

Redwood



Redwood forest

World's tallest living tree—monarch of the North Coast—living link to the Age of Dinosaurs. Redwoods grow from seeds the size of a tomato seed yet can weigh 500 tons and stand taller than the Statue of Liberty. Its foot-thick bark makes the tree all but impervious to fire and insects. Archibald



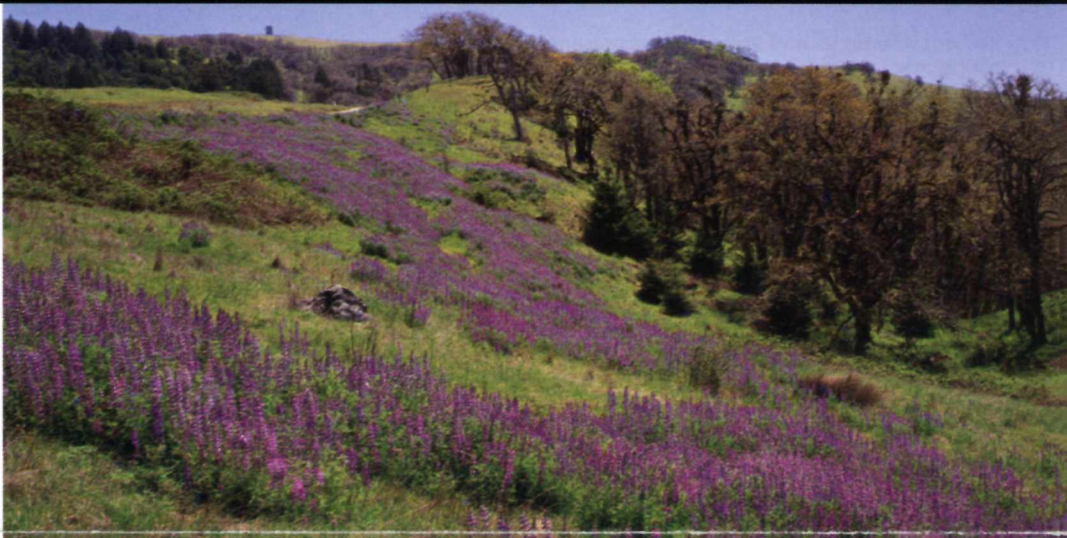
Split Rock along the Coastal Trail

Three California redwoods state parks resulted: Prairie Creek (1923), Del Norte (1925), and Jedediah Smith (1929). To preserve the trees' natural Coast Range setting and associated plants and animals, Redwood National Park was created in 1968 and expanded in 1978. The national park



Rough-skinned newt

boundary encircled the three state parks to better protect superlative ancient redwood forests. In 1994 the National Park Service and California Department of Parks and Recreation began managing the parklands cooperatively, aiming to manage the parks the same. That's why you see rangers in



Bald Hills prairie and oak woodlands

state and national park uniforms anywhere in the parks, working for the same mission. The parks' designation as a World Heritage Site and part of the California Coast Ranges Biosphere Reserve reflects their worldwide recognition as irreplaceable treasures. Here, the diversity of life is protected for you and

National Park Service
U.S. Department of the Interior
Department of Parks and Recreation
State of California

From Exploration to Preservation

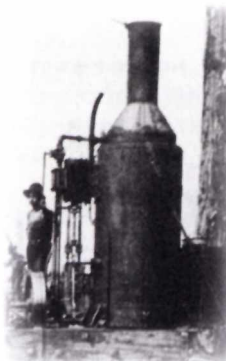
In 1800 redwood forests probably covered two million acres. As mid-1800s gold fever subsided here, redwood fever replaced it. Seeming endless at first, the trees soon fell to determined logging. The State of California preserved some key groves in the 1920s. Congress created Redwood National Park in 1968 to protect the world's tallest trees and Redwood Creek's salmon fishery.

The 1978 park expansion provided a buffer zone between the park and logging up-stream on private lands and a watershed restoration program to remove logging roads and rehabilitate thousands of acres of cut-over land. Redwood National and State Parks protect nearly 40,000 acres of ancient forest, almost half of all that remain.

Jedediah Strong Smith
Lacking good deep harbors, the redwood coast drew little attention until fur trapper Jed Smith arrived over-land in 1828. Smith sought a better route between the Rockies and Pacific. Gold miners opened this area to settlement in the 1850s.



KANSAS STATE HISTORICAL SOCIETY



Moving logs with steam power ushered in the industrial logging era.



Gold mining began after 1848 strikes on the Trinity River.

Mining and Logging
California's northern coast was largely ignored by non-Indians until gold was discovered on Gold Bluffs Beach in 1850. Mining profits were marginal. Revived during the Civil War, the mines closed at the war's end. Various methods were tried later, but operations ceased by 1920. A few remains of mining operations still exist on Gold Bluffs Beach.

Logging began in redwood country in 1851. At first small logs were floated to small mills or dragged by oxen on skid roads. Railroads were used in the 1870s, then the steam donkey in 1882 and bull donkey (above left) 10 years later. Bulldozers were used by the 1920s, trucks by the 1940s. Redwood lumber built some of San Francisco's great Victorian homes.

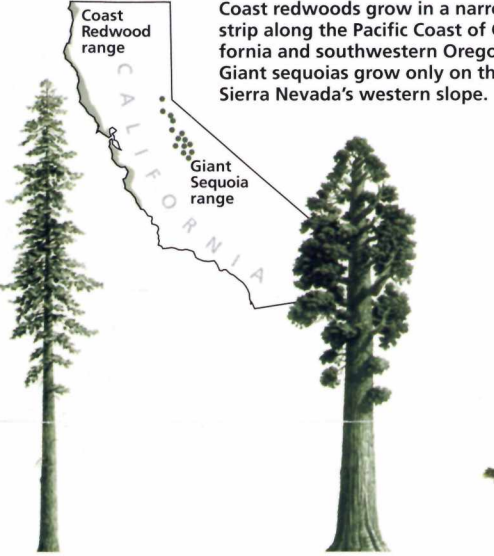
The Coast Redwood
Coast redwoods tower over all other trees in the world. Trees over 370 feet tall have been recorded across the region. Redwood forests develop the world's greatest reported volume of living matter per unit of land surface. Giant sequoias grow to larger diameters and bulk but do not grow as tall.



A backdrop of redwoods dwarfs hikers.

Coast redwoods can live to about 2,000 years old; they average 500 to 700 years old. They have no known killing diseases and do not suffer significant insect damage.

Merely to stand in a redwood grove inspires many visitors to champion these trees' preservation.



Coast Redwood Facts

Height: To nearly 380 ft.
Age: To 2,000 years
Bark: To 12 in. thick
Base: To 22 ft. diam.

Reproduce: By seed or sprout
Seed size: Like a tomato seed
Cone size: Like a large olive

Giant Sequoia Facts

Height: To 311 ft.
Age: To 3,200 years
Bark: To 31 in. thick
Base: To 40 ft. diameter

Reproduce: By seed only
Seed size: Like an oat flake
Cone size: Like a chicken egg

Treasures of Nature and Culture

From sea level to 3,200 feet in elevation in the Coast Range, a mild, moist climate assures the parks an abundant diversity of wildlife. Elusive to visitors, many mammals, birds, amphibians, and insects live in the mature redwood forest. They depend on it for food and for shelter. Prairies form natural islands of grasslands, where wildlife abounds.

Roosevelt elk favor prairie and other open lands but seek forests for cover and shade. The parks' largest land mammals, elk may exceed 1,000 pounds.

Much bigger antlers distinguish them from black-tailed deer. Good places to see Roosevelt elk are Elk Prairie campground and Gold Bluffs Beach. Look for them along the Bald Hills and Davison roads, too. Be alert for elk crossing highways.



Park streams offer swimming and floating. Steelhead, cutthroat trout (the speckled fish pictured center below), and Chinook salmon (center below) inhabit these streams.



NPS / DAN FEASER



USFWS / DUANE RAYVER



Prairies and Waterways
Prairies and rivers reflect the changing of seasons far better than redwood groves do.

In springtime, prairie wildflowers burst with color that gives way in the dry summer to the grasslands' amber glow. In the Prairies are the realm of raptors, the predatory red-tailed hawk, kestrel, and great horned owl, and their prey of gophers and meadow mice.

Mountain lions, bobcats, coyotes, foxes, elk, and black-tailed deer frequent prairies kept free of trees by prescribed fire and grazing elk.

Acorn-bearing Oregon white oaks edge prairies at the higher elevations. Oaks provided protein-rich food for Indians, who cleared the understory with fire. Prairies make good birding

Black Bears
Seldom seen, black bears roam these parks. Most haven't lost their fear of humans. Fond of acorns, bears travel far to harvest them. To prevent wild bears from becoming problem bears we must keep human food away from them. Use sound food storage practices. Counter-balance all food, scented items—soap, tooth-

spots. There you may see the goldfinch, junco, quail, or raven.

The parks' rivers are world-renowned for fishing and loved for recreation and their sheer beauty. The Smith River, named for Jedediah Smith, arises in the Siskiyou Mountains and then flows through the parks' northern section. It is now California's last major free-flowing river and is famous for salmon and steelhead.

The Klamath River, also a salmon and steelhead stream, crosses the mid-section of the parks.

Redwood Creek flows through the parks' southern part. Salmon and steelhead populations were severely diminished by past logging in the Redwood Creek watershed.

paste, lotion—and garbage in a tree 200 feet from camp; 12 feet up and 10 feet out from the trunk; and five feet down from the branch. Ask a park ranger about how to store your food.

Remember: A bear seeking food from human camps can be aggressive and may have to be destroyed. Please keep wildlife wild.

Watershed Protection
Congress expanded the national park in 1978 and directed the National Park Service to rehabilitate logged-over lands. Bulldozers recontoured hillsides and stream channels to restore conditions that



Listen to the excavator's rumble and the bulldozer's roar. The same equipment that was used to build the logging roads (above) now takes the roads out! Be sure to visit one of the rehabilitated sites during your stay in these parks.

favor return of natural vegetation. Congress also created a 30,000-acre protection zone upstream from the park in Redwood Creek's watershed. This limits effects of the timber harvesting there on the park downstream.

American Indians have lived along the redwood coast for thousands of years. Belonging to several different groups, they speak different languages, despite living in a relatively small area. Before non-Indian people arrived in the 1850s, Indian villages, with their split-plank structures (above top), dotted the coast and lined major rivers.

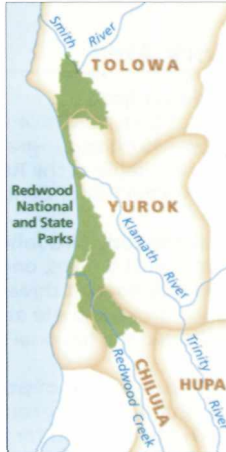
Travel was by redwood dugout canoes (above) on waterways and by foot on an elaborate trail system. Foods varied with the seasons. They fished ocean and rivers, hunted land and marine mammals, and gathered nuts, seeds,

and berries. American Indians today live on and off reservation lands and represent five to 10 percent of the local population. Groups are represented by sovereign governments and many traditions continue.

Some members still speak the languages. Traditional ceremonies are held, hunting and fishing are still important, and the traditional arts and crafts are kept alive.



CANOE NPS / MICHAEL HAMPHRESE, DWELLING AND BASKET NPS



Redwood National and State Parks lie in traditional territories of three Indian groups. Yurok and Tolowa groups still exist; the Chinulua have assimilated into the inland Hupa culture.

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Life Along the Seacoast

Even apart from the Coast Range and its lofty forests, the coastline here would justify national or state park status. Rugged and largely unaltered by humans, the coastline features stretches of steep and rocky cliffs broken by rolling slopes. Generally rocky, its tidal zone can be tough to traverse. Gold Bluffs Beach is an exception, with its seven-mile stretch of dunes and sandy beach. On the coastline you may discover a rich mix of forms of life that live in the distinct habitats illustrated below.

Many of the parks' animal species thrive along the coast. Brown pelicans are summer visitors. Cormorants take to lagoon or river and shore waters. Willets and sanderlings work the beach. Offshore may be Pacific gray whales in migration, seals, sea lions, dolphins, porpoises, and orca whales. In the intertidal areas the cycle of rising and falling tides have produced tightly zoned layers of life. To help protect these animals, the national park boundary extends one-quarter mile offshore.

Offshore
Between shore and the deep ocean here an average surface acre is as productive as an acre of fertilized agricultural land. The basic wealth lies in phytoplankton, single-celled plants.

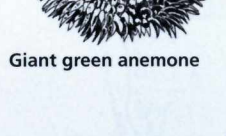
Sea lions feed beyond the surf and haul out on shore or on sea stacks. Harbor seals swim in the surf and haul out in sheltered coves. Sea birds nest offshore on rocks.

The California Current flows south. It works with offshore winds to draw nutrients up from deep waters, providing food for many coastal creatures. Moisture-laden air off the California Current condenses as low clouds over cold water near shore.

Periwinkle snail



Ochre sea star



Giant green anemone

Intertidal Zone
Tides rise and fall twice daily on a 25-hour lunar cycle. In the zone between high and low tide, life forms arrange themselves vertically based on tolerance for exposure to air and/or water and to heat and wave shock. Other biological limits are predators and competition for food and space.

A splash zone above high tide is home for periwinkle snails and beach hoppers that can withstand episodic wetting and wave shock. Splash zone species are transitional but more attuned to life on land than in the sea. Mussels cling to rocks in the high-tide zone, covered

Tidepools shelter life in rocky beach outcroppings. Tidepool dwellers cope with great changes in water temperature, salinity, and oxygen content. Here are barnacles, limpets, nudibranchs, ochre sea stars, sea urchins, and erect sea palms anchored by rootlike hold-fasts.

Beaches
Life on sandy beaches observes wet and dry zones, too, because of tides and waves. The lower beach is often wetted while upper beaches are like deserts between sea and lush coastal forest. Clams and mole crabs burrow in wet lower beaches. Sanderlings follow retreating wave lines to forage on washed-up organisms.



Brown pelican



Marbled murrelet
US FISH AND WILDLIFE SERVICE

From Ocean to Forest
A marbled murrelet is a robin-sized seabird that flies deep into the old-growth forest to lay its egg high in tree tops on a large moss-covered limb. Unfortunately, its ancient habitat has been greatly reduced by forest fragmentation.

Most murrelets left in California nest in Redwood National and State Parks, but predators like ravens, jays, and crows are eating murrelet eggs and chicks. While circling the forest looking for food scraps at campgrounds, they find the murrelet's nest instead. Please help protect this rare bird—keep a clean campsite and avoid feeding any wildlife.

Sea Cliffs
Northern park beaches tend to be rocky and backed by sea cliffs. Southern beaches tend to be backed by bluffs. Over half of the parks' birds are marine species. Some nest—often as crowds—in sea cliffs: murrelets, cormorants, puffins, auklets, gulls, and pigeon guillemots.

The Role of Fog
As air warmed by inland heat passes over the cold, near-shore waters, fog forms—in summer almost daily. Fog helps to approximate the mild, moist climate that prevailed during the Age of Dinosaurs, when redwood-like species grew over much of North America.

Fog brings the redwood forests relief from the dry summer, too. It reduces the loss of water

through leaf surfaces. Fog collects on trees and then its precious moisture drops to the forest floor. Fog is not essential to redwoods, but its absence would reduce their range.

Woodlands
The Coast Range's west slope forests benefit from being close to the ocean—for fog, rain-fall, and moderated climate. Redwoods favor the moist, north-facing slopes where sunlight's effects are less drying. Rivers near sea level also provide hospitable flats for these big trees.

Redwood National Park is one of over 390 parks in the National Park System. To learn more about national parks and National Park Service programs in America's communities visit www.nps.gov.



A park interpreter shares natural lore of the rocky tidepools with visitors to the parks' Pacific shore.

