



Oregon Myrtle
(*Umbellularia californica*)

Myrtle Creek Trail



... an interpretive trail found in the
Smith River National Recreation Area

Welcome to the Myrtle Creek Trail, a stream drainage with interesting and unusual plant, geologic, and human history. In this area of Del Norte County, a large and diverse group of plant species has found a home, creating a lush and unique landscape.

Situated halfway between the cool, humid coast and the

warmer interior, Myrtle Creek is on a geologic boundary between two major soil types which differ in their effects on the vegetation. The most common soil supports the typical plant communities of the region, such as redwood and Douglas-fir forests. The more unusual soil is derived from iron- and magnesium-rich rock and is commonly called *serpentine*. This area is designated as a special *Botanical Area* to protect its unique environmental features. The Myrtle Creek Botanical Area is one of six Botanical Areas in the Six Rivers National Forest. Serpentine soils nearly always have a profound effect on vegetation, allowing some common plant species to grow while excluding many others. In addition, some plant species will grow only in the wild on serpentine soils; such plants are termed *serpentine endemics*. Because serpentine soils are uncommon, many of these native plant species are quite rare. A few are

also strikingly extraordinary, such as the California pitcher plant.

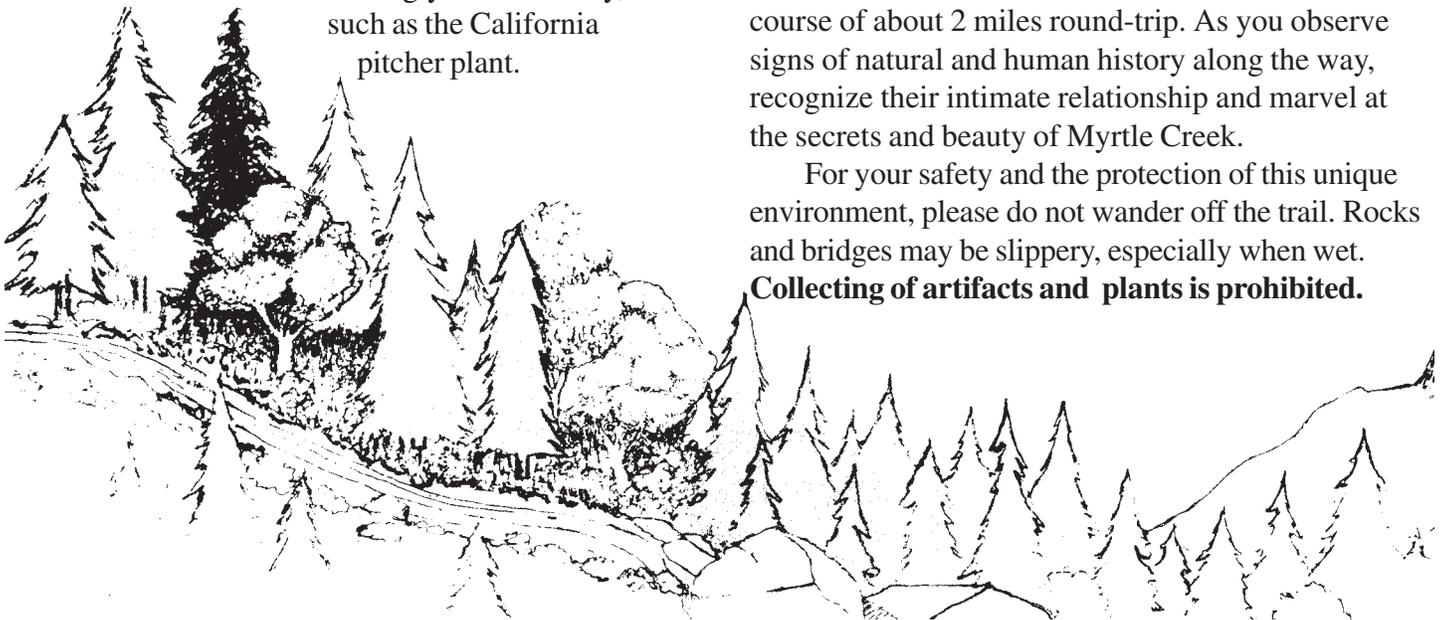
Along Myrtle Creek, you can see signs of a rich mining history. The creek is the site of one of the earliest and most productive discoveries of gold in Del Norte County. Gold was discovered here in 1853 by Louis Gallise. The earliest form of mining consisted of panning. Panning gave way to hydraulic mining with the exhaustion of *placer* deposits (gold-bearing deposits of sand and gravel in the stream). Around 1894, a group of investors from Crescent City formed the Myrtle Creek Mining Company and constructed a ditch to allow hydraulic mining. Reports indicate that mined black sands contained as high a dollar amount as \$3,562 per ton in gold and platinum. By the early 1920s, the hay day of mining was over and the mine closed as gold deposits became more scarce and too expensive to extract.

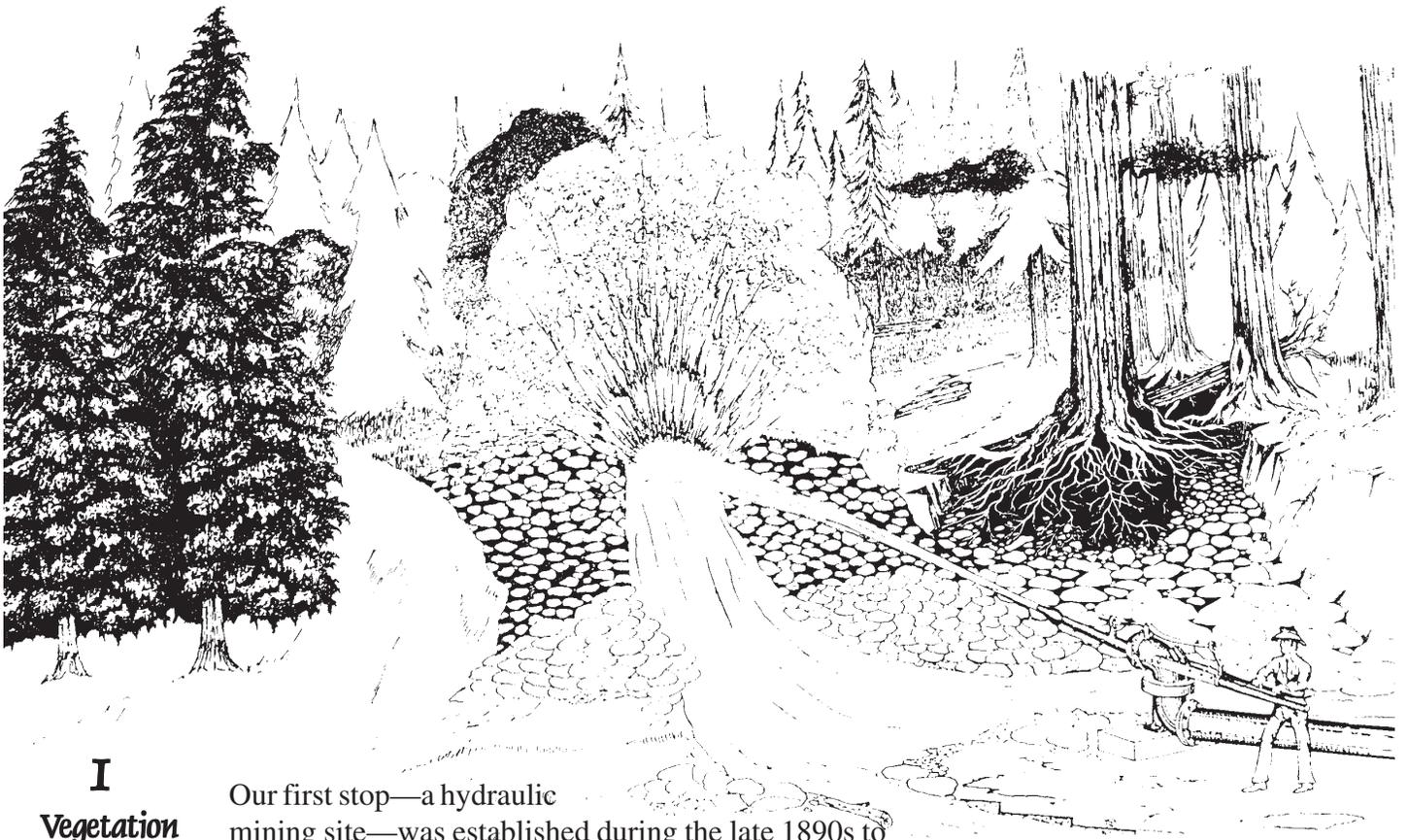
As a result of extensive mining operations, scars remain and plants have responded accordingly to the altered landscape. As you walk along the old mining ditch, you can see how plants have begun to heal the scars from past mining activity.

This leisurely, up and back trail follows an easy course of about 2 miles round-trip. As you observe signs of natural and human history along the way, recognize their intimate relationship and marvel at the secrets and beauty of Myrtle Creek.

For your safety and the protection of this unique environment, please do not wander off the trail. Rocks and bridges may be slippery, especially when wet.

Collecting of artifacts and plants is prohibited.

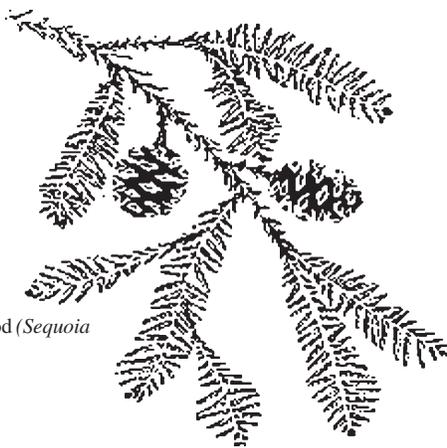




I
Vegetation
Change
After Mining

Our first stop—a hydraulic mining site—was established during the late 1890s to early 1900s. At this bowl or “blowout” where you are standing, quantities of soil and rock were washed down with high-pressure water (transported by the Myrtle Creek ditch) so that gold could be removed in sluice boxes. The original vegetation of the hillside was removed by the mining operations. Redwood, tanoak, evergreen huckleberry, sword fern, five-finger fern, and Port-Orford-cedar now occupy an area once home to intensive mining activities.

2
Coast
Forest
Community



Coast Redwood (*Sequoia sempervirens*)

Although smaller in stature due to soil and climate, we find in this area many of the common members of the coastal redwood forest, including redwood, rhododendron, and evergreen huckleberry. Although not typically a component of the coastal forest community, tanoak is found at this site in great abundance.

3
Oregon Myrtle
and a
Mining Ditch

You are standing by a small grove of Oregon myrtle—the namesake of the Myrtle Creek Trail. Oregon myrtle is also called California bay or laurel and pepperwood. The shiny leaves are highly aromatic when broken or dampened by the warm rain. The aroma of California bay is much like that of the Mediterranean bay laurel that you find in grocery stores and can be used in the same way; however, the California bay is a much stronger herb. Whenever ample soil moisture is available, you will find Oregon myrtle as a common member of the mixed evergreen forest.

The mining ditch, which follows the trail, was used mainly in the rainy season, when the creek was high, to transport large amounts of water necessary for the hydraulic mining equipment. At this point the ditch is about 1 mile from the point at which water was drawn from the creek. The Myrtle Creek ditch has been determined eligible for the National Register of Historic Places.

4 **Wooden Gates**
and
Hydraulic
Monitor

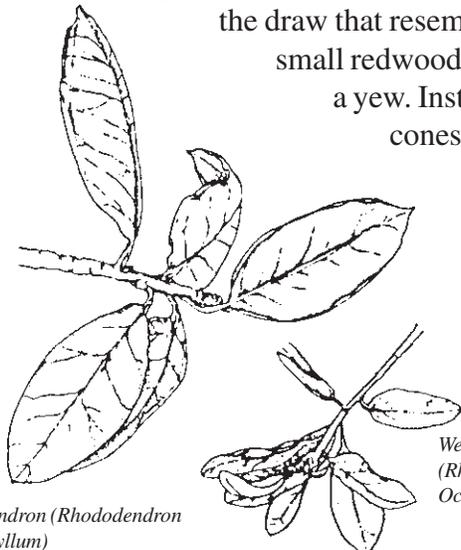
Wooden gates, like the one below the foot bridge, were placed at a number of locations along the ditch to direct water to the area being mined. Look down toward the creek and you will see a large metal pipe, part of the piping for a hydraulic giant, also called a hydraulic monitor. When the gate across the ditch was closed, water from the main ditch was transported, by way of a lateral cut, down a large diameter pipe to the monitor. The monitor, like a giant garden hose nozzle, was too large for a man to hold so it was placed on the ground and controlled by mechanical means. For California mining operations, the nozzle varied from 10" to 12" in diameter and could discharge up to 15,000 gallons per minute with more than 200 pounds of pressure per square inch. It would take five fire trucks to expell 15,000 gallons of water!

Natural treasures at this spot include snow queen, Del Norte County iris, licorice fern, five-fingered maidenhair fern, azalea, and Oregon myrtle.

5
Vegetation
Comparison

Here we have our first stop where the unusual effects of serpentine soils can be seen. Compare the tall forest vegetation in view across Myrtle Creek with the more scrubby and brushy vegetation where you are standing and on the hill above you. Also, notice the reddish color of the soil and its apparent dryness. This is the iron- and magnesium-rich serpentine soil which supports a totally different

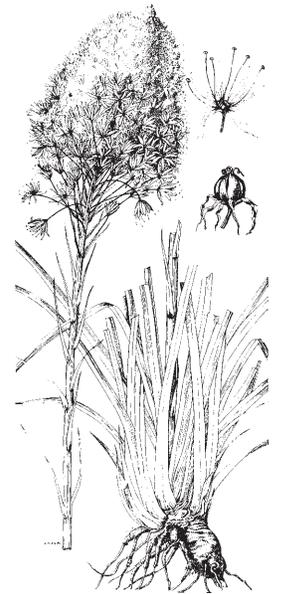
plant community. The tree just up the draw that resembles a small redwood is actually a yew. Instead of cones, its fruits



Rhododendron (Rhododendron macrophyllum)

Western Azalea (Rhododendron Occidentale)

are small, red (and poisonous) berries. Just behind you in the draw below the trail is western azalea. A rare lily, Bolander's lily, with crimson flowers grows in the dry brush above. California coffee berry, huckleberry oak, bear grass, and silk tassel bush are also growing in the serpentine soils at this spot.



Beargrass (Xerophyllum tenax)

6
Serpentine
slope

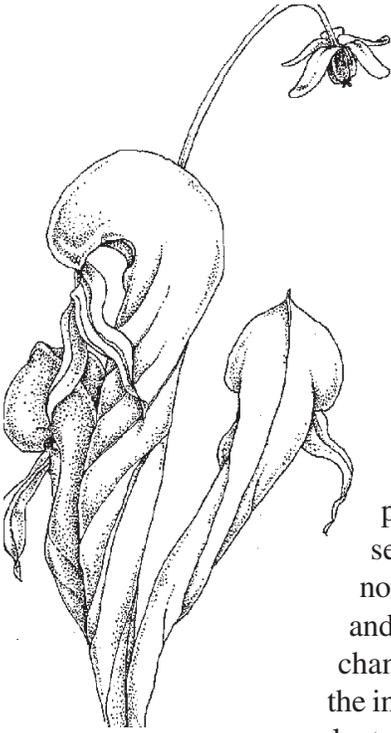
On this hillside grows a group of plant species typical of serpentine soils, at low elevations near the coast. The dense, shrubby understory is composed of a large number of species belonging to the heath family. Such plants as rhododendron, western azalea, manzanita, Labrador tea, and evergreen and red huckleberry are all members of this family and are also common on serpentine soils here. Other plants include brook wake-robin, inside-out flower, and wax myrtle.



Labrador Tea (Ledum glandulosum)

7

Darlingtonia Seep



California Pitcher Plant
(*Darlingtonia californica*)

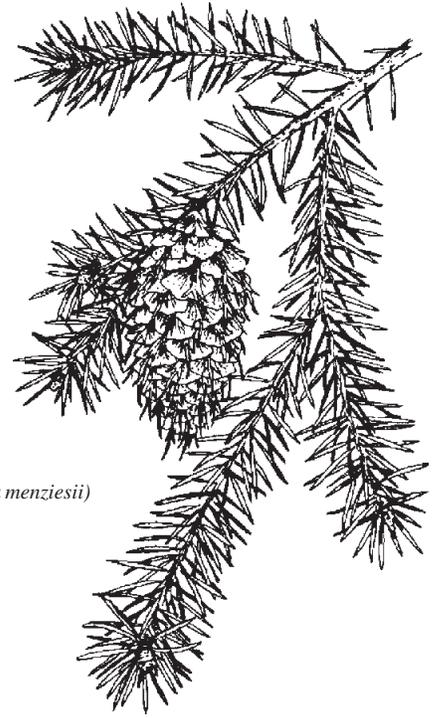
Whenever you find permanent water on serpentine soils in northwestern California and southwestern Oregon, chances are you will find the insectivorous pitcher plant, also called darlingtonia. The leaves of this unusual plant are highly modified into light green,

mottled, “pitcher” or “cobra heads” which serve to attract insects into their basins where they can be dissolved and digested. **Please** remember that collection of these plants is prohibited. Unfortunately the range of darlingtonia has been reduced significantly because of illegal collecting.

Wet sites on serpentine soils are noted for the number and uniqueness of rare plants they support.

At this very small, wet seep, you can see the pale pink California lady’s slipper orchid and the striking orange of the Vollmer’s Lily—both interesting, beautiful and rare. Another interesting plant here is Labrador tea, which resembles the western azalea. Labrador tea is just the opposite of rare for it grows nearly worldwide.

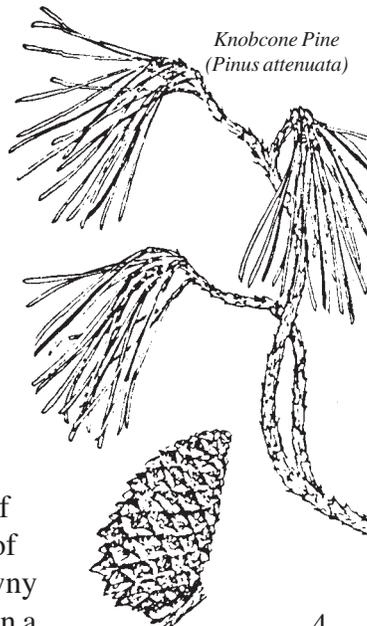
The main tree species include: knobcone (three needles per leaf bundle, with cones on the trunk), sugar pine (five needles per leaf bundle, long cones on the end of the branches), along with scrawny Douglas-fir (needles arranged in a



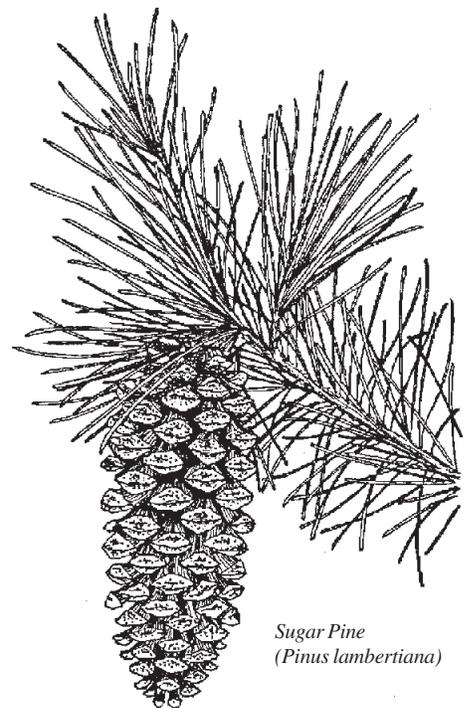
Douglas-fir
(*Pseudotsuga menziesii*)

bottlebrush fashion and cones with 3-pronged bracts located behind the scales). Knobcone pine is a common member of the closed-cone pine forest. The scales of the cones do not open and release seed until after a fire.

Miners often burned the vegetation in order to more easily observe the geology of the area. Although this activity killed many plants, those species which liked disturbed sites or required fire for seed germination flourished in the old burns.



Knobcone Pine
(*Pinus attenuata*)



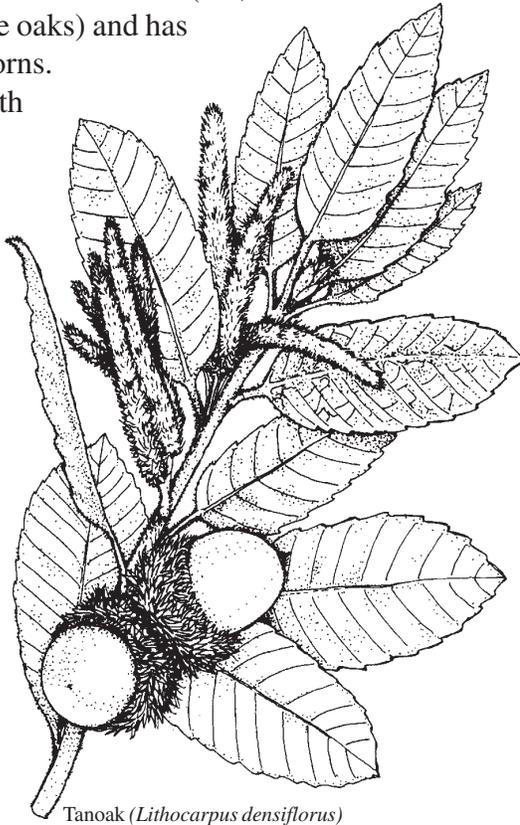
Sugar Pine
(*Pinus lambertiana*)

8

Mixed Evergreen Forest

that occur together, forming the mixed evergreen forest. Most of the dominant trees in this plant community retain their leaves all year, thus the term “evergreen.” Look around you at the various trees: Douglas-fir, a conifer, Oregon myrtle, madrone with its red manzanita-like bark and large shiny, green leaves, and tanoak with thick, markedly veined leaves that are furry on the underside. Tanoak is closely related to the true oak (i.e., black and white oaks) and has the familiar acorns.

Goldthread (with very dark-green leaves that look like fern fronds) is abundant along the edge of the ditch.



Tanoak (*Lithocarpus densiflorus*)

Serpentine Zone and Wooden Flume

Take a close look at the exposed hillside along the trail and notice the gray-green color of the serpentine rocks. Serpentine areas such as this one can usually be identified by the color and slippery or soapy feeling of the rock when rubbed. Serpentine is characteristically unstable. Due to the instability of this material, mine ditching was not feasible; therefore, bridges or flumes were installed to carry water over the unstable areas. You can see the remains of the flume below the trail. As you walk this trail, you may notice other areas where fluming was needed.

The forest in the area between this stop and #9 contains many plant species

D

A Carpet of Green and a Miner's Camp

In some plant communities there is a rich mixture of low-lying herbs that add charm and interest to the forest floor. Here at Myrtle Creek these plants are mostly perennial and disappear during winter by hiding underground in rootstocks, bulbs, corms, and tubers. *Perennial* means living from year to year as opposed to *annual* plants which live only one season.

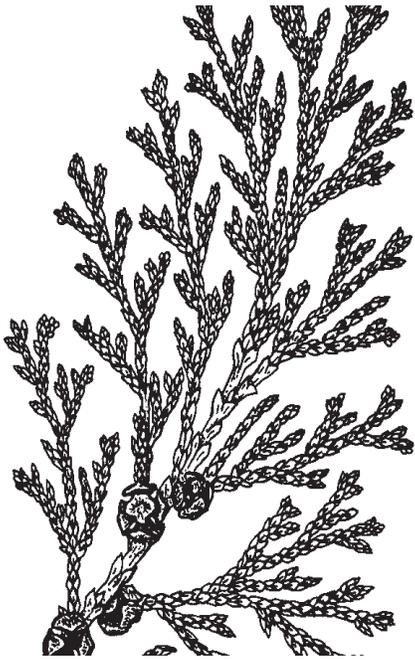
Through careful observation you may find as many as 30 different low-growing plant species along the ditch, all of them blooming during different times of the year. Find *goldthread* with unusually dark green leaves that resemble fern fronds but is in the same family as buttercup; the *inside-out flower* with small dainty, hanging flowers whose petals fold back as if to appear inside-out; *redwood sorrel* with a leaf resembling a clover leaf; and *bear grass* with its thin grasslike leaves in large tufts.

Have you wondered where the miners found places to set up camp when most of the hillside is very steep? Along this terrace and paralleling the west bank of Myrtle Creek is a placer deposit, which is a large deposit of rocks which were piled here as smaller gravels were worked to recover the gold. The flat area near the creek would have been a perfect place for a campsite. Imagine the aromas of cooking fires and the sounds of miners relaxing at the end of a very hard day of sifting through gravel, hoping to find the gold nugget that would make them rich.



Goldthread
(*Coptis
laciniata*)

Inside-out Flower
(*Vancouveria hexandra*)



Port-Orford-cedar (*Chamaecyparis lawsoniana*)

II

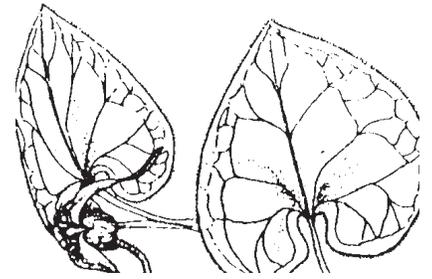
Port-Orford-cedars

In this small creek drainage is a grove of Port-Orford-cedars (POC). The lacy foliage and the gray, fluted trunks distinguish this tree from other conifers in the area. Growing from southwestern

Oregon to northwestern California in wet stream-side sites, often on serpentine soils, Port-Orford-cedar is a very valuable timber tree with strong and beautiful wood. Unfortunately it is being attacked by a root disease caused by spores which live in water and wet soil. The disease spreads when spore-infested soil is transported from one drainage to another—mainly via vehicle tires or any equipment which comes in contact with mud. Even a hiker’s boots or the hooves of a migrating animal may carry the spores which can kill any POC they touch. Washing away spore-infested mud from vehicles or boots may help prevent spreading the disease to uninfested drainages. Please contact any Forest Service office for more information.



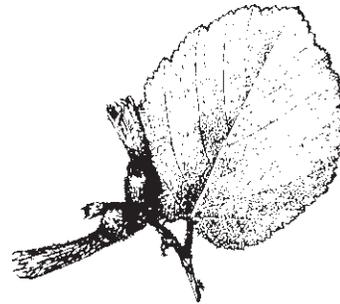
12 Wild Ginger



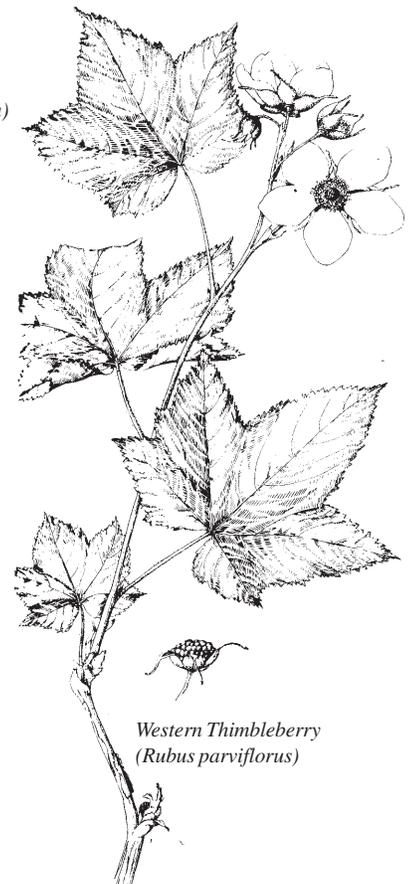
Wild Ginger (*Asarum caudatum*)

Growing in the ditch below you is wild ginger. Its dark green, heart-shaped leaves typically occur in pairs and smell spicy. As you continue up the trail, keep your eyes out for more of this plant and see if you can find a burgundy-colored flower dangling from beneath the leaves (but please don’t pick it). Thimbleberry, with its soft, maple-like leaves, occupies the same site. On your way, also try to find California hazel. The hazelnut is edible and is said to taste like other hazelnuts; however, for one small nut,

you’ll have to work your way through the bristly husks. You may also see milkmaids in bloom in early spring.



Hazelnut (*Corylus cornuta californica*)



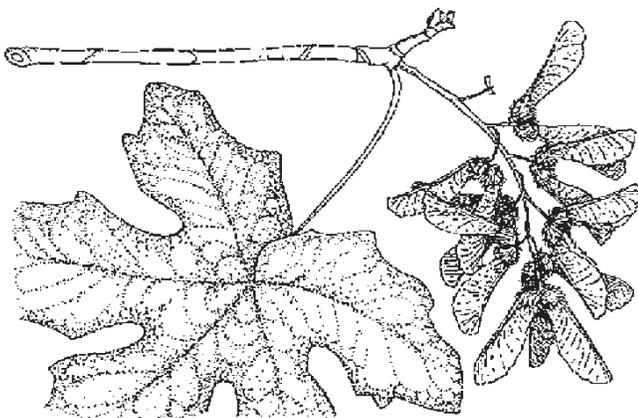
Western Thimbleberry (*Rubus parviflorus*)



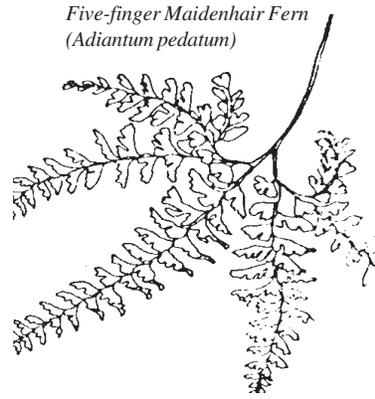
Red Alder (*Alnus rubra*)

B Riparian Community View

Year-round running water, such as Myrtle Creek, has a striking influence on vegetation. Deciduous trees (trees which drop their leaves in the winter) and many water-loving shrubs and herbs occur along the banks of such streams. This plant community is termed a *riparian woodland*. The extent of the woodland corresponds to the degree of water flow. Due to their relationship to water, riparian woodlands everywhere resemble one another. Look along the creekbed and note the presence of the moss-covered big-leaf maple. This tree is an *indicator* species, meaning the presence of big leaf maple indicates the presence of the riparian community. Also along the creek bed, you can see the white, mottled trunk of the broad-leaved alders. Above the alders, where there is little influence from the creek, conifers are more common on the hillside. You may also notice western trillium, pig-a-back plant, and thimbleberry along the trail.



Bigleaf Maple (*Acer macrophyllum*)

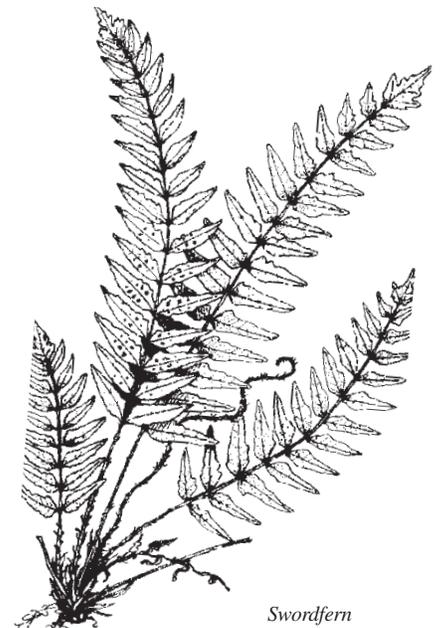


Five-finger Maidenhair Fern
(*Adiantum pedatum*)

I4 Five-Finger Maidenhair Fern, Rhododendron and Azalea

The bank and ditch provide a perfect setting for the beautiful, delicate, five-finger maidenhair fern and the clover-like redwood sorrel. The five-finger maidenhair fern is easy to recognize by the finger-like fronds and the pale green color of the small leaflets. The sword fern and Oregon myrtle also enjoy this moist area. Turn the frond (leaf) of the fern over to expose the sori which house the spores. Spores are like the seeds of flowering plants and play a role in the reproductive cycle of the ferns.

The occurrence of two species of rhododendron displays the blending of two vegetation types. Western azalea is typically found away from the coast, while rhododendron is commonly found near the coast in the redwood forests. Rhododendron is the shrub with the large, leathery-feeling leaves that are evergreen. Western azalea is the shrub with leaves near the tips—the leaves farther from the tips have fallen (deciduous). Species of the genus rhododendron are known for their beautiful flowers and are valued as ornamentals.



Swordfern
(*Polystichum munitum*)

Trail's End 15

From here you can descend along this short trail, through the sword and five-finger maidenhair ferns, into the riparian woodland that surrounds the creek bed. Just before the trail ends at the rocky creek bed, another member of the heath family grows. Salal has evergreen leathery leaves usually with a rather sharp tip and is used in floral arrangements. The branch segments of this low shrub grow at almost right angles to each other giving the stem a zigzag appearance. When down in the creek bed, try to locate the indicator species, the big-leaf maple and the two other water-loving trees, alder and Oregon myrtle. Take a few moments to look at the plants and listen to the sounds of the riparian world.

As you return, see if you can recall the names of the plants along the way and which herb, shrub, and tree species grow together. Observe the environmental conditions of each plant's habitat: rocky, moist or shady. Imagine yourself discovering gold in the late 1800s. Experience the sights and sounds of life along the Myrtle Creek trail.



Salal (Gaultheria shallon)

The **Myrtle Creek Interpretive Trail** is located in the Smith River National Recreation Area, which is part of the Six Rivers National Forest, US Forest Service. Parking and trailhead are at mile marker 7.0 on U.S. Highway 199 east of Crescent City in north-west California. This brochure was printed with funds provided by the Redwood Natural History Association.

The Redwood Natural History Association, through a cooperative agreement with the Smith River National Recreation Area, offers educational and interpretive books and items for sale in the Smith River NRA Visitor Center. The Association helps support the cultural and environmental interpretation of the Forest.

For More Information please visit, call, or write the Smith River National Recreation Area at the address below. Office hours at Smith River National Recreation Area are Monday–Friday, 8:00 a.m.–4:30 p.m. All Forest Service offices are wheelchair accessible. All people, regardless of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status are welcome at US Forest Service sites and facilities.

Smith River National Recreation Area
Six Rivers National Forest
10600 Highway 199
P.O. Box 228
Gasquet CA 95543
707-457-3131 (also TTY#)

02/00

Historical artifacts are protected under federal law and collecting is prohibited.