

ELKHORN WILDLIFE AREA MANAGEMENT PLAN

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(Updated October 2017)**

**Oregon Department of Fish and Wildlife
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Table of Contents

Executive Summary	1
Introduction	1
Purpose of the Plan	1
Oregon Department of Fish and Wildlife Mission and Authority	2
Purpose and Need of Elkhorn Wildlife Area	2
Wildlife Area Goals and Objectives	2
Wildlife Area Establishment	3
Description and Environment	3
Physical Resources	3
Location	3
Climate	3
Topography and Soils	5
Habitat Types	5
Description of Tracts	6
Biological Resources	12
Mammals	12
Birds	12
Amphibians and Reptiles	13
Fish	13
Species of Conservation Concern	14
Non-Native Species	16
Monitoring	17
Cultural Resources	20
Social Environment	20
Demographics	20
Land Use	21
Infrastructure	21
Developments/Facilities	21
Water Rights	24
Easements/Access Agreements	24
Land Acquisition and Adjustment	24
Public Use	25
Public Access	25
Hunting, Trapping and Angling	25
Non-consumptive	25
Educational/Interpretive	26
Objectives and Strategies	27
Plan Implementation	31
Funding	31
Staffing/Organization	33
Compliance Requirements	34
Partnerships	34
Adaptive Management	34
Plan Amendment and Revision	34

References..... **36**
Appendices..... **- 1 -**

- Appendix A.** Plant Species Known to Occur on the Elkhorn Wildlife Area.
- Appendix B.** Wildlife Species Known to Occur on the Elkhorn Wildlife Area.
- Appendix C.** Water Rights on the Elkhorn Wildlife Area.
- Appendix D.** Land Acquisitions and Adjustments Involving the Elkhorn Wildlife Area.
- Appendix E.** Easements Held on the Elkhorn Wildlife Area, by Individual Tract.
- Appendix F.** Legal Obligations Influencing Management of the Elkhorn Wildlife Area

List of Figures

- Figure 1.1** Elkhorn Wildlife Area Features and Ownership.
- Figure 1.2** Habitat Types Present on the North Powder Tract, Elkhorn Wildlife Area.
- Figure 2** Habitat Types Present on Three Southern Tracts, Elkhorn Wildlife Area.
- Figure 3** Land Uses Surrounding the Elkhorn Wildlife Area.

List of Tables

- Table 1.** Habitat Types and Approximate Acreages on the Elkhorn Wildlife Area.
- Table 2.** Federal and State Listed Endangered, Threatened, Candidate and Species of Concern animals and plants potentially present on the Elkhorn Wildlife Area.
- Table 3.** Non-native Wildlife Species that May be Found on the Elkhorn Wildlife Area.
- Table 4.** Noxious Weeds Listed by the Oregon Department of Agriculture that may be found on the Elkhorn Wildlife Area.
- Table 5.** Facilities and Developments on the Elkhorn Wildlife Area.
- Table 6.** Estimated Annual Hunting, Trapping, and Angling Use Days on the Elkhorn Wildlife Area.
- Table 7.** Estimated Annual Non-consumptive Use Days on the Elkhorn Wildlife Area.

Executive Summary

Demand for big game hunting and wildlife viewing opportunities has traditionally been high in northeast Oregon, including both Union and Baker counties. The favored game species, and arguably the most viewable, are elk and deer. Although summer forage for deer and elk is abundant throughout the Elkhorn Mountain Range, populations of these species are limited by available winter range.

Because heavy snows cover forage at high and mid-elevation areas in winter months, elk and deer migrate to the valley floor where private lands are managed primarily for cattle and production of agricultural crops.

Elk and deer migrations to this area in winter have caused conflicts between landowners and wildlife dating back to the 1940s. Elk and deer invade haystacks, grain fields, hay fields, and other agriculture crops, and utilize pasture forage intended for domestic livestock. Fences have been extensively damaged where they intersect elk travel routes. These damage conflicts have been alleviated through fence repairs, forage improvements and supplemental feeding on the Wildlife Area.

In 1993 the first long range management plan for the wildlife area was created.

The 2017 Elkhorn Wildlife Area Management Plan offers a comprehensive vision and action plan for the next 10 years. The vision for the Elkhorn Wildlife Area is as follows:

Big game damage to adjacent agricultural lands has been substantially reduced through enhancing available habitat, while sustaining plant and animal species diversity, for the enjoyment of present and future generations. This plan describes issues and provides actions for addressing them. These actions will be implemented during the life of this plan, but are subject to funding and personnel availability. The management plan will be reviewed in 2022 to gauge the implementation progress and make necessary revisions and revised in its entirety in 2027.

Introduction

Purpose of the Plan

This document is a long range plan designed to guide the management of the Elkhorn Wildlife Area (EWA) for the next 10 years. The Oregon Department of Fish and Wildlife's management planning process for wildlife areas involves the development of broad goals for the areas, and 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 EWA over the next 10 years;
- To provide long-term continuity in wildlife area management;
- To communicate the Department's management priorities for the EWA to its neighbors, visitors, and to the public;

- To ensure that management programs on the EWA are consistent with the original mandate and purpose of the area when it was first established;
- To ensure that management of EWA is consistent with Federal, State, and local plans, and;
- To provide justification for staffing, operations, maintenance, and capital improvement needs on the EWA.

Oregon Department of Fish and Wildlife Mission and Authority

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

Purpose and Need of Elkhorn Wildlife Area

The Elkhorn Wildlife Area is managed primarily to minimize or alleviate conflicts caused by elk and deer to privately owned lands and agricultural crops. All management activities on the EWA are undertaken within the context of this primary goal.

The natural resources in the EWA need to be managed in such a manner as to protect, maintain, enhance, and restore fish and wildlife habitat to support optimum population levels of all species for the enjoyment of present and future citizens.

To protect these natural resources, management programs and strategies utilized on the EWA will meet or exceed habitat protection policies and standards set by the Oregon Department of Fish and Wildlife.

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 Elkhorn Wildlife Area are:

Goal 1: To minimize or alleviate conflicts caused by deer and elk to privately owned lands and agricultural crops.

Objective 1.1: To provide supplemental feed for up to 1,400 wintering elk and up to 800 deer.

Objective 1.2: To develop and maintain habitats to attract and hold wintering deer and elk.

Goal 2: To protect, enhance, and restore habitat diversity for all other beneficial wildlife on the area, compatible with Goal 1.

Objective 2.1: To protect, enhance, and restore habitats for other wildlife consistent with Goal 1.

Objective 2.2: To maintain and enhance wildlife area facilities, structures, and equipment to conduct habitat management and public use projects on the wildlife area.

Goal 3: To provide a variety of quality recreational and educational opportunities to the public which are compatible with Goals 1 and 2.

Objective 3.1: To provide approximately 4,000 hunting, trapping and angling use days annually.

Objective 3.2: To provide approximately 30,000 wildlife viewing and education/interpretation use days annually.

Wildlife Area Establishment

The development of the Elkhorn Wildlife Area began in 1971 with the acquisition of the North Powder and Auburn sites. These sites were identified as critical winter range where supplemental feeding could potentially stop and hold migrating elk and deer. The EWA has since grown to 8,836 acres, of which 6,723 acres are under Department ownership, 1,728 acres are managed by agreement with the U.S. Forest Service (USFS) and Bureau of Land Management (BLM), and 385 acres of private lands are leased by the Department.

Description and Environment

Physical Resources

Location

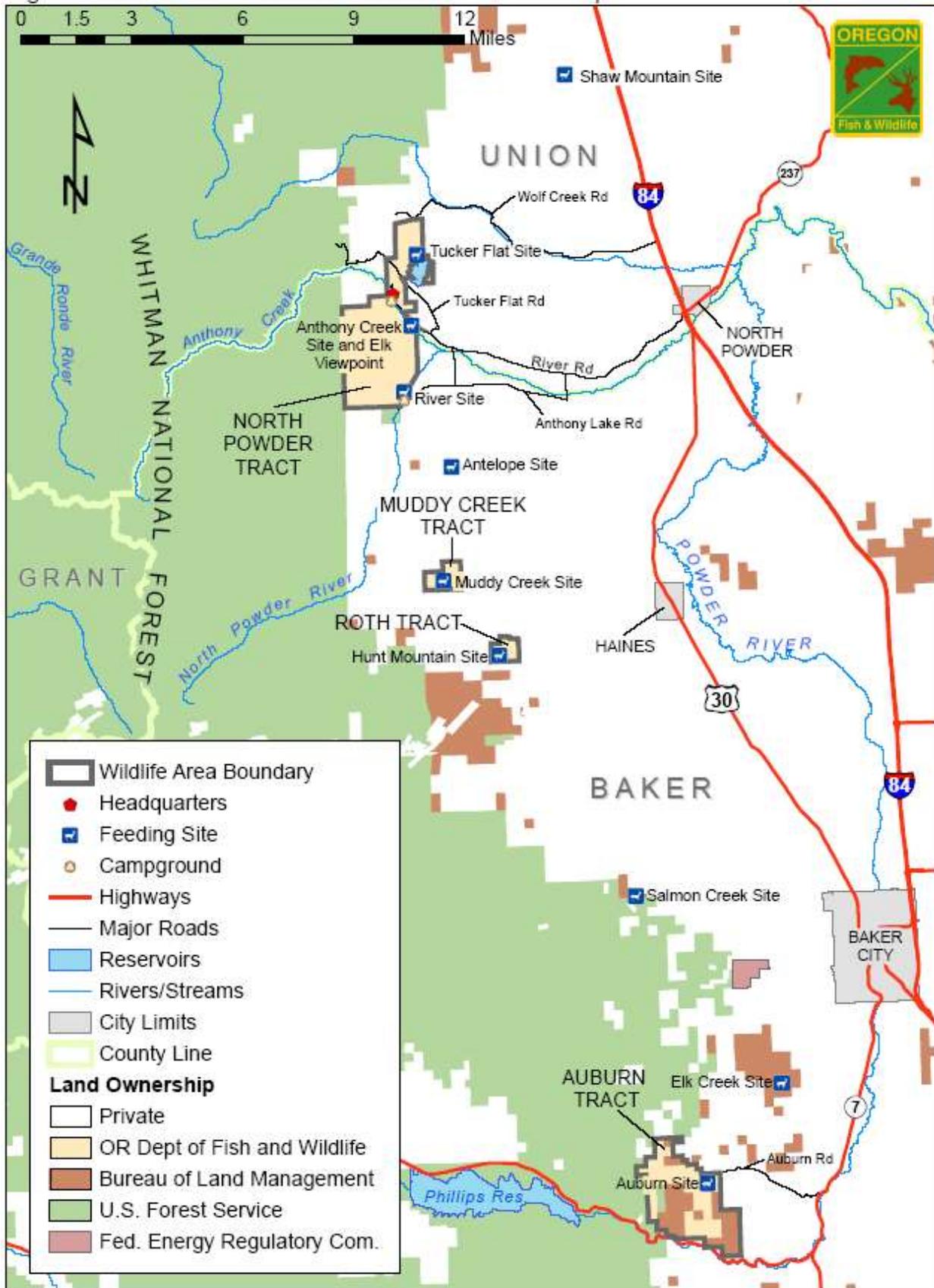
The Elkhorn region is defined as the area east of the crest of the Elkhorn Mountains, west of Interstate 84 (I-84), north of Township 11 South, Willamette Meridian (W.M.) and south of Township 4 South, W.M. The EWA includes those areas or tracts of land owned by, leased to or under easement to the Department where specific site(s) are used for feeding deer and elk. The EWA consists of eight separate tracts of land ranging in size from 4.5 acres to 4,557 acres. These tracts are spread over 32 air miles, running in a north-south direction, from south of La Grande to Baker City. The EWA is located in both Union and Baker counties.

Figure 1 shows the location of the EWA and its key features.

Climate

The EWA has a “lower montane” climate typical of areas in northeastern Oregon at elevations of 3,000 to 6,000 feet depending on aspect. Annual precipitation falls

Figure 1 - Elkhorn Wildlife Area Features and Ownership



primarily as snow between October and April with an average total range from 18 to 30 inches. The snow-free period is 5 to 7 months. Annual temperatures can range from a low of -40°F to a high of 105°F.

Topography and Soils

The geographic coverage, topography, and soil types on the eight tracts that comprise the EWA are highly diverse. The main soil types consist of Lookingglass, Starkey, Klicker, La Grande, Tamarack, and Antone. The topography also varies greatly from wet meadow pasture land, sage brush flats and ridges, to steep timber-covered draws and slopes. More specific information about soils and topography is given in the text describing each tract.

Habitat Types

Many of the natural plant communities in the Elkhorn region have been altered from their original condition by various types of human activities and introduction of exotic plants. The EWA has been logged in the past by prior landowners. Grazing is currently used as a management tool on portions of the wildlife area to remove excess forage. This is done to promote fall and early winter forage to hold elk on area lands. Irrigated pastures are harrowed in the spring to promote new grass growth. All irrigation on the EWA is done in the form of flood irrigation. Pasture fertilization is used when needed to promote forage growth and improve plant and soil conditions. The EWA uses the most cost effective means, feeding, to reduce private property damage caused by elk, thus farming practices are kept to a minimum.

Figure 2.1 shows the habitat types present on the largest northern tract, North Powder, and **Figure 2.2** shows habitat types on three of the southern tracts.

The wildlife habitat types and their approximate acreages of the four Department-managed tracts (North Powder, Muddy Creek, Auburn and Roth) are shown in **Table 1**. The approximate acreages listed below include both Department-owned land and federally-owned land within the EWA.

Table 1. Habitat Types and Approximate Acreages on the Elkhorn Wildlife Area.

Habitat Type	Acres*
Annual/biannual farmland	0.4
Urban	0.4
Lava field	3.6
Wet meadow	10
Eastside riparian	175
Open water	203
Douglas-fir mixed conifer forest	217
Perennial bunchgrass	524
Pasture	714
Shrub steppe	911
Montane true fir forest	2,134
Ponderosa pine forest	2,925

*These acreage amounts were derived from available geographic information system data, not from county tax lot information, thus there may be some discrepancies.

The individual tracts that comprise the wildlife area are widely separated with the result that habitats are highly variable both within and between tracts. Habitat types are described in greater detail within each tract description. Some of the more common plant species found on the wildlife area are discussed below.

Conifer forest species consist of ponderosa pine (*Pinus ponderosa*), lodgepole pine (*Pinus contorta*), Douglas fir (*Pseudotsuga menziesii*), grand fir (*Abies grandis*) western larch (*Larix occidentalis*), and western juniper (*Juniperus occidentalis*).

Deciduous tree species include black hawthorn (*Crataegus douglasii*), water birch (*Betula occidentalis*), alder (*Alnus* spp), quaking aspen (*Populus tremuloides*), willows (*Salix* spp) and black cottonwood (*Populus trichocarpa*). In the valley bottoms, there are scattered wet meadows and a relatively well developed riparian zone with black cottonwood, water birch and willows.

Shrub steppe habitat is dominated by sagebrush (*Artemisia* spp.), bitterbrush (*Purshia tridentata*), rabbitbrush (*Crysothamnus* spp), western juniper, various bunchgrasses and forbs.

Grasses, legumes, and forbs include fescue, pinegrass, wheatgrass, bluegrass, Timothy, meadow foxtail, orchard grass, clovers, alfalfa, Burnett, etc.

Appendix A contains a list of trees, shrubs, forbs, legumes, composites, and grasses found in the EWA. Formal botanical surveys to document and identify all plant species present in the area have not been conducted. Therefore, Appendix A provides only a partial accounting of the plants in the area.

Two plant species of conservation concern that are thought or known to occur in Baker and Union Counties are: skinny moonwort (*Botrychium lineare*) and Howell's spectacular thelypody (*Thelypodium howellii*). Although there may be appropriate habitat for skinny moonwort, a federal Species of Concern, it is not known to occur on the EWA or surrounding public lands. The only known site of occurrence for the Skinny Moonwort, according to the Oregon Natural Heritage Information Center, is located in Wallowa County. According to Wagner and Wagner (1994) there may be less than 85 plants noted thus far in North America. Howell's spectacular thelypody, is a herbaceous biennial that occurs in moist, alkaline meadow habitats at 3,000 to 3,500 ft. elevations in Northeast Oregon. This species is federally listed as Threatened and state listed as Endangered. There are eleven sites known to contain *Thelypodium howellii*, located near the communities of North Powder, Haines, and Baker City (USDI, 1998). No known sites occur on the EWA.

Description of Tracts

The Elkhorn Wildlife Area consists of eight separate tracts: Shaw Mountain, North Powder, Antelope Peak, Muddy Creek, Roth, Salmon Creek, Elk Creek, and Auburn.

Figure 2.1 - Habitat Types within Elkhorn Wildlife Area

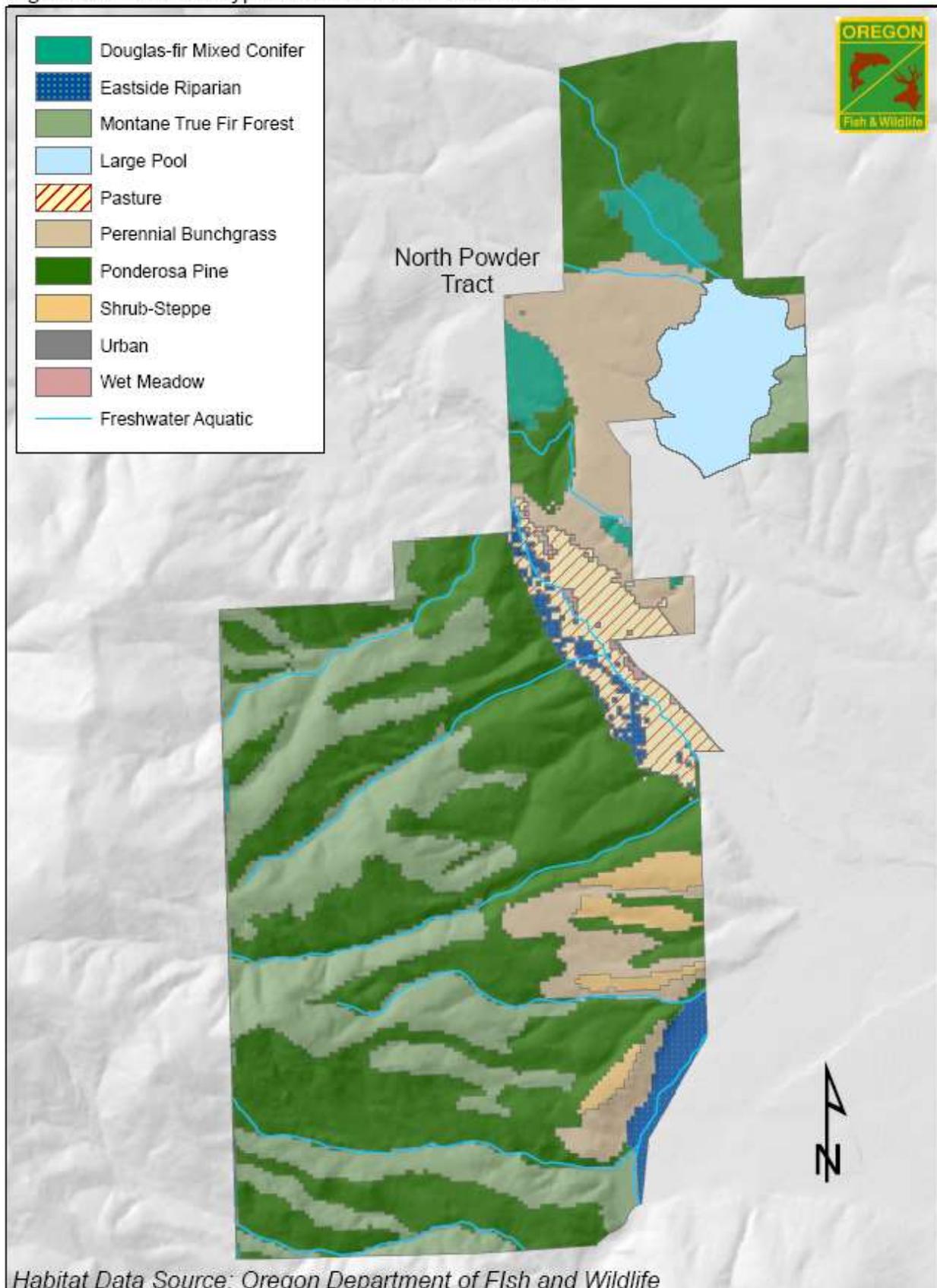
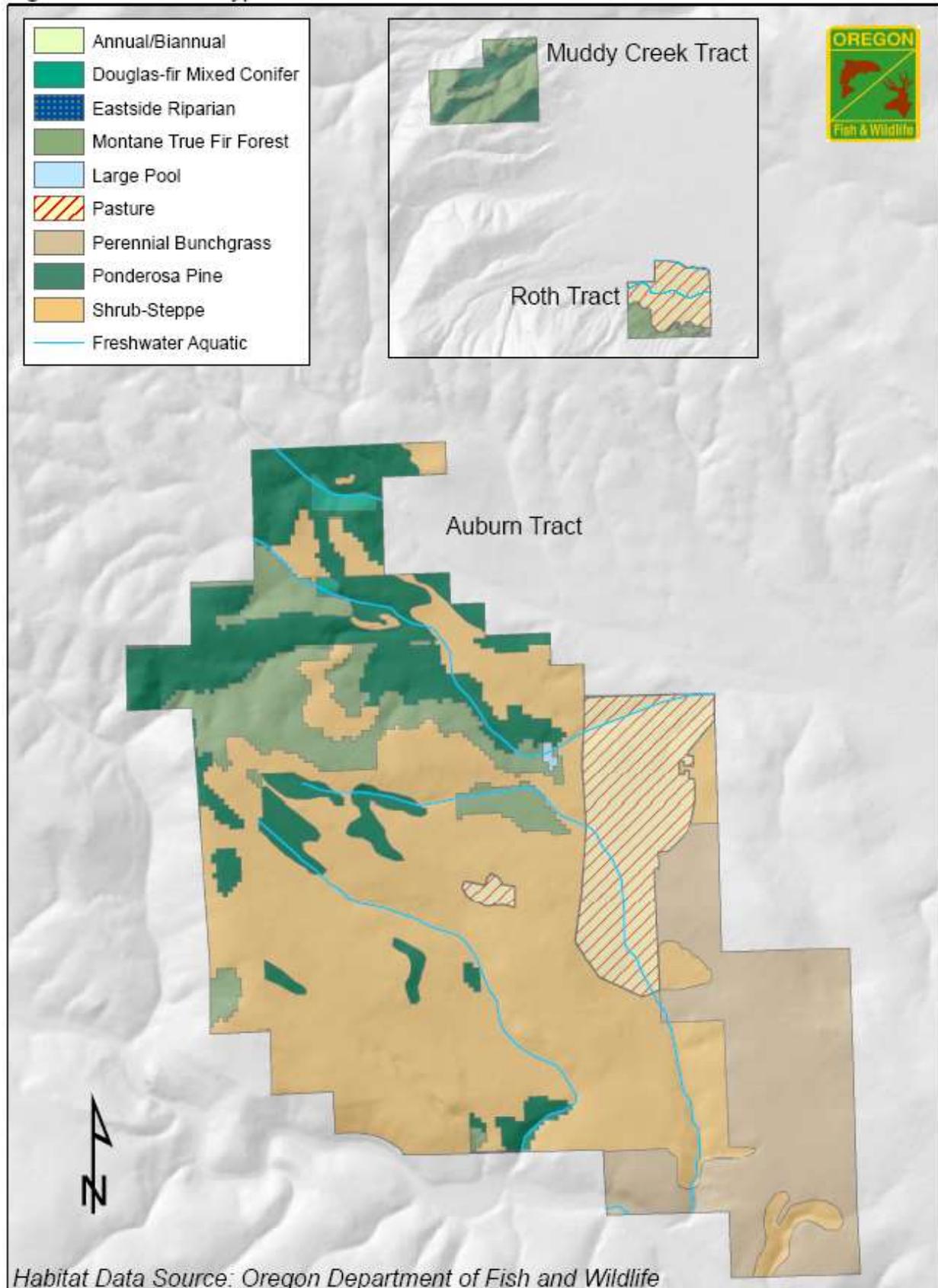


Figure 2.2 - Habitat Types within Elkhorn Wildlife Area



Shaw Mountain Tract

The Shaw Mountain Tract is located on the north end of the area 5, air miles north of North Powder, Oregon and 1.5 air miles west of I-84. This tract consists of 4.5 acres of leased land with one feed site and includes road access to the site. The base of Shaw Mountain is approximately 3,600 feet in elevation. The area surrounding the feed station at this site lies in the foothills between previously harvested timberlands and agriculture fields. The area is interspersed with sagebrush, rabbit brush, and hawthorn filled draws. Soil types are of the Anatone series consisting of shallow soils over basalt. The topography up slope of the area is underlain by good timber producing soils indicated as Starkey, Klicker, and Lookingglass. Two streams, Clover Creek and Shaw Creek, are located on this tract.

North Powder Tract

North Powder Tract is located approximately 5 air miles south of the Shaw Mountain site and 8 air miles west of North Powder, Oregon. This tract is 4,557 acres including 4,400 acres of deeded property and 157 acres under management agreement with the USFS. This tract includes the area headquarters, 3 feed sites and both EWA campgrounds. Elevations range from 3,500 to 5,000 feet. Soil types consist of Starkey, Klicker, Lookingglass, and La Grande. Approximately 2 miles of streams (Anthony Creek and the North Powder River) flow through this tract.

The North Powder Tract consists mostly of coniferous forest habitat including montane true fir, ponderosa pine and Douglas-fir-mixed conifer types. In the valley bottoms near the North Powder River and Anthony Creek, there are scattered wet meadows and a relatively well developed riparian zone with black cottonwood, water birch and willows. The remaining portions of the tract include small areas of mixed sagebrush, perennial bunchgrass and pasture habitats in addition to the open water of Pilcher Creek Reservoir which is owned by the Powder Valley Irrigation District.

In the North Powder Tract, nearly all the forested areas were logged prior to purchase by the Department so, like other areas of the Powder River drainage, few stands of old-growth ponderosa pine remain. However, under management of the EWA, there is potential to achieve a mosaic of different aged stands including large second-growth trees and snags appropriate for ponderosa pine dependent species.

Both the montane true fir and Douglas-fir mixed conifer habitats are thought to have increased in the basin over time due to conversion of former ponderosa pine stands to mixed conifer types. However, as stands mature, natural disturbances (e.g. fire) may help to increase stand diversity in these habitats.

The sagebrush, pasture and grassland habitats in the North Powder Tract make up a relatively small portion of the area. These habitats contribute to the overall habitat diversity of the EWA and are maintained primarily through grazing and control of exotic plant species.

Pilcher Creek Reservoir is bordered on three sides by land managed by the EWA. The open water habitat of the reservoir is important due to the presence of a bald eagle (*Haliaeetus leucocephalus*) nest, active since 1997, on a slope above the reservoir. However, management activities on the EWA do not affect the reservoir or its use by potential prey for the eagles. The nest tree and surrounding forest stand are protected within the EWA.

Anthony Creek flows through the North Powder Tract from NW to SE near the area headquarters. A feed site, a wildlife viewing area and a campground are all located near Anthony Creek. The North Powder River flows along the southeast boundary of the EWA near the Anthony Lakes Highway (also called USFS Road 73 and the Elkhorn Scenic Byway). The campground, operated only during hunting season, is located adjacent to the North Powder River. Both Anthony Creek and the North Powder River are on the Oregon Department of Environmental Quality (DEQ) 2002 303d list of Water Quality Limited Streams. In both cases, water temperature is the parameter of concern. Within the EWA, there are no known anthropogenic activities with the potential to affect water temperature in these streams; it is unlikely that activities on the EWA contribute to water temperature issues in either stream. Although livestock grazing is utilized for vegetation management, all riparian areas within the EWA are fenced to exclude cattle and maintain woody vegetation for shading and other riparian benefits.

Antelope Peak Tract

Antelope Peak Tract is located approximately 3 air miles to the south of the North Powder Tract, adjacent to Antelope Peak. This tract consists of 380 acres of leased private lands with 1 feed site and is managed for deer only. The feed site is at an elevation of 4,000 feet. This tract is primarily open rangeland interspersed with pine trees and sagebrush. Irrigated pastures lie below and adjacent to the tract. Soils on the rangeland are shallow and are of the Anatone series. The irrigated pastures are of the Lookingglass and La Grande loam series.

Muddy Creek Tract

Muddy Creek Tract is located approximately 3.5 air miles south of Antelope Peak and south of Muddy Creek. This tract consists of 390 acres of deeded property with elevations ranging from 3,800 to 4,900 feet. One feed site is located on this parcel. The Muddy Creek Tract consists of previously harvested timber lands. Ponderosa pine is the dominant tree species with some western larch on the north-facing slopes. Topography on this tract is steep and soils consist of tamarack and granitic types. This area has numerous small draws and basins. The Muddy Creek Tract is entirely forested with about half in ponderosa pine and half in montane true fir habitats. Most of the area was logged prior to purchase by the Department resulting in reduced structural and seral diversity.

Roth Tract

The Roth Tract is located approximately 2.5 air miles south of the Muddy Creek Tract and adjacent to Hunt Mountain. This tract consists of 277.71 acres of deeded property with one feed site. Elevations range from 3,500 to 4,000 feet. This tract is mainly

irrigated pasturelands with a small forested portion consisting of ponderosa pine and western larch. Soils are of the Lookingglass and La Grande series. Two streams, Willow Creek and Clear Creek, flow through this tract. The Roth tract is one of the lowest elevation parcels on the EWA. It is made up primarily of pasture lands with a few small wet meadows and a relatively small area of montane true fir forest at the south end of the parcel. The wet meadows are generally fed by springs and are fenced to exclude cattle. The pasture habitat is maintained through grazing and control of noxious vegetation. The montane true fir forest at the southern margin of the tract is relatively small but may be important hiding and thermal cover for deer and elk using the feed site.

Salmon Creek Tract

The Salmon Creek Tract is located approximately 5 air miles south of the Roth Tract and east of Salmon Creek. This tract consists of 5 acres under management agreement with the Bureau of Land Management for a winter feed site. This tract lies at an elevation of 4,000 feet. This tract is located on a steep, north-facing slope consisting of previously harvested forest stands inundated with mining claims, some active and some not. Soils consist of granitic materials with ore bearing soils and gravel at different depths. Gold is the most sought after ore on these claims. The Department has no habitat management control on this federal land although public access is restricted during the winter feeding season.

Elk Creek Tract

Elk Creek Tract is located approximately 6 air miles southeast of the Salmon Creek Tract and approximately 2.5 air miles west of Highway 7 near Elk Creek. This tract consists of 5 acres under a management agreement with BLM for a winter-feed site. Elevation at this tract is 4,000 feet and habitat consists primarily of open rangeland interspersed with juniper and sagebrush. The area is between high mountain slopes covered with ponderosa pine and Douglas fir and irrigated pastures and agricultural (e.g. hay) lands below. This area is also rich in ore and several active mines are operated nearby, in Elk Creek. Soils in this area are of the Anatone series consisting of shallow soils formed over basalt. Elk Creek flows through the block of BLM land within which the feed site is located but is not connected to the feed site. The Department only manages the feed site and has no other management control on the surrounding habitats.

Auburn Tract

Auburn Tract is located approximately 2.5 air miles southwest of the Elk Creek Tract near the abandoned mining town of Auburn. This tract totals 3,216 acres, including 1,656 acres of deeded property, 1,440 acres under management agreement with BLM and 120 acres under management agreement with USFS. One feed site is located on this tract. Elevations range from 3,500 to 4,500 feet. This tract consists of open, rolling rangeland, interspersed with rock outcroppings dropping off rapidly to the Powder River. Streams include Webfoot Creek, Blue Canyon Creek and Poker Creek. Soil types are mainly of the Anatone series consisting of shallow soils formed over basalt. There are numerous active mining claims on this tract, mostly on the portion owned by BLM and

managed by the Department. The northwest, higher elevation portion of the Auburn tract is made up mostly of forested habitats, while the southeast portion is mostly sagebrush and pastureland. The forested habitats are approximately equally split between montane true fir and ponderosa pine types depending largely on aspect.

Sagebrush habitat, including mountain big sagebrush and mixed sagebrush types is a more important feature of this tract than others on the EWA as it covers nearly half the property. This habitat can be very important for wintering big game, especially deer, as it provides both forage and cover and has generally shallower snow accumulations than higher elevation forested habitats.

Biological Resources

The EWA is very diverse in elevation, habitat types, and water availability. With habitat types ranging from wet meadows, open pastures and shrub steppe to forest-covered ridges, the EWA supports numerous species of fish and wildlife. Management that benefits elk and deer also provides benefits for other wildlife such as furbearers, other mammals, upland game birds, waterfowl, songbirds, reptiles, amphibians and fish. Due to the elevation of most of the EWA and the severe winter weather conditions that the area receives annually, only the hardiest of wildlife inhabit the area on a year-round basis.

Currently 126 species of wildlife have been identified on the EWA, including 91 species of birds, 25 species of mammals, 2 species of fish, and 8 species of amphibians and reptiles. See **Appendix C** for a list of species.

Mammals

The EWA is managed primarily for elk and deer. Although there are resident Mule (*Odocoileus hemionus*) and White-tail deer (*Odocoileus virginianus*) and Rocky mountain elk (*Cervus elaphus*) that use portions of the wildlife area on a year-round basis, migrating elk and deer move to the feed sites normally in late November or December. Feeding usually begins in early December. Most of the elk and deer begin leaving the area each year when snow melts during the March-April period. Small mammals, furbearers (bobcat *Lynx rufus*, etc.) and other larger mammals (Black bear *Ursus americanus* and Cougar *Puma concolor*) use the EWA year-round.

Birds

Because of the many habitat types available on the EWA, a wide variety of bird species can be found throughout the wildlife area. Many species of song birds and waterfowl are migratory and only frequent the EWA seasonally during breeding and brood-rearing periods.

Blue grouse (*Dendragapus obscurus*) are common at higher elevations while ruffed grouse (*Bonasa umbellus*) are found in brushy draws and creek bottoms. Wild turkey (*Meleagris gallopavo*) and California quail (*Callipepla californica*) have been introduced to the wildlife area. These species as well as both species of grouse offer good opportunities for hunting recreation during the authorized season.

The bald eagle, described in greater detail in the Species of Conservation Concern section below, nests and forages on the area.

Amphibians and Reptiles

Native species of snakes, lizards and frogs are plentiful on the area. No specific management for reptiles and amphibians exists at this time on the EWA. The Columbia spotted frog (*Rana luteiventris*), designated by USFS as a sensitive species may be present in suitable habitat on the area. This species is described in greater detail below.

Many amphibians and reptiles also exhibit seasonal movements within the area as water levels in the streams and ponds fluctuate. While migrating species leave the area during the cold winter months, the amphibians and reptiles go into hibernation.

Fish

The EWA contains segments of two important streams: North Powder River and Anthony Creek. They have been identified as important habitat for sensitive fish production areas (OSGC 1967, ODFW 1980). Use of the EWA by fish varies by season. Cold and cool water fish (salmonids and sculpins) will be limited in the area during the summer because of elevated water temperatures. These temperatures are caused by low flows (both natural and irrigation withdrawals) which occur upstream of the wildlife area boundaries. These fish are known to seek out and use thermal refugia (cooler water from seeps, springs, etc.) during the warmer summer months. Other fish species which have been documented to occur in the North Powder River are: Redside shiner (*Richardsonius balteatus*), Bridgelip sucker (*Catostomus columbianus*), Brown bullhead (*Ameiurus nebulosus*), and Common dace (*Leuciscus leuciscus*), according to Department and USFS sampling results. Sampling in Anthony Creek found only salmonids and sculpins.

Redband (*Oncorhynchus mykiss*), Brook (*Salmo fontinalis*), and Bull trout (*Salvelinus confluentus*), as well as Mountain whitefish (*Prosopium williamsoni*), are known to exhibit a variety of life histories. They include resident, fluvial, and ad fluvial. The latter two can include extensive freshwater migration associated with rearing and spawning. Redband trout are primarily a spring spawner so their spawning migration (March-June) will take place during spring run-off when there is usually sufficient water to provide for their needs. Whitefish, Bull trout and Brook trout are fall spawners. Their upstream migration would take place during the summer (June-August). On both of the streams within the EWA, particularly in July and August, water use patterns make migration at this time difficult. Downstream migration may occur in the spring and fall (September-November).

The EWA is most likely used by salmonids primarily for migration and seasonal rearing. If appropriate habitat is available some spawning by redband trout may occur. The more temperature tolerant species, redband shiners, dace, and bridgelip suckers, are

probably year round residents where water is maintained instream. They use the area for spawning, rearing, and migration.

Species of Conservation Concern

There have been no formal surveys on the Elkhorn Wildlife Area specifically to document the presence of state listed or federally listed Threatened or Endangered species. However, five federally listed Threatened and Candidate species and one Species of Concern are potentially present in the Powder River Basin. Activities within the EWA are conducted within the guidelines of the ESA to ensure no adverse effects on listed species. These species are listed in **Table 2**.

Table 2. Federal and State Listed Endangered, Threatened, Candidate and Species of Concern Potentially Present in the Powder River Basin.

Common Name	Scientific Name	Federal Status	State Status
Bull trout	<i>Salvelinus confluentus</i>	Threatened	Sensitive - Critical
Columbia spotted frog	<i>Rana luteiventris</i>	Candidate	Sensitive - Undetermined
Gray Wolf	<i>Canis lupus</i>	Endangered	Protected
Canada lynx	<i>Lynx canadensis</i>	Threatened	None
Interior redband trout	<i>Oncorhynchus mykiss</i>	Species of Concern	Sensitive - Vulnerable

Canada lynx (*Lynx canadensis*), if found in Oregon, are expected to utilize habitats above 4,000 feet in elevation, and dominated by lodgepole pine, for foraging. Although portions of the EWA are above 4,000 feet, the forested habitats are not consistent with those generally found in states where lynx are present. The EWA lacks the young lodgepole pine-dominated forests favored by lynx and their primary prey, snowshoe hares. Hair snag surveys conducted by the U.S. Fish and Wildlife Service (USFWS) and the USFS from 1998 through 2002, including survey locations near the EWA, failed to detect Canada lynx in Oregon.

Gray Wolf (*Canis lupus*)

Wolves are habitat generalists and are limited more by the presence and availability of suitable prey than by vegetative characteristics of the surrounding habitat. Thus, with its abundance of deer and elk, wolves might be likely to settle in the vicinity of the EWA. If, or when, that occurs, wolves will be managed according to the updated Oregon Wolf Conservation and Management Plan.

No known wolves or wolf packs have established home ranges on or near the WMA. However single wolves have been seen and documented at different times on WMA lands in the past three years. These wolves some with radio collars seem to be passing through and so far haven't stayed for any length of time.

Eastern Oregon is now in Phase III of wolf management after ODFW staff documented a third year of seven or more breeding pairs in the region east of U.S. Highways 97, 20, 395 for year 2016.

A “breeding pair” is two adult wolves that produce at least two pups that survive through the end of the year. The eight packs that qualify as breeding pairs in 2016 are Meacham and Walla Walla (Umatilla County), Catherine (Union County), and Snake River, Chesnimnus, Wenaha, Minam and a group of unnamed wolves in the Imnaha Wildlife Management Unit (Wallowa County).

“Moving into Phase III is a significant milestone towards the recovery of gray wolves in Oregon,” says Russ Morgan, ODFW wolf biologist. “It shows how successful wolves can be in this state – in just nine years under existing management we have gone from no packs of wolves to multiple packs and an expanding distribution.”

In addition to counting wolves, ODFW biologists have placed 14 radio-collars on wolves this winter in seven groups. Another milestone was reached on Feb. 24 when OR50 was collared in the Imnaha Wildlife Management Unit, marking the 50th wolf collared in Oregon. Biologists may soon learn more from the DNA and radio-collar data about whether OR50 is part of a new group of wolves or a pack that shifted its home range into the area previously occupied by the Imnaha pack.

Bull trout have been documented in the upper reaches of the North Powder River and in Anthony Creek (ODFW, 1994) but are not known to use the segments of those streams within the EWA. The present lowermost distribution of bull trout in the North Powder River is about nine miles above the North Powder Tract’s southeastern boundary along the Anthony Lakes Highway (Buchanan et al, 1997). Present distribution was established by summer sampling where conditions are most limiting. Water temperatures and flow during the spring and fall, however, provide a greater range of potential habitat for bull trout use and they may occur within EWA during those times. In addition, there is currently a permitted water diversion structure on the North Powder River, approximately a ¼ mile upstream from the EWA boundary, which diverts water into a ditch system used for agricultural purposes. This structure is a barrier to upstream fish passage, and the water diversion nearly dewateres the river during the summer months (Waldo, 2003). The U.S. Fish and Wildlife Service’s *Bull Trout Draft Recovery Plan (2002)* identified the North Powder River, from its confluence with the Powder River to its headwaters, as proposed critical habitat for bull trout. Also included are parts of Anthony Creek where it flows through the EWA.

Interior Redband trout a state sensitive species, are found primarily in the headwater reaches of the Powder River basin although they are more likely to move into lower elevations when conditions permit.

The Columbia spotted frog is currently a candidate for federal listing and a Region 6 USFS designated sensitive species. Columbia spotted frogs have been documented residing in a series of beaver ponds on Pilcher Creek below the reservoir, less than a half mile from the North Powder Tract boundary (Ackley, 2004). It is likely that the species is present in appropriate habitat on the EWA. Streams and ponds, including stock ponds, where fish are absent are the most likely habitats for this species as they

are seldom found in association with fish (Ackley, 2004). Protecting riparian areas on the EWA, via fences, could be important in conserving potential habitat for Columbia spotted frogs.

Non-Native Species

Non-native wildlife on the EWA includes pest species such as the European starling (*Sturnus vulgaris*) and house sparrow (*Passer domesticus*) and introduced game species, such as wild turkey and California quail (See **Table 3**). Birds such as the wild turkey and California quail are considered to be non-native to the EWA. However, they, along with Ruffed grouse and Blue grouse that do naturally inhabit the area, provide many days of hunting opportunities during the authorized seasons. At this time there is no management effort on the EWA aimed specifically at control of non-native wildlife.

Table 3. Non-native Wildlife Species that May Occur on the Elkhorn Wildlife Area.

Common Name	Scientific Name	Common Name	Scientific Name
House sparrow	<i>Passer domesticus</i>	House mouse	<i>Mus musculus</i>
Feral cat	<i>Felis catus</i>	European starling	<i>Sturnus vulgaris</i>
Rock dove	<i>Columba livia</i>	California quail	<i>Callipepla californica</i>
Wild Turkey	<i>Meleagris gallopavo</i>		

Non-native plants on the EWA include several that are on the Union and Baker County noxious weed lists (see Table 4). These may be subject to control activities including mechanical, chemical and biological methods. In addition to those listed by the County, EWA also controls bull thistle (*Cirsium vulgare*) which is considered an exotic pest plant by the Pacific Northwest Exotic Pest Plant Council. Aside from the invasive species, there are a number of other non-native plants present on the EWA. Some have been cultivated in pasture areas, others have spread naturally to the area and are either beneficial as forage or have shown no serious deleterious effects on the habitat.

Table 4. Noxious Weeds Listed by the Baker and Union County Weed Districts.

Common Name	Scientific Name	Common Name	Scientific Name
rush skeletonweed	<i>Chondrilla juncea</i>	hoary cress (white top)*	<i>Cardaria draba</i>
common bugloss	<i>Anchusa officianalis</i>	Dalmatian toadflax	<i>Linaria dalmatica</i>
yellow toadflax	<i>Linaria vulgaris</i>	purple loosestrife	<i>Lythrum salicaria</i>
chicory	<i>Cichorium intybus</i>	Scotch thistle*	<i>Onopordum acanthium</i>
common tansy	<i>Tanacetum vulgare</i>	diffuse knapweed*	<i>Centaurea diffusa</i>
spotted knapweed*	<i>Centaurea maculosa</i>	burr buttercup	<i>Ranunculus testiculatus</i>
yellow starthistle	<i>Centaurea solstitialis</i>	tansy ragwort	<i>Senecio jacobaea</i>
medusahead rye	<i>Teaniatherum caput-medusa</i>	jointed goatgrass	<i>Aegilops cylindrica</i>
Mediterranean sage	<i>Salvia aethiopsis</i>	musk thistle	<i>Carduus nutans</i>
perennial pepperweed	<i>Lepidium latifolium</i>	leafy spurge	<i>Euphorbia esula</i>
Canada thistle*	<i>Cirsium arvense</i>	common teasel	<i>Dipsacus fullonum</i>

Common Name	Scientific Name	Common Name	Scientific Name
field dodder	<i>Cuscuta campestris</i>	puncture vine	<i>Tribulus terrestris</i>
poison hemlock	<i>Conium maculatum</i>	common mullein	<i>Verbascum thapsus</i>
St. Johnswort	<i>Hypericum perforatum</i>	moth mullein	<i>Verbascum blateria</i>
waterhemlock	<i>Circuta maculata</i>	morning glory	<i>Convolvulus sepium</i>
Russian knapweed	<i>Centaurea repens</i>	Russian thistle	<i>Salsola tenuifolia</i>
Dyer's woad	<i>Isatis tinctoria</i>	Kochia*	<i>Kochia scoparia</i>
buffalo burr	<i>Solanum rostratum</i>	black henbane	<i>Hyoscyamus niger</i>
Venice mallow	<i>Hibiscus trionum</i>	myrtle spurge	<i>Euphorbia myrsinites</i>

*species known to be present on the EWA and subject to mechanical, biological and/or chemical control.

Monitoring

Monitoring of all management activities will be completed by wildlife area staff, Northeast Region Wildlife District biologists, and Department regional staff. How well the EWA management program meets the wildlife area's objectives may be monitored annually by a review of the planning commissions of Baker and Union Counties. Informal monitoring is also conducted by members of the public during their visits to the area and is submitted via feedback and suggestions to EWA staff.

Feed Sites

To accomplish the main goal of the EWA and maintain the health of big game it is important to match the amount of feed with the number of animals at each site. Before purchase all feed is inspected to determine quality (palatability and weed-free). Therefore, sites will be monitored daily, during the winter feeding season, documenting amount of feed provided, and estimating numbers of deer and elk using the feed sites. These estimates will be compared to periodic counts conducted at each site (as described below). Disease will be monitored by trapping and testing big game animals on feed sites. Elk will be captured in corral traps and processed through a squeeze chute. Deer are captured in collapsible clover traps or with the use of immobilizing drugs.

Big Game

Northeast Region staff will monitor big game numbers and animal condition each year. Elk will be classified as to sex and age. Surveys will be conducted late in the winter (usually February) while most elk are still at the feed sites and before they begin to leave for summer ranges. Counts will be used to determine how many animals are using each site and condition of those animals, so that numbers will be documented and feed can be calibrated for each site. In addition, bull:cow and calf:cow ratios will be calculated. These counts and ratios will then be used, in addition to herd composition counts throughout the Northeast Region Wildlife Districts, to help determine herd status relative to management objective, and the number of tags which will be offered in the next year's hunting seasons. Management objectives for post season bull:cow and buck:doe ratios and winter elk and deer populations were set as part of a public process. These objectives were adopted by the Fish and Wildlife Commission as described in the Department's Elk and Deer Management Plans.

Other Wildlife

Informal monitoring of other wildlife will be conducted incidental to other activities. Incidental observations of unusual wildlife e.g. Shiras moose (*Alces alces shirasi*) by Department staff and members of the public will be recorded with the date, location and species observed. These sightings are forwarded to the local district biologist.

Fish

Fish populations will be monitored through creel checks and stream surveys by Oregon State Police (OSP) and Department staff. Monitoring will be conducted opportunistically and/or as scheduled by fisheries personnel.

Wildlife Diseases

Blood from over 2,000 deer and elk has been collected and tested from the Elkhorn Wildlife Area since 1987. Brucellosis, bluetongue, leptospirosis, Infectious Bovine Rhinotracheitis (IBR), Bovine Viral Diarrhea (BVD), Parainfluenza 3 (PI-3), and hemophilus are diseases which are tested for annually. Brucellosis test results were all negative, with the exception of 1 false positive. Later testing determined the animal did not have brucellosis. Bluetongue and hemophilus were all negative. Disease screening (IBR, BVD, PI-3, hemophilus and leptospirosis) test results indicate a small minority of elk and deer tested had been exposed to these infectious agents. In addition, tests for Chronic Wasting Disease (CWD) have been performed on the brain stems of hunter-killed elk and deer throughout Oregon since 2001 with no positive animals being found.

EWA staff will continue to monitor deer and elk for disease. Blood will be drawn from a sample of elk and deer each year and the data collected will be added to the large data set already compiled by Wildlife District biologists. Department staff in consultation with federal and state veterinarians may suggest changes in disease testing in the future. Local county officials will be consulted before any changes are made.

The response to a positive test result at feed sites or from wildlife located near a domestic disease outbreak will vary according to the particular situation. The type and severity of the potential disease, exposure to other wildlife or domestic animals, risk of various actions or alternatives, and feasibility of implementing those actions or alternatives will be considered. Response alternatives may include no response, re-testing, control of wildlife populations, or extermination. For low risk and/or low severity diseases, EWA and Wildlife District staff will consult with the department veterinarian to determine the appropriate response. For high risk and/or high severity diseases, EWA and District staff will consult with the Department's and the Oregon Department of Agriculture veterinarians to determine the appropriate response.

Grazing

Allotments will be monitored and evaluated throughout the grazing season by the area manager. Forage produced and removed will be measured using the Natural Resources Conservation Service formula for calculation of forage removal (28 pounds of forage per animal unit per day).

Caged enclosures may be utilized to measure forage production. Irrigated pastures will be utilized to no more than 35 to 50% of available forage, and non-irrigated pastures will be utilized to no more than 35% of available forage.

Timber

In 2016 ODFW entered into a partnership with ODF (Oregon Department of Forestry) to hire a forester to work on wildlife area land in Wallowa, Baker and Union counties. This shared position will work for ODFW for 7 months and ODF for 5 months annually. The employee in this position will update the current timber management plan, and monitor forest stand conditions to determine appropriate silvicultural practices to improve and increase wildlife habitat, improve forest health, control insect infested and diseased stands of timber, and reduce fire danger.

The current timber management plan was created in 2009, and is useful in providing baseline data on timber inventories, stand type, soils, etc. The 2009 plan is being reviewed and updated. All portions of the wildlife area have been logged in the past; current, overall timber conditions are the result of previous landowners' management objectives. In 2016 two hundred twenty two (222) acres were logged along our USFS (United States Forest Service) boundary in cooperation with the East Face Timber management plan. This Plan covers over 80,000 acres of Private, commercial, USFS, and ODFW timber ground in Baker and Union counties

Forest stand conditions will be monitored to determine appropriate silvicultural practices to improve and increase wildlife habitat, improve forest health, control insect infested and diseased stands of timber, and reduce fire danger.

An earlier timber management plan was created in 1983, and is useful in providing baseline data on timber inventories, stand type, soils, etc. All portions of the wildlife area have been logged in the past; current, overall timber conditions are the result of previous landowners' management objectives.

Past Oregon legislative action resulted in the passage of two forestry-related laws, HB 3152 and HB 2344, which impact management activities on the EWA. These laws are described below and in further detail in **Appendix F**.

HB 3152 requires the Department of Administrative Services to coordinate with the Department of Fish and Wildlife, the Parks and Recreation Department, the State Forestry Department, the Division of State Lands and other agencies with state forestland oversight responsibilities to adopt forest management plans or policies.

HB 2344 directs state agencies to develop plans for timber salvage operations to restore and recover forest lands burned by fire.

Water Use

Water usage is monitored by wildlife area staff, the local irrigation district, and the county water masters office. Irrigation and domestic water will be monitored as used. Irrigation water will be measured as used and reported annually to the Oregon water Resources Department.

Public Use

Monitoring of public use of the area may be conducted to determine if the EWA is providing the type of recreational opportunities and experiences desired by the public. Estimates of area use and needs will be recorded and used for informational purposes. Consumptive use activity surveys will include: 1) interviews conducted at hunter check stations, hunting camps, fishing sites, and by telephone, by OSP wildlife officers and Department personnel; and 2) counts of hunting camps within the EWA. Non-consumptive use of the area is estimated based on random counts of individuals at wildlife viewing areas, the nature trail and campgrounds, the number of individuals going on wagon rides, as well as informal interviews of users.

Cultural Resources

The geographic area that the wildlife area now encompasses was once occupied by the Cayuse people (Suphan, 1963), and other groups such as the Nez Perce, Umatilla, and Northern Paiute probably used the area during different times of the year. The first Euroamericans in the area were fur trappers from the Canadian Northwest Company and the Pacific Fur Company. Between 1843 and 1865, over 27,500 emigrants passed through the area while following the Oregon Trail. Although the Oregon Trail passes through the Baker Valley, the area was not settled until gold was discovered in the early 1860's. The railroad reached the region in the 1880's, linking ranchers to larger cattle markets and allowing timber to be shipped to markets out side of the area.

Grazing, mining, hunting and logging are the known historical/cultural practices that have occurred on the EWA for many years prior to the Department's acquisition of the land.

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, to ensure that proposed area management activities comply with State and Federal cultural resource laws. In 2013 cultural surveys were completed on the North Powder Tract. A findings report was completed and provided SHPO. The BLM also completed cultural surveys on the Auburn Tract.

Social Environment

Demographics

The EWA is located between La Grande and Baker City within two counties, Union and Baker. The properties that make up the EWA are located along the foothills, on the east side of the Elkhorn Mountains.

Land Use

The wildlife area is surrounded almost entirely by agricultural lands on the east and forested lands on the west. Agricultural lands consist of irrigated pastures used for grazing and hay production as well as land farmed for cereal grains, potatoes, mint, and alfalfa hay. Forested lands, depending on ownership, are used for grazing livestock and for timber production.

Figure 3 shows the land uses surrounding the Elkhorn Wildlife Area.

Infrastructure

Developments/Facilities

Only two land tracts on the EWA have major facilities development. The facilities are described in detail in **Table 5**.

The North Powder Tract consists of the headquarters facilities, which include the wildlife area manager's residence, a maintenance shop, an equipment storage shed, an office, a barn, a wood shop, and three other small utility buildings. The viewing site located on this tract has a public information kiosk, a handicap accessible vault toilet, and a graveled parking area. The camp-ground located along Anthony Creek below the headquarters has a ¾ mile nature trail, picnic tables, a portable, disabled-accessible restroom, and horse stalls. The North Powder tract also has three hay storage barns located at the winter feed sites. The segments of the North Powder River and Anthony Creek that run through the North Powder Tract are protected by approximately six miles of riparian fencing.

The Roth Tract facilities consist of a residence, a small shop, a garage, an equipment and fuel storage shed, a hay storage barn and fenced pastures.

Table 5. Facilities and Developments on the Elkhorn Wildlife Area.

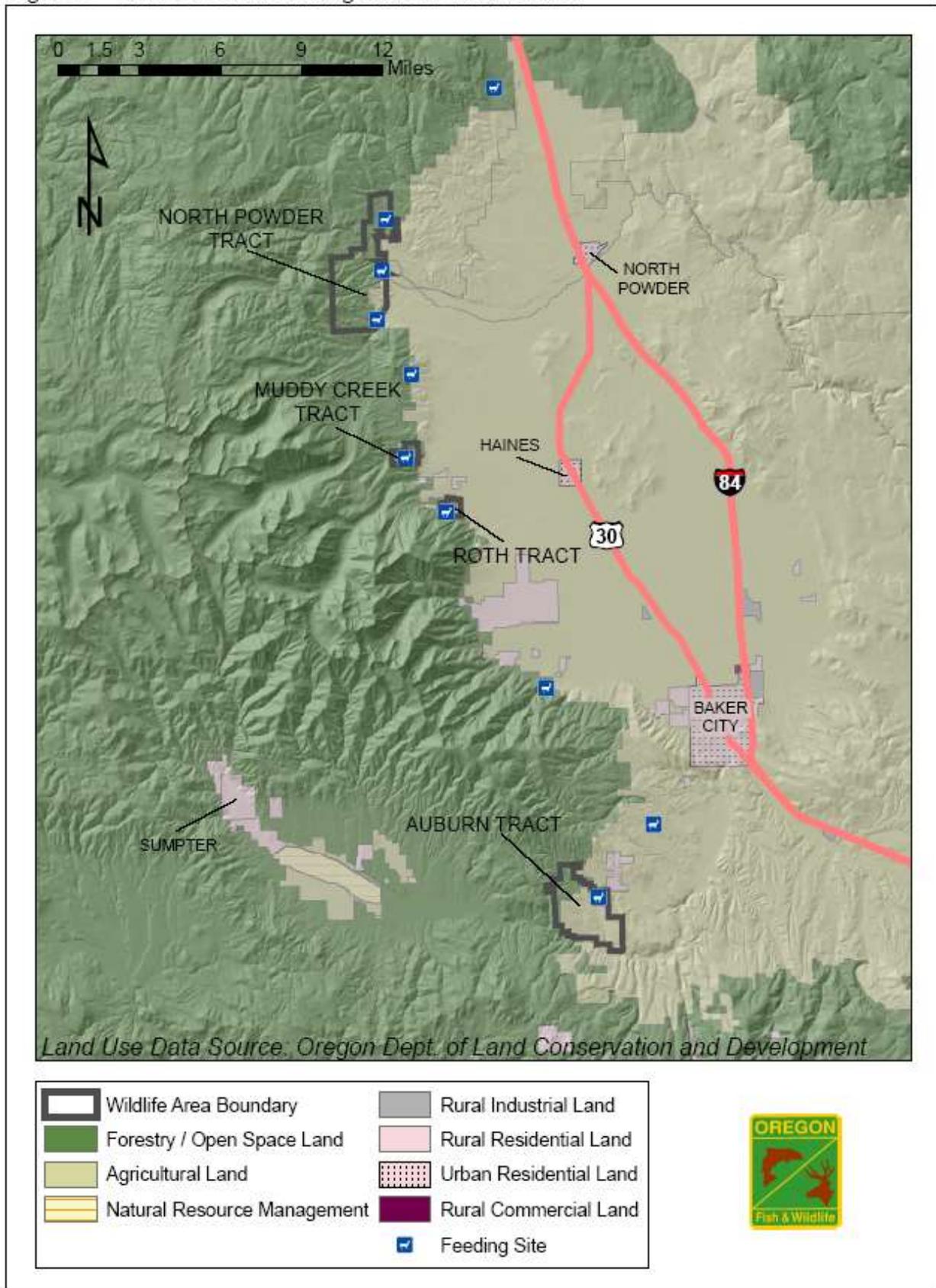
Development Type	Location/Tract Name(s)
9 feed sites for elk and deer	North Powder(3); Shaw Mountain; Muddy Creek; Roth; Salmon Creek; Elk Creek; Auburn.
1 feed site for deer only	Antelope Peak
9 hay sheds	North Powder(3); Shaw Mountain; Muddy Creek; Roth; Salmon Creek; Elk Creek; Auburn.
1 storage bin	Auburn
Maintenance Shop	Headquarters/North Powder
Equipment Shed	Headquarters/North Powder
Office	Headquarters/North Powder
Remodeling of 2 residences	Headquarters/North Powder; Roth
Restoration of Headquarters barn	Headquarters/North Powder
6 miles of riparian protection fencing	North Powder River & Anthony Creek

Approx. 50 miles of boundary and livestock fencing (replaced old fences or upgraded to accommodate elk and deer migrations).

Throughout the Wildlife Area

The EWA has fifty plus miles of boundary and livestock fencing. All winter feed sites except the deer feed site on Antelope Peak have hay storage barns located at the feed site itself.

Figure 3 - Land Use Surrounding Elkhorn Wildlife Area



Water Rights

The EWA has twenty-two water rights, for the use of 16.705 cfs of water, to irrigate 932 acres on the EWA. These water rights are listed in **Appendix C**. Water use is monitored and reported to the Oregon Water Resources Department on an annual basis.

Easements/Access Agreements

Appendix D lists the numerous changes in property owned, leased, and managed under agreement since the original purchase in 1971.

The North Powder Tract has five easements that include power transmission lines, county roads, private property access, waterway access, and a livestock driveway. There are two permanent easements through private property to access winter feed sites on the Elk Creek and Shaw Mountain tracts. Two power transmission lines and a county road easement exist on the Auburn tract. These easements are listed in **Appendix E**.

The EWA holds two feed site leases; one is in perpetuity located at the Shaw Mountain site and the other is the deer feed site, located on Antelope Peak, which is currently under a five year agreement.

The following is a description of the current grazing agreements on the Elkhorn Wildlife Area:

	<u>Tract</u>	<u>Acres</u>	<u>AUMs*</u>	<u>Time of Year</u>
1.	Auburn	1,655 dry land/timbered	250	May - July
2.	Roth	277 irrigated	400	May - Sept.
3.	Muddy Creek	390 dry land/timbered	150	July - Sept.
4.	North Powder	1,500 irrigated/dry land/timbered	1,000	May - Sept.

* AUMs may be adjusted annually to meet available forage.

Land 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, feeding barns, etc.).

At the current time no new land acquisitions are planned. However lands adjacent to or within current wildlife area boundaries that may become available and would enhance EWA operations or management capabilities will be considered on an individual basis.

Public Use

Public Access

The wildlife area lands are open to the public for wildlife-oriented recreational purposes from April 11 to November 30 each year. Public access is prohibited from December 1 to April 10 to reduce harassment of big game animals and other wildlife on EWA lands to maintain the objective of the EWA.

Hunting, Trapping and Angling

The EWA, except the Roth Tract, is open for hunting, trapping, and angling. All consumptive and non-consumptive activities are prohibited from December 1 to April 10. During this time the EWA is closed to all entry except by permit, to prevent harassment of big game animals on winter feeding sites. Consumptive use activities are estimated based on a combination of 1) interviews conducted at hunter check stations, hunting camps, fishing sites, by telephone, by OSP wildlife officers and Department personnel; 2) counts of hunting camps in the EWA (see **Table 6**).

Table 6. Estimated Annual Hunting, Trapping, and Angling Use Days on the Elkhorn Wildlife Area, Oregon.

Activity	Estimated Annual Use Days
Hunting	
Big Game	3,000
Waterfowl	100
Upland Game	250
Unprotected Wildlife	250
Trapping (by permit)	10
Angling	1,050
Total	4,660

Non-consumptive

The EWA is open to the general public from April 11 to November 30 each year for wildlife-oriented recreational opportunities such as wildlife viewing, hiking, horseback riding, photography, camping, and resource education. The EWA currently has 2 developed wildlife viewing sites, a ¾ of a mile of nature trail and 2 campgrounds.

Both wildlife viewing sites are reached via county roads and are accessible to persons with disabilities. One viewing site is located on the North Powder Tract, near the EWA headquarters. It is primarily self-guided with interpretive signs. The second viewing site

is located on the Auburn Tract and is entirely self-guided.

The nature trail provides the public the opportunity to view wildlife in a natural setting. It is located on Anthony Creek near the wildlife viewing area and includes a parking area with entryway, 3/4 mile graveled pathway, a footbridge, and interpretive signs. The trail is accessible to members of the public with disabilities.

Non-consumptive use of the area is estimated based on random counts of individuals at wildlife viewing areas, the nature trail and campgrounds, the number of individuals going on wagon rides, as well as informal interviews of users (see **Table 7**).

Table 7. Estimated Annual Non-consumptive Use Days on the Elkhorn Wildlife Area.

Activity	Estimated Annual Use Days
Wildlife Viewing	25,000
Photography	2,000
Hiking	1,000
Horseback Riding	1,500
Camping	2,000
Other miscellaneous (e.g. day use picnicking)	500
Total	31,200

Campgrounds are provided for primitive camping; there is no water or power supplied. The Anthony Creek site, near the nature trail and wildlife viewing area, is equipped with picnic tables and a chemical toilet and is accessible to persons with disabilities. The River site is located on the North Powder Tract and is operated only during the hunting season to provide hunters a suitable place to establish camps. A chemical toilet is provided at this site. Firewood is provided for public use at both camping areas to prevent cutting of trees in the campground areas.

Educational/Interpretive

The John W. McKean Memorial kiosk provides information to the public regarding the life cycle of Rocky Mountain elk. The kiosk is located at the main viewing area near the Anthony Creek feed site. It was upgraded in 2015 with the placement of new color signs to replace the old signs on the kiosk.

Different locations on the wildlife area are also used at times for events sponsored by the National Wild Turkey Federation, the Department's Becoming an Outdoors Woman program, National Versatile Hunting Dog Association, Elkhorn Archers, County search and rescue teams, and Scouting events.

Objectives and Strategies

Objectives and Strategies

As stated previously, 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 identify the management activities and priorities of the Elkhorn Wildlife Area Management Plan:

(Goal 1: To minimize or alleviate conflicts caused by deer and elk to privately owned lands and agricultural crops.)

Objective 1.1: To provide supplemental feed for up to 1,400 wintering elk and up to 800 deer.

Rationale

The strategies identified below have been selected based on applicable state or county laws and the guidance and direction found in the Department's Wildlife Conservation Strategy, the overall mission of the Department, the goal of the Elkhorn Wildlife Area and the standards of wildlife ecology and management.

Strategy 1. Provide supplemental feed for deer and elk at 10 feed sites. These sites are approximately 5 acres in size and are located along elk and deer migration routes. Four sites (Roth, Muddy Creek, Antelope Peak, and Shaw Mountain) are operated under Conditional Use Permits approved by Baker and Union counties. The other 6 sites, 2 located on USFS and BLM lands and 4 located on Department property, will be operated under the same guidelines identified in the afore mentioned Conditional Use Permits.

Strategy 2. Big game may be monitored for disease annually by sampling a representative number of elk and deer when possible.

Strategy 3. When predator activity on the EWA becomes elevated to the point that the goal of the EWA and/or human and livestock safety are threatened, the offending predator(s) may be removed in such a way as to minimize disruption of wintering wildlife. While predation is a normal occurrence in natural ecosystems, harassment due to predation can disrupt the operation of the feed sites, causing big game to disperse to surrounding private properties, and thus defeat the goal of the EWA. In addition, because the feed sites are located near human habitation and cattle operations, predators attracted to the feed sites can pose a threat to humans and livestock.

Objective 1.2: To develop and maintain habitats to attract and hold wintering deer and elk.

Rationale

Specific strategies such as the number and size of feed sites and the number of animals fed as well as monitoring animals for the presence of disease, are found in the Site Plan Standards adopted into the Baker County Land Use Plan. Monitoring and control of noxious weeds is required of all landowners by the Union and Baker County weed control ordinances in addition to being a sound land management practice.

Further, scientific knowledge and past experience at the EWA have guided development of wildlife management strategies. For example, Thomas and Toweill (1982), Wallmo (1981) and others have established the importance of hiding and thermal cover as components of habitat for elk and deer. Thus, maintaining those components was identified as a viable strategy to achieve the objective of maintaining habitats to attract and hold wintering deer and elk. Similarly, spring and summer livestock grazing has been shown to be a viable strategy to help condition forage for wintering wildlife and riparian fencing is a necessary component to avoid damage by livestock.

Strategy 1. Identify and maintain hiding and thermal cover habitats for deer and elk.

Strategy 2. Continue to survey and identify age class, stand type, and condition of timber stands on the area to determine necessary silvicultural practices to improve and increase wildlife habitat, improve forest health, control insect infested and diseased stands of timber, and reduce fire danger.

Strategy 3. Continue plans for timber salvage operations to restore and recover forest lands burned by fire.

Strategy 4. Continue the grazing program on irrigated and timbered ground on the North Powder, Auburn, Muddy Cr. and Roth tracts to condition forage for deer and elk.

Strategy 5. Conduct ground fertilization and renovation of pastures as needed to maintain approximately 350 acres of pastureland for deer and elk.

Strategy 6. Maintain 6 miles of fence to protect riparian areas and 50 miles of boundary fencing to manage livestock to condition forage for wintering wildlife.

Strategy 7. Maintain noxious weed control on approximately 425 acres of pastureland annually, including annual herbicide usage reports required by Oregon Department of Agriculture.

(Goal 2. To protect, enhance, and restore habitat diversity for all other beneficial wildlife on the area, compatible with Goal 1.)

Objective 2.1: To protect, enhance, and restore habitats for other wildlife consistent with Goal 1.

Rationale

State law, the mission of the Department and the Oregon Conservation Strategy call for Oregon's wildlife to be "managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state" (ORS 496.012). Thus, strategies are employed by the EWA to conserve habitat for all species when such strategies are not in conflict with the goal of the wildlife area.

Strategy 1. Explore the possibilities for developing an internship program with colleges and universities to support education, recreation, inventory, and monitoring needs. Particular emphasis should be placed on documenting existing and potential habitats for threatened, endangered, and sensitive wildlife.

Strategy 2. Seek partnerships and cooperative funding from other agencies which have threatened and endangered program responsibilities.

Strategy 3. Monitor and control noxious weeds on wildlife area lands, including annual herbicide usage reports required by Oregon Department of Agriculture.

Strategy 4. Continue habitat improvement projects that may include snag retention, timber harvest, nest structure development, and development of forage areas.

Strategy 5. Continue to maintain and enhance fish habitat including protection of riparian areas through fencing, stream bank stabilization, improved screening of water diversions and placement of instream structures.

Strategy 6. Maintain ponds, catch basins and springs for wildlife and aquatic species.

Objective 2.2: To maintain and enhance wildlife area facilities, structures, and equipment to facilitate habitat management and public use projects on the wildlife area.

Rationale

Facilities, structures, and equipment are integral to the overall operation of the EWA. All must be maintained and kept in good working condition to accomplish annual projects. Habitat management and public use are also identified in the overall mission of the Department, and in the goals of the Elkhorn Wildlife Area.

Strategy 1. Conduct annual inspections and winterization procedures on facilities and structures and make repairs as needed. Conduct regular scheduled maintenance on all equipment and vehicles and repair as needed. Conduct annual inspections and winterization procedures on all equipment and vehicles.

Strategy 2. Continue to install, maintain, and remove fish screens on irrigation ditches annually.

Strategy 3. Continue current irrigation practices as allowed by EWA water rights, including annual water usage reports.

Goal 3. To provide a variety of quality recreational and educational opportunities to the public which are compatible with Goals 1 and 2.

Objective 3.1: To provide approximately 4,000 hunting, trapping and angling use days annually.

Rationale

This rationale is the same as for Objective 2.1: State law, the mission of the Department and the Oregon Conservation Strategy call for Oregon's wildlife to be "managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state" (ORS 496.012). Thus, strategies are employed by the EWA to conserve habitat for all species when such strategies are not in conflict with the goal of the wildlife area. Currently, the wildlife area is maintained almost entirely by funds generated from hunters. The EWA staff, through its management efforts, is committed to providing wildlife-oriented recreational opportunities for the citizens of Oregon.

Strategy 1. Maintain 16 miles of roads and trails, 2 campgrounds, and signs to provide approximately 4,000 hunting, trapping and angling use days annually.

Strategy 2. Explore the possibilities for developing an internship program with colleges and universities to support education, inventory, and monitoring needs.

Strategy 3. Collaborate with Department staff to determine hunting opportunities and tag numbers for wildlife area lands.

Strategy 4. Continue to provide access and area information to the public through brochures, maps, signage and hunting regulation booklets.

Strategy 5. Explore potential for improved hunting access for persons with disabilities.

Strategy 6. Explore potential to implement a voluntary system to track hunter

use and success on the wildlife area.

Objective 3.2: To provide approximately 30,000 wildlife viewing and education / interpretation use days annually.

Rationale

Again State law, the mission of the Department, and the Oregon Conservation Strategy call for Oregon's wildlife to be "managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state" (ORS 496.012). Because the wildlife area is maintained almost entirely by funds generated from hunters, a parking permit system was put in place to have the non-consumptive user help fund improvements and maintenance at EWA. Non-consumptive recreation and education constitutes significantly more use on the EWA than hunting, trapping and angling. The EWA 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. Maintain 16 miles of roads and trails, viewing sites, 2 campgrounds, signs, and elk viewing excursions to provide over 30,000 non-consumptive use days annually.

Strategy 2. Prioritize and catalogue potential inventory, monitoring, habitat development, and recreation projects for educators interested in using the wildlife area as an outdoor classroom.

Strategy 3. Explore the possibilities for developing an internship program with colleges and universities to support education, recreation, inventory, and monitoring needs.

Plan Implementation

Funding

Since its inception in 1971, funding for the operation and maintenance of the EWA has been accomplished through an annual federal grant under the Federal Aid to Wildlife Restoration (WR) Program. This program was created with the passage of the Pittman-Robertson (PR) Act in 1937. The PR Act authorizes the U.S. Fish and Wildlife Service to cooperate with the States, through their respective State fish and wildlife departments, to fund wildlife 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 is derived from a federal excise tax on the sale of firearms, ammunition, and archery equipment. 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%, nor less than 0.5% of the total money available.

To be eligible, States must have assented to the provisions of the PR 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 license and tag revenues.

Over the past 5 years, funding for the operation and maintenance of the EWA has averaged approximately \$650,000 annually. 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 existing facilities, construction of new facilities or amenities (orientation kiosks and interpretive signs), and species and habitat monitoring.

Accomplishments

In the past decade since the 2006 Elkhorn Wildlife Area Management Plan implementation not only have the goals and objectives been met there has been some major accomplishments that have been summarized in this section.

Cultural surveys were completed on the North Powder and Auburn Tracts of the WMA. Partnerships with The BLM resulted in the removal of 500 acres of Juniper to improve range conditions, and big game habitat primarily mule deer.

Partnerships on the East Face project with USFS, ODF, NRCS, ODFW, and the members of the consortium resulted in 222 acres of timber harvested on the North Powder tract. We have identified more harvest units along our common boundaries with USFS, and private landowners, to meet the goals of the East Face project.

A new timber plan, including timber types, volumes, and suggested management activities was developed and is currently being reviewed and updated by our new forester.

A partnership with ODF was entered into where we share a forester position. This position will work 7 months for ODFW and 5 months for ODF. We will use the position to implement timber management and forest habitat improvement activities on our lands in Baker, Union, and Wallowa counties.

A trade services agreement was worked out to get 50 acres of timber thinned across from our public camp ground to improve wildlife habitat and reduce fire danger.

New kiosk signs were developed and used to replace old signs at the John McKean viewing site along Anthony Creek. Five new signing kiosks were placed at major public us entry areas.

A WMA parking fee was implemented.

Seventy seven GPS collars were placed on elk from seven different winter feed sites to monitor elk usage on and off the WMA, determine travel patterns, and look at forage competition with other wildlife.

A D5N cat and 10 yard dump truck was purchased and is shared between Elkhorn and Ladd Marsh WMA's.

A new 130 hp. Tractor and front end loader was purchased to handle hay and farming work.

A French drain system was installed at the Roth house to prevent water from entering the basement.

The bridge at the camp ground was improved with new stringers and bridge decking being installed.

The dam on Vogel reservoir was breached by high water causing major flooding downstream on the WMA and private lands. The dam was not repaired but flood damage was repaired.

The deer feed site lease was renewed.

We continue to work closely with the district biologist, and neighboring private landowners to resolve big game damage issues.

Staffing/Organization

In total, the Oregon Department of Fish and Wildlife manages 17 (seventeen) wildlife areas statewide. These wildlife areas encompass approximately 200,000 acres and are found in both Department administrative regions; Elkhorn Wildlife Area is located in the Northeast area of the east region within the Grande Ronde watershed district.

The Elkhorn Wildlife Area is currently staffed by three full time employees and two seasonal employees. Full time employees consist of the area manager, a Fish and Wildlife Senior Technician, a Fish and Wildlife Technician, and two seasonal Fish and Wildlife Technician positions. The seasonal technicians are brought on during the winter months to assist with the feeding operation. The manager also supervises all the other ODFW properties and WMA's in Baker, Union, and Wallowa counties.

Compliance Requirements

This management plan was developed to comply with all Federal and State laws, Oregon Revised Statutes (ORSs), Oregon Administrative Rules (OARs), and Department policies. Full implementation of all components of this plan will require compliance with the laws, regulations, rules, and policies listed in **Appendix F**.

Most of the guiding regulations complement the mission of the EWA. 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, in the EWA.

Partnerships

A number of other state, federal, and local agencies and interest groups assist with management activities on the EWA. These partners play an important role helping the Department achieve its mission and the EWA 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. There is a great potential for more public participation and assistance in the management of the wildlife area given its proximity to important population centers such as La Grande and Baker City. 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 5 years and updated every 10 years. In the meantime, however, the Department will be reviewing and updating this plan periodically (at least as often as every 5 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. Plant Species Known
to Occur on the Elkhorn Wildlife Area.**

Conifer trees

Douglas fir (*Pseudotsuga menziesii*)
 Grand fir (*Abies grandis*)
 White fir (*Abies concolor*)
 Western larch (*Larix occidentalis*)
 Western juniper (*Juniperus occidentalis*)
 Ponderosa pine (*Pinus ponderosa*)
 Lodgepole pine (*Pinus contorta*)
 Engelmann spruce (*Picea engelmannii*)

Deciduous trees

White alder (*Alnus rhombifolia*)
 Common chokecherry (*Prunus virginiana*)
 Quaking aspen (*Populus tremuloides*)
 Black cottonwood (*Populus trichocarpa*)
 Water Birch (*Betula occidentalis*)
 Black hawthorn (*Crataegus douglasii*)

Shrubs

Bitterbrush (*Purshia tridentata*)
 Rabbitbrush (*Crysothamnus* spp)
 Currant (*Ribes* spp)
 Rose (*Rosa* spp)
 Huckleberry (*Vaccinium* spp)
 Sagebrush (*Artemisia* spp)

Grasses

Barnyard grass (*Echinochloa crusgalli*)
 Kentucky bluegrass (*Poa pratensis*)
 Canada bluegrass (*Poa compressa*)
 Bulbous bluegrass (*Poa bulbosa*)
 Bluebunch wheatgrass (*Agropyron
spicatum*)
 Smooth brome (*Bromus inermis*)
 Tall Fescue (*Festuca* spp)
 Idaho Fescue (*Festuca idahoensis*)
 Meadow foxtail (*Alopecurus pratensis*)
 Needlegrass (*Stipa* spp)
 Orchardgrass (*Dactylis glomerata*)

Grasses, Con't.

Porcupine grass (*Stipa spartea*)
 Quackgrass (*Agropyron repens*)
 Redtop (*Agrostis stolonifera*)
 Prairie threeawn (*Tripsacum dactyloides*)
 Timothy (*Phleum pratense*)
 Crested wheatgrass (*Agropyron cristatum*)
 Intermediate wheatgrass (*A. intermedium*)
 Western wheatgrass (*A. smithii*)

Legumes

Alfalfa (*Psoralea* spp)
 Alsike clover (*Trifolium hybridum*)
 Red clover (*Trifolium pratense*)
 Yellow sweet-clover (*Melilotus officinalis*)

Forbes

Button weed (*Malva neglecta*)
 Horse nettle (*Solanum* spp)
 Burnet (*Sanguisorba* spp)
 Milkweed (*Asclepias* spp)
 Evening primrose (*Primula* spp)

Composites

Buckwheat (*Eriogonum* spp)
 Stinging nettle (*Urtica dioica*)
 Western bracken fern (*Pteridium aquilinum*)
 Cockleburr (*Xanthium* spp)
 Western ragweed (*Ambrosia psilostachya*)
 Common sunflower (*Helianthus annuus*)
 Cattail (*Typha latifolia*)
 Common Teasel (*Dipsacus fullonum*)
 Houndstongue (*Cynoglossum officinale*)
 Crabgrass (*Digitaria sanguinalis*)
 Canada thistle (*Cirsium arvense*)
 Scotch thistle (*Onopordum acanthium*)
 Iris (*Iris* spp)
 Bull thistle (*Cirsium vulgare*)

Appendix B. Wildlife Species Known to Occur on the Elkhorn Wildlife Area.

The following table and letter keys identify the species presence/sightability by season and relative abundances:

W-winter, Sp- spring, S-summer F-fall A-abundant, C-common, U-uncommon, R-rare,

Common Name	Scientific Name	W	Sp	S	F
Amphibians					
Long-toed Salamander	<i>Ambystoma macrodactylum</i>	R	R	R	R
Spotted Frog	<i>Rana pretiosa</i>	R	R	R	R
Western Toad	<i>Bufo boreas</i>	R	C	C	U
Pacific Tree Frog	<i>Pseudacris regilla</i>	R	C	C	U
Total Amphibians:	4				
Birds					
Great Blue Heron	<i>Ardea herodias</i>	C	C	C	C
Canada Goose	<i>Branta canadensis</i>	U	C	C	C
Cinnamon Teal	<i>Anas cyanoptera</i>	R	U	U	R
Mallard	<i>Anas platyrhynchos</i>	U	C	C	C
Wood Duck	<i>Aix sponsa</i>	R	U	U	U
Common Merganser	<i>Mergus merganser</i>	R	R	R	R
Turkey Vulture	<i>Cathartes aura</i>	R	C	C	R
Bald Eagle	<i>Haliaeetus leucocephalus</i>	C	C	C	C
Golden Eagle	<i>Aquila chrysaetos</i>	U	U	U	U
Northern Harrier	<i>Circus cyaneus</i>	C	C	C	C
Sharp-shinned Hawk	<i>Accipiter striatus</i>	U	U	U	U
Cooper's Hawk	<i>Accipiter cooperii</i>	U	U	U	U
Northern Goshawk	<i>Accipiter gentilis</i>	R	R	R	R
Red-tailed Hawk	<i>Buteo jamaicensis</i>	A	A	A	A
Rough-legged Hawk	<i>Buteo lagopus</i>	C	C	U	C
American Kestrel	<i>Falco sparverius</i>	C	C	C	C
Great Horned Owl	<i>Bubo virginianus</i>	C	C	C	C
Northern Pygmy-owl	<i>Glaucidium gnoma</i>	R	R	R	R
Northern Saw-whet Owl	<i>Aegolius acadicus</i>	R	R	R	R
Long-eared Owl	<i>Asio otus</i>	C	C	C	C
California Quail	<i>Callipepla californica</i>	C	C	C	C
Ruffed Grouse	<i>Bonasa umbellus</i>	U	C	C	C
Dusky Grouse	<i>Dendragapus obscurus</i>	U	C	C	C
Chukar	<i>Alectoris chukar</i>	R	R	R	R
Ring-necked Pheasant	<i>Phasianus colchicus</i>	R	R	R	R
Wild Turkey	<i>Meleagris gallopavo</i>	C	C	C	C
Killdeer	<i>Charadrius vociferus</i>	R	A	C	C
Wilson's Snipe	<i>Gallinago delicata</i>	U	U	U	U
Mourning Dove	<i>Zenaida macroura</i>	R	U	C	C
Common Nighthawk	<i>Chordeiles minor</i>	U	C	C	C
Rufous Hummingbird	<i>Selasphorus rufus</i>	R	C	R	R
Belted Kingfisher	<i>Ceryle alcyon</i>	C	C	C	C
Red-naped Sapsucker	<i>Sphyrapicus ruber</i>	R	U	U	U

Common Name	Scientific Name	W	Sp	S	F
Downy Woodpecker	<i>Picoides pubescens</i>	R	C	C	C
Hairy Woodpecker	<i>Picoides villosus</i>	R	U	U	U
Northern Flicker	<i>Colaptes auratus</i>	C	C	C	C
Pileated Woodpecker	<i>Dryocopus pileatus</i>	C	C	C	C
Olive-sided Flycatcher	<i>Contopus cooperi</i>	R	U	U	R
Western Wood Peewee	<i>Contopus sordidulus</i>	R	U	U	U
Western Kingbird	<i>Tyrannus verticalis</i>	R	U	U	R
Warbling Vireo	<i>Vireo gilvus</i>	R	U	U	U
Solitary Vireo	<i>Vireo solitarius</i>	R	U	U	U
Northern Shrike	<i>Lanius excubitor</i>	U	R	R	R
Gray Jay	<i>Perisoreus canadensis</i>	U	C	C	C
Steller's Jay	<i>Cyanocitta stelleri</i>	A	A	A	A
Blacked-billed Magpie	<i>Pica hudsonia</i>	A	A	A	A
Clark's Nutcracker	<i>Nucifraga columbiana</i>	U	C	C	R
American Crow	<i>Corvus brachyrhynchos</i>	A	A	A	A
Common Raven	<i>Corvus corax</i>	A	A	A	A
Tree Swallow	<i>Tachycineta bicolor</i>	U	A	C	C
Violet-green Swallow	<i>Tachycineta thalassina</i>	U	A	C	C
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	U	A	C	C
Barn Swallow	<i>Hirundo rustica</i>	R	A	C	R
American Dipper	<i>Cinclus mexicanus</i>	U	U	U	U
Black-capped Chickadee	<i>Poecile atricapillus</i>	C	C	C	C
Mountain Chickadee	<i>Poecille gambeli</i>	C	C	C	C
Pygmy Nuthatch	<i>Sitta pygmaea</i>	R	R	R	R
Red-breasted Nuthatch	<i>Sitta canadensis</i>	R	R	R	R
White-breasted Nuthatch	<i>Sitta carolinensis</i>	R	R	R	R
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	R	U	U	R
Vesper Sparrow	<i>Pooecetes gramineus</i>	R	C	C	C
Song Sparrow	<i>Melospiza melodia</i>	U	C	C	C
Chipping Sparrow	<i>Spizella passerine</i>	R	U	U	U
Dark-eyed Junco	<i>Junco hyemalis</i>	A	A	A	A
Evening Grosbeak	<i>Coccothraustes vespertinus</i>	R	R	U	R
Pine Grosbeak	<i>Pinicola enucleator</i>	R	R	R	R
House Wren	<i>Troglodytes aedon</i>	R	C	C	C
Ruby-crowned Kinglet	<i>Regulus calendula</i>	R	U	U	U
Golden-crowned Kinglet	<i>Regulus satrapa</i>	R	U	U	U
Western Bluebird	<i>Sialia mexicana</i>	R	C	C	C
Mountain Bluebird	<i>Sialia currucoides</i>	R	C	C	C
Townsend's Solitaire	<i>Myadestes townsendi</i>	R	U	U	U
Swainson's Thrush	<i>Catharus ustulatus</i>	R	R	R	R
American Robin	<i>Turdus migratorius</i>	U	A	A	U
Cedar Waxwing	<i>Bombycilla cedrorum</i>	R	R	R	R
Yellow Warbler	<i>Dendroica petechia</i>	R	C	C	U
Yellow-rumped Warbler	<i>Dendroica coronata</i>	R	U	U	R
Townsend's Warbler	<i>Dendroica townsendi</i>	R	C	C	U
McGillivray's Warbler	<i>Oporomis tolmiei</i>	R	U	U	U
Western Meadowlark	<i>Sturnella neglecta</i>	U	U	U	U

Common Name	Scientific Name	W	Sp	S	F
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	R	C	C	C
Brown-headed Cowbird	<i>Molothrus ater</i>	U	C	C	C
Bullock's Oriole	<i>Icterus bullockii</i>	R	R	R	R
Western Tanager	<i>Riranga ludoviciana</i>	R	U	U	R
Cassin's Finch	<i>Carpodacus cassinii</i>	U	C	C	U
Pine Siskin	<i>Carduelis pinus</i>	U	C	C	U
Green-tailed Towhee	<i>Pipilo chlorurus</i>	U	R	R	U
American Goldfinch	<i>Carduelis tristis</i>	R	C	C	U
European Starling	<i>Sturnus vulgaris</i>	U	A	A	A
Total Birds:	88				
Mammals					
Rocky Mountain Elk	<i>Cervus elaphus nelsoni</i>	A	A	A	A
Mule Deer	<i>Odocoileus hemionus</i>	A	A	A	A
Whit-tailed Deer	<i>Odocoileus virginianus</i>	C	C	C	C
Pronghorn	<i>Antilocapra americana</i>	U	U	U	U
Mountain Lion/Cougar	<i>Puma concolor</i>	C	C	C	C
Bobcat	<i>Lynx rufus</i>	C	C	C	C
Striped Skunk	<i>Mephitis mephitis</i>	U	U	U	U
Long-tailed Weasel	<i>Mustela frenata</i>	U	U	U	U
Porcupine	<i>Erithizo dorsatum</i>	U	U	U	U
Mink	<i>Mustela vison</i>	U	U	U	U
Badger	<i>Taxidea taxus</i>	C	C	C	C
Raccoon	<i>Procyon lotor</i>	C	C	C	C
Black Bear	<i>Ursus americanus</i>	U	C	C	C
Coyote	<i>Canis latrans</i>	A	A	A	A
Yellow – bellied Marmot	<i>Marmota flaviventris</i>	R	C	C	R
American Beaver	<i>Castor canadensis</i>	U	U	U	U
Muskrat	<i>Ondatra zibethicus</i>	U	U	U	U
Columbian Ground Squirrel	<i>Citellus columbianus</i>	R	C	C	R
Belding Ground Squirrel	<i>Citellus belding</i>	R	A	A	U
Red Squirrel	<i>Tamiasciurus hudsonicus</i>	R	C	C	R
Northern Flying Squirrel	<i>Glaucomys sabrinus</i>	R	R	R	R
Golden-mantled Ground Squirrel	<i>Spermophilus lateralis</i>	A	A	A	A
Snowshoe Hare	<i>Lepus americanus</i>	C	C	C	C
Yellow Pine Chipmunk	<i>Tamias amoenus</i>	R	R	R	R
Bats (species unknown)		C	A	A	A
Total Mammals:	22				
Reptiles					
Racer	<i>Coluber constrictor</i>	U	C	C	C
Rubber Boa	<i>Charina bottae</i>	U	C	C	C
Gopher Snake	<i>Pituophis catenifer</i>	U	C	C	C
Common Garter Snake	<i>Thamnophis spp</i>	U	C	C	C
Total Reptiles:	4				
Fish					
Rainbow Trout	<i>Oncorhynchus mykiss</i>	C	C	C	C
Eastern Brook Trout	<i>Salvelinus fontinalis</i>	C	C	C	C

Common Name	Scientific Name	W	Sp	S	F
Total Fish:	2				

Appendix C. Water Rights Held by the Elkhorn Wildlife Area.

No.	Certificate	Acres	Quantity (cfs)
1	1469	79	1.51
2	1526	10	1.0
3	1527	31	1.0
4	1532	3.0	.075
5	1534	3.0	1.08
6	1537	13.5	0.70
7	3384	30.0	0.39
8	3715	76	1.45
9	4223	2.0	0.05
10	5043	20.0	0.35
11	7423	29	0.37
12	7795	60	0.75
13/14	8167-8168	91.6	2
15	8494	17	0.25
16	8698	130	2.03
17	10072	59	0.59
18	1527	31	1.0
19	26646	2	0.05
20	27616	70	1.75
21	46114	20	0.25
22	65290	30.9	0.99

**Appendix D. Land Acquisitions and Adjustments
Involving the Elkhorn Wildlife Area.**

Date	Acres	Action	Cooperator
1971	4,400	Acquired from	Edward Sorenson and Adele Chandler
1971	1,656	Acquired from	R.D. Rasmussen
1975	+84/-125	Traded from	Wilson Cattle Co. (125 acres of pasture land traded for 84 acres of range and timberland)
1981	+167/-72	Traded from	Michael Mason
1982	-242	Transferred to	Powder Valley Irrigation District (For Pilcher Cr. Reservoir site; proceeds were used to purchase land for White River Wildlife Area)
1984	10	Agreement with	Bureau of Land Management (Cooperative management agreement to provide acreage for two winter feed sites.)
1986	390	Acquired from	Alpine Veneer Company
1987	277.71	Acquired from	Marianne Roth
1987	100	5 year lease from	Tim Kerns (as part of Hunt Mountain Forage Plan)
1987	1,303	5 year lease from	Mark Sackos (as part of Hunt Mountain Forage Plan)
1987	380	10 year lease from	Duane and Ruby White (for deer winter feed site)
1988	+40/-28	Traded from	Arthur Keller and Dick Camp
1990	953	20 year lease from	Don Buerkel (for wildlife habitat)
1990	-1,403	Terminated leases w/	Tim Kearns and Mark Sackos
1992	4	Acquired from	Don Buerkel (for feed site)
1996	-380	Terminated lease	Whites sold their property
1996	380	10 year lease from	Bob and Sue Jorgenson (formerly White property)
1996	-953	Terminated lease	Don Buerkel
2002	-380	Terminated lease	Jorgensons sold property
2002	380	1 year lease from	John and Dianne Fisher (formerly Jorgenson property)
2004	380	5 year lease from	John and Dianne Fisher

Appendix E. Easements Held on the Elkhorn Wildlife Area, by Individual Tract.

Tract Name	Purpose	Principles
Shaw Mountain	Permanent two miles of road easement to feed site	Don Buerkel to the Department
North Powder	Power transmission lines to Anthony Lakes	OTEC
	County roads	Union County
	Property access	Cantrell family
	Waterway easement	Powder Valley Irrigation
	Livestock driveway	Michael Mason
Elk Creek	Permanent two miles of road easement to feed site	Wayne Foster to the Department
Auburn	Two power transmission lines to Sumpter	OTEC
	County road	Baker County

Appendix F. Legal Obligations Influencing Management of the Elkhorn Wildlife Area

Federal Laws

Federal Aid in Wildlife Restoration Act
Pittman- Robertson Act of 1937
The Endangered Species Act of 1973, as amended
National Historic Preservation Act
National Environmental Policy Act
Americans with Disabilities Act

Oregon Revised Statutes

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
635-008-0085 Elkhorn Wildlife Area

Division 011 - Statewide Angling Regulations

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

Division 051 - General Game Bird Regulations

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

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

Division 300 – Wildlife Damage Plans

635-300-0001 Elkhorn Wildlife Area Program
635-300-0005 Goals and Objectives
635-300-0010 Implementation of Policies
635-300-0015 Delegation of Authority

HB 3152: Requires the Department of Administrative Services to coordinate with the Department of Fish and Wildlife, the Parks and Recreation Department, the State Forestry Department, the Division of State Lands and other agencies with state forestland oversight responsibilities to adopt forest management plans or policies. The bill also establishes provisions whereby state forestland plans may address excess fuels build up and forest health. Calls for efforts to determine necessary silvicultural practices to improve and increase wildlife habitat, improve forest health, control insect-infested and diseased-stands of timber, and reduce fire danger.

HB 2344: Directs state agencies to develop plans for timber salvage operations to restore and recover forest lands burned by fire.

County Ordinances

County Land Use Plans (Conditional Use Permit)

Changes to Oregon's land use laws in the early 1980s required the Elkhorn Wildlife Area to apply for conditional use permits to operate winter feed sites that were not in existence at the time the counties adopted new ordinances. The EWA operates three feed sites in Baker County under conditional use permits in County Ordinance 83-3 and 86-1, and one feed site in Union County under County Ordinance 21.07. Under these county ordinances permanent big game feeding sites may be established as conditional uses under procedural standards, site plan standards, and with clear and objective criteria. Applications to the county for conditional use permits must include written site plans that address the ordinance requirements. Location of feed sites on the proposed property, property boundaries, expected number of animals to be fed, access, disease monitoring, neighboring property damage, and developments needed are just some of the required issues that must be addressed.

Site Plan Standards

1. Consideration for land management practices such as agricultural, timber and grazing on public lands and adjacent private lands.
2. Anticipate migration routes of elk and deer; locate feed sites to minimize impacts to private lands.
3. Facilities development to include structures, fences, and access roads.
4. Anticipate animal and control numbers to meet objectives identified in OAR 635-300-010 No. 3.
 - a. 1,400 wintering elk
 - b. No limit on deer
5. Feeding practices and duration to include feeding of high quality alfalfa hay, and pellets for approximately 145 days, blood testing deer and elk for disease, site cleanup after the feeding season and monitoring and control of noxious weeds.

Site Criteria

1. The feeding site shall be located on areas inventoried as big game winter range.
2. That there is a problem and other management techniques as: hazing, fencing,

haystack panels, trapping, removal and reduction in herd size have been examined and shown to be ineffective in solving identified problems.

3. That the feed site shall be “sufficient in size” to accommodate the projected number of big game animals, or that additional management techniques such as game fences can be designed to overcome anticipated limitations of the parcel’s size. A Planning Commission judgment relative to the “sufficiency of size” shall be based upon the applicants demonstrating that the size has adequate area, land, and water resource carrying capacity as measured by the following elements:
 - a. Numbers of animals
 - b. Topography as it relates to:
 1. Thermal cover
 2. Bedding cover
 3. Hiding cover
 - c. Access and proximity to public lands
4. How the feeding program will minimize or mitigate damage on private property and that there is a reasonable expectation the proposed feeding site will reduce the damage.
5. That a program for mitigating off-site damage is instituted if the feeding program creates adjacent or nearby damage problems. The program shall include the array of management techniques listed in No. 2 above where applicable.
6. That the feeding site will comply with all applicable state and federal air and water quality standards such as animal waste control provisions of the 208 water quality program.
7. That the site plan provides measures for monitoring and controlling weed pollution.
8. That the site plan provides measures for monitoring and controlling animal disease problems.