

The Big Tree Trail

Total distance of this popular loop trail is 3.3 miles with an elevation gain of 1400 ft.. Bring water, wear good walking shoes, and allow 2-3 hours to complete. **Hiking this trail on days with heavy wind can be hazardous** due to falling limbs. Map of the loop trail is on back cover.



The Big Tree is over 41ft. in circumference, and is estimated to be 600-800 years old.

Park Regulations:

No smoking on trails

No pets on trails

No picking or removal of plants, animals, or rocks

Do not cut switchbacks

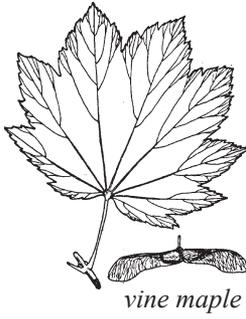
PLEASE

THANK
YOU

IMPORTANT

A major threat to Port Orford cedar populations is *Phytophthora* root rot, a disease spread by water or mud. You can help prevent the spread of this disease by cleaning mud from your shoes and vehicle before traveling from one area to another.

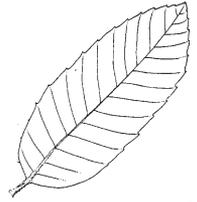
Shrubs



vine maple

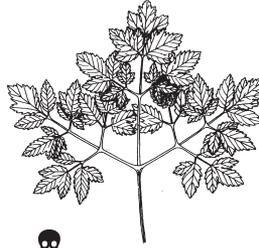


manzanita



tanoak

Ground Covers



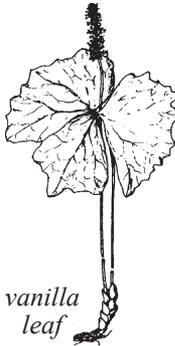
☠ *bane berry - bright red berries* ☠



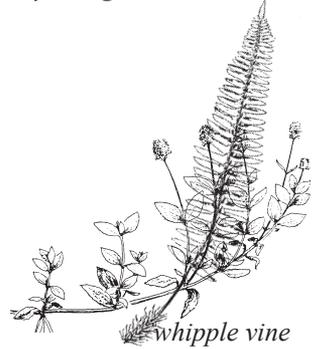
bright red



snow plant



vanilla leaf

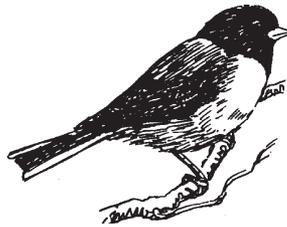


whiplike vine

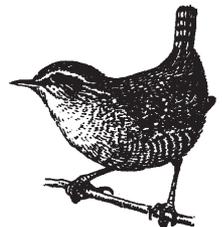
Birds



nuthatch



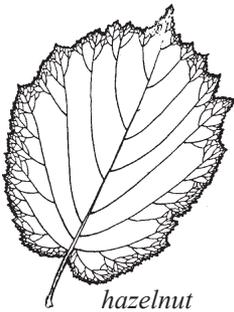
Oregon junco



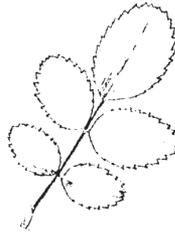
winter wren



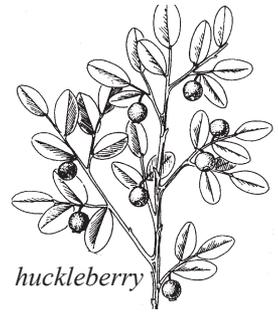
ocean spray



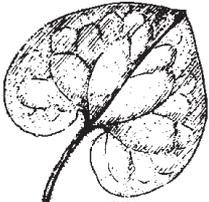
hazelnut



wild rose



huckleberry



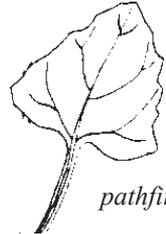
wild ginger



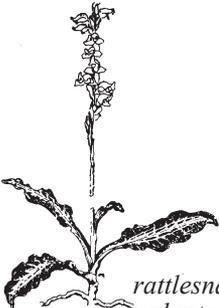
strawberry



inside-out flower



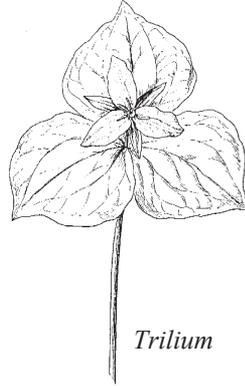
pathfinder



rattlesnake plantain



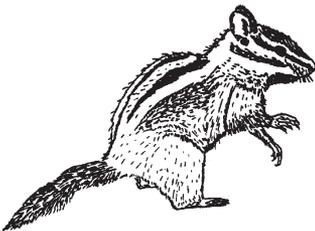
oregon grape



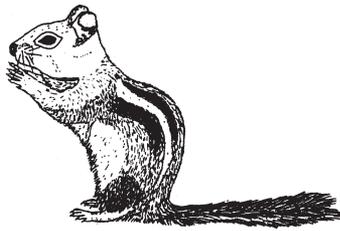
Trilium

sword fern

Animals



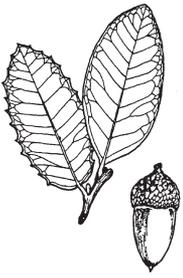
chipmunk



golden mantled ground squirrel

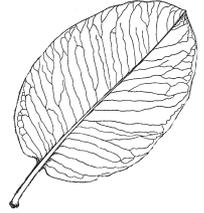


chickaree

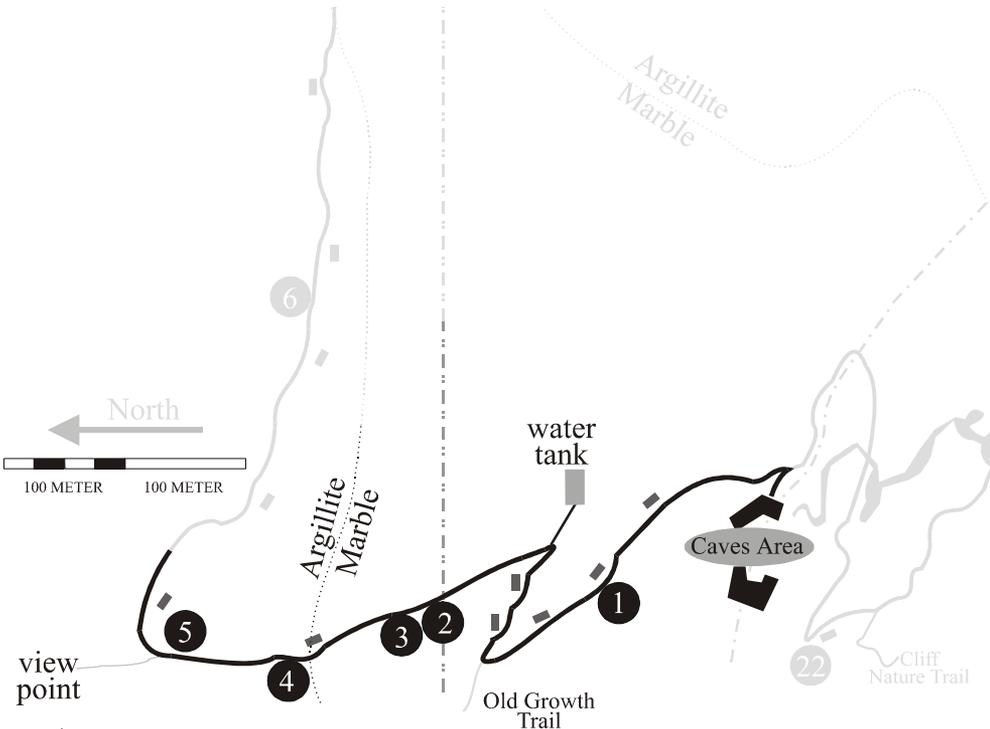


Stop 1: Oak tree community - This part of the trail is dominated by stands of canyon oak, a common tree found on dry slopes in this region. Acorns from these trees are an important food source and contribute to the diversity of animal life living at the monument.

Stop 2: “What’s that red tree?”- The Pacific madrone is a broadleaved tree with smooth, reddish-brown upper stems. Take a close look to see the greenish color of the new exposed bark. Madrones are one of the few trees in the world that can photosynthesize with its bark.



Stop 3: Slope Aspect (as the trail opens up to see across the canyon)- You are on a south-facing slope. It is exposed to more hours of sun than north-facing slopes, making it a hotter, drier environment. Take note of shrubs like manzanita that can live in such dry conditions. Manzanita turn their leaves vertically so as not to overheat and lose water through evaporation. You can see a more thickly vegetated north-facing slope across the canyon—there’s a very noticeable difference.



Oaks and other sun loving vegetation dominate the outcrops of marble that gives away to towering trees at a geologic transition point.

Oak Trees and Rock Transitions

Stop 4: Change in Vegetation – You have just crossed a contact between rock types, from marble (the rock in which the cave was formed) to argillite, a metamorphosed mudstone that looks like shale. Notice the change from a shrubby, oak woodland to an old growth forest with tall trees. Very little soil is formed when the calcite in marble dissolves, and few plants can survive in such a thin soil layer. This is another reason that the south-facing slope you just crossed is relatively sparsely vegetated. In the argillite soils, forests are denser because soils made from this rock are deeper with more nutrients. Can you determine what trees grow here? Look on the ground for cones, leaves and other clues.

Douglas Fir



Trunks heavily covered by lichen

True Fir



*Cones disintegrate.
Bracts fall to ground.*

Ponderosa Pine



leaves arranged in bundles of three.



Little to no lichen will grow on the trunk of these trees.

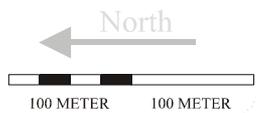
Sugar Pine



leaves arranged in bundles of five.



Stop 5: Young fir trees - The young trees growing in the shade of this old growth forest are primarily the shade tolerant white fir tree. The bark of this tree often looks whitish, or paler than the other trees around it. Compare the needles of these trees with the illustrations below and see what species of fir is growing here. Other young trees that might be found in this area are the Douglas fir, which have needles arranged around the twig in such a way that they look a little like a bottle brush.



Granite
Argillite
Panther Creek

Big Tree
9
10
11
12

SISKIYOU NAT FOREST
OREGON CAVES NAT MONUMENT

Argillite
Marble

7



spotted owl

Stop 6: Spotted owls – A pair of spotted owls nest within Oregon Caves National Monument near the area of the Big Tree loop. The small size of the Monument is not large enough to support even one pair of spotted owls so this pair depends upon additional land of the National Forest around Oregon Caves. Northern spotted owls live mostly in Pacific Northwest old growth forests. In the year 2000, this pair produced two chicks.

Argillite
Marble

6

Argillite
Marble

Stop 7: Port Orford Cedar – Port Orford cedars can be found along many parts of this trail. They are distinguishable from incense cedars by their long, feathery leaves and their tiny round cones. Port Orford cedars are actually a cypress and are found only in southwestern Oregon and northern California.



Port Orford cedar



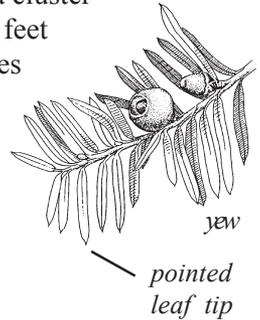
incense cedar

5
4
3

Widely spaced old growth forest towers over an understory of many shade-tolerant plants.

Big Trees

Stop 8: Pacific Yew – Along the steep climb, there is a cluster of dark green Pacific yew trees to the left and about 50 feet below the trail. These slow-growing, shade-tolerant trees make up part of the forest’s understory. They produce brilliant red “berries” (actually arils) which are poisonous for humans but great for birds. The bark of the yew contains a chemical called taxol, which has been found to be promising in the treatment of certain types of cancer.



Stop 9: The Big Tree – This Douglas fir is believed to have the largest diameter of any Douglas fir in Oregon. Rich soil and abundant water at this site probably contributed to its size. Note a distinct line on the lower trunk below which lichen does not grow. This line marks the level of snow during the winter.

Stop 10: Panther Creek – Panther Creek flooded in 1964, causing significant removal of vegetation from the edges of the stream. Red alders growing along the sides of the stream bed are a good example of a pioneer plant or plants that are quick to grow in disturbed soil. Bacteria in the roots of this tree absorb nitrogen from the atmosphere and convert it into nutrients the plant uses. When the branches and roots of these trees decompose, they become an important fertilizer for the forest.



Stop 11: Rock boundary – As you cross Panther Creek, you are walking on a contact between a shale-like rock called argillite and a granite-like rock called quartz diorite. The creek probably runs here because of this boundary. The crystals of the quartz diorite tend to be larger and more stable, creating deeper soils.

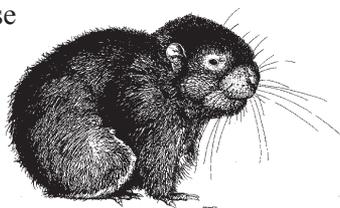
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Stop 12: Fallen trees – From the trail you can get a good look at the root system of a fallen tree, and the saplings that are growing out of it. Fallen trees are an important part of the old growth forest ecosystem—they provide nutrients and habitat for fungi, bacteria, insects, birds, and mammals, and plants for hundreds of years. Tree seeds that fall onto these “nurse logs” get a boost, receiving more light and nutrients than if they had landed on the forest floor. These downed logs also prevent soil erosion and retain moisture, helping stabilize water flow through the forest.

Stop 13: Snag – Standing dead trees are also important to the old growth forest. This snag may be vital habitat or a food source for insects, birds, flying squirrels, fungi, bacteria, bats, and other plants and animals. In fact, a snag may be made up of more than half living matter, taking into account all these things living in it. Because a living tree’s only living part is its inner bark or cambium layer, which makes up 5-10% of its tissues, a snag may be much more “alive” than a living tree!

Stop 14: Mountain beaver – On the upper portions of the Big Tree Trail look out for large, 6-8” diameter burrows excavated in the trail. These holes were made by the mountain beaver, or *Aplodontia*. The mountain beaver is the most primitive of all living rodents, and the last of an ancient lineage. Because of global drought, the mountain beaver has been strictly limited to wet areas in the Pacific Northwest. It emerges at night to feed on moist meadow herbs.



Common plants of the meadows



arrowleaf
groundsel



columbine



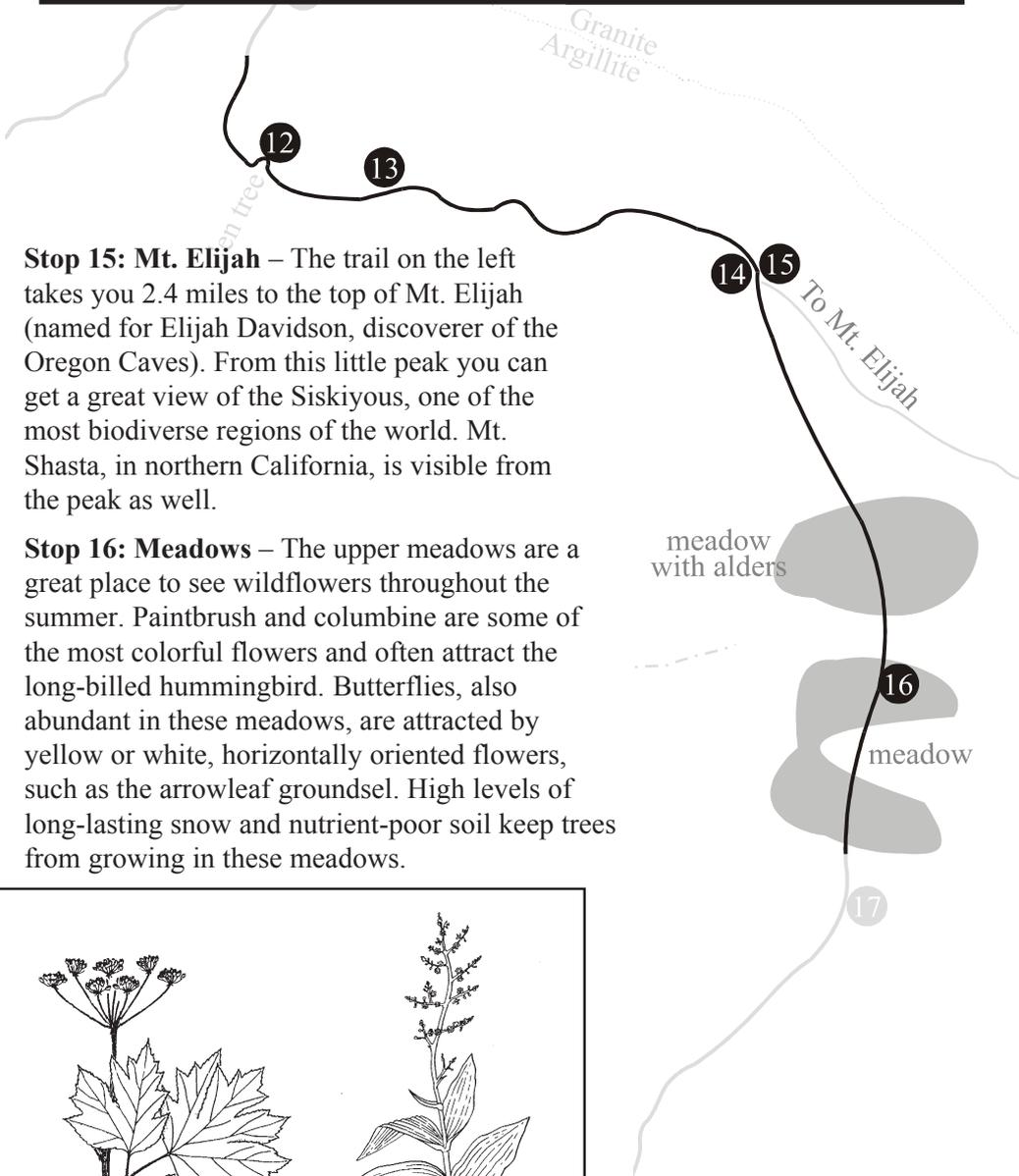
paintbrush



horse
mint

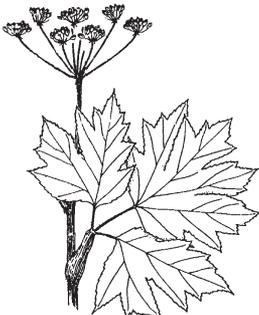
Wild rose can be found along the upper part of this trail which gradually give way to open, wet community of the highland meadows.

Wild Rose and Mountain Meadows



Stop 15: Mt. Elijah – The trail on the left takes you 2.4 miles to the top of Mt. Elijah (named for Elijah Davidson, discoverer of the Oregon Caves). From this little peak you can get a great view of the Siskiyou, one of the most biodiverse regions of the world. Mt. Shasta, in northern California, is visible from the peak as well.

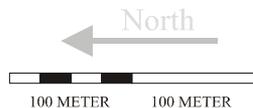
Stop 16: Meadows – The upper meadows are a great place to see wildflowers throughout the summer. Paintbrush and columbine are some of the most colorful flowers and often attract the long-billed hummingbird. Butterflies, also abundant in these meadows, are attracted by yellow or white, horizontally oriented flowers, such as the arrowleaf groundsel. High levels of long-lasting snow and nutrient-poor soil keep trees from growing in these meadows.



cow
parsnip



corn
lily



Stop 17: Shelf Fungi – The trail passes through a cut log, giving you a great chance to get a close look at the shelf fungus or conk growing on the cut face. This fungus (probably in the genus *Fomes*) can grow to be more than a foot across! Each of the small holes on the white, lower surface produces and releases spores. A full size conk can produce up to 100,000 spores a day. This fungus is just a small part of a much larger organism that participates in the decomposition of forest debris.

Stop 18: Multiple canopy layers – A distinctive characteristic of an old growth forest are multiple layers. The upper canopy, of course, is made up of the taller conifers that characterize the forest. Below this, however, is an understory made up of young conifers and broadleaved trees. Trees such as the bigleaf maple, Pacific madrone, and Pacific dogwood are efficient at using the sunlight that filters through the upper canopy. Lower shrubs such as ocean spray, hazelnut, and rhododendron, and groundcover plants such as oregon grape and vanilla leaf, the lowest or ground layer. This multilayered forest provides habitat and food for plants and animals at many specialized levels.

Stop 19: Caves Creek – The Big Tree trail crosses one of the tributaries to Upper Cave Creek, which sinks into its bed further downstream and becomes part of the groundwater system that flows through Oregon Caves. This water combines with other water in the cave to form a “spring” that flows out of the cave entrance. This water contributes to the Illinois River watershed, one of the most important salmon and steelhead spawning rivers in the Pacific northwest.

Stop 20: Mistletoe – Many of the trees in the area to your right are infected with the dwarf mistletoe, a parasitic plant that feeds on the sap of its host tree. Mistletoe produces a chemical that causes multiple branches to form around them. These dense clusters of branches, called “witch’s brooms”, can be seen on many of the larger trees. The tree is tricked into sending more water and nutrients to these dense clusters than to other parts of the tree resulting in the death of branches needed for feeding the tree. Over time, the tree may become weak and die from disease or insect attack. Although mistletoe is a natural part of the forest. The control of fire likely has contributed to its distribution and proliferation.



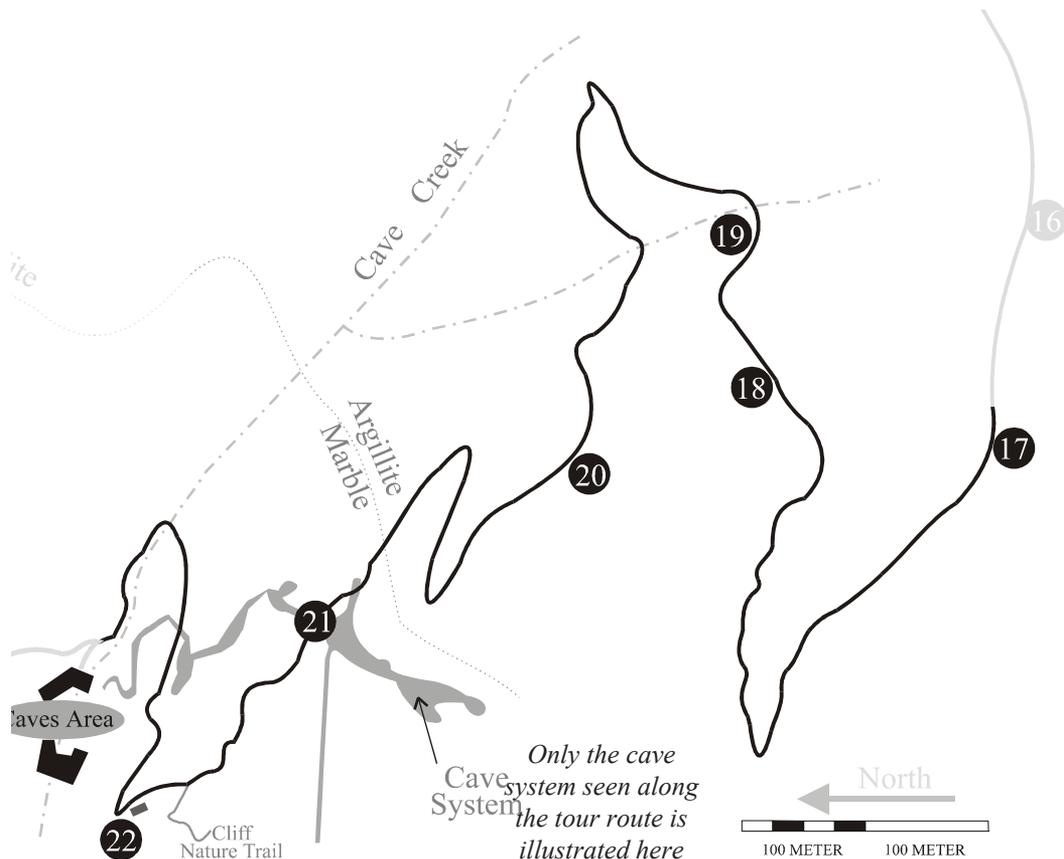
*Dwarf mistletoe on
Douglas fir.*

Most of this forest is positioned over the network of passageways that make up Oregon Caves.

Land Above the Cave

Stop 21: Above cave – This section of trail is approximately above the largest room seen along the Oregon Caves tour route. Although it's hard to see, there's an important relationship between the surface and the interior of the cave- rainwater that hits the forest floor where you stand will find its way into the cave through tiny cracks in the marble. The amount of water, organic material or minerals that get into the water, and even sediments can affect the formations in the cave.

Stop 22: The forest from the outside – From the railing you can view Illinois Valley and Siskiyou Mountains to the west. The water flowing from this forest contributes to the Illinois River, an important watershed for spawning salmon and steelhead fish.



The trail map in this guide book is divided into four sections with each section telling you about things seen along that segment of the trail. A plant and animal key inside the front cover will help you identify common plants and animals seen along the way.



Please return this guide when you have completed the trail so that others may find it helpful.