

# Home to Oregon's Rainforests

## Coast Range Ecoregion

Extending from the Lower Columbia River south to the California border, and east from the northeastern Pacific Ocean to the interior valleys of the Willamette, Umpqua and Rogue Rivers and to the Klamath Mountains, the 5.8 million acres in Oregon's portion of the Coast Range Ecoregion rarely exceed 2,500 feet in elevation. Yet these mountain slopes are steep and interlaced and incised with countless trickles and streams. The highest point, Marys Peak (4,097 feet), is visible from much of the mid-Willamette Valley. Beyond Oregon, the Coast Range Ecoregion extends north into far western Washington (and includes Vancouver Island in British Columbia) and south to northwestern California. In Oregon, only two rivers cross through the Coast Range: the Umpqua and the Rogue. Rain-soaked, the Coast Range is highly productive for coniferous forests that once covered the entire region. Sitka spruce dominated the fog belt along the immediate coastline, while inland was a mosaic of Douglas-fir, western hemlock and western redcedar. Unfortunately, a great many of the original forests have been clearcut and are now dominated by Douglas-fir plantations and alder stands.

The Coast Range climate is maritime with cool and very wet winters and mild, dry summers. The lack of harsh weather ensures a long growing season, allowing trees to grow most of the year. Consequently, coastal temperate rainforests often contain more biomass per acre than even tropical rainforests. Annual rainfall ranges from 60 to 80 inches along the coast and up to 200 inches in inland areas. With such a wet climate, the natural fire frequency is very low, between 90 and 250 years on average.

Major wildlife species include Roosevelt elk, black-tailed deer, coyote, cougar, bobcat, black bear, northern spotted owl, marbled murrelet, silverspot butterfly, numerous species of salmon, a great variety of amphibians, reptiles and slugs and over 7,000 species of arthropods.

Located next to the Pacific Ocean, the Coast Range ecoregion contains Oregon's wettest forests. Precipitation, which is related to elevation and distance from the ocean, is the most significant factor in determining forest types in this ecoregion.

**Sitka Spruce** is the most common type of Oregon coastal forest and is often intermingled with western hemlock and Douglas-fir groves. The species is most often found in windy, foggy sites and on wet, north-facing slopes.

Far less common along the coast are **Shorelands**. These open beaches, dunes and spits sometimes harbor dense shrub communities that include shore pine.

**Douglas-fir/Western Hemlock** forests — the most common forest type in western Oregon — dominate the interior of the ecoregion. After a disturbance (such as fire or a blowdown), Douglas-fir will dominate a site for centuries. If no additional major disturbance occurs, the shade-tolerant western hemlock will eventually overtake the Douglas-fir and achieve stand dominance on the wettest sites. Grand fir and western redcedar are occasionally found in these forests. Red alder and bigleaf maple are common along watercourses, and noble fir can be found at the highest snowy points in the Coast Range. Toward the southern end of the Oregon Coast Range, coastal **Redwood** trees range into Oregon up to twelve miles north of the California border and are usually found on slopes rather than in river bottoms. Nearby, in a narrow band south from Coos Bay into California, Port Orford-cedar can also be found.

**Douglas-fir/Broadleaf Deciduous** forests are found in relatively drier parts of the Coast Range. There the predominant broadleaf trees are red alder, bigleaf maple and — toward the southern end of the ecoregion — Oregon white oak, tan oak and Pacific madrone.

On the eastern edge of the Coast Range ecoregion one will find little pockets of **Douglas-fir/Oregon White Oak**, **Oregon White Oak/Douglas-fir** or **Oregon White Oak/Ponderosa** forest. The first is more commonly found where the Coast Range meets the Willamette Valley and is a result of the historic fire-clearing regimes practiced by Native Americans and early European settlers. Unless fire intervenes, the Douglas-fir will eventually dominate. The latter two forest types are usually found on the edges of the Upper Willamette, Umpqua and Rogue Valleys, often in association with ponderosa pine and incense cedar. Another variant of these forest types is **Oregon White Oak/Pacific Madrone**, usually found in the drier Umpqua Valley.

At some time in their existence, most forest communities will be set back to early successional forest and are classified as **Cutover/Burned** forest. This can occur naturally — from lightning-caused wildfires, native insect or disease events, or blowdown by wind — or unnaturally, by way of logging, human-caused fire, human-caused blowdown (due to unnatural and vulnerable forest edges caused by clearcuts), non-native disease and insects, or aggressive fire-fighting. Particularly troubling are “backburns,” where firefighters intentionally burn the forest in front of an oncoming wildfire. In many cases, the backburns are far more intense and destructive than the natural burn would have been.







## Ecoregions of Oregon's Coast Range

The low mountains of the Coast Range Ecoregion are covered by highly productive, rain-drenched evergreen forests. Sitka spruce forests originally dominated the fog-shrouded coast, while a mosaic of western redcedar, western hemlock and seral Douglas-fir blanketed inland areas. Today, Douglas-fir plantations are prevalent on the intensively logged and managed landscape. Lithology influences land management strategies; slopes underlain by sedimentary rock are more susceptible to failure following clear-cutting and road building than those underlain by volcanic rocks.

Further refining the ecoregion, scientists divide Oregon's Coast Range Level III Ecoregion into seven Level IV ecoregions:

The **Coastal Lowlands** ecoregion contains beaches, dunes and marine terraces below 400 feet elevation. Wet forests, lakes, estuarine marshes and tea-colored (tannic) streams are characteristic features of the landscape. Wetlands have been widely drained and converted to dairy pastures. Residential, commercial and recreational developments are expanding in the coastal corridor.

The **Coastal Uplands** includes headlands and low mountains surrounding the Coastal Lowlands. The climate of the Coastal Uplands is marine influenced with an extended winter rainy season and minimal seasonal temperature extremes. Abundant fog during the summer dry season reduces vegetation moisture stress. This ecoregion includes much of the historic distribution of Sitka spruce. Today, its Douglas-fir forests are managed for logging.

The lower, more coastal parts of the mountainous **Volcanics** ecoregion are affected by fog. This ecoregion is underlain by fractured basaltic rocks. As a result, summer stream flows are more consistent than on the sedimentary rocks of surrounding ecoregions, and streams still support runs of spring chinook salmon and summer steelhead. Its Douglas-fir plantations are intensively logged. Sediment delivery rates to streams following disturbance are lower than in the Mid-Coastal Sedimentary Ecoregion.



The **Willapa Hills** ecoregion is more rolling and has a lower drainage density than other upland areas in the Coast Range. Logging is relatively easy and less expensive in this accessible terrain. Industrial timberland has almost completely replaced the historic forests of the Willapa Hills. When disturbed, the silt- and clay-textured soils are easily eroded, thereby degrading stream quality. Large herds of Roosevelt elk winter in this ecoregion.

The mountainous **Mid-Coastal Sedimentary** ecoregion lies outside of the coastal fog zone and is typically underlain by massive beds of sandstone and siltstone in contrast to the Volcanics Ecoregion. This ecoregion is more rugged than the geologically similar Willapa Hills. Its Douglas-fir forests are intensively managed for logging. Slopes are prone to failure when disturbed, particularly south of the Siuslaw River. Stream sedimentation is higher than in the Volcanics ecoregion.

The **Southern Oregon Coastal Mountains** is a geologically and botanically diverse ecoregion that is a transition zone between the Coast Range and the Siskiyou Mountains. This ecoregion has the climate of the Coast Range and the varied lithology of the higher, more dissected Siskiyou Mountains (in the Klamath Mountains). Distributions of northern and southern vegetation blend together here and species diversity is high. Douglas-fir, western hemlock, tanoak, Port Orford cedar and western redcedar occur.

The low mountains of the **Redwood Zone** lie entirely within the coastal fog zone and are characteristically covered by coast redwood and Douglas-fir. Historically, unbroken redwood forests occurred and moderated local climate by trapping coastal fog and producing shade. Remnants of unlogged redwood forest still survive east of Brookings.

*Text gratefully adapted from Thor D. Thorson, Sandra A. Bryce, Duane A. Lammers, Alan J. Woods, James M. Omerik, Jimmy Kagan, David E. Pater, Jeffrey A. Comstock. 2003. Ecoregions of Oregon (color poster with map, descriptive text, summary tables and photographs). USDI-Geological Survey, Reston, VA (map scale 1:1,500,000).*



Today, 28 percent of the Oregon Coast Range Ecoregion is publicly owned by the federal government. The major federal holdings include the Siuslaw National Forest and the western margin of the Siskiyou National Forest managed by the Forest Service and the Bureau of Land Management's Coos Bay District, along with the western portions of the BLM Roseburg, Eugene and Salem Districts.

Currently, only four small areas of Oregon's Coast Range are protected as Wilderness (Drift Creek, Cummins Creek, Rock Creek and Grassy Knob), comprising a mere 0.7 percent of the ecoregion.

Conservationists are proposing Wilderness protection for three multi-unit areas: Coast Range, Elk River and Oregon Dunes. If designated, together they would comprise a total of 5 percent of the ecoregion.

## Proposed Coast Range Wilderness

### Temperate Rainforest

The abundant rain and fertile soils of the proposed Coast Range Wilderness combine to grow big trees and big salmon. The diversity of fish, wildlife and plants is incredible. The area is home to 26 species of amphibians and reptiles, 235 species of birds, over 200 species of fish and 69 species of mammals. Threatened species include the bald eagle, northern spotted owl, marbled murrelet and Oregon silverspot butterfly. Other wildlife species of special concern include the Northwest pond turtle, peregrine falcon, big-eared bat, Alsea micro caddisfly, wolverine, common loon, white-footed vole, Haddock's caddisfly, long-billed curlew and red-legged frog. Among the plethora of Coast Range plant species, conservationists are particularly concerned about adder's tongue, philia moss and western red avens.

Today, only a small amount of virgin forest remains in Oregon's temperate rainforest. Much of the Coast Range is privately owned and has been logged over multiple times. Most of the big old trees are now big old stumps — but some vitally important remnants still remain. And most of them are tucked away in the publicly-owned Siuslaw National Forest, where most of the Coast Range Wilderness is proposed.

This archipelago of wildlands stretches from the Pacific Ocean on the west, to Mount Hebo in the north, Marys Peak on the east and Wasson Creek on the south. Many units of the proposed Wilderness coincide with key aquatic diversity areas identified by the American Fisheries Society. Salmon species here include coho, spring and fall chinook, and chum in the lower rivers, along with summer and winter steelhead.

A few units of the proposed Wilderness also lie within the Oregon Biodiversity Project's Tillamook Bay Watershed Conservation Opportunity Area and are adjacent to

Old-growth Douglas-fir (*Pseudotsuga menziesii*) in the Valley of the Giants Unit of the proposed Coast Range Wilderness. While this unit is small in size, the very large trees project a Wilderness mystique. ►





**LEVEL IV ECOREGIONS**

Mid-Coastal Sedimentary (66%), Volcanics (27%)  
Coastal Uplands (6%), Coastal Lowlands (<0.1%);  
Klamath Mountains Level III Ecoregion: Inland  
Siskiyou (<1%)

**VEGETATION TYPES**

Douglas-fir/Western Hemlock (81%), Sitka  
Spruce (13%), Douglas-fir/Broadleaf Deciduous  
(5%), Siskiyou Mixed Conifer (<1%), Siskiyou  
Jeffrey Pine (<1%), Cutover/Burned (<1%)

**DRAINAGE SUBBASINS**

Alsea, Coos, Coquille, Nestucca, Lower Umpqua,  
Middle Willamette, Siletz, Siuslaw, Upper  
Willamette, Wilson, Yamhill, Yaquina

**ELEVATION RANGE**

59-4,090 feet

**UNITS**

Arnold Creek, Bailey Ridge, Barclay Creek, Baxter  
Creek, Bear Creek, Big Creek, Billie Creek, Bills  
Creek, Blue Ridge, Cape Horn, Cascade Head,  
Cedar Creek, Cougar Creek, Crazy Creek, *Cummins  
Creek Additions* (North Additions, South Additions),  
Deadwood Creek, Deerhead Point, Dick's Ridge,  
Doerner Fir, *Drift Creek Additions* (Boulder Creek,  
Butler Creek, Cougar Creek, Lloyd Collette, Trout  
Creek [North], Trout Creek [South]), Fairview  
Mountain, Fiddle Creek, George Creek, Green  
Mountain, Greenleaf Creek, Gwynn Creek, Haney  
Creek, Hoffman Creek, Karnowsky Creek, Lind  
Peak, Little Wolf Creek, Lower Drift Creek, Lower  
Tioga Creek, Marys Peak, McKinney Creek, Middle  
Fork of the North Fork Smith River, Miles Mountain,  
Moon Creek, Morris Creek, Mount Hebo, Mount  
Popocatepetl, North Fork Alsea River, North Fork  
Smith River, North Prong Creek, Palmer Mountain,  
Parker Creek, Randall Hill, Rock Creek, *Rock Creek  
Additions* (East Additions, West Additions), South  
Fork Smith River (South), South Fork Smith River  
(North), Swamp Creek, Sweet Creek Falls, Table  
Creek, Table Mountain, Tenmile Ridge, Three  
Buttes, Toketa Creek, Trask River, Upper Drift Creek,  
Upper Tioga Creek, Valley of the Giants, Vingie  
Ridge, Wasson Creek, Windy Peak, Yellow Creek

**EXISTING WILDERNESSES  
INCORPORATED**

Cummins Creek, Drift Creek, Rock Creek

**SIZE**

144,495 acres (226 square miles, not including  
22,457 acres of currently protected Wilderness)

**COUNTIES**

Benton, Coos, Douglas, Lane, Lincoln, Tillamook,  
Washington, Yamhill

**FEDERAL****ADMINISTRATIVE UNITS**

Siuslaw National Forest; BLM Coos Bay, Eugene,  
Roseburg and Salem Districts

**CONGRESSIONAL DISTRICTS**

1st, 4th, 5th

## Proposed Coast Range Wilderness



Some of the individual units in the proposed Wilderness are highlighted below.

**Cascade Head** includes incredible old-growth Sitka spruce forest and is a focus of scientific research.

**Doerner Fir** is a very small area, but hosts the world's largest known Douglas-fir tree.

The Sitka spruce old-growth forest of **Gwynn Creek** near Cape Perpetua is awesome to walk through and surrounds one of the most extensive trail systems in the Coast Range.

The remaining old-growth forest on **Marys Peak** exists today only because the Forest Service was reluctant to log all of Corvallis' drinking water supply too rapidly. Marys Peak is the highest point in the Coast Range. Here one can find old-growth noble fir, which is very rare in the Oregon Coast Range.

**Mount Hebo** is featured on page 89.

**North Fork Smith River** includes the nearly 90-foot high Kentucky Falls and spectacular old-growth forest with trees over twice as tall as the falls.

**The Valley of the Giants** is a very small area with very large trees, many over 450 years old. The hellish 30-mile drive through ravaged industrial timberlands to the giants makes one appreciate the importance of this refuge.

**Wasson Creek** extends from near sea level to 1,600 feet in elevation and is truly a forest primeval. Along the creek are rarely visited waterfalls known as the Devil's Staircase. Dense vegetation and steep slopes make visiting the unit a major challenge. The difficulties associated with logging steep slopes and unstable soils are the only reasons that Wasson Creek remains roadless and unlogged. The high density of spotted owls in the unit testifies to the abundance of old-growth forest. One can easily get to Wasson Lake (full of wild cutthroat trout) where, in the spring, one can witness a fantastically massive congregation of rough-skinned newts all looking for sex.

ERIK FERNANDEZ



The Nestucca State Scenic Waterway flows through the Mount Hebo Unit of the proposed Coast Range Wilderness.

## FEATURED UNIT

# Mount Hebo

**A**t 3,154-feet, the flat-topped basalt Mount Hebo is the second highest point in Oregon's Coast Range.

Although it receives over 180 inches of precipitation annually, Mount Hebo did burn in 1910. Following those fires, the south slope of Mount Hebo was replanted with non-local Douglas-fir. The north slope, that remains roadless, reforested naturally and has relic older trees which can be seen popping through the younger canopy. The old trees, often covered in moss, are mainly

Douglas-fir with some western hemlock, western redcedar and red alder mixed in. Understory plant species include trillium, sword and bracken fern and sourgrass.

Numerous streams arise on the north slope of Mount Hebo and drain into the Nestucca River. Wildlife species here include deer, elk, cougar, black bear, great blue herons, bald eagles, salmon and steelhead.

Winter snow lingers briefly on the open grass-covered balds and subalpine meadows at the summit of Mount Hebo. These balds and meadows are home to the endangered Oregon silverspot butterfly, a species that was once found in

many locations. The host plant to the butterfly is the early blue violet, which is also declining due to habitat alteration. Wildflowers, which are abundant on Mount Hebo in the early summer, include several botanically interesting species. Two 80-foot waterfalls, spectacularly misnamed Niagara Falls, are easily accessible by trail. The "Pioneer-Indian" Trail was originally used by indigenous people and developed in 1854 to bring settlers from the Willamette Valley to Tillamook Bay. One can also drive a paved road to the summit that once hosted a radar station. Views from Mount Hebo are panoramic and include the Pacific Ocean, the Nestucca River Valley and far too many clearcuts. However, the steep terrain and the dense vegetation keep all but a few visitors from reaching the heart of this proposed Wilderness unit.

### PROPOSED WILDERNESS

Coast Range

### LOCATION

5 miles east of Hebo

### LEVEL IV ECOREGIONS

Volcanics (66%), Mid-Coastal Sedimentary (34%)

### VEGETATION TYPES

Douglas-fir/Western Hemlock (98%), Sitka Spruce (2%)

### TERRAIN

Steeply rugged.

### DRAINAGE SUBBASIN

Nestucca

### ELEVATION RANGE

400-3,154 feet

### SIZE

11,203 acres

### COUNTIES

Tillamook, Yamhill

### FEDERAL ADMINISTRATIVE UNITS

Siuslaw National Forest (Hebo Ranger District); BLM Salem District (Tillamook Resource Area)

### USGS 7.5' QUAD MAPS

Beaver, Blaine, Hebo, Niagara Creek, Springer Mountain





Wasson Lake in the Wasson Creek Unit of the proposed Coast Range Wilderness.

temperate rainforests of the Tillamook State Forest that are recovering from logging. More proposed Wilderness units are located in the Nestucca River Watershed Conservation Opportunity Area, which includes the north slope of Mount Hebo. This watershed is a stronghold for chum, coho, spring chinook and winter steelhead, and includes about a dozen aquatic diversity areas. Other proposed Wilderness units coincide with the Alsea-Siuslaw Conservation Opportunity Area and include twelve aquatic diversity areas and some of the highest concentrations of what are called “salmon core areas,” considered vital by salmon habitat biologists to the survival of the species.

Major tree species in the proposed Wilderness are Sitka spruce, Douglas-fir, bigleaf maple, western redcedar, western hemlock and red alder. The highest points in the proposed Wilderness are grass balds — uniquely grassy areas with no trees — and rock outcroppings.

Recreational opportunities throughout the proposed Wilderness are virtually endless and include hiking, fishing, hunting, backpacking, birding and measuring the circumference of old-growth trees with outstretched arms (the original form of tree-hugging).

Many, but not all, of the roadless units in this proposed Wilderness are located in the Northwest Forest Plan’s “Tier 1 Key Watersheds.” The Tier 1 designation offers

some protection against road building, but little against logging. Other threats include off-road vehicles.

To protect numerous threatened and endangered species and salmon stocks, the Forest Service — beginning with the Clinton administration — has been aggressively removing roads from the forest landscape here, while thinning only the young tree plantations (generally a good thing). The current administration under George W. Bush is less inclined to remove roads and more inclined to log the last big trees. Designating the Coast Range Wilderness can prevent logging of old growth and help preserve all the ecological components of a coastal temperate rainforest.

## **Proposed Elk River Wilderness**

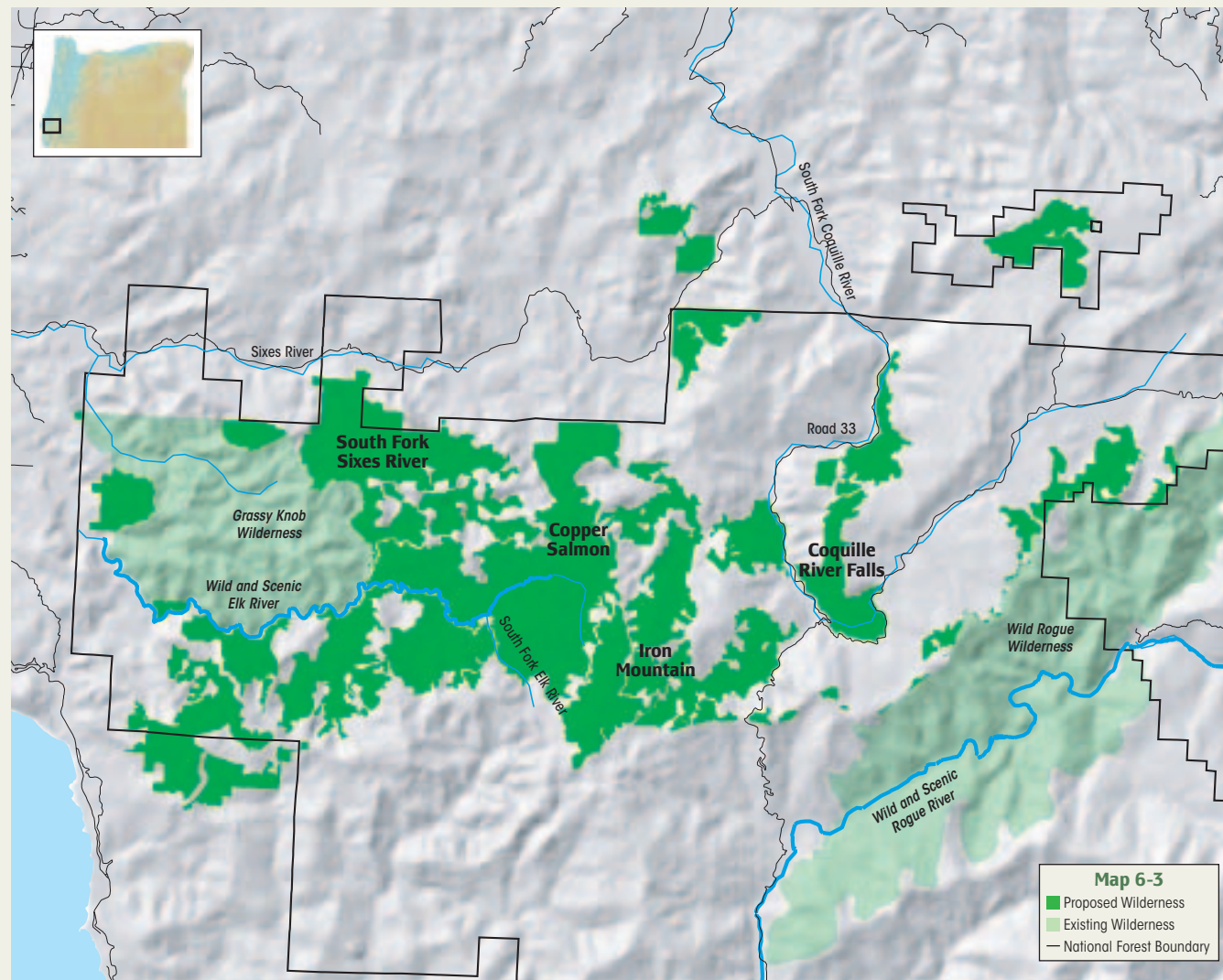
# Most Productive Salmon Watershed Remaining in the Lower 48 States

The proposed Elk River Wilderness encompasses all the remaining wildlands in the Elk River watershed and the roadless lands in the headwaters of the Sixes and Coquille Rivers. The proposed Wilderness is near the southern end of Oregon’s Coast Range. It extends inland from where the Elk and Sixes Rivers reach the Pacific — just south and north of Cape Blanco, respectively. Over 170 inches of rain falls in the Elk River basin each year, but only 12 inches fall between May and September. Given its proximity to the ocean, summer fogs often extend inland to elevations approaching 1,500 feet.

Besides the usual tree species, such as Douglas-fir, western hemlock, tanoak, Pacific yew, western redcedar, Jeffrey pine, madrone, bigleaf maple, red alder, sugar pine, knobcone pine, western white pine and lodgepole pine, extensive stands of Port Orford-cedar grace this proposed Wilderness. Some Douglas-fir specimens here exceed 300-feet in height and 10-feet in diameter, as do some Port Orford-cedar. Understory species include rhododendron and manzanita on the drier south slopes and evergreen huckleberry on the wetter north slopes. The area’s vast old-growth forest is some of the best remaining low elevation coastal temperate rain forest in Oregon.

Endemic to southwestern Oregon and northwestern California, Port Orford-cedar is threatened by a non-native root disease. The exotic Asian, water-borne pathogen is spread primarily by spores in the mud attached to and thrown around by logging and road building equipment. If Port Orford-cedar trees are in the path of water draining off a

## Proposed Elk River Wilderness



Highlights of some of the proposed Wilderness units are listed below.

**Copper Salmon** is featured on page 92.

**Iron Mountain** has a nice hiking trail along the summit.

The hillsides, stream banks and wetlands of the **Coquille River Falls** unit are thick with Port Orford-cedar. To protect important salmonid spawning and rearing habitat, the stream is closed to angling.

The **South Fork Sixes River** includes several miles of pristine spawning habitat for several species of anadromous fish.

### LEVEL IV ECOREGIONS

Southern Oregon Coastal Mountains (84%), Mid Coast Sedimentary (14%); Klamath Mountains Level III Ecoregion: Inland Siskiyou (2%)

### VEGETATION TYPES

Douglas-fir/Western Hemlock (65%), Siskiyou Mixed Conifer (32%), Oregon White Oak/Ponderosa (4%), Cutover/Burned (<1%)

### DRAINAGE SUBBASINS

Coquille, Elk, Sixes

### ELEVATION RANGE

203-4,026 feet

### UNITS

Bald Mountain, Coal Falls Creek, Copper Salmon, Coquille River Falls, *Grassy Knob Additions* (North Fork Dry Creek, Rock Creek, South Fork Sixes River), Hall Creek, Iron Mountain, Jim Hayes Creek, Milbury Mountain, Mud Lake, Panther Creek, Purple Mountain, Riggs Creek, Two by Four Creek, *Wild Rogue Additions* (Panther Ridge)

### EXISTING WILDERNESS INCORPORATED

Grassy Knob

### SIZE

55,041 acres (86 square miles, not including 17,200 acres of currently protected Wilderness)

### COUNTIES

Coos, Curry

### FEDERAL ADMINISTRATIVE UNITS

Siskiyou National Forest; BLM Coos Bay and Medford Districts

### CONGRESSIONAL DISTRICT

4th



**PROPOSED WILDERNESS**

Elk River

**LOCATION**

12 miles east of Port Orford

**LEVEL IV ECOREGION**

Southern Oregon Coastal Mountains

**VEGETATION TYPES**Douglas-Fir/Western Hemlock (87%),  
Siskiyou Mixed Conifer (13%)**TERRAIN**

Extremely rugged and steep.

**DRAINAGE SUBBASINS**

Coquille, Sixes, Elk

**ELEVATION RANGE**

801-3,579 feet

**SIZE**

11,207 acres

**COUNTIES**

Coos, Curry

**FEDERAL****ADMINISTRATIVE UNIT**Siskiyou National Forest (Powers Ranger  
District)**USGS 7.5' QUAD MAPS**Barklow Mountain, Father Mountain, Ophir  
Mountain**FEATURED UNIT**

## Copper Salmon

**N**amed for Copper and Salmon Mountains, this proposed Wilderness unit is characterized by very steep slopes with very unstable soils.

The area encompasses eighteen miles of salmon spawning streams. The dense network of waterways is home to sea-run cutthroat trout and coho salmon, both of which are listed under the Endangered Species Act. The streams also contain lampreys, resident coastal rainbow trout, winter steelhead, as well as spring and fall chinook salmon.

The North Fork of the Elk River in the heart of this unit is possibly the most productive salmon stream in the lower 48 states. Due to its amazing productivity, scientists study the North Fork of the Elk River as a benchmark for conditions that support an especially high diversity and abundance of native fish species. A natural fire and large landslide, which occurred some time in the past century, deposited huge amounts of large woody debris (once large living trees) and sediment in the valley, contributing to the conditions that make the watershed so rich in salmon and other fishes.

The area also has some of the highest densities of marbled murrelets left in the lower 48 states. The high concentration of spotted owls found here may be evidence of “packing” that occurs when birds move from destroyed habitat nearby to old trees still left standing, which include large groves of very large Port Orford-cedar.

A federal species of concern, the Del Norte salamander (*Plethodon elongates*), has been seen near Copper Mountain in this unit.

Approximately 300 species of plants can be found on Iron Mountain along the Copper Salmon unit boundary, including the northernmost Brewer's Spruce. Rare plants in the unit include Oregon Bensonia (*Bensonia oregana*), Bolander's hawkweed (*Hieracium bolanderi*), Piper's bluegrass (*Poa piperi*) and hairy manzanita (*Arctostaphylos glandulosa*).

Wilderness designation can help scientists better understand watershed conditions that create excellent salmon habitat and

STEVE MILLER



Old growth Port Orford-cedar (*Chamaecyparis lawsoniana*) in the Copper Salmon unit of the proposed Elk River Wilderness.

improve the chances of restoring salmon runs elsewhere.

Much of the Elk River is part of the Wild and Scenic Rivers and/or Oregon Scenic Waterways systems, recognizing the natural and recreational values both inside and outside the protected river corridor and associated tributary streams.



road, their chances for survival are not good. Wilderness designation — which prohibits road building and logging — provides the best protection against the disease.

Much of the proposed Elk River Wilderness is critical habitat for the northern spotted owl, bald eagle, marbled murrelet and various runs of Pacific salmon. Black-tailed deer, Roosevelt elk, black bear and mountain lion are common here, as is the ringtail cat. Elusive marten have been sighted here and fisher are suspected to inhabit the area.

The watersheds encompassed by the proposed Wilderness contain highly productive salmon streams, most notably the Elk River. The mostly intact Elk River watershed (i.e., relatively few roads and clearcuts) allows the river and its feeder streams to clear twenty-four hours after a big storm. Clean, clear, cold water is ideal for spawning and hatching salmon.

The Elk River is the most productive salmon-producing watershed remaining in the lower 48 states. Because of their importance to coho, spring and fall chinook salmon, as well as winter steelhead, the American Fisheries Society has identified several aquatic diversity areas that coincide with many units of this proposed Wilderness. The Elk River also contains sea-run cutthroat trout, chum salmon, Pacific lamprey, Western brook lamprey, prickly sculpin, Pacific staghorn sculpin and three-spine stickleback. The Sixes River hosts winter steelhead, both resident and sea-run cutthroat trout, as well as spring and fall chinook salmon. The Coquille River watershed is home to coho and chinook salmon, sea-run cutthroat trout and steelhead.

The Oregon Biodiversity Project's Cape Blanco Conservation Opportunity Area includes the entire Elk River watershed, which is highly valued for both its terrestrial and aquatic biological diversity — including old-growth conifer forests. The area is home to more than twenty-five “at-risk” species and the increasingly rare Port Orford-cedar.

To protect its numerous natural and recreational values, portions of the Elk River has been designated a national Wild and Scenic River and an Oregon Scenic Waterway. However, these natural values are dependent upon the quality of upland and tributary streams that lie outside the protected river corridor.

Recreation here centers on the fantastic fishing which is a direct product of the landscape's wilderness quality. Hiking and hunting are also popular, as is simply enjoying the magnificent old-growth Port Orford-cedar.

While nearly 45,000 acres of the proposed Wilderness is not currently scheduled for timber cutting, the area remains vulnerable to logging.





## Proposed Oregon Dunes Wilderness

# Largest Coastal Sand Dunes on Earth

From the North Spit of Coos Bay to Heceta (pronounced HEC-ah-ta) Head (which is directly adjacent to Heceta [pronounced Heh-SEA-ta] Beach), the Coos Bay Dune Sheet covers 54 miles of shoreline and ranges inland up to three miles. Much of the area is within the Oregon Dunes National Recreation Area (NRA) and is suitable for Wilderness designation. Starting at sea level and not rising far above it, the dunes are the lowest elevation wildlands in Oregon.

Depending on the winds and whims of nature, the dunes can reach more than 500 feet above sea level. The dunes change constantly as they have for the past 7,000 years, so their height varies continually. Early offshore European explorers mistook the white dunes for snow. The extremely pale sand is about one-third quartz, one-third feldspar and the rest a combination of chert, agate, some magnetite and other dark minerals.

There are three distinct types of dunes. Closest to the beach are the transverse dunes, a common dune form found in desert regions. These low-profile wave-like structures run almost parallel to the beach. Just inland are the oblique ridges. Some run over a mile in length and are hundreds of feet tall. Oblique ridges are found nowhere else in the world. Until they are stopped by higher ground, the dunes advance three to five feet annually and bury everything in their path, including forests, lakes and streams. The parabola (or crescent) dunes originate in vegetated areas. The wind creates a “blow-out” that allows these dunes to advance. The sand can build to a 33-degree angle of repose. If it gets any steeper, the sand begins to flow.

Vegetation contributes to both the creation and destruction of dunes. The combination of temperate rain forest “islands” in the huge desert-like dune fields result in an ecosystem found nowhere else on earth.

The first or “pioneer” species to vegetate open sand include prostrate lupine, seashore bluegrass, dunegrass, large-headed sedge, gray beach peavine, beach silver top and beach morning glory. The shrubs that follow include salal, rhododendron and evergreen huckleberry. Then come the trees, primarily shore pine and Sitka spruce, along with western hemlock, western redcedar and wax myrtle. In long-stabilized areas, Douglas-fir will take root and can last a half millennium.

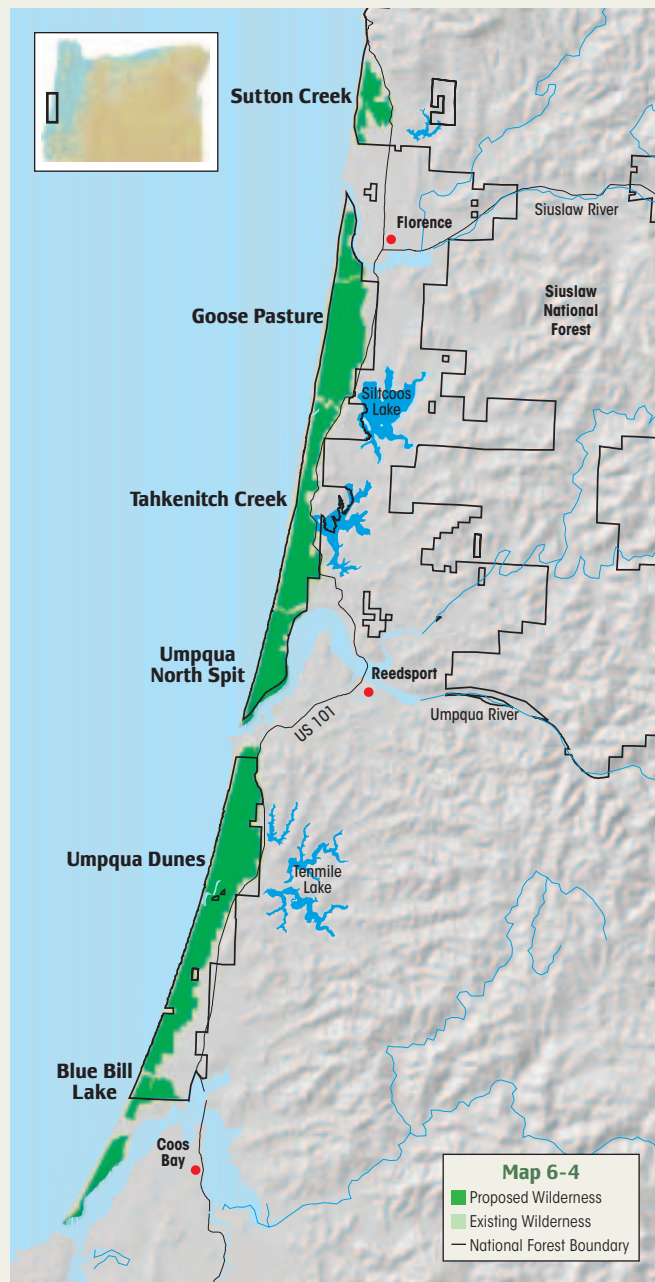
Several coastal lakes and streams penetrate the dunes. The lakes were formed by sand dams on streams or by sand that moved in to block ocean inlets. Steelhead, coho salmon and other fish species inhabit these beautiful white sand bottom streams.

At least twenty-six distinct wildlife habitats have been identified in the Oregon Dunes. The dunes and associated estuaries and their offshore waters host 426 species,

Islands of forest are found in a sea of sand. ►



## Proposed Oregon Dunes Wilderness



Some of the proposed Oregon Dunes Wilderness units are summarized below.

A rewarding little loop trail can be found at **Bluebill Lake** on the northern end of the North Spit of Coos Bay.

**Goose Pasture** lies between the Siuslaw River and Siltcoos River and includes some small dunal lakes.

**Umpqua North Spit** unit includes the spit on the north side of the Umpqua River and many small wetlands.

**Sutton Creek** is north of the Siuslaw River outside of the Oregon Dunes NRA and is a unique ribbon of riparian habitat in a dune-forest woodland.

**Takenitch Creek** lies between the Siltcoos River and Sparrow Park Road and includes Threemile Lake, Butterfly Lake and a few other unnamed small lakes.

The **Umpqua Dunes** are featured on page 96.

### LEVEL IV ECOREGION

Coastal Lowlands

### VEGETATION TYPES

Shorelands (65%), Sitka Spruce (35%), Douglas-fir/Western Hemlock (<1%)

### DRAINAGE SUBBASINS

Coos, Siltcoos, Siuslaw, Umpqua

### ELEVATION RANGE

0-500+ feet

### UNITS

Bluebill Lake, Goose Pasture, North Spit Coos Bay, Siuslaw Dunes, Sutton Creek, Tahkenitch Creek, Umpqua Dunes, Umpqua North Spit

### EXISTING WILDERNESS INCORPORATED

None

### SIZE

27,722 acres (39 square miles)

### COUNTIES

Coos, Douglas, Lane

### FEDERAL ADMINISTRATIVE UNIT

Oregon Dunes National Recreation Area, Siuslaw National Forest

### CONGRESSIONAL DISTRICT

4th



**PROPOSED WILDERNESS**

Oregon Dunes

**LOCATION**

6 miles south-southwest of Winchester Bay

**LEVEL IV ECOREGION**

Coastal Lowlands

**VEGETATION TYPES**

Shorelands (72%), Sitka Spruce (28%)

**TERRAIN**

Vast expanses of open sand.

**DRAINAGE SUBBASINS**

Umpqua, Tenmile

**ELEVATION RANGE**

0-500+ feet

**SIZE**

10,290 acres

**COUNTIES**

Coos, Douglas

**FEDERAL****ADMINISTRATIVE UNIT**

Siuslaw National Forest (Oregon Dunes National Recreation Area)

**USGS 7.5' QUAD MAPS**

Lakeside, North Bend, Winchester Bay

DOMINIC DEFazio



While often narrow in width, the solitude in proposed Oregon Dunes Wilderness is very real. When walking in dunes, it feels much larger than it is as one takes one step back for every two forward.

**FEATURED UNIT**

## Umpqua Dunes

One of the most magnificent and vast expanses of open sand in the Oregon Dunes lies in the Umpqua Dunes, south of the Umpqua River. This roadless unit is bounded on the north by Umpqua Lighthouse State Park and on the south by the Horsefall Beach Road.

A three-mile "trail" (actually a series of guide posts, only visible if they haven't been swallowed by the sand) leads visitors across the open sand, through the foredune and onto the beach. Along the way, one will see towering sculpted dunes, tree islands and freshwater ponds. Unfortunately, most of the unit is now open to off-road vehicles. A portion of the unit, which runs from the

Douglas-Coos County line south to Tenmile Creek, however, is closed to the motorized monsters. Violations of the closure by scofflaws are common.

Tenmile Creek flows out of Tenmile Lake to the ocean through three miles of sand. In late summer, shifting sand can choke off the creek. Fall rains allow the creek to again find its way to the ocean, opening up passage for migrating steelhead and coho salmon. The city of Coos Bay would like to dewater Tenmile Creek to facilitate industrial growth. One would think that one of the state's wettest regions would not have a water shortage. That assumption is correct. It is the present wasteful use of water and fantasies of a major industrial port that create Coos Bay's potential "shortage." Tenmile Lake and its tributaries are home to 20 percent of the remaining coho salmon on Oregon's south coast. The salmon's only path to the sea is by way of Tenmile Creek.

DOMINIC DEFazio



Lakes and wetlands add important habitat diversity to the sand dunes.

including 247 birds, 79 mammals (50 on land, 29 in the ocean), 83 fish, twelve amphibians, three reptiles and two shellfish species. Forest creatures here include black-tailed deer, white-footed vole, coyote, raccoon and black bear. Beavers, otters, sea lions and seals are found in the estuaries, along with Canada geese, bald eagles, osprey, cormorants, as well as gull and egret species. Beetle tracks can be seen in the smooth sand. The threatened western snowy plover also nests here in open sand where vehicles, dogs and humans can easily disturb it.

The most popular form of recreation at the Oregon Dunes is roaring up and down the sand in dune buggies, all-terrain vehicles and motorcycles. Such activities are annoying to every other dunes visitor and harmful to plants and wildlife, not to mention dangerous for the riders.

Hiking here is best from June through October, as four-fifths of the 80 inches of annual rainfall occurs during the other months. If one is on foot, the Oregon Dunes always seem bigger than they are, because the leeward loose sand usually results in one step slipping back for every two steps forward. The windward side, however, can be a remarkably firm walking surface. Horseback riding is also popular here. So is jumping off the steep side of dunes and trying to keep your head above the rest of one's body all the way to the bottom.

The Oregon Dunes are eminently suitable for Wilderness designation that would eliminate the damage caused by off-road vehicles. The entire area, however, will need some aggressive and periodic management to curtail the threat posed by European

beach grass.

The ever-shifting sands of the Oregon Dunes are dying and will be completely stabilized — hence rendered inert — within a half-century unless drastic action is taken to control European beach grass, an exotic species intentionally planted in the dunes to facilitate settlement and development. This pernicious weed prevents beach sand from replenishing the dunes and the grass is now covering the dunes themselves. It is also forcing out the area's native species, including American dune-grass and pink sand verbena.

Since European beach grass was established in the 1920s, an unnatural stabilized foredune has been established parallel to the beach, choking off the dunes' sand supply. As the wind passes eastward over the foredune in summer, when the water table is low, it scoops out a depression, called a deflation plain, immediately to the east of the foredune. In winter, the water table rises to form wetlands full of small orchids, insect-eating sundew plants and salamanders. Over time, the deflation plain can become impenetrable, overrun with dense vegetation. Aerial photography from the 1930's show that 80 percent of the dunes were open sand. Today, only about 20 percent remain open.

The Forest Service has been timid in its response to this threat, because the attempted solutions have been expensive and not very productive. Herbicides, mechanical disturbance, fire, irrigating with salt and grazing have all been tried with mixed results. The agency needs to redouble its efforts.

Without intervention, the dunes' demise is inevitable. If nothing else, the Oregon National Guard should be dispatched periodically to bulldoze a breach in the foredune that would allow sand to flow inward and replenish the dunes. The Wilderness Act and subsequent management policy provides for such actions as necessary to protect wilderness values.

Wilderness designation for the Oregon Dunes can conserve, protect and restore one of the world's most unique ecosystems. ♦