

DRAFT

**E.E. WILSON WILDLIFE AREA
MANAGEMENT PLAN**

July 2008

**Oregon Department of Fish and Wildlife
3406 Cherry Avenue NE
Salem, Oregon 97303**



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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 15 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 60 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 in the early 1800s, by 1830 the tribe had declined to roughly 600 (probably due to malaria). In 1855 the U.S. government ratified a treaty with the Kalapuyas and moved them to the Grand Ronde Reservation.

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 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 (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 to be 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 35.

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 pheasant 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 as 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. With two exceptions, they are managed per the previous wetland discussion above. The exceptions are two permanent cool water ponds one of which (Angling pond) is regularly stocked with trout annually in the spring while 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 to be 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 fish and 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 and to provide warmwater and “put and take” trout fisheries.

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 35.

Wildlife Area Establishment

The E.E. Wilson Wildlife Area was established in 1950 when 2,032 acres of the former Camp Adair Army Military Base 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 ten 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 northwest. 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

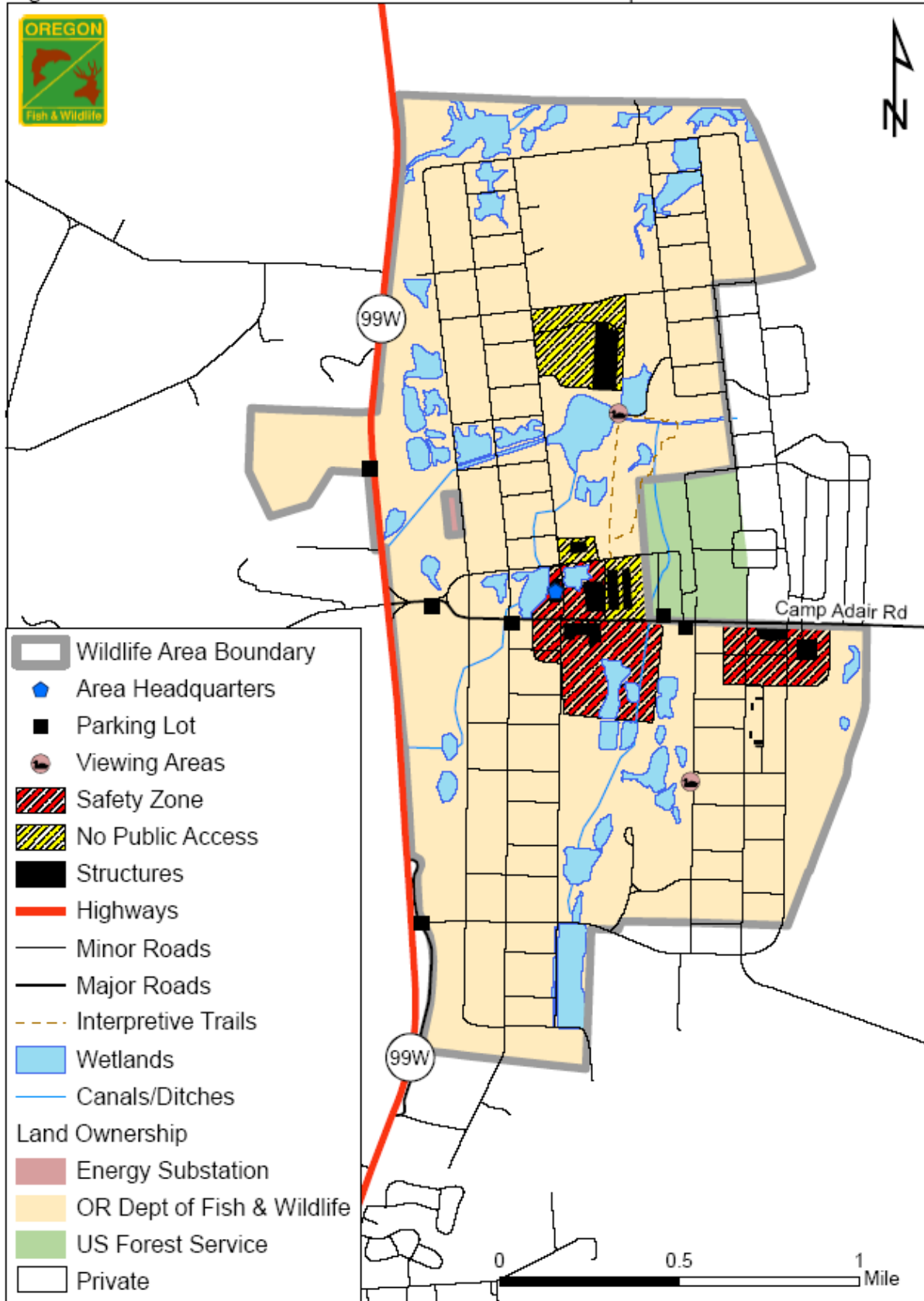
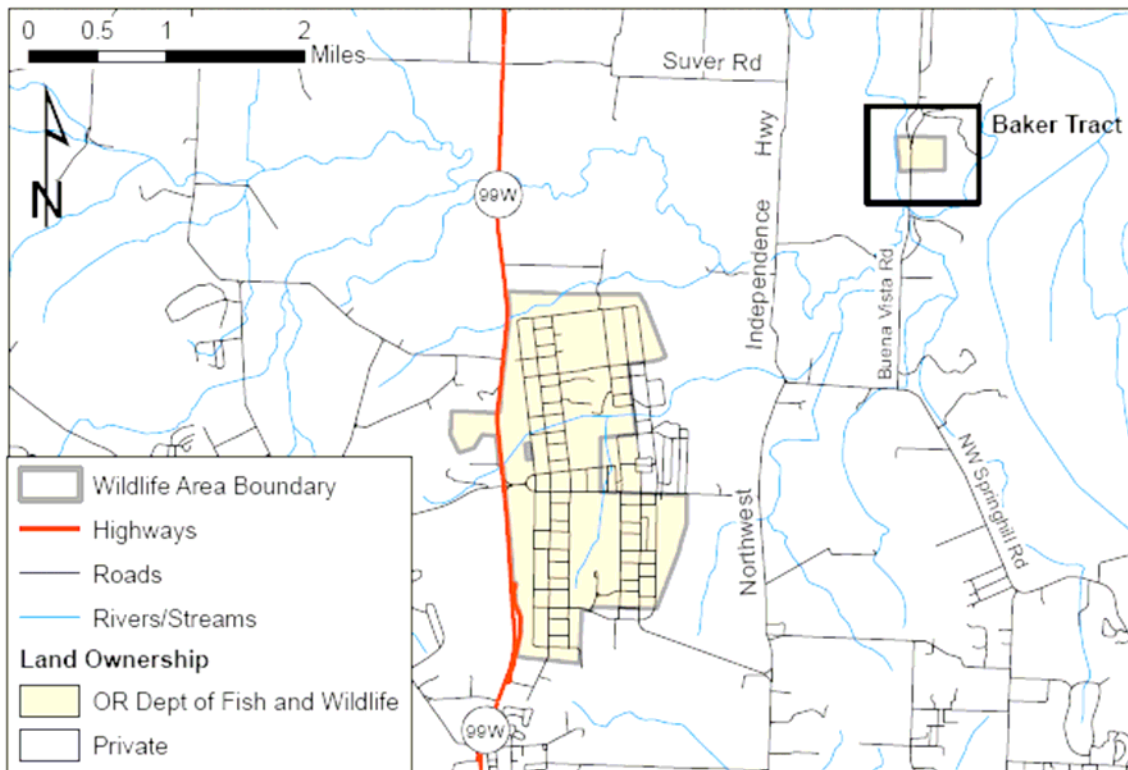
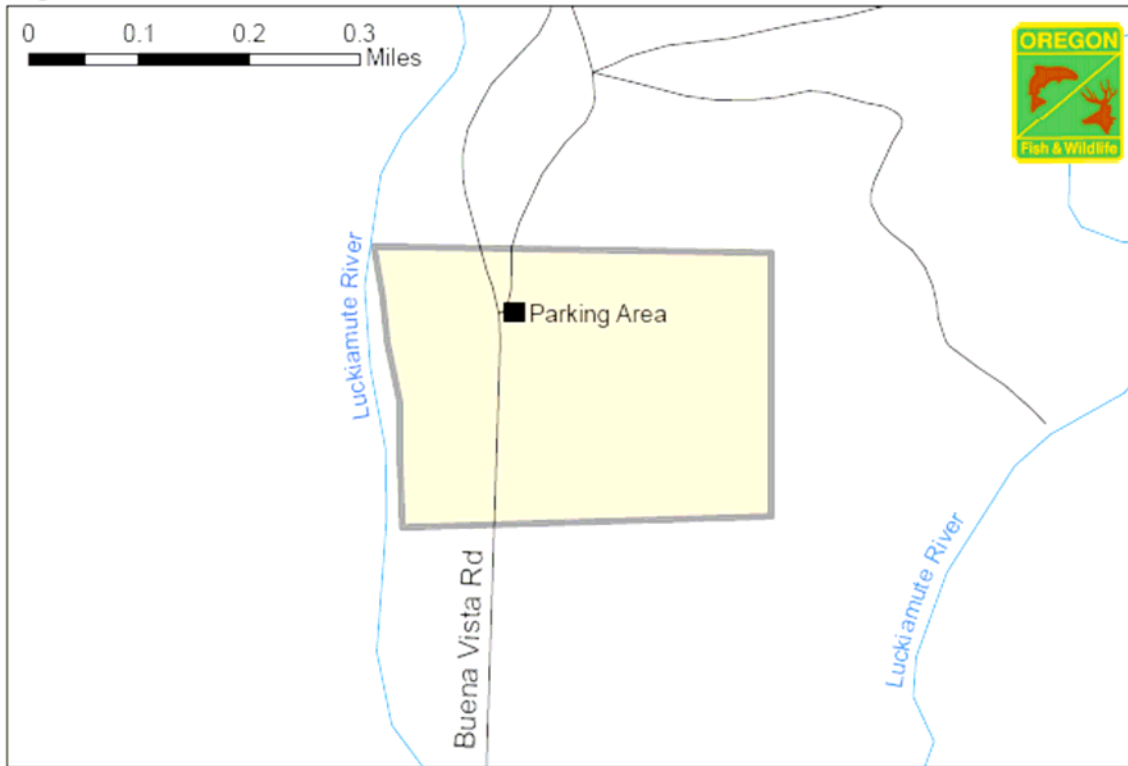


Figure 1.2 - E.E. Wilson Wildlife Area - Baker Tract



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

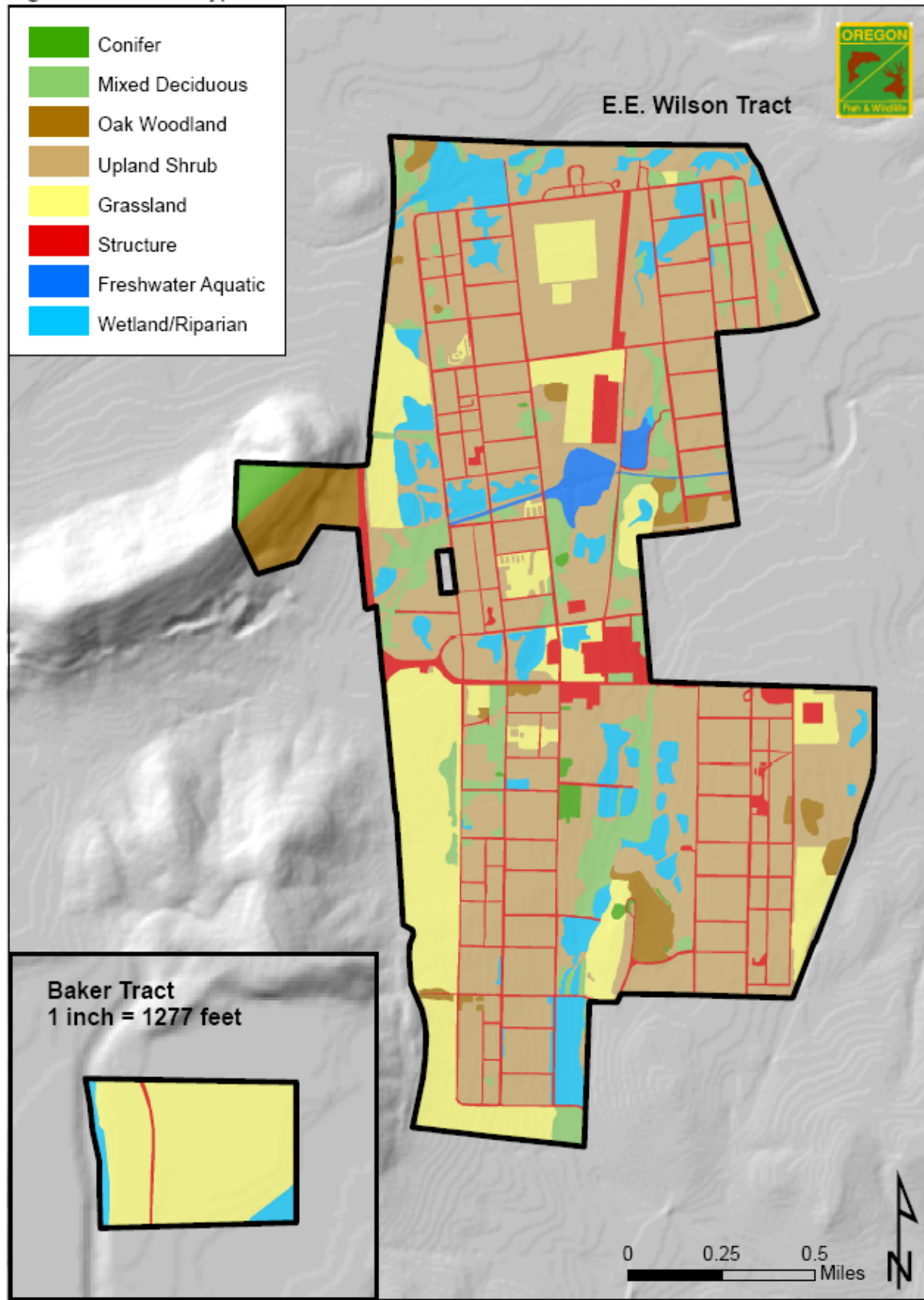


Table 1. Habitat Types and Approximate Acreages on the E.E. Wilson Wildlife Area.

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, ranging from roughly ¼ to 5 acres in size. 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 utilizes moist soil management techniques to control the impoundments. Moist soil management techniques which employ 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 425 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 roemerii*), 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 macrophyllum*), 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 trichocarpa*) stands. Habitat improvement projects in this habitat type are difficult and limited due to extensive abandoned military foundations scattered throughout. Fifteen to thirty acres of upland food plots containing sunflowers (*Helianthus annuus*), millet (*Panicum miliaceum*), buckwheat (*Eriogonum* sp.), sudangrass (*Sorghum bicolor*), triticale (*Triticosecale rimpau*) 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 farm history. Restoration efforts have taken place to restore the site to a native upland prairie community. A wetland component also exists with 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 300 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 dominate the understory.

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 platyrhynchos*), 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 (*Zenaidura 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 (*Mephitis mephitis*), 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*).

Beavers and nutria are associated with wetlands throughout the wildlife area. Beavers in particular create ponds that are beneficial to waterfowl and shorebirds. Nutria also create openings in wetlands by chewing down rank vegetation. However nutria also cause considerable damage to dikes and levees through 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 introduced 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 conjunction with the United States Geological Survey (USGS) to index 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 microlophus*) and pumpkinseed (*Lepomis gibbosus*), and bluegill (*Lepomis macrochirus*). The redbreast 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.

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

Kincaid’s lupine and Nelson’s checkermallow are listed as threatened and endangered respectively 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, feral cat, bullfrog, and ring-necked pheasant. Starlings and house sparrows are cavity nesters and can displace native birds while the opossum, feral cats and bullfrogs prey on native species. The ring-necked pheasant has been a valued game bird since its introduction to Oregon in 1882. Male pheasants are released in the fall on the EEWWA to provide hunting opportunities. California quail are prevalent throughout the wildlife area. An occasional wild turkey (*Meleagris gallopova*) is sighted on the wildlife area, however 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	<i>Rana catesbiana</i>	Abundant
Ring-necked pheasant	<i>Phasianis colchicus</i>	Common
European starling	<i>Sturnus vulgaris</i>	Abundant
House sparrow	<i>Passer domesticus</i>	Abundant
Virginia opossum	<i>Didelphus virginiana</i>	Common
House mouse	<i>Mus musculus</i>	Abundant
Feral cat	<i>Felis catus</i>	Uncommon
Norway rat	<i>Rattus norvegicus</i>	Common
Nutria	<i>Myocastor coypus</i>	Common
Wild turkey	<i>Meleagris gallopova</i>	Uncommon
California quail	<i>Callipepla californica</i>	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	<i>Micropterus salmoides</i>	Abundant
Bluegill sunfish	<i>Lepomis macrochirus</i>	Common
Red-eared sunfish	<i>Lepomis gibbosus</i>	Common
Pumpkinseed sunfish	<i>Lepomis gibbosus</i>	Common
Yellow bullhead	<i>Ameiurus natalis</i>	Common
Brown bullhead	<i>Ameiurus nebulosus</i>	Common
Western mosquitofish	<i>Gambusia affinis</i>	Abundant
Common carp	<i>Cyprinus carpio</i>	Present
Green sunfish	<i>Lepomis cyanellus</i>	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 weeds include Scotch (Scots') broom, reed canary grass, meadow knapweed, and Himalayan blackberry. Newly invaded weeds include purple loosestrife and cocklebur. 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	<i>Dipsacus follosum</i>	Abundant
Field bindweed	<i>Convolvulus arvensis</i>	Common
Himalayan blackberry	<i>Rubus discolor</i>	Abundant
Poison hemlock	<i>Conium maculatum</i>	Common
Purple loosestrife	<i>Lythrum salicaria</i>	Uncommon
Scotch broom	<i>Cytisus scoparius</i>	Abundant
Reed canary grass	<i>Phalaris arundinacea</i>	Common
Meadow knapweed	<i>Centaurea pratensis</i>	Common
Cocklebur	<i>Xanthium strumarium</i>	Uncommon
English ivy	<i>Hedera helix</i>	Uncommon
Sulphur cinquefoil	<i>Potentilla recta</i>	Uncommon
St. Johns-wort	<i>Hypericum perforatum</i>	Abundant
Thistle spp.	<i>Cirsium spp.</i>	Common
Tansy Ragwort	<i>Senecio jacobaea</i>	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 abundance is also monitored through hunter harvest data. Rabbit abundance is established through an index collected via hunter area permits.

Big Game

Black-tailed deer numbers are monitored by hunting success as reported on area hunt permits. Hunter feedback or written comments on 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. Academic 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 could potentially affect birds on the EEWWA, but occurrence of disease is low. The department will cooperate with the Benton County Health Department (BCHD) and the USFWS in the monitoring of wildlife diseases. BCHD currently samples select areas of the EEWWA for West Nile Virus.

The department also utilizes the EEWWA to test waterfowl for Avian Influenza. This testing follows recently developed statewide and national testing protocols. Diseases of black-tailed deer that are known to occur in northwest Oregon such as adenovirus hemorrhagic disease and hair loss syndrome are not transmissible to humans or livestock and have no known cure. Chronic Wasting Disease (CWD) has not been detected in Oregon, but deer exhibiting any signs of illness will be tested. All diseased birds reported by hunters or EEWWA personnel will 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.

Cultural Resources

The EEWWA was established in 1950. The area encompasses 1788 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 camp 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 1800's is estimated at approximately 10,000 for all the Kalapuya. In the early 1830's the Kalapuya population incurred catastrophic declines probably due to malaria. By the late 1830s the population had declined to around 600. 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 deactivated 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

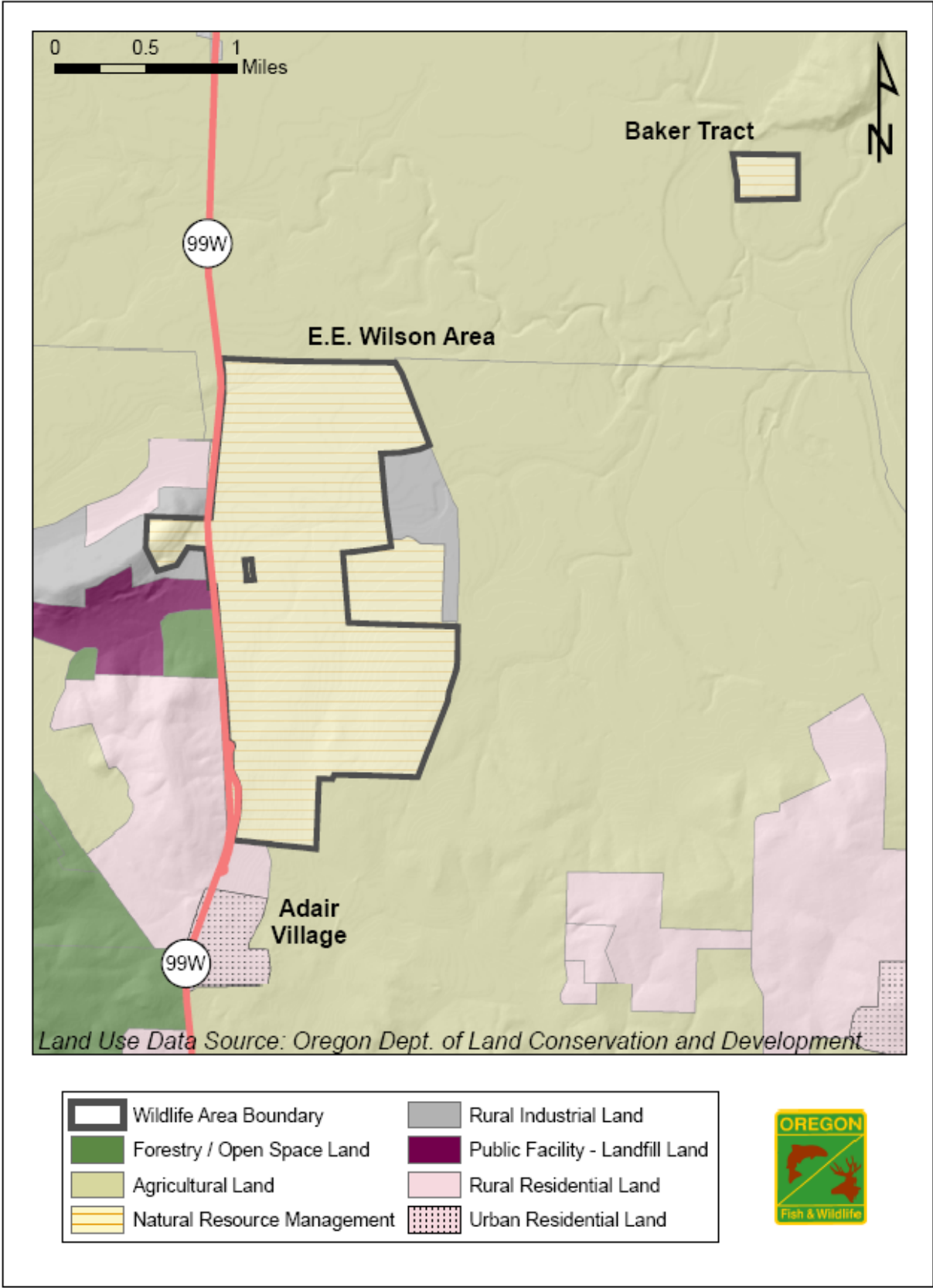
The EEWWA is located ten miles north of the city of Corvallis in Benton County and borders the urban growth boundary (UGB) of Adair Village, a population of around 700. Benton County has a population of approximately 80,000 people where 53,000 live within the UGB of Corvallis. The EEWWA contains some 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).

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



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:

- two 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 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, 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 substations residing within the EEWWA boundary. Others are for shared road access to agricultural lands.

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 (see **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. Pen-raised 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 Angling pond. Warm water angling for bluegill, bullhead and red-eared sunfish is available in limited ponds.

Trapping of furbearers is a management tool periodically allowed on the EEWWA, by

permit, during general seasons. Trapping is used primarily to control animals such as beaver and nutria which damage water control structure 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 as follows:

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

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.

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 USFW 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 Kincaid’s lupine and Nelson’s checkermallow restoration projects on the wildlife area.

Strategy 6. Maintain upland food plot plantings on 15-35 acres annually for wildlife use.

Strategy 7. Maintain 5-10 acres of green forage crops to benefit upland game birds and other terrestrial species.

Strategy 8. 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. Seek state, federal and/or NGO grants to restore and/or enhance the condition native upland shrub plant communities.

Strategy 3. Control invasive plant species using management techniques including disking, planting, mowing, burning and herbicide spraying.

Strategy 4. Enhance shrub habitats using controlled burning, replanting/seeding of native vegetation.

Strategy 5. 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 fish and 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 and to provide warmwater and “put and take” trout fisheries.

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

Strategy 4. Coordinate fisheries management with the South Willamette Watershed to assure program consistency and longevity.

Strategy 5. 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. Conduct the Youth Upland Game Bird Hunt for approximately 250-300 annual 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. Provide cold and warmwater angling opportunities at the 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, youth outdoor education and angling constitutes the majority of public use on the area. Its convenient location near large urban population areas, unusual grid work system 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 those that are disabled and wheelchair dependant.

Providing a rewarding recreational experience without creating user conflict is challenging. To better understand the public's desires and attempting to meet them (as can reasonably be accommodated), is of paramount importance. The expansion of recreational and educational opportunities that promote visitor participation, department support and environmental appreciation and stewardship is one of EEWWA's chief concerns.

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

Strategy 2. Maintain the show bird pens, Camp Adair Military Base Memorial site, photography blind, interpretive trail and viewing areas for public benefit.

Strategy 3. Continue to make improvements as necessary to meet ADA standards on trails, signs, and infrastructure.

Strategy 4. Maintain and develop new informational kiosk and interpretive displays to highlight wildlife management principles and unique features of the wildlife area.

Strategy 5. Maintain short-range radio transmitter and web-page to provide current wildlife area information to the public.

Strategy 6. Continue to develop relationships with educational institutions such as OSU, WOU, CCC and local school districts to promote venues for outdoor classroom educational opportunities.

Strategy 7. Continue programs with OSU and other local schools to provide fish and wildlife related experience through internships or job-shadow opportunities.

Strategy 8. Continue to provide 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 9. Explore the development of other revenue raising opportunities from user groups such as parking permits or some other type of user fees.

Objective 3.3: Maintain the wildlife area facilities, structures and equipment to support habitat management activities and public 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 solely 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 F**.

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 other partners in the future to help implement this plan and provide input for future updates. This plan identifies projects that provide new opportunities for existing or new partners. There is a great potential for more public participation and assistance in the management of the wildlife area, given its proximity to population centers such as Salem, Corvallis, and Albany. The

department welcomes and encourages more public participation in the administration of the wildlife area.

Adaptive Management

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

Monitoring is an essential component of adaptive management in general, and of this plan in particular; specific monitoring strategies 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
1950's	-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
<i>Acer macrophyllum</i>	Big-leaf Maple
<i>Achillea millifolium</i>	Common Yarrow
<i>Agrostis alba</i>	Creeping Bentgrass
<i>Agrostis microphylla</i>	Small Leaved Bentgrass
<i>Agrostis tenuis</i>	Colonial Bentgrass
<i>Aira caryophylla</i>	European Hairgrass
<i>Alisma gramineum</i>	Narrow-leaf Water Plantain
<i>Alisma plantago-aquatica</i>	Water Plantain
<i>Allium</i> spp.	Wild Onion, Wild Garlic
<i>Alnus rubra</i>	Red Alder
<i>Alopecurus aequalis</i>	Short-awn Foxtail
<i>Alopecurus pratensis</i>	Meadow Foxtail
<i>Amaranthus retroflexus</i>	Rough Pigweed
<i>Amelanchier alnifolia</i>	Serviceberry
<i>Ammania robusta</i>	Grand Red Stem
<i>Anaphalis margaritacea</i>	Pearly Everlasting
<i>Anthemis arvensis</i>	Mayweed Chamomile, Stinking Mayweed
<i>Anthemis cotula</i>	Stinkweed, Dog Fennel
<i>Anthriscus scandicina</i>	Bur Chervil
<i>Antirrhinum orontium</i>	Lesser Snapdragon
<i>Apocynum androsaemifolium</i>	Bitter Dogbane
<i>Aquilegia formosa</i>	Western Columbine
<i>Arabidopsis thaliana</i>	Wall Cress
<i>Arbutus menziesii</i>	Madroño, Madrone, Arbutus
<i>Asclepias speciosa</i>	Showy Milkweed
<i>Aster hallii</i>	Hall's Aster
<i>Aster subspicatus</i>	Douglas' Aster
<i>Avena fatua</i>	Wild Oat
<i>Azolla mexicana</i>	Mexican Mosquito Fern
<i>Baccharis pilularis</i>	Chaparral Broom, Coyote Broom
<i>Barbarea orthoceras</i>	American Winter Cress
<i>Beckmannia syzigachne</i>	Slough Grass
<i>Berberis aquifolium</i>	Oregon Grape
<i>Bidens cernua</i>	Nodding Beggar-Ticks
<i>Bidens frondosa</i>	Sticktight, Leafy Beggar-Tick
<i>Brassica campestris</i>	Field Mustard, Turnip
<i>Briza minor</i>	Little Quaking Grass
<i>Bromus</i> spp.	Brome
<i>Callitriche stagnalis</i>	Common Water Starwort
<i>Callitriche verna</i>	Marsh Water Starwort
<i>Camassia quamash</i>	Common Camas

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

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

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

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

<i>Rubus armeniacus</i>	Himalayan Blackberry
<i>Rubus laciniatus</i>	Evergreen Blackberry
<i>Rubus parviflorus</i>	Thimbleberry
<i>Rubus ursinus</i>	Dewberry, Trailing Blackberry
<i>Rumex acetosella</i>	Sheep Sorrell
<i>Rumex conglomeratus</i>	Clustered Dock
<i>Rumex crispus</i>	Curly Leaved Dock
<i>Rumex mexicana</i>	Dock spp.
<i>Salix hookeriana</i> var. <i>piperi</i>	Hookers Willow
<i>Salix</i> spp.	Willow
<i>Sambucus racemosa</i> var. <i>arborescens</i>	Red Elderberry
<i>Sanicula crassicaulis</i>	Snakeroot
<i>Saxifraga integrifolia</i>	Grassland Saxifrage
<i>Schoenoplectus tabernaemontani</i>	Great Bulrush
<i>Scirpus microcarpus</i>	Panicled Bulrush ^[OE1] , Small-fruited Bulrush
Sedge spp.	Sedge spp.
<i>Sedum album</i>	White Stonecrop
<i>Senecio jacobaea</i>	Tansy Ragwort
<i>Senecio vulgaris</i>	Common Groundsel
<i>Setaria viridis</i>	Green Foxtail
<i>Sidalcea campestris</i>	Meadow Sidalcea ^[OE2]
<i>Sisyrinchium idahoense</i>	Blue-eyed grass
<i>Solanum physalifolium</i>	Hairy Nightshade
<i>Solanum nigrum</i>	Black Nightshade
<i>Solidago</i> spp.	Goldenrod
<i>Solanum dulcamara</i>	Bittersweet Nightshade
<i>Sonchus asper</i>	Prickly Sow Thistle
<i>Sonchus oleraceus</i>	Common Sow Thistle
<i>Sparganium emersum</i>	Simple-Stemmed Burreed
<i>Spergularia</i> spp.	Sandspurry
<i>Spiraea douglasii</i>	Douglas Hardhack
<i>Spiraea vanhouttei</i>	Vanhoutte Spirea
<i>Stachys palustris</i>	Marsh Hedgenettle
<i>Stellaria</i> spp.	Starwort
<i>Symphoricarpos albus</i>	Snowberry
<i>Syringa vulgaris</i>	Common Lilac
<i>Tanacetum vulgare</i>	Tansy
<i>Tellima grandiflora</i>	Fringecups
<i>Thuja plicata</i>	Western Red Cedar
<i>Toxicodendron diversilobum</i>	Poison Oak
<i>Trifolium dubium</i>	Shamrock
<i>Trifolium gracilentum</i>	Pinpoint Clover
<i>Trifolium macraei</i>	Twin-Head Clover
<i>Trifolium pratense</i>	Red Clover
<i>Trifolium procumbens</i>	Low Hop Clover

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

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

Mammals

Scientific Name	Common Name
<i>Didelphis virginiana</i>	Opossum
<i>Sorex bendirii</i>	Marsh Shrew
<i>Sorex vagrans</i>	Vagrant Shrew
<i>Neotrichus gibbsii</i>	Shrew-mole
<i>Scapanus townsendii</i>	Townsend's Mole
<i>Sylvilagus bachmani</i>	Brush Rabbit
<i>Myotis evotis</i>	Long-eared Myotis
<i>Myotis thysanodes</i>	Fringed Myotis
<i>Myotis volans</i>	Long-legged Bat
<i>Sylvilagus floridanus</i>	Eastern Cottontail
<i>Lepus californicus</i>	Black-tailed Jackrabbit
<i>Spermophilus beecheyi</i>	California Ground Squirrel
<i>Sciurus griseus</i>	Western Gray Squirrel
<i>Spermophilus townsendii</i>	Townsend's Chipmunk
<i>Erethizon dorsatum</i>	Porcupine

<i>Castor canadensis</i>	Beaver
<i>Myocastor coypus</i>	Nutria
<i>Thomomys bulbivorus</i>	Camas Pocket Gopher
<i>Neotoma fuscipes</i>	Dusky-footed Woodrat
<i>Peromyscus maniculatus</i>	Deer Mouse
<i>Microtus canicaudus</i>	Gray-tailed Vole
<i>Microtus townsendii</i>	Townsend's Vole
<i>Microtus oregoni</i>	Creeping Vole
<i>Mus musculus</i>	House Mouse
<i>Zapus trinotatus</i>	Pacific Jumping Mouse
<i>Rattus norvegicus</i>	Norway Rat
<i>Vulpes vulpes</i>	Red Fox
<i>Urocyon cinereoargenteus</i>	Gray Fox
<i>Canis latrans</i>	Coyote
<i>Procyon lotor</i>	Raccoon
<i>Spilogale gracilis</i>	Striped Skunk
<i>Mustela erminea</i>	Short-tailed Weasel
<i>Mustela vison</i>	Mink
<i>Lontra canadensis</i>	Northern River Otter
<i>Odocoileus hemionus columbianus</i>	Black-tailed Deer
<i>Cervus elaphus roosevelti</i>	Roosevelt Elk
<i>Felis concolor</i>	Cougar
<i>Lynx rufus</i>	Bobcat
<i>Ursus americanus</i>	Black Bear
<i>Ondatra zibethicus</i>	Muskrat

Reptiles

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

Amphibians

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

Scientific Name	Common Name
<i>Gavia immer</i>	Common loon
<i>Podilymbus podiceps</i>	Pied-billed Grebe
<i>Podiceps auritus</i>	Horned Grebe
<i>Aechmophorus occidentalis</i>	Western Grebe
<i>Phalacrocorax auritus</i>	Double-crested Cormorant
<i>Botaurus lentiginosus</i>	American Bittern
<i>Ardea herodias</i>	Great Blue Heron
<i>Casmerodius albus</i>	Great Egret
<i>Butorides veriscens</i>	Green Heron
<i>Nycticorax nycticorax</i>	Black-crowned Night Heron
<i>Cygnus buccinator</i>	Trumpeter Swan
<i>Cygnus columbianus</i>	Tundra Swan
<i>Anser albifrons</i>	Greater White-fronted Goose
<i>Chen caerulescens</i>	Snow Goose
<i>Branta canadensis</i>	Canada Goose
<i>Aix sponsa</i>	Wood Duck
<i>Anas crecca</i>	Green-winged Teal
<i>Anas discors</i>	Blue-winged Teal
<i>Anas penelope</i>	Eurasian Wigeon
<i>Anas platyrhynchos</i>	Mallard
<i>Aythya Americana</i>	Redhead Duck
<i>Anas acuta</i>	Northern Pintail
<i>Anas cyanoptera</i>	Cinnamon Teal
<i>Anas clypeata</i>	Northern Shoveler
<i>Anas strepera</i>	Gadwall
<i>Anas americana</i>	American Wigeon
<i>Aythya valisineria</i>	Canvasback

<i>Aythya collaris</i>	Ring-necked Duck
<i>Aythya marida</i>	Greater Scaup
<i>Aythya affinis</i>	Lesser Scaup
<i>Melanitta perspicillata</i>	Surf Scoter
<i>Bucephala albeola</i>	Bufflehead
<i>Lophodytes cucullatus</i>	Hooded Merganser
<i>Mergus merganser</i>	Common Merganser
<i>Mergus serrator</i>	Red-breasted Merganser
<i>Oxyura jamaicensis</i>	Ruddy Duck
<i>Cathartes aura</i>	Turkey Vulture
<i>Pandion haliaetus</i>	Osprey
<i>Elanus leucurus</i>	White-tailed Kite
<i>Circus cyaneus</i>	Northern Harrier
<i>Accipiter striatus</i>	Sharp-shinned Hawk
<i>Accipiter cooperii</i>	Cooper's Hawk
<i>Accipiter gentilis</i>	Northern Goshawk
<i>Buteo lineatus</i>	Red-shouldered Hawk
<i>Buteo jamaicensis</i>	Red-tailed Hawk
<i>Buteo lagopus</i>	Rough-legged Hawk
<i>Haliaeetus leucephalus</i>	Bald Eagle
<i>Aquila chrysaetos</i>	Golden Eagle
<i>Falco sparverius</i>	American Kestrel
<i>Falco columbarius</i>	Merlin
<i>Falco mexicanus</i>	Prairie Falcon
<i>Falco peregrinus</i>	Peregrine Falcon
<i>Alectoris chukar</i>	Chukar
<i>Phasianus colchicus</i>	Ring-necked Pheasant
<i>Phasianus colchicus spp.strauchi</i>	Sichuan Pheasant
<i>Bonasa umbellus</i>	Ruffed Grouse
<i>Meleagris gallopavo</i>	Wild Turkey
<i>Colinus virginianus</i>	Northern Bobwhite
<i>Callipepla californica</i>	California Quail
<i>Oreortyx pictus</i>	Mountain Quail
<i>Rallus limicola</i>	Virginia Rail
<i>Porzana Carolina</i>	Sora
<i>Fulica Americana</i>	American Coot
<i>Grus Canadensis</i>	Sandhill Crane
<i>Himantopus mexicanus</i>	Black-necked Stilt
<i>Charadrius vociferus</i>	Killdeer
<i>Charadrius semipalmatus</i>	Semi-palmated Plover
<i>Tringa melanoleuca</i>	Greater Yellowlegs
<i>Tringa flavipes</i>	Lesser Yellowlegs
<i>Tringa solitaria</i>	Solitary Sandpiper
<i>Actitis macularia</i>	Spotted Sandpiper
<i>Calidris mauri</i>	Western Sandpiper
<i>Phalaropus tricolor</i>	Wilson's Phalarope
<i>Phalaropus fulicaria</i>	Red Phalarope

<i>Phalaropus lobatus</i>	Red-necked Phalarope
<i>Limnodromus scolopaceus</i>	Long-billed Dowitcher
<i>Limnodromus griseus</i>	Short-billed Dowitcher
<i>Calidris minutilla</i>	Least Sandpiper
<i>Calidris melanotos</i>	Pectoral Sandpiper
<i>Calidris alpina</i>	Dunlin
<i>Calidris alba</i>	Sanderling
<i>Gallinago gallinago</i>	Common Snipe
<i>Larus californicus</i>	California Gull
<i>Larus occidentalis</i>	Western Gull
<i>Larus glaucescens</i>	Glaucous-winged Gull
<i>Larus philadelphia</i>	Bonaparte's Gull
<i>Larus delawarensis</i>	Ring-billed Gull
<i>Larus thayeri</i>	Thayer's Gull
<i>Larus canus</i>	Mew Gull
<i>Larus argentatus</i>	Herring Gull
<i>Sterna forsteri</i>	Forster's Tern
<i>Sterna caspia</i>	Caspian Tern
<i>Columba livia</i>	Rock Dove
<i>Columba fasciata</i>	Band-tailed Pigeon
<i>Zenaida macroura</i>	Mourning Dove
<i>Tyto alba</i>	Barn-Owl
<i>Otus kennicottii</i>	Western Screech-Owl
<i>Bubo virginianus</i>	Great Horned Owl
<i>Glaucidium gnoma</i>	Northern Pygmy-Owl
<i>Asio otus</i>	Long-eared Owl
<i>Asio flammeus</i>	Short-eared Owl
<i>Aegolius acadicus</i>	Northern Saw-whet Owl
<i>Chordeiles minor</i>	Common Nighthawk
<i>Chaetura vauxi</i>	Vaux's Swift
<i>Calypte anna</i>	Anna's Hummingbird
<i>Selasphorus rufus</i>	Rufous Hummingbird
<i>Ceryle alcyon</i>	Belted Kingfisher
<i>Melanerpes lewis</i>	Lewis' Woodpecker
<i>Melanerpes formicivorus</i>	Acorn Woodpecker
<i>Sphyrapicus ruber</i>	Red-breasted Sapsucker
<i>Picoides pubescens</i>	Downy Woodpecker
<i>Picoides villosus</i>	Hairy Woodpecker
<i>Colaptes auratus</i>	Northern Flicker
<i>Dryocopus pileatus</i>	Pileated Woodpecker
<i>Contopus sordidulus</i>	Western Wood-Pewee
<i>Contopus borealis</i>	Olive-sided Flycatcher
<i>Empidonax difficilis</i>	Pacific-slope Flycatcher
<i>Empidonax traillii</i>	Willow Flycatcher
<i>Sayornis nigricans</i>	Black Phoebe
<i>Sayornis saya</i>	Say's Phoebe
<i>Tyrannus tyrannus</i>	Eastern Kingbird

<i>Tyrannus verticalis</i>	Western Kingbird
<i>Eremophila alpestris</i>	Horned Lark
<i>Tachycineta bicolor</i>	Tree Swallow
<i>Tachycineta thalassina</i>	Violet-green Swallow
<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow
<i>Riparia riparia</i>	Bank Swallow
<i>Hirundo pyrrhonota</i>	Cliff Swallow
<i>Hirundo rustica</i>	Barn Swallow
<i>Progne subis</i>	Purple Martin
<i>Mimus polyglottos</i>	Northern Mockingbird
<i>Cyanocitta stelleri</i>	Steller's Jay
<i>Aphelocoma coerulescens</i>	Scrub Jay
<i>Corvus brachyrhynchos</i>	American Crow
<i>Corvus corax</i>	Common Raven
<i>Chamaea fasciata</i>	Wrentit
<i>Parus atricapillus</i>	Black-capped Chickadee
<i>Parus rufescens</i>	Chestnut-backed Chickadee
<i>Psaltriparus minimus</i>	Bushtit
<i>Sitta Canadensis</i>	Red-breasted Nuthatch
<i>Sitta carolinensis</i>	White-breasted Nuthatch
<i>Certhia Americana</i>	Brown Creeper
<i>Thryomanes bewickii</i>	Bewick's Wren
<i>Troglodytes aedon</i>	House Wren
<i>Troglodytes troglodytes</i>	Winter Wren
<i>Cistothorus palustris</i>	Marsh Wren
<i>Cistothorus platensis</i>	Sedge Wren
<i>Coccyzus americanus</i>	Yellow Billed Cuckoo
<i>Regulus satrapa</i>	Golden-crowned Kinglet
<i>Regulus calendula</i>	Ruby-crowned Kinglet
<i>Sialia mexicana</i>	Western Bluebird
<i>Myadestes toensendii</i>	Townsend's Solitaire
<i>Catharus ustrulatus</i>	Swainson's Thrush
<i>Catharus guttatus</i>	Hermit Thrush
<i>Turdus migratorius</i>	American Robin
<i>Ixoreus naevius</i>	Varied Thrush
<i>Bombycilla cedrorum</i>	Cedar Waxwing
<i>Lanius excubitor</i>	Northern Shrike
<i>Anthus rubescens</i>	American Pipit
<i>Lanius ludovicianus</i>	Loggerhead Shrike
<i>Sturnus vulgaris</i>	European Starling
<i>Vireo gilvus</i>	Warbling Vireo
<i>Virio cassinii</i>	Cassin's Vireo
<i>Vireo solitarius</i>	Solitary Vireo
<i>Vireo huttoni</i>	Hutton's Vireo
<i>Vermivora celata</i>	Orange-crowned Warbler
<i>Vermivora ruficapilla</i>	Nashville Warbler

<i>Dendroica townsendii</i>	Townsend's Warbler
<i>Dendroica petechia</i>	Yellow Warbler
<i>Dendroica palmarum</i>	Palm Warbler
<i>Dendroica coronata</i>	Yellow-rumped Warbler
<i>Dendroica nigrescens</i>	Black-throated Gray Warbler
<i>Oporornis tolmiei</i>	MacGillivray's Warbler
<i>Geothlypis trichas</i>	Common Yellowthroat
<i>Wilsonia pusilla</i>	Wilson's Warbler
<i>Icteria virens</i>	Yellow-breasted Chat
<i>Piranga lucoviciana</i>	Western Tanager
<i>Pheucticus melanocephalus</i>	Black-headed Grosbeak
<i>Passerina amoena</i>	Lazuli Bunting
<i>Pipilo erythrophthalmus</i>	Spotted Towhee
<i>Poliophtila caerulea</i>	Blue-gray Gnatcatcher
<i>Spizella passerina</i>	Chipping Sparrow
<i>Pooecetes gramineus</i>	Vesper Sparrow
<i>Passerculus sandwichensis</i>	Savannah Sparrow
<i>Spizella arborea</i>	American Tree Sparrow
<i>Passerella iliaca</i>	Fox Sparrow
<i>Melospiza melodia</i>	Song Sparrow
<i>Melospiza lincolnii</i>	Lincoln's Sparrow
<i>Melospiza georgiana</i>	Swamp Sparrow
<i>Zonotrichia albicollis</i>	White-throated Sparrow
<i>Zonotrichia atricapilla</i>	Golden-crowned Sparrow
<i>Zonotrichia leucophrys</i>	White-crowned Sparrow
<i>Zonotrichia querula</i>	Harris's Sparrow
<i>Junco hyemalis</i>	Dark-eyed Junco
<i>Agelaius phoeniceus</i>	Red-winged Blackbird
<i>Xanthocephalus xanthocephalus</i>	Yellow-headed Blackbird
<i>Sturnella neglecta</i>	Western Meadowlark
<i>Euphagus cyanocephalus</i>	Brewer's Blackbird
<i>Molothrus ater</i>	Brown-headed Cowbird
<i>Icterus galbulua</i>	Northern Oriole
<i>Carpodacus purpureus</i>	Purple Finch
<i>Carpodacus mexicanus</i>	House Finch
<i>Loxia curvirostra</i>	Red Crossbill
<i>Carduelis pinus</i>	Pine Siskin
<i>Carduelis psaltria</i>	Lesser Goldfinch
<i>Carduelis tristis</i>	American Goldfinch
<i>Coccothraustes vespertinus</i>	Evening Grosbeak

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

State Water Rights

<u>Pond/River</u>	<u>Permit</u>	<u>Rate</u>
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, parkinglot

** shop, A st., B st,wild rice, pilings, Northwest corner, cottowood,

***Beehive, killdeer, mallard, greenwinged 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