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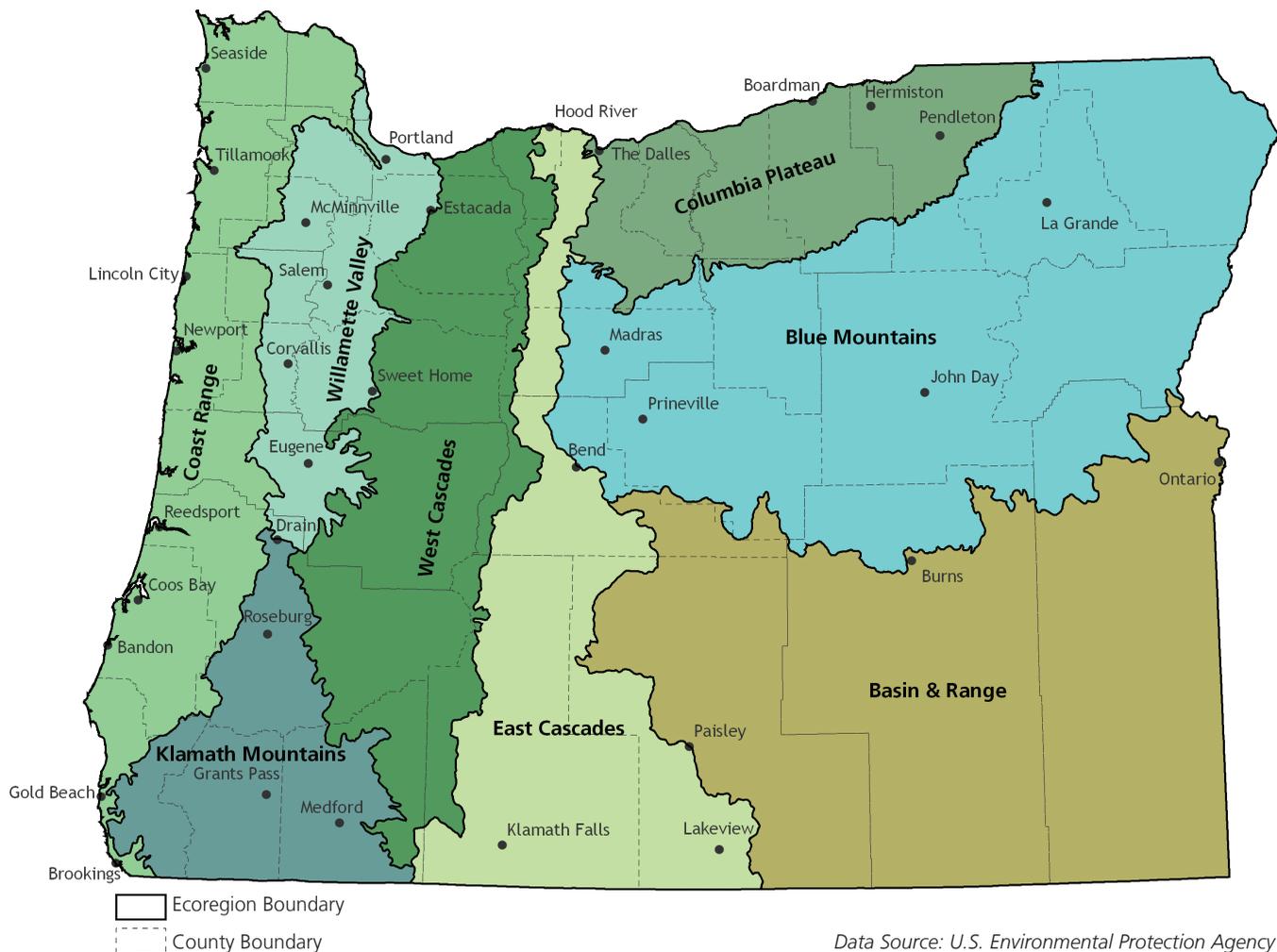
## An Ecoregional Approach to Conservation

Oregon's diverse landscape ranges from lush rainforests to deserts. Similarly, each community's residents perceive, value and manage their natural resources in ways unique to their respective regions. To capture this regional diversity and local knowledge, the Conservation Strategy examines Oregon's eight ecoregions. Ecoregions are portions of the state with similar climate and vegetation. The Conservation Strategy

uses the Environmental Protection Agency's Level III Ecoregion map ([http://www.epa.gov/wed/pages/ecoregions/or\\_eco.htm](http://www.epa.gov/wed/pages/ecoregions/or_eco.htm)), but combines the Snake River Plain with the Northern Basin and Range.

Ecoregions are discussed more fully in pages 111 to 255. Within each ecoregion description, the Conservation Strategy explores the environ-

### Ecoregions of Oregon



ment and issues, identifies limiting factors and opportunities, identifies Conservation Strategy Species and Habitats, and describes actions to consider.

Below are snapshots of Oregon's eight ecoregions. The six key conservation issues generally apply across the state to all ecoregions. Thus, the actions identified to address these issues are important throughout Oregon. However, ones particularly important within an ecoregion are highlighted, along with some ecoregion-specific issues.

### **Blue Mountains Summary**

Although named for its largest mountain range, the Blue Mountains ecoregion is a diverse complex of mountain ranges, valleys, steep river canyons, and plateaus, with habitats ranging from dry sagebrush steppe to high alpine peaks. Much of the mountainous land is publicly-owned and managed for multiple resources. Broad alluvial-floored river valleys support ranches surrounded by irrigated hay meadows or wheat fields. Large towns include La Grande, Baker City, Pendleton, Redmond, and part of Bend.

Over the years, fire suppression, historic overgrazing, timber harvest, mining, agriculture, and, more recently, invasive species and development have altered fish and wildlife habitats. As a result, Strategy Habitats identified for the Blue Mountains ecoregion include ponderosa pine woodlands, grasslands, sagebrush steppe and shrublands, aspen woodlands, wetlands, riparian, and aquatic habitats.

Of the Conservation Strategy's six key conservation issues, invasive species, altered disturbance regimes and land use changes are of greatest concern in the Blue Mountains. Fire is the primary concern for altered disturbance regimes, although floodplain function is an issue in some valleys, particularly at lower elevations. Other actions for the Blue Mountains include working cooperatively with land managers and off-highway vehicle groups to direct use to maintained trails in low-impact areas and to improve enforcement of existing off-highway vehicle rules.

### **Coast Range Summary**

Oregon's Coast Range is known for its dramatic scenery. Its habitats range from open sand dunes to lush forests and from tide pools to headwater streams. The Coast Range's mild, moist climate creates conditions for highly productive temperate rainforests, which are important for local ecosystems and economies. Forestry remains the primary industry in the interior portion of the ecoregion. Coastal towns are hubs for fishing, shellfish and transporting products. The largest urban area on the coast is Coos Bay/North Bend. Many coastal towns are growing, with growth driven by arriving retirees and increasing tourist visits.

Steep terrain and transportation needs have concentrated towns near estuaries, increasing the demands on these systems.

Strategy Habitats identified for the Coast Range ecoregion include coastal dunes, estuaries, grasslands, late successional conifer forests, oak woodlands, riparian, wetlands, and freshwater aquatic habitats.

Restoration of aquatic habitat complexity (i.e., woody debris), salmon rearing habitats, fish passage, and natural hydrological regimes through removal of artificial obstructions are concerns in the Coast Range ecoregion. Of the Conservation Strategy's six key conservation issues, land use changes and invasive species are of greatest concern in the Coast Range ecoregion. In addition to addressing these issues, actions proposed for the Coast Range include:

- Working with community leaders and agency partners to ensure rapid responses to and preparedness for oil and other hazardous spills.
- Increasing education and outreach for recreationalists and associated businesses. Where needed, direct activities to particular seasons or away from sensitive habitat.

### **Columbia Plateau Summary**

The floods, silt and winds that drift across the Columbia Plateau have created ideal conditions for agriculture. Dryland wheat is an important commodity here, and this ecoregion produces most of Oregon's grain. Over 80% of the ecoregion's population is located in the portion of this ecoregion within Umatilla County, including Pendleton and Hermiston.

Conservation opportunities for native vegetation are limited because it is difficult to maintain connectivity between isolated high-quality habitat patches. Meeting water demands for agriculture, irrigation, domestic livestock, as well as fish and wildlife populations, is challenging. Water quantity influences water quality, particularly in summer months when flows are reduced. Eighty-four percent of the Columbia Plateau ecoregion is privately owned. Thus, voluntary cooperative approaches are key to long-term conservation.

Strategy Habitats identified for the Columbia Plateau ecoregion include: grasslands, sagebrush steppe, riparian, wetlands, and aquatic habitats.

Of the Conservation Strategy's six key conservation issues, water quality and quantity and invasive species are of greatest concern in this ecoregion. In addition to addressing these issues, actions for the Columbia Plateau include encouraging participation in and support for programs such as the Natural Resources Conservation Service Conservation

Reserve Program, which promote practices that can offset or minimize soil erosion and that can provide habitat for fish and wildlife.

### **East Cascades Summary**

The East Cascades ecoregion varies dramatically from its cool, moist border with the West Cascades ecoregion to its dry eastern border where it meets sagebrush country. Terrain ranges from forested uplands to marshes and agricultural fields at lower elevations. Tourism, recreation, forestry, and agriculture support a diverse economy.

Development and land management practices have affected habitats. For example, timber harvest practices, historic overgrazing and fire suppression have altered the distribution and structure of much of the ecoregion's historic habitats. Urban and rural residential development is another emerging conservation issue, with implications for the loss of big game winter range and development within riparian zones. Along with development, Highway 97 traffic volume continues to increase, creating a major barrier to wildlife movement.

Strategy Habitats in the East Cascades ecoregion include ponderosa pine woodlands, oak woodlands, riparian, wetlands, and aquatic habitats.

Of the Conservation Strategy's six key conservation issues, invasive species, altered disturbance regimes, water quality and quantity, and land use changes are of greatest concern in the East Cascades ecoregion. For altered disturbance regimes, fire is the primary concern, although floodplain function is an issue in some valleys, particularly at lower elevations. In addition to addressing these issues, some actions for the East Cascades include:

- Working with community leaders and agency partners to identify wildlife migration corridors and to fund and implement site-appropriate mitigation measures such as drift fences to overpasses or underpasses when planning transportation projects.
- Increasing education and outreach for recreationalists and associated businesses. Where needed, direct activities to particular seasons or away from sensitive habitat.

### **Klamath Mountains Summary**

The Klamath Mountains ecoregion contains wide ranges in elevation, topography and climate -- from the lush, rainy west to the dry, warmer interior valleys to cold, snowy mountains. The Klamath-Siskiyou region of southwest Oregon and northwest California is recognized internationally for its global biological significance and is considered a world "Centre of Plant Diversity" by the World Conservation Union.

The Klamath Mountains ecoregion has the second fastest-growing human population in Oregon behind the Willamette Valley. 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.

Overall, forest habitats are challenged by decades of fire suppression, and by "checkerboard" ownership patterns that can make resource planning particularly challenging. Grasslands in the Klamath Mountains 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 conditions in the ecoregion are improving, although these remain concerns in some areas. Many of the improvements can be attributed to local collaborative conservation efforts via watershed councils and other groups.

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

Of the Conservation Strategy's six Key Statewide Conservation issues, land use changes, altered disturbance regimes, water quality and quantity, and invasive species are of greatest concern in the Klamath Mountains. For altered disturbance regimes, fire is the primary concern, although floodplain function is an issue in some valleys, particularly at lower elevations. In addition to addressing these issues, actions in the Klamath Mountains could include planning mineral extraction activities to minimize potential impact on species and habitat by focusing extraction efforts in areas with existing roads and minimizing disturbance to sites with rare plant concentrations.

### **Northern Basin and Range Summary**

Situated in the rain shadow of the Cascades Mountains, the Northern Basin and Range is Oregon's driest ecoregion. It is characterized by extreme ranges in daily and seasonal temperatures. Runoff from precipitation and mountain snowpack often flows into low, flat playas where seasonal shallow lakes and marshes provide important stopover sites for migrating birds due to the rich source of invertebrate prey. Sagebrush communities dominate the landscapes in this arid ecoregion.

The Northern Basin and Range is sparsely inhabited, but local communities have vibrant cultural traditions and a strong sense of place. The Bureau of Land Management manages most of the land in the ecoregion. Livestock and agriculture form the foundations of the

regional economy. Uncontrolled livestock grazing in the decades before enactment of the Taylor Grazing Act of 1934 caused serious long-term ecological damage throughout the ecoregion. Rangeland conditions have substantially improved since then in most areas. Although grazing is managed sustainably in many parts of the ecoregion, impacts remain in some areas and recovery has been slow in others. Water is a scarce resource in the Northern Basin and Range where it is often fully allocated to storage and other uses. Associated water quality is impacted by high temperatures and in some areas by bacteria, contaminants, and aquatic invasive plants.

Strategy Habitats identified for the Northern Basin and Range ecoregion include big sagebrush shrublands, aspen woodlands, riparian, wetlands, and aquatic habitats.

Of the Conservation Strategy's six key conservation issues, invasive species, water quality and quantity, and altered disturbance regimes, primarily fire, are of greatest concern. Invasive annual plants and wildfires interact, creating a fire cycle that results in domination by invasives. In addition to addressing these issues, some actions for the Northern Basin and Range include:

- Working cooperatively with land managers and off-highway vehicle groups to direct use to maintained trails in low-impact areas and improve enforcement of existing off-highway vehicle rules.
- Continuing to proactively manage livestock grazing and restore degraded habitats, including minimizing grazing during restoration of highly sensitive areas, such as wetlands and riparian areas.

### **West Cascades Summary**

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 threatened and endangered species. Much of the remnant late successional forests on public land are managed with an emphasis on biodiversity under the Northwest Forest Plan. The Northwest Forest Plan identifies conservation priorities for species affected by loss and fragmentation of large patches of late successional forests, assessing over 1,000 species. However, the adaptive management component of the Northwest Forest Plan has not been fully implemented. (See the Northwest Forest Plan description in Appendix II.

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

Of the Conservation Strategy's six key conservation issues, altered disturbance regimes (primarily fire) and invasive species are of greatest concerns. In addition to addressing these issues, some actions for the West Cascades include:

- Maintaining current management for a diverse array of species and habitats.
- Continuing implementation of existing plans, and explore options for implementing the adaptive management component of the Northwest Forest Plan.

### **Willamette Valley Summary**

The Willamette Valley ecoregion has the fastest-growing human population in Oregon and densest population. It supports the states' three largest urban centers (Portland, Salem, Eugene). The 2050 population is projected to be approximately 4 million—nearly double the 2000 population. The ecoregion houses Oregon's economic engines: Six of the top ten agricultural-producing counties and 16 of the top 17 private sector employers.

The majority of the Willamette Valley ecoregion has been altered by development. The Willamette River has been disconnected from its floodplain and much of the Valley's historic habitats have been fragmented. About 96 percent of the Willamette Valley ecoregion is privately owned, presenting challenges to conservation management. Thus, voluntary cooperative approaches are key to long-term conservation.

Strategy Habitats identified for the Willamette Valley ecoregion include: oak woodlands, grasslands, wetlands, riparian, and aquatic habitats.

Of the Conservation Strategy's six key conservation issues, land use changes, altered disturbance regimes (both fire and floodplain function) and invasive species are of greatest concerns. In addition to addressing these issues, some actions include:

- Maintaining and restoring fish and wildlife habitats in urban centers.
- Conserving, restoring and reconnecting high value habitats.