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Klamath Mountains Ecoregion

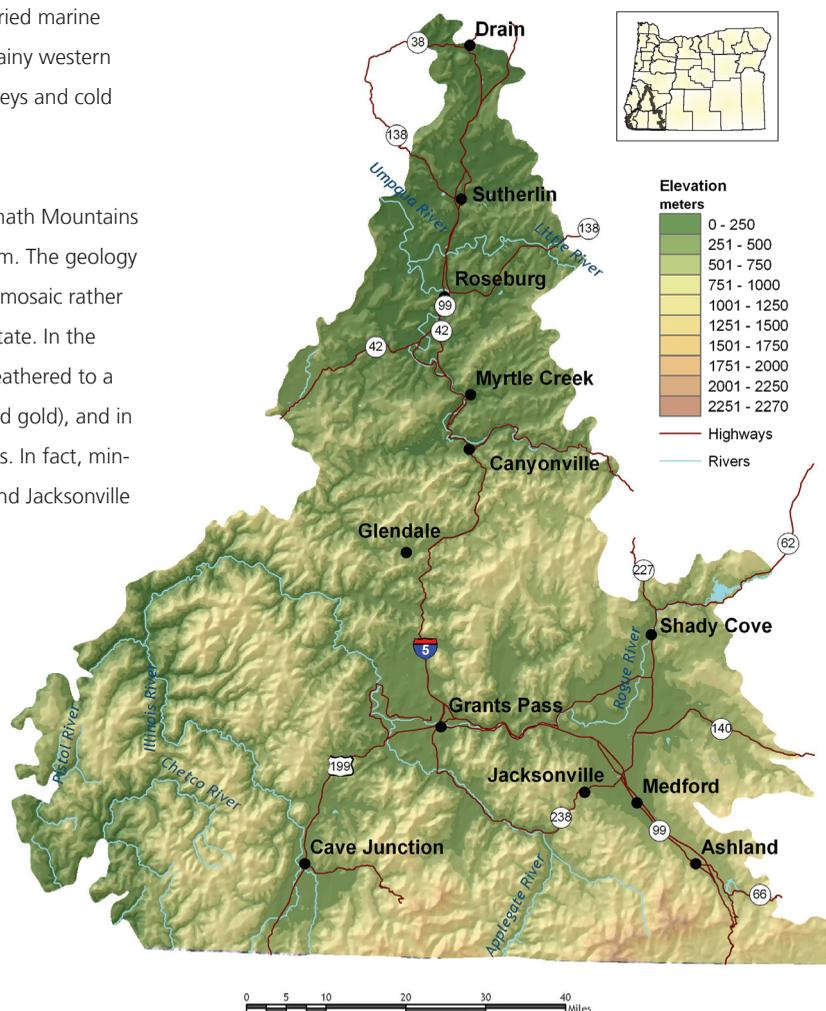
Getting to Know the Klamath Mountains Ecoregion

The Oregon portion of the Klamath Mountains ecoregion covers much of southwestern Oregon, including the Umpqua Mountains, Siskiyou Mountains and interior valleys and foothills between these and the Cascade Range. Several popular and scenic rivers run through the ecoregion, including: the Umpqua, Rogue, Illinois, and Applegate. Within the ecoregion, there are wide ranges in elevation, topography, geology, and climate. The elevation ranges from about 600 to more than 7400 feet, from steep mountains and canyons to gentle foothills and flat valley bottoms. This variation along with the varied marine influence support a climate that ranges from the lush, rainy western portion of the ecoregion to the dry, warmer interior valleys and cold snowy mountains.

Unlike other parts of Oregon, the landscape of the Klamath Mountains ecoregion has not been significantly shaped by volcanism. The geology of the Klamath Mountains can better be described as a mosaic rather than the layer-cake geology of most of the rest of the state. In the Klamath Mountains, serpentine mineral bedrock has weathered to a soil rich in heavy metals (including chromium, nickel, and gold), and in other parts mineral deposits have crystallized in fractures. In fact, mining was the first major resource use of the ecoregion, and Jacksonville was Oregon's most classic "gold rush" town.

Partly because of this unique geology, the Klamath Mountains ecoregion boasts a high rate of species diversity, including many species found only locally. In fact, the Klamath-Siskiyou region was included in the World Wildlife Fund's assessment of the 200 locations most important for species diversity world-wide. The region is particularly rich in plant species, including many pockets of endemic communities and some of the most diverse plant communities in the world. For

example, there are more kinds of cone-bearing trees found in the Klamath Mountains ecoregion than anywhere else in North America. In all, there are about 4000 native plants in Oregon, and about half of these are found in the Klamath Mountains ecoregion. The ecoregion is noted as an Area of Global Botanical Significance (one of only seven in North America) and world "Centre of Plant Diversity" by the World Conservation Union. The ecoregion boasts many unique invertebrates, although many of these are not as well studied as their plant counterparts.



"At a Glance"- Characteristics and Statistics**Land use (% of ecoregion):**

Agriculture	0.3%
Forest and woodland	77.1%
Other (lakes, wetlands, cliffs, etc.)	12.6%
Range, pasture, and grassland	8.8%
Towns and rural residential	0.7%
Urban and suburban	0.6%

Land ownership:

Private	47.5%
Public, federal	52%
Public, state and local	0.6%

Human population, government and transportation statistics:

Estimated population in 2000	340,000
% of Oregon's population in 2000	10.1%
Number of incorporated cities	22
Number of counties	4
<i>(includes parts of Curry, Douglas, Jackson counties and all of Josephine county.)</i>	
Number of watershed councils	13
<i>(A watershed council is considered present if at least 10% of its area is located within the ecoregion.)</i>	
Miles of road (approx. miles)	23,400

Economics:

Important industries: lumber and woods manufacturing, service, tourism, trade, new electronics and transportation equipment manufacturers

Major crops: Fruit; vegetables; livestock; dairy farms; nursery products; forest products

Important nature-based recreational areas: Siskiyou Mountains/Siskiyou National Forest; Applegate Lake; Rogue River National Forest; Emigrant Lake; Howard Prairie Lake; Umpqua National Forest.

Ecology:

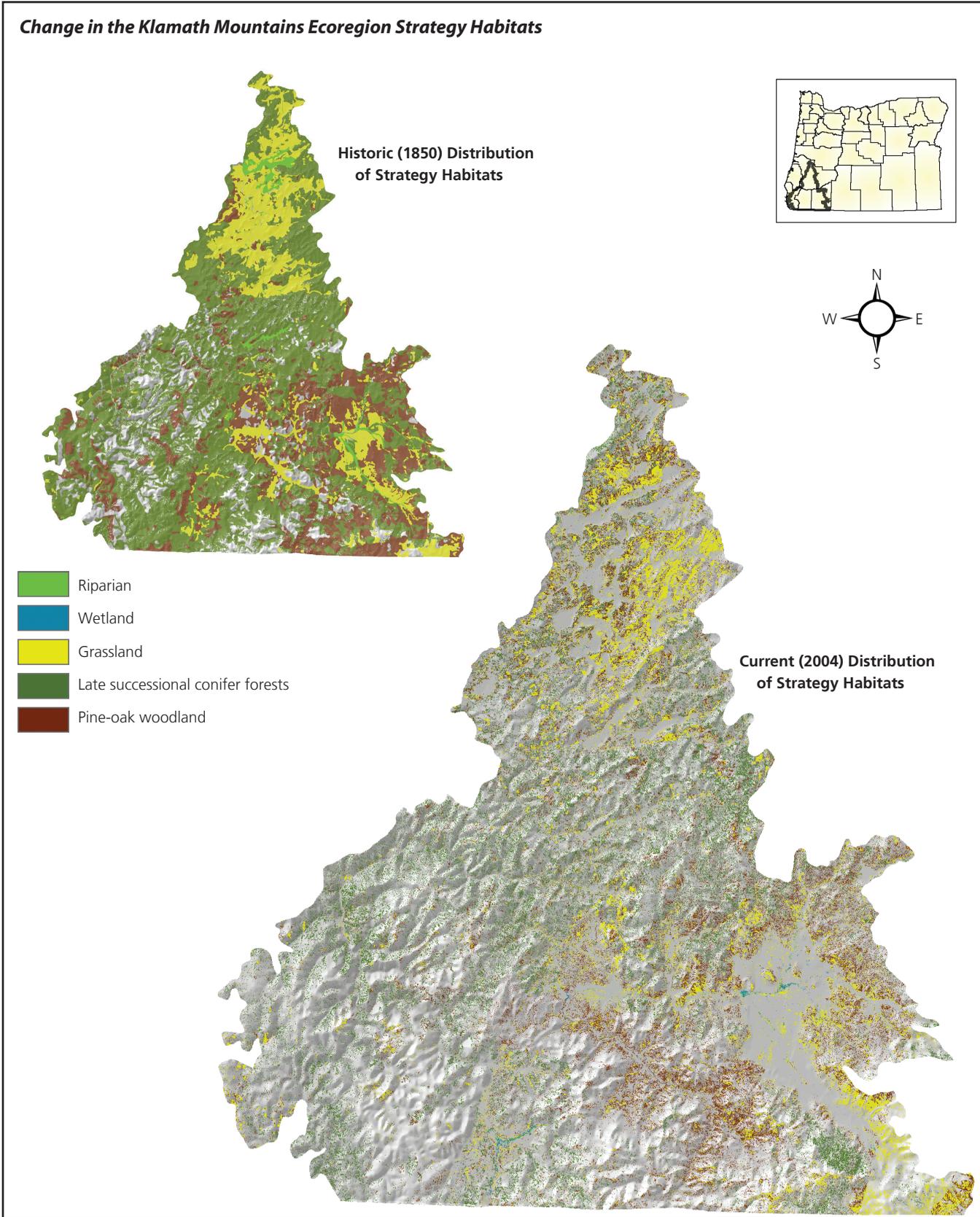
Average annual precipitation (1971-2000)	18.4" – 62.7"
Average July high temperature (1971-2000)	79.2 °F – 91.9 °F
Average January low temperature(1971-2000)	29.1 °F – 32.5 °F
Elevation	ranges from ~2,070 feet to ~7,500 feet (Mt. Ashland)
Number of regularly occurring vertebrate wildlife species	392
Important rivers	Applegate; Rogue; Chetco; Coquille; Umpqua; Illinois

Information Sources: Oregon Blue Book (2003-04), Oregon Climate Service data (1971-2000), Oregon State of the Environment Report (2000), Oregon Watershed Enhancement Board (2001), Oregon Wildlife Diversity Plan (1993), U.S. Census Bureau (2000).



Summary List of Strategy Habitats

Strategy Habitats identified in the Klamath Mountains ecoregion include: ponderosa pine, pine-oak, and oak woodlands; late successional conifer forests; grasslands (including oak savannas); riparian; wetlands; and aquatic habitats.



Data Source: Oregon Natural Heritage Information Center, 2004.

While panning for gold first drew European settlers to the Klamath Mountains ecoregion, today's communities have a wide range of industries and economies including agriculture, manufacturing, and tourism. Many retirement communities are rapidly growing in the Medford and Roseburg areas.

Conservation Issues and Actions

Overview

While the Klamath Mountains ecoregion is ecologically unique, it embodies many of the conservation issues facing other parts of Oregon. For example, increasing population growth and development in rural residential and urban communities strain resources, particularly in the southern and eastern portions of the ecoregion. The Klamath Moun-

tains is the second fastest-growing ecoregion in Oregon (the Willamette Valley is experiencing the fastest rate of expansion). Much of the population growth is concentrated in valleys along the Interstate 5 corridor. Demands for choice building sites often coincide with good quality habitat.

The Northwest Forest Plan covers many of the forests found in the western part of the ecoregion. (See Northwest Forest Plan description in Appendix II). However, the adaptive management component of the Northwest Forest Plan has not been fully implemented. Overall, these habitats are challenged by decades of fire suppression, a need to reduce excessive fuel loadings that have accumulated in the dry interior, and by checkerboard ownership patterns that can make resource planning particularly challenging. Grasslands in the Klamath Mountains

Summary List of Strategy Species

Mammals

California myotis (bat)
Columbian white-tailed deer
(Umpqua population)
Fisher
Fringed myotis (bat)
Hoary bat
Long-legged myotis (bat)
Pallid bat
Red tree vole
Ringtail
Silver-haired bat
Townsend's big-eared bat

Invertebrates

Johnson's hairstreak (butterfly)
Mardon skipper (butterfly)
Oregon cave amphipod
Rotund lanx (aquatic snail)
Siskiyou short-horned grasshopper
Vernal pool fairy shrimp
Terrestrial snails:
Traveling sideband
Green sideband
Siskiyou hesperian
Oregon shoulderband

Fish

Chinook (Southern Oregon/Northern California Coast ESU, fall run)
Coastal cutthroat trout
(Oregon Coast ESU)
Coastal cutthroat trout (Southern Oregon/Northern California Coasts ESU)
Coho (Oregon Coast ESU)
Coho (Southern Oregon/Northern California Coasts ESU)
Pacific lamprey
Steelhead (Klamath Mountains Province ESU, summer run)
Steelhead (Klamath Mountains Province ESU, winter run)
Steelhead (Oregon Coast ESU, summer run)
Steelhead (Oregon Coast ESU, winter run)
Umpqua chub
Western brook lamprey

Birds

Blue-gray gnatcatcher
Grasshopper sparrow
Lewis' woodpecker
Marbled murrelet
Northern spotted owl
Oregon vesper sparrow
Western purple martin
White-headed woodpecker

Plants

Big-flowered woolly meadowfoam
Cook's desert parsley
Crinite mariposa-lily
Dwarf meadowfoam
Gentner's fritillaria
Howell's mariposa-lily
Howell's microseris
Kincaid's lupine
Large-flowered rushlily
Red Mountain rockcress
Rough allocarya
(Rough popcorn flower)
Sexton Mountain mariposa-lily
Shiny-fruited allocarya
(Shiny-fruited popcorn flower)
Umpqua mariposa-lily
Wayside aster

Amphibians & Reptiles

Clouded salamander
Coastal tailed frog
Foothill yellow-legged frog
Northern red-legged frog
Siskiyou Mountain salamander
Southern torrent salamander
Western toad
Common kingsnake
Northwestern pond turtle

ecoregion are home to many endemic and at-risk plant communities, but are potentially impacted by invasive grasses and by conversion to development. Recent indicators suggest that water quality and riparian condition in the ecoregion may be increasing. Much of this change could be attributed to local collaborative conservation efforts via watershed councils and other groups.

Ecoregion-level limiting factors and recommended approaches

All six of the key conservation issues apply statewide, as do the approaches outlined in the Statewide Perspectives and Approaches chapter. However, land use changes, altered fire regimes, and invasive species are described further in this section, considering the Klamath Mountains' ecoregional characteristics. In addition to the statewide issues, loss of habitat connectivity and mineral extraction is of concern in this ecoregion.

Factor: Land use conversion and urbanization. The Klamath Mountains ecoregion has the second fastest growth rate in the State (the Willamette Valley ecoregion experiences the highest level of population growth). For example, Medford and Roseburg are two communities that are rapidly expanding. Rapid urbanization can strain the ability of sensitive habitat such as valleys and wetlands to continue to provide valued ecological functions and services. Rapid development increases the potential for perceived conflict between people and wildlife. For example, increasing road traffic increases the potential for collisions with migrating species, creating a hazard to both motorists and wildlife.

Approach: Cooperative approaches with private landowners are the key to long-term conservation. Essential tools include financial incentives, Candidate Species Conservation Agreements, and conservation easements. Work with community leaders and agency partners to ensure planned, efficient growth. Support and implement existing land use regulations to preserve farm and range land, open spaces, recreation areas, and natural habitats including essential home range for wildlife.

Factor: Altered fire regimes. Historically, the ecoregion was dominated by fire-adapted vegetation and experienced widely variable fire regimes, ranging from areas with relatively short fire return intervals to areas with 50 or 60 year return intervals. Fire suppression has damaged forest health, resulting in undesirable changes in vegetation and increased intensity of wildfires as fuel loads increase. Efforts to reduce fire danger can help to restore wildlife 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). Reintroducing fire can be challeng-

ing in the Klamath Mountains because of high volatility of fuels, "checkerboard" land ownership patterns, and scattered rural residential developments.

Approach: Use an integrated approach to fuels management and forest health 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-dependent species. In areas where prescribed fire is undesirable or difficult to implement, use mechanical treatment methods (e.g., chipping, cutting for firewood) that minimize soil disturbance. 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: Loss of habitat connectivity. The Klamath Mountains ecoregion is naturally diverse and heterogeneous. However, some habitat types have been particularly disrupted by fragmentation and loss of connectivity, including late successional forests and valley-bottom habitats. Opportunities for large-scale protection or restoration of native landscapes are limited, particularly in the interior valleys. Existing development, growth pressures, high land costs, and the fragmented nature of ownerships and remaining native vegetation types all present barriers to large-scale ecosystem restoration.

Approach: In the valleys, broad-scale conservation strategies will need to focus on restoring and maintaining more natural ecosystem processes and functions within a landscape that is managed primarily for other values. This may include an emphasis on conservation-oriented management techniques for existing land uses and restoration of some key ecosystem components such as river-floodplain connections and riparian function.

Factor: Invasive species. Invasive plants are of particular concern in the Klamath Mountains ecoregion. Invasive plants disrupt native communities, diminish populations of at-risk native species, and threaten the economic productivity of resource lands. Invasive plants have been on the increase during the last 20 years. While not nearly as extensive as invasive plants, non-native animals also have impacted native fish and wildlife populations.

Approach: Emphasize prevention, risk assessment, early detection and quick control to prevent new invasives from becoming fully established. Use multiple-site appropriate tools (mechanical, chemical and biological) to control the most damaging invasive species. Prioritize efforts to focus on key invasives in high priority areas,

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 Klamath Mountains. 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).

Known invasive non-native animal and plant species

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.

Documented Invasive Animals

Bluegill
Brook trout
Brown bullhead
Brown trout
Bullfrog
Carp
Crappie
Eastern snapping turtle
European starling
Fathead minnow
Golden shiner
House sparrow
Mosquito fish (*Gambusia*)
Norway rat
Nutria
Pikeminnow
Red eared slider
Shad
Yellow perch

Documented Invasive Plants

Armenian (Himalayan) blackberry
Canada thistle
Dalmation toadflax
Diffuse knapweed
Dogtail
Dyers woad
False brome
Fennel
Iberian starthistle
Leafy spurge
Meadow knapweed
Mediterranean sage
Medusahead rye
Puncture vine
Quackgrass
Rush skeletonweed
Scotch broom
Spanish broom
Spotted knapweed
Woolly distaff thistle
Yellow toadflax
Yellow star thistle

Non-native animals and plants of potential concern

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.

Potentially Invasive Non-native Animals

Asian carp (bighead, silver)
Black carp
Feral pig
Muskellunge, northern pike
New Zealand mud snail
Round goby
Ruffe
Rusty crayfish
Sacramento perch
Snakeheads
Striped bass
Zebra mussel

Potentially Invasive Non-native Plants

Butterfly bush
Camelthorn
Coltsfoot (*Tussilago*)
Ovate goatgrass
Pampas grass
Scotch thistle
Squarrose knapweed



Photo © Dave Mienke

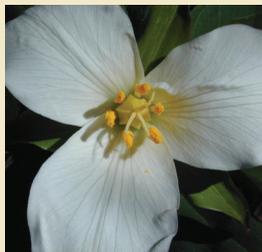


Photo © Bruce Newhouse

Conservation actions in the Klamath Mountains Ecoregion identified through other planning efforts

Landowners and land managers can benefit a variety of 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.

Actions	Strategy Habitat and General Location	Source Document
Maintain existing late successional habitat and initiate actions to develop or restore late successional forest where appropriate	Klamath Mountains forest	Oregon-Washington Partners in Flight Westside Coniferous Forests Conservation Strategy (Altman 2000) [recommended target: more than 15% of large landscapes in late successional forests]
Maintain connectivity, structural complexity and heterogeneity of landscapes	Klamath Mountains late successional forest; directed at priority sites based upon species surveys	Northwest Forest Plan (1994; continual updates) [recommended target: Specific recommendations for reserves and other features in light of species surveys]
Maintain all large oak trees (more than 22in. dbh) and all oak woodland patches more than 100 ac (40 ha)	Klamath Mountains oak habitats	OR-WA Partners in Flight Landbird Conservation Strategy (Altman 2000)
Maintain or restore more than 30% of the historical extent of riparian habitat in each major watershed	Klamath Mountains riparian habitats	Partners In Flight Landbird Conservation Plan (Altman 2000)
Focus conservation attention on critical aquatic habitats identified by American Fisheries Society surveys	North Umpqua River; Upper Illinois River; East Fork Illinois River	Oregon Biodiversity Project. See: NOAA and NMFS biologists; ODFW; watershed councils; OWEB for further information.
Improve fish passage. For example, modify barriers or use spans where appropriate.	All locations (as appropriate)	State of the Environment Report; ODFW Fish Passage team; Oregon Biodiversity Project; Oregon Plan (OWEB)
Work with forest managers to meet large wood loading benchmarks, reduce sediment, maintain water quality and continue to provide functional riparian habitat	All locations (as appropriate)	Oregon Plan (OWEB); Senate Bill 1010 Plans (ODA); Total Maximum Daily Load Planning (ODEQ)
Work with agricultural and residential landowners to maintain water quality	All locations on agricultural lands (as appropriate)	Senate Bill 1010 Plans (ODA) and Total Maximum Daily Load Planning (ODEQ)
Establish integrated framework for wetland restoration assessment, priority setting, and actions at three scales: watersheds, ecoregions and project sites	Wetlands	Recommendations for a nonregulatory wetland restoration program for Oregon. J.W. Good and C.B. Sawyer. 1998. Prepared for Oregon Division of State Lands and U.S. EPA Region X.
Increase incentives for proactive, nonregulatory wetland restoration and enhancement on private land, focusing on a combination of financial assistance, tax benefits, technical assistance, and education	Wetlands	Recommendations for a nonregulatory wetland restoration program for Oregon. J.W. Good and C.B. Sawyer. 1998. Prepared for Oregon Division of State Lands and U.S. EPA Region X.
Maintain or enhance in-channel watershed function, connection to riparian habitat, flow and hydrology. - Plant vegetation to stabilize banks; leaving stumps, fallen trees and boulders in waterways - Maintain or enhance off channel or side channel meanders, habitat and pools	Aquatic habitats (streams, pools)	Oregon Aquatic habitat restoration and enhancement guide. The Oregon Plan for Salmon and Watersheds May 1999. See <i>guide for specific technical recommendations, sources of information and assistance, and other guidelines.</i>
Maintain riparian and wetlands function: - Manage grazing, riparian vegetation planting and fencing, and livestock water facilities according to best practices, current techniques and with respect to natural hydrological conditions.	Riparian and wetlands habitats	Oregon Aquatic habitat restoration and enhancement guide. The Oregon Plan for Salmon and Watersheds May 1999. See <i>guide for specific technical recommendations</i>
Upslope erosion control: - Create water and sediment control basins to contain runoff, wastewater - Use windbreaks (tree and shrub rows - using native plants) to reduce erosion & deposition - Upland terracing	Aquatics, riparian and wetland habitats	Oregon Aquatic habitat restoration and enhancement guide. The Oregon Plan for Salmon and Watersheds May 1999. See <i>guide for specific technical recommendations</i>

*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).

particularly where Strategy Habitats and Species occur. Cooperate with partners through habitat programs and county weed boards to address invasive species problems. Promote the use of native “local” stock for restoration and revegetation.

Factor: Mineral extraction. Long-term effects of historic mining include damage to stream beds and toxic runoff. Currently, mining for nickel and chromium associated with the region’s serpentine soils has the potential to impact fish and wildlife by disturbing habitat. Mineral extraction is a particular concern in the Siskiyou Mountains. Gold mining also potentially impacts habitat for fish, wildlife and at-risk plants along many streams. In-stream placer mining and recreational placer mining are prevalent in this ecoregion.

Approach: Plan mineral extraction activities to minimize potential impact on species and habitat. Minimize disturbance by focusing extraction efforts in areas with existing roads, rather than creating new roads and increasing the potential for habitat disturbance. Follow existing recommendations to avoid impacting water quality and riparian function.

Conservation Success Story: a partnership born out of frustration, thrives today

After years of slinging accusations over the fate of natural resources in southwestern Oregon, two former, battle-scarred adversaries agreed to put aside their differences and find common ground. Jack Shipley, a passionate environmentalist, and Jim Neal, a fixture in the logging community, founded the Applegate Partnership, a community-based forum in which resource management issues are openly discussed in the hopes they can be resolved without going to court. The Partnership was established to facilitate and encourage the adoption of natural resource principles that promote ecosystem health, economic vitality and community stability in the 500,000-acre Applegate watershed. Industry, conservation groups, natural resource agencies and residents, which make up the Partnership’s membership, work together to tackle complex resource management issues.

The Partnership’s inclusive, cooperative approach to divisive natural resource issues has produced on-the-ground success. A recent example of this success has been working with more than 40 private landowners to reconnect 37 miles of aquatic habitat for anadromous salmonids on the Little Applegate River. Two 100-year old irrigation dams have hindered fish passage to upstream spawning beds so the Partnership decided to pursue dam removal. The Partnership recognized the importance of the water behind the dams to local irrigators and realized that without their support the project would fail. In characteristic manner, the Partnership opened a dialogue with local farmers and proposed an innovative

solution: reroute their supply of water from the smaller Little Applegate River to the main stem of the Applegate. Nearly all landowners have agreed to this plan and so far one of the dams has been breached.

The technical aspects of the dam removal project fall to the Applegate River Watershed Council, which the Partnership formed to administer and implement site-specific restoration projects. Several organizations have contributed about \$2.5 million to fund project-related activities, including public outreach and installation of water pumps. So far one dam has been removed. After the second dam comes out the watershed council expects the amount of in-stream water in the Little Applegate to increase by 12 cubic feet per second. The enhanced stream flow will benefit migrating salmon, particularly during parched summer months, and help reestablish a healthy fishery.

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.

Conservation Opportunity Area Profiles

KM-01. Umpqua River area

Special Features:

- Includes the North Bank Habitat Management Area
- Core area for key population of Columbian white-tailed deer
- Area includes several important river confluences.
- Northwestern pond turtles are in relative abundance here, including populations in all the rivers, Cooper Creek Reservoir (Sutherlin area), and Stewart Park Wildlife Pond in Roseburg.
- Area contains a large percentage of the ecoregion's purple martin habitat.
- Area contains approximately 14% of the ecoregion's grassland and oak savanna habitat.

Key Habitats:

- Aquatic
- Grasslands And Oak Savanna
- Pine-oak Woodlands
- Riparian

Key Species:

- Horned Lark
- Purple Martin
- Coho Salmon
- Pacific Lamprey
- Summer Steelhead
- Umpqua Oregon Chub
- Winter Steelhead
- Columbian White-tailed Deer
- Common Kingsnake
- Northwestern Pond Turtle

Identified in other planning efforts:

- Oregon Biodiversity Project Conservation Opportunity Areas
- The Nature Conservancy Ecoregional Assessment
- The Oregon Plan Core Salmon Areas

Recommended Conservation Actions:

- Consider land exchanges to benefit fish, wildlife, and landscape ecological integrity
- 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

KM-02. Tenmile area

Located west of Winston, OR in the hills along either side of Highway 42.

Special Features:

- Area includes the Bushnell-Irvin Rocks Area of Environmental Concern.
- Much of the forest land in this area is designated Late Successional Reserve.
- High diversity of Strategy habitats exists in this area.

Key Habitats:

- Grasslands And Oak Savanna
- Late Successional Mixed Conifer Forests
- Pine-oak Woodlands

Key Species:

- Northern Spotted Owl
- Coho Salmon
- Winter Steelhead
- Red Tree Vole

Identified in other planning efforts:

- The Nature Conservancy Ecoregional Assessment (Camas Valley site)

Recommended Conservation Actions:

- Consider land exchanges to benefit fish, wildlife, and landscape ecological integrity

KM-03. Rogue area

Special Features:

- This Conservation Opportunity Area includes much of the Wild Rogue Wilderness. The remaining area is almost entirely encompassed within a Rogue River-Siskiyou National Forest Late Successional Reserve.
- The wilderness here was originally designated to protect the Wild section of the Rogue River.
- Many endemic rare plants found in the Rogue drainage in serpentine habitats.
- High percentage of the ecoregion's marbled murrelet habitat.

Key Habitats:

- Aquatic
- Late Successional Mixed Conifer Forests

Key Species:

- Coastal Tailed Frog
- Southern Torrent Salamander
- Marbled Murrelet
- Northern Spotted Owl
- Coho Salmon
- Fall Chinook Salmon
- Summer Steelhead
- Winter Steelhead
- Red Tree Vole
- Ringtail

Identified in other planning efforts:

- American Fisheries Society Aquatic Diversity Areas (southeastern side)
- The Nature Conservancy Ecoregional Assessment
- The Oregon Plan Core Salmon Areas

KM-04. Kalmiopsis area

Special Features:

- Area contains much of the Kalmiopsis Wilderness
- This area is known for its plant diversity due to unique geologic conditions and serpentine habitats.
- Contains sections of several rivers including the Illinois River, Chetco River, East Fork Winchuck, and the Pistol River.
- Globally significant site for endemic plants and diverse salamander populations
- Area contains a significant amount of the ecoregion's marbled murrelet habitat

Key Habitats:

- Aquatic
- Late Successional Mixed Conifer Forests

Key Species:

- Southern Torrent Salamander
- Marbled Murrelet
- Northern Spotted Owl
- White-headed Woodpecker
- Coho Salmon
- Fall Chinook Salmon
- Winter Steelhead
- Fringed Bat
- Red Tree Vole
- Ringtail

Identified in other planning efforts:

- American Fisheries Society Aquatic Diversity Areas
- The Nature Conservancy Ecoregional Assessment
- The Oregon Plan Core Salmon Areas

Recommended Conservation Actions:

- Continue to improve the conservation practices of forestry and land management
- Reduce the threat of disease (phytophthora) to forests
- Work to resolve conflicts between incompatible mining practices and wildlife conservation

KM-05. Taylor Creek area

Located in the mountains west of Grants Pass, this area extends north to the Rogue River and south to Serpentine Point. The majority of this area is in the Chrome Ridge and Mount Peavine quads.

Special Features:

- Area is located almost entirely in a Late Successional Reserve.
- Area contains a high percentage of the ecoregion's gnatcatcher habitat
- Serpentine habitats here host a number of endemic plant species.

Key Habitats:

- Late Successional Mixed Conifer Forests
- Pine-oak Woodlands

Key Species:

- Blue-gray Gnatcatcher
- Lewis' Woodpecker
- Northern Spotted Owl
- White-headed Woodpecker
- Coho Salmon
- Summer Steelhead
- Winter Steelhead
- Red Tree Vole

Identified in other planning efforts:

- The Nature Conservancy Ecoregional Assessment

KM-06. King Mountain area

Area includes the mountains extending from Glendale to Grants pass, on the east side of the interstate highway.

Special Features:

- *The majority of the federal land in this area is managed by the Bureau of Land Management and includes the King Mountain Rock Garden area of critical environmental concern.*
- *Area contains many rare plant species.*

Key Habitats:

- Grasslands And Oak Savanna
- Late Successional Mixed Conifer Forests
- Pine-oak Woodlands

Key Species:

- Southern Torrent Salamander
- Blue-gray Gnatcatcher
- Lewis' Woodpecker
- White-headed Woodpecker
- Coho Salmon
- Summer Steelhead
- Winter Steelhead

Identified in other planning efforts:

- The Nature Conservancy Ecoregional Assessment
- Recommended Conservation Actions:
- Consider land exchanges to benefit fish, wildlife, and landscape ecological integrity

KM-07. Shady Cove foothills

Area is comprised of the foothills east of Shady Cove which parallel the ecoregion boundary.

Special Features:

- *Area contains over 5% of the ecoregion's pine-oak woodland habitat.*

Key Habitats:

- Grasslands And Oak Savanna
- Pine-oak Woodlands

Key Species:

- Blue-gray Gnatcatcher
- Lewis' Woodpecker
- White-headed Woodpecker
- Coastal Cutthroat Trout
- Summer Steelhead
- Common Kingsnake

Identified in other planning efforts:

- The Nature Conservancy Ecoregional Assessment (Cascade foothills site, Little Butte Creek site)
- Recommended Conservation Actions:
- Address invasive species threat
- Protect, maintain, or enhance pine-oak woodlands, grasslands, and oak savanna

KM-08. North Medford area**Special Features:**

- *This unique area provides important low elevation habitat for and includes the Denman Wildlife Area, Upper and Lower Table Rocks, Agate Desert Preserve, and the Whetstone Savannah Preserve.*
- *Area contains many endemic, rare plants*
- *Important site for migrating and nesting waterfowl.*

Key Habitats:

- Aquatic
- Grasslands And Oak Savanna
- Riparian
- Wetlands

Key Species:

- Horned Lark
- Purple Martin
- Upland Birds
- Waterfowl
- Coho Salmon
- Fall Chinook Salmon
- Summer Steelhead
- Winter Steelhead
- Fairy Shrimp

Identified in other planning efforts:

- Oregon Biodiversity Project Conservation Opportunity Areas
- Oregon's Important Bird Areas (Denman WA, Table Rocks, Whetstone Savanna)
- The Nature Conservancy Ecoregional Assessment

KM-09. Antelope Creek area

This area encompasses the foothills east of Medford.

Special Features:

- *This low elevation site provides a diversity of habitats for both terrestrial and aquatic species.*

Key Habitats:

- Aquatic
- Grasslands And Oak Savanna
- Pine-oak Woodlands
- Riparian
- Wetlands

Key Species:

- Blue-gray Gnatcatcher
- Lewis' Woodpecker
- White-headed Woodpecker
- Coho Salmon
- Summer Steelhead

Identified in other planning efforts:

- The Nature Conservancy Ecoregional Assessment
- The Oregon Plan Core Salmon Areas (Antelope Creek, Little Butte Creek)

Recommended Conservation Actions:

- Address invasive species threat
- 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
- Protect, maintain, or enhance pine-oak woodlands, grasslands, and oak savanna

KM-10. East Fork Illinois River

Special Features:

- *This area is noted for its abundance of rare and endemic plant species.*
- *This area includes approximately 30% of the ecoregion's wetland habitat.*
- *Area contains diverse low and mid elevation forests and unique grassland habitats.*

Key Habitats:

- Aquatic
- Grasslands And Oak Savanna
- Riparian
- Wetlands

Key Species:

- Lewis' Woodpecker
- Coho Salmon

- Fall Chinook Salmon
- Winter Steelhead
- Common Kingsnake

Identified in other planning efforts:

- American Fisheries Society Aquatic Diversity Areas
- Oregon Biodiversity Project Conservation Opportunity Areas
- The Nature Conservancy Ecoregional Assessment
- The Oregon Plan Core Salmon Areas

KM-11. Oregon Caves-Applegate area

Special Features:

- *Area provides an important stopover for migrating songbirds.*

Key Habitats:

- Aquatic
- Grasslands And Oak Savanna
- Late Successional Mixed Conifer Forests
- Pine-oak Woodlands
- Wetlands

Key Species:

- Siskiyou Mountains Salamander
- Lewis' Woodpecker
- Northern Spotted Owl
- Coho Salmon
- Summer Steelhead
- Winter Steelhead
- Fisher
- Red Tree Vole

Identified in other planning efforts:

- American Fisheries Society Aquatic Diversity Areas
- Oregon Biodiversity Project Conservation Opportunity Areas (Upper Illinois River)
- Oregon's Important Bird Areas (Bigelow Lakes / Mount Elijah)
- The Nature Conservancy Ecoregional Assessment (Oregon Caves site, Applegate site)
- The Oregon Plan Core Salmon Areas

Recommended Conservation Actions:

- Reduce the threat of disease (phytophthora) to forests
- Work to restore fire regime to historical and natural range of variation

KM-12. Anderson Butte

This area includes both the Little and Middle Little Applegate River subwatersheds, which encompass both Anderson Butte and the Sterline Mine Ditch.

Special Features:

- *This area received an Important Bird Area designation for the ceanothus-manzanita brushfields and scrub oak habitat, which is important for a bird community that includes Blue-gray Gnatcatcher, Wrentit, Oak Titmouse, and California Towhee. Ceanothus-manzanita brushfield habitat has declined in many areas due to forest succession from fire suppression. It is often eradicated to reduce fire danger.*

Key Habitats:

- Grasslands And Oak Savanna
- Pine-oak Woodlands
- Key Species:
 - Blue-gray Gnatcatcher
 - California Towhee
 - Oak Titmouse
 - Wrentit

Identified in other planning efforts:

- Oregon Biodiversity Project Conservation Opportunity Areas (Upper Applegate River)
- Oregon's Important Bird Areas
- The Nature Conservancy Ecoregional Assessment
- Recommended Conservation Actions:
 - Prioritize infestations of invasive species for treatment
 - Protect, maintain, or enhance ceanothus-manzanita brushfields and scrub oak habitat
- Work to restore fire regime to historical and natural range of variation

KM-13. Siskiyou Crest-Soda Mountain**Special Features:**

- *Located on the edge of three ecoregions, The Cascade-Siskiyou National Monument within this opportunity area was established for its "spectacular biological diversity."*
- *This area provides habitat for a large number of species on the edge of their range, forming rare communities and species interactions.*

Key Habitats:

- Aquatic
- Grasslands And Oak Savanna
- Late Successional Mixed Conifer Forests
- Pine-oak Woodlands
- Wetlands

Key Species:

- Siskiyou Mountains Salamander
- Blue-gray Gnatcatcher
- Great Gray Owl
- Northern Spotted Owl
- Willow Flycatcher
- Jenny Creek Sucker
- Fisher

Identified in other planning efforts:

- American Fisheries Society Aquatic Diversity Areas
- Oregon's Important Bird Areas (Siskiyou Peak, Cascade-Siskiyou National Monument)
- The Nature Conservancy Ecoregional Assessment (Siskiyou Crest site, Soda Mountain site)

Recommended Conservation Actions:

- Work to restore fire regime to historical and natural range of variation



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