

Do We Have Old-growth Forests at Tahoe?

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When European-American explorers first viewed the Lake Tahoe Basin in the mid 1840s, they found a healthy and diverse ecosystem that had been developing since the ice age glaciers had melted about 12,000 years before.

Early Tahoe explorers and surveyors left written descriptions about our forests, describing them as irregular mosaic patterns of younger forests, meadows, recently burned scrublands, and tall, ancient forests that had not been wiped out by catastrophic wildfires or avalanches for hundreds of years. About 55 percent of the vegetation in the Tahoe Basin at that time was these old-growth pine and fir forests.

After the Comstock silver rush began in Virginia City, in what is now Nevada, in the mid-1800s, a great deal of the forest along the eastern slope of the Sierra and throughout the Tahoe Basin was clear-cut to provide mining timbers for the miles of shafts that ran beneath the booming town. Much wood also was cut for standard lumber and for firewood. By the end of the Comstock boom, when the massive lumber industry died, most Tahoe Basin forests had been decimated by industrial logging. Recovery from the removal of nearly every merchantable tree began with the growth of a new batch of pine and fir seedlings.

Today, most of Tahoe's second- growth forest has attained maturity. In fact, many stands suffer from the fact that too many trees that started to grow in

the late 1800s are now 100 feet tall. These trees are growing very close together and suffer during our frequent local droughts. Many become so weak due to competition for scarce water that they succumb to the attacks of bark beetles, which are

(Continued on page 2)



Large old growth tree in the Lake Tahoe Basin



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The Lake Tahoe Report

(Continued from page 1)

normal inhabitants of the forest ecosystem. An early surveyor, G. Sudworth, wrote a detailed description of some of the stands of trees that had not been logged by the end of the Comstock boom in 1900. He stressed that there were large open spaces with sparse undergrowth between very large trees or groups of large trees in areas that had not been disturbed by settlers. John Muir described being able to ride a horse “with ease” through the open understory of a Tahoe old-growth forest.

Soon after, in the early 1900s, settlers instituted the practice of fire suppression to prevent forest fires from sweeping through their settlements. Ironically, prior to the arrival of European Americans, forest fires in old growth stands had been sparked for millennia by lightning and by Native Americans. These fires had burned the brush and dead branches on the ground every 15 years or so, keeping the loading of dead fuel so sparse that fires rarely killed the large trees in the stands where they occurred. These low intensity fires were generally good for the forest ecosystem, partly because they were hot enough to burn some of the organic duff and litter on the forest floor, but not hot enough to destroy the nutrient soil layers so critical to healthy forest soils. Many foresters today are attempting to reintroduce prescribed fire in a controlled, safe manner that mimics the common, low-intensity fires of presettlement times.

Only about 5 percent of today’s Lake Tahoe forests are considered to be old-growth, according to the Lake Tahoe Watershed Assessment. Most of the current stands are located along the west shore of Lake Tahoe, and another large ancient forest is found along the Tahoe Rim Trail in the Luther Pass area.

The basic rule of thumb to use for determining whether a tree is old-growth (without boring or cutting) is to measure the diameter at breast height (DBH) at 4.5 feet above the ground. Trees are considered to be old-growth if they are greater than 30 inches DBH on the west shore and greater than 24 inches DBH on the east shore or slope of the Sierra. Of course, old-growth forests possess not only large trees, but also trees of varying age classes, diverse populations of other plant species, soil microorganisms, and many niches creating habitat for a rich variety of wildlife. Within the Tahoe Basin, the relative scarcity of remaining old-growth ecosystems has caused the Tahoe Regional Planning Agency (TRPA) to make it illegal to cut any trees larger than these minimums (30 inches and 24 inches), unless a TRPA forester determines that the tree is an imminent threat to lives, property or, in the case of a severely diseased tree, to the adjacent trees.

One of the long-term goals of the Lake Tahoe Environmental Improvement Program (EIP) is to attain the vegetation threshold, which would reintroduce many of the natural processes and conditions that could promote a more naturally sustainable forest. The USDA Forest Service estimates that approximately 75 percent of current forests could return to old-growth forests in the future. The goal of many biologists and hydrologists is to have a rich diverse ecosystem with plants well adapted to their niches, water that is filtered by a stable soil web, and wetland communities that act as natural filters for water circulating through Tahoe’s watershed. Having large, old trees (including dead standing trees) in this ecosystem provides habitat that is critical for the survival of many forms of wildlife. Even the old trees themselves contain genetic coding that may have given them particular strengths necessary to survive the stresses of competition and other environmental disturbances.