

# Putting the Pieces Back Together

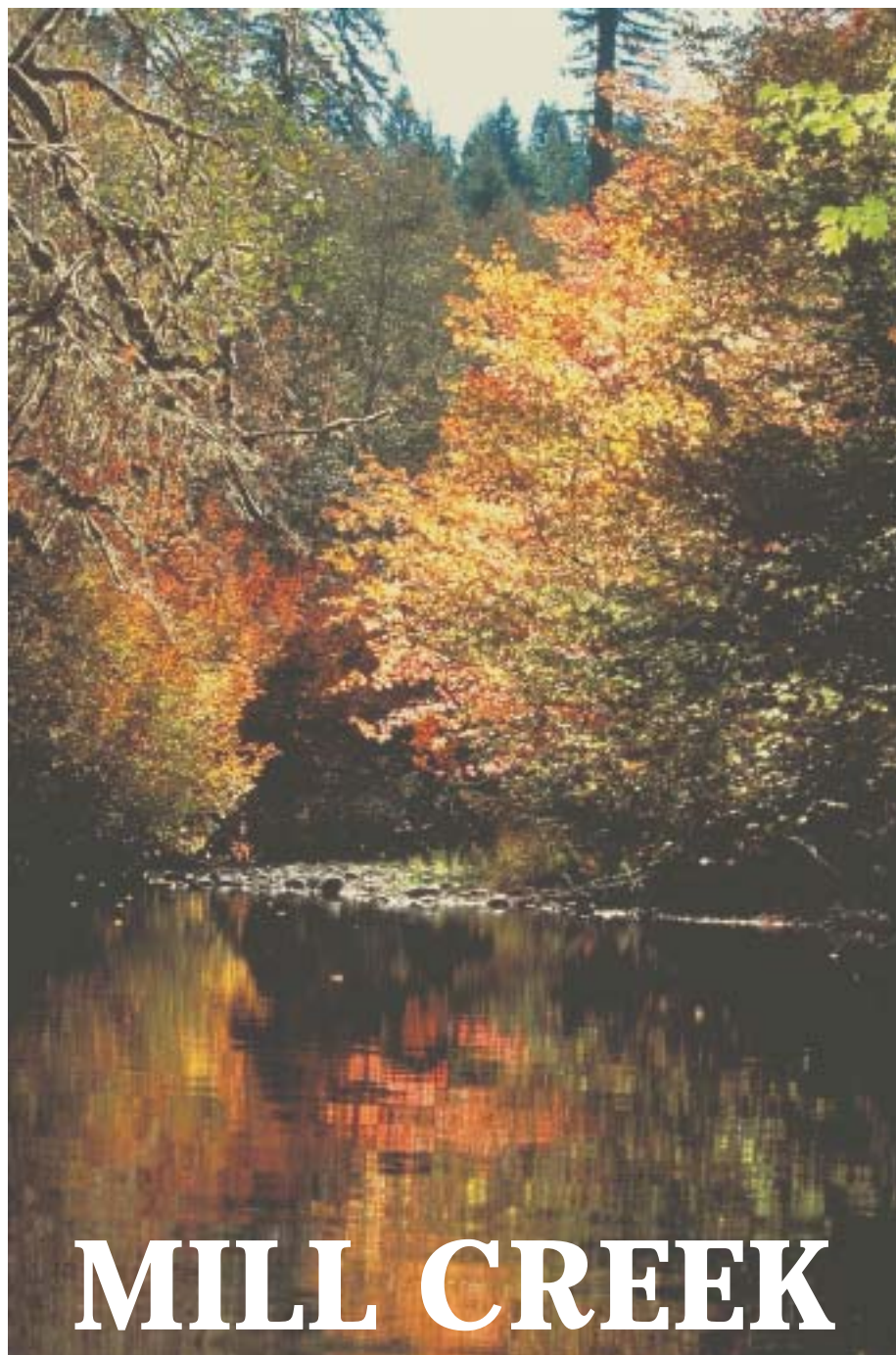
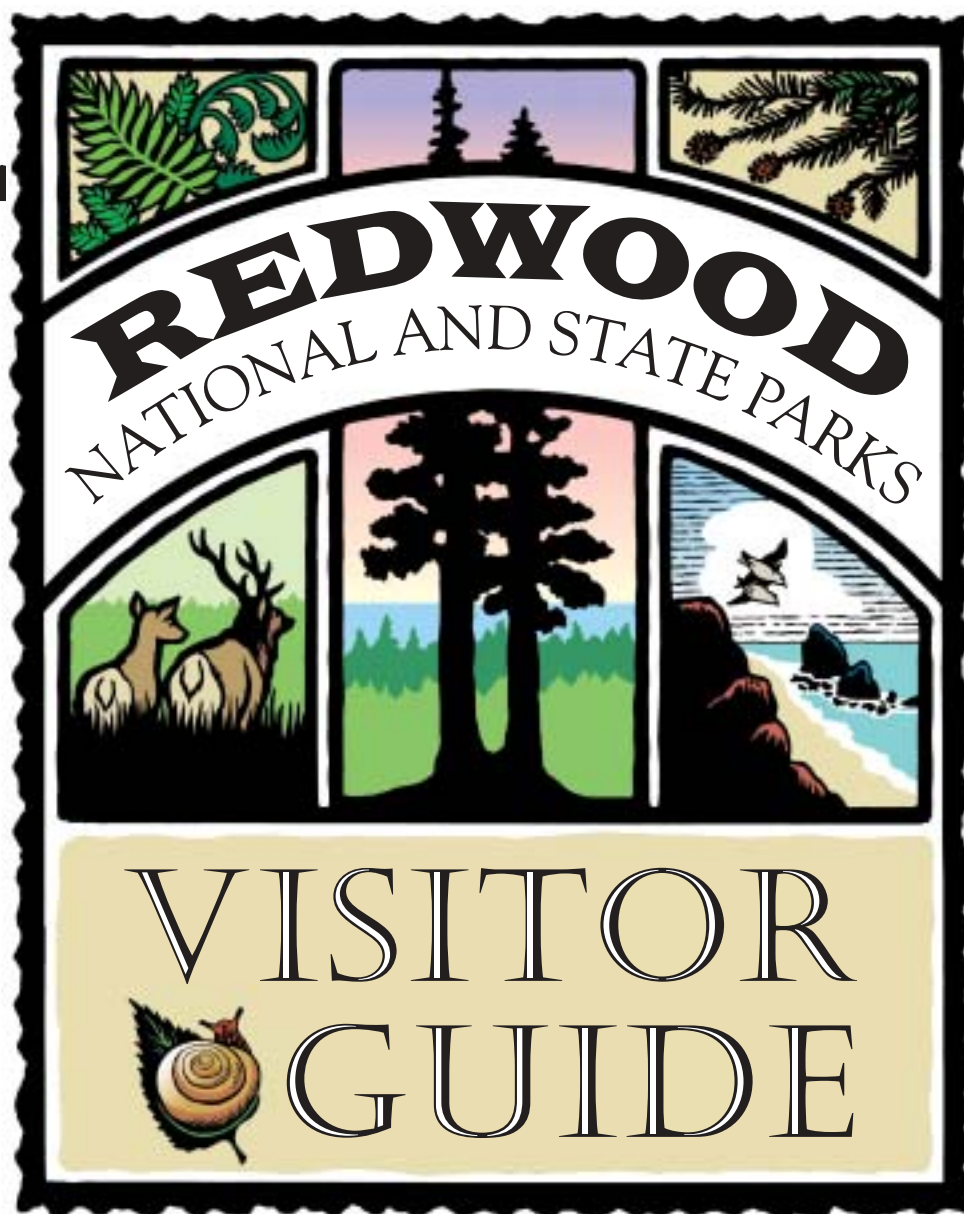
By Jim Wheeler

**T**he redwood forest along Mill Creek stood tall and whole 150 years ago. From its headwaters on Childs Hill to the alluvial flats where it joins the Smith River, the Mill Creek watershed held within its ridgelines an ancient, pristine, and healthy ecosystem.

However, the untrammelled landscape would not survive intact. By the early 1900s, Mill Creek's watershed had been pared into pieces, some pieces protected as natural reserves, others hungrily consumed by a growing nation. In June 2002, the chance to make Mill Creek watershed complete once more was realized when Stimson Lumber Company sold 25,000 acres of heavily logged land to the Save-the-Redwoods League (SRL) and the State of California.

Reuniting the forests on the headwaters and middle reaches of Mill Creek with those of Redwood National and State Parks (RNSP) constitutes a milestone in the history of redwood forest conservation. With the entire Mill Creek and upper Rock Creek basins under the umbrella of public ownership, new restoration techniques and adaptive management can be used to encourage the now-young forest toward its ancient forest ways. The Mill Creek ecosystem can be made whole again.

**S**tanding atop Childs Hill and gazing over the watershed, the importance of reunification becomes apparent. Mill Creek, a major tributary of the Smith River, is finally protected along its entire length. Below lies the sweeping expanse and deep canyons of the new parklands. In the distance, the dark green edge and rounded canopies of the ancient forest at the boundary of RNSP marks the lower portion of the creek, protected since 1929. Coastal views extend from Brookings, Oregon to St. George Reef Lighthouse six miles offshore.



## MILL CREEK

Only 200 acres of ancient forest remain in five separate stands, with the rest of the forest in various stages of regeneration. Its stream corridors are largely intact, providing a variety of habitats for area wildlife. Mill Creek has always been an important passageway for anadromous fish. The most prolific coho salmon stream left in California also supports Chinook and chum salmon, and steelhead and cutthroat trout. While logging reduced or eliminated some plant and animal species, Mill Creek remains home to 23 threatened and endangered species. Next door, the ancient forests of RNSP act as biological reservoirs, filled with a myriad of plants and animals that will replenish the newly acquired lands as the forests mature.

**N**orth and east of the headwaters, the ridgeline of the Little Bald Hills marks the geologic boundary between the Coast Range and the Klamath/Siskiyou Mountains. Here sedimentary, shale, and schist rocks of the coast range meet continental peridotite and serpentine, nutrient poor mantle rocks and soils that host a variety of endemic plants.

Carnivorous California pitcher plants thrive in boggy serpentine soils edging the Klamath/Siskiyou bioregion. The endangered western lily and McDonald's rock cress are found here. Port Orford cedars, the tallest and arguably most beautiful cedars native to North America, flourish in this region. Across the South Fork of the Smith River to the east, massive snow covered mountains and the rectangular projection of Preston Peak dominate the skyline. Below, knobcone pine-covered ridges east of Rock Creek reveal the serpentine soils of the Siskiyou.

**T**he pieces of the Mill Creek watershed, tugged apart years ago for different uses, have come together. Acquisition of the Mill Creek and Rock Creek watersheds provides public ownership and protection of lands stretching from the rocky Pacific coastline to the snowy crests of the Siskiyou. Natural processes can return to an intact landscape. The pieces of Mill Creek, reunited once again, can recover their ancient forest qualities.





## A Refuge for Salmon

Protection of California's dwindling wild salmon populations is one of the primary reasons that the State of California acquired the Mill Creek property. Both Mill and Rock creeks provide important habitat for salmon spawning and rearing.

In Mill Creek, the hillsides are composed of rocky material rather than the fine, silty material found in nearby watersheds. When rains pummel the landscape, less silt slides into the stream channel. With less material in the stream, newly laid eggs are less likely to be suffocated.

Water temperature and velocity are perfect. Juvenile salmon need water below 60 degrees Fahrenheit to thrive and rushing water keeps the stream clean and full of oxygen. In addition, fallen trees in Mill Creek have created large pools. Logs in the stream channel allow for idyllic pool and riffle ratios, which creates excellent spawning and rearing habitats.

Coho salmon are in trouble. Poor survival in the ocean, loss of habitat, poor habitat conditions, and a short life cycle have all contributed to severe decline, placing coho on the threatened species list. Restoration of Mill Creek watershed will not only improve coho salmon habitat, but populations could increase enough that coho will stray into other river systems. Mill Creek may prove to be one of the most important rivers in the state for salmon recovery.

**A long-term fish study on Mill Creek was initiated in 1980 by Jim Waldvogel through Sea Grant and was later complemented by lumber company efforts (1994). California Department of Fish and Game took over the study in 2001. The data reveal a highly productive and species-rich fishery. This knowledge contributed to the decision to purchase and restore the watershed.**

# Mill Creek

challenges us to think about the long term promise. A tributary of the Smith River, Mill Creek travels through the northernmost region of redwoods and boasts strong populations of salmon. The acquisition of Mill Creek completes an entire watershed and forms habitat links between the coast redwood forest and inland forests of the Klamath-Siskiyou



## The Most Important Groves

By Jeff Denny

With dark green spires towering 300 feet above steep canyons and massive trunks dwarfing the forest bedding, the redwoods of Mill Creek astounded Stephen Mather and Madison Grant in the summer of 1919. Mather, director of the National Park Service, and Grant, cofounder of the Save-the-Redwoods League (SRL), proclaimed the Mill Creek redwoods "the most important groves" in northern California. Mather added, "As Del Norte County is somewhat remote it may be immune for a short time from serious inroads by the axe and there is no doubt that the Smith River redwoods should be acquired for a National Park."

The towering redwoods would not be remote for long. Paving of the Redwood Highway in 1915 drew tourists who marveled at these quiet giants, while timber tractors and saws reached deeper into the forests. A 1915 Del

Norte County advertisement proclaimed, "There is enough timber in this country to keep a dozen mills at work for a thousand years."

Mill Creek's redwoods had felt the sharp edge of the axe as early as the 1850s. The needs of a growing population and post-War industrial innovations accelerated consumption of the northern redwoods. By 1920, nearly one third of California's original redwoods had been converted to shingles, building materials, and railroad ties.

The time to protect Mill Creek's trees was now, Mather determined, but Congress failed to act. Between 1911 and 1947, Congress rejected six different proposals to create a Redwood National Park. Meanwhile, Grant's Save-the-Redwoods League worked tirelessly to acquire redwood groves through private donations. In the 1920s,

land purchased by the League created the first redwood state parks in California. The redwoods of the lower Mill Creek drainage found protection within Jedediah Smith Redwoods State Park, but the remaining 25,000 acres of its giant trees gradually disappeared.

The last and best chance to save the Mill Creek giants came in 1964. Proponents of a large national park finally found a willing audience in Washington. However, advocates for a new Redwood National Park along Redwood Creek won the day, and by 2000 only 200 acres of old-growth forest remained in Mill Creek.

Today, Mill Creek joins Redwood National and State Parks as a complete watershed, but only as a shell of the healthy ecosystem of the past. Our responsibility in the 21<sup>st</sup> century is to restore the life and health of one of our most important redwood groves.



**Top. Inner gorge of the west branch of Mill Creek.**  
*Photo courtesy Stillwater Sciences.*

**Left. Counting fish at an out-migrant fish trap; 152,679 juvenile fish were counted in 2002, predominantly chinook salmon fry.**  
**Below. Coho salmon find a small tributary of Mill Creek for spawning.**  
*Photos by Zack Larson*

**Left. Stimson Lumber Company left the stream corridors intact, allowing salmon a chance to survive.**  
*Photo by Stephen Corley. Copyright Save-the-Redwoods League.*





bioregion. After 50 years of timber harvesting, the forest is protected and can grow again for thousands of years. Careful restoration techniques will stimulate large tree development, including a multi-layered forest canopy that supports diverse plant and wildlife. Mill Creek — a place to visit the wild creatures, hike the misty redwoods, and find solace. We are at the beginning of the promise.



## One Fine Gift

By Richard Sermon

When voters passed the California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Act of 2002, did they realize that some of the money would be used to help stabilize, repair, and convert old logging roads for use as recreational trails or to restore fish passageways and enhance fish habitat?

With over 2-½ billion dollars to distribute, the value of the Mill Creek watershed made it a project recipient. During the extensive logging of the Mill Creek property over the past 50 years, a vast network of roads were constructed to remove the timber and transfer it to the mill for processing. There are more than 255 miles of roads on 25,000 acres.

Building a system of roads in the steep terrain of Mill Creek watershed required altering many stream crossings with culverts that channel abundant rainfall. There are 11 bridges and more than 600 crossings in this area that need intensive maintenance. Should crossings or culverts plug or fail during a storm, sediment would rush into the stream channel damaging the spawning areas of salmon and steelhead.

The Proposition 40 bond act provides funding to help maintain the culverts, protecting the park resources in Mill Creek watershed. While restoration is planned for the future, other monies will have to be appropriated.



## ANTICIPATING A FOREST'S FUTURE

The lofty redwoods of Paragon Grove stand as sentinels over the Mill Creek watershed, protecting not only the property's genetic past but also its potential for future greatness. This 90-acre relict symbolizes the loss of old-growth forests throughout the region, while the acres of newly protected second growth that surround the grove represent hope for the region's future.

Currently, management efforts are underway to ensure this forest's future. Two-hundred and fifty-five miles of logging roads are being inventoried and those with a high risk for erosion will be upgraded and storm-proofed. This protects streams within the watershed where coho salmon and steelhead trout spawn and grow. These same roads are being evaluated for public access. Existing structures on the former mill site will be considered for reuse as visitor facilities. Anticipating the benefits of refurbishing this landscape requires patience though. Unlimited public access to Mill Creek will not be available for several years. Restoration takes time, giving present and future generations something to look forward to.

## There's No Place Like Home

By Kale Bowling-Schaff

Imagine your once-safe and dependable neighborhood becoming a dangerous place where it's hard to find food or raise your children — most people would choose to move. For 23 threatened and endangered species found from the forest floor to the canopy in the Mill Creek watershed, timber harvests have fragmented the once-continuous old-growth forest that makes a safe home. The threatened marbled murrelet, one of the world's only seabirds to nest in trees, faces these changes.

Marbled murrelets nest in very large coniferous trees within 35 miles of the ocean — a rare commodity after more than 150 years of logging. Old-growth trees provide large limbs for nesting, as well as canopy cover to protect murrelets from predators as they fly swiftly from their forest home to the sea and back gathering fish to feed their young.

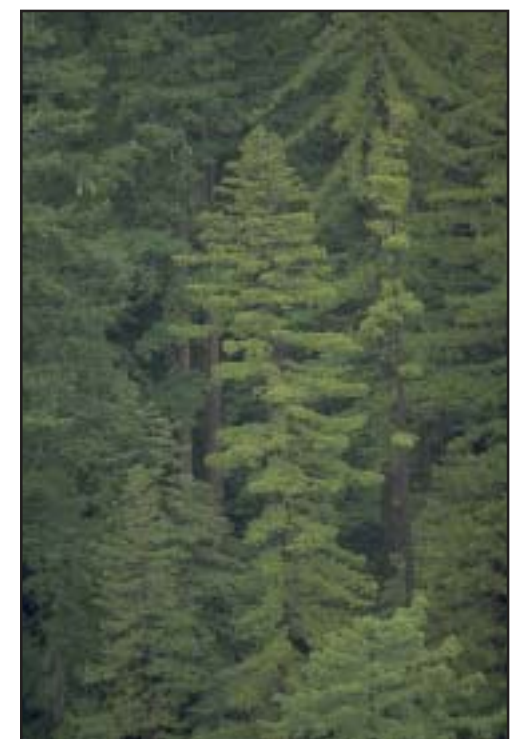


Marbled murrelets, small resident seabirds, fly inland to nest high on redwood branches.

The Mill Creek watershed was once a prime neighborhood for murrelet breeding, but forest fragmentation has taken its toll. Today, less than 10 percent of the Mill Creek property is old growth; most of the remaining forest was logged within the last 50 years. Envision adult murrelets trying to avoid densely-packed, even-aged stands of trees at speeds up to 60 miles per hour, then flying out in the open over clear-cut land. A dangerous way to travel, indeed. Fragmented forests and trash left by

humans also attract ravens and jays, birds that feed on murrelet eggs and chicks. Although it could take hundreds of years for second-growth stands to mature on their own into suitable nesting habitat, thinning dense stands will accelerate the process and encourage more marbled murrelets to call Mill Creek home.

Some threatened and endangered species like the bald eagle can find habitat elsewhere, while others such as fish and amphibians can't move away when the hardships of forest fragmentation befall. All of the Mill Creek animals are stressed by a reduction in food sources and less protection from predators, both caused by human activity. As the forests of Mill Creek continue to mature toward contiguous habitat with adjacent protected lands, they will provide a more secure neighborhood for threatened and endangered species — and begin to stack the cards against their extinction.



The Paragon Grove is the largest of five remaining old-growth stands. Photo by Stephen Corley. Copyright Save-the-Redwoods League.