E.E. WILSON WILDLIFE AREA MANAGEMENT PLAN

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Oregon Department of Fish and Wildlife
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Executive Summary

Purpose of the Plan

This plan will guide management of E.E.Wilson Wildlife Area (EEWWA) over the next ten year period with the intent of:

- Providing direction and long-term continuity for managing the wildlife area (WA);
- Ensuring management policies that are consistent with the terms of the original transfer agreement between the U.S. government and the Oregon Department of Fish and Wildlife, and with Federal, State and local regulations;
- Ensuring management activities include 2006 Oregon Conservation Strategy priorities and recommendations;
- Communicating EEWWA management priorities to the public and neighbors, and;
- Providing a basis for budget requests that support EEWWA staffing needs, operations, maintenance, and capital improvements.

Historical Background

The E.E. Wilson Wildlife Area came into existence in 1950 when the U.S. Government gave quitclaim title to the property to the Oregon Department of Fish and Wildlife. The wildlife area covers approximately 1,788 acres, is located on Highway 99W about 10 miles north of Corvallis and is situated on the Willamette Valley floor. Bordered to the north by private farm lands, the urban community of Adair Village to the south, Highway 99W to the west and the undeveloped City of Adair and United States Forest Service (USFS) properties to the east, EEWWA also includes the isolated 55 acre Baker Tract and the 50 acre Coffin Butte Tract. The WA lies in both Benton and Polk counties which have populations of 80,000 and 74,000 respectively.

The wildlife area is named after a Corvallis attorney, Eddy Elbridge Wilson, born in Corvallis, Oregon in 1869. E.E. Wilson was a member of the Oregon Game Commission and Commission chairman for ten years. In recognition of his service, the department named the wildlife area in his honor. He lived to the age of 92.

The wildlife area is located in a portion of the Willamette Valley once occupied by the Kalapuya Indians. The Luckiamute Band of the Kalapuyas once lived on what now is EEWWA land. Much of the open areas in the southern Willamette Valley are a result of management activities (fires) set by the tribe to reduce brush, improve seed production and allow harvest of game animals. Estimated to have a population of 10,000 to 20,000 in the early 1800s, by 1840 the tribe had declined to roughly 600, by "fever and ague" which may have actually been Influenza, typhus, cholera, measles, and scarlatina (Boyd, 1998). In 1851 the estimates are at 560 Kalapuya; by 1857, 345 Kalapuya were in Grand Ronde, and the last census, in 1900, listed 72 individuals who were primarily Kalapuya by descent. Although unratified treaties were negotiated in April of 1851 with Anson Dart, during the first week of January, 1855, the U.S. government ratified a

signed treaty with the Kalapuyas and moved them to the Grand Ronde Reservation (Beckham, 1998).

Early pioneers homesteaded the wildlife area locale in the late 1840s. Typical of the early Willamette Valley habitats, the farms on the WA were too wet to farm so the area was grazed. In 1850, the community of Wells was built on the site. The town consisted of a community center, store, post office, school, church, blacksmith shop railroad depot, warehouse and several homes. By 1870, local farmers produced primarily wheat on their agricultural lands. With the advent of World War II, the U.S. Army needed a military training facility and displaced the town and its farmers in order to build the Camp Adair Army Training Center (CAATC).

In April of 1942, CAATC totaled 52,000 acres in Benton and Polk counties. Four infantry divisions were trained there during WW II. Referred to as “Swamp Adair” by the Army Corps of Engineers, the Corps constructed a new sewer/storm drainage system and channelized three intermittent streams in order to drain excess water from the training center. The main camp consisted of headquarters, maintenance and troop buildings and was bisected by a grid work of roads that covered approximately 1,500 acres. The Army training center was de-activated in 1948. Most buildings were removed but a maze of concrete foundations, gravel areas and paved roads remained. In 1950, EEWWA was formally established when the U.S. Government conveyed the CAATC to the Oregon Game Commission, precursor to the Oregon Department of Fish and Wildlife, under a quitclaim deed. Under the transfer agreement, the department was required to use the WA for the conservation of wildlife, other than migratory birds, and if not used for such purpose would revert back to the government of the United States.

Planning Approach

This plan revises the original EEWWA long range plan adopted by the Oregon Fish and Wildlife Commission in 1993. That plan focused on goals developed to specifically meet wildlife abundance objectives that were at times not attainable because of hunter preference and habitat and species composition changes.

The goals, objectives and strategies (implementation actions) described in this 2008 version were derived using an ecosystem-based management philosophy and are guided by the 2006 Oregon Conservation Strategy (OCS). It is important to note that the management actions implemented on the wildlife area are for the benefit of wildlife and the user public and must be sustainable and compatible with the wildlife resources.

Current and future wildlife needs and public interests are considered in the plan and appropriate management actions to achieve them are addressed. Subject to staffing and funding availability, the goals and objectives will be implemented throughout the ten year life of the plan. A mid-term progress review will occur in 2013 when revisions can be made prior to a complete plan review in 2018.

E.E. Wilson Wildlife Area Vision

The E.E. Wilson Wildlife Area management vision is:

> *Populations of fish and wildlife historically found in the woodlands, grasslands and wetlands of EEWWA are preserved, enhanced or restored by applying sound stewardship principals and management techniques that promote habitat community diversity and create recreational opportunities and enjoyment for all Oregonians.*

Wildlife Area Goals

The goals for E.E. Wilson Wildlife Area are:

Goal 1: Oak woodland, upland shrub and grassland habitats will be managed consistent with conservation and enhancement priorities for native wildlife and production of game species.

Goal 2: Riparian, wetland and wet prairie habitats will be managed consistent with conservation and enhancement priorities for native wildlife and production of game species.

Goal 3: To provide a variety of wildlife related recreation and education opportunities to the public using management strategies compatible with Goals 1 and 2.

Specific objectives and strategies to implement each goal, as well as detailed rationale are provided on pages 28 to 36.

Implementation Approach

The habitats found on EEWWA are typical of the Willamette Valley where the climate is temperate. Generally winters are mild and wet while summers are warm and dry. The WA is comprised of seasonal wetlands that fill from winter rains, riparian woodlands and small intermingled grassland sites. Three historical intermittent streams trisect the property, but because of extensive drainage work done by pioneer settlers and the U.S. Army during the WW II, these are now ditches. The historic natural habitats once found on the site no longer exist in any abundance due to past agricultural practices and Camp Adair construction. The property is now laced with the remnant remains of old building foundations, a grid work of roads and a complicated and severely deteriorated drainage system. Additionally, the WA was once used as a statewide upland game bird rearing facility until the late 1990s. Remains of this infrastructure still exist and are spread throughout the property. Annexes to the main WA parcel include three off-site tracts, Coffin Butte (unaltered remnant woodlands), Baker (altered agricultural grassland) and Adair (South Willamette Watershed District administrative complex that includes a small natural area with fishing pond).

The WA is dotted with numerous small, shallow rain-dependent impoundments along drainage ditches and natural depressions. They are passively managed to maintain the wetlands primarily for waterfowl and shorebird use. Extensive cattail marshes surround the ponds providing upland habitat for game birds, other non-hunted avian species, small mammals, reptiles and amphibians. The woodlands exist because of domestic orchard and/or ornamental plantings prior to the establishment of the WA, as a result of natural recruitment, and through selective preservation during the construction of CAATC. They provide food, cover and breeding sites for deer, turkey, predators and many small mammals. Few open grasslands are present because of the extensive invasive vegetation problem (e.g. Himalayan blackberry). These shrub/brush areas are difficult to manage but do provide habitat for cottontail rabbits, quail, pheasants and other small animals. Where there are open areas, rare plants unique to the Willamette Valley are found (e.g. Nelson's checkermallow and Kincaid's lupine). These sites provide habitat for meadowland birds such streaked horned larks, meadowlarks and doves.

Wetland management emphasizes the quantity and quality of the habitat by controlling invasive vegetation and creating diversity in the aquatic plant communities. Water impoundments are passively managed (rain dependent, without pumping) using moist soil management activities such as mechanical disking, plowing, mowing and/or chemical applications (herbicides). This activity normally occurs as the seasonal ponds abate and the soil dries. Supplemental seeding/planting is done when necessary, adding to the diversity to the wetland plant communities and palatability/nutrition for the wildlife using the habitat (primarily waterfowl and shorebirds).

Moist prairies are the transition zones between upland prairie and wetlands. Managed similarly to wetlands, they are generally drier but have similar plant communities. Manipulation techniques are the same but seeding/planting regimes vary according to soil type and moisture levels.

Riparian/upland woodland sites are managed to emphasize historical or sensitive habitat designations, requiring either protection or restoration. Controlling non-native invasive plants by mechanical or chemical removal is the general technique used to thin or remove the invasive plant understory. Restoration may require re-planting of desirable native species if not present in the seed bank or local area.

Upland habitats (grasslands) are limited in quantity and managed for protection or enhancement. Depending on the site, focus is to maintain or increase the size and quantity of the habitat type. Management techniques include mowing, plowing, disking, seeding/inter-seeding and chemical spraying. These locales also provide the opportunity to produce limited amounts of wildlife food plots designed specifically for upland birds and small mammals. Typically they are comprised of seed mixes that produce cover and food crops for wildlife during critical winter/spring periods. Normal farming techniques (mechanical and chemical) are used to prepare and plant the sites. As previously mentioned, the majority of the WA's aquatic habitats are seasonal ponds used by a variety of amphibians, reptiles, waterfowl, shorebirds and other associated

terrestrial species. The ponds' seasonal nature limits fish use and with two exceptions (Adair Pond and EEWWA Ponds), they are managed per the previous wetland discussion. The EEWWA Pond is managed as a cool water system and stocked regularly with trout in the spring when water temperatures are cool. The Adair pond receives intermittent planting of warm water species (as available). District fishery biologists assist with the stocking and weed control activities.

The plan's recommended management actions are based on historical habitat, species inventories and monitoring data as well as public use information, current WA management assessments and research, and future wildlife site potential. Extensive soil, hydrology, wildlife species/habitat inventories have been conducted on the WA. Understanding the dynamics of the natural actions that have sustained or changed the ecology of the wildlife area is essential when deciding what management techniques (controlled burning, farming, mechanical or chemical control, etc.) are used to maintain, create or sustain healthy wildlife populations. Also important is the measuring of the impacts of public use on the WA's resources. Development of a "wise use" plan that educates the public and permits maximization of recreational uses without unnecessary control or restrictions is absolutely necessary for the long-term viability of EEWWA.

Introduction

Purpose of the Plan

This document is a long range plan designed to guide the management of the E.E. Wilson Wildlife Area (EEWWA) over the next ten years. The Oregon Department of Fish and Wildlife's (department) management planning process for Wildlife Areas (WAs) involves the development of broad goals for the areas, and formulation of specific objectives and management strategies to achieve those goals. The purposes of this plan are:

- Providing direction and long-term continuity for managing the wildlife area (WA);
- Ensuring management policies that are consistent with the terms of the original transfer agreement between the U.S. Government and the Oregon Department of Fish and Wildlife, and with Federal, State and local regulations;
- Ensuring management activities include 2006 Oregon Conservation Strategy priorities and recommendations;
- Communicating EEWWA management priorities to the public and neighbors, and;
- Providing a basis for budget requests that support EEWWA staffing needs, operations, maintenance, and capital improvements.

Oregon Department of Fish and Wildlife Mission and Authority

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

Purpose and Need of E.E. Wilson Wildlife Area

Directed by the U.S. Government transfer agreement, the department is required to manage the WA for the conservation and use of wildlife. The WA serves as a major recreation area for the southern Willamette Valley counties of Benton, Polk and Marion. The populace of cities such as Corvallis, Albany and Salem, plus many other smaller surrounding rural towns, routinely visits the WA throughout the year to hunt, fish, watch wildlife, bike, hike or become educated in the ways of the wildlife. The WA emphasizes management that promotes protection, enhancement and/or restoration of fish and wildlife resources and their habitats while providing a variety of wildlife-oriented recreational and educational opportunities for the public. As development of the southern Willamette Valley continues to accelerate, the need for open space, wildlife habitat and recreation provided by EEWWA will be immeasurable.

In 2006, the Oregon Conservation Strategy (OCS) was adopted and formed the State's overarching strategy for conserving fish and wildlife to ensure that Oregon's natural treasures are passed on to future generations. The EEWWA is specifically described in the OCS as an Ecoregion Conservation Opportunity Area (WV-19 Corvallis Area). The

WA is home to many of the key habitats mentioned in the OCS such as aquatic, riparian, wetlands, wet prairies, grasslands and oak woodlands. Notable also are the sensitive species found on the area that are targeted in the plan for protection and enhancement. EEWWA role in assuring the success of the OCS is very important, particularly in the recovery of sensitive and rare Willamette Valley habitats and species.

E.E. Wilson Wildlife Area Vision Statement

The vision statement for the E.E. Wilson Wildlife Area is as follows:

> *Populations of fish and wildlife historically found in the woodlands, grasslands and wetlands of EEWWA are preserved, enhanced or restored by applying sound stewardship principals and management techniques that promote habitat community diversity and create recreational opportunities and enjoyment for all Oregonians.*

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 E.E. Wilson Wildlife Area are:

Goal 1: Oak woodland, upland shrub and grassland habitats will be managed consistent with conservation and enhancement priorities for native wildlife and production of game species.

> **Objective 1.1:** Protect and enhance 50-100 acres of native Oregon white oak woodland habitats to provide food, cover and breeding areas for wildlife species associated with this unique habitat type.
>
> **Objective 1.2:** Protect and enhance 300-400 acres of grassland habitat for appropriate pattern, scale and structure to benefit native wildlife and game species.
>
> **Objective 1.3:** Restore and maintain 800-900 acres of upland shrub area to enhance the forage, cover and breeding habitats for native wildlife and game species and control non-native invasive vegetation.

Goal 2: Riparian, wetland and wet prairie habitats will be managed consistent with conservation and enhancement priorities for native wildlife and production of game species.

> **Objective 2.1:** Protect and enhance 100-200 acres of riparian, wetland and wet prairie habitats to promote species diversity and carrying capacity for native wildlife and game species.

Objective 2.2: Protect and enhance 20-40 acres of permanent freshwater ponds to provide habitat for native wildlife and game species.

Goal 3: To provide a variety of wildlife related recreation and education opportunities to the public using management strategies compatible with Goals 1 and 2.

Objective 3.1: Provide a variety of hunting, trapping, and angling opportunities (12,000-15,000 annual public use days) compatible with habitat management objectives.

Objective 3.2: Provide a variety of wildlife viewing and educational opportunities (40,000-45,000 annual public use days) that promote public understanding and support for natural resources and increase youth interest and participation in wildlife related recreational activities compatible with Objective 3.1.

Objective 3.3: Maintain wildlife area facilities, structures and equipment to support habitat management activities and public use programs.

Specific objectives and strategies to implement each goal, as well as detailed rationale, are provided on pages 28 to 36.

Wildlife Area Establishment

The E.E. Wilson Wildlife Area was established in 1950 when 2,032 acres of the former Camp Adair Army Training Center was conveyed to the Oregon Game Commission via a quitclaim deed specifying that the land be used “as a reserve for the conservation of wildlife, other than migratory birds”. This language does not prevent the state from managing habitat to benefit migratory birds, but rather asserts that the federal government has ultimate management authority over migratory bird populations. The United States General Services Administration (GSA) still retains the right of repossession of this tract for national defense purposes. In the 1950s the GSA reclaimed 266 acres to implement the Bomarc missile project. The GSA also conducts an inspection every five years to see if the land is being used for its intended purpose.

The area once served as a center for the artificial propagation of game birds and as a major distribution center for the release of pheasants and other game birds throughout the state. More recently the use of EEWWA has been focused on restoration and conservation of lands within the area.

The 50 acre Coffin Butte Tract was purchased in 2000 by the department and a number of contributors to expand the wildlife area and preserve existing oak woodland habitats. The Coffin Butte Tract and other land acquired since that time, is not under GSA control.

In 2002, the Baker Tract was acquired through a land exchange between the Santiam Christian School district and the department. This 55 acre parcel is a prior converted wetland with upland, wet prairie, and emergent marsh characteristics.

The addition of the two tracts brings the total size of the wildlife area to 1,788 acres (see **Appendix A**). Options are being explored to acquire City of Adair and United States Forest Service (USFS) properties contiguous to the east boundary of the wildlife area. The EEWWA is managed to protect and enhance all fish and wildlife habitats, and to provide a variety of wildlife-oriented recreational opportunities to the public.

Description and Environment

Physical Resources

Location

The E.E. Wilson Wildlife Area is located in the Willamette Valley of northwest Oregon, approximately 10 miles north of Corvallis. The area consists of the main wildlife area; the Coffin Butte Tract bordering the WA to the west, and the Baker Tract two miles to the northeast and the Adair Tract one mile south. The wildlife area headquarters is located at 29555 Camp Adair Road. **Figure 1.1** shows the location and key features of the EEWWA and Coffin Butte Tract. The Baker Tract is shown separately in **Figure 1.2**.

Climate

The Willamette Valley is in a temperate zone in which summers are warm and dry, while winters are mild and wet. Temperatures range from an average summer high in the 80s (F) to average winter lows in the 30s. Average annual precipitation is approximately 42 inches *(www.co.benton.or.us 2008)*, with the majority falling between October and February. Snow and freezing temperatures are present for short durations in the winter. Conversely, hot days during summer months are moderated by cooler evening temperatures. Elevation is approximately 200 ft. and 670ft. above sea level.

Figure 1 - E.E. Wilson Wildlife Area Features and Ownership

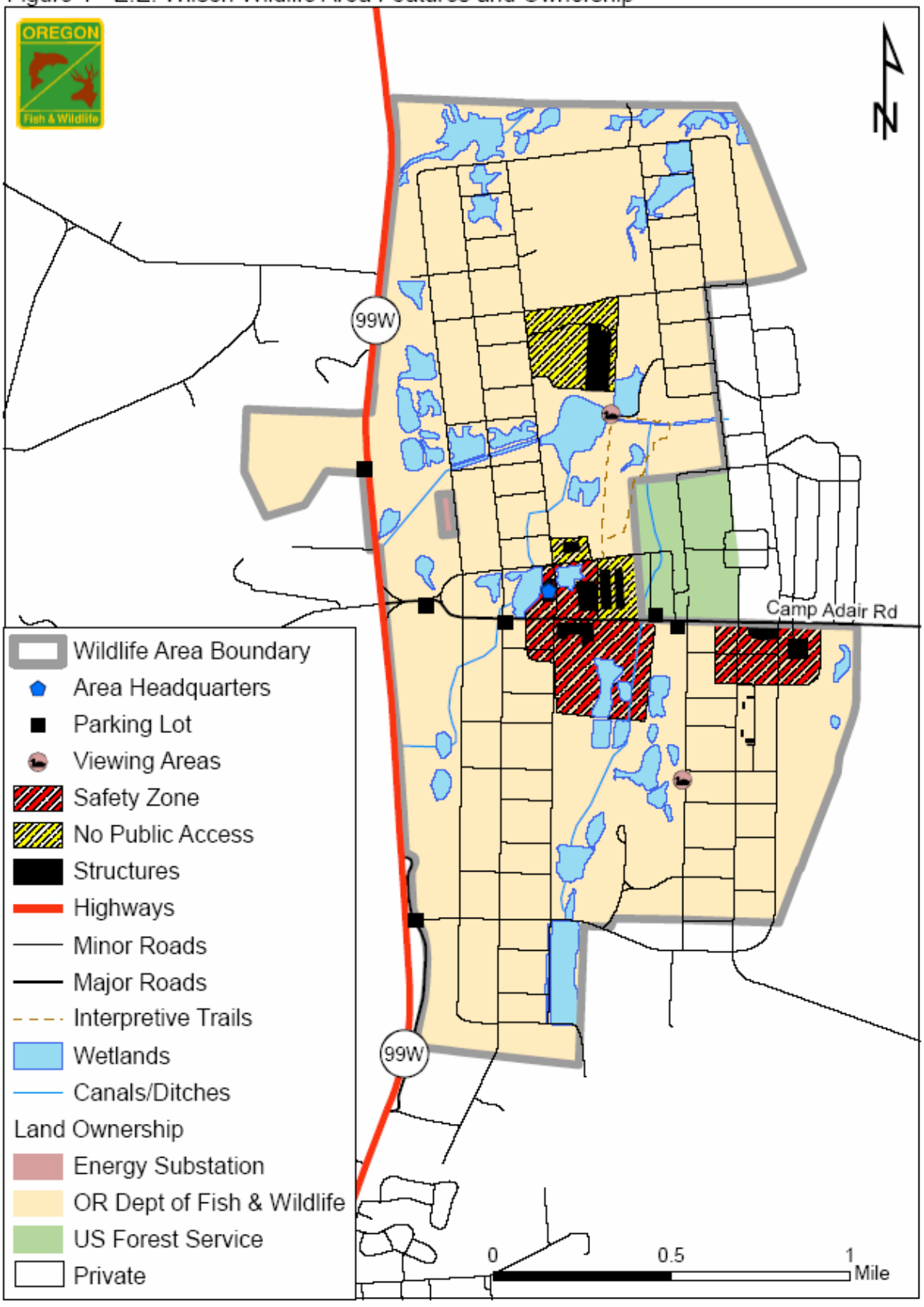
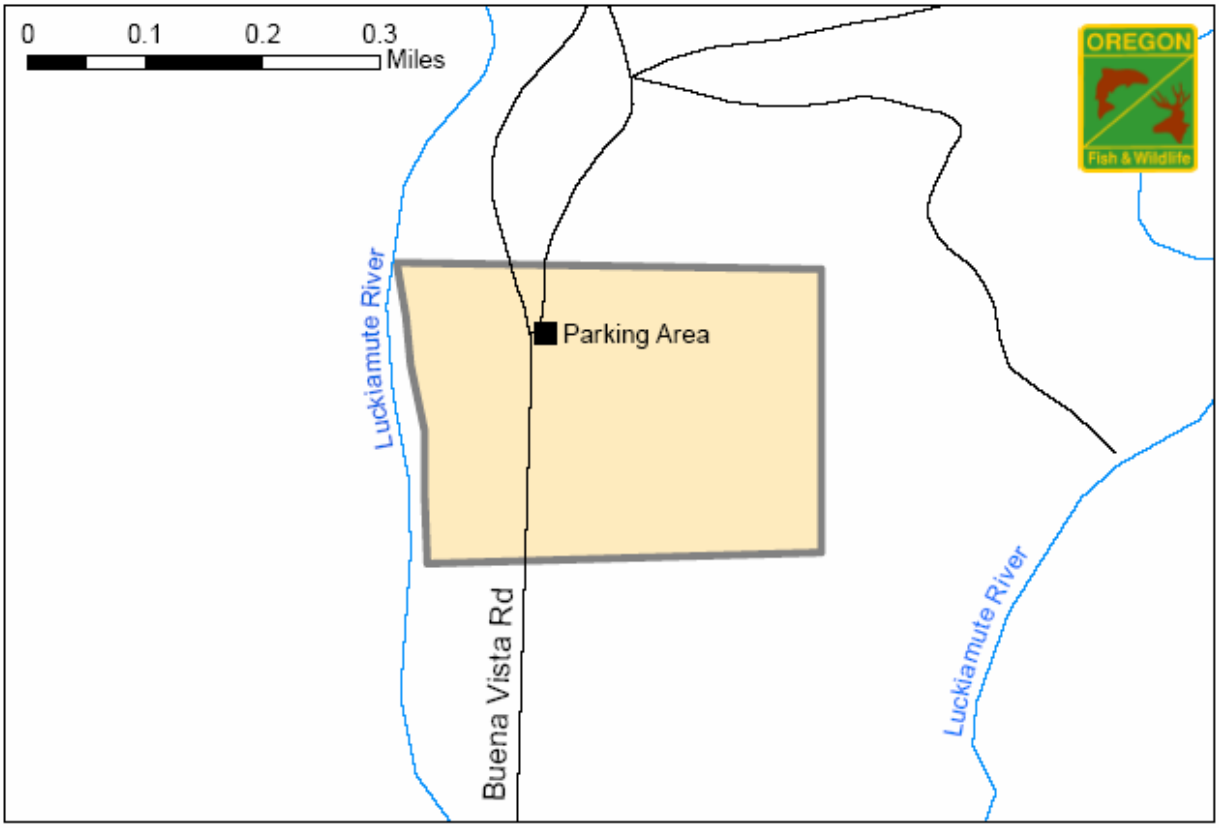
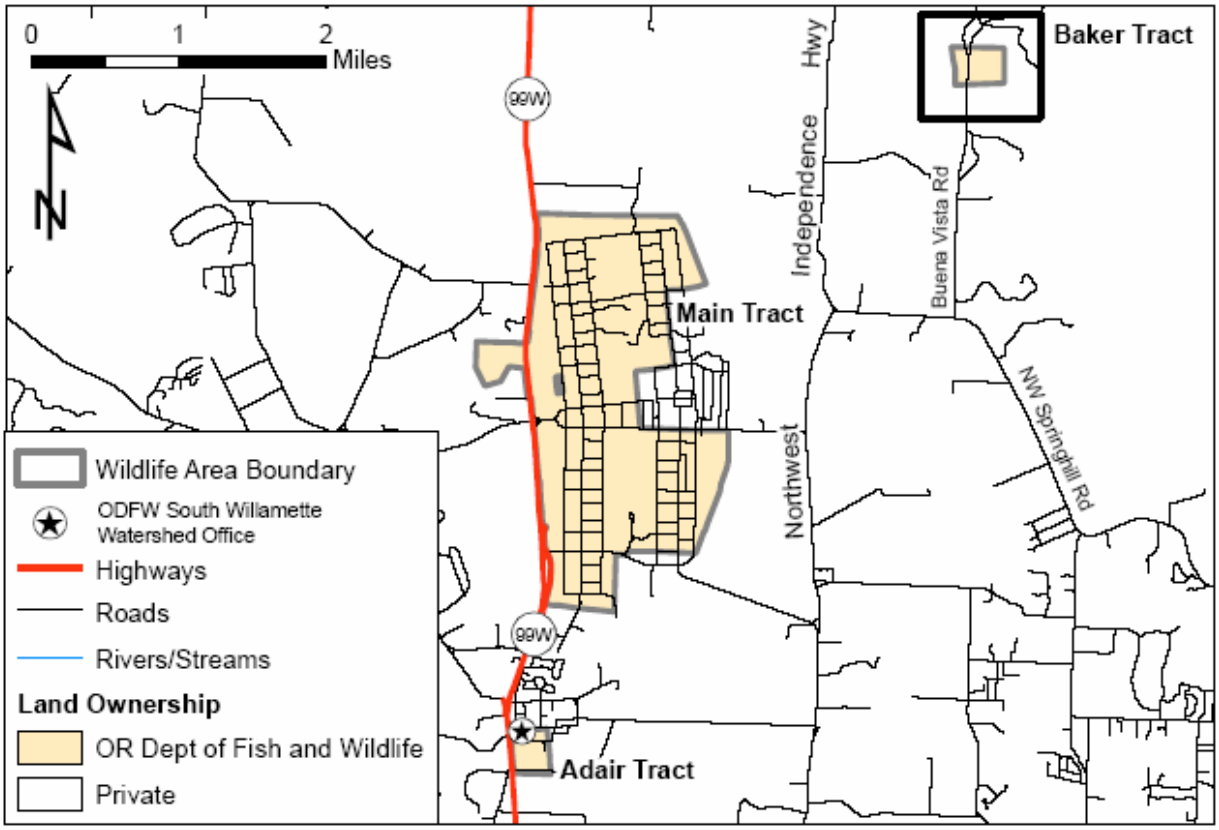


Figure 1.2 - E.E. Wilson Wildlife Area - Baker Tract





Topography and Soils
The E. E. Wilson Wildlife Area presently consists of fallow agricultural fields, woodlands, a network of streets and cement building foundations (remnants from the former CAACT). Habitat has changed greatly since the department's initial acquisition. In 1948, the area was primarily open grassland with only about 75 acres in brush and woodland habitat. Much of the area has since reverted to brush and trees, with little successional grasslands remaining. Tilled farmlands were initially designed to grow and provide grain to feed artificially propagated birds as well as to provide food for native wildlife populations. However sharecrop farming has been gradually phased out.

The EEWWA still has a network of gravel and asphalt roads which provided access to the Camp Adair Army Military Base structures built during World War II (Figure 1.1). Most of the structures have been removed, but the foundations remain. Thus, the EEWWA is unique from other state wildlife area, in the number of roads and foundations. Although these roads and foundations provide challenges for habitat manipulation within the area, there is increased access to user groups especially wheelchair access.

Soils found on the EEWWA are comprised primarily of alluvial deposits originating from the many streams and rivers that historically existed on the landscape. Soils are characterized as deep, poorly drained soils such as Amity or Concord silty loam, to deep, well drained soils such as Willamette silty loam *(Soil Survey of Benton County 1975).*

These soil types support agricultural crops in select areas.

Habitat Types
There are seven habitat types found within the borders of the E.E. Wilson Wildlife Area. These habitat types are shown in **Figure 2**. In terms of acreage, the largest habitat type includes upland shrub/grassland while the smallest is freshwater aquatic. The predominant habitat types are described in further detail below.

Nearly all of the natural plant communities have been altered from their original condition by various types of human disturbance and introduction of non-native plants. The composition of the pre-settlement plant communities is speculative; however estimates can be made by studying relic sites. The potential natural plant communities for EEWWA habitats are described in more detail in "*Restoring Rare Native Habitats in the Willamette Valley", Campbell, B.H. 2004.*

Table 1 shows the current habitat types and amount of acres of each type present on the wildlife area. Perennial grasslands have been especially impacted by competition from introduced grasses. Native species still exist, but not in their historic range and abundance. Tree and shrub species have suffered a similar fate with non-native encroachment. Fire suppression has had the effect of allowing more mid- to late-seral stage vegetation and a denser understory to occur than would be present under natural fire regimes.

Figure 2 - Habitat Types within E.E. Wilson Wildlife Area

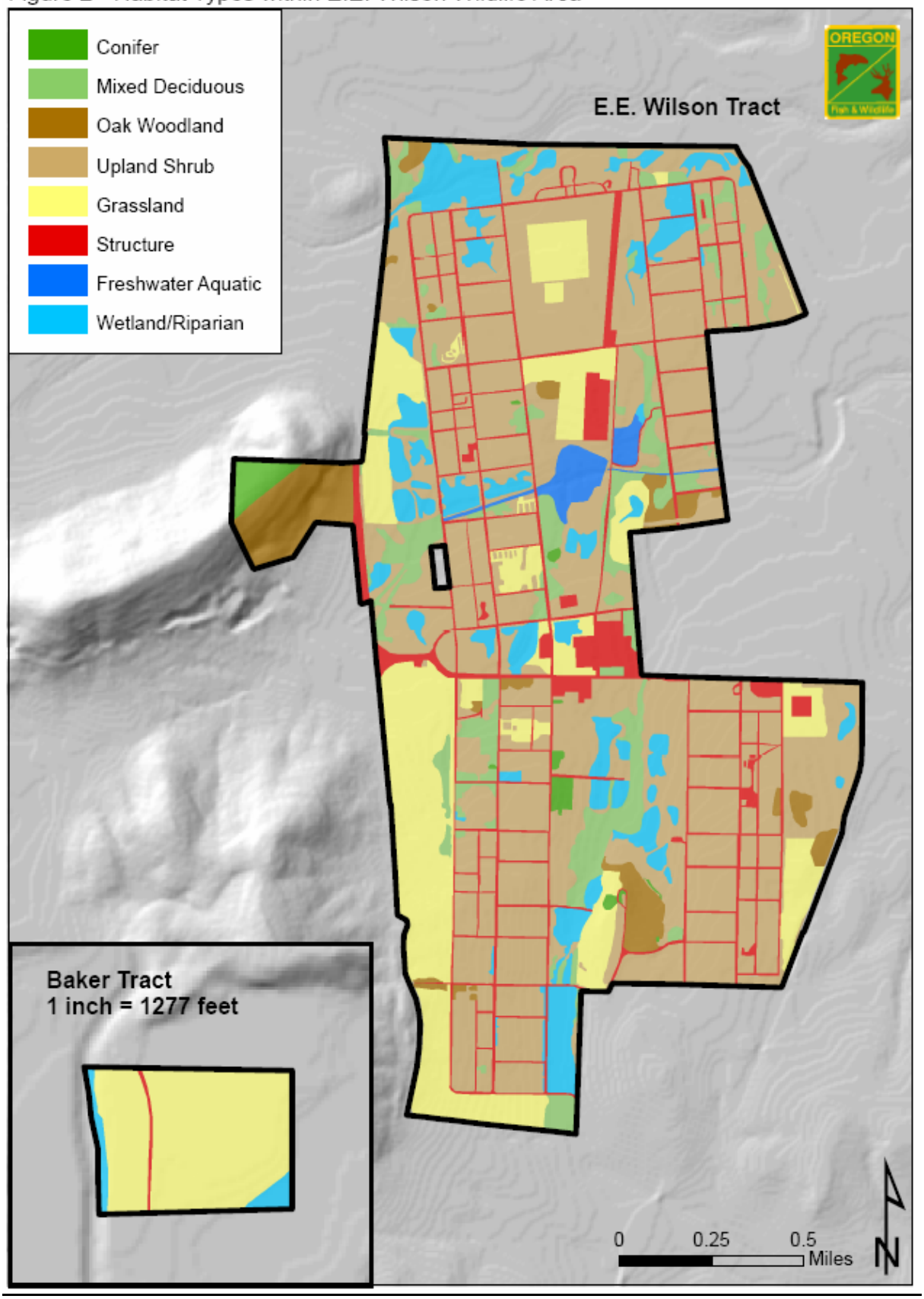


Table 1. Habitat Types and Approximate Acreages on the E.E. Wilson Wildlife Area.

Habitat Type	Acres
Upland shrub/perennial grasses	862
Grassland	317
Oak Woodland	62
Seasonal wetland/riparian	142
Freshwater Aquatic	21
Mixed Deciduous	183
Structure/roads	169
Conifer	32
Total	**1,788**

Seasonal Wetland/Riparian

The EEWWA has approximately 44 restored or enhanced seasonal/semi-permanent wetlands throughout the wildlife area. These wetlands range in size from roughly ¼ to 25 acres. The potential natural vegetation consists of perennial bunchgrasses, including tufted hairgrass (*Deschampsia caespitosa*), American sloughgrass (*Beckmannia syzigachne*), waterfoxtail (*Alopecurus geniculatus*), spike bentgrass (*Agrostis exarata*) and forbs including common camas (*Camassia quamash*), water plantain (*Alisma plantago-aquatica*), cattails (*Typha* spp.), and slough sedge (*Carex obnupta)*. Native species still exist in varying range and quantity; however introduced perennials such as reed canary grass (*Phalaris arundinacea*), cocklebur (*Xanthium strumarium*) and pennyroyal (*Mentha pulegium)* continue to encroach. Staff uses moist soil management techniques to control the impoundments, employing a combination of water level control, periodic soil disturbance, and timed drawdown and inundation to foster growth of native wetland species. Periodic input of native seed is introduced to augment natural production.

Grassland

Approximately 317 acres of converted grasslands is classified as agricultural land, but the majority of this acreage has not been farmed since 1993. Much of this acreage has reverted back to non-native fallow grassland consisting of colonial bentgrass (*Agrostis tenuis)*, velvetgrass (*Holcus lanatus)*, and tall fescue (*Festuca arundinacea)*. Native prairie/grassland restoration efforts have commenced and currently about 190 acres are in various stages of development. Native grasses composition includes blue wildrye (*Elymus glaucus*), California oatgrass (*Danthonia californica*), Roemer's fescue (*Festuca roemeri*), California brome (*Bromus carinatus*), spike bentgrass, and tufted hairgrass. Some of the native forbs to be established include Oregon iris (*Iris tenax*), sickle-keeled lupine (*Lupinus albicaulis*), yarrow (*Achillea millefolium*), checker mallow (*Sidalcea virgata*), and western buttercup (*Ranunculus repens*). An oak savannah is characterized as grasslands with 10-30% canopy cover of Oregon white oak (*Quercus garryana)* and native grasses such as blue wildrye, prairie junegrass (*Koeleria macrantha*), and meadow barley (*Hordeum brachyantherum*). Historically, frequent low-intensity fires probably maintained the vigor and nutrition of native grasses and created

wider spacing between oaks than is found today. Restoration efforts are taking place to restore this unique habitat type on the EEWWA.

Oak Woodland

Oak woodlands differ from oak savanna by the increased amount of canopy. Oak woodlands typically cover 30-100% of the canopy. There are several small oak woodland tracts representing approximately 62 acres within the EEWWA. Tree species are predominantly Oregon white oak and big-leafed maple (*Acer macrophylum),* with an understory of poison-oak *(Rhus diversiloba)*, wild rose *(Rosa* ssp.), snowberry *(Symphoricarpos albus)* and Himalayan blackberry *(Rubus discolor)*. Several Oregon Conservation Strategy species exist in this type of habitat including the Western gray squirrel (*Sciurus griseus*), California myotis (*Myotis californicus*), and acorn woodpecker (*Melanerpes formicivorus)*.

Upland Shrub/Perennial Grasses

This habitat type constitutes the largest amount of acreage within the wildlife area and represents approximately 862 acres of EEWWA. It is characterized by woody shrubs and perennial grasses. Typical vegetation can be very diverse but commonly includes Himalayan blackberry, Hawthorn *(Crataegus* spp*.),* wild rose*,* common teasel *(Dipsacus fullonum),* tall fescue*,* and velvet grass*.* Later plant succession in this habitat type includes Oregon ash and black cottonwood *(Populus trichtocarpa)* stands. Habitat improvement projects in this type are difficult to maintain and are limited due to extensive amount of abandoned military foundations scattered throughout the property. Fifteen to thirty acres of upland food plots containing sunflowers (*Helianthus annuus*), millet (*Panicum miliaceum*), buckwheat (*Eriogonum* sp.), sudangrass (*Sorghum bicolor*), triticale (*Triticosecale rimpaui*) and kale are planted, providing important food sources for migrating song birds, upland game, and waterfowl.

Freshwater Aquatic

This habitat type includes streams and larger bodies of water which remain inundated year round. The angling and canal pond fall into this category. Water control structures are utilized to change water levels when a drawdown is necessary.

Description of Tracts

The EE Wilson Wildlife Area consists of two additional tracts: the Coffin Butte and Baker tracts acquired in 2000 and 2002, respectively.

Baker Tract

The Baker Tract (Figure 1.2) is roughly 55 acres in size, and is approximately two miles northeast of the contiguous wildlife area. Bordered by the Luckiamute River to the west, private ownership to the north and Oregon Department of Parks and Recreation (ODPR) land to the south and east, the site is a prior converted wetland with an extensive farming history. Restoration efforts included restoring the tract to a native upland prairie community with a wetland component consisting of an ephemeral pond and seasonally inundated channels.

Coffin Butte Tract

The Coffin Butte Tract (Figure 1) consists of 50 acres branching to the west of the wildlife area. Elevation ranges from approximately 200 to 670 feet. Coffin Butte is predominantly a mixed oak/hardwood habitat type on the south facing slope and a Douglas fir (conifer) dominated on the north facing slope. Oregon white oak, Pacific madrone *(Arbutus menzesii)*, and big-leaf maple dominate the canopy, while poison oak and Himalayan blackberry fill in the understory.

Adair Tract

The Adair Tract is the administrative site for the department's Southwest Willamette Watershed District office. The site is managed as a full service public office and includes the Adair public fishing pond and a small natural area.

Biological Resources

With the loss of natural habitats throughout the Willamette valley, the EEWWA provides valuable habitat for a diversity of wildlife species. 265 species of wildlife have been identified on the EEWWA, including 208 species of birds, 40 species of mammals, and 17 species of amphibians and reptiles. See **Appendix C** for a detailed list of species.

Birds

A wide variety of bird species use the many habitats available throughout the EEWWA. Tree cavities, shrub thickets, grasslands and riparian areas are used for nesting. Abundant food plots, plant seeds, berries, acorns, insects, water and cover provide favorable conditions for resident, migrating and wintering birds.

Mallards (*Anas platyrynchos*), wood ducks (*Aix sponsa*), hooded mergansers (*Lophodytes cucullatus*), cinnamon teal *(Anas cyanoptera*), and Canada geese (*Branta canadensis*) are the most common nesting waterfowl. Resident waterfowl populations are augmented by northern migrants, most notably American wigeon (*Anas Americana*), mallard, northern shoveler (*Anas clypeata*), green-winged teal (*Anas crecca*), and ring-necked duck (*Aythya collaris*). Wintering duck populations in the Willamette Valley are limited by availability of food and wetland habitat. Deep waters suitable for roosting are abundant along the Willamette River, in gravel ponds and irrigation reservoirs. However, few cereal grain crops are grown in the Willamette Valley and few natural foraging areas exist.

Mourning doves (*Zenaida macroura*) have shown good breeding and migrant populations but these numbers have declined from historic levels. This reduction is attributed to many factors including development of adjacent open land, reduced grain production, competition from introduced species, and pesticides. California quail (*Callipepla californicus*) are found in good numbers throughout the wildlife area.

There is a small breeding population of ring-necked pheasants (*Phasianus colchicus*), but loss of habitat on surrounding property and pressure from predators such as bobcat, red-tailed and Cooper's hawk limit the population. Pen-raised rooster pheasants are released by the department each fall for the Youth Upland Bird Hunt and the Western

Oregon Fee Pheasant Hunt.

Non-game birds are found across the wildlife area, including one of the largest known breeding populations of yellow-breasted chats (*Icteria virens*), a state listed Species of Concern.

Mammals

A variety of mammals inhabit the woodlands, grasslands, and marsh habitats of the wildlife area including black-tailed deer (*Odocoileus hemionus columbianus*), rabbits, squirrels, coyote (*Canis latrans*), fox, porcupine (*Erithizon dorsatum*), raccoon (*Procyon lotor*), striped skunk (*Mephitus mephitus*), woodrats, weasel (*Mustela frenata*), shrews (*Sorex* spp.), voles (*Microtus* spp.), beaver (*Castor canadensis*), nutria (*Myocastor coypus*) , otter (*Lontra canadensis*), and bobcat (*Lynx rufus*). Black-tailed deer are the principal resident big game species, with occasional sightings of Roosevelt elk (*Cervus elaphus roosevelti*) and cougar (*Puma concolor*).

Beaver and nutria are found in the wetlands throughout the wildlife area. The beaver in particular creates ponds that are beneficial to waterfowl and shorebirds. Nutria, an invasive and non-native species, may also be beneficial by creating openings in wetlands by removing rank vegetation. However they also cause considerable damage to dikes and levees by their burrowing activities.

Bats (*Myotis* spp.) are well represented throughout the area as well. In general, high insect populations around wetlands and abundant roost sites provide a good environment for bats. Preference for roost sites varies between species, and ranges from tree cavities, crevices under loose bark and loose roof shingles to bridges, barns and buildings. Riparian areas with large hardwood trees are preferred habitat for many species. Bats forage over large territories and use many different “roosts of opportunity.” Artificial roost boxes have been mounted around the area and are well used by many species. No monitoring or management specifically for bats is conducted at this time by EEWWA staff.

Amphibians and Reptiles

Native species of snakes, lizards and frogs are plentiful on the area, as are non-native bullfrogs (*Rana pretiosa*). Northwestern pond turtles (*Clemmys marmorata marmorata*) are present, but their range and abundance is not well known. Bullfrogs are known to prey on juvenile pond turtles and may be a limiting factor for turtle populations on the EEWWA. The northern red-legged frog (*Rana aurora*) inhabits select ponds throughout the wildlife area; an annual egg mass survey is conducted in cooperation with the United States Geological Survey (USGS) to determine relative abundance. The sharp-tailed snake (*Contia tenuis*) is another OCS strategy species present on the area.

Fish

Warm water fish are found in select small ponds and ditches on the area. Warm water species include largemouth bass (*Micropterus salmoides*), yellow bullhead (*Ameiurus natalis*), redear sunfish (*Lepomis microlophis*) and pumpkinseed (*Lepomis gibbosus*),

and bluegill (*Lepomis macrochirus*). The redside shiner (*Richardsonius balteatus*) is native to Oregon and has also been detected on the WA.

The mosquito fish (*Gambusia affinis*), is particularly beneficial in controlling mosquito larva and pupae although they have also been associated with the decline of native amphibians, invertebrates and other fishes.

Trout stocked in permanent ponds on EEWWA are affected by water quality, water temperature, dissolved oxygen, and amount/condition of riparian vegetation. The department typically stocks trout in select ponds from February through June.

Species of Conservation Concern

Several species of concern are present on the EEWWA. **Table 2** lists the federal and state listed species present on the area. These include two plants: Nelson's checkermallow and Kincaid's lupine.

Table 2. Federal- or State-listed Endangered, Threatened, Candidate and Species of Concern animals and plants potentially present on the E.E. Wilson Wildlife Area.
(Federal Status: C–Candidate; E–Endangered; SC–Species of Concern; T–Threatened
State Status: C – Critical; E – Endangered; T – Threatened; S – Sensitive V – Vulnerable,
Oregon Conservation Strategy species for Willamette Valley ecoregion – X)

Common Name	Scientific Name	Federal	State	OCS
Reptiles				
Northwestern pond turtle	*Clemmys marmorata*	SC	C	X
Sharp-tailed snake	*Contia tenuis*		S	
Amphibians				
Northern red-legged frog	*Rana aurora aurora*	-	V	X
Birds				
Pileated woodpecker	*Dryocopus pileatus*	-	V	
Western bluebird	*Sialia mexicana*	-	V	X
Oregon vesper sparrow	*Pooecetes gyramineus*	SC	C	X
Purple martin	*Progne subis*	SC	C	X
Streaked horned lark	*Eremophila alpestris strigata*	C	C	X
Yellow-breasted chat	*Icteria virens*	SC	C	X
Acorn woodpecker	*Melanerpes formicivorus*	SC	-	X
Lewis' woodpecker	*Melanepres lewis*	SC	C	X
Mammals				
Long-eared myotis	*Myotis evotis*	SC	-	
Fringed myotis	*Myotis thysanodes*	SC	V	
Long-legged myotis	*Myotis volans*	SC	V	
Plants				
Nelson's checkermallow	*Sidalcea nelsoniana i*	T	T	X
Kincaid's lupine	*Lupinus sulphureus kincaidii*	T	T	X
Invertebrates				
Fender's blue butterfly	*Icariacia icariodes ferderi*	E	-	X

Kincaid's lupine and Nelson's checkermallow are both listed as threatened by the USFWS and critical by the Oregon Department of Agriculture (ODA). The Institute for Applied Ecology (IAE) and USFWS have conducted surveys of both species on the EEWWA and mapped their distribution. The most recent surveys, completed summer of 2007, show no population decline and good physical condition, but little recruitment for both species. The presence of critical habitat does not restrict public use of the wildlife area.

Birds listed as 'species of concern' vary in abundance from common, such as the western bluebird, to "flyover" species like the bald eagle. The streaked horned lark and purple martin are listed as present, but are rare on the wildlife area. Bird populations can be negatively affected by loss of nesting habitat and food sources, pressure from introduced birds competing for nest sites, from pollution, pesticides and land development.

Non-Native Species

Non-native wildlife on the EEWWA includes species such as the European starling, house sparrow, Virginia opossum, bullfrog, and introduced Eastern cottontails and ring-necked pheasant. Starlings and house sparrows are cavity nesters and can displace native birds while the opossum and bullfrogs prey on native species. The ring-necked pheasant, though an introduced species, is highly valued as an upland game bird since it came to Oregon in 1882. Commercially raised male pheasants are released in the fall on the EEWWA to provide public hunting opportunity. California quail are common throughout the wildlife area and an occasional wild turkey (Meleagris gallopova) is also sighted but their presence is considered rare. **Table 3** lists non-native wildlife species which may be found on the EEWWA.

Table 3. Non-native wildlife species that may be found on the E.E. Wilson Wildlife Area.

Common Name	Scientific Name	Occurrence
Bullfrog	*Rana catesbiana*	Abundant
Ring-necked pheasant	*Phasianis colchicus*	Common
European starling	*Sturnus vulgaris*	Abundant
House sparrow	*Passer domesticus*	Abundant
Eastern cottontail	*Sylvilagus floridanus*	Abundant
Virginia opossum	*Didelphus virginiana*	Common
House mouse	*Mus musculus*	Abundant
Norway rat	*Rattus norvegicus*	Common
Nutria	*Myocastor coypus*	Common
Wild turkey	*Meleagris gallopova*	Uncommon
California quail	*Callipepla californica*	Common

All of the warm-water fish species have been introduced and have affected native species or their habitats in various ways. Large-mouth bass may prey on native aquatic species, but no specific research has been done on the EEWWA to determine bass numbers or their impacts.

Table 4 lists non-native fish species which may be found on the wildlife area. At this time there is no management activity on the area specifically to control non-native fish or wildlife.

Table 4. Non-native fish species that may be found on the E.E. Wilson Wildlife Area.

Common Name	Scientific Name	Occurrence
Largemouth bass	*Micropterus salmoides*	Abundant
Bluegill sunfish	*Lepomis macrochirus*	Common
Red-eared sunfish	*Lepomis gibbosus*	Common
Pumpkinseed sunfish	*Lepomis gibbosus*	Common
Yellow bullhead	Ameiurus natalis	Common
Brown bullhead	*Ameiurus nebulosus*	Common
Western mosquitofish	*Gambusia affinis*	Abundant
Common carp	*Cyprinus carpio*	Present
Green sunfish	*Lepomis cyanellus*	Present

Non-native plants are widespread and persistent. A list of some of the weeds present on the wildlife area as categorized by the ODA is shown in **Table 5**. Annual grasses are especially competitive due to rapid early growth, high capture of resources, and early maturation. Native grasses usually have symbiotic relationships with soil organisms, that when lost, are very hard to re-establish. Non-native species often colonize areas where the native species have been removed or weakened by disturbance. Other factors that favor non-native plants include fire suppression, thatch accumulation, and lack of biological control organisms. Active weed management on the EEWWA is extensive encompassing several species. Chronic problem weeds include Scotch (Scots') broom, reed canary grass, meadow knapweed, and Himalayan blackberry. Newly invaded weeds include purple loosestrife and cockleburr. Control methods incorporate an integrated pest management (IPM) approach including chemical, mechanical, and biological activities.

Table 5. Noxious weeds listed by the Oregon Department of Agriculture presently found on the E.E. Wilson Wildlife Area. (Species in **bold** are subject to active control efforts on EEWWA, *Invasive plants identified in 2006 Oregon Conservation Strategy)

Common Name	Scientific Name	Occurrence
Common teasel	*Dipsacus follonum*	Abundant
Field bindweed	*Convovululus arvensis*	Common
Himalayan blackberry*	*Rubus discolor*	Abundant
Poison hemlock	*Conium maculatum*	Common
Purple loosestrife*	*Lythrum salicaria*	Uncommon
Scotch broom*	*Cytisus scoparius*	Abundant
Reed canarygrass*	*Phalaris arundinacea*	Common
Meadow knapweed*	*Centaurea pratensis*	Common
Cockleburr	*Xanthium strumarium*	Uncommon
English ivy*	*Hedera helix*	Uncommon
Sulphur cinquefoil	*Potentilla recta*	Uncommon
St. Johns-wort	*Hypericum perforatum*	Abundant
Thistle spp.	*Cirsium spp*.	Common
Tansy Ragwort	*Senecio jacobaea*	Common

Monitoring

Monitoring of all management activities will be completed by EEWWA staff. Informal monitoring is also conducted by members of the public during their visits to the wildlife area and is submitted via feedback and suggestions to EEWWA staff.

Game Birds

Brood counts are conducted in the spring by EEWWA personnel for waterfowl and upland birds. Game bird and rabbit population estimates are made using hunter harvest data collected from hunter visitation permit reports.

Big Game

Black-tailed deer numbers are monitored using hunter success reports. Hunter written comments about incidental sightings assist monitoring efforts. Elk and cougar have been periodically observed by staff and the public.

Other Wildlife

Formal surveys of northern red-legged frog egg masses are conducted by USGS, EEWWA staff and OSU interns. University research projects involving bullfrogs, snakes, beetles, and bees are also monitoring tools utilized by EEWWA staff.

Fish

Fish harvest will be monitored by the Oregon State Police (OSP) and EEWWA personnel through wildlife area fish permit data and field angler checks.

Wildlife Diseases

There are many types of disease that may affect wildlife on the EEWWA, but disease outbreaks have typically been low. Avian Influenza and West Nile Virus monitoring is done on EEWWA in cooperation with the Benton County Health Department (BCHD) and the USFWS. Black-tailed deer diseases found in northwest Oregon, such as adenovirus hemorrhagic disease and hair loss syndrome are regularly monitored; and any cervid showing signs of Chronic Wasting Disease (CWD), which has not yet been reported in the state, will also be tested.

Other animals showing signs of disease are tested as they are reported by the public or department staff. Although no wildlife disease outbreaks have recently occurred on the wildlife area, protocol is in place to coordinate with the department's wildlife veterinarian for status determination and subsequent disease testing of sick or deceased wildlife as necessary.

Water Use

Water use for moist soil management, flooding, and irrigation by the EEWWA will be reported annually to the Oregon Department of Water Resources and the department's Engineering Section.

Public Use

Hunter use and harvest and angling use can be monitored using wildlife area hunt and

fishing permit data. Individual check in and check out is required during the Youth Upland Game Bird and Rabbit hunts. Participation is also recorded during special events such as Youth Outdoor Day, guided school field trips, scouting events, and rabbit dog trials.

Because wildlife viewing-oriented use (hiking, biking, wildlife watching, photography, etc.) is rapidly growing on the wildlife area and the impacts on and costs to the facility, habitat, and wildlife are currently only estimated, a monitoring system will be developed and put in place to measure and determine use levels that do not conflict with the objectives stated under Goal 3 of this plan.

Cultural Resources

The EEWWA was established in 1950. The area encompasses 1,788 acres in Benton County about 10 miles north of Corvallis, Oregon.

The wildlife area is named after Corvallis attorney, Eddy Elbridge Wilson. E. E. Wilson, as he was generally known, was born in Corvallis on October 26, 1869 and lived his entire life as a resident of the Corvallis area. E. E. Wilson served on the Oregon Game Commission for many years and was its chairman for ten years. In recognition of his years of outstanding service, the wildlife area was named for him in 1954. He was considered a pioneer in game preservation and throughout his life he devoted much time to fish and game work. His contributions to the Corvallis community, Oregon State University, and the state were numerous and notable. E. E. Wilson died on April 3, 1961.

A rich local history, including use by Native Americans, homestead sites, the town of Wells, and the Camp Adair Army Training Center adds significance to E. E. Wilson.

The EEWWA lies in a portion of the Willamette Valley that was once occupied by the Kalapuya tribe. The Kalapuya tribe was divided into several groups. The group that was in the location of E. E. Wilson was known as the Luckiamutes. The presence of large areas of open country in the Willamette Valley was the result of extensive land fires set by the Kalapuya in order to drive game, improve seed production, and reduce the amount of brush. The Kalapuya tribal population in the early 1800s is estimated at approximately 10,000 to 20,000 for all the Kalapuya. By 1840 the population had dropped catastrophically to 600, by "fever and ague" which may have actually been influenza, typhus, cholera, measles, and scarlatina (Boyd, 1998). By the late 1850s the population had declined to around 345. Treaties encompassing all of the Kalapuya were finally ratified in 1855, and the remaining Kalapuya were moved to the Grand Ronde Reservation.

In the late 1840s, early pioneers established homesteads on land that is now part of the wildlife area. Most of the area was typical Willamette Valley agricultural area with inclusions of areas too wet to farm. Three intermittent streams traversed the area. These early settlers agricultural pursuits began with grazing due to the lack of available farming equipment and supplies. By 1870 wheat was the principle crop grown.

By the 1850s, the small community of Wells, Oregon was established near the center of the Wildlife Area. A community center, store, post office, school, church, blacksmith shop, railroad depot, warehouse, and several homes were located in Wells. However, because of WW II, the farmers and residents of Wells, and the school were moved out in 1942 to accommodate the construction of the Camp Adair Army Military Base.

Camp Adair was officially dedicated in April, 1942. It encompassed a total of 52,000 acres, 13,000 acres in Benton County and 39,000 acres in Polk County. Four Army infantry divisions received training at the camp. Topographic maps published by the Army Corps of Engineers refer to much of the wildlife area as 'Swamp Adair'. During construction, a sewer and storm drainage system was developed to drain water from the area, and streams were straightened and channelized. The Army base was de-activated in 1948. When the base was abandoned, most of the buildings were torn down and removed. However, approximately 20 percent of the area currently remains a maze of concrete foundations, graveled areas, and paved roads.

The United States transferred ownership of what now comprises E. E. Wilson Wildlife Area through a quitclaim deed. Provisions of the deed state "premises herein conveyed are to be continuously used for the conservation of wildlife, other than migratory birds, and are conveyed upon the condition that in the event of they are no longer used for such purpose, the title thereto shall revert to the United States, and upon which reversion the title of the State of Oregon shall cease and determine and the United States shall have the immediate right of possession thereof."

Social Environment

Demographics

The EEWWA is located ten miles north of the city of Corvallis in Benton County and borders the urban growth boundary (UGB) of Adair Village, a population of around 700. Benton County has a population of approximately 80,000 people where 53,000 live within the UGB of Corvallis. The EEWWA contains some of the last critical habitats remaining on the floor of the Willamette Valley such as seasonal wetland, oak woodland and prairie grassland. As natural habitats and open space become less available, the EEWWA will become an increasingly valuable public resource.

Vandalism and illegal dumping of trash are an ongoing problem on the area. Public road access, increased dumping fees at the adjacent landfill and the proximity to large urban centers perpetuate this misuse. This problem requires constant attention by EEWWA staff, directing volunteers who spend significant time each month cleaning up litter and vandalism.

Land Use

The EEWWA is surrounded by numerous land uses, ranging from agriculture to rural industrial. **Figure 3** shows the land uses which border the area. The north, east, and south border is zoned agricultural, while the west is zoned rural residential, industrial,

forestry, and public facility (landfill).

Infrastructure

Developments/Facilities

The EEWWA headquarters is located at 29555 Camp Adair Road within the wildlife area boundary. The headquarters building also contains a small lab and a maintenance shop. Other department-owned structures include:

- six equipment storage buildings
- a small office building
- a north brooder house
- a south brooder house
- an incubator building
- a metal storage building (housing the Department's I&E materials)
- a screen shop facility
- a show bird viewing pen
- Quonset hut with attached pheasant pens
- Fee pheasant hunt holding pens
- four hunter check stations
- seven parking lots at established access points,
- two staff residences, and;
- three RV Camp Host sites, with utilities.

There are several miles of woven fences around the perimeter and safety zones of the EEWWA, several miles of roads, and two miles of trails that need to be continually maintained. The hunter check stations also require maintenance and, during hunting season, frequent stocking of permits and informational material.

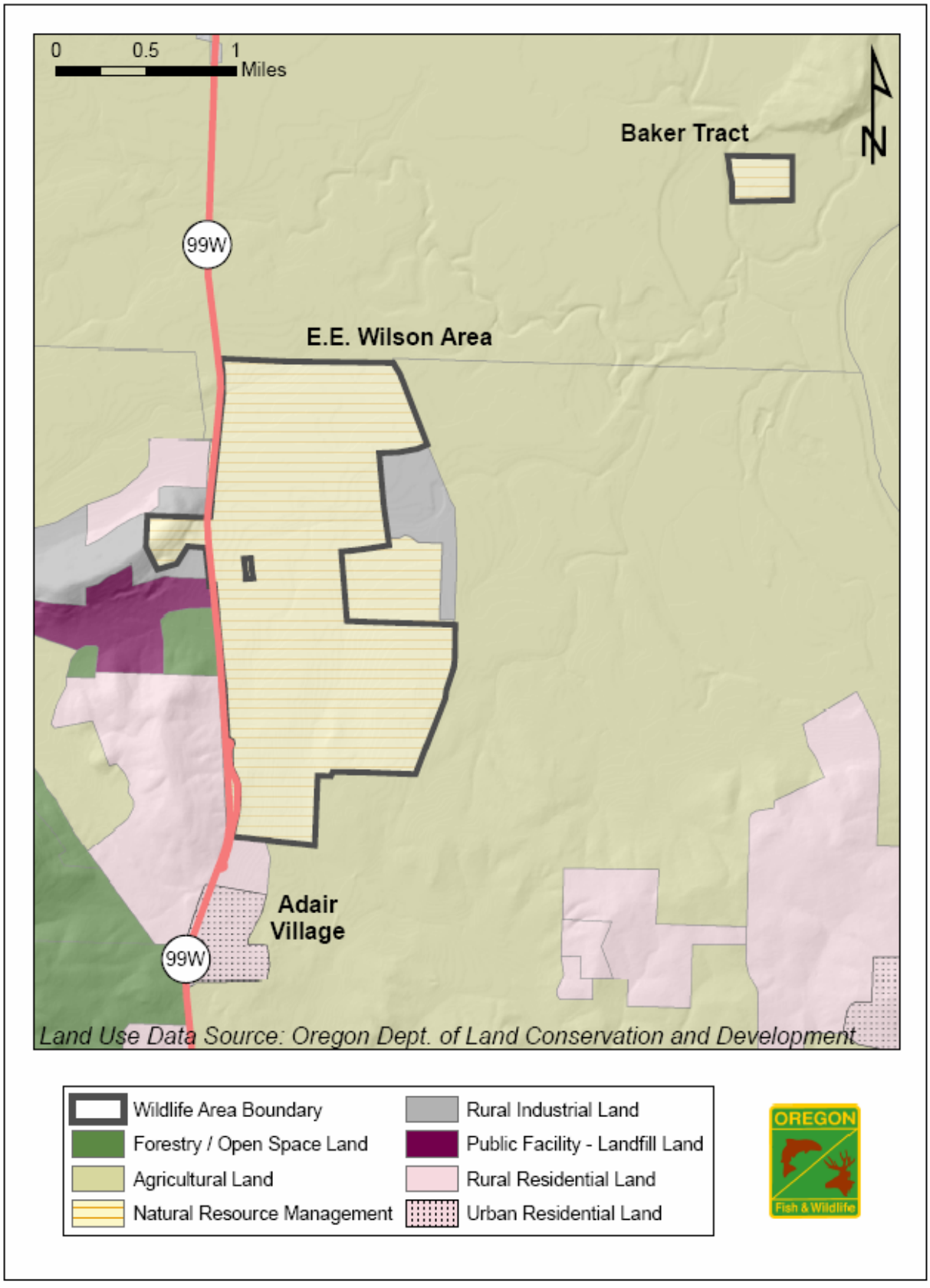
Water Rights

Water rights on the EEWWA are owned by the department and administered through the Oregon State Water Resources Department. There are seven state water rights that reside within the EEWWA boundary. **Appendix D** shows State water rights which are currently held on the EEWWA.

Easements/Access Agreements

The majority of the easements and access agreements on the EEWWA are for maintenance of the power lines crossing the area and for the Consumers Power Inc. (CPI) and Bonneville Power Administration (BPA) substations residing within the EEWWA boundary. Others are for shared road access to agricultural lands.

Figure 3 - Land Use Surrounding E.E. Wilson Wildlife Area



Land Acquisition and Adjustment

It is the policy of the department to only acquire land or interests in lands, including easements and leases, from willing sellers, consistent with statutory authority and the department's mission. Acquisitions and adjustments must be for the conservation of fish and wildlife and their habitats and to provide fish- and wildlife-oriented public use for educational and recreational purposes. Land adjustments would allow for the sale, trade or exchange of land with willing landowners to enable the department to consolidate wildlife area boundaries.
There are three categories of lands that may be considered for acquisition. These include: 1) Significant or unique habitats, especially those beneficial to threatened or endangered sensitive species; 2) Sites, or access to sites that provide wildlife-related recreational opportunities; and, 3) Properties to facilitate the performance of the Department's mandated duties (e.g., storage and warehouse, feeding barns, etc.).

Under Goal 2, options are being explored to acquire, trade for, or cooperatively manage City of Adair and Pacific Forest and Range Experiment Station (USFS) lands immediately adjacent to E. E. Wilson.

Public Use

Public Access

The EEWWA is open to the public every day. Motorized vehicles are not allowed except on Camp Adair Road which traverses east-west through the WA. Dogs are not allowed to run off a leash on the area during bird nesting season (March 1-August 14). The area is open to hunting during designated game bird and game mammal seasons with the use of a wildlife area hunt permit. All tracts are open every day during authorized hunting seasons. The area provides increased opportunity for bike/wheelchair access with the matrix of abandoned military roads.

The wildlife area provides multiple benefits for wildlife and people through a variety of developed resources and naturally-occurring habitat conditions. Many recreational and educational opportunities are available for people living in or visiting the mid-Willamette Valley.

Hunting and Angling

Hunting and angling are very popular recreational activities enjoyed on the EEWWA (**Table 6**). Hunting opportunities include waterfowl, mourning dove, California and mountain quail, pheasant, black-tailed deer, September goose, rabbit and crow. Hunters are required to check in and out at four self-service check stations. A Youth Upland Game Bird Hunt is held the last two weekends in September. This hunt was attended by 210 youth hunters in 2007. This event also has high volunteer participation from local hunting, dog training and hunter education organizations. A special Fee Pheasant Hunt is held in October, with approximately 3500 participants annually. Commercially raised pheasant roosters, purchased by the department, are released for both of these hunts. Events planned through the department's Becoming an Outdoors

Woman (BOW) program include a rabbit hunt and a small game hunting seminar. A youth rabbit hunt occurs in February as well as a rabbit hunt for physically challenged persons. Waterfowl hunting takes place throughout the area on the many seasonal ponds. There are no established permanent blinds.

Angling for stocked brook and rainbow trout are popular on the EEWWA angling pond. Warm water angling for bluegill, bullhead and red-eared sunfish is also available in limited ponds and at Adair lake.

Trapping of furbearers by permit is periodically allowed on the EEWWA during general seasons. It is a management tool used primarily to control animals such as beaver and nutria which damage water control structures and levees.

Table 6. Estimated annual hunting and angling use days on the E.E. Wilson Wildlife Area.

Activity	Estimated Annual Use Days
Hunting	
Deer	100
Waterfowl	500
Upland Birds	3,500
Rabbits	1,500
Angling	7,000
Total	**12,600**

Wildlife Viewing

The EEWWA is open to the public year around. Wildlife viewing, hiking, horseback riding, bike riding, dog trials and wildlife photography are popular on the area.

From spring of 2005 to spring of 2006, a survey was conducted by OSU students estimating recreation on the area to be 55,606 recreational visitor days. Non-hunting and non-angling visitor numbers for the area were estimated using a four-week voluntary visitor survey study during the spring of 2006. **Table 7** displays recreational visitor days.

A self-guided interpretive trail is located on the north side of the wildlife area connecting with a viewing platform overlooking the Canal pond. A trail guide is available at the area headquarters and at the trailhead. An ADA accessible path leading to an additional covered viewing platform overlooking the Wheatfield pond complex is located on the south side of the WA. Two No Public Access areas and two Safety Zones are designated on the area to protect infrastructure and provide wildlife refuge.

Table 7. Estimated Average Annual Use Days on the E.E. Wilson Wildlife Area by Type of Public Use.

Activity	Estimated Annual Use Days
Hunting	5,518
Angling	7,079
Public Display Area	18,250
Hiking	8,102
Dog walking	4,051
Bike Riding	1,668
Bird/Wildlife Viewing	4,765
Tours	500
Photography	1,191
Picnicking	2,384
Exercise (Jogging/Running)	1,191
Dog Training/Trials	430
Other Recreational Users	477
Total	**55,606**

Educational/Interpretive

The EEWWA is used by a variety of educational groups including local school districts, Oregon State University (OSU), Chemeketa Community College (CCC), Western Oregon University (WOU), the Audubon Society, and various Scouting groups. Educational groups can use the area on their own or arrange for guided tours by Department staff. Numerous student volunteer projects are completed yearly, including placing and maintaining wood duck boxes and bird houses, constructing nest platforms, picking up trash, building benches, maintaining trails, monitoring plant and bird species, and many other activities.

Objectives and Strategies

Objectives and Strategies

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

The following objectives and strategies identify the management activities and priorities of the E.E. Wilson Wildlife Area Management Plan.

Goal 1: Oak woodland, upland shrub and grassland habitats will be managed consistent with conservation and enhancement priorities for native wildlife and production of game species.

Objective 1.1: Protect and enhance approximately 50-100 acres of native Oregon white oak woodland habitats to provide food, cover and breeding areas for wildlife species associated with this unique habitat type.

Rationale

Wildlife habitat in the Willamette valley has been significantly impacted since the advent of modern agriculture. A few intact remnant stands of native white oak habitat remain in the valley and some of this irreplaceable habitat can still be found on the wildlife area. The OCS notes the value and importance of preserving and enhancing oak woodlands and considers conservation of this habitat a high priority. Since the wildlife area is centrally located between the USFWS refuges of Finley, Baskett Slough and Ankeny, also with remnant white oak woodlands, it is imperative that white oak sites be protected and restored to maintain a habitat linkage in the southern valley. These habitats support a wide variety of game and non-game wildlife and well as sensitive species. Included are native vegetative communities such as woody shrubs, perennial grasses and hardwood forests. Mature trees provide important life sustaining functions for wildlife such as nesting cavities and forage (seeds, mast and insects found in crevices under loose bark). The EEWWA staff routinely conducts controlled burns, sprays noxious weeds using herbicides and places artificial nest structures in this habitat type to improve its carrying capacity and viability. Original Willamette Valley ecosystem remnants can be found on the wildlife area and, when and where possible, the staff strives to maintain or restore these areas consistent with the guidelines established under the Oregon Conservation Strategy. Agricultural food plots are commonly placed adjacent to woodlands on uplands sites since they augment important wildlife needs (forage, nesting and rearing areas) for forest using species. Food plots are generally comprised of sunflowers, millet, buckwheat, sudangrass, triticale and kale.

Strategy 1. Survey woodlands and identify age class, stand type and condition of oak woodlands to determine silvicultural practices necessary to improve and increase wildlife habitat, restore natural range of vegetative seral stages, maintain a balanced age structure, and improve tree health.

Strategy 2. Combat invasive and noxious weeds through the use of chemical, mechanical and biological control measures.

Strategy 3. Manage oak woodlands to promote natural oak succession using methods such as conifer removal, thinning and plantings.

Strategy 4. Re-establish linkages between critical woodland habitat blocks in riparian zones by planting native shrubs and trees to improve wildlife screening areas and movement corridors and reduce habitat fragmentation.

Strategy 5. Develop partnerships with state and federal agencies, NGOs, special interest groups and other community volunteers to identify habitat improvement projects that benefit wildlife.

Strategy 6. Attract and enhance wildlife populations through projects which may include placement of bird and bat nest/roost boxes.

Strategy 7. Using ocular surveys, hunter harvest information and mark/recapture estimates, determine the composition, distribution and density of wildlife populations in rehabilitated project areas.

Strategy 8. When opportunities arise, work cooperatively with adjacent landowners to maintain open space and wildlife habitats that are compatible with wildlife area management goals, with specific emphasis on working with USFS to manage the Bomarc property consistent with wildlife area goals.

Objective 1.2: Protect and enhance approximately 300-400 acres of grassland habitat for appropriate pattern, scale and structure to benefit native wildlife and game species.

Rationale

Willamette Valley grasslands are classified in the OCS as an eco-region type. Though variable across Oregon depending on elevation and the moisture regime, here in the valley perennial bunchgrasses, forbs, wildflowers and remnant white oak savannas (also considered a grassland type) make up this habitat type. Oak savannas are grasslands scattered with oak trees, usually 1-2 per acre. Native grasslands were historically maintained by intermittent fire, frost heave, soil upheaval and grazing by native ungulates. Grasslands are one of the most imperiled habitats in the Willamette Valley because of agricultural conversion and residential development.

Western bluebird, western meadowlark, streaked horned lark, Nelson's checkermallow and Kincaid's lupine are all sensitive species associated with this habitat. Many waterfowl species also rely on the slightly higher elevation of moist prairies and grasslands for essential life functions including nesting, brood rearing, and escape cover. Maintenance of these communities during spring nesting season is important because of predation potential and nest disturbance, so the management of density and structure is important to wild bird populations. Recognizing the value of this upland habitat for a variety of wildlife species helps to ensure that proper grassland plant composition is maintained or enhanced.

Strategy 1. Conduct assessments of grassland habitat condition with respect to plant species, structure, and scale, and implement improvement projects or maintenance activities that meet the habitat requirements of grassland dependent wildlife species.

Strategy 2. Utilize various control measures including field burning, chemical, mechanical, and biological measures to combat noxious and invasive weeds.

Strategy 3. Identify habitat improvement projects which may include placing nesting structures and seeding with native grasses, forbs and wildflowers.

Strategy 4. Seek conservation grant opportunities and partnerships with environmental groups to facilitate native grassland restoration projects.

Strategy 5. Explore opportunities to use OCS grant funds to implement restoration projects on the wildlife area to benefit Kincaid's lupine and Nelson's checkermallow.

Strategy 6. Maintain refuge areas to benefit wildlife during authorized hunting seasons.

Objective 1.3: Restore and maintain approximately 800-900 acres of upland shrub habitats to enhance forage, cover and reproduction of native wildlife and game species and control non-native invasive vegetation.

Rationale
The original wildlife area habitats were greatly altered or have become nonexistent following the development of the area through farming and military activities. Native plant communities were removed and wetlands drained for agriculture and urban development. What remains is a mass of old infrastructure (drainage ditches, concrete foundations, old buildings and roads) scattered across the landscape where invasive vegetation has gained a significant foothold. The majority of the shrub community that now exists on the WA is comprised of Himalayan blackberry and other non-native invasive plants.

Management efforts will focus on renovating the upland shrub sites by removal of invasive plants and replacement with suitable native shrub species that will benefit native wildlife while continuing to provide small game and upland bird habitats and associated hunting opportunities found on the WA. An interesting management dilemma exists in that eastern cottontail rabbit (a non-native species) flourishes in this habitat type and provides a significant portion of the public's hunting opportunity. Considering this fact, it is very important that the shrub community renovation be done without negatively affecting the quality and quantity of the habitat or hunter harvest opportunity.

Strategy 1. Conduct assessments of upland shrub habitat conditions and identify restoration and enhancement projects that optimize conditions for wildlife.

Strategy 2. Maintain upland food plot plantings on 15-35 acres annually for wildlife use.

Strategy 3. Maintain 5-10 acres of green forage crops to benefit upland game birds and other terrestrial species.

Strategy 4. Seek state, federal and/or NGO grants to restore and/or enhance the condition native upland shrub plant communities.

Strategy 5. Control invasive plant species using management techniques including disking, planting, mowing, burning and herbicide spraying.

Strategy 6. Enhance shrub habitats using controlled burning, replanting/seeding of native vegetation.

Strategy 7. Establish partnerships with other resource protection entities, volunteer hosts, and community volunteers to ensure long term stewardship of the sensitive species associated with this unique habitat type.

Goal 2: Riparian, wetland and wet prairie habitats will be managed consistent with conservation and enhancement priorities for native fish and wildlife, and production of game species.

Objective 2.1: Protect and enhance 100-200 acres of riparian, wetland and wet prairie habitat types to promote species diversity and carrying capacity for native wildlife and game species.

Rationale
Natural and artificially created wetlands provide benefit to more wildlife species than any other habitat type. Wetlands offer food and cover to birds, small mammals and bats and provide materials for nesting for migrant and resident waterfowl, shorebirds and passerines. Riparian habitats provide large trees with nest cavities and other habitat components. Natural habitats can be enhanced by placing artificial nest structures. Streams and wetlands on the area support a wide variety of freshwater fish, reptiles, amphibians, mammals, and insects. Aquatic habitats on the EEWWA are also important recreational and educational attractions to the public.

Strategy 1. Maintain levees and water control structures to manage water levels on seasonal and semi-permanent wetlands for moist soil management and to promote the growth of native vegetation.

Strategy 2. Maintain 100-110 wood duck nesting structures, 120-125 songbird and 20-25 bat nest/roost boxes and install additional structures where and when needed.

Strategy 3. Control noxious and invasive weeds through chemical and mechanical operations.

Strategy 4. Work with District staff to identify fish and wildlife habitat improvement projects that may include placing large woody debris, planting riparian vegetation, and seek partnerships with other agencies, special interest groups, or community volunteers for implementation of such projects.

Strategy 5. Continue to partner with USFWS and other public/private entities for monitoring of threatened and endangered species associated with this habitat type.

Objective 2.2: Protect and enhance 20-40 acres of permanent freshwater ponds to provide habitat for native fish and wildlife, and game species.

Rationale
Freshwater aquatic habitats are an important habitat type described the OCS. Though seasonal, these wetlands are especially important because they provide breeding, resting and forage (mussels, small fish and invertebrates) for a broad range of amphibians, reptiles, waterfowl, shorebirds as well as many other game and non-game wildlife. In addition, two permanent ponds on the WA provide approximately 7,000 angling use days annually (warmwater and put-in-take trout fishing).

Strategy 1. Maintain water control structures and levees to manage water levels in freshwater ponds.

Strategy 2. Control noxious weeds using chemical and mechanical control measures.

Strategy 3. Coordinate fisheries management with the South Willamette Watershed to assure program consistency and longevity.

Strategy 4. Seek partnerships with other federal and state agencies, sport groups, educational groups and community volunteers to facilitate improvement projects.

Goal 3: To provide a variety of wildlife related recreation and education opportunities to the public using management strategies compatible with Goals 1 and 2.

Objective 3.1: Provide a variety of hunting, trapping, and angling opportunities (12,000-15,000 annual public use days) compatible with habitat management objectives.

The EEWWA is funded by hunting and fishing license sales which support approximately 12,500 annual hunter and angler use days. Hunting on the wildlife area includes the Western Oregon Fee Pheasant Hunt, the Youth Upland Bird Hunt, and general season upland game, rabbit, and waterfowl hunts. Special events designed to promote hunter recruitment and retention of youth, women and the physically impaired are also conducted annually.

A “put and take” public fishery is maintained on the EEWWA Pond by the spring stocking of trout and at the Adair Pond by stocking warmwater fish species. The location of the wildlife area near several large population centers makes it a convenient destination for hunters and anglers to actively pursue their sporting interests and to provide outdoor learning opportunities for those persons interested hunting and fishing.

Strategy 1. Annually conduct the Youth Upland Game Bird Hunt for approximately 250-300 youth hunters, emphasizing recruitment by providing positive and successful field experiences.

Strategy 2. Conduct the Western Oregon Fee Pheasant Hunt for approximately 3500 hunters annually.

Strategy 3. Conduct Annual Youth and Disabled Hunter's rabbit hunts and the department's Becoming an Outdoors Woman (BOW) family small game hunting clinics.

Strategy 4. Monitor wildlife area hunting use and review and revise wildlife area use regulations to maintain the quality and safety of the area's hunting program.

Strategy 6. Maintain trap shooting area and conduct shotgun skill clinics during special youth and hunter education events.

Strategy 7. Maintain spring trout stocking and summer warmwater fishery opportunities in EEWWA and Adair ponds.

Strategy 8. Develop plans to construct an ADA accessible dock and trail at the angling ponds.

Strategy 9. Foster partnerships with wildlife sporting interest groups to promote special hunting and angling events.

Strategy 10. Develop and maintain relationships with organizations such as Santiam Steelheaders, Audubon Society, Scouts, Oregon Hunter's Association, Mary's Peak Hound Club and others to improve the quality of public recreation on the area.

Objective 3.2: Provide a variety of wildlife viewing and educational opportunities (40,000-45,000 annual public use days) that promote public understanding and support for natural resources and increase youth interest and participation in wildlife related recreational activities compatible with Objective 3.1.

Rationale

Wildlife observation, educational activities and angling constitute the largest public uses on the area. The wildlife area is situated near a large population center and its unusual grid work of old roads and unique wildlife habitats makes it an ideal site for a variety of outdoor recreational and learning experiences for all users, including the physically impaired.

However, providing a rewarding recreational experience without creating user conflict is challenging. Meeting the demands of the public by providing a safe and enjoyable experience is of paramount importance to the wildlife area staff. The department's goal is to expand recreational and educational opportunities that will promote visitor appreciation, understanding and environmental stewardship.

Strategy 1. Maintain 20 miles of road to facilitate ADA public access.

Strategy 2. Make improvements on trails, signs, and infrastructure as necessary to meet access ADA standards including 20 miles of existing area roads.

Strategy 3. Monitor wildlife viewing related public use to gauge impact on the habitats, wildlife and facilities and develop user regulations that manage and control activities inconsistent with the wildlife area's management goals and objectives.

Strategy 4. Maintain and/or increase informational kiosk and interpretive displays to highlight wildlife management principles and unique features of the wildlife area.

Strategy 5. Continue relationships with educational institutions such as OSU, WOU, CCC and local school districts to provide a venue for outdoor science classroom educational events.

Strategy 6. Expand fish and wildlife related programs with educational institutions to provide students with internships or job-shadow opportunities.

Strategy 7. Maintain the show bird pens, Camp Adair Military Training Center Memorial site, photography blind, interpretive trail and viewing areas for public benefit.

Strategy 8. Maintain short-range radio transmitter and web-page to provide current wildlife area information to the public.

Strategy 9. Permit continued access for wildlife viewing, hiking, bird watching, bike riding, horse riding, and other outdoor pursuits that are not in conflict with the biological needs of wildlife and the area's hunting programs.

Strategy 10. Explore ways of seeking revenue from non-hunters and non-anglers such as parking permits or some other type of user fee.

Objective 3.3: Maintain the wildlife area facilities, structures and equipment to support habitat management activities and pubic use programs.

Rationale
Many structures on the wildlife area are now 50 or more years old and are suffering from metal fatigue and deterioration. Some structures need to be repaired while others need simple aesthetic improvements. Properly functioning water control structures, culverts, and dikes are needed to maintain wetland habitats and to protect neighboring lands. Maintenance of bridges, trails, fences, gates, roads check stations, and viewing areas are necessary to ensure the safety of public users while they enjoy the wildlife area's resources.

Strategy 1. Maintain eight parking areas, twelve gates, four hunter check stations, two viewing platforms, twenty miles of road and two miles of interpretive trail including three bridges.

Strategy 2. Prioritize repairs of structures including water control structures, fences, culverts, ditches, dikes and all associated infrastructure based on the results of the department's maintenance master plan developed in fall 2005.

Strategy 3. Conduct annual inventories and maintain operational integrity of facilities, structures, equipment and vehicles. Work will include scheduled maintenance of all equipment and vehicles and completing repair and upgrades as needed.

Strategy 4. Continue to cooperate with the Benton County Health Department to monitor mosquito populations and to control populations whenever necessary to reduce the threat to public health.

Plan Implementation

Funding

Since its inception in 1950, funding for the operation and maintenance of the EEWWA has been accomplished primarily from annual hunting license and tag revenues. Over the past five years, funding for the operation and maintenance of the EEWWA has averaged approximately $95,000 annually. 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, construction of new facilities or amenities (e.g. orientation kiosks and interpretive signs), species and habitat monitoring and habitat projects to increase wildlife value.

Staffing / Organization

The Oregon Department of Fish and Wildlife manages sixteen staffed wildlife areas throughout the state. The wildlife areas encompass approximately 200,000 acres and are found in all four department administrative regions. The E.E. Wilson Wildlife Area is located in the Northwest Region, and is part of the South Willamette Watershed District. The wildlife area is currently staffed by one full-time Manager and one Fish and Wildlife Technician 2 who is stationed at the wildlife area eight months of every calendar year.

Compliance Requirements

The 2008 E.E. Wilson Wildlife Area 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 the laws, regulations, rules, and policies listed in **Appendix E**.

Partnerships

A number of other state, federal, and local agencies and interest groups assist with management activities on the EEWWA. These partners play an important role in helping the department achieve its mission and reach the EEWWA goals. Some examples include:

- The USFWS conducts Kincaid's lupine and Fender's blue butterfly surveys as staff and time allows.
- The Oregon Department of Forestry and the Adair Rural Fire Department conduct controlled burns to aid in habitat management.
- The United States Geological Survey conducts annual amphibian surveys, focusing on the Northern red-legged frog.
- The Oregon Department of Agriculture conducts biological control of noxious weeds.

The department will continue to rely on these and future partners to help implement this plan and provide guidance on management in later revisions. Given the proximity of EEWWA to population centers such as Salem, Corvallis, and Albany, the department welcomes and encourages more public participation in planning then area's management and in its operation.

Adaptive Management

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

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

Plan Amendment and Revision

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

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Appendices

Appendix A. Land Acquisitions and Adjustments Involving the E.E. Wilson

Date	Acres	Action	Cooperator
1950	+2032	Quit-claim deed	GSA
1950s	-266	Reclaimed	GSA
2000	+50.54	Purchased	Valley landfills
2002	+54.60	Land Exchange	Santiam Christian School District
2002	-83.00	Land Exchange	Santiam Christian School District
Total	**1788.14**		

Appendix B. Plants Occurring on E.E. Wilson Wildlife Area

Scientific Name	Common Name
Acer macrophyllum	Big-leaf Maple
Achillea millifolium	Common Yarrow
Agrostis alba	Creeping Bentgrass
Agrostis microphylla	Small Leaved Bentgrass
Agrostis tenuis	Colonial Bentgrass
Aira caryophyllea	European Hairgrass
Alisma gramineum	Narrow-leaf Water Plantain
Alisma plantago-aquatica	Water Plantain
Allium spp.	Wild Onion, Wild Garlic
Alnus rubra	Red Alder
Alopecurus aequalis	Short-awn Foxtail
Alopecurus pratensis	Meadow Foxtail
Amaranthus retroflexus	Rough Pigweed
Amelanchier alnifolia	Serviceberry
Ammania robusta	Grand Red Stem
Anaphalis margaritacea	Pearly Everlasting
Anthemis arvensis	Mayweed Chamomile, Stinking Mayweed
Anthemis cotula	Stinkweed, Dog Fennel
Anthriscus scandicina	Bur Chervil
Antirrhinum orontium	Lesser Snapdragon
Apocynum androsaemifolium	Bitter Dogbane
Aquilegia formosa	Western Columbine
Arabidopsis thaliana	Wall Cress
Arbutus menziesii	Madroño, Madrone, Arbutus
Asclepias speciosa	Showy Milkweed
Aster hallii	Hall's Aster
Aster subspicatus	Douglas' Aster
Avena fatua	Wild Oat
Azolla mexicana	Mexican Mosquito Fern
Baccharis piluaris	Chaparral Broom, Coyote Broom
Barbarea orthoceras	American Winter Cress
Beckmannia syzigachne	Slough Grass
Berberis aquifolium	Oregon Grape
Bidens cernua	Nodding Beggar-Ticks
Bidens frondosa	Sticktight, Leafy Beggar-Tick
Brassica campestris	Field Mustard, Turnip
Briza minor	Little Quaking Grass
Bromus spp.	Brome
Callitriche stagnalis	Common Water Starwort
Callitriche verna	Marsh Water Starwort
Camassia quamash	Common Camas

Capsella bursa-pastoris	Shepherd's Purse
Cardamine oligosaperma	Little Western Bittercress
Carex aperta	Columbia Sedge
Carex canescens	Hoary Sedge
Carex densa	Dense Sedge
Carex feta	Green-Sheathed Sedge
Carex lanuginosa	Woolly Sedge
Carex obnupta	Slough Sedge
Carex ovalis	Oval Fruited Sedge
Carex unilateralis	One-sided Sedge
Centaurea jacea	Brown Knapweed
Centaurium erythrea	Common Centaury
Cerastium viscosum	Sticky Mouse-Ear Chickweed
Chaenomeles lagenaria	Flowering Quince
Chamaesyce serpyllifolia subsp. Serpyllifolia	Tyme-leaved Spurge
Chenopodium album	Pigweed
Chrysanthemum leucanthemum	Ox-eye Daisy
Cichorium intybus	Chicory
Cirsium arvense	Canada Thistle
Cirsium vulgare	Bull Thistle
Claytonia exigua	Glaucous Miner's Lettuce
Comandra umbellata	Bastard Toad-Flax
Conium maculatum	Poison Hemlock
Convolvulus nyctagineus	Night Blooming Morning Glory
Convolvusus arvensis	Field Morning Glory, Small Bindweed
Conyza canadensis	Horseweed
Cornus stolonifera	Red Osier Dogwood
Corylus avellana	Filbert
Crataegus douglasii	Black Hawthorn
Cyperus aristatus	Awned Cyperus
Cyperus erythrorhizos	Red-rooted Cyperus
Cytisus scoparius	Scot's Broom
Cytisus scoparius var. andre	Scot's Broom, Variety Andre
Dactylis glomerata	Orchard Grass
Datura stramonium	Jimsonweed
Daucus carota	Wild Carrot, Queen Anne's Lace
Delphinium menziesii	Menzies' Larkspur
Deschampsia cespitosa	Tufted Hairgrass
Dianthus armeria	Deptford Pink
Digitalis purpurea	Foxglove
Dipsacus fullonum	Common Teasel
Downingia elegans	Elegant Downingia
Echinochloa crusgalli	Barnyard Grass
Eleocharis acicularis	Needle Spike Rush
Eleocharis ovata	Ovate Spike Rush

Eleocharis palustris	Common Spike Rush
Epilobium angustifolium	Fireweed
Epilobium brachycarpum	Tall Annual Willow Herb
Epilobium ciliatum subsp. glandulosum	Common Willow Herb
Epilobium ciliatum subsp. watsonii	Common Willow Herb
Epilobium densiflorum	Densely Flowered Willow Herb
Epilobium minutum	Tiny Willow Herb
Epilobium paniculatum	Tall Annual Willow Herb
Equisetum spp.	Horsetail
Eryngium petiolatum	Oregon Coyote Thistle
Eschscholzia californica	California Poppy
Festuca arundinacea	Tall Fescue
Fragaria spp.	Strawberry
Fraxinus latifolia	Oregon Ash
Galium aparine	Cleavers
Geranium oreganum	Western Geranium
Geranium pusillum	Small-Flowered Cranesbill
Geum macrophyllum	Large-Leaved Avens
Glecoma hederacea	Ground Ivy
Glyceria occidentailis	Western Manna Grass
Gnaphalium palustre	Lowland Cudweed
Gnaphalium uliginosum	Marsh Cudweed
Gratiola ebracteata	Bractless Hedge Hyssop
Hedera helix	English Ivy
Heracleum lanatum	Cow Parsnip
Holcus lanatus	Velvet Grass
Holcus mollis	Creeping Velvet Grass
Hordeum brachyantherum	Meadow Barley
Hypericum parforatum	Common St-John's-Wort, Klamath Weed
Hypochaeris radicata	Rough Cat's-ear
Iris spp.	Iris
Iris tenax	Tough Leaved Iris
Juglans spp.	Walnut
Juncus acuminatus	Sharp Fruited Rush
Juncus bolanderi	Bolander's Rush
Juncus bufonius	Toad Rush
Juncus effusus	Common Rush
Juncus ensifolius var. ensifolius	Dagger-leaf Rush
Juncus patens	Spreading Rush
Juncus spp.	Rush
Juncus tenuis	Slender Rush
Juniperus occidentalis	Juniper
Lactuca saligna	Willow Lettuce
Lactuca serriola	Prickly Lettuce
Lamium purpureum	Red Dead Nettle

Lathyrus aphaca	Yellow Pea
Lathyrus sphaericus	Grass Pea
Lathyrys latifolius	Perennial Pea
Leersia oryzoides	Rice Cut-Grass
Lemna minor	Common Duckweed
Lindernia dubia var. anagallidea	False Pimpernel
Lolium multiflorum	Italian Ryegrass
Lomatium dissectum	Lace-leaved Lomatium
Lomatium nudicaule	Naked Lomatium
Lonicera ciliosa	Orange Honeysuckle
Lotus corniculatus	Birdsfoot-Trefoil
Lotus micranthus	Small-Flowered Lotus
Lotus pinnatus	Bog Lotus
Lotus purshianus	Spanish Clover
Ludwigia palustris	Water Purslane
Lupinus polyphyllus	Large Leaved Lupine
Lupinus revularis var. albicaulix	Riverbank Lupine var. albicaulix
Lupinus rivularis	Riverbank Lupine
Lupinus sulphureus kincaidii	Kincaid's Lupine
Lythrum hyssopifolium	Hyssop Loosestrife
Lythrum portula	Purslane Loosestrife
Lythrum salicaria	Purple Loosestrife
Madia elegans	Common Madia
Madia glomerata	Stinking Tarweed, Mountain Tarweed
Madia gracilis	Common Tarweed
Madia sativa	Coast Tarweed
Marah oreganus	Coast Manroot
Melilotus alba	White Sweet Clover
Melissa officinalis	Lemon Balm
Mentha arvensis	Field Mint
Mentha piperita	Peppermint
Mentha pulegium	Pennyroyal
Mimulus guttatus	Common Monkey Flower
Montia linearis	Slender-leaved Montia
Myosotis discolor	Yellow-and-Blue Scorpion Grass
Myosotis laxa	Small Forget-Me-Not
Myosotis macrosperma	Large Seed Forget-Me-Not
Myosotis scorpioides	Forget-Me-Not
Myriophyllum spp.	Milfoil
Narcissus spp.	Daffodil, Narcissuses, Paper Whites
Navarretia intertexta	Needle-leaved Navarretia
Navarretia squarrosa	Skunkweed
Oemleria cerasiformis	Osoberry, Indian Plum
Oenanthe sarmentosa	Water Parsley, Pacific Oenanthe
Osmorhiza chilensis	Sweet Cicely

Panicum capillare	Common Witchgrass
Parentucellia viscosa	Yellowweed
Paspalum distichum	Jointgrass, Knotgrass
Pastinaca sativa	Parsnip
Perideridia gairdneri	Guirdner's Yampah
Phalaris aquatica	Harding Grass
Phalaris arundinacea	Reed Canary Grass
Phalaris spp.	Canary Grass, Harding Grass
Phleum pratense	Timothy
Phoradendron villosum	Western Mistletoe
Plagiobothrys figuratus	Fragrant Popcorn Flower
Plagiobothrys nothofulvus	Rusty Popcorn Flower
Plantago lanceolata	English Plantain
Plantago major	Common Plantain
Poa spp.	Bluegrass
Polygonum aviculare	Knotweed
Polygonum californicum	California Knotweed
Polygonum douglasii	Douglas' Knotweed
Polygonum hydropiper	Smartweed, Water Pepper
Polygonum hydropiperoides	Mild Water Pepper
Polygonum lapathifolium	Willowweed
Polygonum persicaria	Lady's Thumb
Polypodium glycyrrhixa	Licorice-fern
Polystichum munitum	Sword-fern
Populus trichocarpa	Black Cottonwood
Potamogeton natans	Floating Pondweed
Potentilla gracilis	Slender Cinquefoil
Prunus spp.	Plum
Prunus emarginata	Bittercherry
Prunus virginiana	Chokecherry
Pseudotsuga menziesii	Douglas Fir
Pteridium aquilirium	Bracken-fern
Pyrus communis	Pear
Pyrus malus	Apple
Quercus garryana	Oregon White Oak
Ranunculus aquatilis	Water Buttercup
Ranunculus austro-oreganus	Southern Oregon Buttercup
Ranunculus sceleratus	Celery Leaved Buttercup
Rhamnus purshiana	Cascara
Ribes divaricatum var. divaricatum	Coast Black Gooseberry
Robinia pseudo-acacia	Locust spp.
Rorippa curvisiliqua	Western Yellow Cress
Rosa eglanteria	Sweetbrier, Eglantine
Rosa multiflora	Multiflowered Rose
Rosa nutkana	Nootka Rose

Rosa pisocarpa	Clustered Wild Rose
Rotala ramosior	Toothcup
Rubus armeniacus	Himalayan Blackberry
Rubus laciniatus	Evergreen Blackberry
Rubus parviflorus	Thimbleberry
Rubus ursinus	Dewberry, Trailing Blackberry
Rumex acetosella	Sheep Sorrell
Rumex conglomeratus	Clustered Dock
Rumex crispus	Curly Leaved Dock
Rumex mexicana	Dock spp.
Salix hookeriana var. piperi	Hookers Willow
Salix spp.	Willow
Sambucus racemosa var. arborescens	Red Elderberry
Sanicula crassicaulis	Snakeroot
Saxifraga intergrifolia	Grassland Saxifrage
Schoenoplectus tabernaemontani	Great Bulrush
Scirpus microcarpus	Small-fruited Bulrush
Schoenoplectus mucronatus	Panicled Bulrush
Sedge spp.	Sedge spp.
Sedum album	White Stonecrop
Senecio jacobaea	Tansy Ragwort
Senecio vulgaris	Common Groundsel
Setaria viridis	Green Foxtail
Sidalcea campestris	Meadow Sidalcea
Sicalcea nelsoniana	Nelson's Checkerbloom
Sisyrinchium idahoense	Blue-eyed Grass
Solanum physalifolium	Hairy Nightshade
Solanum nigrum	Black Nightshade
Solidago spp.	Goldenrod
Solanum dulcamara	Bittersweet Nightshade
Sonchus asper	Prickley Sow Thistle
Sonchus oleraceus	Common Sow Thistle
Sparganium emersum	Simple-Stemmed Burreed
Spergularia spp.	Sandspurry
Spiraea douglasii	Douglas Hardhack
Spiraea vanhouttei	Vanhoutte Spirea
Stachys palustris	Marsh Hedgenettle
Stellaria spp.	Starwort
Symphoricarpos albus	Snowberry
Syringa vugaris	Common Lilac
Tanacetum vulgare	Tansy
Tellima grandiflora	Fringecups
Thuja plicata	Western Red Cedar
Toxicodendron diversilobum	Poison Oak
Trifolium dubium	Shamrock

Trifolium gracilentum	Pinpoint Clover
Trifolium macraei	Twin-Head Clover
Trifolium pratense	Red Clover
Trifolium procumbens	Low Hop Clover
Trifolium repens	White Clover
Trifolium subterraneum	Subterranean Clover
Triticum aestivum	Wheat
Typha angustifolia	Slender-Leaved Cattail
Typha latifolia	Broadleaf Cattail
Veratrum californicum	California False Hellebore
Veratrum caudatum	Tailed False Hellebore
Verbascum blattaria	Moth Mullein
Verbascum thapsus	Common Mullein
Veronica americana	American Brooklime
Veronica peregrina	Purslane Speedwell
Veronica scutellata	Marsh Speedwell
Vicia cracca	Bird Vetch
Vicia hirsuta	Hairy Vetch
Vicia sativa	Common Vetch
Vicia villosa	Woolly Vetch
Vinca major	Greater Periwinkle
Vulpia myuros	Foxtail Fescue
Wyethia angstifolia	Mule's Ear
Xanthium strumarium	Cocklebur
Zizania aquatica	Wild Rice

Appendix C. Wildlife Documented on E.E. Wilson Wildlife Area

Mammals

Scientific Name	Common Name
Didelphis virginiana	Opossum
Sorex bendirii	Marsh Shrew
Sorex vagrans	Vagrant Shrew
Neutrotrichus gibbsii	Shrew-mole
Scapanus townsendii	Townsend's Mole
Sylvilagus bachmani	Brush Rabbit
Myotis evotis	Long-eared Myotis
Myotis thysanodes	Fringed Myotis
Myotis volans	Long-legged Myotis
Sylvilagus floridanus	Eastern Cottontail
Lepus californicus	Black-tailed Jackrabbit
Spermophilus beecheyi	California Ground Squirrel
Sciurus griseus	Western Gray Squirrel
Spermophilus townsendii	Townsend's Chipmunk
Erethizon dorsatum	Porcupine
Castor canadensis	Beaver
Myocastor coypus	Nutria
Thomomys bulbivorus	Camas Pocket Gopher
Neotoma fuscipes	Dusky-footed Woodrat
Peromyscus maniculatus	Deer Mouse
Microtus canicaudus	Gray-tailed Vole
Microtus townsendii	Townsend's Vole
Microtus oregoni	Creeping Vole
Mus musculus	House Mouse
Zapus trinotatus	Pacific Jumping Mouse
Rattus norvegicus	Norway Rat
Vulpes vulpes	Red Fox
Urocyon cinereoargenteus	Gray Fox
Canis latrans	Coyote
Procyon lotor	Raccoon
Spilogale gracilis	Striped Skunk
Mustela erminea	Short-tailed Weasel
Mustela vison	Mink
Lontra canadensis	Northern River Otter
Odocoileus hemionus columbianus	Black-tailed Deer
Cervus elaphus roosevelti	Roosevelt Elk
Felis concolor	Cougar
Lynx rufus	Bobcat
Ursus americanus	Black Bear
Ondatra zibethicus	Muskrat

Reptiles

Scientific Name	Common Name
Clemmys marmorata	Western Pond Turtle
Chrysemys picta belli	Western Painted Turtle
Trachemys scripta elegans	Red-eared Slider
Sceloporus occidentalis	Western Fence Lizard
Elgaria multicarinata	Southern Alligator Lizard
Diadophis punctatus	Ring-necked Snake
Thamnophis ordinoides	Northwestern Garter Snake
Thamnophis sirtalis concinnus	Red-spotted Garter Snake
Pituophis melanoleuces	Gopher Snake
Contia tenuis	Sharptail Snake
Charina bottae	Rubber Boa
Coluber constrictor mormon	Western Yellow-bellied Racer

Amphibians

Scientific Name	Common Name
Ambystoma macrodactylum macrodactylum	Western Long-toed Salamander
Taricha granulosa granulosa	Rough-skinned Newt
Pseudacris regilla	Pacific Tree Frog
Rana aurora aurora	Northern Red-legged Frog
Rana catesbeiana	Bullfrog

Birds

Scientific Name	Common Name
Gavia immer	Common loon
Podilymbus podiceps	Pied-billed Grebe
Podiceps auritus	Horned Grebe
Aechmophorus occidentalis	Western Grebe
Phalacrocorax auritus	Double-crested Cormorant
Botaurus lentiginosus	American Bittern
Ardea herodias	Great Blue Heron
Casmerodius albus	Great Egret
Butocides veriscens	Green Heron
Nycticorax nycticorax	Black-crowned Night Heron
Cygnus buccinator	Trumpeter Swan
Cygnus columbianus	Tundra Swan
Anser albifrons	Greater White-fronted Goose
Chen caerulescens	Snow Goose
Branta canadensis	Canada Goose
Aix spousa	Wood Duck

Anas crecca	Green-winged Teal
Anas discors	Blue-winged Teal
Anas penelope	Eurasian Wigeon
Anas platyrhynchos	Mallard
Aythya Americana	Redhead Duck
Anas acuta	Northern Pintail
Anas cyanoptera	Cinnamon Teal
Anas clypeata	Northern Shoveler
Anas strepera	Gadwall
Anas americana	American Wigeon
Aythya valisineria	Canvasback
Aythya collaris	Ring-necked Duck
Aythya marida	Greater Scaup
Aythya affinis	Lesser Scaup
Melanitta perspicillata	Surf Scoter
Bucephala albeola	Bufflehead
Lophodytes cucullatus	Hooded Merganser
Mergus merganser	Common Merganser
Mergus serrator	Red-breasted Merganser
Oxyura jamaicensis	Ruddy Duck
Cathartes aura	Turkey Vulture
Pandion haliaetus	Osprey
Elanus leucurus	White-tailed Kite
Circus cyaneus	Northern Harrier
Accipiter striatus	Sharp-shinned Hawk
Accipiter cooperii	Cooper’s Hawk
Accipiter gentilis	Northern Goshawk
Buteo lineatus	Red-shouldered Hawk
Buteo jamaicensis	Red-tailed Hawk
Buteo lagopus	Rough-legged Hawk
Haliaeetus leucephalus	Bald Eagle
Aquila chrysaetos	Golden Eagle
Falco sparverius	American Kestrel
Falco columbarius	Merlin
Falco mexicanus	Prairie Falcon
Falco peregrinus	Peregrine Falcon
Alectoris chukar	Chukar
Phasianus colchicus	Ring-necked Pheasant
Phasianus colchicus spp.strauchi	Sichuan Pheasant
Bonasa umbellus	Ruffed Grouse
Meleagris gallopavo	Wild Turkey
Colinus virginianus	Northern Bobwhite
Callipepla californica	California Quail
Oreortyx pictus	Mountain Quail
Rallus limicola	Virginia Rail
Porzana Carolina	Sora
Fulica Americana	American Coot

Grus Canadensis	Sandhill Crane
Himantopus mexicanus	Black-necked Stilt
Charadrius vociferus	Killdeer
Charadrius semipalmatus	Semi-palmated Plover
Tringa melanoleuca	Greater Yellowlegs
Tringa flavipes	Lesser Yellowlegs
Tringa solitaria	Solitary Sandpiper
Actitis macularia	Spotted Sandpiper
Calidris mauri	Western Sandpiper
Phalaropus tricolor	Wilson's Phalarope
Phalaropus fulicaria	Red Phalarope
Phalarous lobatus	Red-necked Phalarope
Limnodromus scolopaceus	Long-billed Dowitcher
Limnodromus griseus	Short-billed Dowitcher
Calidris minutilla	Least Sandpiper
Calidris melanotos	Pectoral Sandpiper
Calidris alpina	Dunlin
Calidris alba	Sanderling
Gallinago gallinago	Common Snipe
Larus californicus	California Gull
Larus occidentalis	Western Gull
Larus glaucescens	Glaucous-winged Gull
Larus philadelphia	Bonaparte’s Gull
Larus delawarensis	Ring-billed Gull
Larus thayeri	Thayer's Gull
Larus canus	Mew Gull
Larus argentatus	Herring Gull
Sterna forsteri	Forster's Tern
Sterna caspia	Caspian Tern
Columba livia	Rock Dove
Columba fasciata	Band-tailed Pigeon
Zenaida macroura	Mourning Dove
Tyto alba	Barn-Owl
Otus kennicottii	Western Screech-Owl
Bubu virginianus	Great Horned Owl
Glaucidium gnoma	Northern Pygmy-Owl
Asio otus	Long-eared Owl
Asio flammeus	Short-eared Owl
Aegolius acadicus	Northern Saw-whet Owl
Chordeiles minor	Common Nighthawk
Chaetura vauxi	Vaux’s Swift
Calypte anna	Anna’s Hummingbird
Selasphorus rufus	Rufous Hummingbird
Ceryle alcyon	Belted Kingfisher
Melanerpes lewis	Lewis’ Woodpecker
Melanerpes formicivorus	Acorn Woodpecker
Sphyrapicus rubber	Red-breasted Sapsucker

Picoides pubescens	Downy Woodpecker
Picoides villosus	Hairy Woodpecker
Colaptes auratus	Northern Flicker
Dryocopus pileatus	Pileated Woodpecker
Contopus sordidulus	Western Wood-Pewee
Contopus borealis	Olive-sided Flycatcher
Empidonax difficilis	Pacific-slope Flycatcher
Empidonax traillii	Willow Flycatcher
Sayornis nigricans	Black Phoebe
Sayornis saya	Say's Phoebe
Tyrannus tyrannus	Eastern Kingbird
Tyrannus verticalis	Western Kingbird
Eremophila alpestris	Horned Lark
Tachycineta bicolor	Tree Swallow
Tachycineta thalassina	Violet-green Swallow
Stelgidopteryx serripennis	Northern Rough-winged Swallow
Riparia riparia	Bank Swallow
Hirundo pyrrhonota	Cliff Swallow
Hirundo rustica	Barn Swallow
Progne subis	Purple Martin
Mimus polyglottos	Northern Mockingbird
Cyanocitta stelleri	Steller's Jay
Aphelocoma coerulescens	Scrub Jay
Corvus brachyrhynchos	American Crow
Corvus corax	Common Raven
Chamaea fasciata	Wrentit
Parus atricapillus	Black-capped Chickadee
Parus rufescens	Chestnut-backed Chickadee
Psaltriparus minimus	Bushtit
Sitta Canadensis	Red-breasted Nuthatch
Sitta carolinensis	White-breasted Nuthatch
Certhia Americana	Brown Creeper
Thryomanes bewickii	Bewick's Wren
Troglodytes aedon	House Wren
Troglodytes troglodytes	Winter Wren
Cistothorus palustris	Marsh Wren
Cistothorus platensis	Sedge Wren
Coccyzus americanus	Yellow Billed Cuckoo
Regulus satrapa	Golden-crowned Kinglet
Regulus calendula	Ruby-crowned Kinglet
Sialia mexicana	Western Bluebird
Myadestes toensendii	Townsend's Solitaire
Catharus ustrulatus	Swainson's Thrush
Catharus guttatus	Hermit Thrush
Turdus migratorius	American Robin
Ixoreus naevius	Varied Thrush

Bombycilla cedrorum	Cedar Waxwing
Lanius excubitor	Northern Shrike
Anthus rubescens	American Pipit
Lanius ludovicianus	Loggerhead Shrike
Sturnus vulgaris	European Starling
Vireo gilvus	Warbling Vireo
Virio cassinii	Cassin's Vireo
Vireo solitarius	Solitary Vireo
Vireo huttoni	Hutton's Vireo
Vermivora celata	Orange-crowned Warbler
Vermivora ruficapilla	Nashville Warbler
Dendroica townsendii	Townsend’s Warbler
Dendroica petechia	Yellow Warbler
Dendroica palmarum	Palm Warbler
Dendroica coronata	Yellow-rumped Warbler
Dendroica nigrescens	Black-throated Gray Warbler
Oporornis tolmiei	MacGillivray’s Warbler
Geothlypis trichas	Common Yellowthroat
Wilsonia pusilla	Wilson’s Warbler
Icteria virens	Yellow-breasted Chat
Piranga lucoviciana	Western Tanager
Pheucticus melanocephalus	Black-headed Grosbeak
Passerina amoena	Lazuli Bunting
Pipilo erythrophthalmus	Spotted Towhee
Polioptila caerulea	Blue-gray Gnatcatcher
Spizella passerina	Chipping Sparrow
Pooecetes gramineus	Vesper Sparrow
Passerculus sandwichensis	Savannah Sparrow
Spizella arborea	American Tree Sparrow
Passerella iliaca	Fox Sparrow
Melospiza melodia	Song Sparrow
Melospiza lincolnii	Lincoln’s Sparrow
Melospiza georgiana	Swamp Sparrow
Zonotrichia albicollis	White-throated Sparrow
Zonotrichia atricapilla	Golden-crowned Sparrow
Zonotrichia leucophrys	White-crowned Sparrow
Zonotrichia querula	Harris's Sparrow
Junco hyemalis	Dark-eyed Junco
Agelaius phoeniceus	Red-winged Blackbird
Xanthocephalus xanthocephalus	Yellow-headed Blackbird
Sturnella neglecta	Western Meadowlark
Euphagus cyanocephalus	Brewer’s Blackbird
Molothrus ater	Brown-headed Cowbird
Icterus galbulua	Northern Oriole
Carpodacus purpureus	Purple Finch
Carpodacus mexicanus	House Finch
Loxia curvirostra	Red Crossbill

Carduelis pinus	Pine Siskin
Carduelis psaltria	Lesser Goldfinch
Carduelis tristis	American Goldfinch
Coccothraustes vespertinus	Evening Grosbeak

Appendix D. State Water Rights on the E.E. Wilson Wildlife Area

State Water Rights

Pond/River	Permit	Rate
Luckiamute River	28749	1.43 cfs
Pond #9-14,15A-D,16,17*	R-75510	39.0 Acre Ft.
Pond #1, 2, 3, 4, 5, 6A, 6B**	R-75508	64.4 Acre Ft.
Pond #18-27***	R-75009	28.8 Acre Ft.
Pond #8 (canal)	R-11541	20.0 Acre Ft.
Pond#7 (angling)	R-7933	40.0 Acre Ft.
Coffin Butte Pond	R-85247	0.235 Acre Ft.

* snipe, wheatfield #1&2, Heron, horseshoe, pipit complex, south, phalarope, parking lot

** shop, A St., B St, wild rice, pilings, Northwest corner, cottonwood,

***Beehive, killdeer, mallard, green-winged teal, hooters, big dike, big dike borrow, buffy's

Appendix E. Legal Obligations Influencing Management of the E.E. Wilson 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
- 635-008-0190 E.E. Wilson 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