	R
Bushtit*	(<i>Psaltriparus minimus</i>)	C	C	C	C
Bewick's Wren*	(<i>Thryomanes bewickii</i>)	C	C	C	C
House Wren*	(<i>Troglodytes aedon</i>)	C	C	U	
Winter Wren	(<i>Troglodytes troglodytes</i>)				R
Rock Wren*	(<i>Salpinctes obsoletus</i>)	U	U		
Canyon Wren*	(<i>Catherpes mexicanus</i>)	C	C	C	R
Marsh Wren	(<i>Cistothorus palustris</i>)	R		R	
American Dipper	(<i>Cinclus mexicanus</i>)	U	U	U	U
Golden-crowned Kinglet	(<i>Regulus satrapa</i>)			U	U
Ruby-crowned Kinglet	(<i>Regulus calendula</i>)	C		C	U
Mountain Bluebird	(<i>Sialia currucoides</i>)	U		U	
Western Bluebird	(<i>Sialia mexicana</i>)	U		U	
Townsend's Solitaire	(<i>Myadestes townsendi</i>)				R
American Robin*	(<i>Turdus migratorius</i>)	C	C	C	C
American Pipit	(<i>Anthus rubescens</i>)	R		R	
Hermit Thrush	(<i>Catharus guttatus</i>)	R		R	R
Cedar Waxwing	(<i>Bombycilla cedrorum</i>)	U	U	U	U
European Starling*	(<i>Sturnus vulgaris</i>)	C	C	C	C
Orange-crowned Warbler	(<i>Vermivora celata</i>)	U		U	
Yellow Warbler*	(<i>Dendroica petechia</i>)	C	C	U	
Black-throated Gray Warbler	(<i>Dendroica nigrescens</i>)	R			
Palm Warbler	(<i>Dendroica palmarum</i>)				X
Yellow-rumped Warbler	(<i>Dendroica coronata</i>)	C	U	C	U
Common Yellowthroat	(<i>Geothlypis trichas</i>)	R		R	
Wilson's Warbler	(<i>Wilsonia pusilla</i>)	U	U	U	
Western Tanager	(<i>Piranga ludoviciana</i>)	U	U		
Lazuli Bunting*	(<i>Passerina amoena</i>)	U	U	U	
Black-headed Grosbeak	(<i>Pheucticus melanocephalus</i>)	U	U		
Spotted Towhee*	(<i>Pipilo maculatus</i>)	C	C	C	U
House Sparrow*	(<i>Passer domesticus</i>)	C	C	C	C
Song Sparrow*	(<i>Melospiza melodia</i>)	C	C	C	C
Lincoln's Sparrow	(<i>Melospiza lincolni</i>)	R		R	
Dark-eyed Junco*	(<i>Junco hyemalis</i>)	C	C	U	U
White-crowned Sparrow	(<i>Zonotrichia leucophrys</i>)	C		C	C
Golden-crowned Sparrow	(<i>Zonotrichia atricapilla</i>)	U		U	U
Harris' Sparrow	(<i>Zonotrichia querula</i>)				X
Bullock's Oriole*	(<i>Icterus bullockii</i>)	C	C		
Western Meadowlark*	(<i>Sturnella neglecta</i>)	C	C	C	U
Red-Winged Blackbird*	(<i>Agelaius phoeniceus</i>)	C	C	C	U
Brewer's Blackbird*	(<i>Euphagus cyanocephalus</i>)	C	C	C	U
Brown-headed Cowbird*	(<i>Molothrus ater</i>)	C	C	C	
House Finch*	(<i>Carpodacus mexicanus</i>)	C	C	C	C
American Goldfinch*	(<i>Carduelis tristis</i>)	C	C	U	U

Total Birds: 141

Common Name	Scientific Name
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Fish

Redband Trout	(<i>Oncorhynchus mykiss irideus</i>)
Steelhead	(<i>Oncorhynchus mykiss</i>)
Chinook Salmon	(<i>Oncorhynchus tshawytscha</i>)
Coho Salmon	(<i>Oncorhynchus kisutch</i>)
Sockeye Salmon	(<i>Oncorhynchus nerka</i>)
Bull Trout	(<i>Salvelinus confluentus</i>)
Mountain Whitefish	(<i>Prosopium williamsoni</i>)
Northern Pikeminnow	(<i>Ptychocheilus oregonensis</i>)
Chiselmouth	(<i>Acrocheilus alutaceus</i>)
Largescale Sucker	(<i>Catostomus macrocheilus</i>)
Peamouth	(<i>Mylocheilus caurinus</i>)
Redside Shiner	(<i>Richardsonius balteatus</i>)
Dace	(<i>Rhinichthys spp.</i>)
Sculpin	(<i>Cottus spp.</i>)
Pacific Lamprey	(<i>Lampetra tridentata</i>)

Total Fish: 15

Mammals

Little Brown Myotis	(<i>Myotis lucifugus</i>)
Townsend's Big-eared Bat	(<i>Plecotus townsendii</i>)
Pallid Bat	(<i>Antrozous pallidus</i>)
White-tailed Jackrabbit	(<i>Lepus townsendii</i>)
Mountain Cottontail	(<i>Sylvilagus nuttallii</i>)
California Ground Squirrel	(<i>Spermophilus beecheyi</i>)
Northern Pocket Gopher	(<i>Thomomys talpoides</i>)
Vagrant Shrew	(<i>Sorex vagrans</i>)
American Beaver	(<i>Castor canadensis</i>)
Great Basin Pocket Mouse	(<i>Perognathus parvus</i>)
Deer Mouse	(<i>Peromyscus maniculatus</i>)
House Mouse	(<i>Mus musculus</i>)
Bushy-tailed Woodrat	(<i>Neotoma cinerea</i>)
Montane Vole	(<i>Microtus montanus</i>)
Long-tailed Vole	(<i>Microtus longicaudus</i>)
Sagebrush Vole	(<i>Lagurus curtatus</i>)
Muskrat	(<i>Ondatra zibethicus</i>)
North American Porcupine	(<i>Erethizon dorsatum</i>)
Coyote	(<i>Canis latrans</i>)
Black Bear	(<i>Ursus americanus</i>)
Raccoon	(<i>Procyon lotor</i>)
River Otter	(<i>Lontra canadensis</i>)
Long-tailed Weasel	(<i>Mustela frenata</i>)
Mink	(<i>Mustela vison</i>)
American Badger	(<i>Taxidea taxus</i>)
Striped Skunk	(<i>Mephitis mephitis</i>)
Cougar	(<i>Puma concolor</i>)
Bobcat	(<i>Lynx rufus</i>)
Rocky Mountain Elk	(<i>Cervus elaphus nelsoni</i>)
Mule Deer	(<i>Odocoileus hemionus hemionus</i>)

Common Name	Scientific Name
California Bighorn Sheep	<i>(Ovis canadensis californiana)</i>
Total Mammals:	31

Amphibians and Reptiles

Long-toed Salamander	<i>(Ambystoma macrodactylum)</i>
Rough-skinned Newt	<i>(Taricha granulose)</i>
Western Toad	<i>(Bufo boreas)</i>
Pacific Treefrog	<i>(Pseudacris regilla)</i>
Bullfrog	<i>(Rana catesbeiana)</i>
Northern Sagebrush Lizard	<i>(Sceloporus graciosus)</i>
Southern Alligator Lizard	<i>(Elgaria multicarinata)</i>
Western Fence Lizard	<i>(Sceloporus occidentalis)</i>
Rubber Boa	<i>(Charina bottae)</i>
Racer	<i>(Coluber constrictor)</i>
Gopher Snake	<i>(Pituophis catenifer)</i>
Western Terrestrial Garter Snake	<i>(Thamnophis elegans)</i>
Common Garter Snake	<i>(Thamnophis sirtalis)</i>
Western Rattlesnake	<i>(Crotalus viridis)</i>
Total Amphibians & Reptiles:	14

**Appendix D. Water Rights Held by the Department
on the Lower Deschutes Wildlife Area**

Water Source	Priority	Acres	Cert. Number	Type	Rate	Land Ownership At Source
1. Shotgun Canyon Cr.	1911	N/A	615	Railroad	0.08 cfs	ODFW
2. Deschutes River	1911	N/A	816	Domestic Locomotive	0.40 cfs	ODFW
3. Harris Canyon Spring	1991	8.0	S 51365	Irrigation	4.0 gpm	Bureau of Land Management

Appendix E. Easements Held on the Lower Deschutes Area

Grantor	Purpose	Beneficiary
ODFW	Transmission Line Easement	Bonneville Power Administration
ODFW	Access Roads	Bonneville Power Administration
ODFW	Agricultural, Horticultural and Grazing Purposes	Kortge
ODFW	Transmission Line Easement	Wasco Electric
May	Access Road	ODFW
Underhill	Access Road	ODFW

Easements and Rights of Way:

When the Department acquired the property in 1983, 1986 and 2015 the following Easements and Rights of Way came with the property.

Transmission Line Easement: A perpetual easement and right to the Bonneville Power Administration to enter and erect, maintain, repair, operate and patrol one line of electric power transmission structures and appurtenant signal lines, including the right to erect such poles, transmission structures, wires, cables and appurtenances as are necessary in, over, upon and across the following land:

<u>Location</u>	<u>Date Entered</u>
T1N, R15E, Sec 23 and 25	March 31, 1958
T1S, R16E, Sec 29	November 30, 1966
T1N, R15E, Sec 25	October 19, 1967
T2N, R15E, Sec 35	October 28, 1968

BPA transmission lines also cross the LDWA at:
T1S, R16E, Sec 3, 9, 10, 21, 28 & 32

An Electric Line Right-of-Way Easement granted to Wasco Electric Cooperative; the Burlington Northern and Santa Fe Railway Company, their agents, contractors, successor and assigns.

<u>Location</u>	<u>Date Entered</u>
T2S, R15E, Sec 26	November 15, 2001

Other Easements and/or Leases:

When the OWHF purchased the property from the Oregon Land Company, the right to use a portion of the property for agricultural, horticultural or grazing purposes stayed with the property in those parcels of land in lot 8 and in the Northwest quarter of the Southwest quarter, and in lots 6 and 8, in T1N, R15E, Sec. 25; also in lots 2, 3, 4, and in the Northeast quarter of the southeast quarter of T1N, R15E, Sec. 36; also lots 5, 6, 7, 8, 9 in T1N, R16E, Sec. 31 lying between the Deschutes River and the Right-of-way of the Oregon Trunk Railway. This is from warranty deed #17280 filed for record on November 8, 1923.

**Appendix F. Land Acquisitions and Transfers
Involving the Lower Deschutes Wildlife Area**

Date	Acres	Action	Cooperator
1983	2,758	Acquired from	Oregon Wildlife Heritage Foundation
1986	5,158	Acquired from	Oregon Wildlife Heritage Foundation
1986	43	Acquired from	Wasco County
2015	10,198	Acquired from	Trust for Public Land

Appendix G. Legal Obligations Influencing Management of the Lower Deschutes Wildlife Area

Federal Laws

Federal Aid in Wildlife Restoration Act
Pittman-Robertson Act of 1937
Dingell-Johnson Act of 1950
The Endangered Species Act of 1973, as amended
National Historic Preservation Act
National Environmental Policy Act
Americans with Disabilities Act
Federal Wild and Scenic River 1988

Oregon Revised Statutes

ORS 390.826 Scenic Waterway
ORS 496.012 Oregon's Wildlife Policy
ORS 496.138 General Duties and Powers; Rulemaking Authority
ORS 496.146 Additional Powers of the Commission
ORS 496.162 Establishing seasons, amounts and manner of taking wildlife; rules
ORS 496.992 Penalties

Oregon Administrative Rules

Division 008 - Department of Fish and Wildlife Lands

635-008-0015 Agreements to Restrict Motor-propelled Vehicles
635-008-0040 Forage Removal from State Lands
635-008-0050 Fish and Wildlife Commission to Post and Enforce Rules
635-008-0123 Lower Deschutes Wildlife Area

Division 011 - Statewide Angling Regulations

635-011-0050 Procedure of Promulgation of Angling Regulations
635-011-0100 General Rule

Division 50 - Furbearer and Unprotected Mammal Regulations

635-050-0015 Purpose
635-050-0045 General Furbearer Regulations
635-050-0020 Areas Open to Hunting or Trapping

Division 051 - General Game Bird Regulations

635-051-0000 Purpose and General Information
635-051-0065 State Wildlife Area Regulations

Division 053 - Upland Game Bird Regulations

635-053-0000 Purpose and General Information

Division 065 - Game Mammal General Seasons and Regulations

635-065-0001 Purpose and General Information

635-065-0625 Regulations on State Wildlife Areas, Refuges and Special Areas

Appendix H. Known Fire Occurrences on the Lower Deschutes Wildlife Area

1980	Between Macks & Mouth		Campfire
1981	Between Macks & Mouth		Railroad
1981	Between Macks & Mouth		Fireworks
1982	Between Macks & Mouth		Railroad
1983	Between Macks & Mouth		Campfire
1984	Between Macks & Mouth		Railroad
1985	Between Macks & Mouth		Railroad
8/11/1984	End of Road	Sherman	Campers
7/9/1985	Rattlesnake Rapids	Wasco	Cigarette/Match
7/20/1985	Lockit	Wasco	Unknown
8/29/1985	Moody	Wasco	Unknown
7/9/1991	Moody	Wasco	Railroad -welding
10/9/1993	Colorado Rapids	Sherman	Match
6/30/1994	Mouth of Deschutes	Sherman	Railroad
8/14/1996	Celilo	Wasco	Railroad
4/1/1999	Mouth of Deschutes	Sherman	Spark (cat track on rock)
6/1/2006	N of Kloan Road	Wasco	Unknown
6/17/2007	Mouth of Deschutes	Sherman	Unknown (fireworks?)
6/25/2007	Colorado Rapids	Wasco	Spark (metal blade on rock)
9/2/2007	Colorado Rapids	Wasco	Gas Stove
7/3/2008	Deadhorse Seeding	Sherman	Battery
8/7/2008	Lockit	Sherman	Lighting
8/19/2010	Fall Canyon	Wasco	Railroad
6/29/2011	Washout	Wasco	Shovel
6/3/2013	Harris	Wasco	Human
7/24/2015	Kunz	Wasco	Farm
5/28/2016	Deadhorse	Sherman	Likely human
8/10/2016	Moody	Sherman	Unknown
7/18/2018	North of Bull Run	Both	Unknown(Substation fire)
7/26/2018	South of Bull Run	Both	Farm Equip(Long Hollow)