



12. Spike Tops

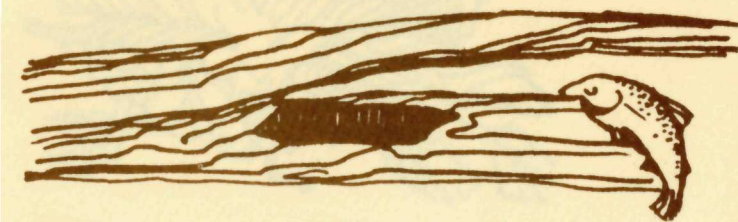
On the hillside across the creek you will notice some dead treetops called "spiketops". This hillside was logged prior to park establishment. Earlier logging practices included leaving some trees standing as seed trees to help regenerate the forest. This practice of leaving seed trees was abandoned partially because removing the surrounding forest left these remaining trees more vulnerable to elements of nature. In many cases the sudden exposure to higher temperatures and winds either killed the remaining tree tops or resulted in windfalls.

Sudden changes in the landscape resulting from a logging operation can change the microclimate of an area. Consequently, large scale logging operations may have many deleterious effects on our climate.

13. Brine Vat

A section of this fallen redwood was hollowed out and lined with cement to construct a brine vat to salt fish. The vat was built in the 1920's by Bert Robinson and used during the Depression to preserve salmon and steelhead trout caught from Redwood Creek.

Every autumn he would row 8 miles up Redwood Creek from the town of Orick with supplies and salt. Bert spent autumns and part of each winter in the grove, living in a lean-to or a treehouse modified from a goosepen.



14. Alluvial Flat

The soil on which you are standing consists of sand, silt, and clay deposited during floods throughout the centuries. Sediments deposited by water are called alluvium. Alluvial flats such as this one change as the stream channel meanders. The flat you just crossed was deposited in 1964 and was severely eroded during the winter of 1986. The force of the high water levels of that year's storms threatened to undercut the roots and topple the 6th Tallest Tree.

The well-aerated soil of alluvial flats, along with the high moisture, low wind exposure, and high relative humidity of the valley bottom, make an ideal environment for redwood growth. The redwoods growing on this alluvial flat average 300 to 350 feet in height as opposed to trees of the same age reaching only 200 feet on nearby ridgetops.

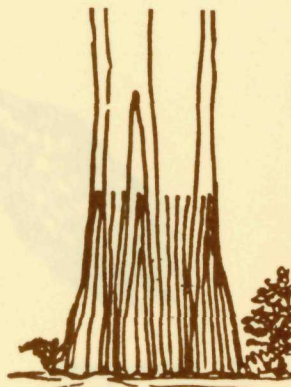
15. Flood

If you had been standing here on December 23, 1964, water would have been over your head! On that date Redwood Creek swelled with flood waters from two successive storms.

Initially, a cold arctic storm dumped over a foot of snow on the surrounding hills. This snow melted rapidly when a second storm, bringing warm rains, moved in from the south. The combined run off from these two storms caused Redwood Creek to crest well above flood stage.

Silt and sediments became imbedded in the redwood's shaggy bark, leaving a grayish residue to mark the high water level. Similar flood levels also were reached in 1972 and 1975.

The tree on your left, toppled by this flood, wasn't completely separated from its root system. It now plays host to ten sprout trees extending from its trunk.



16. Native American Cultures

The Chilula Indians, who once lived in this area of Redwood National Park, had an elaborate and highly developed material, social and religious culture. Their villages, camps, trails and spiritual sites were located throughout this watershed. Acorns from the tanoaks above you and from other oak species at higher elevations, as well as fish from Redwood Creek and a variety of plants and wildlife found in the vicinity provided the Chilula with an abundant food source.

The sudden arrival of gold seekers and settlers in the 1800's completely disrupted the lives of these Native Americans and led to hostilities and severe conflicts between the groups. By the late 1800's the Chilula who had survived either moved to the Hoopa Valley Indian Reservation to the East or dispersed. As a result, a number of the Hupa Indians today have ancestral ties to Redwood Creek and the Bald Hills area.



17. Elephant Tree

The odd looking warty growth on this tree resembling an elephant's trunk is actually a burl. True redwood burls such as this one can be distinguished from similar looking growths by the presence of sprouts. If you look closely you will see buds at the base of this hanging burl and sprouting stems emerging from numerous places at the top. Burls, more commonly found at the base of the tree, are responsible for the multiple stemmed trees common in the redwood forests.

Burls can also be found on tanoak, big leaf maple, bay laurel, huckleberry, and rhododendrons, but redwood is the only conifer with this characteristic.



18. Widow Makers

Crack! Swoosh! Thud! As a tree grows toward the sun, its lower branches die as they become shaded by upper branches and crowding trees. These dead branches are discarded naturally. Large living branches may be broken out of tree tops by wind and snow. This branch came crashing down from over 200 feet, imbedding itself in the ground. The forest is littered with branches such as this, often called "widow makers" by loggers.



19. Preserved Forever

Ancestors of the redwood family circled the northern hemisphere during the age of the dinosaurs. Dramatic geologic and climatic changes have reduced the range of these trees to a 400 mile strip of coastal lands in Northern California and Southern Oregon.

Of the 2 million acres of old growth redwoods that existed in the 1800's, approximately 3% have survived the changes brought on by time and technology. This grove is a testimony to the durability of these trees and a tribute to those who had the foresight to preserve this remnant of an ancient ecosystem.

"Time, time as we dissect it in days and hours and minutes loses all meaning in a setting such as this. Here is a forest that was young when life itself was young. Here are trees that have already stood for a millennia or two—and still their lives will outlast yours a thousand years."

**Phillip Hyde and
Francois Leydet
*The Last Redwoods***

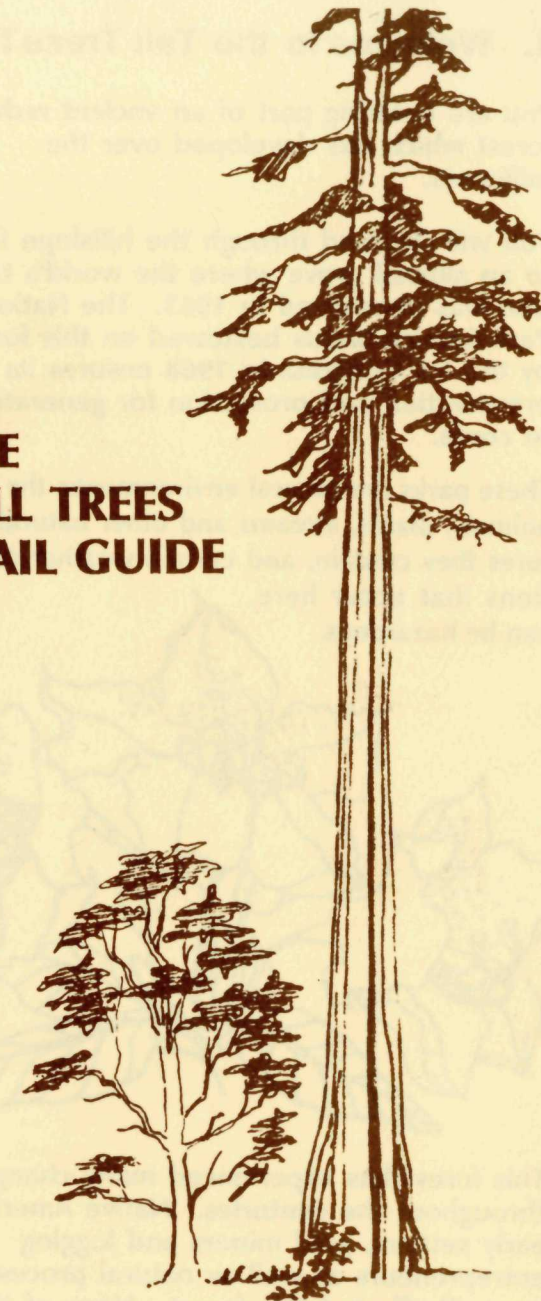
Return this brochure to the dispenser when you have finished your hike so others may also enjoy it.

Your comments on this new trail guide are welcomed. Please record them on the visitor register in the Tall Trees Grove shelter or at the Redwood Information Center.

*Produced by Susan Gonshor
Illustrated by Carol Stalder
Funded by The Redwood Natural History Association*

printed on recycled paper

THE TALL TREES TRAIL GUIDE



"These great trees belong to silences and millennia. They seem indeed to be forms of immortality standing here among the transitory shapes of time."

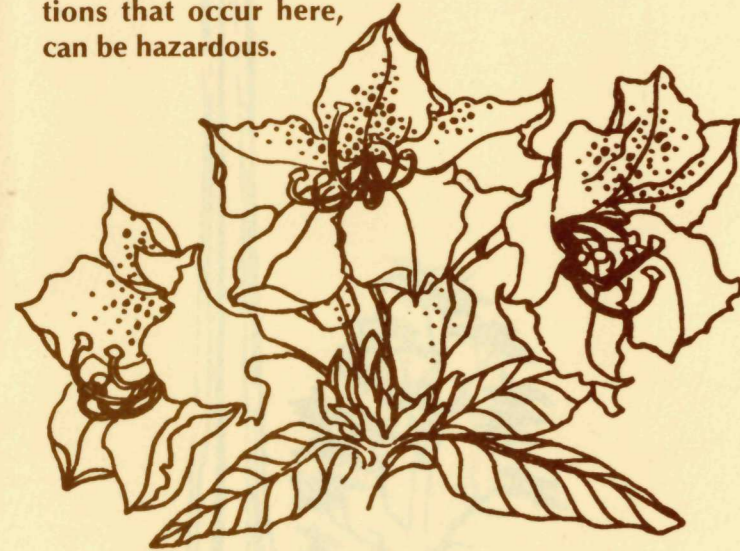
**Edwin Markham
*The Last Redwoods***

1. Welcome to the Tall Trees Trail

You are entering part of an ancient redwood forest which has developed over the millennia.

You will descend through the hillslope forest to an alluvial grove where the world's tallest tree was discovered in 1963. The National Park Service status bestowed on this forest by the US Congress in 1968 ensures its preservation and protection for generations to come.

These parks are natural environments; the wild animals, plants, streams and other natural features they contain, and certain weather conditions that occur here, can be hazardous.

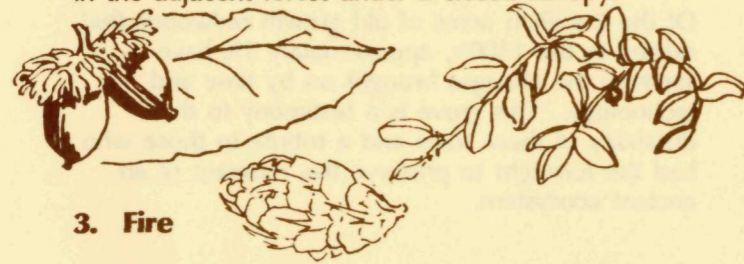


This forest has experienced many changes throughout the centuries. Native Americans, early settlers, gold miners and logging entrepreneurs as well as natural processes have all affected this forest. Many of these impacts will be seen as you hike the 2.6 mile round trip through the Tall Trees Grove.

The 1.3 mile walk down to the Tall Tree is a leisurely 1/2 hour trip, but allow 45 minutes to an hour for your uphill return.

2. Forest Diversity

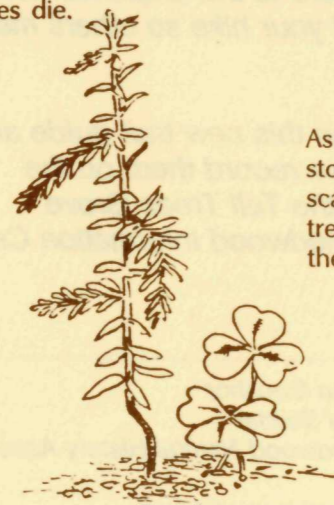
The towering canopies of overstory redwood and Douglas-fir trees shade the forest floor. Low light levels and competition for moisture and minerals limit the understory flora. The forest opening above the trail and its mineral soil surface has permitted the establishment of many seedlings of Douglas-fir, huckleberry, rhododendron, redwood, Western hemlock and other plants, far more than are found in the adjacent forest under a closed canopy.



3. Fire

Natural fire contributes to the dynamics of many Western forests. Periodic fires, occurring here one per century, clear the understory. Most overstory trees usually survive because of their thick bark, while most thin barked trees as well as young trees and shrubs are killed by these fires. This clearing adds nutrients to the soil, kills fungi harmful to seeds, opens areas to sunlight, and leaves exposed soil necessary for young seedlings to get established.

Fires may create canopy openings and favor the establishment of Douglas-fir seedlings. This species demands higher light levels on the forest floor which result from fires. Without these periodic fires, Douglas-fir may be lost from this stand as older trees die.

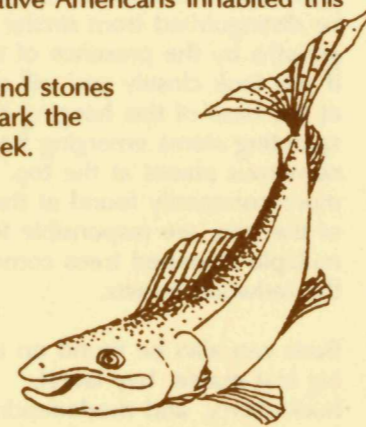


As you walk to the next stop, notice other fire scarred yet healthy trees recovering from the effects of fire.

4. Ancient Streambed

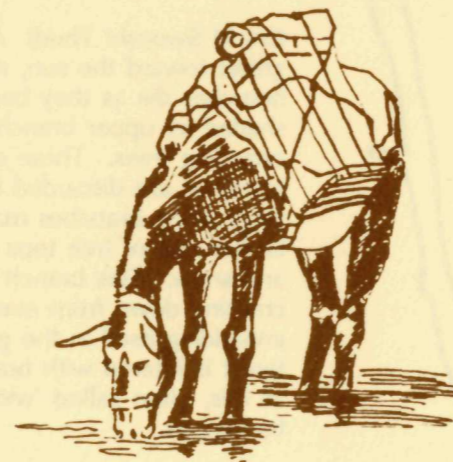
In this region of rapid erosion and high rates of geologic uplift, Redwood Creek has changed its course over the millennia. Here you stand on an ancient streambed where the creek once flowed, providing habitat for salmon and steelhead trout long before the first Native Americans inhabited this area.

The rounded pebbles and stones exposed by this trail mark the path of the ancient creek.



5. Trinidad Trail

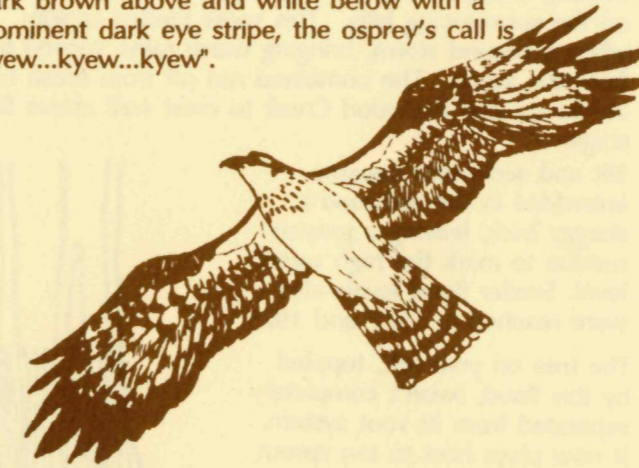
The Trinidad Trail, a pack route established in the 1850's, crossed the trail you are on at this spot. Pack trains of mules, horses, and donkeys carried supplies from the port of Trinidad along this trail to gold mines on the Klamath, Salmon, and Trinity Rivers. The trail was used for more than 50 years until it was replaced by roads.



6. Osprey

Look up and find the osprey nest made of large sticks in the distant tree top. These "fish hawks" nest in tree tops near water. This nest is not used annually since a pair may not use the same nest every year.

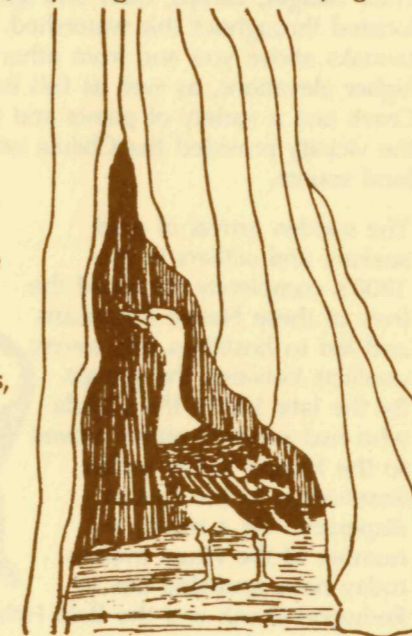
Dark brown above and white below with a prominent dark eye stripe, the osprey's call is "kyew...kyew...kyew".



7. Goosepens

These hollowed out trees indicate a history of repeated fires in this grove. Successive fires can burn through the redwood's thick bark to the heartwood of the tree, exposing the wood to drying and decay.

Subsequent fires can enlarge this cavity. Pioneers called these hollowed trees "goosepens" because they were ideal for housing geese, ducks, and chickens.



8. Mother Tree

This group of redwoods encircles a gaping hole where the fallen tree at your right once stood. The ring of trees had sprouted from the basal burl tissue following some disturbance such as fire. Sprout trees make use of the already established root system of the fallen "mother tree." This allows them to grow faster than redwoods produced from seed.

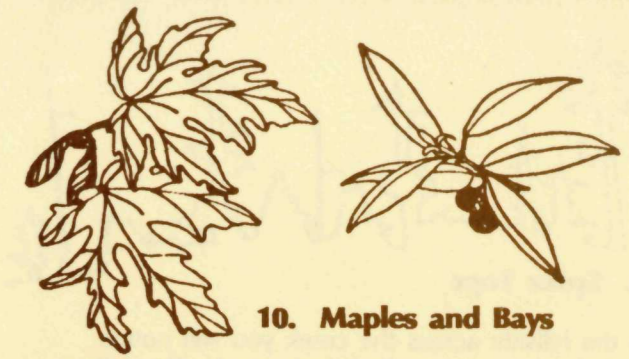


Decomposing trees are an important part of a forest ecosystem. They are an ideal place for mosses, lichens, ferns and tree seedlings to take root thus providing habitat for many animals.

9. River Crossing

The stump before you is what remains of a redwood that was cut by packers using the Trinidad Trail. They felled trees to bridge Redwood Creek when it was too deep for their pack animals to wade.

A century ago Redwood Creek was a narrow, swift flowing creek. Erosion from extensive logging upstream of this grove has filled the stream channel with sediment, elevating it and reducing the amount of viable habitat for trout and salmon.



10. Maples and Bays

Stop and enjoy the shade of these 80 year old big leaf maples and bay laurels. Similar to redwoods, these trees survive flooding and sediment deposition. They too, may reproduce themselves by sprouting from seeds dropped on freshly deposited silt or vegetatively from burl sprouts.

The mosses and ferns seen on these trees are epiphytes growing harmlessly on the stems of the maple. The maple, a deciduous tree, loses its leaves during winter thus allowing more sunlight to reach the ferns and mosses.

11. Shallow Roots

The world's tallest trees have surprisingly shallow root systems, as can be seen by this giant root mass. Their average depth is only six to eight feet. Redwoods have no tap root and keep their balance by sending horizontal roots 60 to 80 feet entwining with the roots of neighboring trees.

