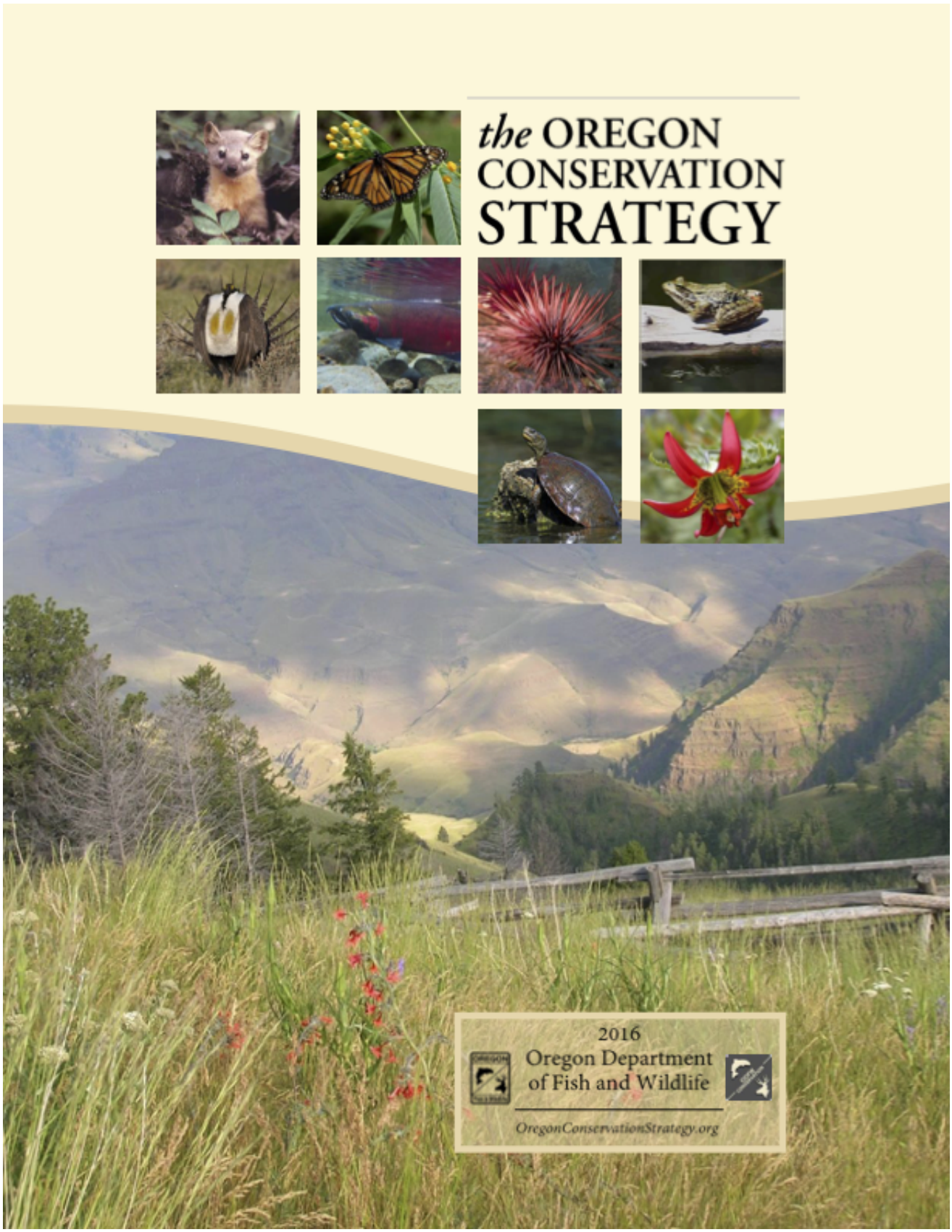
the OREGON
CONSERVATION
STRATEGY
2016
Oregon Department
of Fish and Wildlife
OregonConservationStrategy.org

Table Of Contents

Oregon Conservation Strategy ecoregionsÂ provide information on each of Oregonâ€™s nine ecoregions, which are portions of the state with similar climate and vegetation. Information is provided on the characteristics, conservation issues and priorities, limiting factors, recommended approaches, Strategy Species, and Strategy Habitats for each ecoregion. Press the map (thumbtack) icon at the top right corner of this page to see a map of the ecoregions, or visit the Oregon Department of Fish and Wildlife (ODFW) Compass mapping application.

For the inland portion of the state, the Strategy uses the Environmental Protection Agencyâ€™s (EPA) Level III Ecoregions, but combines the Snake River Plain with the Northern Basin and Range. The Strategy designates the Nearshore ecoregion from the outer boundary of Oregonâ€™s Territorial Sea at 3 nautical miles to the supratidal zone affected by wave spray and overwash at extreme high tides on our ocean shoreline, and up into the portions of estuaries where species depend on the saltwater that comes in from the ocean.

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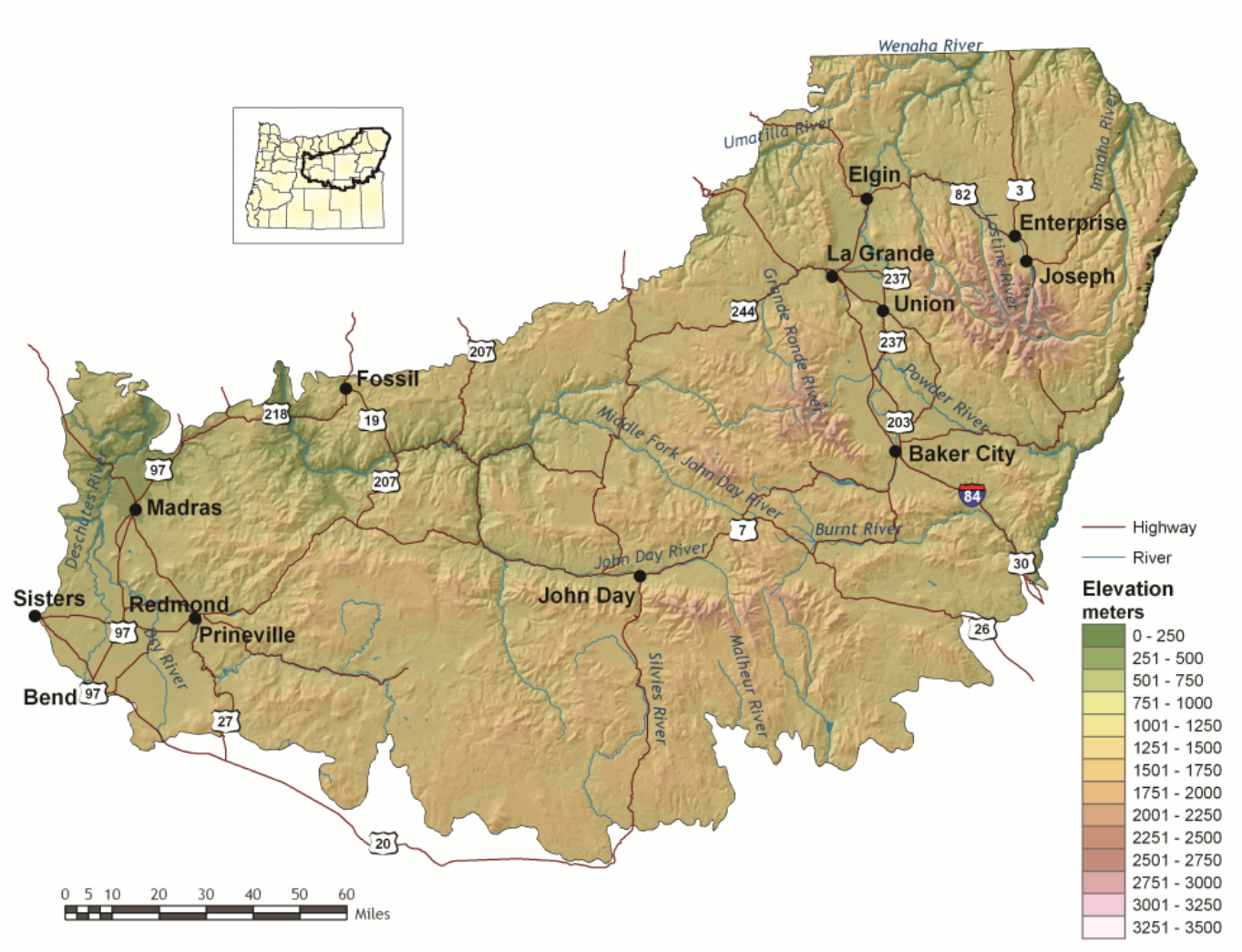
Blue Mountains

DESCRIPTION

At 23,984 square miles, the Blue Mountains ecoregion is the largest ecoregion in Oregon. Although named for its largest mountain range, the Blue Mountains ecoregion is a diverse complex of mountain ranges, valleys, and plateaus that extends beyond Oregon into the states of Idaho and Washington. This ecoregion contains deep rock-walled canyons, glacially-cut gorges, sagebrush steppe, juniper woodlands, mountain lakes, forests, and meadows. Broad alluvial-floored river valleys support ranches surrounded by irrigated hay meadows and wheat fields. The climate varies over broad temperature and precipitation ranges because of elevational differences. Overall, the ecoregion has short, dry summers and long, cold winters. Because much of the precipitation falls as snow, snow melt gives life to the rivers and irrigated areas.

Wood products and cattle production dominate the economy of the ecoregion, but dryland wheat and alfalfa are important in the river valleys. The ecoregion supports some of the finest big game hunting in the state and attracts tourists year-round, offering scenic lakes and rivers, geologic features, and alpine areas. It includes the Prineville-Bend-Redmond area, one of the fastest growing areas in the state, along with the cities of La Grande, Baker, Enterprise, and John Day.

CHARACTERISTICS



Important Industries

Agriculture, livestock (e.g., beef cattle, dairy cattle, sheep, poultry, hogs), forest products, manufacturing, recreation (e.g., hunting, fishing, skiing, camping)

Major Crops

- Wheat,
- alfalfa,
- potatoes,
- onions,
- sugar beets,
- carrots,
- field corn,
- mint

Important Nature-based Recreational Areas

John Day Fossil Beds National Monument, Hellâ€™s Canyon National Recreational Area and Hellâ€™s Canyon Wilderness, Wallowa Lake, Umatilla National Wildlife Refuge, John Day and Grande Ronde Rivers, Lake Billy Chinook, Smith Rock, and wilderness areas (especially Eagle Cap, Strawberry Mountain, North Fork John Day, and Wenaha-Tucannon Wildernesses)

Elevation

1,000 feet (Snake River) â€“ 9,838 feet (Sacajawea Peak)

Important Rivers

Deschutes, Grande Ronde, Imnaha, John Day, Malheur, Powder, Silvies, Snake, Umatilla, Wallowa

Ecologically Outstanding Areas

Malheur headwaters, Bear Valley, and the Umatilla-Walla Walla headwaters

While the Blue Mountains ecoregion contains some of the largest intact native grasslands in the state and several large areas managed for conservation values, habitats have been impacted by interrelated changes in ecological processes due to fire suppression, selective harvest practices, and unsustainable grazing. These changes have increased vulnerability of forests to insects, disease, and uncharacteristically severe wildfire. Similarly, these changes have led to increased invasive species and increased vulnerability to wildfire in sagebrush shrublands and steppe.

Habitat loss has been the most severeÂ in lower elevation valley bottom habitats, such as riparian areas, wetlands, and shrublands, where native vegetation has been converted to agricultural uses. These low-elevation habitats are highly fragmented. Therefore, maintaining connectivity and corridors for wildlife is especially important in these areas. Increasing recreational pressure and invasive species can potentially impact all habitats in this ecoregion.

Key Conservation Issues (KCIs) of particular concern in the Blue Mountains ecoregion include Disruption of Disturbance Regimes (fire), Land Use Changes, Water Quality and Quantity, and Invasive Species. In addition to the statewide issues, uncontrolled off-highway recreational vehicle use and unregulated horse herds are of increasing concern in this ecoregion.

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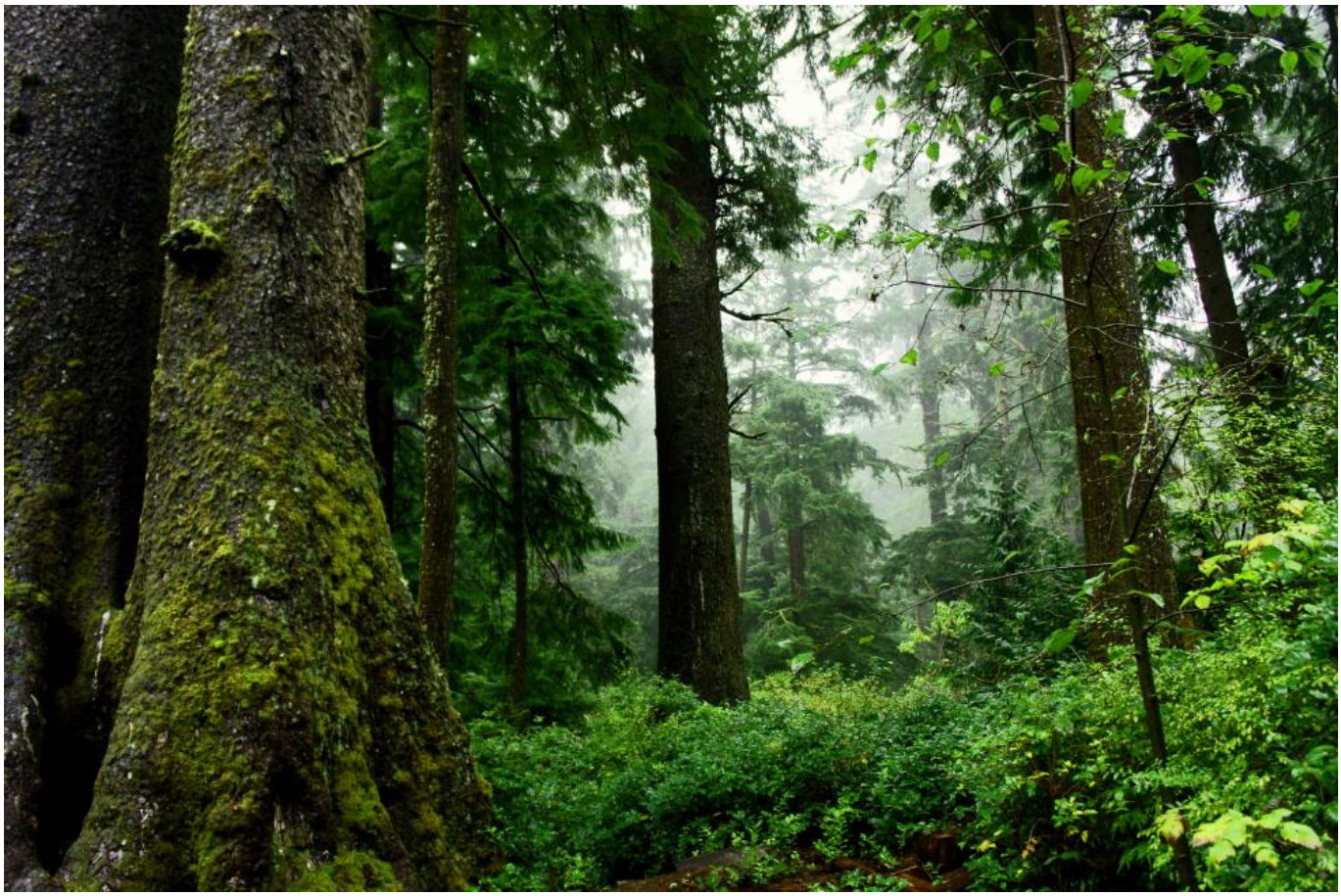
Photo Credit: USFS. The Middle Fork John Day River in Oregon's Blue Mountains ecoregion.[/caption]



Coast Range

DESCRIPTION

Oregonâ€™s Coast Range is known for its dramatic scenery. It is also extremely diverse, with habitats ranging from open sandy dunes to lush forests and from tidepools to headwater streams. The Coast Range ecoregion includes the entire reach of the Oregon coastline and extends east through coastal forests to the border of the Willamette Valley and Klamath Mountains ecoregions.

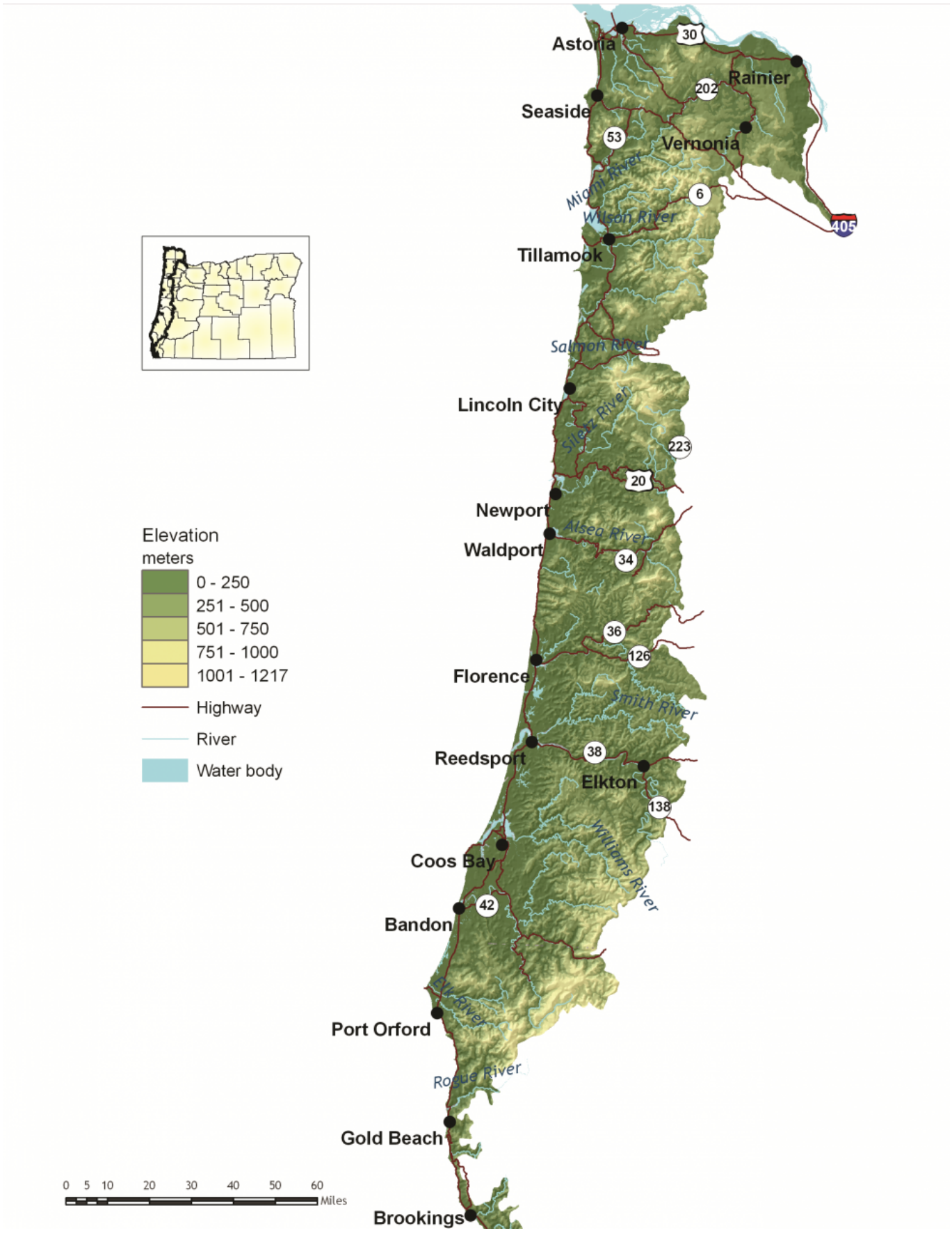
In general, the topography is characterized by steep mountain slopes and sharp ridges. Elevation varies from the ocean shoreline to Marys Peak, which is about 4,100 feet high; however, main ridge summits are approximately 1,400-2,500 feet.Â The Coast Range ecoregionÂ is bordered by the Nearshore ecoregion on the ocean shores and intersects it in Oregonâ€™s estuaries.

The Coast Rangeâ€™s climate is influenced by cool, moist air from the ocean, and is the wettest and mildest in the state. The ecoregion'sÂ mild, moist climate creates conditions for highly productive temperate rainforests, which are important ecologically and for local economies. Most of the ecoregion is dominated by coniferous forests. Large forest fires are very infrequent but are severe when they occur. For example, the Tillamook Burn, which is actually a series of wildfires that occurred from 1939-1951, burned approximately 350,000 acres. The Coast Range includes the highest density of streams found in the state, and deciduous riparian vegetation is distinct from surrounding coniferous forests. Along the coastal strip, habitats are influenced by the marine environment and include beaches, estuaries, and headlands.

Some towns in Oregonâ€™s Coast Range ecoregion include: Tillamook, Yachats, Astoria, Bandon, Cannon Beach, Elkton, Florence, Gold Beach, Lincoln City, Newport, and Waldport. The largest urban area on the coast is in Coos Bay/North Bend. Because of the bay and the Coos River, this area is a hub for fishing, shellfish, forest products, and transportation. Forestry

remains the primary industry in the interior portion of the ecoregion. The Oregon coast offers excellent recreational opportunities, and tourism is important to local communities. Fishing, both commercial and recreational, and fish processing are significant components of the economy. People are increasingly moving to the coast to retire, so retirement services are growing in importance to coastal communities.

CHARACTERISTICS



Important Industries

Timber, agriculture, commercial fishing, fish processing, tourism and recreation, and retirement services

Major Crops

Livestock forage, beef and dairy cattle

Important Nature-based Recreational Areas

Coos Bay; Tillamook Bay; Oregon sand dunes; Siuslaw and Siskiyou National Forests; Clatsop, Elliot, and Tillamook State Forests; Oregon Dunes National Recreation Area; numerous state parks and waysides

Elevation

From 0 to 4,100 feet

Important Rivers

Alsea, Chetco, Coos, Coquille, Illinois, Lewis and Clark, Necanicum, Nehalem, Nestucca, Rogue, Siletz, Siuslaw, Trask, Umpqua, Wilson, Yaquina, Youngs

Ecologically Outstanding Areas

Demand for waterfront property is increasing, along with numbers of people recreating, relocating, and retiring along the Oregon coast. Careful resource planning helps to balance these increasing demands with maintaining coastal fish, wildlife, and habitats. Coordinated, broad-scale planning is especially important given the diversity of the Coast Range ecoregion. For example, the Northwest Forest Plan covers much of the regionâ€™s forests. However, the adaptive management component of the Northwest Forest Plan has not been fully implemented. Although many plans currently exist, there is a continuing need to consider the unique requirements of transitional zones such as estuaries, and to integrate marine and inland conservation planning.

Much of the ecoregion is publicly owned and managed to balance recreation, tourism, and conservation. However, ownership in the northern part of the ecoregion is particularly fragmented. Restoration of watershed processes and functions, and restoration of habitat complexity (e.g., woody debris) to stream and riparian areas, are major concerns throughout the entire Coast Range ecoregion. Restoring flows to headwater streams maintains ecological connections important for many species.

Key Conservation Issues of particular concern in the Coast RangeÂ ecoregion include Land Use Changes and Invasive Species . In addition to the statewide issues, oil spills, loss of estuarine habitat, and recreational use are of particular concern in this ecoregion.

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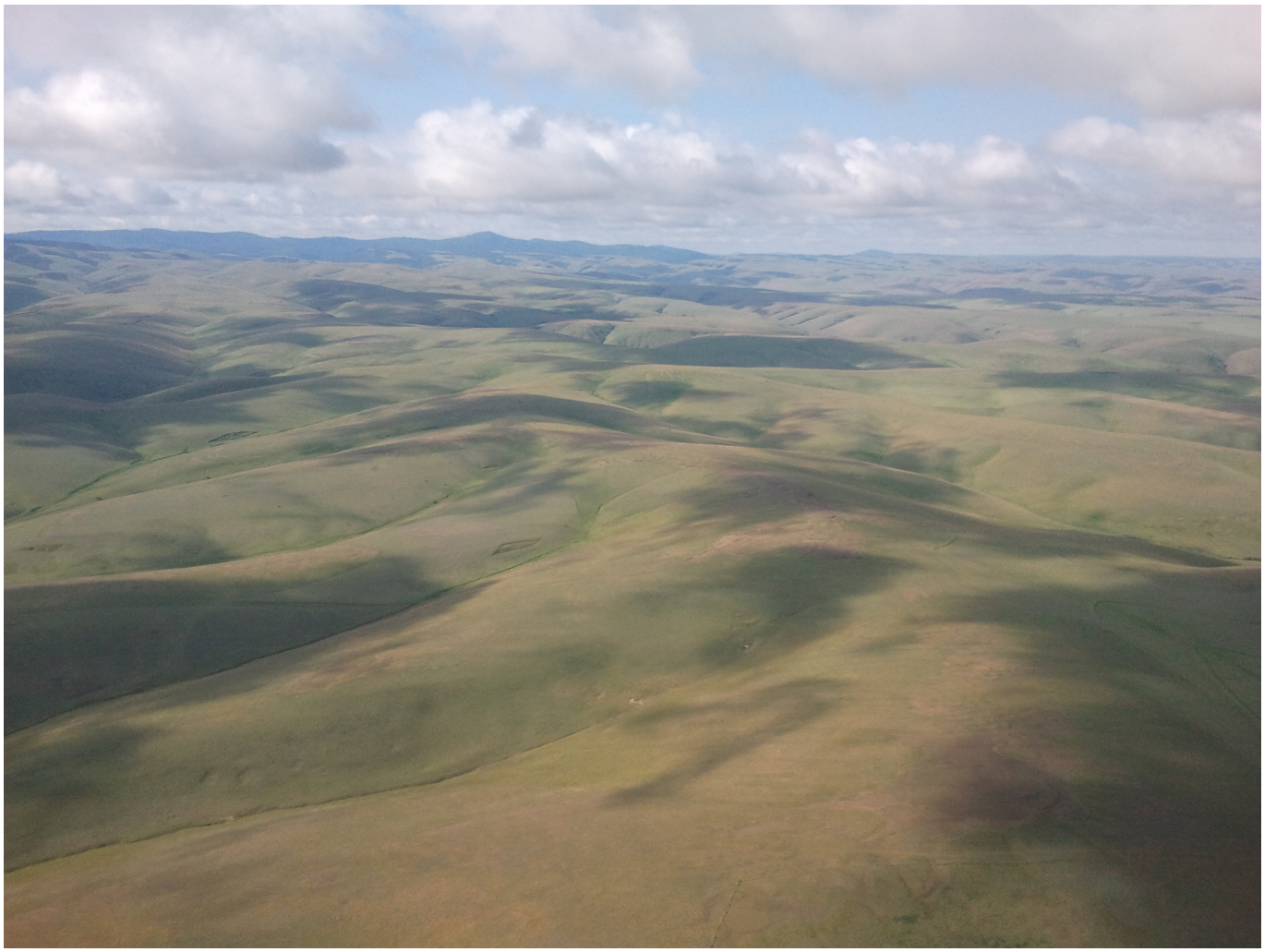
Photo Credit: Oregon Coastal Management Program. The Siuslaw River Estuary in Oregon's Coast Range ecoregion.[/caption]



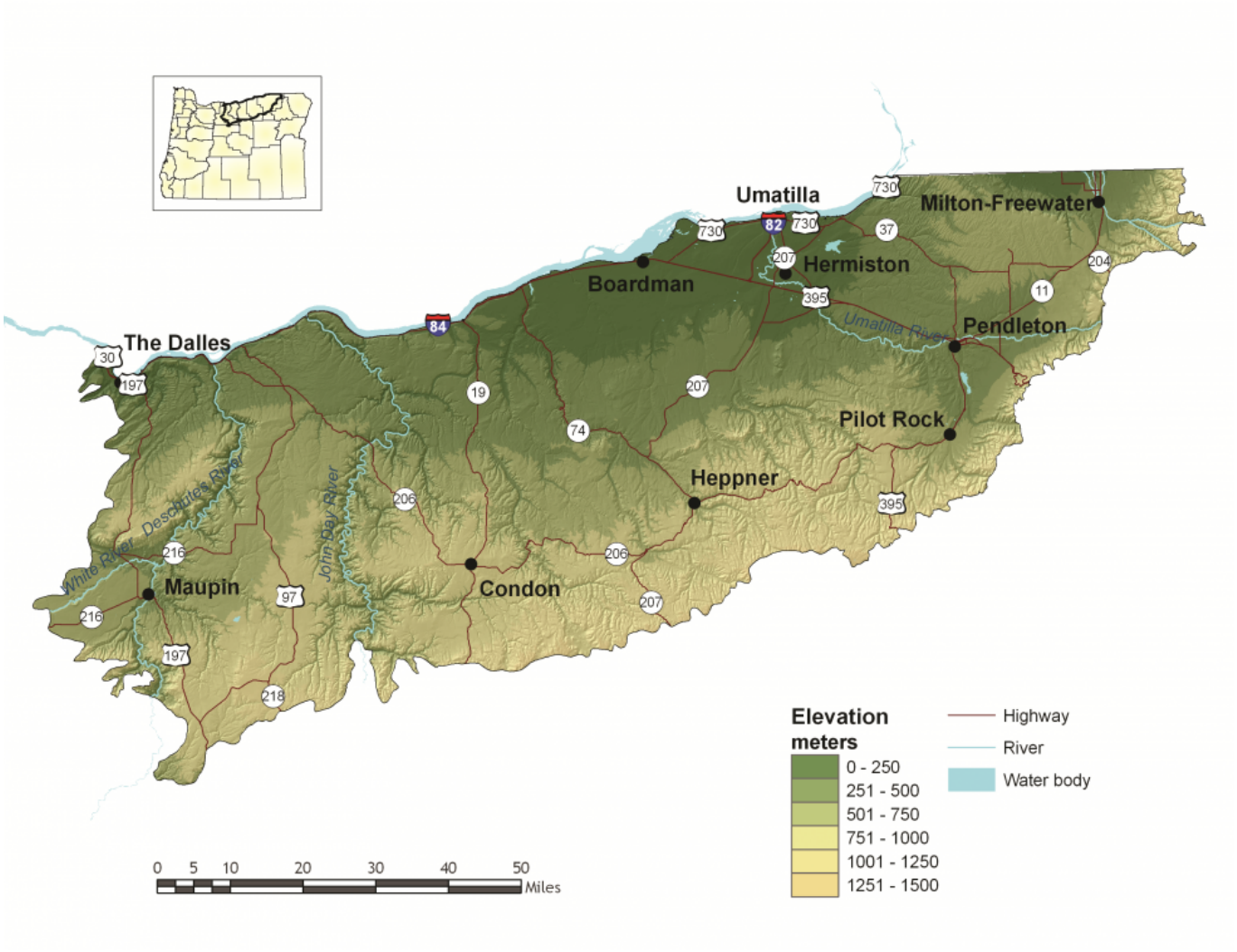
Columbia Plateau

DESCRIPTION

The Oregon portion of the Columbia Plateau ecoregion extends from the eastern slopes of the Cascade Mountains to the Blue Mountains ecoregion. Millions of years ago, the region was covered by lava flows up to 2 miles deep. The Columbia River Â delineates the northern border of the ecoregion in Oregon, and has greatly influenced the surrounding area with cataclysmic floods and large deposits of wind-borne silt and sand. Over time, winds scoured the floodplain, depositing silt and sand across the landscape and creating ideal conditions for agriculture: rolling lands, deep soil, and plentiful flowing rivers including the Deschutes and John Day. The ecoregion is made up entirely of lowlands, with an arid climate, cool winters, and hot summers.

The Columbia Plateau produces the vast majority of Oregonâ€™s grain, and grain production is the heart of the agricultural economy. The Columbia Plateau produces the second-highest agricultural sales per year for any ecoregion in Oregon. More than 80 percent of the ecoregionâ€™s population and employment is located in Umatilla County, which includes the cities of Pendleton and Hermiston. Other population centers include The Dalles, Condon, and Heppner.

CHARACTERISTICS



Important Industries

Agriculture, mobile home production, cattle, retail and services, construction

Major Crops

Grain, barley, potatoes, onions, fruit

Important Nature-based Recreational Areas

Cold Springs National Wildlife Refuge (NWR), Umatilla NWR, the canyons of the lower Deschutes and John Day Rivers

Elevation

100 feet (The Dalles) to 3,000 feet (northern slopes)

Important Rivers

Columbia, Deschutes, John Day, Umatilla, Walla Walla

Ecologically Outstanding Areas

Almost all of the Columbia Plateau ecoregion is privately owned. Conservation opportunities for native vegetation are limited because it is difficult to maintain connectivity among high quality habitat patches.

Water availability is a concern in this ecoregion, and demands for water include agricultural, irrigation, and domestic use. Water quality in the Columbia Plateau ecoregion is affected by these demands, particularly in summer months when flows are reduced. Restoring flow to headwater streams is essential to maintain ecological connections. Maintaining aquifers is also critical.

Key Conservation Issues of particular concern in this ecoregion include Water Quality and Quantity and Invasive Species. In addition to the statewide issues, soil erosion, habitat fragmentation, and large-scale energy development are of conservation concern in this ecoregion.

East Cascades

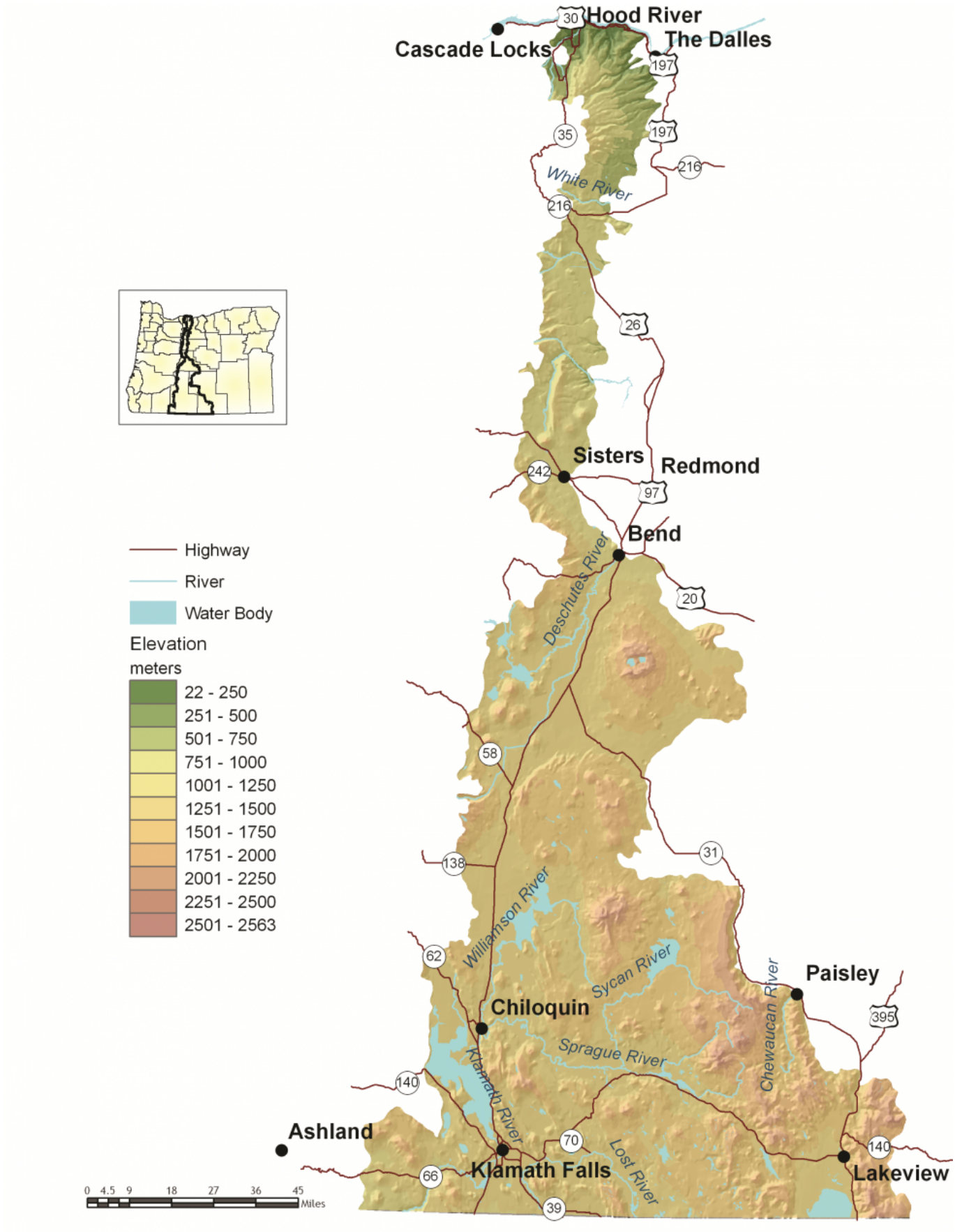
DESCRIPTION

The East Cascades ecoregion extends from just east of the Cascade Mountains' summit to the warmer, drier high desert to the east. Stretching the full north-to-south length of the state, the East Cascades is narrow at the Columbia River but becomes wider toward the California border. This ecoregion varies dramatically from its cool, moist border with the West Cascades ecoregion to its dry eastern border with the Northern Basin and Range ecoregion. The climate is generally dry, with wide variations in temperature. The East Cascades ecoregion includes several peaks and ridges in the 6,000-7,000 foot range, but overall the slopes on the east side of the Cascade Mountain Range are less steep and cut by fewer streams than the West Cascades ecoregion. The East Cascadesâ€™ volcanic history is evident through numerous buttes, lava flows, craters, and lava caves, and in the extensive deep ash deposits created by the explosion of historical Mt. Mazama during the creation of Crater Lake.

The terrain ranges from forested uplands to marshes and agricultural fields at lower elevations. The northern two-thirds of the East Cascades ecoregion is drained by the Deschutes River, ultimately flowing into the Columbia River. Most of the southern portion of the East Cascades ecoregion is drained by the Klamath River, with a small portion draining into Goose Lake, a closed basin. In general, the East Cascades is drier than the West Cascades, with fewer rivers flowing over the mountain slopes. However, the East Cascades is characterized by many lakes, reservoirs, and marshes, providing exceptional habitat for aquatic species and wildlife closely associated with water, including waterbirds, amphibians, fish, aquatic plants, and aquatic invertebrates. In fact, the East Cascades ecoregion supports some of the most remarkable biological diversity in the world.

When compared to Oregonâ€™s other ecoregions, the East Cascades has the second-highest average income (the Willamette Valley ecoregion supports the highest per-capita income). Much of this income is related to tourism and recreation, but forestry and agriculture also provide important roles. Towns include Bend, Klamath Falls, Lakeview, and Hood River; many of these towns are experiencing rapid population growth. Most of the Warm Springs Indian Reservation is found in the East Cascades ecoregion.

CHARACTERISTICS



Important Industries

Recreation (tourism and hospitality), lumber and wood, agriculture

Major Crops

Fruit (Hood River Valley), wood, potatoes, onions, barley (Klamath Basin), alfalfa, and cattle (Lake County)

Important Nature-based Recreational Areas

Klamath Marsh, Goose Lake, Newberry Crater National Monument, high Cascade lakes along Century Drive, Pine Mountain, Warner Mountains, Wilderness Areas (Gearhart, Badger Creek), Metolius and Deschutes sub-basins

Elevation

70 feet (in the Columbia River Gorge area) to over 7,700 feet (peaks in the eastern portion of the ecoregion)

Important Rivers

Deschutes, Hood, Klamath, Metolius, Link, Williamson, Sycan, and Sprague

Ecologically Outstanding Areas

Habitats of the East Cascades ecoregion present much variation, from sagebrush flats to alpine fields. The conservation issues are similarly diverse as well as complex. Timber harvest practices, grazing, and fire suppression have altered the distribution and structure of much of the ecoregion's historical ponderosa pine forests and oak woodlands, and many riparian and wetland habitats have been degraded. Rapidly expanding urban and rural residential development is another major emerging conservation issue, resulting in development within riparian zones, the loss of big game winter range, and water diversions to support development. Along with this development, Highway 97 traffic volume continues to increase, creating a major barrier to wildlife movement. Lastly, a high percentage of wetlands have been converted in the Klamath Basin, and water continues to be a complex and challenging issue in the area.

Key Conservation Issues of particular concern in the East Cascades ecoregion include Invasive Species, Disruption of Disturbance Regimes, Water Quality and Quantity, and Land Use Changes. In addition to the statewide issues, habitat fragmentation and increasing recreational use are of concern in this ecoregion.

Klamath Mountains

DESCRIPTION

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. The Rogue watershed has the largest population of any coastal watershed in Oregon (Jackson County, Josephine County, and a portion of Curry County). Several popular and scenic rivers run through the ecoregion, including the Umpqua, Rogue, Illinois, and Applegate rivers. Many salmon and steelhead make their homes in these rivers. Even though many streams in the Rogue sub-basin dry up naturally in summer, the streams are still used for spawning by salmon and steelhead at other times of the year.

Within the ecoregion, there are wide ranges in elevation, topography, geology, and climate. The elevation ranges from about 600 to more than 7,400 feet, from steep mountains and canyons to gentle foothills and flat valley bottoms. This variation, along with the varied marine influence, supports a climate that ranges from the lush, rainy western portion of the ecoregion to the dry, warmer interior valleys and cold, snowy mountains.

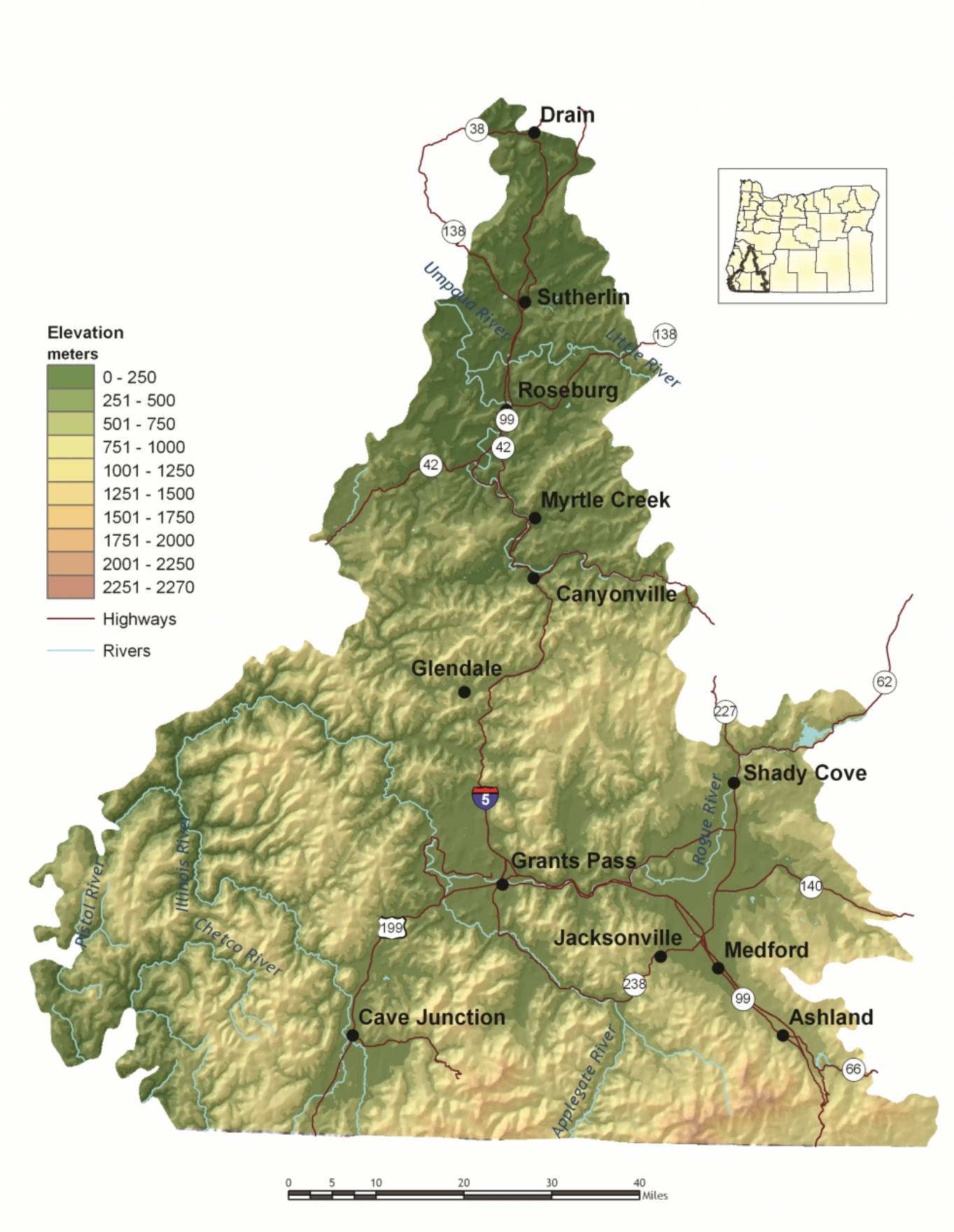
Unlike other parts of Oregon, the landscape of the Klamath Mountains ecoregion has not been significantly shaped by volcanism. The geology of the Klamath Mountains can be better described as a mosaic rather than the layer-cake geology of most of the rest of the state. In the Klamath Mountains, serpentine 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 Oregonâ€™s most classic â€œgold rushâ€• 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 Fundâ€™s assessment of the 200 locations most important for species diversity world-wide. The area is also proposed as a World Heritage Site and UNESCO Biosphere Reserve. 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 4,000 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 Center of Plant Diversity by the World Conservation Union. The ecoregion also boasts many unique invertebrates, although many of these are not as well studied as their plant counterparts.

In June 2000, President Clinton established the Cascade-Siskiyou National Monument, which encompasses 86,774 acres of forest and grassland. This National Monument is the first U.S. National Monument set aside solely for the preservation of biodiversity. The United States Congress designated the Soda Mountain Wilderness in 2009, which now has over 24,700 acres. All of this wilderness is managed by the Bureau of Land Management (BLM).

While panning for gold first drew European settlers to the Klamath Mountains ecoregion, todayâ€™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.

CHARACTERISTICS



Important Industries

Lumber and wood 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

Elevation

600 feet to 7,500 feet (Mt. Ashland)

Important Rivers

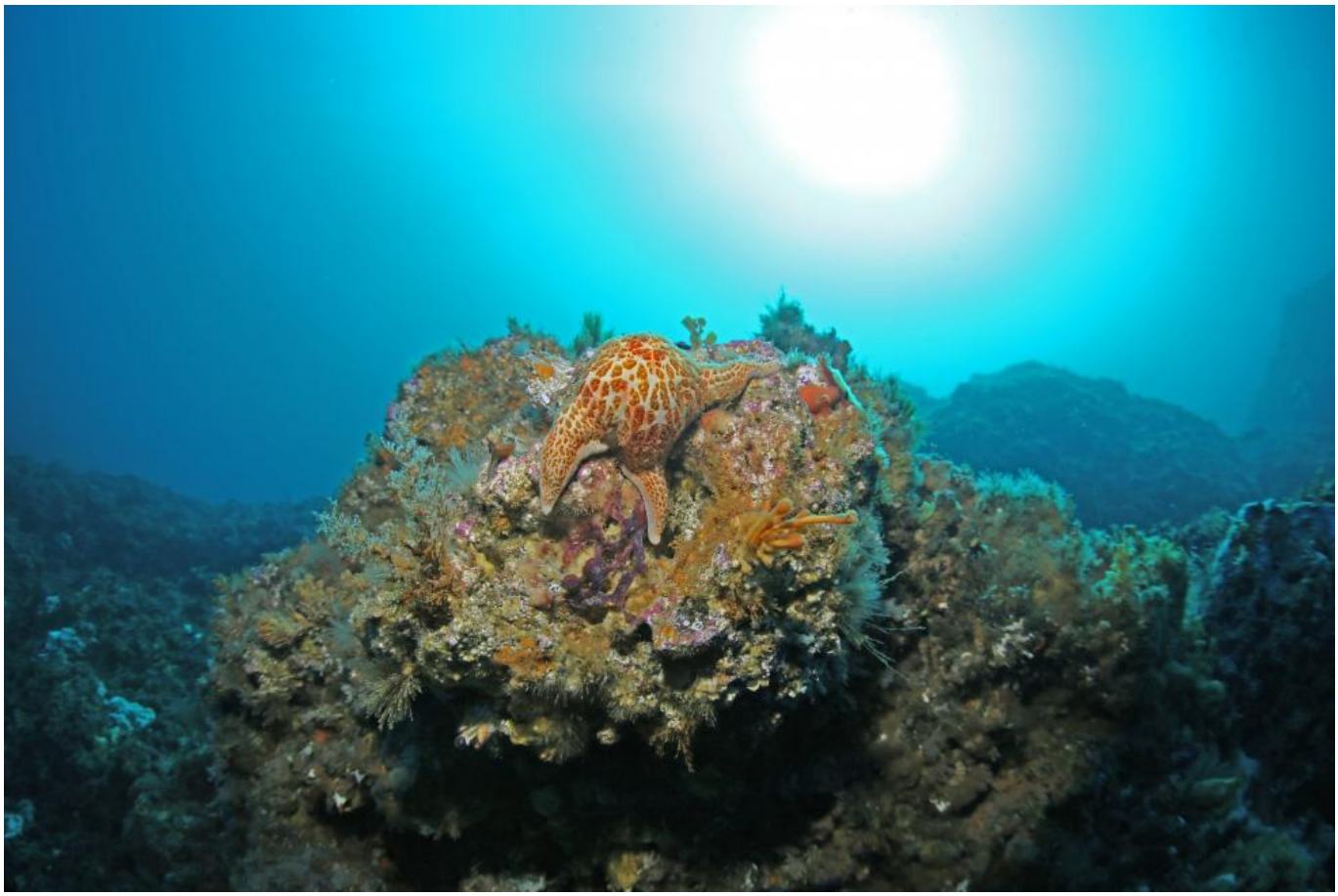
Applegate, Rogue, Chetco, Coquille, Umpqua, Illinois

Ecologically Outstanding Areas

While the Klamath Mountains ecoregion is 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 Mountains is the second fastest-growing ecoregion in Oregon (the Willamette Valley ecoregion 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. 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 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.

Key Conservation Issues of particular concern in the Klamath Mountains ecoregion include Land Use Changes, Disruption of Disturbance Regimes, and Invasive Species. In addition to the statewide issues, loss of habitat connectivity and mineral extraction are of concern in this ecoregion. Many unique plant and soil features are found in this ecoregion, including granitic sediments in many streambeds. These features are highly sensitive to local disturbances.



Nearshore

DESCRIPTION

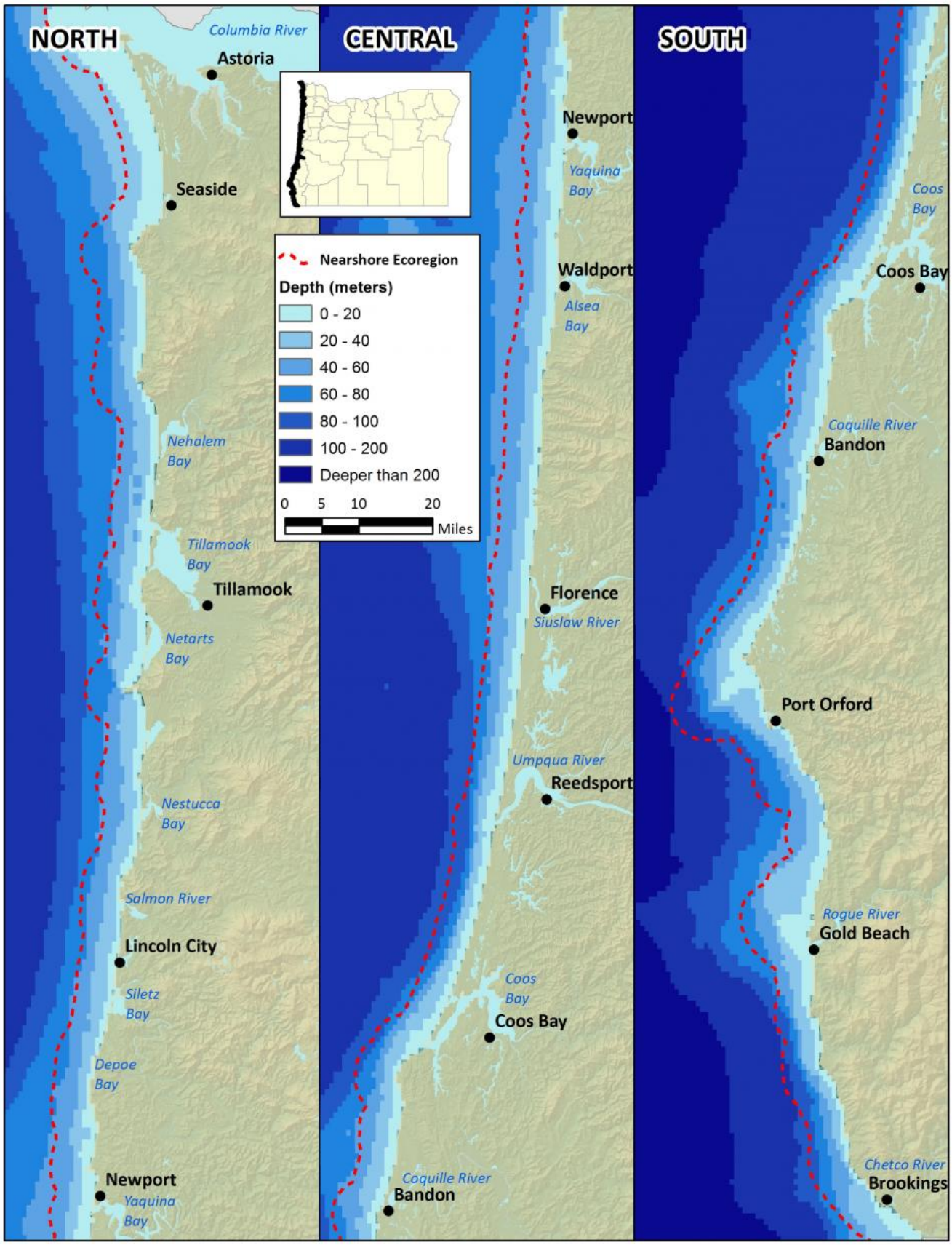
Oregonâ€™s Nearshore ecoregion offers opportunities for boating, surfing, wildlife viewing, fishing, crabbing, clamming, and recreational pursuits. It supports commercial fish harvests, shipping, and ecosystem services that benefit all Oregonians. The nearshore environment includes a variety of habitats ranging from submerged high-relief rocky reefs to broad expanses of intertidal mudflats in estuaries. It is home to a vast array of fish, invertebrates, marine mammals, birds, algae, plants, and micro-organisms. These habitats and species are integral parts of Oregonâ€™s complex nearshore ecosystem, and are interconnected through food webs, nutrient cycling, habitat usage, and ocean currents. They are also influenced by a multitude of other biological, physical, chemical, geological, and human use factors.

The Nearshore ecoregion encompasses the area from the outer boundary of Oregonâ€™s Territorial Sea at 3 nautical miles to the supratidal zone affected by wave spray and overwash at extreme high tides on the ocean shoreline, and up into the portions of estuaries where species depend on the saltwater that comes in from the ocean. The Nearshore ecoregion is bordered by the Coast Range ecoregion on the ocean shores and intersects it in Oregonâ€™s estuaries.

Nearshore ocean ecology is influenced by environmental conditions in adjacent estuarine, terrestrial, and freshwater habitats. The nearshore ocean is extensively linked with the atmosphere and the dynamic offshore waters of the California Current Large Marine Ecosystem. It is heavily influenced by human coastal development and populations.

The ODFWâ€™s Marine Resources Program has updated the Oregon Nearshore Strategy to provide a comprehensive, sustainable approach to marine species and habitat management. The Nearshore Strategy addresses marine species, including saltwater fish, shellfish, marine mammals, and seabirds, and their habitats.

CHARACTERISTICS



Important Industries

Commercial fishing, fish processing, tourism and recreation (including recreational fishing, shellfish harvest, and wildlife viewing), shipping, and retirement services

Major Crops

Important Nature-based Recreational Areas

Open water, subtidal rocky reefs, sandy beaches, rocky intertidal areas, surf zone, estuaries

Elevation

From approximately 10 feet above to 636 feet below sea level

Important Rivers

Alsea Bay, Chetco River, Columbia River, Coos Bay, Coquille River, Depot Bay, Elks River, Necanicum River, Nehalem Bay, Nestucca Bay, Netarts Bay, Pistol River, Rogue River, Salmon River, Sand Lake, Siletz Bay, Siuslaw River, Sixes River, Tillamook Bay, Umpqua River, Windchuck River, Yaquina Bay

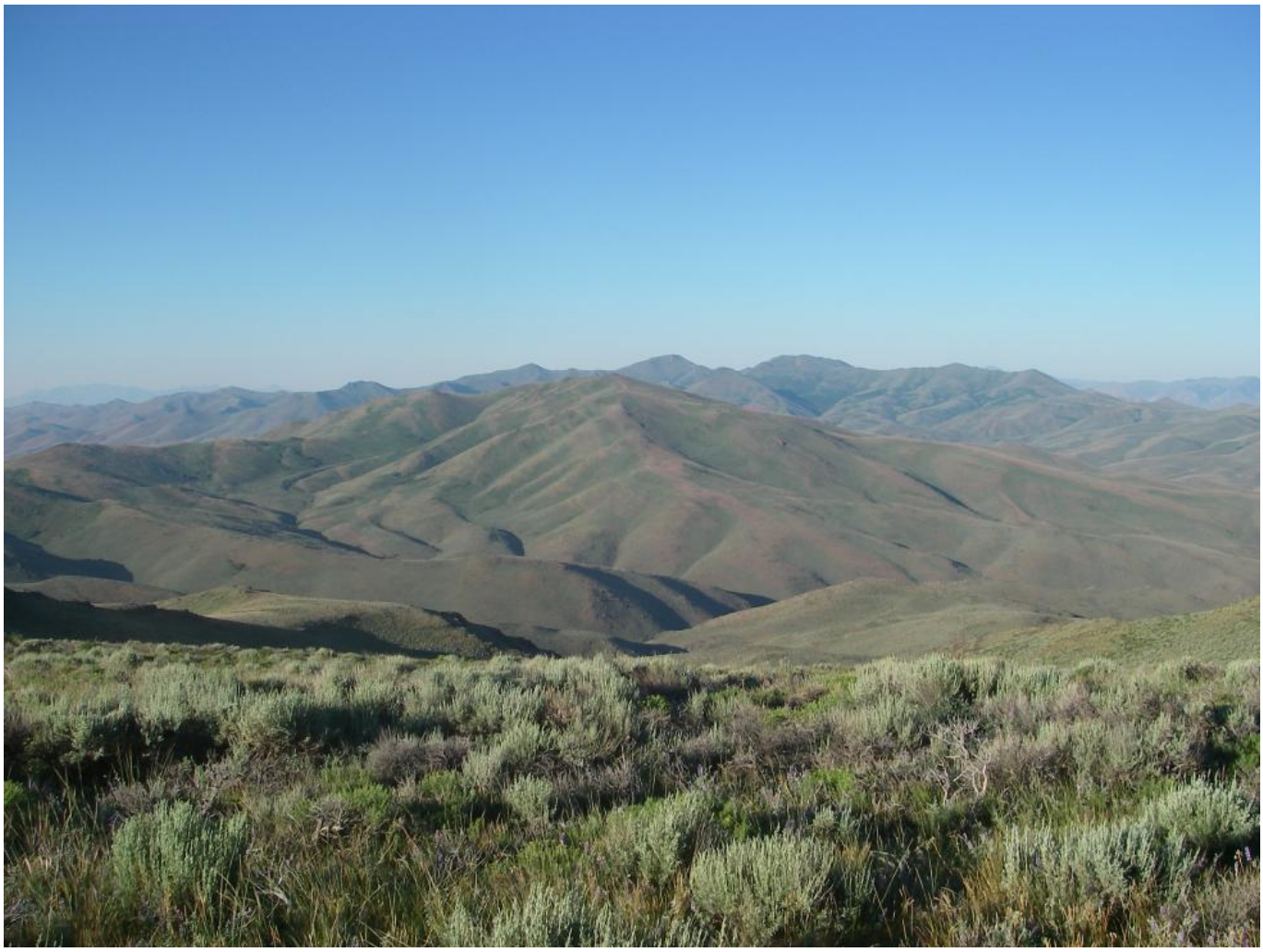
Ecologically Outstanding Areas

Oceanographic influences: California current, seasonal upwelling

Oregonâ€™s ecosystem-based management approach recognizes the role human populations play as a part of ecological systems. As human activities in and around the Nearshore ecoregion increase, human impacts on the fish, wildlife, and their habitats may also increase. Of Oregonâ€™s 33 coastal cities, 12 are active ports supporting vessel traffic to and from ocean waters, and all are an integral part of coastal ecology. Coastal development, tourism, recreation, sport and commercial fishing, dredging, wastewater disposal, aquaculture, and energy development are just a few nearshore resource uses that benefit human communities. However, along with the benefits, there are potentially adverse effects on nearshore resources. Proactive management and planning are needed to anticipate and avoid or minimize negative environmental consequences of human activities.

Oregonâ€™s nearshore environment is a public domain that is managed in trust by the State of Oregon, and as such, conservation of nearshore resources requires collaboration among a broad range of management agencies and public user groups. The stateâ€™s management of nearshore fish and wildlife resources falls mainly under the purview of the ODFW. Human use issues, such as water pollution, vessel traffic, or access to public lands, are managed by other state agencies, local governments, tribal governments, and federal entities. For more information about jurisdictional boundaries and authority within Oregonâ€™s nearshore environment, see the â€œAgency Programs and Authorities in Oregonâ€™s Nearshore Areaâ€• diagram in the Oregon Nearshore Strategy.

To balance human use benefits with conservation concerns, many management actions are designed to maintain access to natural resources while preventing serious depletion or damage. Natural resource management must also account for the needs of both present and future generations, which requires taking a long-term view. To meet these goals, the Oregon Nearshore Strategy recommends 12 conservation and management priority actions. These actions address nearshore issues that are in need of immediate or timely attention, are feasible to implement given appropriate funding, and have received some level of public support. There are three general categories of action: 1) education and outreach, 2) research and monitoring, and 3) management and policy. The conservation of marine resources is the responsibility of all users, to ensure the long-term productivity of marine ecosystems. Several selected opportunities for conservation, education, research, and management based on the 12 recommendations within the Oregon Nearshore Strategy are listed below.



Northern Basin and Range

DESCRIPTION

The Northern Basin and Range ecoregion is sagebrush country. It is Oregonâ€™s slice of the Old West, with rich ranching and farming traditions.

The Northern Basin and Range ecoregion covers the southeastern portion of the state, from Burns south to the Nevada border and from the Christmas Valley east to Idaho. The name describes the landscape, numerous flat basins separated by isolated mountain ranges. Several important mountains are fault blocks, with gradual slopes on one side and steep basalt rims and cliffs on the other side. The Owyhee Uplands consist of a broad plateau cut by deep river canyons. Elevations range from 2,070 feet near the Snake River to more than 9,700 feet on the Steens Mountain.

In the rain shadow of the Cascades Mountains, the Northern Basin and Range is Oregonâ€™s driest ecoregion marked by extreme ranges of daily and seasonal temperatures. Much of the ecoregion receives less than 15 inches of precipitation per year, although mountain peaks receive 30-40 inches per year. The extreme southeastern corner of the state has desert-like conditions, with annual precipitation of only 8-12 inches. Runoff from precipitation and mountain snowpack often flows into low, flat playas where it forms seasonal shallow lakes and marshes. Most of these basins contained large, deep lakes during the late Pleistocene, between 40,000 and 10,000 years ago. As these lakes, which donâ€™t drain to the ocean, dried through evaporation, they left salt and mineral deposits that formed alkali flats, extremely important stopover sites for migratory shorebirds due to the rich source of invertebrate prey.

Sagebrush communities dominate the landscape. Due to the limited availability of water, sagebrush is usually widely spaced and associated with an understory of forbs and perennial bunchgrasses, such as bluebunch wheatgrass and Idaho fescue. The isolated mountain ranges have few forests or woodlands, with rare white fir stands in Steens Mountain and Hart Mountain. However, aspen and mountain mahogany are more widespread and can be found in the Trout Creeks, Steens Mountain, Pueblo Mountains, Oregon Canyon Mountain, and Mahogany Mountains. In the southern portion of the ecoregion, there are vast areas of desert shrubland, called salt-desert scrub, dominated by spiny, salt-tolerant shrubs. Throughout the ecoregion, soils are typically rocky and thin, low in organic matter, and high in minerals.

The Northern Basin and Range ecoregion is sparsely inhabited, but the local communities have vibrant cultural traditions. The largest community is Ontario, with more than 11,000 people. Other communities include Nyssa, Vale, Burns, and Lakeview, with 2,400 to 3,100 people each. Land ownership is mostly federal and primarily administered by the BLM. Livestock and agriculture are the foundations of the regional economy. Food processing is important in Malheur County. Recreation is a seasonal component of local economies, particularly in Harney County. Hunting contributes to local economies, as doesÂ wildlife viewing, white-water rafting, and camping. Historically, lumber processing and harvesting from the nearby Blue Mountains was the basis of some local communities, particularly for Burns. However, these industries have declined with lower harvests from neighboring federal forests.

CHARACTERISTICS

Important Industries

Livestock, forest products, agriculture, food processing, recreation

Major Crops

Alfalfa, wheat, hay, corn, oats, onions, sugar beets, potatoes

Important Nature-based Recreational Areas

Elevation

2,070 feet (Snake River) to 9,733 feet (Steens Mountain)

Important Rivers

Donner und Blitzen, Malheur, Owyhee, Silvies

Ecologically Outstanding Areas

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, and grazing is managed sustainably in many parts of the ecoregion. However, some areas are still impacted. In addition, sensitive areas, such as riparian habitats and arid areas of sagebrush and salt desert, have been slow to recover.

Some areas are still recovering from intensive management in the past. For example, the BLM began a massive effort in 1962 to rehabilitate degraded rangelands by removing the native sagebrush and establishing crested wheatgrass, a non-native pasture grass. Over the course of 10 years, the Vale Rehabilitation Project seeded 250,000 acres to crested wheatgrass and used plowing, chaining, and herbicides to reduce sagebrush on as much as 506,000 acres. Currently, the BLM maintains extensive wilderness areas in this ecoregion, including the Malheur Refuge, Hart Mountain, Steens Cooperative Management and Protection Area, and BLM Areas of Critical Environmental Concern at Lake Abert, Warner Valley, and Owyhee canyons.

Historical overgrazing and fire suppression, followed by invasion of non-native annual grasses such as cheatgrass, have greatly altered natural fire cycles in many sagebrush steppe habitats. Landscapes formerly comprised of mosaics dominated by bunchgrasses and forbs are now heavily and disproportionately dominated by shrubs (mostly sagebrush) and exotic grasses and forbs. Invasive species and altered fire regimes are the greatest terrestrial conservation issues in this ecoregion. As a result of altered fire regimes, encroachment of juniper has displaced grasses and sagebrush, especially in the northern portions of the ecoregion. However, old-growth juniper occurs in some areas, especially in rock outcrops where grasses and sagebrush are uncommon and where fire is less of a factor. These old-growth juniper are extremely beneficial to wildlife.

Greater Sage-Grouse are considered excellent indicators of sagebrush habitat quality. Current efforts to improve conditions for the Greater Sage-Grouse include comprehensive range-wide assessments and conservation planning.

Stream water quality in the Northern Basin and Range ecoregion is poor when compared to other ecoregions. Throughout the Northern Basin and Range ecoregion, water quality is impacted by high temperatures, and in some areas, by bacteria, pollutants, and aquatic weeds. Water is limited in the ecoregion, fully allocated in storage and other uses. Aquatic habitats are affected by altered channel and flow conditions, obstructions, and poor riparian condition. Efforts to assess the quality of aquatic habitats are ongoing, and priorities include assessment of the impact of federal dams on water quantity, and obtaining an understanding of natural temperature and water quality dynamics in the ecoregion. Under climate change, drought conditions may become more frequent, resulting in reduced water availability for wetlands in important wildlife areas like Summer Lake, Lake Abert, and Malheur Lake.

Key Conservation Issues in the Northern Basin and Range ecoregion include Invasive Species, Water Quality and Quantity, and Disruption of Disturbance Regimes. In addition to the statewide issues, increasing demand for energy development, ongoing recovery from historical overgrazing, unregulated horse herds, uncontrolled OHV use, and increasing recreational demand are issues in this ecoregion.

West Cascades

DESCRIPTION

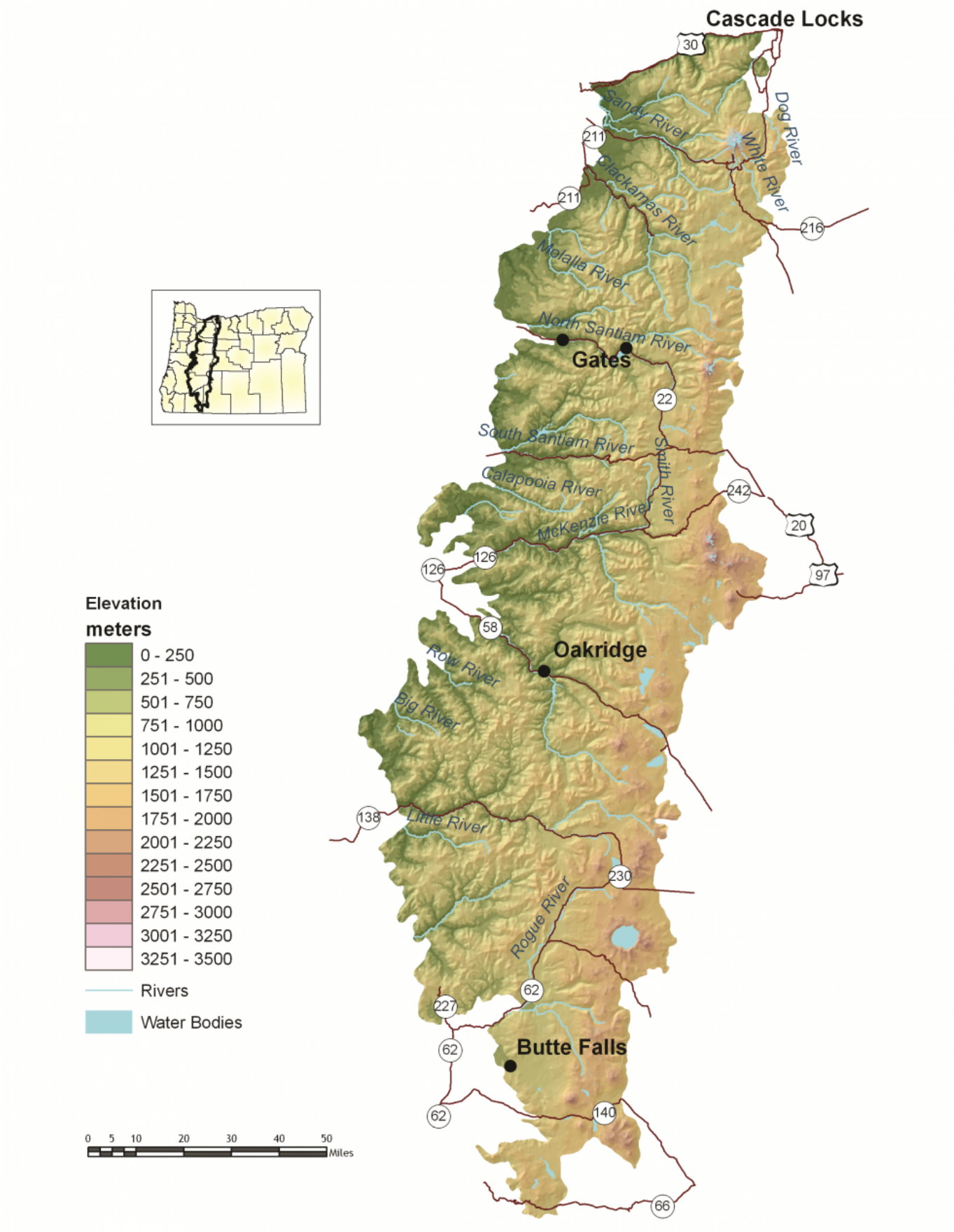
The West Cascades ecoregion extends from just east of the Cascade Mountains' summit to the foothills of the Willamette, Umpqua, and Rogue Valleys, and spans the entire length of the state of Oregon, from the Columbia River to the California border. The topography and soils of the West Cascades ecoregion have been shaped dramatically by its volcanic past. Geologically, the West Cascades ecoregion has two distinct areas: the younger volcanic crest (approximately 3 million years old) and the â€œold Cascadesâ€• 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 â€œold Cascadesâ€• are 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 red cedar, grand fir, and noble fir. Above approximately 7,000 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 vary 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,Â ponderosa pine, sugar pine, and incense cedar often are found with Douglas-fir at the lower elevations. 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 1 percent of Oregonâ€™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 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 Oregonâ€™s timber industry. Many towns are increasingly promoting recreational opportunities, including hiking, camping, fishing, hunting, birding, mountain biking, and skiing. However, timber harvest is expected to remain important to local West Cascades economies in the future.

CHARACTERISTICS



Important Industries

Timber, recreation

Major Crops

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

Elevation

98 feet (along the western border of the ecoregion) to 11,040 feet (Cascade peaks)

Important Rivers

Clackamas (Oak Grove Fork), McKenzie, Rogue, Umpqua, Breitenbush, Middle Santiam, North and Middle Fork of the Willamette

Ecologically Outstanding Areas

Of all of Oregonâ€™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 classic late-successional forests on public land are managed with an emphasis on biodiversity under the Northwest Forest Plan. Although focused on the Northern 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. 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.

Key Conservation Issues of particular concern in theÂ West Cascades ecoregion include Disruption of Disturbance Regimes, Invasive Species, and Barriers to Animal Movement. Additionally, recreational impacts are an emerging conservation issue here.

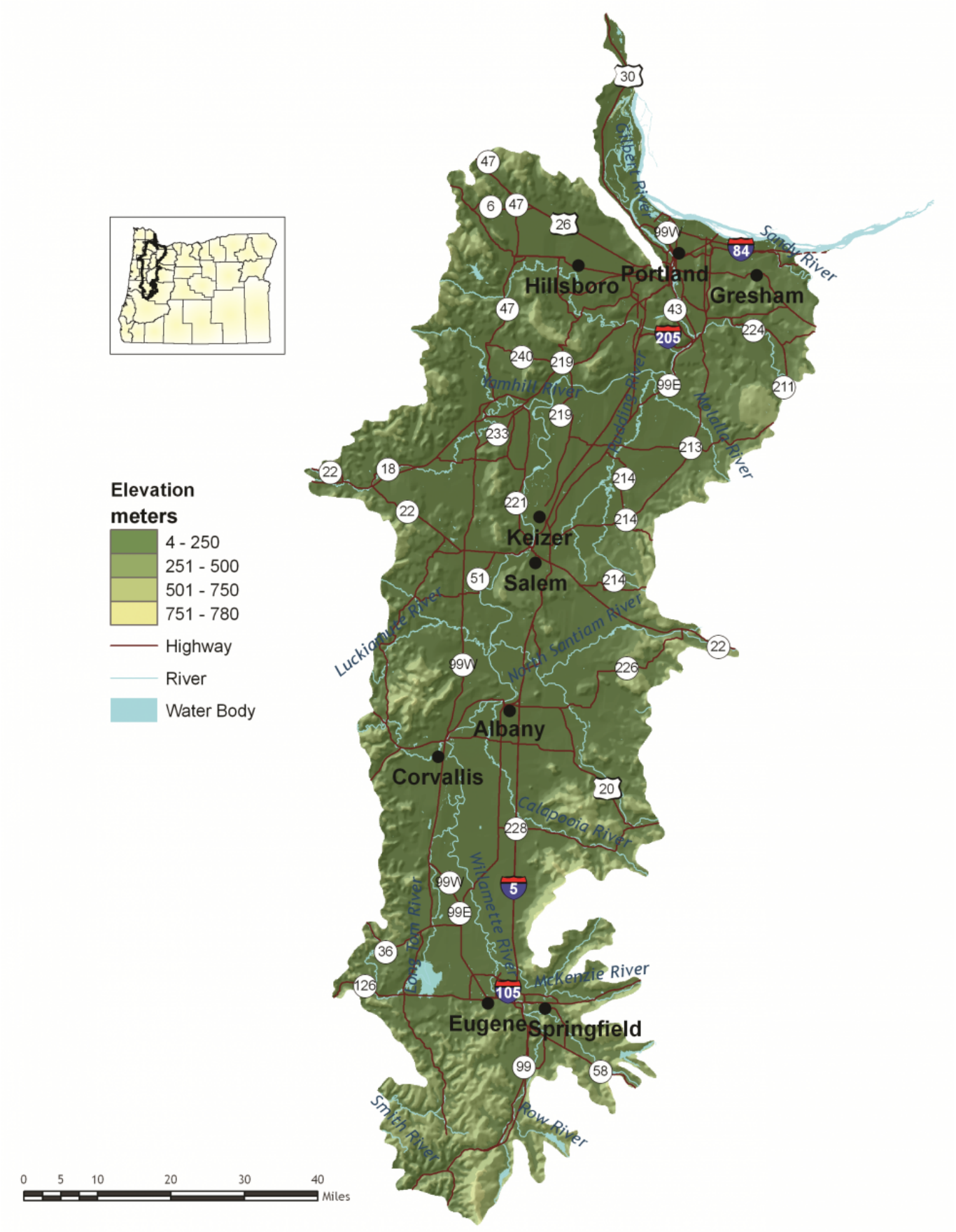
Willamette Valley

DESCRIPTION

Bounded on the west by the Coast Range and on the east by the Cascade Range, this ecoregion encompasses 5,308 square miles and includes the Willamette Valley and adjacent foothills. Twenty to 40 miles wide and 120 miles long, the Willamette Valley is a long, level alluvial plain with scattered groups of low basalt hills. Elevations on the valley floor are about 400 feet at the southern end near Eugene, dropping gently to near sea-level in Portland. The climate is characterized by mild, wet winters and warm, dry summers. Fertile soil and abundant rainfall make the valley the most important agricultural region in the state.

Culturally, the Willamette Valley is a land of contrasts. Bustling urban areas are nestled within productive farmland. Traditional industries and high technology contribute to the vibrant economy. With Interstate 5 running its length, the Willamette Valleyâ€™s economy is shaped by the transportation system and the flow of goods. With 9Â of the 10Â largest cities in Oregon, the Willamette Valley is the most urban ecoregion in Oregon. It is also the fastest-growing ecoregion. Pressure on valley ecosystems from population growth, land use conversion, and pollution is likely to increase.

CHARACTERISTICS



Important Industries

Agriculture, manufacturing, high technology, forest products, construction, retail, services, government, health care, tourism

Major Crops

Nursery and greenhouse plants, grass seed, wine grapes, Christmas trees, poultry, dairy, vegetables, small fruits and berries, nuts, grains, hops

Important Nature-based Recreational Areas

Forest Park, Bybee and Smith Lakes, Willamette River, Willamette Valley National Wildlife Refuge Complex, Fern Ridge Reservoir

Elevation

4 feet (Columbia River) to 780 feet (near Lowell)

Important Rivers

Willamette, McKenzie, Santiam, Sandy, Mollala, Clackamas, Tualatin, Yamhill, Luckiamute, Long Tom

Ecologically Outstanding Areas

The Willamette Valley ecoregion is both the fastest-growing ecoregion in Oregon and the most densely-populated, containing the state's three largest urban centers, Portland, Salem, and Eugene. The population projected for 2050 is approximately four million, nearly double todayâ€™s population. The ecoregion also provides about half of the stateâ€™s agricultural sales. It includes 6 of the top 10 agricultural-producing counties, and 16 of the top 17 private sector employers (e.g., manufacturing, high technology, forest products, agriculture, and services).

Historical accounts indicate that prior to European settlement, much of the Willamette Valley was covered by native grasses, forbs, and oak savanna. The Calapooia people regularly set fires to improve hunting and travel. The fires helped to maintain the valleyâ€™s mosaic of grasslands, oak savannas, wet prairies, and other open habitats.

Since the 1850s, much of the Willamette Valley ecoregion has been altered by development (agricultural andÂ urban), particularly affecting oak woodland, oak savanna, grassland, riverine, and wetland habitats. The Willamette River has been disconnected from its floodplain, and much of the historical habitat has been fragmented. About 96 percent of the Willamette Valley ecoregion is privately-owned, presenting challenges to conservation efforts. Conservation strategies that focus on needs of individual at-risk species and key sites are particularly critical in this ecoregion.

Key Conservation Issues of particular concern in the Willamette Valley ecoregion include Land Use Changes, Disruption of Disturbance Regimes (both fire and floodplain function), Challenges and Opportunities for Private Landowners to Engage in Conservation, and Invasive Species. In addition to the statewide factors, specific hazards to wildlife in urban areas and habitat fragmentation are of conservation concern here.