

Conserving Oak Habitats in the Southern Willamette Valley

Willamette Valley Oaks - Yesterday and Today

The majestic oak is an iconic symbol of the Willamette Valley with a long-standing cultural significance and valuable ecological function. Early naturalists and settlers to the valley described wide expanses of prairie interspersed with oak savanna and oak woodland, which Native Americans maintained by setting low intensity fires. Most native inhabitants to our area belonged to the Kalapuyan family. These people significantly influenced the vegetation here over thousands of years by initiating frequent fires to burn off brushy vegetation in order to improve conditions for hunting, gathering, and possibly travel. During this period, a diverse community of animals and plants evolved that could withstand or even depend upon regular fire including fire-resistant oak.

Oak savannas and woodlands are some of the most endangered habitats in the Pacific Northwest.

The last 150 years have brought dramatic changes to the valley's ecosystems, and oak and prairie habitats have been among the most heavily impacted. After settlers moved into the valley in the mid-1800s and began suppressing fires, many of the oak and prairie dominated landscapes were gradually overtaken by conifers and other woody vegetation or converted to farms and cities.

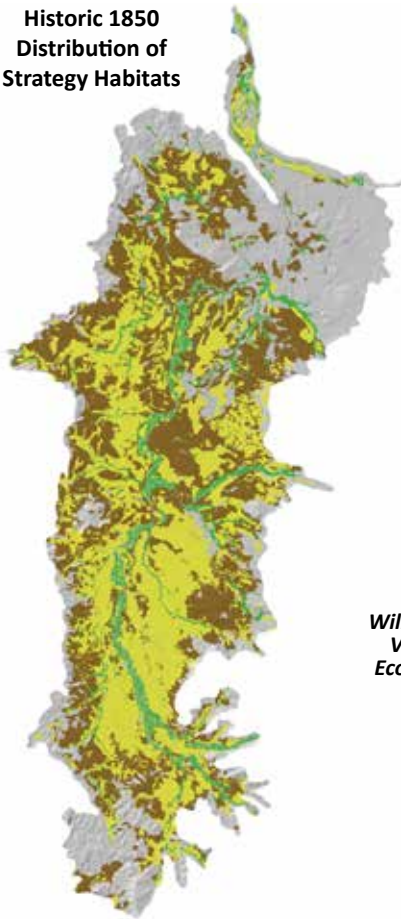


Wild Iris Ridge (left) and Buford Recreation Area (right) contain some of the highest quality remaining oak habitat in the valley.

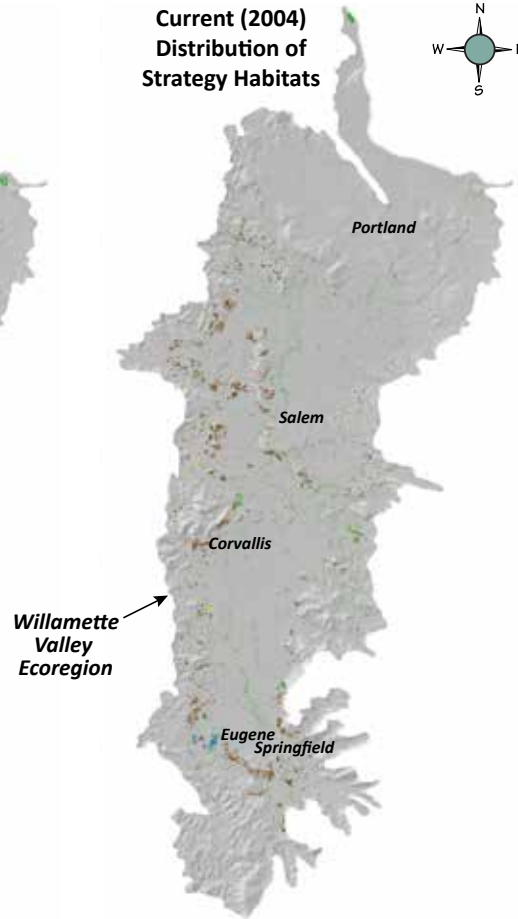
Change in Extent of Willamette Valley Strategy Habitats




Source: Oregon Conservation Strategy (ODFW, 2004)

Historic 1850
Distribution of
Strategy Habitats



Current (2004)
Distribution of
Strategy Habitats



-  Grassland (prairie/savanna)
-  Oak Woodland
-  Riparian

The Oregon Conservation Strategy, which was developed to provide statewide guidance on conservation priorities, lists grassland (prairie and savanna), oak woodland, riparian, wetland, and aquatic habitats as high priority for conservation and restoration in the Willamette Valley ecoregion. These once common habitats have declined dramatically across the valley since the mid-1800s.

Scientists estimate that today there is only about 7 percent of the oak woodland and 2 percent of the oak savanna habitat remaining in the Willamette Valley compared to pre-settlement conditions.

Oak Species

Two species of oak are native to the Willamette Valley—the Oregon white oak, which can be found throughout the valley, and the California black oak, which extends into the valley as far north as Monroe. Both species are slow growing, need ample sunlight, and can be very long-lived—up to 500 years in suitable conditions. Additional information about these species can be found on the web at [Common Trees of the Pacific Northwest](#).

Willamette Valley Oak Habitats

Oaks can be found in varied densities and often coexist with other tree species, including conifers such as Douglas-fir and Ponderosa pine. However, when conifers tip the balance and begin to create more densely forested areas, the lack of sunlight will cause oak trees to decline and eventually die. Oaks thrive with the ample sunlight found in savanna and woodland conditions.



Oak Savanna: widely scattered oaks with full, spreading canopies and large limbs, with an understory mainly of grasses and wildflowers.



Oak Woodland: stands of oaks, somewhat continuous to dense canopies, with a mixed understory of shrubs, grasses, and wildflowers.

Wildlife

Oak habitats are home to a diverse array of plants and animals. More than 200 native wildlife species found in the valley are dependent on oaks. Acorn woodpeckers and western gray squirrels feed on acorns. Many birds such as the western bluebird forage for insects among lichens, mistletoe, and mosses growing on large oak limbs. Nuthatches, kestrels, northern pygmy-owls, and the California myotis bat all nest in cavities or under loose bark on oak trees. In just one spring and summer, a group of citizen scientists observed 40 species of birds in one large Oregon white oak tree in the West Eugene Wetlands.

Wildlife photo credits: Cary Kerst



Acorn Woodpecker



Slender-Billed Nuthatch



Western Gray Squirrel

Restoring Oak Habitats

The future of our remaining oak habitats and the species that depend upon them rely on the active management of both public and private lands. Common management actions implemented in oak habitats include:

Preservation of Legacy Oaks: Preserving “legacy” oak trees is usually the top priority in a restoration project. These large trees can be hundreds of years old and often have expansive branches, abundant nesting cavities, and host wildlife-friendly lichen and mistletoe. To ensure long-term survival, managers will often remove all trees growing into the canopy of legacy oaks.

Thinning: Many oak woodlands are too dense and crowded for healthy growing conditions for oaks. Where regular burning is not an option, removing non-native trees, most conifers, and in some cases, younger oaks is a common management technique.

Controlling Invasive Species: Invasive species are frequently found in the understory of oak woodlands and savannas, and can significantly alter the quality of these habitats for wildlife and for new oak tree establishment. Typical non-native invasive species targeted for removal include hawthorn, cherry, blackberry, Scotch broom, and a host of non-native grasses and plants.

Improving Native Understory: Following thinning operations and invasive species control, oak habitats can be replanted with native grasses, flowers, and shrubs. These plantings provide diverse habitat better suited for native wildlife species and pollinators, in addition to reducing soil erosion.

Ecological Burning: Controlled ecological burns are implemented to benefit oak habitats by controlling competing vegetation.



Without active management, many legacy oaks will eventually succumb to competition of shade-producing conifers.



Controlled ecological burn at Mount Pisgah

What Does Oak Restoration Look Like?

Restoring oak savanna and woodland often requires using many techniques found in the timber industry. Restoration and forestry professionals work hand-in-hand to identify the goals of each project and the right methods to get the job done. Trees may be felled by hand, with low-impact forestry equipment, or can be removed with equipment used on small scale timber operations. These projects are implemented with care to limit impacts to soils and remaining vegetation. Initially, where the equipment has traveled or wood has been piled, there will be exposed soil and downed limbs. It can take from one to several seasons, further treatment, and planting or seeding for the area to begin to resemble the oak habitat intended by the restoration project.



Harvester thinning trees in an oak woodland

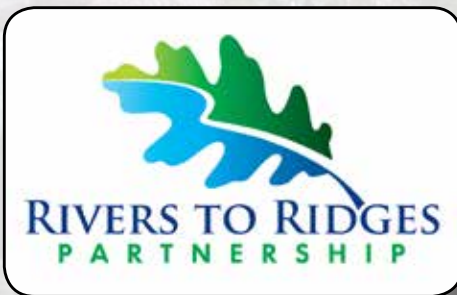
South Willamette Valley Oak Habitats to Visit:

- Bake Stewart Park (U.S. Army Corps of Engineers)
- Bald Hill Farm (Greenbelt Land Trust)
- Finley National Wildlife Refuge (USFWS)
- Howard Buford Recreation Area (Lane County)
- See-sil Savanna (U.S. Bureau of Land Management)
- Willow Creek Preserve (The Nature Conservancy)
- Wild Iris Ridge (City of Eugene)



Howard Buford Recreation Area

Partners Working to Preserve and Manage Oak Habitats



The [Rivers to Ridges](#) Partnership is a voluntary association of land management and conservation organizations working together to preserve oak habitats throughout the southern Willamette

Valley. Partner organizations include the City of Eugene, Coast Fork Willamette Watershed Council, Friends of Buford Park & Mt. Pisgah, Lane County Public Works Department, Long Tom Watershed Council, McKenzie River Trust, Middle Fork Willamette Watershed Council, Oregon Department of Fish & Wildlife, Oregon Parks and Recreation Department, The Nature Conservancy, Trust for Public Land, U.S. Army Corps of Engineers, U.S. Bureau of Land Management, U.S. Fish & Wildlife Service, Willamalane Park and Recreation District, and the Willamette Resources and Educational Network. For more information on the Partnership go to www.rivers2ridges.org.

Oak Habitat Resources:

- [A Landowner's Guide for Restoring and Managing Oregon White Oak Habitats](#)
- [A Practical Guide to Oak Release](#)
- [Cascadia Prairie-Oak Partnership](#)
- [Land Manager's Guide to Bird Habitat and Populations in Oak Ecosystems of the Pacific Northwest](#)
- [Move Over, Douglas-fir: Oregon White Oaks Need Room to Grow](#)
- [Oregon Conservation Strategy](#)
- [Oregon's Oak: A Vanishing Legacy](#)
- [Preserving Prairies and Savannas in a Sea of Forest](#)
- [Restoring Rare Native Habitats in the Willamette Valley: A Landowners Guide](#)
- [Restoring Oak Habitats in Southern Oregon & Northern California](#)
- [Wildlife on White Oaks Woodlands](#)