BRIDGE CREEK WILDLIFE AREA MANAGEMENT PLAN REVIEW

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Executive Summary

Purpose of the Plan

This plan will guide management of the Bridge Creek Wildlife Area (BCWA) for the next 10 years. Purposes of this plan are to:

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

Historical Background

BCWA is located in Northeastern Oregon, approximately three miles south of the town of Ukiah along Forest Road 52, within the Blue Mountains Ecoregion of the OCS. This places BCWA roughly 50 miles south of Pendleton and similarly southwest of La Grande, Oregon.

Establishment of the BCWA initially started in 1961 when a parcel of land was purchased from the Frank Hilbert estate. After the initial purchase, several private holdings were acquired to consolidate the land under Department ownership. The last parcel was purchased from the Colvin Cattle Company in 1975.

Three different land agreements complete the BCWA boundary. Thirty-five acres are under agreement with the U.S. Forest Service (USFS) along the southeast boundary fence. An adjacent 400 acres in two parcels of Bureau of Land Management (BLM) property (320 acres located along the North Fork of the John Day River and 80 acres near Camas Creek) is under a cooperative management agreement for wildlife management as well as an administrative use site. The BCWA also encompasses approximately 1,585 acres of Oregon Department of Transportation (ODOT) and Oregon Parks and Recreation Department (OPRD) land along Camas Creek and the N.F. of the John Day River (these lands comprise most of the western and southwestern boundary of BCWA). In total the Department manages 15,206 acres on the BCWA which includes both Department-acquired lands and cooperatively managed lands.

The USFS, BLM, OPRD, Natural Resource Conservation Service (NRCS), Umatilla County, Umatilla Soil and Water Conservation District and Umatilla County Extension Service have all been involved with the development of the BCWA. A Coordinated Resources Management Plan developed in 1973 provided the basis for the formulation of the present grazing system.

The primary purpose of the BCWA is to maintain and protect a key historic winter range for Rocky Mountain elk (*Cervus canadensis*). BCWA also provides year-round habitat for mule deer (*Odocoileus hemionus*) and califonia bighorn sheep (*Ovis canadensis*). When managed to support Department goals and objectives, the habitat management techniques currently employed on BCWA ensures protection of the big game winter range to alleviate damage on adjacent/nearby lands and reduce the potential of human-wildlife incidents on nearby transportation corridors. Protection and enhancement of the variety of habitats found on BCWA help to support other fish and wildlife population levels while providing numerous recreational opportunities. Recreational opportunities available on BCWA and surrounding public lands provide direct economic benefit to the local economies of Ukiah and Umatilla County.

Planning Approach

This management plan is an update to the 2009 BCWA management plan. The goals, objectives and stategies (implementation actions) described in this 2021 plan are a continuation of that set forth in the previous plan and are focused on maintaining and enhancing key habitats and providing significant wildlife oriented public use.

This plan describes current issues and provides actions to address them as well as achievments from the past 10 years. These actions may be implemented during the life of this plan, but are subject to availability of funding and personnel. This management plan will be reviewed in 2026 to gauge the progress of implementation and make necessary revisions, and it will be revised in its entirety in 2031.

Bridge Creek Wildlife Area Vision

The vision for the BCWA is as follows:

Key winter range for Rocky Mountain elk and year-round mule deer habitat are enhanced and protected through sound stewardship practices while balancing the needs of other endemic fish and wildlife species and surrounding agricultural land uses as well as providing recreational opportunities for present and future generations.

Wildlife Area Goals

The goals for the Bridge Creek Wildlife Area are:

Goal 1: To protect, enhance, and manage winter range habitats for Rocky Mountain elk.

Goal 2: To protect, enhance, and manage habitats to benefit native wildlife and desired game species, compatible with Goal 1.

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

Specific objectives and strategies to implement each goal, as well as detailed rationale, are provided in this plan on pages 30-40.

Implementation Approach

Current management direction is to protect, enhance, and manage fish and wildlife habitats and associated species while providing hunting, trapping, angling, and other public use opportunities on the BCWA. Recreational opportunities on the BCWA will vary through time, and when balanced with habitat management actions, may not be maximized in all cases.

Most habitats on the BCWA have been altered to some degree with respects to species composition and/or diversity. These alterations may be attributed to fire suppression and past land use practices such as timber harvest, overgrazing, agriculture, and the introduction of invasive plant species. By employing various practices/techniques such as grazing management and rangeland restoration/enhancement (plantings, seeding, prescribed burning, etc) for their associated attributes, wildlife personnel have managed BCWA habitats to emphasize increased cover values (vertical and horizontal), compensatory growth, plant composition and diversity.

Introduction

Purpose of the Plan

This plan will guide management of the Bridge Creek Wildlife Area (BCWA) for the next 10 years. Purposes of this plan are to:

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

Oregon Department of Fish and Wildlife Mission and Authority

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

Purpose and Need of Bridge Creek Wildlife Area

The primary purpose of the BCWA is to maintain and protect a key historic winter range for Rocky Mountain elk (*Cervus canadensis*). BCWA also provides year-round habitat for Rocky Mountain elk, mule deer (*Odocoileus hemionus*) and Califonia bighorn sheep (*Ovis canadensis*). When managed conducive to goals and objectives, the habitat management techniques currently employed on BCWA ensures protection of the big game winter range to alleviate damage on adjacent/nearby lands and reduce the potential of human-wildlife incidents on nearby transportation corridors. Protection and enhancement of the variety of habitats indicative of BCWA help to support other fish and wildlife population levels while providing numerous recreational opportunities. Recreational opportunities available on BCWA and surrounding public lands provide direct economic benefit to the local economies of Ukiah and Umatilla County.

The BCWA is located in the John Day Watershed District of the Department's East Region. Project coordination is provided by the Wildlife Division at the Department's headquarters to integrate wildlife area management activities with large scale landscape planning including collaboration with federal land agencies (e.g. 1978 Bridge Creek Biological Unit Management Plan), Federal-Private-State-Tribal partnerships to manage

elk in the Blue Mountains of Oregon and Washington (1990 Blue Mountain Elk Initiatve), cooperative agreements with private landowners and individual species plans (e.g. 2003 Elk Management Plan, 2003 Mule Deer Management Plan, 2003 Bighorn Sheep and Rocky Mountain Goat Management Plan, 2017 Cougar Management Plan, 2019 Oregon Wolf Conservation and Management Plan, and 2018 Wild Turkey Management Plan).

This management plan is the guiding document that will ensure natural resources on the BCWA will be managed in such a manner as to protect, enhance, and restore fish and wildlife habitats to support optimum population levels of many species for the enjoyment of present and future generations. To protect these natural resources, management programs and strategies utilized on the BCWA will meet or exceed habitat protection policies and standards set by the Department.

Bridge Creek Wildlife Area Vision Statement

The vision for the BCWA is as follows:

Key winter range for Rocky Mountain elk and year-round mule deer habitat are enhanced and protected through sound stewardship practices while balancing the needs of other endemic fish and wildlife species and surrounding agricultural land uses as well as providing recreational opportunities for present and future generations.

Wildlife Area Goals and Objectives

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

The goals and objectives for the BCWA are:

Goal 1: To protect, enhance, and manage winter range habitats for Rocky Mountain elk.

> **Objective 1.1:** Maintain and enhance 10,475 acres of grassland and 352 acres of shrubland habitat as key winter range for Rocky Mountain elk.
>
> **Objective 1.2:** Maintain and enhance 3,919 acres of Ponderosa pine woodlands and 434 acres of riparian habitats as thermal, hiding, and escapement cover for wintering Rocky Mountain elk.
>
> **Objective 1.3**: Monitor Rocky Mountain elk winter use and distribution.

Goal 2: To protect, enhance, and manage habitats to benefit native wildlife and desired game species, compatible with Goal 1.

Objective 2.1: To protect, enhance and manage upland habitats (10,475 acres grassland, 352 acres shrubland, 3,919 acres woodland) to benefit native and desirable non-native wildlife.

Objective 2.2: Protect, enhance and manage 434 acres of riparian and 3,919 acres of woodland habitat for high quality instream habitat, water quality and quantity, and proper functioning condition for resident and anadromous fish, native wildlife, and desirable non-native fish and wildlife.

Objective 2.3: Monitor wildlife presence and usage of BCWA habitats.

Objective 2.4: 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 recreational and educational opportunities to the public which are compatible with Goals 1 and 2.

Objective 3.1: Provide hunting, trapping and angling opportunities to the general public, compatible with habitat management objectives.

Objective 3.2: Provide wildlife viewing and education/interpretation opportunities compatible with Objective 3.1.

Specific objectives and strategies to implement each goal, as well as detailed rationale, are provided in this plan on pages 30-40.

Wildlife Area Establishment

Establishment of the BCWA initially started in 1961 when a parcel of land was purchased from the Frank Hilbert estate. After the initial purchase, several private holdings were acquired to consolidate the land under Department ownership. The last parcel was purchased from the Colvin Cattle Company in 1975. As stated in the purchase agreement by the Fish and Wildlife Commission, priority was given to the former landowner (Colvin Cattle Company) to graze livestock on the newly acquired parcel of property as well as properties previously leased from the Department. The agreement included implementation of a livestock grazing system and regulations on these lands to be managed as the Department desires. The total acres acquired were 13,186.4 (See **Appendix A** for more detailed acquisition history).

Three different land agreements complete the BCWA boundary. Thirty five acres are under agreement with the U.S. Forest Service (USFS) along the southeast boundary fence. An adjacent 400 acres in two parcels of Bureau of Land Management (BLM) property (320 acres located along the North Fork of the John Day River and 80 acres

near Camas Creek) is under a cooperative management agreement for wildlife management as well as an administrative use site. The BCWA also encompasses approximately 1,585 acres of Oregon Department of Transportation (ODOT) and Oregon Parks and Recreation Department (OPRD) land along Camas Creek and the N.F. of the John Day River (these lands comprise most of the western and southwestern boundary of BCWA). By court action, County Road no. 1479 (previously no.275) was vacated to become a stock driveway. A portion of this road currently serves as BCWA's single public access road onto the area.

In total the Department manages 15,206 acres on the BCWA which includes both Department-acquired lands and cooperatively managed lands.

The USFS, BLM, OPRD, Natural Resource Conservation Service (NRCS), Umatilla County, Umatilla Soil and Water Conservation District and Umatilla County Extension Service have all been involved with the development of the BCWA. A Coordinated Resources Management Plan developed in 1973 provided the basis for the formulation of the present grazing system.

Description and Environment

Physical Resources

Location

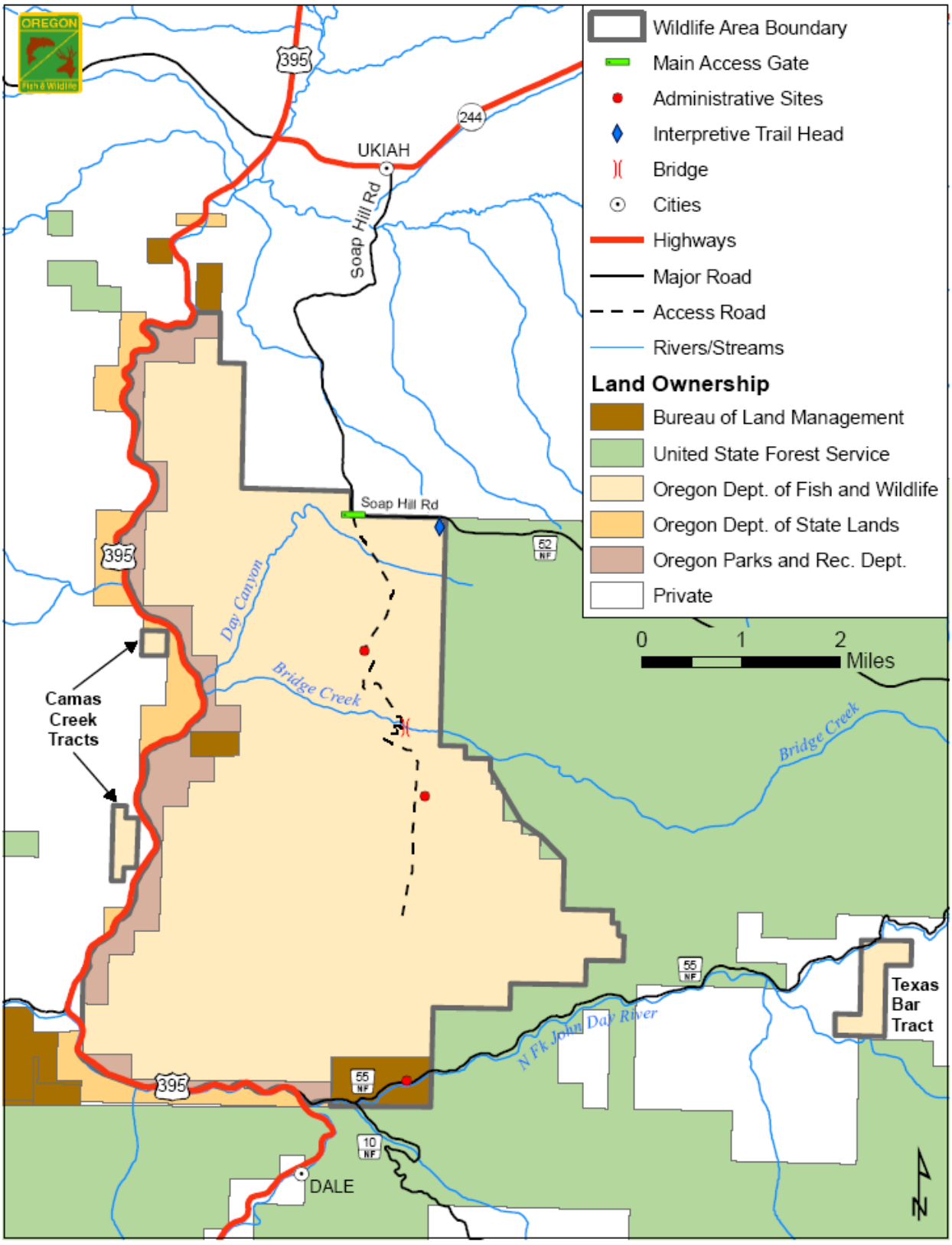
BCWA is located in Northeastern Oregon, approximately three miles south of the town of Ukiah along Forest Road 52 within the Blue Mountains Ecoregion of the OCS. This places BCWA roughly 50 miles south of Pendleton and similarly southwest of La Grande, Oregon.

BCWA is bounded on the south by the North Fork of the John Day River, on the west by Camas Creek and a small portion of private land, and by private property on the north. On the northeast side, BCWA is adjacent to Forest Road 52 and on its east side by the Umatilla National Forest. Bridge Creek proper is a major drainage running from east to west and divides the wildlife area into north and south. **Figure 1** shows the locations and key features of the BCWA.

Climate

Due to the relative size and topography of the Blue Mountain Ecoregion, the climate of the region varies significantly depending on the specific geographic location. The BCWA exhibits some characteristics indicative of the ecoregion with short dry summers and long cold winters. Precipitation on the BCWA ranges from 16-20 inches annually of which approximately five inches is received during the growing season of April through July. The remainder of annual precipitation is largely composed of late season (Fall) rain showers and winter snowfall (November-March).

Figure 1 - Bridge Creek Wildlife Area Features and Ownership



Average annual temperatures on the BCWA range from 14°F in January to 82° F in August. Prevailing winds on the BCWA are from the west and vary significantly in speed. Topography of the surrounding area around BCWA heavily influences weather patterns and often creates dry prairie-like conditions on portions of the area.

Topography and Soils

The BCWA may be characterized as expansive plateaus or "flats" with deep timbered canyon draws. The BCWA contains a general southwest aspect and, in conjunction with prevailing winds, often creates winter incidences when snow is either blown or melted from the majority of the area. Elevation ranges over the BCWA from 2,800' at the confluence of Camas Cr. and the N.F. of the John Day River to approximately 4,000'. However, much of the BCWA is within the 3,800' to 4,000' elevation range.

Twelve soil types and/or complexes are present on the BCWA. The largest soil classification present on the BCWA is the Bocker-Bridgecreek complex which exhibits many characteristics of other soils/complexes present. Generally the soil types present contain cobble or large portions of stone, are shallow to moderately deep, well drained, with moderate to high risk of erosion. Soil types range in available water content from 0.5" to 19" and rooting depths from 4" to 60".

Individual soil type characteristics largely dictate the presences of existing plant communities. These plant communities vary but largely contain such species as: Idaho fescue (*Festuca idahoensis*), bluebunch wheatgrass (*Pseudoroegneria spicata),* prairie junegrass (*Koeleria cristata*), Sandberg bluegrass (*Poa secunda*), pinegrass (*Calamagrostis rubescens*), elk sedge (*Carex geyeri*), serviceberry (*Amelanchier alnifolia*), common snowberry (*Symphoricarpos albus*), ponderosa pine (*Pinus ponderosa*), Woods rose (*Rosa woodsii*), bitterbrush (*Purshia tridentata*), Douglas fir (*Pseudotsuga menziessi*), western larch (*Larix occidentalis*), and lodgepole pine (*Pinus contorta*). Dry weight forage production may range significantly within soil types/classifications across BCWA from unfavorable soils and/or years of 200 lbs/acre to favorable soils and/or years of 2,300 lbs/acre (1988 USDA Soil Conservation Service). Production from fourteen monitored forage cages, within the BCWA's six pastures, over an eleven year period (1973-1983) yielded an average dry weight of 1,436 lbs/acre production with high-lows of 1,877 lbs/acre and 846 lbs/acre, respectively. Samples informally collected in 2004 by University of Idaho range students with production estimates of 787 lbs/acre for grasses and 292 lbs/acre for forbs within Stover Pasture. ODFW vegetation monitoring data from 2017-2019 yielded an average dry weight of 1555 lbs/acre of grasses and forbs within Stover Pasture.

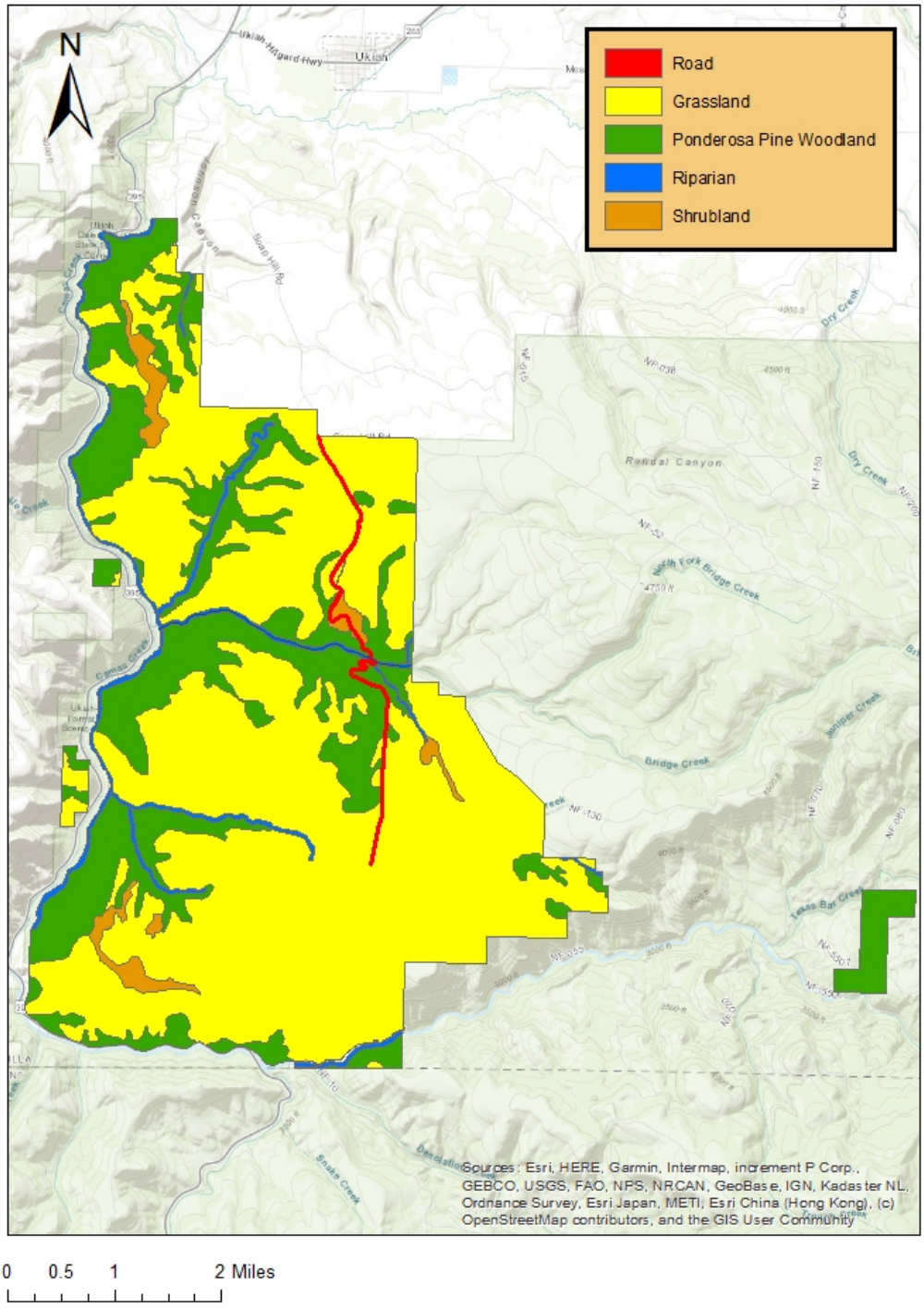
Habitat Types

The BCWA contains five different habitat types which consist of grassland, Ponderosa pine woodland, sagebrush steppe and shrubland, riparian, and freshwater aquatic **Table 1**. **Figure 2** illustrates their distribution on the BCWA landscape.

All of these habitat types are strategy habitats listed within the Blue Mountain Ecoregion of the OCS. A portion of the BCWA has been identified by the OCS as a Conservation

Opportunity Area (COA). The key habitat for this COA is

Figure 2. Habitat Types on Bridge Creek Wildlife Area



aquatic, however conservation actions of the COA recommend restoration or maintenance of adjacent areas (riparian and Ponderosa pine woodland) for wildlife

habitat and complexity. The OCS identified the riparian habitat as being a major migratory corridor for Rocky Mountain elk as well as utilization by key species including American marten (*Martes americana*), flammulated owl (*Otus flammeolus*), summer steelhead (*Onchoryncus mykiss*), and other fish species.

Most habitats on the BCWA have been altered to some degree with respects to species composition and/or diversity. These alterations may be attributed to fire suppression and past land use practices such as timber harvest, overgrazing, agriculture, and the introduction of invasive plant species. By employing various practices/techniques such as grazing management and rangeland restoration/enhancement (plantings, seeding, prescribed burning, etc) for their associated attributes, wildlife personnel have managed BCWA habitats to emphasize increased cover values (vertical and horizontal), compensatory growth, plant composition and diversity. Although wildfire will continue to be a factor in changing BCWA habitat types and their associated values; efforts towards active timber management, pruning, thinning, identification of high-value protection areas and facilitation of emergency response travel access may aid in reducing catastrophic effects of wildland fire.

Although BCWA habitat types and the vegetative species that occur within those habitats are actively and passively managed for certain attributes, they are largely influenced by environmental factors such as temperature, aspect, precipitation, soil, invasive species, and wildfire. Common plant species found within the habitat types are listed in **Appendix B**.

Table 1. Habitat Types and approximate acreage/mileage located within Bridge Creek Wildlife Area boundaries.

Upland		**Acres**
Ponderosa Pine Woodland		3,919
Grassland		10,475
Shrubland		352
Riparian		434
Disturbed		26
	Total	**15,206**
Aquatic		**Miles**
Freshwater Aquatic		
Bridge Cr.		2.5
N.F. John Day River		1
	Total	**3.5**

Ponderosa Pine Woodland

BCWA Ponderosa pine woodlands vary considerably based on soil type, moisture, micro-climate, aspect, and fire history. This habitat type is characterized by open canopies (10%-40%) which are predominately ponderosa pine but may also contain species such as Douglas fir, lodgepole pine, and western larch. Ponderosa pine mixed timber stands typically occur on north facing slopes on BCWA. The understory within this habitat type varies but may contain such species as snowberry, rose, manzanita

(*Arctostaphylos patula*) and/or various grass communities. Stands of large diameter at breast height (DBH) ponderosa pine with open canopies (<10%) and grass understory provide savanna conditions throughout BCWA.

Due to previous timber harvest and catastrophic fire, the age of ponderosa pine stands vary widely over the BCWA landscape. Acreages known to be dominated by Ponderosa pine prior to a 2001 wildland fire have been included in this habitat type classification as they are ultimately ponderosa pine climax communities. These areas presently exhibit variable degrees of natural recruitment and recovery.

Ponderosa pine woodlands are valuable to a variety of wildlife species on BCWA. This habitat type provides thermal and security cover and is used as travel corridors for elk, foraging habitat for white-headed woodpecker (*Picoides albolarvatus)*, mountain (*Sialia currucoides*) and western bluebirds (*Sialia mexicana*) and roosting and foraging habitat for a variety of bat species. Ponderosa pine with a shrub understory on canyon rims is an important habitat feature on BCWA for dusky grouse (*Dendragapus obscurus*).

Grassland

On BCWA, this habitat type is dominated by communities of Idaho fescue, bluebunch wheatgrass, Sandberg bluegrass, and praire junegrass. Composition of Idaho fescue and bluebunch wheatgrass communities on BCWA are ~70-75% and ~15%, respectively. Sandberg bluegrass and bluebunch wheatgrass communities are ~40% Sandberg and ~15% bluebunch. Forb components within these communities typically includes western yarrow (*Achillea millefolium*), lupine (*Lupinus* spp.), arrowleaf balsomroot (*Balsamorhiza sagittata*), and mules ear (*Wyenthia amplexicaulis*). Grassland draw bottoms differ from these plant communities by containing snowberry (*Symphoricarpos albus*), elderberry (*Sambucucus nigra*), and other shrub/sub-shrub species.

Grassland habitats are a critical component to the success of the BCWA in wintering large numbers of elk and deer by providing quality forage during a physiologically stressful time of the year. Grasslands are also beneficial to other species by providing foraging and nesting habitat for various passerines, reptiles and small mammals. Due to its relative importance to a range of species and its relative decline in quality throughout the western U.S., the proper conditioning, use, and management of this habitat type is essential.

A deferred rest-rotation livestock grazing management system is employed within this habitat type and sections of the ponderosa pine woodland on BCWA. This system conditions forage for wintering elk and assists with providing a range of habitat attributes (vertical and horizontal cover/structure) for a multitude of wildlife species inhabiting or using the habitats. Livestock grazing on the BCWA targets a rate of ~15% utilization to stimulate compensatory growth of native perennial bunchgrass communities. The program is also intended to aid in natural recruitment and dispersal through seed shattering and hoofing action as well assists in reducing fine fuels and overall severity/frequency of catastrophic fire. With introduction of invasive species

such as Ventenata (*Ventenata dubia*), it is important to protect the overall integrity of this habitat type. Management activities are intended to aid and assist grassland habitats while particular care is given to not over-stress or reduce vigor of native plant communities.

Sagebrush Steppe and Shrubland

This habitat type comprises a relatively small portion of the BCWA and primarily occurs in small or narrow bands within or adjacent to rocky outcrops, rims and/or draws. This habitat type contains open grass communities which are typically dominated by species such as sagebrush (*Artemisia* spp.), bitterbrush, snowberry, and/or elderberry. These habitats are often considered dry and occur within areas with poor soil conditions. In addition to contributing to the overall diversity of BCWA, this habitat type is particularly valuable for management purposes as winter browse for mule deer. Management of these areas is intended to maintain and/or enhance natural recruitment of flora and wildlife cover/forage values.

Riparian

Riparian habitats, and their supporting vegetation, occur adjacent to waterways (rivers, streams, intermittent streams, springs, seeps, etc) and are primarily shaped or maintained through seasonal periods of inundation, flooding, scouring, and deposition of soil. On the BCWA, riparian habitats occur in both naturally sparse and dense vegetative stands adjacent to the North Fork of the John Day River, Camas Creek, Bridge Creek, and along intermittent/seasonal streams. Riparian habitats on BCWA are naturally narrow due to the characteristics and confines of canyons and draws they are located within. Shrub and deciduous tree species within these habitats may include cottonwood (*Populus* spp.), alder (*Alnus tenuifolia*), ninebark (*Physocarpus malvaceus*), oceanspray (*Holodiscus discolor*), serviceberry (*Amelanchier alnifolia*), currant (*Ribes cereum*), rose, willow (*Salix* spp.), aspen (*Populus tremuloides*), elderberry, etc. Riparian habitats within the BCWA may also contain or be dominated by conifers such as Ponderosa pine.

Riparian habitats have long been known to have high species diversity in relation to surrounding areas and be valuable to wildlife for such reasons. Riparian habitats typically support large invertebrate populations which benefit a host of fish and wildlife species as well as ecological functions. Neo-tropical migrants such as warblers, western tanagers (*Piranga ludoviciana*), Bullock's oriole (*Icterus bullockii*), wrens, and sparrows utilize this habitat type on the BCWA for foraging, nesting and breeding. Deciduous trees and shrubs located on benches within riparian and adjacent woodland areas play a key role in the foraging, nesting and escapement cover for mountain quail (*Oreortyx pictus*) and ruffed grouse (*Bonasa umbellus*). Riparian habitat is also a key component for reptile species such as the rubber boa (*Charina bottae*), alligator lizard (*Elgaria coerulea*) and amphibian species such as the western toad (*Bufo boreas*) and Columbia spotted frog (*Rana luteiventris*) which are both OCS strategy species. Riparian areas provide not only habitat for individual species but also offer travel corridors linking populations and/or seasonal ranges. Management of riparian areas at BCWA is intended to provide multiple attributes that fulfill a variety of species life history

and/or habitat requirements. Management in this manner not only ensures propagation and protection of fish and wildlife species but also overall enhancement and protection of water quality and quantity within John Day Watershed. Rotational grazing pastures established on BCWA are generally fenced or contain rim/outcrops to exclude riparian habitats of the primary waterways including significant acreage of adjacent uplands.

Disturbed

Disturbed areas are primarily comprised of roadways, their associated easements, and developments. Roadways and associated easements within the BCWA include portions of Forest Road 55, 5506, and 5507. Also included is the BCWA's five miles of unimproved public access road (County Road. no. 1479). Developments consist of the BCWA's administrative cabins and corrals.

Freshwater Aquatic

This habitat type is composed almost entirely of the 2.5 miles of Bridge Creek passing through the wildlife area. Associated vegetation consists of black cottonwood, alder, and willow. Shrub species may include blue elderberry, red-osier dogwood (*Cornus stolonifera*), and rose. Designated as a fish bearing stream used by federally listed mid-Columbia summer steelhead, management of this habitat as well as adjacent riparian habitat is conducted to prevent degradation and enhance water quality, and to improve aquatic habitat for fish.

Description of Tracts

The BCWA is composed of four separate management tracts (main body of BCWA, Texas Bar, and two Camas Creek parcels). The main body tract is the largest contiguous block of BCWA lands consisting of property owned by the Department, BLM, ODOT, OPRD, and USFS. The main tract is referred as the BCWA by the majority of users. As such, this area is actively managed for wildlife (wintering elk habitat, year-round habitat for deer and other wildlife) as well as recreational (hunting, wildlife viewing, education/interpretation) opportunities.

The other three tracts are physically separated from the BCWA tract. The much smaller Texas Bar (243 acres) and the two Camas Creek tracts (40 and 100 acres respectively) are managed slightly differently from the overall management of the main body due to their isolated nature and size. The management priorities for these tracts are primarily intended to maintain existing cover and habitat resources. Habitats on these tracts consist of large DBH Ponderosa pine stands and associated understory vegetation which provide habitat value to a variety of species. These tracts receive far less recreational use than that of the main body of BCWA.

Biological Resources

The BCWA contains a diverse array of wildlife and plant species found within the Blue Mountain Ecoregion. Numerically birds comprise the largest group of species known to occur on the wildlife area. With approximately 116 species currently inventoried, the vast majority of these species utilize the wildlife area seasonally with few year-round

residents. Current and past species inventory data and surveys and incidental observations indicate that the BCWA is inhabited by 15 species of fish, 9 species of amphibians and reptiles, 48 species of mammals, and 87 plant species. Further research and surveys are required to establish information regarding the presence and abundance of invertebrate, small mammals, and species of conservation concern as little is currently known.

See **Appendix C** for a list of wildlife species.

Birds

Birds are the most prevalent group of species present on the BCWA. Of the 116 species inventoried, passerines comprise the largest portion. As is the case with most forest land within the Blue Mountain Ecoregion, neotropical migrants seasonally visit or inhabit BCWA due to its abundance of foraging and nesting habitat, and the areas proximity to or use as migratory corridors linking summering and wintering habitats. Species such as the American goldfinch (*Carduelis tristis*), Bullocks oriole, western tanager, yellow-rumped warbler (*Dendroica coronata*), and bluebirds may be frequently observed on the area.

Downy (*Picoides pubescens*) and hairy woodpeckers (*Picoides villosus*) are found inhabiting much of the same habitat as the passerines and are commonly observed on BCWA. Further study is needed however, to accurately determine presence and status of other picoformes such as the white-headed woodpecker on the BCWA.

Raptors are common on the BCWA with bald eagle (*Haliaeetus leucoephalus*), golden eagle (*Aquila chrysaetos*), red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), and American kestrel (*Falco sparverius*) accounting for most observations. These species utilize the area seasonally and year-round for nesting, perching, and foraging habitat. Raptor abundance throughout the vast grassland and forestland habitats is quite variable due to varying abundance/availability of ground nesting birds, small mammal and reptile populations occurring over the area, and the distribution of shallow soils inhibiting burrowing species.

Populations of upland game bird species on the BCWA include mountain quail, California quail (*Callipepla Californica*), chukar (*Alectoris chukar*), Hungarian partridge (*Perdix perdix*), Rio Grande turkey (*Meleagris galopavo intermedia*), dusky grouse and ruffed grouse. BCWAs woodlands and riparian areas with a shrub understory provide foraging, nesting and escapement cover for quail and turkey which are encountered often. Similarly, canyon rims and benches dominated by shrub understory provide abundant populations of blue and ruffed grouse with the same habitat attributes for foraging, nesting, and escapement cover. Although infrequently encountered, chukar and Hungarian partridge may be observed on the BCWAs open canyon rims or immediately adjacent to these areas in grassland habitat.

During the fall and spring months visitors may encounter sandhill cranes (*Grus canadensis*). Sandhill cranes often stop at the BCWA for short durations to rest and feed at stock/wildlife ponds and grasslands before continuing on with their migration.

Mammals

Approximately 48 species of mammals are known to reside on the BCWA. The bulk of these species inhabit the area year-round but many may only occur infrequently or occur in large numbers seasonally. Species which only occur seasonally are largely composed of the bat species. NADBat surveys conducted upon the BCWA since 2017 have shown the presence of 6 bat species which include the Silver-haired bat (*Lasionycteris noctivagans*), California myotis (*Myotis californicus*), Western long-eared myotis (*Myotis evotis*), Fringed myotis (*Myotis thysanodes*), Big brown bat (*Eptesicus fuscus*), and Hoary bat (*Lasiurus cinereus*). Little is currently known regarding these species' abundance upon the BCWA. Repetition of this survey shall provide insight into such information. Mammal species which exhibit the most dramatic seasonal shifts in abundance include Rocky Mountain elk and mule deer. An elk herd delineation study was conducted from 1982-1985 in the Ukiah Wildlife Management Unit (WMU) and included radio telemetry tagging on BCWA winter range. From this study, wintering elk on BCWA were comprised of animals from summer ranges in Ukiah, Desolation, Starkey and Heppner wildlife management units (ODFW, 1986). An ongoing collaring effort has been inititated to collect baseline temporal and spatial information on elk utilization of the wildlife area and adjacent lands. Information gained shall provide a basis of habitat utilization and relative responses to pasture restoration and enhancement activities conducted on the wildlife area, localized spatial movements through the WMA and upon adjacent lands during high periods of use, responses to weather events and environmental conditions, and larger seasonal movements upon the landscape. To date, individual elk collared on the BCWA have shown area of influence across 5 game management units with migratory travel exceeding 50 linear miles in some cases.

Found throughout BCWA habitats, elk range in population from approximately 200-400 in summer months to in excess of 1,500 during the winter. The ten year high count average (2010-2019) for wintering elk observed on the BCWA is 1,729 with total elk exceeding 2,000 individuals in 4 of the last ten years. The largest number of elk observed on BCWA was 3,220 in 1994. Exhibiting an opposite shift in population numbers, mule deer on BCWA range from approximately 200 in the summer months to roughly 150 in the winter. The variety of habitat types on the BCWA provides key winter range for elk and summer/transitional/winter range for mule deer. Elk utilize the area most heavily from November-May when grassland, woodland, shrubland, and riparian habitats serve to meet nutritional requirements and predator avoidance strategies. Nutritional requirements are critical for body maintenance, growth, recovery of energy stores, mid-late term fetal development, and post-parturition (lactation, etc). It is critical that BCWA meet or exceed the habitat and nutritional requirements of these species to alleviate damage on adjacent private lands. A complete analysis of elk use and availability of cover and forage habitat components throughout the Blue Mountains

which included BCWA documented the importance of each of these habitats and the benefits of proximity or edge effect (ODFW, 1984).

In accordance to ODFW's Bighorn Sheep Plan, 20 California bighorn sheep were transplanted from the John Day River near Cottonwood State Park and released upon BCWA in January of 2018. This transplant provided both expansion to the existing Potomus sheep herd/range, which is located approximately 15 miles to the West, as well as overall re-establishment of bighorn sheep within suitable habitat. Transplanted sheep consisted of 18 ewes and 2 rams of which 8 ewes and both rams received gps/radio collars for tracking and monitoring purposes. Release site of these individuals was centered within what was anticipated as suitable habitat along the BCWA rock rims along the N.F. of the John Day River. Subsequent collar monitoring and surveys have shown released bighorn sheep have occupied and reside within the identified suitable habitat and anticipated area of use. In addition to utilizing available habitat, the released bighorn sheep population is remaining stable through natural recruitment. It is expected that population growth will likely increase herd size over the next 10 years.

The BCWA also contain species such as raccoon (*Procyon lotor*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), and badger (*Taxidea taxus*) which are common and/or abundant. Comprehensive surveys to discern distribution, abundance, and presence of rodents are lacking but past inventory records and incidental observations indicate species such as deer mice (*Peromyscus maniculatus*), bushy-tailed woodrat (*Neotoma cinerea*), and golden-mantled ground squirrel (*Spermophilus lateralis*) are present and common.

In recent years occasional use of the wildlife area by gray wolves (*Canis lupus*) has been documented. While the wildlife area is only a place of known activity, the extent, timing, and duration of use is unknown. The presence of these predators may change the behavior and use of prey species in the future. Elk collaring and camera traps studies have been initiated on the wildlife area to determine habitat use and movement, but these studies could also provide insight into any shifts in elk use on the wildlife area.

Amphibians and Reptiles

It is believed that six species of reptiles and four species of amphibians inhabit the BCWA. Reptile species present include western rattlesnake (*Crotalus oreganus*), bull snake (*Pituophis catenifer sayi*), rubber boa (*Charina bottae*), racer (*Coluber constrictor*), western fence lizard (*Sceloporus occidentalis*) and western skink (*Eumeces skiltonianus*). These species are common and inhabit all BCWA habitats. Amphibian species include Columbia spotted frog, Pacific chorus frog (*Hyla regilla*), Rocky Mountaintailed frog (*Ascaphus montanus*), and western toad (*Anaxyrus boreas*). It is believed that these species are present within riparian areas and ponds throughout the BCWA. These areas are an important habitat for spotted frogs and peripherally important for western toads. With a recent observation of an alligator lizard (*Elgaria coerulea*) near BCWA it is likely that this species may soon occur on the wildlife area. As survey and incidental observations are lacking on the BCWA, future management

should focus on inventory/surveys that identify species presence, distribution, and abundance on the BCWA.

Fish

The BCWA contains or is immediately adjacent to suitable habitat for 15 species of fish (Appendix C) including two listed species (Table 2). Management activities for these species are passive through vegetation maintenance oriented/conducted to prevent degradation of water quality, enhancement of water quantity, and to improve aquatic habitat for fish. Summer steelhead are present in the North Fork of the John Day River, Camas Creek, and Bridge Creek. Bull trout (*Salvelinus confluentus*) are not documented in Bridge Creek or Stover Creek, which are tributaries to Camas Creek, but are documented in the North Fork of the John Day River. During 2003, as part of a timber salvage operation on BCWA, a full span bridge was constructed across Bridge Creek to replace an old rock ford. This bridge satisfied part of the requirements to minimize potential impacts to listed species during the salvage operation and any future use.

Species of Conservation Concern

Thirty one species of conservation concern on BCWA either occur, have previously been observed/recorded, or have suitable habitat present within their distribution or range (Table 2) (ODFW, 2016 and USFWS,2019). These species of conservation concern include 13 birds, 8 mammals, 3 amphibians/reptiles, and 7 fish. Birds include an assortment of hawks, owls, woodpeckers, and passerines. Species such as Swainson's hawk (*Buteo swainsoni*), northern goshawk (*Accipiter gentilis*), ferruginous hawk (*Buteo regalis*), great gray owl (*Strix nebulosa*), Lewis woodpecker (*Melanerpes lewis*), white-headed woodpecker, pileated woodpecker (*Dryocopus pileatus*), and olive-sided flycatcher (*Contopus cooperi*) may be common in some geographic locations but overall are in decline within their individual species distribution.

Mammals of conservation concern consist entirely of bat species. Species presence is likely due to a sufficient quantity of roosting sites within woodland and riparian habitats and invertebrate populations within those and grassland habitats.

Amphibian species of conservation concern include Columbia spotted frog, Rocky Mountain tailed frog, and western toad. It is believed that these species occur on the BCWA as suitable habitat is present within riparian areas, permanent and intermittent streams, and ponds throughout the BCWA. Quality of habitat for these species is ensured through passive management activities conducted on the BCWA while quantity of habitat is provided through maintenance and management of 28 developed stock/wildlife ponds located on the BCWA. Further surveys are required to adequately determine presence and abundance of amphibian populations such as the Columbia spotted frog and Rocky Mountain tailed frog.

Fish species of conservation concern are primarily found in the North Fork of the John Day River and Camas Creek. These species consist of steelhead, spring Chinook salmon (*Onchoryncus tshawytscha*), inland redband trout (*Onchoryncus mykiss spp*),

Bull trout, Pacific Lamprey (*Entosphenus tridentatus*), and brook lamprey (*Ichthyomyzon fossor*). Bridge Creek is designated as a fish bearing stream with use by federally listed steelhead. Management activities for these species are passive through vegetation maintenance oriented/conducted to prevent degradation of water quality, enhancement of water quantity, and to improve aquatic habitat for fish.

Table 2. Bridge Creek Wildlife Area Species of Conservation Concern
Federal Status: **LT** = Listed, Threatened, **LE** = Listed, Endangered, **C** = Candidate, **SOC** = Species of Concern
State Status: **T** = Threatened, **E** = Endangered, **SC** = Sensitive,Critical, **S** =Sensitive

Birds-Common Name	Species	Federal Status	State Status	OCS Strategy Species
Ferruginous Hawk	*Buteo regalis*		S	X
Great Gray Owl	*Strix nebulosa*		S	X
Lewis's Woodpecker	*Melanerpes lewis*		SC	X
Mountain Quail	*Oreortyx pictus*			X
Northern Goshawk	*Accipiter gentilis*			X
Loggerhead Shrike	*Lanius ludovicianus*		S	X
Olive-sided Flycatcher	*Contopus cooperi*		S	X
Willow Flycatcher	*Empidonax traillii adastus*			X
Pileated Woodpecker	*Dryocopus pileatus*		S	X
Sandhill Crane	*Grus canadensis*			X
Swainson's Hawk	*Buteo swainsoni*		S	X
Upland Sandpiper (Plover)	*Bartramia longicauda*		SC	X
White-headed Woodpecker	*Picoides albolarvatus*		SC	X
Mammal -Common Name	**Species**	**Federal Status**	**State Status**	**OCS Strategy Species**
Hoary Bat	*Lasiurus cinereus*		S	X
California Myotis	*Myotis californicus*		S	X
Fringed Myotis	*Myotis thysanodes*		S	X
Long-eared myotis	*Myotis evotis*		S	X
Pallid Bat	*Antrozous pallidus*		S	X
Silver-haired Bat	*Lasionycteris noctivagans*		S	X
Townsend's Big-eared Bat	*Corynorhinus townsendii*		SC	X
Amphibian/Reptile - Common Name	**Species**	**Federal Status**	**State Status**	**OCS Strategy Species**
Columbia Spotted Frog	*Rana luteiventris*		SC	X
Rocky Mountain Tailed Frog	*Ascaphus montanus*		S	X
Western Toad	*Bufo boreas*		S	X
Fish -Common Name	**Species**	**Federal Status**	**State Status**	**OCS Strategy Species**
Brook Lamprey	*Lampetra richardsoni*		S	X

Pacific Lamprey	*Entosphenus tridentatus*	SOC	S	X
Inland Columbia Redband Trout	*Oncorhynchus mykiss gairdneri*		SV	X
Sculpin	*Cottus sp.*			X
Spring Chinook Salmon	*Oncorhynchus tshawytscha.*			X
Steelhead (Middle Columbia River ESU)	*Oncorhynchus mykiss*	LT	SC	X
Bull trout (John Day SMU)	*Salvelinus confluentus*	LT	SC	X

Non-Native Species

Non-native species typically present a threat to the persistence of desirable and endemic flora/fauna. On the BCWA, non-native plant species present or previously recorded warrant the greatest management concern. This is due to the fact that, if unchecked, these species could significantly alter native plant communities and therefore reduce overall quality of wildlife habitat values. Some species such as rush skeleton weed (*Chondrilla juncea*) as well as diffuse (*Centaurea diffusa*) and Russian knapweed (*Acroptilon repens*) have occurred on the BCWA and monitoring/treatment is ongoing. Other plant species which are of great concern are cheatgrass (*Bromus tectorum*) and ventenata. These species both occur on BCWA with ventenata only recently having been observed establishing throughout the range and on adjacent properties. Due to the landscape scale of cheatgrass and ventenata infestations, management options for these two species is limited. A long-term pasture restoration/enhancement plan has been initiated on BCWA which entails chemically suppressing invasive annuals within identified areas to promote vigor and recruitment of native flora as well as foster the establishement of seeded and desirable introduced species which may provide an overall increase in forage production and competition to invasive annuals. Restoration/enhancement efforts coupled with exercising conservative stocking rates and a rotational grazing management system to achieve proper grazing management and compensentory growth has yielded desirable bunchgrass communities exhibiting natural recruitment with basal/crown expansion.

Although aforementioned plant species pose an overall threat, the BCWA contains other non-native species which are considered desirable. These include upland game birds such as chukar, Hungarian partridge, California quail, and wild turkey. These species add to the diversity of the BCWA and provide additional recreational value to visitors.

Table 3. Introduced Species and Noxious weeds on the Oregon Department of Agriculture Noxious Weed List. Species are known to be or have been present on Bridge Creek Wildlife Area (All species are subject to active control efforts, *Invasive plants identified in 2006 Oregon Conservation Strategy)

ODA Weed Class: A = "designates a weed of known economic importance which occurs, or may occur, in the state/county in small enough infestations to make eradication/containment possible; **B** = designates a weed of known economic importance which is regionally abundant, but may have limited distribution in some counties.

Common Name	Scientific Name	

California Quail	*Callipepla californica*	
Chukar	*Alectoris chukar*	
European Starling	*Sturnus vulgaris*	
Gray Partridge (Hungarian)	*Perdix perdix*	
Wild Turkey (Rio Grande)	*Meleagris galopavo intermedia*	
House Mouse	*Mus musculus*	
Smallmouth Bass	*Micropterus dolomieui*	
Plant Common Name		**Weed Class**
Canada Thistle	*Cirsium arvense*	B
* Cheatgrass	*Bromus tectorum*	
* Diffuse Knapweed	*Centaurea diffusa*	B
Fiddleneck Tarweed	*Amsinckia intermedia*	B
Field Bindweed	*Convolvulus arvensis L*	B
Puncture Vine	*Tribulus terrestris L.*	B
* Rush Skeletonweed	*Chondrilla juncea*	B
* Russian Knapweed	*Acroptilon repens*	B
* Scotch Thistle	*Onopordum acanthium*	B
Tansy Ragwort	*Senecio jacobaea*	B
Ventenata	*Ventenata dubia*	

Monitoring

Since the inception of the BCWA, monitoring of select wildlife species, vegetative habitats, and public use has occurred. However, primarily due to budget limitations and lack of personnel, some monitoring surveys have been intermittently conducted based on estimated future management need. This creates temporal gaps in data sets and a need for more routine comprehensive monitoring (primarily wildlife and vegetation) on the BCWA. Data collected coupled with sound biological principles aids in, guides, and/or gauges success of management actions. Currently, further monitoring and inventory surveys for vegetation, bats, amphibians and small mammals are required to adequately determine species presence, distribution, and abundance.

Despite the aforementioned budget and personnel limitations, BCWA and district personnel routinely conduct the following inventory/surveys:

Rocky Mountain Elk and Mule Deer

Aerial helicopter composition surveys for Rocky Mountain elk and mule deer are conducted each year in the spring and fall respectfully. Composition (bull/cow/calf or buck/doe/fawn) surveys are conducted to provide district personnel with herd data to estimate overall population trend and hunter harvest impacts. As needed, fixed-wing aircraft, ATV, and/or horseback surveys are conducted incrementally throughout the year to aid in population management at the district level. These surveys aid Department personnel in management of BCWA by observing wildlife use and trend patterns in direct relationship to habitats and habitat conditions on the area. The Department has and may continue to use collars outfitted with radio telemetry and or GPS technology to assist with gathering animal survival estimates and habitat use data.

Other Wildlife

Since 2006, from spring to fall BCWA personnel have conducted limited presence/absence surveys for other wildlife species on a sporadic basis as time and personnel resources allow. The timing of these surveys is intended to record presence and abundance of resident and migrant species on the area. Surveys are used to update and verify wildlife area species accounts as well as gauge success of management activities. Incidental encounters with waterfowl and upland broods as well as cow/calf and doe/fawn ratios during non-standard composition routes are recorded and provided to District staff as an informal measure of initial recruitment and temporal survival rates. Surveys are conducted throughout the range of habitat types present on the Wildlife Area. Since the release of California bighorn sheep in 2018, Department staff conduct an annual survey within the month of June to assess local population composition with emphasis placed on determining lamb ratios and recruitment rates.

Vegetation Monitoring

BCWA personnel conduct landscape photo monitoring every 5-years at nine designated sites. Fifteen photographs from various cardinal directions at these sites record visual change over time since the inception of the BCWA.

In 2017, habitat personnel initiated annual pasture vegetation monitoring surveys as part of a formalized protocol to determine vegetative attributes across BCWA pastures. Surveying one pasture each year on a rotational basis, 4 permanent transects are sampled within an identified pasture to provide insight into production/yield as well as species frequency, composition, and percent cover of the current growing season and to determine trend throughout the pastures over time. Within this protocol, vegetation transect locations were selected randomly with the constraints of soil type, aspect, and distance to water/salt to yield an accurate representation of the pasture in entirety. Collected data aids to direct and measure success of management activities of the rangeland pastures and wildlife that inhabit it. Forage cages and vegetation plots previously monitored on the BCWA have been abandoned due to potential biases of their monitoring approach such as nitrogen loading from perching birds, exclusion of herbivory, and plot locations.

Wildlife Disease

Sampling of hunter harvested elk and deer from the BCWA and surrounding areas is routinely conducted on an annual basis to monitor for the presence of various wildlife diseases such as Chronic Wasting Disease (part of statewide protocols from Wildlife Veterinary staff). East Region Wildlife District and BCWA staff will continue to monitor and sample wildlife populations for these and other diseases to address key concerns of wildlife population health.

Water Use

BCWA personnel monitor all water righted ponds for annual water level and capacity as dictated per Oregon water law. Area personnel continue to monitor water level and livestock use of ponds throughout the grazing season to ensure adequate livestock distribution within pastures.

Grazing

Periodic pasture inspections are conducted by BCWA personnel to ensure proper pasture rotation, livestock distribution, capture of stray stock, overall effect of program and/or identify potential problems. Potential problems may include plant physiological stages in relationship to anticipated rotations, broken fences, water development needs, salting needs, or livestock health.

Timber

A timberland inventory and analysis was completed in 1983 for the BCWA by the ODF. Analysis identified 2,600 acres of forested land of which 906 acres were non-commercial or of no market value. Estimates within this analysis placed the volume of timber present to be approximately 7 million board feet. This analysis proved useful for many years in providing baseline data on timber inventories, stand type, soils, etc. However, in 2001 a lightning caused wildfire occurred on BCWA which consumed a large portion of the woodland resources available. Much of the current timber stand conditions are the direct result of the fire and associated recovery, broad scale weather patterns, wildland fire protection, and silvicultural practices.

Past Oregon legislative action resulted in the passage of two forestry-related laws, House Bill (HB) 3152 and HB 2344, that impacts management activities on the BCWA. These laws are described below and in further detail in **Appendix F**.

HB 3152 requires the Oregon Department of Administrative Services (DAS) to coordinate with the Department, OPRD, ODF, Department of State Lands (DSL) 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.

A comprehensive integrated habitat management plan is needed for the BCWA that would incorporate much of the same information contained in the 1983 timberland inventory and analysis but would also include management recommendations for other types of habitat such as grazing, fencing and forage enhancement. This type of long range plan would enable the wildlife area staff to improve and increase wildlife habitat, improve forest health, reduce fire danger, and control insect infested and diseased stands of timber. These actions would not only benefit big game species, but all wildlife on the BCWA. Production of an Integrated Habitat Management Plan to accomplish these goals will require an environmental impact study on the BCWA to meet USFWS requirements related to timber harvest.

At this time, funding limitations prevent implementation of such a comprehensive study and related reports. Staff at the BCWA has instead conducted timber management activities to address the wildlife area's objectives and forest health.

Cultural Resources

Prior to settlement by Euro-Americans, very few game animals were present throughout most of the mountain regions explored by Lewis and Clark or early settlers. Deer were

not common and the first elk sighting was recorded in 1928. Regardless of low game abundance, areas of the BCWA were likely used by native peoples for root gathering, hunting, and fishing on the North Fork of the John Day River and Camas Creek (CTUIR verbal conversation). It is also likely that Native American trail systems may have once existed across BCWA linking various sites or connecting summer/winter encampments (CTUIR verbal conversation).

Part of BCWA was homesteaded by the turn of the 19th century. The homesteaded area was fenced to contain a small dairy herd which grazed on what is now BCWA and National Forest. Much of the milk was separated and cream was stored at a cold spring within Bridge Creek canyon. Cream was then transported to Ukiah for processing using the Stage Coach Road. The Stage Coach Road served as the main road from Pendleton to the gold fields of the John Day Valley until 1932 when a new road was constructed along Camas Creek. During the years of stage coach use, a large barn was constructed on the Meeng property to change stage coach horses for the return trips. Commercial timber harvest first occurred around the early 1940's when the Hilbert Family extracted marketable timber along Bridge Creek and some of the smaller canyons.

With the passage of time, the use of the area for dairy herds and stage coaches switched to wheat and beef cattle production. Farming practices were abandoned by the 1950s and limited success was encountered on the rangelands due to year-long use and/or overgrazing. Limited rangeland success was also intensified by grazing pressure from an increasing wintering elk herd.

The initial purchases of BCWA started in 1961 by the then Oregon Game Commission. Lands were selected for purchase because of the large numbers of elk that wintered in the area, an ability to reduce elk damage to adjacent private lands, abundance of big game summer/winter range, assurance of quality hunting conditions, and availability of lands through willing sellers. Today, remnants of BCWAs historical occupation such as cabin/barn foundations, abandoned equipment, or farmsteads may still be encountered.

To date no comprehensive cultural resource survey has been completed for the BCWA, although a survey has been initiated on the southern half of the area and encompasses approximately 8000 acres. This survey will be completed during the summer of 2021. The Department, working through its designated archaeologist/representative, 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 law. A cultural resource survey and SHPO clearance was completed in 2003 prior to a timber salvage project with other surveys conducted in 2018 and 2020 prior to pasture drill-seeding operations occurring. No cultural or historic sites were identified in either project areas.

Social Environment

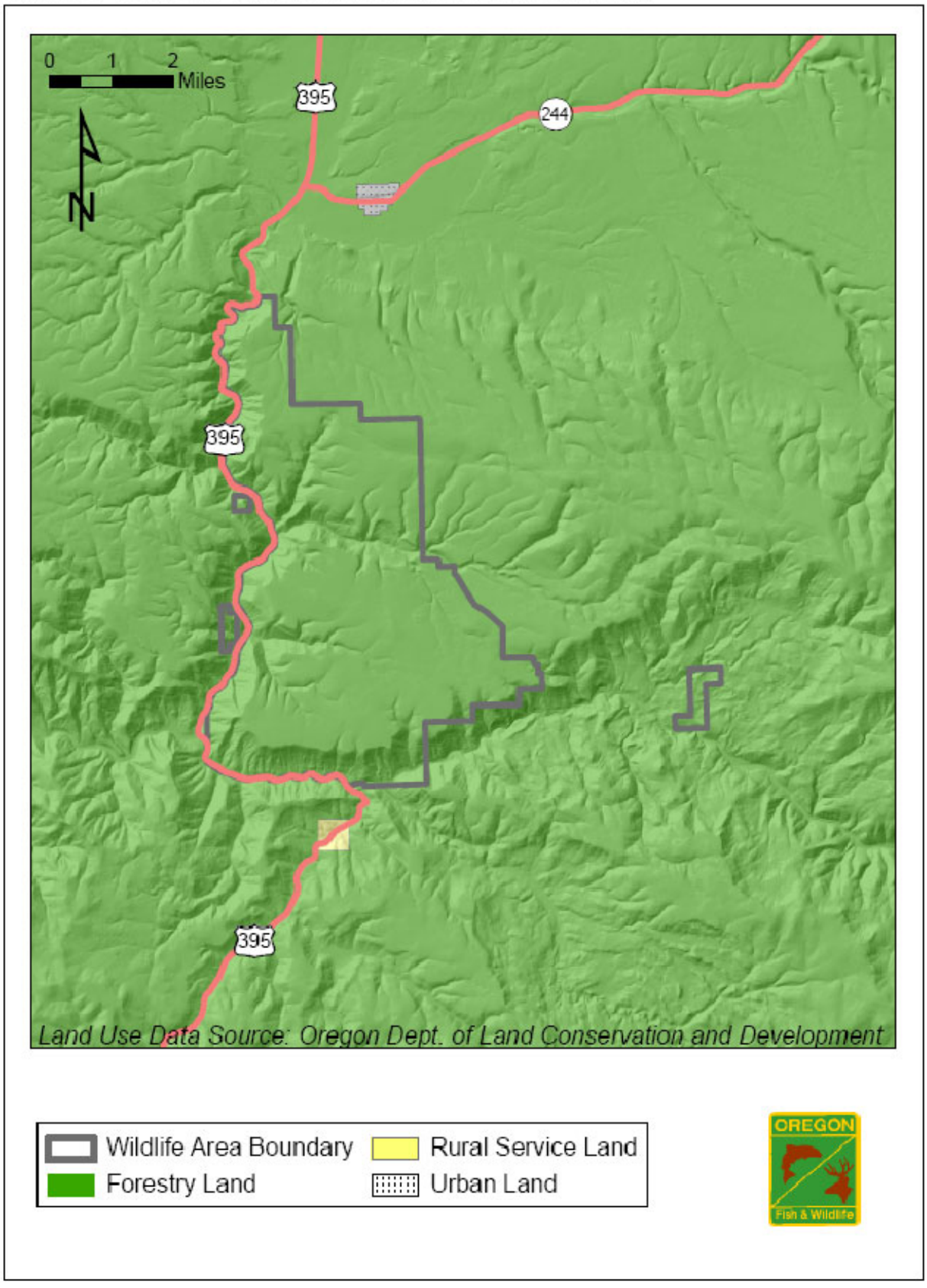
Demographics

The BCWA is located approximately 3 miles south of the town of Ukiah in Umatilla County, Oregon. According to the U.S. Census Bureau figures for 2010, Ukiah had a base population of 186 residents. Ethnically, residents were identified as 90% White, 3% Asian, and 7% as another race/multiple races. Median age of Ukiah residents was 45 years of age. Ukiah's average household income of $34,773 was below that of Umatilla County at $45,861 (U.S. Census Bureau).

Land Use

With a few exceptions, the BCWA is surrounded almost entirely by public lands (USFS, ODOT, and OPRD) (**Figure 3**). The dominate land use in both private and public ownership is forestry. Forestry incorporates not only timber production and sale but recreation on those lands as well as livestock grazing/production. This land use is indicative of the region which helps to sustain the nearby community of Ukiah, Oregon. Adjacent to the BCWA is State Highway 395 which serves as major travel corridor between Pendleton and John Day.

Figure 3 - Land Use Surrounding Bridge Creek Wildlife Area



Water Resources

The BCWA contains 28 ponds which are encapsulated in 3 different water right certificates. A water right has also been attained for a spring development which serves one of the BCWAs administrative cabins. This spring is located on lands under management agreement (BLM) and the associated right is held thereof. In addition to water righted ponds the BCWA contains 10 depressions which serve to hold water for a portion of the year. BCWA also contains numerous natural springs and seeps. All of the water resources located on BCWA are traditionally used by wildlife and livestock and aid in their distribution across the landscape. See **Appendix D** for a list of water rights and to view a map of water resources located on BCWA.

Easements/Access Agreements

Purchases, easements and agreements are listed by year in **Appendix A**.
These agreements primarily pertain to access to electrical power and natural gas transmission lines, timber easements and public access roads.

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.

There are three categories of lands that may be considered for acquisition. These include: 1) Significant or unique habitats, especially those beneficial to threatened, endangered or sensitive species; 2) Sites, or access to sites, that provide wildlife-related recreational opportunities; and, 3) Properties which facilitate the performance of the Department's mandated duties (e.g., storage and warehouse, feeding barns, etc.). An in-depth analysis of the wildlife values associated with any property considered for acquisition would be developed prior to purchase.

As acquisition funds become available, an adjacent 1,175 acre parcel of land should be considered for purchase. This property is located approximately 2 miles south of Ukiah in T5S, R31E, Sec. 27, 28, 34. The area would provide for increased management of cover and forage values for Rocky Mountain elk and mule deer, as well as year-round habitat for turkey and grouse. Acquisition would also increase the quality and quantity of lands available for recreational and educational pursuits. An addional parcel of land that should be considered for acquisition is the OPRD property within the administrative boundary of BCWA along Camas Creek. This parcel is an important part of the winter range as it is primarily composed of sloped ground that elk utilize once snow has covered the flats. Mule deer and bighorn sheep also use this property extensively.

Public Use

Public Access

The BCWA is open to the public for wildlife oriented recreational activities April 15 – Nov. 30. From Dec. 1 – April 14, a winter access closure is in effect to minimize disturbance to wintering wildlife. During this closure public access to the area is restricted to entry by permit only. During the open use period April 15 - Nov 30, the BCWA's five miles of unimproved road is subject to closure at the discretion of Department personnel for the purpose of protecting existing road conditions. The BCWA administrative use roads are closed to public motorized travel year-round. Primitive camping is allowed on the BCWA within 300 feet of the area's public access road unless prohibited by ODF fire restrictions. Camping is common in conjunction with the various hunting seasons. See **Appendix F** for more information regarding BCWA public use regulations.

Hunting, Angling and Trapping

A variety of hunting/angling/trapping opportunities are available to visitors at the BCWA and are subject to Oregon Big Game, Game Bird, Furbearer, and Fishing Regulations. Recreation, primarily hunting, was one of the significant factors considered in the purchasing of BCWA. Given the vast wildlife resources and seasonal abundance of ungulate populations on the BCWA, big game hunting constitutes the highest number of use days on the area. The majority big game hunting occurs during the rifle deer and elk seasons. Although archery hunting opportunities exist for both deer and elk on the BCWA, this type of use comprises a relatively small portion of total hunting and wildlife area use. In addition to big game, BCWA offers opportunities to hunt upland game birds (grouse, wild turkey, mountain quail) as well as unprotected wildlife (e.g. coyotes, marmot, porcupine, and badgers). Although trapping occurs for species such as coyotes, use of the area is constrained by the BCWA winter closure. The recreational use on BCWA and surrounding lands provides important economic gains to the local goods and services industries such as lodging, food services, and retail stores.

Hunting pursuits vary significantly from year to year and are dependent on numerous variables. These variables primarily pertain to, but are not limited to, local and unit wide distribution of ungulates, weather patterns, and fuel prices. The days of use for hunting, trapping and angling are estimated via patrols by wildlife area personnel and Oregon State Police. It should be noted that these are average estimates and do not account for large fluxes in use which typically occur. Estimated hunting, angling, and trapping use days are listed in **Table 4.**

Table 4. Estimated Annual Hunting, Trapping and Angling Use Days on Bridge Creek Wildlife Area.

Activity	Estimated Annual Use Days
Hunting	
Upland Bird	150
Big Game	850
Unprotected Wildlife	65
Trapping	15
Angling	20
Total	**1,100**

Wildlife Viewing

Horseback riding, hiking, photography, and sightseeing are typical uses to enjoy watchable wildlife (birding, elk viewing, etc) on the BCWA. Grassland and ponderosa pine savanna habitats provide for open spaces and permit good wildlife viewing with scenic vistas. The BCWA, in conjunction with USFS, contains one interpretive trail that provides informational signs on BCWA history, flora, and fauna and a panoramic view of the Bridge Creek Flats. In excess of 15,000 acres the BCWA, and adjacent USFS lands provide vast expanses for horseback riding and hiking opportunities.

The estimated annual use days for wildlife viewing related activities are estimated based on incidental contacts with BCWA personnel while conducting routine operations (**Table 5**). It should be noted that these figures are estimates and may not truly reflect the total amount of wildlife viewing activities occurring on the BCWA. The paved road adjacent to BCWA is designated as a portion of the Blue Mountain Scenic Byway and receives far more traffic than other forest roads in the area.

Table 5. Estimated Annual Wildlife Viewing Related Use days on Bridge Creek Wildlife Area

Activity	Estimated Annual Use Days
Wildlife Viewing	100
Photography	15
Hiking	20
Horseback Riding	30
Antler Hunting	40
Other misc.(e.g. gather berries, camping)	25

Total	**190**

Educational/Interpretive

Schools or other groups may visit the BCWA on their own or arrange for guided tours by Department personnel. Informational talks and presentations have been given to many schools and special interest groups, when requested. Interpretive sign boards are present at the main entrance of the BCWA as well as along the areas only interpretive trial. Plans are underway to replace/update wildlife area boundary and interpretive signs and kiosks as many are in poor and/or deteriorated states. Currently, there is a desire by BCWA personnel to develop an internship opportunity on the BCWA. This internship would collaborate with either the University of Idaho and/or Oregon State University to monitor vegetation/range attributes, analyze overall effects of the livestock grazing program, and document wildlife interactions on BCWA. As outlined in goals, objectives, and strategies of this plan BCWA staff will continue to pursue this collaborative educational endeavor.

Objectives and Strategies

Objectives and Strategies

As previously stated, 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.

Goals, objectives and strategies in the plan were derived following an ecosystem based management philosophy. The primary action for benefiting wildlife is managing or preserving the range of habitat types that historically occurred in the Blue Mountains. These habitats were created and maintained by a variety of ecological processes, most importantly natural hydrology, local climate, and fire. Historical habitat types are now not only supported by those processes but a host of modern land use practices and management activities on the wildlife area. Management activities including water level management (pond deepening) and vegetation manipulations (livestock grazing, controlled burning, seedings/plantings, and chemical control) are tools BCWA personnel use to maintain and enhance key habitats. Due to the wide variety of habitat use and preference among the different wildlife species utilizing the BCWA, benefits are varied. Not all species or guilds of species will see benefits at all times. In addition, recreational opportunities based on public demand and habitat capabilities, balanced with resource needs, are quite variable and specific uses are not maximized in all cases.

The following objectives and strategies are based on the four goals described earlier. They identify the management activities and priorities of the 2020 BCWA Management Plan:

Goal 1: To protect, enhance, and manage winter range habitats for Rocky Mountain elk.

BCWA is a key Rocky Mountain elk winter range. The BCWA was purchased to protect, enhance and manage wintering elk range and alleviate/reduce damage on private lands. The ten-year high count average of elk observed on the BCWA is 1729 individuals with numbers exceeding 2000 animals in 4 of the last 10 years (2011, 2012, 2014, and 2016). The largest number of elk observed was 3220 in 1994. Elk are counted every March from a helicopter and from the ground or fixed-wing aircraft as weather permits from November-April. Elk numbers on BCWA can vary significantly based on timing and weather conditions. The BCWA is a significant elk winter range for southern Ukiah and portions of the Starkey and Desolation wildlife management units. Nutritional requirements of wintering populations vary given their size and composition but generally include demands imposed for body maintenance, growth, recovery of energy stores, environmental conditions, mid-late term fetal development, and post-parturition (lactation, etc). It is therefore essential that BCWA meet or exceed the habitat and nutritional requirements to not only hold and alleviate damage on adjacent lands but also to maintain healthy populations within their respective summer ranges. In addition to forage production, the BCWA is managed for various cover values to provide for a variety of life strategies/attributes such as travel corridors, thermal cover, hiding/escapement cover, and vegetation/terrain for predator avoidance.

Objective 1.1: Maintain and enhance 10,475 acres of grassland and 352 acres of shrubland habitat as key winter range for Rocky Mountain elk.

Rationale: Given the significance of these habitats as elk wintering range, BCWA management actions are intended to increase the production of quality forage and cover values. In addition, BCWA management actions are also intended to support and preserve the native plant community composition, diversity, density, and functionality of grassland and shrubland habitats. Some examples of these management actions include controlled burning, vegetative chemical control, fencing, water development, and grazing. The grazing program is designed to remove senesced grass stems and leaves to improve plant vigor and increase nutritive value (Anderson et. al. 1990, Vavra and Sheehy 1996) while offering compensatory growth (secondary growth) of green stems and leaves by simulating meristematic tissue and or tillering. The grazing program also offer other benefits such as seed shattering (dispersal) and hoofing action to incorporate or scarify seeds into the soil. Management of grasslands in this manner provides abundant, palatable forage and cover for wintering wildlife.

> **Strategy 1.** Utilize deferred rest rotation livestock grazing on 7,557 acres of grassland and 289 acres of shrubland to enhance quantity and quality of winter forage and browse through compensatory growth.
>
> **Strategy 2.** Maintain and enhance 35 miles of interior pasture and boundary fences to ensure proper livestock distribution and placement therefore enhancing plant communities, species diversity, species richness, abundance, and/or cover values within habitat types.

Strategy 3. Plant native grass and shrub species within appropriate habitat types to enhance plant communities, species diversity, richness, abundance, and/or cover values.

Strategy 4. Perform annual vegetation monitoring within grassland and shrub habitat types yielding quantifiable and qualitative data.

Strategy 5. Utilize fire as needed for native vegetation enhancement and manipulation by reducing fine and woody fuels while increasing plant nutrition, vigor, and desired cover values.

Strategy 6. Utilize integrated pest management to control invasive plant species and noxious weeds within habitats. Work will entail monitoring, searching for, and treating infestations utilizing best management practices and techniques within the habitat types.

Strategy 7. Maintain and enhance 41 water resources (stock/wildlife ponds and troughs) for adequate wildlife and livestock distribution and use. Maintaining adequate depth and access of these resources will assist in emergency response for fire suppression activities.

Strategy 8. Collaborate with USFS personnel at North Fork John Day Ranger District of the Umatilla National Forest to design and implement projects inclusive of all the strategies for Objective 1.1. Project partnerships on the adjacent federal lands provide broader benefits of habitat activities to address variability in wildlife use and distribution through changes in environmental conditions.

Objective 1.2: Maintain and enhance 3,919 acres of Ponderosa pine woodlands and 434 acres of riparian habitats as thermal, hiding, and escapement cover for wintering Rocky Mountain elk.

Rationale: Woodland and riparian habitats on the BCWA serve to provide wintering elk with such attributes as travel corridors as well thermal, hiding, and escapement cover. Although elk on BCWA utilize these habitat types as hiding/escapement cover in their predator avoidance strategies, the critical role is for thermal cover and travel corridors. Elk retreat to this habitat as thermal/holding cover to withstand severe environmental conditions such as temperature or snowfall/pack across the landscape. Elk herds utilize forage in the understory of these cover habitats until returning to the open grasslands as conditions improve. However, if severe conditions persist elk utilize this habitat to continue migration to other geographic locations. Management actions in woodland and riparian habitats are intended to maintain or enhance a variety of cover and structure (vertical and horizontal) values to benefit elk.

Strategy 1. Utilize deferred rest rotation livestock grazing on 960 acres of woodland to maintain and/or stimulate compensatory growth of woody stems.

Strategy 2. Maintain and enhance 14.5 miles of woodland and riparian area exclosure fencing as deemed necessary to enhance plant species diversity, richness, abundance, and/or cover values within habitat types.

Strategy 3. Plant desired tree and sub-shrub species within 3,919 acres of woodland and 434 acres of riparian area, as deemed necessary to increase species diversity, richness, abundance, and/or cover values.

Strategy 4. Develop vegetation monitoring program within woodland and riparian habitat types yielding quantifiable data

Strategy 5. Utilize fire as deemed necessary for native vegetation enhancement and manipulation by reducing fine and woody fuels while increasing plant nutrition, vigor, and desired cover values.

Strategy 6. Utilize integrated pest management to control invasive plant species and noxious weeds within habitats. Work will entail monitoring, searching for, and treating infestations utilizing best management practices and techniques within the habitat types.

Strategy 7. Manage canopy cover values (overstory) of woody species within woodland and riparian habitat types, as deemed necessary, to optimize thermal cover function for wintering Rocky Mountain elk.

Strategy 8. Collaborate with USFS personnel at North Fork John Day Ranger District of Umatilla National Forest to design and implement projects inclusive of all the strategies for Objective 1.2. Project partnerships on the adjacent federal lands provide broader benefits of habitat activities to address variability in wildlife use and distribution through changes in environmental conditions.

Objective 1.3: Monitor Rocky Mountain elk winter use and distribution.

Rationale: Data of elk numbers, composition and habitat use is fundamental when seeking to make well informed, accurate, and successful habitat management decisions. Monitoring focuses on attaining this information through routine surveys throughout the BCWA habitats to capture basic population characteristics, use of existing habitats, and correlation to management activities. Coupling the data collected with sound biological and physiological stewardship practices and principals, will aid BCWA management activities direction and measure success of projects.

Strategy 1. Conduct Rocky Mountain elk herd composition, use, and distribution surveys with relationship to management operations (livestock grazing, etc) and/or environmental conditions.

Goal 2: To protect, enhance, and manage habitats to benefit native wildlife and desired game species, compatible with Goal 1.

BCWA personnel's management activities to meet Goal 1 will also result in providing a variety of niche habitats for other native and desired wildlife species. However, not all species or guilds of species will see benefits at all times. BCWA may orient management actions or aspects of management actions of Goal 1 as deemed necessary, to provide for individual species. This especially applies to sensitive, threatened, and endangered species which will receive special management consideration.

Although BCWAs primary focus is on that of Rocky Mountain elk, mule deer are an important feature as well. The BCWA contains a variety of habitat which serve as mule deer summer, transition, and winter ranges. Summer range encompasses all of the BCWA habitat types, however transitional and winter range consists mostly of shrubland, riparian, and woodland habitats. Peripheral winter use of open grasslands does occur to some degree. The summer mule deer population on the BCWA is estimated to be 200 animals with a large amount of migration and transition through the area during the fall, winter, and spring months. Winter deer herd numbers are quite variable with winter conditions. Management of these habitats for mule deer emphasizes enhancement of habitat through woody stem production (browse component) and overall protection of plant species diversity and composition within each habitat type. Controlled burns, chemical treatment, fencing, grazing, and seedings/plantings are all tools currently employed by BCWA personnel to achieve management goal.

Objective 2.1: To protect, enhance and manage upland habitats (10,475 acres grassland, 352 acres shrubland, 3,919 acres woodland) to benefit native and desirable non-native wildlife.

Rationale: BCWA management activities in meeting Goal 1 will also result in providing for a variety of other wildlife species which coexist within these habitat types. One such example is the increased quantity of available habitat for amphibians through development and maintenance of livestock/wildlife ponds. These also serve a variety of other species in their distribution as well. BCWAs grazing program is intended to increase herbaceous biomass production and conditioning but also correlates to increases in cover attributes for a number of species including ground nesting birds.

The vast grassland habitat of BCWA is especially important to mule deer in the early fall and spring when their diet is composed largely of grasses rather than browse. This period of fall and spring green-up provides a key source to meet nutritional requirements. These include nutritive demands for body maintenance, growth, recovery of energy stores, environmental conditions/stresses, mid-late term fetal development, and post-parturition. The wide open spaces and benches of this habitat type also serve as fawning areas in the spring. Shrubland habitats provide hiding and escapement cover, but more importantly, provides a source of winter browse. Management of these habitats is intended to enhance habitat through woody stem production (browse

component), cover values, and overall protection of plant species diversity and composition within habitat type.

Strategy 1. Utilize deferred rest rotation livestock grazing on 7,557 acres of grassland and 299 acres of shrubland to enhance quantity and quality of winter forage and browse through compensatory growth.

Strategy 2. Maintain and enhance BCWA pasture and exclosure fences. Maintain and enhance 35 miles of BCWA pasture and exclosure fencing as deemed necessary to enhance plant community's species diversity, richness, abundance, and/or cover values within habitat types.

Strategy 3. Plant native grass, shrub, sub-shrub and tree species within grassland, shrubland, woodland habitat types as deemed necessary to enhance plant community's species diversity, richness, abundance, and/or cover values.

Strategy 4. Enhance and/or restore as needed, approximately 20 acres of shrubland habitat. Work will entail planting native shrub species in pre-determined areas along canyon rims to increase quality and quantity of mule deer browse/cover and supplement natural recruitment.

Strategy 5. Maintain and enhance 10 acres of woodland habitat. Work will entail planting native shrub species in pre-determined areas on canyon rims to supplement natural recruitment and enhance understory for the benefit of dusky and ruffed grouse.

Strategy 6. Enhance, maintain, and protect 5 acres of woodland habitat. Work will entail the planting and fencing of aspen to supplement natural recruitment and benefit a host of native wildlife species.

Strategy 7. Utilize fire as needed for native vegetation enhancement and manipulation by reducing fine and woody fuels while increasing plant nutrition, vigor, and desired cover values.

Strategy 8. Utilize integrated pest management to control invasive plant species and noxious weeds within habitats. Work will entail monitoring, searching for, and treating infestations utilizing best management practices and techniques within the habitat types.

Strategy 9. Maintain and enhance 41 water resources (stock/wildlife ponds and spring troughs) to ensure adequate wildlife and livestock distribution as well as to meet habitat requirements for various amphibian and reptile species. Maintaining adequate depth and access of these resources will assist in emergency response for fire suppression activities.

Strategy 10. Collaborate with USFS personnel at North Fork John Day Ranger District of Umatilla National Forest to design and implement projects inclusive of all the strategies for Objective 1.1. Project partnerships on the adjacent federal lands provide broader benefits of habitat activities to address variability in wildlife use and distribution through changes in environmental conditions.

Objective 2.2: Protect, enhance and manage 434 acres of riparian and 3,919 acres of woodland habitat for high quality instream habitat, water quality and quantity, and proper functioning condition for resident and anadromous fish, native wildlife, and desirable non-native fish and wildlife.

Rationale: Riparian and adjacent woodland areas are an important component of BCWA as they provide a variety of habitat attributes to fulfill life history requirements for a number of terrestrial wildlife, invertebrates, and aquatic species. JDWS Habitat program personnel maintain and enhance riparian and woodland habitats for high quality instream habitat to benefit anadromous and resident fish and to improve water quality and quantity. The North Fork John Day River River COA (2016, OCS) is located adjacent to BCWA and contains key aquatic habitats. The riparian and adjacent woodland habitats are also managed to provide varying foraging, nesting, cover, travel corridor values for many species of the BCWA such as neotropical migrants. Additionally, woodland and riparian habitats on the BCWA serve to provide mule deer with seasonal travel corridors, thermal cover, hiding cover, fawning and escapement cover. Moist riparian habitats also provide for additional quality foraging area during spring and summer months. However, special management consideration is given to sensitive, threatened and endangered species.

Strategy 1. Utilize deferred rest-rotation livestock grazing on 960 acres of woodland and 39 acres of riparian habitats to maintain and/or stimulate compensatory growth of woody stems.

Strategy 2. Plant desired tree and sub-shrub species within 3,919 acres of woodlands and 434 acres of riparian area, as deemed necessary to increase species diversity, richness, abundance, and/or cover values.

Strategy 3. Provide stream shade by protecting streamside vegetation within approximately 3,354 acres of riparian (434 acres) and woodland (3,919 acres) habitats. Work will entail maintaining 14.5 miles of existing exclosure fencing and fencing additional areas if warranted.

Strategy 4. Monitor and regulate water use per Oregon Water Resources Department standards.

Strategy 5. Work with fish district staff to identify fish habitat improvement projects that may include placing large woody debris, removal of fish passage barriers, planting riparian vegetation, and seek partnerships with other agencies, sport groups or volunteers for implementation of such projects.

Strategy 6. Develop vegetation monitoring program within woodland and riparian habitat types yielding quantifiable data

Strategy 7. Utilize integrated pest management to control invasive plant species and noxious weeds within habitats. Work will entail monitoring, searching for, and treating infestations utilizing best management practices and techniques within the habitat types.

Objective 2.3: Monitor wildlife presence and usage of BCWA habitats.

Rationale: Data of species presence, abundance, and habitat use is fundamental when seeking to make well informed, accurate, and successful habitat management decisions. Monitoring focuses on attaining this information through routine transects/surveys over the BCWA habitats to capture a diverse group of species and yield quality data sets spanning through time. Coupling the data collected with sound biological and physiological stewardship practices and principals, will aid BCWA management activities direction and measure success of projects.

Strategy 1. Conduct mule deer herd composition, use, and distribution surveys with relationship to management operations (livestock grazing, etc) and/or environmental conditions.

Strategy 2. Conduct avian surveys for presence/absence and frequency as time and personnel resources allow. Observations of other species and habitat use will also be documented.

Strategy 3. Conduct bighorn sheep surveys to monitor population status and assist with management goals.

Strategy 4. Coordinate with other agency personnel and assist with taxa specific surveys/monitoring with priorities given to Threatened and Endangered species, bats, amphibians, and reptiles inhabiting BCWA.

Objective 2.4: To maintain and enhance wildlife area facilities, structures, and equipment to conduct habitat management and public use projects on the wildlife area.

Rationale: Facilities, structures, and equipment are integral to the overall operation of the BCWA. Facilities, structures, and equipment must be maintained, kept in good working order, or upgraded to accomplish habitat and wildlife management projects as well as to provide public use opportunities.

Strategy 1. Maintain and improve the wildlife areas' two cabins, two horse corral/supply storage areas as well as the Pendleton field station (John Day Watershed District Office) which provides office space for JDWS Habitat personnel, shop area, and equipment storage. Work will include carpentry repair

and improvements to office and shop facilities, improvements to storage area and structures, landscaping maintenance, and general complex structural maintenance and improvement.

Strategy 2. Maintain 35 miles of perimeter and cross fence, one bridge and 0.5 miles of interpretive trail. Work will entail planning, monitoring, maintaining, repairing, and evaluating the functionality of fences, bridge, and trail on an annual basis.

Strategy 3. Maintain and manage public and administrative primitive roads in a manner conducive for emergency reponse and wildland fire breaks while protecting wildlife habitat values. Work will entail improving connectivity of roadways through grading, pruning, thinning, hand-piling, and underburning therefore compartmentalizing wildland fires and subsequent suppression efforts.

Strategy 4. Maintain, improve, and acquire integral capital items and disposable assets required for efficient wildlife habitat activities. Work will entail inventories, maintenance, repair, upgrades, and acquisitions of equipment (e.g. tractors, seeders, sprayers) and supplies (e.g. seed and herbicide) as part of the JDWS habitat program needed to conduct fish and wildlife habitat operations as outlined in this plan.

Strategy 5. Identify and implement fire protection/reduction projects for areas of key habitats and/or habitat attributes. Work will entail pruning, thinning, underburning, and hand-piling vegetation as well as improving emergency response access to those areas where applicable.

Strategy 6. Continue proactive project administration activities to address easements, property boundaries, land uses, and other issues affecting or impacting BCWAs operations. Work will entail identifying issues, preparing briefing documents and soliciting internal and external assistance where appropriate.

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

The Department and JDWS personnel strive to balance the biological needs of fish and wildlife using the areas habitats with various recreational and educational desires of the general public. In order to meet habitat management objectives, decisions are made to manage public use both temporally and spatially to minimize undesirable impacts to wildlife and their habits.

Objective 3.1: Provide hunting, trapping and angling opportunities to the general public, compatible with habitat management objectives.

Rationale: The BCWA is funded entirely by hunter dollars through the Federal Aid to Wildlife Restoration Act (Pittman Robertson) (75%) and hunting license receipts with volunteer hours as needed (25%). Hunting is the major public activity on the area during the fall months and constitutes the largest annual recreational use.

Strategy 1. Continue current big game and game bird hunting and trapping opportunities. Work will include providing recommendations for seasons and use of the wildlife area to district and headquarters staff.

Strategy 2. Continue current angling opportunities. Work will entail stocking 3 walk-in ponds and monitoring angler use on an incidental basis and providing recommendations or changes as necessary regarding access to district and headquarters staff.

Strategy 3. Conduct and improve wildlife population, distribution, and use surveys. Work will entail coordination with district wildlife staff and volunteers to adequately plan, conduct, collect, record, compile, and summarize survey data which assists and guides the prioritization of management activities.

Strategy 4. Continue tracking hunter use and success on the wildlife areas as resources allows. Information will be used to evaluate and modify public access and regulations. Work may include hunter questionnaires to assess access and/or use.

Strategy 5. Maintain 5 miles of primitive road for public and an additional 6.5 miles for addministrative use only.

Strategy 6. Collaborate with USFS personnel at North Fork John Day Ranger District of Umatilla National Forest to design, maintain and implement projects to ensure the integrity and benefits of the Access and Travel Management Plan.

Strategy 7. Maintain and improve developments including all informational signs (entry, boundary, interpretive, etc.), picnic area, and trail.

Strategy 8. Develop and maintain relationships with hunting and trapping organizations to assist with wildlife area management.

Objective 3.2: Provide wildlife viewing and education/interpretation opportunities compatible with Objective 3.1.

Rationale: Wildlife viewing related activities constitute a small but increasing portion of public use over the entirety of the BCWA. BCWA personnel will continue to foster these activities and increase educational and informational efforts as outlined in subsequent strategies while ensuring compatibility with Goals 1 and 2 and Objective 3.1.

Strategy 1. Develop a program for tracking wildlife viewing (and other non hunting, trapping, or angling related activities) use on the wildlife areas. Information will be used to evaluate and modify public use programs and regulations. Work may include questionnaires to assess public use opportunities and programs or development of a self-service permit system.

Strategy 2. Explore the potential of developing internship program with various educational institutions to conduct range/vegetation monitoring and wildlife use surveys.

Strategy 3. Maintain and improve developments including all informational signs (entry, boundary, interpretive, etc.), picnic area, and trail. Also coordinate with USFS on maintenance of Bridge Creek Overlook elk viewing site and interpretive trail.

Strategy 4. Provide wildlife habitat educational and informational events as requested by schools, civic groups, conservation entities, and/or other institutions. Work entails conducting wildlife habitat educational events at the areas compatible with Goals 1 and 2, and related objectives.

Strategy 5. Maintain current winter closure of the BCWA and/or adjust as deemed necessary by BCWA personnel for resource protection and achievement of Goals 1 and 2.

Strategy 6. Provide guidance, information, and support to local organizations and City, County, State, Federal and Tribal entities as requested.

Achievements

Since the 2009 BCWA management plan review, there have been some major accomplishments that are summarized in this section:

In 2016, BCWA staff implemented a partial road closure affecting the southern portion of BCWA. In order to increase wintering elk herd retention, the main road was closed following 2nd Rifle elk season to all motorized vehicles. The gate at Kennedy Springs marks the beginning of the road closure. This closure continues to be implemented every year and non-motorized access is still permitted until BCWA enters into the full winter closure on Dec. 1st.

Monitoring for bats with acoustic detectors began in 2017. This not only allows staff to identify which species are present within the BCWA, but also contributes to a larger statewide project studying bat presence/absence within Oregon.

Maintenance was completed on two impoundments and two ponds. Five spring-fed watering troughs were repaired and continue providing an important water source.

A cultural survey was performed on 2017 and 2020, prior to a rangeland-drilling project. No culturally significant or historical sites/items were located within the project's boundaries.

In 2017, a pasture/grassland restoration project was initiated. Areas with infestations of Ventenata or other invasive annual grasses were chemically treated in the fall months insuring desired grasses are not injured. One year after chemical application, treated areas were re-seeded with desirable forage mixtures to promote competitive exclusion of invasive annual grasses and increase available forage for wintering wildlife. Pastures are rested from grazing while treatment occurs. To date, 600 acres have been chemically treated and 300 acres have been re-seeded. This restoration project will continue into the future.

California Bighorn sheep were reintroduced in the BCWA in 2018. 20 sheep, including 18 ewes and 2 rams, were released as part of this effort. Since this release, surveys have been conducted to monitor the population. Population growth is stable at this point but is expected to increase over the next 10 years.

Plan Implementation

Funding

Funding for operation and maintenance of the BCWA has been accomplished through annual federal grant agreements 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 Services 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, as well as providing 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 appropriated 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%).

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 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 using non-federal funds, 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. As applicable, cost match for this federal grant has also be attained through various volunteer contributions primarily in the form of volunteer labor.

Over the past five years, funding for the operation and maintenance of the BCWA has averaged approximately $210,225 annually and constitutes 40% of the John Day

Watershed Wildlife Habitat budget. To implement many of the proposed actions and achieve the objectives and goals of this plan, the Department will need additional funding and staff to undertake several types of projects including upgrades of existing facilities, habitat improvement, construction of new facilities or amenities (educational/orientation kiosks and interpretive signs), development of a forest management plan and species and habitat monitoring.

Staffing / Organization

The Department manages seventeen major wildlife areas throughout the state. The wildlife areas encompass approximately 200,000 acres and are found in both Department administrative regions. The BCWA is currently operated by staff of the JDWS habitat program stationed at the Pendleton District Office and one full time Wildlife Habitat Manager stationed at the Phillip W. Schneider Wildlife Area, in Dayville, Oregon. In addition to the BCWA, the JDWS habitat staff operate the Columbia Basin Wildlife Management Areas. The Wildlife Habitat Manager is also responsible for oversight of program and staff at the Phillip W. Schneider Wildlife Area.

Compliance Requirements

The BCWA Management Plan was developed to comply with all Federal and State laws, Oregon Revised Statutes (ORS), Oregon Administrative Rules (OAR), and department policies. Full implementation of all components of this plan will require compliance with laws, regulations, rules, and policies listed in Appendix F including consultation with applicable partners.

Partnerships

Partnerships with federal, state and local agencies, universities, tribes, non-profits, individual volunteers and private landowners are an important part of BCWA operations and management. Partnerships occur through project funding assistance, research assistance, private land access and/or other types of collaboration. The Department will continue to rely on these and other partner's in the future as new potential opportunities arise. The Department welcomes and encourages such participation to assist in management and operation of the BCWA as desired. The Department relizes that BCWA is just a part of a larger management process and will be included in any working group as it arises.

Examples of current partnerships at work on BCWA include:

- Butter Creek Cattle Company – Grazing permittee and BCWA maintenance
- Rocky Mountain Elk Foundation – Volunteer projects and financial contributions (grants)
- OSU Extension – Advisement regarding vegetation
- Blue Mountain Elk Initiative- Protection of winter range (noxious weed control, travel access)
- Adjacent landowners - Property access. Observation/report of activities and security on properties.
- USFS – Coordination and management of resource activities (grazing, road closures, controlled burns, etc) within BCWA and on adjacent USFS lands.

- ODF – Advisement of forest issues and fire protection.
- CTUIR (Cultural Resource Protection Program) - Advisement of cultural resources present on the BCWA.
- BLM, OPRD, ODOT – Coordination for management activities that occur on partner lands within BCWA for compliance to applicable Federal and State rules and regulations.
- OSP – Cooperative enforcement of fish and wildlife law

Adaptive Management

This plan provides for adaptive management of the BCWA. 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 wildlife 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 goals and objectives described in this plan whenever possible. Habitat management activities will be monitored where possible 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 wildlife area, and as such, each plan will be formally revisited after five years and updated every ten years. In the meantime, however, the Department will be reviewing and updating this plan periodically (at least as often as every five years) based on the results of the adaptive management program. This plan will also be informally reviewed by BCWA 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. Goals and objectives described in this plan will not change until they are re-evaluated as part of the formal plan revision process. However, strategies may be revised to better address changing circumstances or due to increased knowledge of the resources on BCWA. If changes are required, the level of public involvement and associated compliance requirements will be determined by the Department.

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U.S. Census Bureau- http://www.census.gov/

Appendices

Appendix A. Land Acquisitions, Adjustments and Easements Involving the Bridge Creek Wildlife Area

Date	Acres	Action	Cooperator	Comments/ Other
6/29/1961	4243.46	Acquired	Hilbert, Frank	
6/29/1961	593.33	Acquired	Hilbert, Maude	
6/29/1961	-20	Sold	Hilbert, Harold & Maureen	
6/30/1961		From	Hilbert, Frank	Grazing Right
7/24/1961		Acquired	Hilbert, Maude	Grazing Right
9/8/1961		Correction	Hilbert, Maude	Title
9/29/1961	2900.98	Acquired	Hilbert, Kate	
10/3/1961	160	Acquired	Stubblefield, F & L	
10/23/1963	160	Acquired	Martin, Harold	
4/22/1964		Easement, Perpetual	US Forest Service	Road-FS 5506
4/22/1964		Easement, Perpetual	US Forest Service	Road-FS 5507
11/6/1964	-627	Sold	Martin, Harold	
12/4/1964		Acquired	French, John	Quitclaim
4/7/1965	-160	Sold	Georgia Pacific Corp.	
4/8/1965	160	Acquired	Georgia Pacific Corp.	
7/22/1966	80	Agreement	Bureau of Land Management	
7/22/1966	320	Agreement	Bureau of Land Management	
6/26/1969	885.49	Acquired	Georgia Pacific Corp.	
6/26/1969	6.8	From	Georgia Pacific Corp.	Easement
6/26/1969	-75	Sold	Georgia Pacific Corp.	
11/24/1969	239.67	Acquired	Stubblefield, F & L	
10/27/1972	35	Agreement	US Forest Service	
11/14/1974		Acquired	Stubblefield, Lillian	Timber
9/22/1975	4725.44	Acquired	Colvin Cattle Co./ Colvin T.	
12/13/1950		Easement, Perpetual	Columbia Power Cooperative Assoc.	Powerline Right of Way

Appendix B. Plant Species Known to Occur on Bridge Creek Wildlife Area

Order - Common Name	Species Name	Family
Asterales		
Arrowleaf balsamroot	*Balsamorhiza sagittata*	Asteraceae
Blanket flower	*Gaillardia aristata*	Asteraceae
Canada thistle	*Cirsium arvense*	Asteraceae
Diffuse knapweed	*Centaurea diffusa*	Asteraceae
Dwarf yellow fleabane	*Erigeron chrysopsidis*	Asteraceae
Elk thistle	*Cirsium foliosum*	Asteraceae
Groundsel	*Senecio spp*	Asteraceae
Heartleaf arnica	*Arnica cordifolia*	Asteraceae
Mulesears	*Wyenthia amplexicaulis*	Asteraceae
Rabbitbrush	*Ericameria nauseosa*	Asteraceae
Rush skeletonweed	*Chondrilla juncea*	Asteraceae
Russian knapweed	*Acroptilon repens*	Asteraceae
Sagebrush	*Artemisia spp*	Asteraceae
Scotch thistle	*Onopordum acanthium*	Asteraceae
Tansy ragwort	*Senecio jacobaea*	Asteraceae
Western hawkweed	*Hieracium albertinum*	Asteraceae
Western yarrow	*Achillea millefolium*	Asteraceae
Woolly goldenweed	*Haplopappus lanuginosus*	Asteraceae
Caryophyllales		
Prickly pear cactus	*Opuntia polyacantha*	Cactaceae
Winterfat	*Ceratoides lanata*	Chenopodiaceae
Bitterroot	*Lewisia rediviva*	Portulacaceae
Cornales		
Red-osier dogwood	*Cornus stolonifera*	Cornaceae
Cyperales		
Elk sedge	*Carex geyeri*	Cyperaceae
Ross sedge	*Carex rossii*	Cyperaceae
Basin wildrye	*Leymus cinereus*	Poaceae
Bluebunch wheatgrass	*Pseudoroegneria spicata*	Poaceae
Bottlebrush squirrel tail	*Sitanion hystrix*	Poaceae
Cheatgrass	*Bromus tectorum*	Poaceae
Idaho fescue	*Festuca idahoensis*	Poaceae
Intermediate wheatgrass	*Thinopyrum intermedium*	Poaceae
One spike oatgrass	*Danthonia unispicata*	Poaceae
Oniongrass	*Melica bulbosa*	Poaceae
Orchardgrass	*Dactylis glomerata*	Poaceae
Pinegrass	*Calamagrostis rubescens*	Poaceae
Praire junegrass	*Koeleria cristata*	Poaceae
Sandberg bluegrass	*Poa secunda*	Poaceae
Timothy	*Phleum pratense*	Poaceae
Ventenata	*Ventenata dubia*	Poaceae
Dipsacales		
Teasel	*Dipsacus fullonum*	Dipsaceae

Order - Common Name	Species Name	Family
Blue elderberry	*Sambucucus nigra*	Caprifoliaceae
Common snowberry	*Symphoricarpos albus*	Caprifoliaceae
Ericales		
Kinnickinnick	*Arctostaphylos uva-ursi*	Ericaceae
Manzanita	*Arctostaphylos patula*	Ericaceae
Pinemat manzanita	*Arctostaphylos nevadensis*	Ericaceae
Fabales		
Lupine	*Lupinus spp*	Fabaceae
White clover (Dutch)	*Trifolium repens*	Fabaceae
Mountain alder	*Alnus tenuifolia*	Betulaceae
Geraniales		
Sticky geranium	*Geranium viscosissimum*	Geraniaceae
Lamiales		
Fiddleneck(Buglass) tarweed	*Amsinckia intermedia*	Boraginaceae
Narrowleaf skullcap	*Scutellaria angustifolia*	Lamiaceae
Liliales		
Grass widows	*Olsynium douglasii*	Iridaceae
Common camas	*Camassia quamash*	Liliaceae
Falsehellebore	*Veratrum spp*	Liliaceae
Robinson's onion	*Allium robinsonii*	Liliaceae
Tapertip onion	*Allium acuminatum*	Liliaceae
Wing-fruited mariposa lily	*Calochortus eurycarpus*	Liliaceae
Western blue flax	*Linum lewissii*	Linaceae
Myrtales		
Elkhorn clarkia	*Clarkia pulchella*	Onagraceae
Pinales		
Western juniper	*Juniperus occidentalis*	Cupressaceae
Douglas fir	*Pseudotsuga menziessi*	Pinaceae
Grand fir	*Abies grandis*	Pinaceae
Lodgepole pine	*Pinus contorta*	Pinaceae
Ponderosa pine	*Pinus ponderosa*	Pinaceae
Western larch	*Larix occidentalis*	Pinaceae
Polygonales		
Buckwheat	*Eriogonum spp*	Polygonaceae
Ranunculales		
Oregon grape	*Berberis repens*	Berberidaceae
Red columbine	*Aguilegia formosa*	Ranunculaceae
Rhamnales		
Snowbrush ceanothus	*Ceanothus velutinus*	Rhamnaceae
Rosales		
Bitterbrush	*Purshia tridentata*	Rosaceae
Cinquefoil	*Potentilla spp*	Rosaceae
Curlleaf mountain mahogany	*Cercocarpus ledifolius*	Rosaceae
Mallow ninebark	*Physocarpus malvaceus*	Rosaceae
Oceanspray	*Holodiscus discolor*	Rosaceae
Prairie smoke	*Geum triflorum*	Rosaceae

Order - Common Name	Species Name	Family
Serviceberry	*Amelanchier alnifolia*	Rosaceae
Wax current	*Ribes cereum*	Rosaceae
Wild strawberry	*Fragaria vesca*	Rosaceae
Wood's rose	*Rosa woodsii*	Rosaceae
Rununculales		
Larkspur	*Delphinium spp*	Ranunculaceae
Salicales		
Cottonwood	*Populus spp*	Salicaceae
Quaking aspen	*Populus tremuloides*	Salicaceae
Willow	*Salix spp.*	Salicaceae
Sapindales		
Puncture vine	*Tribulus terrestris*	Zygophyllaceae
Scrophulariales		
Indian paintbrush	*Castilleja spp*	Scrophulariaceae
Solanales		
Field bindweed	*Convolvulus arvensis L*	Convolvulaceae
Skyrocket	*Ipomopsis aggregata*	Polemoniaceae
Typhales		
Cattail	*Typha latifolia L.*	Typhaceae

Appendix C. Fish and Wildlife Species Known to Occur on Bridge Creek Wildlife Area

Occurrence: **C** = Common, **U** = Uncommon, **O** = Occasional, **R** = Rare, **X** = Status Unknown
(Few Observations and/or habitat present within species distribution)

		Occurrence			
AVIAN **Order-**Common Name	**Scientific Name**	**Winter**	**Spring**	**Summer**	**Fall**
Anseriformes					
Blue winged teal	*Anus discors*		U	U	
Canada goose	*Branta canadensis*	O	C	C	
Cinnamon teal	*Anas cyanoptera*		U	U	
Common merganser	*Mergus merganser*		C	C	C
Green-winged teal	*Anus crecca*		U	U	
Mallard	*Anas platyrhynchos*	U	C	C	
Northern pintail	*Anas acuta*		U	U	
Northern shoveler	*Anas clypeata*		C	C	
Redhead	*Aythya americana*		O	O	
Widgeon	*Anas americana*		O	O	
Apodiformes					
Black-chinned hummigbird	*Archilochus alexandri*		U	U	
Rufous hummingbird	*Selasphourus rufus*		C	C	
Caprimulgiformes					
Common nighthawk	*Chordeiles minor*	C	C	C	C
Charadriiformes					
Long-billed dowitcher	*Limnodromus scolopaceus*			U	U
California gull	*Larus californicus*		U	U	U
Common snipe	*Gallinago gallinago*		U	U	
Killdeer	*Charadrius vociferus*		U	U	
Upland sandpiper (Plover)	*Bartramia longicauda*		R	R	
Ciconiiformes					
Great blue heron	*Ardea herodias*		C	C	
Turkey vulture	*Cathartes aura*		O	O	O
Columbiformes					
Mourning dove	*Zenaida macroura*		C	C	C
Coraciiformes					
Belted kingfisher	*Ceryle alcyon*	C	C	C	C
Falconiformes					
American kestral	*Falco sparverius*	C	C	C	C
Bald eagle	*Haliaeetus leucoephalus*	C	C	C	C
Coopers hawk	*Accipiter cooperii*	C	C	C	C
Ferruginous hawk	*Buteo regalis*		R	R	
Golden eagle	*Aquila chrysaetos*	C	C	C	C
Northern goshawk	*Accipiter gentilis*		R	R	

AVIAN **Order**-Common Name	**Scientific Name**	**Winter**	**Spring**	**Summer**	**Fall**
Northern harrier	*Circus cyaneus*	X	X	X	X
Prairie falcon	*Falco mexicanus*		R	R	
Red-tailed hawk	*Buteo jamaicensis*	C	C	C	C
Rough-legged hawk	*Buteo lagopus*	C			
Sharp-shinned hawk	*Accipiter striatus*	C	C	C	C
Swainson's hawk	*Buteo swainsoni*	X	X	X	X
Galliformes					
Dusky grouse	*Dendragapus obscurus*	C	C	C	C
Chukar	*Alectoris chukar*	O	O	O	O
Gray partridge (Hungarian)	*Perdix perdix*	U	U	U	U
California quail	*Callipepla Californica*	U	U	U	U
Mountain quail	*Oreortyx pictus*	U	U	U	U
Rio grande turkey	*Meleagris galopavo intermedia*	U	U	U	U
Ruffed grouse	*Bonasa umbellus*	C	C	C	C
Gruiformes					
American coot	*Fulica americana*		O	O	
Sandhill crane	*Grus canadensis*				C
Passeriformes					
Willow flycatcher	*Empidonax traillii*	X	X	X	X
American crow	*Corvus brachyrhynchos*	C	C	C	C
American dipper	*Cinclus mexicanus*		O	O	
American goldfinch	*Carduelis tristis*		C	C	
American robin	*Turdus migratorius*		C	C	
Barn swallow	*Hirundo rustica*	X	X	X	X
Black-billed magpie	*Pica pica*	C	C	C	C
Black-capped chickadee	*Poecile atricapilla*	X	X	X	X
Brewers blackbird	*Euphagus cyanocephalus*	X	X	X	X
Brown-headed cowbird	*Molothrus ater*	X	X	X	X
Bullock's oriole	*Icterus bullockii*		C	C	
Canyon wren	*Catherpes mexicanus*		O	O	
Cassin's finch	*Carpodacus cassinii*	X	X	X	X
Cassin's vireo (Solitary)	*Vireo cassinii*	X	X	X	X
Cedar waxwing	*Bombycilla cedrorum*	X	X	X	X
Chipping sparrow	*Spizella passerina*	X	X	X	X
Clark's nutcracker	*Nucifraga columbiana*	X	X	X	X
Common raven	*Corvus corax*	C	C	C	C
Dark-eyed junco (Oregon)	*Junco hyemalis*	C			
Eastern kingbird	*Tyrannus tryannus*	X	X	X	X
European starling	*Sturnus vulgaris*	C	C	C	C
Evening grosbeak	*Coccothraustes vespertinus*	X	X	X	X
Golden-crowed kinglet	*Regulus satrapa*		O		O
Gray jay	*Perisoreus canadensis*		U	U	
Green-tailed towhee	*Pipilo chlorurus*	X	X	X	X
House wren	*Troglodytes aedon*	X	X	X	X

AVIAN **Order**-Common Name	**Scientific Name**	**Winter**	**Spring**	**Summer**	**Fall**
Lazuli bunting	*Passerina amoena*	X	X	X	X
MacGillivray's warbler	*Oporonis tolmiei*		O	O	O
Mountain bluebird	*Sialia currucoides*	C	C	C	C
Mountain chickadee	*Poecile gambeli*	X	X	X	X
Northern rough-winged swallow	*Stelgidopteryx serripennis*	X	X	X	X
Northern shrike	*Lanius exubitor*	X	X	X	X
Olive-sided flycatcher	*Contopus cooperi*	X	X	X	X
Pine grosbeak	*Pinicola enucleator*	X	X	X	X
Pine siskin	*Carduelis pinus*		C	C	
Pygmy nuthatch	*Sitta pygmaea*		C	C	C
Red-breasted nuthatch	*Sitta canadensis*	X	X	X	X
Red-winged blackbird	*Agelaius phoeniceus*		C	C	
Rock wren	*Salpinctes obsoletus*		O	O	
Ruby-crowed kinglet	*Regulus calendula*	X	X	X	X
Song sparrow	*Melospiza melodia*	X	X	X	X
Steller's jay	*Cyanocitta stelleri*	O	O	O	O
Swainson thrush	*Catharus ustulatus*	X	X	X	X
Townsend's solitaire	*Myadestes townsendi*	X	X	X	X
Townsend's warbler	*Dendroica townsendi*		O	O	
Tree swallow	*Tachycineta bicolor*	X	X	X	X
Varied thrush	*Ixoreus naevius*	X	X	X	X
Vesper sparrow	*Pooecetes gramineus*	X	X	X	X
Violet-green swallow	*Tachycineta thalassina*	X	X	X	X
Warbling vireo	*Vireo gilvus*	X	X	X	X
Western bluebird	*Sialia mexicana*		C	C	C
Western kingbird	*Tyrannus verticalis*		C	C	
Western meadowlark	*Sturnella neglecta*		C	C	
Western tanager	*Piranga ludoviciana*		C	C	
Western wood-pewee	*Contopus sordidulus*	X	X	X	X
White-breasted nuthatch	*Sitta carolinensis*	X	X	X	X
White-crowned sparrow	*Zonotrichia leucophrys*	C	C		C
Yellow warbler	*Dendroica petechia*		C	C	
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	X	X	X	X
Yellow-rumped (Audubon's) warbler	*Dendroica coronata*		C	C	
Piciformes					
Downy woodpecker	*Picoides pubescens*	C	C	C	C
Hairy woodpecker	*Picoides villosus*	C	C	C	C
Lewis woodpecker	*Melanerpes lewis*		U	U	
Northern flicker	*Colaptes auratus*	C	C	C	C
Pileated woodpecker	*Dryocopus pileatus*		U	U	
White-headed woodpecker	*Picoides albolarvatus*	X	X	X	X
Red-naped sapsucker	*Sphyrapicus nuchalis*		O	O	
Strigiformes					
Great gray owl	*Strix nebulosa*	O	O	O	O

AVIAN **Order**-Common Name	**Scientific Name**	**Winter**	**Spring**	**Summer**	**Fall**
Great horned owl	*Bubo virginianus*	C	C	C	C
Long-eared owl	*Asio otus*	O	O	O	O
Northern pygmy owl	*Glaucidium gnoma*	C	O	O	O
Northern saw-whet owl	*Aegolius acadicus*	O	O	O	O
Short-eared owl	*Asio flammeus*	O	O	O	O
MAMMAL **Order-Common Name**	**Scientific Name**	**Winter**	**Spring**	**Summer**	**Fall**
Artiodactyla					
Mule deer	*Odocoileus hemionus*	C	C	C	C
Pronghorn	*Antilocapra americana*		R	RO	
Rocky mountain elk	*Cervus canadensis*	C	C	C	C
California bighorn sheep	*Ovis Canadensis californiana*	C	C	C	C
Carnivora					
Badger	*Taxidea taxus*	O	O	O	O
Black bear	*Ursus americanus*		O	O	O
Bobcat	*Lynx rufus*	U	U	U	U
Cougar	*Felis concolor*	U	U	U	U
Coyote	*Canis latrans*	C	C	C	C
Mink	*Mustella vision*	O	C	C	C
Raccoon	*Procyon lotor*	C	C	C	C
River otter	*Lutra canadensis*	O	O	O	O
Striped skunk	*Mephitis mephitis*		O	O	O
Weasel	*Mustella* sp	O	O	O	O
Chiroptera					
Big brown bat	*Eptesicus fuscus*	X	X	C	X
California myotis	*Myotis californicus*	X	X	C	X
Fringed myotis	*Myotis thysanodes*	X	X	C	X
Hoary bat	*Lasiurus cinereus*	X	X	C	X
Long-eared myotis	*Myotis evotis*	X	X	X	X
Pallid bat	*Antrozous pallidus*	X	X	X	X
Silver-haired bat	*Lasionycteris noctivagans*	X	X	C	X
Townsend's big-eared bat	*Corynorhinus townsendii*	X	X	X	X
Western long-eared myotis	*Myotis evotis*	X	X	C	X
Western small-footed myotis	*Myotis ciliolabrum*	X	X	X	X
Lagomorpha					
Black-tailed jackrabbit	*Lepus californicus*	R	R	R	R
Cottontail rabbit	*Sylvilagus nuttallii*	C	C	C	C
Snowshoe hare	*Lepus americanus*	O	O	O	O
White-tailed jackrabbit	*Lepus townsendii*	R	R	R	R
Rodentia					
Beaver	*Castor canadensis*	O	O	O	O
Belding's ground squirrel	*Spermophilus beldingi*	X	X	X	X
Bush-tailed woodrat	*Neotoma cinerea*	C	C	C	C

MAMMAL **Order-Common Name**	**Scientific Name**	**Winter**	**Spring**	**Summer**	**Fall**
Columbian ground squirrel	*Spermophilus columbianus*	X	X	X	X
Deer mouse	*Peromyscus maniculatus*	C	C	C	C
Golden-mantled ground squirrel	*Spermophilus lateralis*	C	C	C	C
House mouse	*Mus musculus*	X	X	X	X
Least chipmunk	*Neotamias minimus*	O	O	O	O
Long-tailed vole	*Microtus longicaudus*	C	C	C	C
Montane vole	*Microtus montanus*	X	X	X	X
Muskrat	*Ondatra zibethicus*	O	O	O	O
Northern flying squirrel	*Glaucomys sabrinus*	X	X	X	X
Northern pocket gopher	*Thomomys talpoides*	X	X	X	X
Porcupine	*Erethizon dorsatum*	C	C	C	C
Red squirrel	*Tamiasciurus hudsonicus*	C	C	C	C
Southern red-backed vole	*Myodes gapperi*	X	X	X	X
Water vole	*Microtus richardsoni*	X	X	X	X
Western jumping mouse	*Zapus princeps*	X	X	X	X
Yellow-bellied marmot	*Marmota flaviventris*	R	R	R	R
Yellow-pine chipmunk	*Neotamias amoenus*	C	C	C	C
AMPHIBIAN/ REPTILE **Order-Common Name**	**Scientific Name**	**Winter**	**Spring**	**Summer**	**Fall**
Anura					
Columbia spotted Frog	*Rana luteiventris*	X	X	X	X
Inland tailed frog	*Ascaphus montanus*	X	X	X	X
Pacific chorus frog (Treefrog)	*Hyla regilla*	X	X	X	X
Western toad	*Bufo boreas*	X	X	X	X
Squamata					
Bull snake	*Pituophis catenifer sayi*		C	C	C
Racer snake	*Coluber constrictor*		C	C	C
Rubber boa	*Charina bottae*		C	C	C
Western rattlesnake	*Crotalus oreganus*		C	C	C
Western fence lizard	*Sceloporus occidentalis*		C	C	C
Western skink	*Eumeces skiltonianus*		C	C	C
FISH **Order-Common Name**	**Scientific Name**	**Winter**	**Spring**	**Summer**	**Fall**
Cypriniformes					
Bridgelip sucker	*Catostomus columbianus*	Abundant			
Chiselmouth	*Acrocheilus alutaceus*	Abundant			
Coarsescale sucker	*Catastomas macrocheilus*	Abundant			
Longnose dace	*Rhinichthys cataractae*	Abundant			
Northern pike minnow	*Ptychocheilus oregonensis*	Abundant			

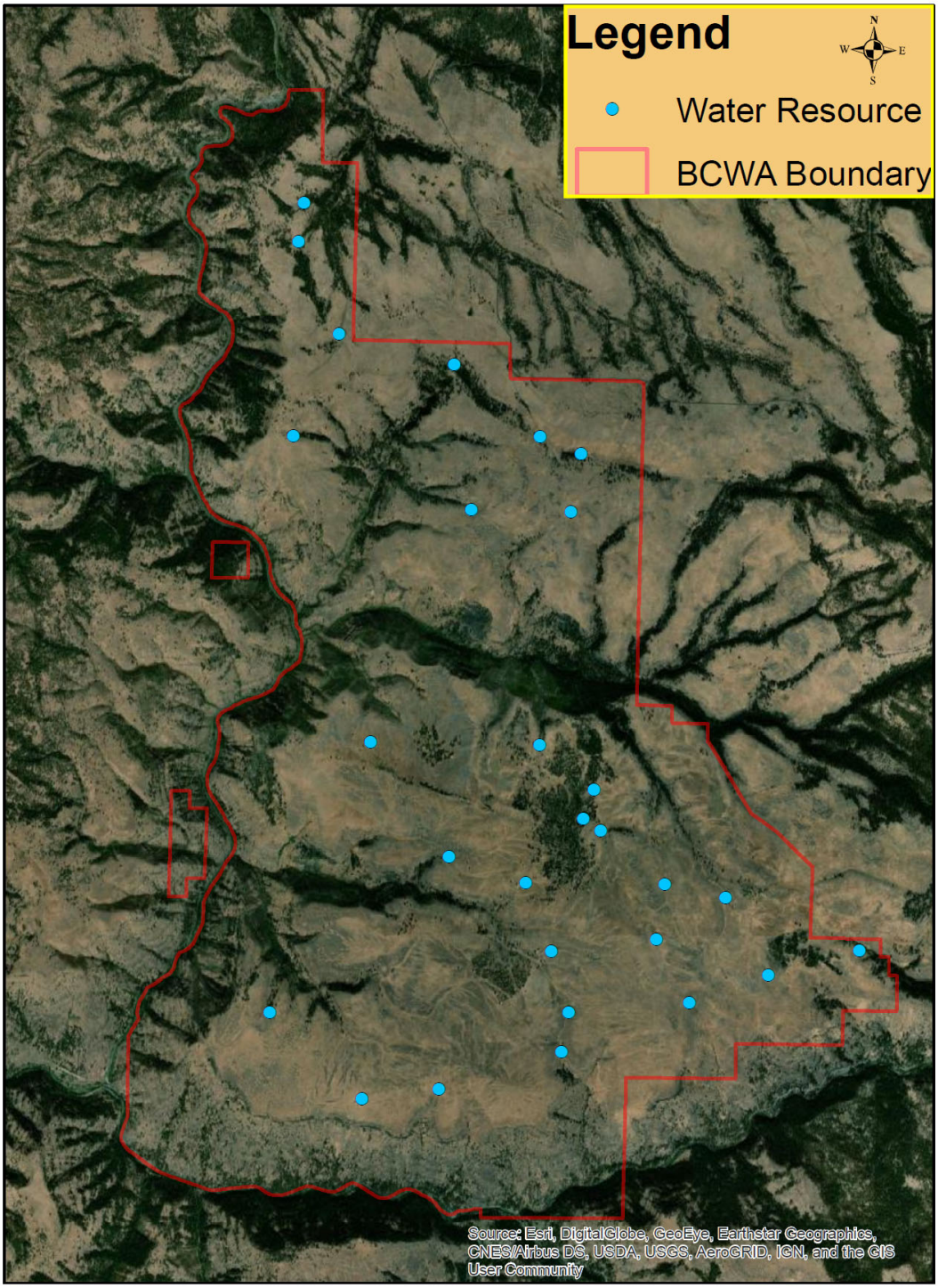
FISH Order-Common Name	Scientific Name	Winter	Spring	Summer	Fall
Redsided shiner	*Clinostomus elongatus*	Abundant			
Speckled dace	*Rhinichthys osculus*	Abundant			
Perciformes					
Smallmouth bass	*Mycropterus dolomieui*	Occasional			
Brook lamprey	*Ichthyomyzon fossor*	Common			
Pacific lamprey	*Entosphenus tridentatus*	Common			
Salmoniformes					
Bull trout	*Salvelinus confluentus*	Uncommon			
Mountain whitefish	*Prosopium williamsoni*	Common			
Redband/inland rainbow	*Onchoryncus mykiss sp.*	Abundant			
Spring chinook salmon	*Onchoryncus tshawytscha.*	Seasonally common			
Steelhead	*Onchoryncus mykiss*	Abundant			
Scorpaeniformes					
Sculpin	*Cottus* spp.	Abundant			
Petromyzontiformes					
Western brook lamprey	*Lampetra planeri*	Abundant			
Pacific lamprey	*Entosphenus tridentatus*	Abundant			

Appendix D. Water Rights on Bridge Creek Wildlife Area

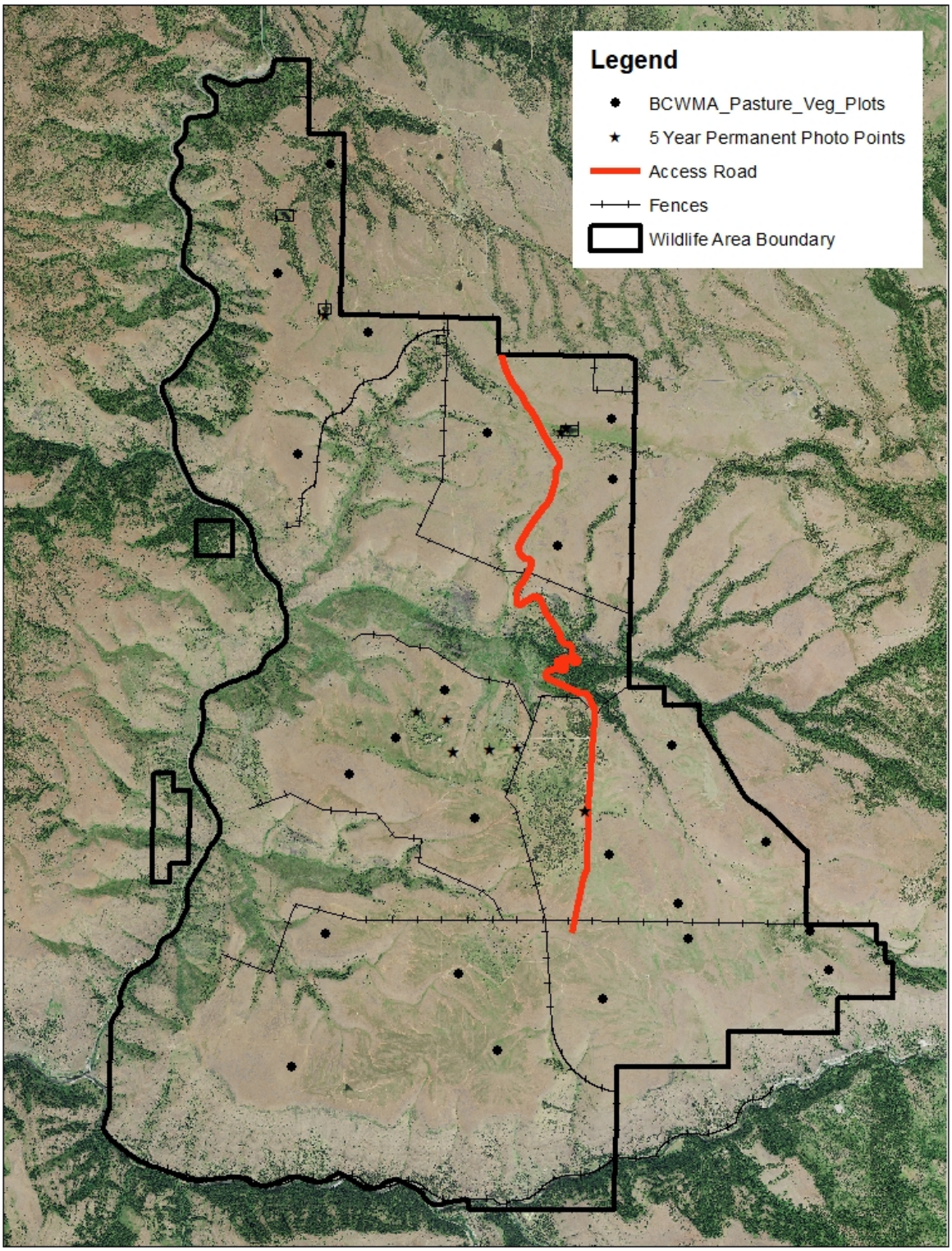
	Type	Acre Feet	Certificate #	POD #	Remarks
1	Stock Pond	1.30	69175	134332	
2	Stock Pond	6.90	69175	134333	
3	Stock Pond	3.80	69175	134334	
4	Stock Pond	0.20	69175	134335	
5	Wildlife Pond	0.50	69175	134336	
6	Stock Pond	0.20	69175	134337	
7	Wildlife Pond	7.10	69175	134338	
8	Stock Pond	0.30	69175	134339	
9	Stock Pond	0.30	69175	134340	
10	Wildlife Pond	0.20	69176	134341	
11	Stock Pond	0.50	69176	134342	
12	Stock Pond	0.10	69176	134343	
13	Stock Pond	0.30	69176	134344	
14	Stock Pond	0.10	69176	134345	
15	Stock Pond	0.30	69176	134346	
16	Stock Pond	3.30	69176	134347	
17	Stock Pond	0.60	69176	134348	
18	Stock Pond	2.60	69176	134349	
19	Stock Pond	3.00	73673	145108	
20	Stock Pond	0.02	73673	145107	
21	Stock Pond	2.40	73673	145102	
22	Stock Pond	0.07	73673	145103	
23	Stock Pond	0.30	73673	145104	
24	Stock Pond	0.40	73673	145105	
25	Stock Pond	0.40	73673	145106	
26	Stock Pond	0.10	73673	145109	
27	Stock Pond	0.60	73673	145110	
28	Stock Pond	0.60	73673	145111	

Appendix D. Water Rights on Bridge Creek Wildlife Area

BCWA Water Resources



Appendix E. Aerial View of Monitoring Points



Appendix F. Legal Obligations Influencing Management of Bridge Creek 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
ORS 570.535 Landowner responsibility for weed control

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
635-008-0055 Bridge Creek 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

State Legislation for Forestlands

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.

A comprehensive integrated habitat management plan is needed for the BCWA that would incorporate much of the same information contained in the timberland inventory and analysis but would also include, recommendations for other types of habitat management such as grazing, fencing and forage enhancement for the benefit of wildlife. This type of long range plan would enable us to improve and increase wildlife habitat, improve forest health, reduce fire danger, and control insect infested and diseased stands of timber. These actions would not only benefit big game species, but all wildlife of BCWA. Production of an Integrated Habitat Management Plan to accomplish these goals will require an environmental impact study on the BCWA to meet USFWS requirements related to timber harvest. At this time, funding limitations prevent implementation of such a comprehensive study and related reports.