West Cascades Ecoregion: Getting to Know the West Cascades Ecoregion

**Description**

The West Cascades ecoregion extends from just east of the Cascade Mountains summit to the foothills of the Willamette, Umpqua and Rogue Valleys, and spans the entire length of the state of Oregon, from the Columbia River to the California border. The topography and soils of the West Cascades ecoregion has been shaped dramatically by its volcanic past. Geologically, the West Cascades has two distinct areas: the younger volcanic crest (approximately three million years old) and the “old Cascades” to the west of the crest (at least 30 million years old). The volcanic crest includes the highest peaks in Oregon: Mt. Hood, Mt. Jefferson, and North, Middle, and South Sisters, all more than 10,000 feet. The older western Cascade Mountain Range is characterized by long, steep ridges and wide, glaciated valleys.

This ecoregion is almost entirely forested by conifers, although the dominant tree species vary by elevation, site characteristics, and stand history. Douglas-fir is the most common tree below 4,000 feet, often with western hemlock as a co-dominant. At higher elevations, dominant tree species include Pacific silver fir, mountain hemlock, or subalpine fir. Other common conifers include western redcedar, grand fir, and noble fir. Above approximately 7000 feet, the conditions are too severe for tree growth, and alpine parklands and dwarf shrubs predominate, including some wetlands and barren expanses of rock and ice. The climate and resulting fire regime varies with latitude and elevation. Fire regimes in the forests vary across the ecoregion, with the northern portion of the ecoregion seeing less frequent but more severe fires, whereas the southern portion is typically drier with frequent, lightning-caused fires. In the southern areas with higher fire frequency, Ponderosa pine, sugar pine, and incense cedar often are found with Douglas-fir at the lower elevations. The climate varies with elevation. At the lower elevations, winter conditions are mild with high rainfall. Above 4,000 feet, much of the precipitation occurs as snowfall.

The West Cascades ecoregion houses just over one percent of Oregon’s population, mostly in towns including Cascade Locks, Butte Falls, Detroit, Gates, Idanha, McKenzie Bridge, Blue River, Oakridge, Westfir, and part of Sweet Home (the remainder of which lies in the Willamette Valley ecoregion). Local economies were once entirely dependent on...
“At a Glance” - Characteristics and Statistics

Land use (% of ecoregion):

- Agriculture: 0%
- Forest and woodland: 96%
- Other (lakes, wetlands, cliffs, etc.): 3.3%
- Range, pasture, and grassland: 0.5%
- Towns and rural residential: 0.1%
- Urban and suburban: 0%

Land ownership:

- Private: 23%
- Public, federal: 76%
- Public, state and local: 1%
- Native American: <1%

Human population, government and transportation statistics:

- Estimated population in 2000: 48,000
- % of Oregon’s population in 2000: 1.4%
- Number of towns: 11
- Number of counties: 12
  (includes parts of Clackamas, Deschutes, Douglas, Jackson, Jefferson, Hood River, Klamath, Lane, Linn, Marion, Multnomah, Wasco counties)
- Number of watershed councils: 21
  (A watershed council is considered present if at least 10% of its area is located within the ecoregion.)
- Miles of road: 37,215

Economics:

- Important industries: timber, recreation
- Major crops: some fruits; mint
- Important nature-based recreational areas: Mt Hood, Willamette, Umpqua, and Rogue River national forests; Waldo Lake; Odell Lake; Detroit and Hills Creek Reservoirs; includes about half of Crater Lake National Park

Ecology:

- Average annual precipitation: 42” – 89” (snowfall 7” - 233”)
- Average July high temperature (1971-2000): 75.6°F – 86°F
- Average January low temperature (1971-2000): 21.7°F – 33.5°F
- Elevation: 98 feet (along the western border of the ecoregion) to 11,040 feet (along the Cascades)
- Number of regularly occurring vertebrate wildlife species: 322
- Important rivers: Clackamas (Oak Grove Fork); McKenzie; Rogue; Umpqua; Breitenbush; Middle Santiam; North and Middle Fork of the Willamette

Summary List of Strategy Habitats

Strategy Habitats in the West Cascades ecoregion include: late successional conifer (especially Douglas-fir) forests, oak woodlands, grasslands (including montane grasslands and oak savannas), wetlands, riparian, and aquatic habitats.

Change in West Cascades Strategy Habitats

Data Source: Oregon Natural Heritage Information Center, 2004.
timber harvest, but have been greatly affected as market conditions, long-term and broad-scale changes in the forest products marketplace, and shifts in public forest management priorities have shaped Oregon's timber industry. Many towns are increasingly promoting recreational opportunities - including hiking, camping, fishing, hunting, birding, mountain biking and skiing - to supplement timber harvest revenue. However, timber harvest is expected to remain important to local West Cascades economies in the future.

Conservation Issues and Actions

Overview

Of all of Oregon's ecoregions, the West Cascades is considered the healthiest by several indicators. For example, this ecoregion has the highest water quality in the state, and the fewest problems with water allocation and quantity. Very few species have been extirpated from this ecoregion, and there has been considerable effort toward recovering

Summary List of Strategy Species

<table>
<thead>
<tr>
<th>Mammals</th>
<th>Fish Cont.</th>
</tr>
</thead>
<tbody>
<tr>
<td>American marten</td>
<td>Bull Trout (Klamath River population)</td>
</tr>
<tr>
<td>California myotis (bat)</td>
<td>Chinook salmon (Lower Columbia River ESU, spring run)</td>
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<tr>
<td>Fisher</td>
<td>Chinook salmon (Lower Columbia River ESU, fall run)</td>
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<tr>
<td>Fringed myotis (bat)</td>
<td>Chinook salmon (Snake River ESU, spring/summer run)</td>
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<tr>
<td>Hoary bat</td>
<td>Chinook salmon (Snake River ESU, fall run)</td>
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<tr>
<td>Long-legged myotis (bat)</td>
<td>Chinook salmon (Northern Oregon/Northern California Coast ESU, fall run)</td>
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<tr>
<td>Red tree vole</td>
<td>Chinook salmon (Upper Willamette River ESU, spring run)</td>
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<tr>
<td>Ringtail</td>
<td>Coastal cutthroat trout (Oregon Coast ESU)</td>
</tr>
<tr>
<td>Silver-haired bat</td>
<td>Coastal cutthroat trout (Southern Oregon/California Coasts ESU)</td>
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<tr>
<td>Townsend's big-eared bat</td>
<td>Steelhead (Lower Columbia River ESU, winter run)</td>
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<td>Steelhead (Middle Columbia River ESU, summer run)</td>
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<td>Steelhead (Middle Columbia River ESU, winter run)</td>
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<td>Steelhead (Snake River Basin ESU)</td>
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<td>Steelhead Upper Willamette River ESU, winter run)</td>
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<td>Umpqua chub</td>
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<table>
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<tr>
<th>Plants</th>
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<tr>
<td>Northern wormwood</td>
<td>Bull Trout (Klamath River population)</td>
</tr>
<tr>
<td>Umpqua mariposa-lily</td>
<td>Chinook salmon (Lower Columbia River ESU, spring run)</td>
</tr>
<tr>
<td>Wayside aster</td>
<td>Chinook salmon (Lower Columbia River ESU, fall run)</td>
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<tr>
<td>White Rock larkspur</td>
<td>Chinook salmon (Snake River ESU, spring/summer run)</td>
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<td>Coastal cutthroat trout (Southwestern Washington/ Columbia River ESU)</td>
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<td>Coastal cutthroat trout (Upper Willamette River ESU)</td>
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<td></td>
<td>Coho salmon (Lower Columbia River/SW Washington Coast ESU)</td>
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<td>Coho salmon (Oregon Coast ESU)</td>
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<td>Coho salmon (Southern Oregon/Northern California Coasts ESU)</td>
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<td>Oregon chub</td>
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<td>Pacific lamprey</td>
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<td>Steelhead (Klamath Mountains Province ESU, summer run)</td>
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<tr>
<th>Amphibians &amp; Reptiles</th>
<th>Fish Cont.</th>
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<tbody>
<tr>
<td>Cascades frog</td>
<td>Bull Trout (Klamath River population)</td>
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<tr>
<td>Cascade torrent salamander</td>
<td>Chinook salmon (Lower Columbia River ESU, spring run)</td>
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<td>Clouded salamander</td>
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<tr>
<td>Coastal tailed frog</td>
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<tr>
<td>Cope's giant salamander</td>
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<td>Foothill yellow-legged frog</td>
<td>Steelhead (Lower Columbia River ESU, winter run)</td>
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<tr>
<td>Larch Mountain salamander</td>
<td>Steelhead (Middle Columbia River ESU, summer run)</td>
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<tr>
<td>Oregon slender salamander</td>
<td>Steelhead (Middle Columbia River ESU, winter run)</td>
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<tr>
<td>Oregon spotted frog</td>
<td>Steelhead (Oregon Coast ESU, summer run)</td>
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<tr>
<td>Western toad</td>
<td>Steelhead (Snake River Basin ESU)</td>
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<tr>
<td>Northwestern pond turtle</td>
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<td>Western painted turtle</td>
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<td>Band-tailed pigeon</td>
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<td>Barrow's goldeneye</td>
<td>Chinook salmon (Lower Columbia River ESU, spring run)</td>
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<tr>
<td>Black swift</td>
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<tr>
<td>Bufflehead</td>
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<td>Greater sandhill crane</td>
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<td>Northern goshawk</td>
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<td>Northern spotted owl</td>
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<td>Olive-sided flycatcher</td>
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<td>“Constricted” caddisfly (no common name)</td>
<td>Chinook salmon (Lower Columbia River ESU, spring run)</td>
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<td>Johnson's hairstreak</td>
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<td>Steelhead (Klamath Mountains Province ESU, summer run)</td>
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<td>Terrestrial snails:</td>
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<tr>
<td>Chace sideband</td>
<td>Steelhead (Lower Columbia River ESU, summer run)</td>
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<tr>
<td>Traveling sideband</td>
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threatened and endangered species. Much of the remnant classic late
successional forests on public land are managed with an emphasis on
biodiversity under the Northwest Forest Plan. Although focused on the
spotted owl, the plan was intended to address the needs of a wide
array of species affected by loss and fragmentation of late successional
forests, and covers more than 1,000 species of plants, animals, and
fungi. (See Northwest Forest Plan description in Appendix II). However,
the adaptive management component of the Northwest Forest Plan has
not been fully implemented. Also, many forests in the West Cascades
ecoregion are in Fire Regime Condition Class II, with moderate risk of
losing one or more ecosystem components.

Ecoregion-level limiting factors and recommended
approaches
All six of the key conservation issues apply statewide, as do the ap-
proaches outlined in the Statewide Perspectives and Approaches chap-
ter. However, altered fire regimes and invasive species are described
further in this section, considering the West Cascades’ ecoregional
characteristics.

Factor: Altered fire regimes: Many forests in the West Cascades
ecoregion are in Fire Regime Condition Class II, with moderate risk
of losing one or more ecosystem components. Efforts to reduce
risks of uncharacteristically severe fires can help to restore habitat,
but require careful planning to provide sufficient habitat features
that are important to wildlife (e.g., snags, down logs, hiding cover
for big game).

Approach: Use an integrated approach to wildfire issues that considers
historic conditions, wildlife conservation, natural fire intervals, and
silvicultural techniques. Encourage forest management at a broad
scale to address limiting factors. Reintroduce fire where feasible;
prioritize sites and applications. Maintain important wildlife habitat
features such as snags and logs at a level to sustain wood-depen-
dent species. Monitor these efforts and use adaptive management
techniques to ensure efforts are meeting habitat restoration and
wildfire prevention objectives with minimal impacts on wildlife.

Factor: Invasive species: Non-native plant and animal invasions
disrupt native communities, diminish populations of at-risk native
species, and threaten the economic productivity of resource lands.
Although the West Cascades has fewer invasives than other ecore-
gions, invasives are a problem at lower elevations, in disturbed
areas, and some sensitive habitats. False brome threatens to
dramatically alter forest understories.

Approach: Emphasize prevention, risk assessment, early detection and
quick control to prevent new invasives from becoming fully estab-

Dragonflies and Damselflies: Citizen-based monitoring in action

With an amazing array of colors and patterns, acrobatic flying skills, and
an appetite for mosquitoes, dragonflies have become almost as popular
as butterflies. Dragonflies and their damselfly “cousins” are probably
“older”, in an evolutionary sense, than dinosaurs and ancient birds.
All dragonflies develop in water, but some have very specific habitat
requirements while others will tolerate a wide range of conditions.
Some dragonflies prefer still water, others prefer fast-flowing water,
and still others prefer brackish water. In general, conservation actions
that preserve high quality water bodies and wetlands benefit drag-
onflies. Because dragonflies are quickly attracted to suitable habitat,
creating or maintaining pond and wetland habitat is one easy way to
help dragonflies. Planting native plants and maintaining hedgerows and
other brushy areas also will help dragonflies. Local conservation groups
are even promoting “dragonfly watching” for recreation, education
and monitoring populations. For example, variegated meadowhawk
dragonfly migrations can be observed in late summer in Oregon. Some
of these meadowhawks fly hundreds of miles along the northwest
cost to spend the winter in warmer climates. Sometimes, dozens to
hundreds of dragonflies may be seen flying overhead each minute.
There is still a great deal that people don’t understand about this
migration, including exactly where the dragonflies breed, where they
are coming from, where they are going, why they are going there, or
how often they also migrate inland. By observing dragonfly migration,
people can help scientists answer some of these questions. Finding out
this information will help in determining specific habitat requirements
and, ultimately, conservation actions that will help to keep these com-
mon, but beautiful, species remain common. For more information see:

- Dragonfly Society of the Americas:
  http://www.afn.org/~iori/dsaintro.html
- Oregon Dragonfly Migration project:
  http://www.ent.orst.edu/ore_dfly/migrate.htm#top
Invasive Non-native Species

Invasive species currently are considered to be one of the primary causes of species becoming threatened and endangered, second only to habitat conversion. Many species are as threatening to people's livelihoods as they are to fish, wildlife and their habitats. This section identifies the species with the greatest current and potential impact in the West Cascades. They were determined through an analysis of Oregon Department of Agriculture's Noxious Weed List, ODFW's Wildlife Integrity Rules, ODFW's Introduced Fish Management Strategies report, information from Portland State University Center for Lakes and Reservoirs, and local expert review. Although some of these species also cause significant economic damage to farms, ranches, and managed forests, this list is focused on those that cause the most severe ecological damage. Impacts from introduced game fish vary from species to species and within ecoregions. As a result, the impacts need to be evaluated more locally (ODFW Introduced Fish Management Strategies Report).

<table>
<thead>
<tr>
<th>Known invasive non-native animal and plant species</th>
<th>Non-native animals and plants of potential concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>These species are established or documented in this ecoregion, and are known to impact native fish and wildlife populations and habitats. They may range from small, controllable populations to widespread infestations.</td>
<td>Preventing the establishment of invasive non-native species is far more cost-effective and practical than trying to eradicate them once they are established. To make the best use of financial and personnel resources, prevention efforts need to be prioritized to address the greatest threats, especially since many non-native species do not pose a significant threat to fish and wildlife populations and habitats. Potentially harmful non-native species can be identified by examining biological factors, potential impacts and invasion patterns in similar climates. The species listed here are included because: 1) they are not known to occur in this ecoregion, but could pose a threat to fish and wildlife populations and habitats if they become established; or 2) they are known to occur in this ecoregion but the extent to which they impact native species and disrupt ecological processes is unclear at this time.</td>
</tr>
</tbody>
</table>

**Documented Invasive Animals**
- Bluegill
- Brook trout
- Brown bullhead
- Brown trout
- Bullfrog
- Carp
- Catfish
- Crappie
- Eastern snapping turtle
- European starling
- Feral pig
- Golden shiner
- House sparrow
- Lake trout
- Largemouth bass
- Mosquito fish (Gambusia)
- Norway rat
- Nutria
- Smallmouth bass
- Striped bass
- Virginia opossum
- Walleye

**Documented Invasive Plants**
- Armenian (Himalayan) blackberry
- Butterfly bush
- Canada thistle
- Curly leaf pondweed (aquatic)
- Dalmation toadflax
- Diffuse knapweed
- Dyers woad
- False brome
- Giant hogweed
- Japanese knotweed
- Leafy spurge
- Meadow hawkweed
- Meadow knapweed
- Mouse ear hawkweed
- Orange hawkweed
- Portuguese broom
- Puncture vine
- Purple loosestrife
- Reed canarygrass
- Rush skeletonweed
- Scotch broom
- Spanish broom
- Spotted knapweed
- St. Johnswort
- Tansy ragwort
- Tree of heaven
- Wooly distaff thistle
- Yellow flag iris (aquatic, riparian)
- Yellow star-thistle

**Potentially Invasive Non-native Animals**
- Asian carp (bighead, silver)
- Banded killfish
- New Zealand mudsnail
- Oriental weatherfish
- Round goby
- Ruffe
- Rusty crayfish
- Snakeheads
- Zebra mussel

**Potentially Invasive Non-native Plants**
- Coltsfoot (Tussilago)
- Gorse
- Ovate goatgrass
- Pondwater starwort (aquatic)
- Purple star-thistle
- Squarrose knapweed
- Syrian beancaper
- Texas blueweed
### Conservation actions in the West Cascade Ecoregion identified through other planning efforts

Landowners and land managers can benefit a variety of fish and wildlife species by managing and restoring Strategy Habitats. The following recommendations are relevant to Strategy Habitats. They were identified through a review of existing plans.

<table>
<thead>
<tr>
<th>Actions</th>
<th>Strategy Habitat and General Location</th>
<th>Source document</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain existing late successional habitat and initiate actions to develop or restore late successional forest where appropriate</td>
<td>Late successional forests throughout ecoregion</td>
<td>Oregon-Washington Partners in Flight Westside Coniferous Forests Conservation Strategy (Altman 2000) [recommended target: more than 15% of large landscapes in late successional forests throughout ecoregion]</td>
</tr>
<tr>
<td>Maintain connectivity, structural complexity and heterogeneity of landscapes</td>
<td>West Cascades; directed at priority sites based upon species surveys; specific recommendations for reserves and other features in light of species surveys</td>
<td>Northwest Forest Plan (1994; continual updates)</td>
</tr>
<tr>
<td>Consider the impact of recreational activities (e.g., motorized watercraft; shoreline activities; road usage) on water quality and watershed function</td>
<td>All locations (as appropriate)</td>
<td>State of the Environment Report; Oregon Plan (OWEB) As appropriate, see Senate Bill 1010 Plans (ODA) and Total Maximum Daily Load Planning (ODEQ)</td>
</tr>
<tr>
<td>Focus conservation attention on critical aquatic habitats identified via American Fisheries Society and other standards</td>
<td>Umpqua headwaters area; lower McKenzie watershed around Vida</td>
<td>Oregon Biodiversity Plan See: NOAA and NMFS biologists; ODFW; watershed councils; OWEB for further information.</td>
</tr>
<tr>
<td>Improve fish passage. For example, modify barriers or use spans where appropriate.</td>
<td>All locations (as appropriate)</td>
<td>NWPPCC Subbasin Plans 2004; State of the Environment Report; Oregon Biodiversity Project; Oregon Plan (OWEB)</td>
</tr>
<tr>
<td>Modify practices in forests to meet large wood levels, reduce sediment, maintain water quality and continue to prevent warming and provide riparian habitat</td>
<td>All locations (as appropriate)</td>
<td>NWPPCC Subbasin Plans 2004; Oregon Plan (OWEB); Senate Bill 1010 Plans (ODA); Total Maximum Daily Load Planning (ODEQ)</td>
</tr>
<tr>
<td>Maintain or enhance in-channel watershed function, connection to riparian habitat, flow and hydrology.</td>
<td>Aquatic habitats (lakes, ponds, streams, pools)</td>
<td>Oregon Aquatic habitat restoration and enhancement guide. The Oregon Plan for Salmon and Watersheds May 1999. See guide for specific technical recommendations, sources of information and assistance, and other guidelines.</td>
</tr>
<tr>
<td>Maintain riparian and wetlands function:</td>
<td>Riparian and wetlands habitats</td>
<td>Oregon Aquatic habitat restoration and enhancement guide. The Oregon Plan for Salmon and Watersheds May 1999. See guide for specific technical recommendations</td>
</tr>
<tr>
<td>Upslope erosion control:</td>
<td>Aquatics, riparian and wetland habitats</td>
<td>Oregon Aquatic habitat restoration and enhancement guide. The Oregon Plan for Salmon and Watersheds May 1999. See guide for specific technical recommendations</td>
</tr>
</tbody>
</table>

*Note: Conservation Strategy monitoring indicators, linked with OSOER Key indicators, targets, and methods, will be identified in a statewide approach (See Monitoring chapter for more information).
lished. Prioritize efforts to focus on key invasive species in high priority areas, particularly where Strategy Habitats and Species occur. Where needed, use multiple site-appropriate tools (mechanical, chemical and biological) to control the most damaging invasive species. Promote the use of native “local” stock for restoration and revegetation.

Conservation Success Story – Jim’s Creek
The West Cascades foothills once had extensive woodlands and savannas of widely-spaced large Oregon white oak, ponderosa pine and Douglas-fir trees with a grass and wildflower understory. Native Americans are thought to have maintained these habitats through the use of fire, which produced forage for big game, improved traveling conditions, and selected for important subsistence plants such as camas, tarweed, and desert-parsley. As a result of changes in fire frequency and intensity after European settlement, Douglas-fir now dominates in many of these areas, and many of the open woodlands and savannas converted to forests. Almost 95 percent of open oak and pine habitats have been lost in this ecoregion. Currently, remnant patches of oak-pine woodlands and savannas are found on the margins of the Willamette, Umpqua, and Rogue valleys and some dry, south-facing mid-elevation slopes.

One site with a remnant oak-pine woodland and evidence of Native American use is the area around Jim’s Creek, on the Willamette National Forest near Oakridge. The site’s important ecological and cultural value has inspired a comprehensive planning effort to restore some of the oak-pine habitat. Once a savanna with large, scattered oak, pine, and Douglas-fir trees, the area is dominated by a relatively dense Douglas-fir forest. Several of the large ponderosa pines have scars characteristic of bark removal. Native Americans removed the inner bark (cambium) for medicine, so these large trees are considered “medicine trees.” However, the large pines are declining in health, and oaks are now restricted to the margins of small, rocky openings. With no pine or oak regeneration occurring, the site will convert to a Douglas-fir forest if no actions are taken. The large heritage ponderosa pine trees will be lost.

In response, the Willamette National Forest began an extensive outreach effort to the communities of Oakridge and Eugene, including political leaders, Native American leaders, the timber industry, and environmental groups to discuss the issues and ask people how they thought the landscape should be managed. Ecological studies on current and historic vegetation, small mammal populations, and fish populations have been initiated to determine restoration opportunities and to guide management in an adaptive management approach. These ecological studies also will provide valuable lessons that could be applied to other sites. So far, competing conifers have been removed from around several large oak and ponderosa pine trees in three test treatment plots. The plots are being used to demonstrate potential techniques and results. The plots also will test the effects of treatment on the individual oak and pine trees. The extensive planning process will be completed in 2005, with potential treatments being implemented in 2006. The Jim’s Creek project is a comprehensive approach to building partnerships and planning science-based restoration that will hopefully restore an important cultural and ecological landscape for future generations to enjoy.

Deciding Where to Work

Conservation Opportunity Areas Map and Profiles
Landowners and land managers throughout Oregon can contribute to conserving fish and wildlife by maintaining, restoring, and improving habitats. Conservation actions to benefit Strategy Species and Habitats are important regardless of location. However, focusing investments in certain priority areas can increase likelihood of long-term success over larger landscapes, improve funding efficiency, and promote cooperative efforts across ownership boundaries. Conservation Opportunity Areas are landscapes where broad fish and wildlife conservation goals would be best met. Conservation Opportunity Areas were developed to guide voluntary, non-regulatory actions. This map and the associated data should only be used in ways consistent with these intentions. For more information on how Conservation Opportunity Areas were developed, see Appendix IV, “Methods” (beginning on page a:34).

The Conservation Opportunity Area profiles include information on recommended conservation actions, special features, key species, key habitats, and if the area has been identified as a priority by other planning efforts. These profiles highlight some priority actions to implement in individual Conservation Opportunity Areas, which can range from restoration projects to monitoring for invasive species. These recommendations were identified through existing plans, spatial analysis, and expert review. They are not meant to be exhaustive, so other actions also will be appropriate, as influenced by local site characteristics and management goals. Actions need to be compatible with local priorities, local comprehensive plans and land use ordinances, as well as other local, state, or federal laws. Actions on federal lands must undergo federal planning processes prior to implementation to ensure consistency with existing plans and management objectives for the area.
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data information sources to ascertain the usability of the information.
Conservation Opportunity Area Profiles

**WC-01. Eagle Creek**

Located at the northern edge of the ecoregion in the Hatfield Wilderness, this area is comprised of the Eagle Creek drainage which flows into the Columbia River.

**Key Habitats:**
- Aquatic
- Late Successional Douglas-fir Forests
- Riparian
- Wetlands And Wet Meadows

**Key Species:**
- Cascade Torrent Salamander
- Cope's Giant Salamander
- Larch Mountain Salamander
- Oregon Slender Salamander
- Northern Goshawk
- Coastal Cutthroat Trout

**Recommended Conservation Actions:**
- Initiate or continue wet meadow conservation and restoration efforts
- Maintain or enhance in-channel watershed function, connection to riparian habitat, flow and hydrology
- Maintain or restore riparian habitat and ecological function; ensure sufficient habitat complexity for wildlife

**WC-02. Bull Run-Sandy Rivers**

**Special Features:**
- Area contains the Sandy River Gorge Preserve and a portion of the Sandy designated as a Wild and Scenic River.
- Much of the Bull Run River area is within a Forest Service designated Late Successional Reserve.
- Important area for winter steelhead, fall Chinook salmon and spring Chinook salmon

**Key Habitats:**
- Aquatic
- Late Successional Douglas-fir Forests
- Riparian

**Key Species:**
- Cascade Torrent Salamander
- Cope's Giant Salamander
- Larch Mountain Salamander
- Oregon Slender Salamander
- Northern Goshawk
- Coastal Cutthroat Trout
- Coho Salmon

**WC-03. Mt. Hood area**

**Special Features:**
- Area includes Bonney Butte, an important funnel for migratory raptors, which has been a Hawkwatch International monitoring site since 1994. Up to 18 species of raptors have been observed in a single season.
- This area represents a large percentage of the ecoregion's habitat for several amphibian species.

**Key Habitats:**
- Late Successional Douglas-fir Forests

**Key Species:**
- Cascade Torrent Salamander
- Cascades Frog
- Coastal Tailed Frog
- Cope's Giant Salamander
- Larch Mountain Salamander
- Oregon Slender Salamander
- Bufflehead
- Northern Goshawk
- Coastal Cutthroat Trout
- Fall Chinook Salmon
- Winter Steelhead
- Bufflehead
- Northern Goshawk

**Identified in other planning efforts:**
- American Fisheries Society Aquatic Diversity Areas (along the Salmon, White, and Roaring Rivers)
- Oregon's Important Bird Areas

**WC-04. Bull of the Woods area**

**Special Features:**
- Area includes the Bull of the Woods Wilderness.

**Key Habitats:**
- Aquatic
- Late Successional Douglas-fir Forests

**Key Species:**
- Cascade Torrent Salamander
- Great Gray Owl
- Northern Goshawk
- Coastal Cutthroat Trout
**Ecorregions: West Cascades Ecoregion**

**Identified in other planning efforts:**
- American Fisheries Society Aquatic Diversity Area

**WC-05. Quartzville Creek area**

**Special Features:**
- BLM is negotiating to acquire the remaining parcels of private land that are adjacent to the creek within the Wild and Scenic corridor. [Oregon Important Bird Areas website]
- The Quartzville Creek Basin represents a significant percentage of breeding habitat for the harlequin duck.

**Key Habitats:**
- Aquatic
- Late Successional Douglas-fir Forests

**Key Species:**
- Cascade Torrent Salamander
- Larch Mountain Salamander
- Oregon Slender Salamander
- Harlequin Duck

**Recommended Conservation Actions:**
- Maintain or enhance in-channel watershed function, connection to riparian habitat, flow and hydrology
- Maintain or restore riparian habitat and ecological function; ensure sufficient habitat complexity for wildlife

**WC-06. McKenzie River area**

**Special Features:**
- Federal land in this area is designated as an adaptive management area, designed to emphasize research on ecosystem function in forested landscapes.
- Area encompasses two aquatic diversity areas.
- Habitat for several amphibian species.

**Key Habitats:**
- Aquatic
- Late Successional Douglas-fir Forests

**Key Species:**
- Coastal Tailed Frog
- Harlequin Duck
- Bull Trout (Columbia River Population)

**Recommended Conservation Actions:**
- Maintain or enhance in-channel watershed function, connection to riparian habitat, flow and hydrology

**WC-07. Middle Fork Willamette River**

**Special Features:**
- Area contains the North Fork Willamette Wild and Scenic River.

**Key Habitats:**
- Aquatic
- Late Successional Douglas-fir Forests

**Key Species:**
- Oregon Slender Salamander
- Bull Trout (Columbia River Population)
- Oregon Chub
- American Marten
- Fisher
- Fringed Bat

**Recommended Conservation Actions:**
- Maintain or enhance in-channel watershed function, connection to riparian habitat, flow and hydrology

**WC-08. Central Cascades Crest**

**Special Features:**
- Containing parts of several wilderness areas, this large area is almost entirely managed for conservation values.

**Key Habitats:**
- Late Successional Douglas-fir Forests
- Montane Grasslands
- Wetlands And Wet Meadows

**Key Species:**
- Cascade Torrent Salamander
- Cascades Frog
- Coastal Tailed Frog
- Oregon Slender Salamander
- Oregon Spotted Frog
- Black Swift
- Bufflehead
- Northern Goshawk
- Sandhill Crane
- American Marten
- Fisher

**Identified in other planning efforts:**
- American Fisheries Society Aquatic Diversity Areas
- Oregon Biodiversity Project Conservation Opportunity Areas
Recommended Conservation Actions:
- Initiate or continue wet meadow conservation and restoration efforts

**WC-09. Umpqua Headwaters**
Area includes the headwaters of the North and South Umpqua Rivers.

Special Features:
- This area encompasses some of the ecoregion’s most important salmonid habitat, including 11 American Fisheries Society aquatic diversity areas.
- Much of this area has been designated by the US Forest Service as a Late Successional Reserve.
- The northwestern pond turtle can be observed in low elevation lakes and streams throughout this area, particularly in the South Umpqua area. There are documented nesting sites and observed hatchlings here.

Key Habitats:
- Aquatic
- Late Successional Douglas-fir Forests

Key Species:
- Cascades Frog
- Foothill Yellow-legged Frog
- Larch Mountain Salamander
- Great Gray Owl
- Northern Goshawk
- Coastal Cutthroat Trout
- Coho Salmon
- Summer Steelhead
- Umpqua Oregon Chub
- Winter Steelhead
- American Marten
- Fisher
- Fringed Bat
- Townsend’s Big-eared Bat
- Northwestern Pond Turtle

**WC-10. Crater Lake**

Special Features:
- Most of this area is within Crater Lake National Park, 90% of which is managed as a wilderness.
- Area contains 8% of the ecoregion’s wetlands and wet meadows.

Key Habitats:
- Wetlands And Wet Meadows

Key Species:
- Cascades Frog
- Bufflehead
- Olive-sided Flycatcher
- American Marten
- Canada Lynx

**WC-11. Pelican Butte-Sky Lakes area**

Special Features:
- Most of this area is managed for conservation values, including the Sky Lakes Wilderness, Mountain Lakes Wilderness, and land designated as Late Successional Reserve.
- Area contains 87% of the ecoregion’s grasslands and 48% of the ecoregion’s wetlands and wet meadows.

Key Habitats:
- Montane Grasslands
- Wetlands And Wet Meadows

Key Species:
- Oregon Spotted Frog
- Sandhill Crane
- Bull Trout (Klamath River Population)
- Klamath Basin Redband Trout
- Lost River Sucker

Identified in other planning efforts:
- American Fisheries Society Aquatic Diversity Areas
- Oregon Biodiversity Project Conservation Opportunity Areas
- The Oregon Plan Core Salmon Areas

Recommended Conservation Actions:
- Consider the impact of recreational activities (e.g., motorized watercraft; shoreline activities; road usage) on water quality and watershed function
- Maintain or enhance in-channel watershed function, connection to riparian habitat, flow and hydrology