

San Francisco Tour Guide Guild

Muir Woods Training

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The following information is excerpted from Jason Cohen's Trip School

Training Manual for San Francisco

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Muir Woods

Introduction

- A visit to Muir Woods National Monument, combined with time in the town of Sausalito, is the most common excursion from San Francisco, typically 4-5 hours in length (including about one hour in Muir Woods itself).
- The mountainous access roads to reach the park are restricted to vehicles of 35' and 30' (depending on the road), so tours using full size coaches cannot include this visit.
- An over-the-road tour potentially might offer Muir Woods as an optional, subcontracting to local tour operators who use small vehicles for their daily tours. Local step-on guides also take groups to the woods in small, chartered vehicles, e.g., for cruise ship shore excursions.
- Since most over-the-road tour directors will not be leading groups to Muir Woods, the logistics presented in this section are deliberately brief.
- However, the commentary information would be relevant on a visit to other redwood parks that occasionally are included in itineraries, e.g., Henry Cowell Redwoods State Park in the mountains above Santa Cruz; Armstrong Redwoods State Reserve in the Russian River Valley; and Humboldt Redwoods State Park/Avenue of the Giants and Redwood National Park in far northern California.
- For those not going to Muir Woods, there are several places in San Francisco to see a few redwoods, but those particular trees are not very impressive: next to the tour bus parking lot in Golden Gate Park; around the structures at the Palace of Fine Arts; in the Presidio; and in the small park next to the Transamerica Pyramid.

Logistics

- To combat overcrowding, in 2018 Muir Woods became the first unit of the National Park Service to require reservations, both for FIT and group visits. The tour operator and/or the bus company will have made arrangements for parking and admission tickets.
- Tour guides are not allowed to lead groups through the park. All commentary must be conducted during the drive.
- Although there are some hiking trails, the main paths for casual visitors are easy walks on pavement or boardwalk, and take only 30-45 minutes to complete a loop. Services at the park include ranger talks, restrooms, gift shop, and café.
- There is little or no cell phone signal at the park.

Overview

- The trees at Muir Woods, coast redwoods, are most famous for their impressive height. Very few other species even come close, and the very tallest tree in the world is a coast redwood. The tallest tree at Muir Woods is about 258'/78 m high, while the tallest in the world (at Redwood National Park in far northern California) was measured at 379.1'/115.55 m when it was discovered in 2006 -- that is more than 2/3 the height of the Washington Monument!
- During the time of the dinosaurs, redwood trees and their relatives covered much of the Northern Hemisphere. Over the millennia, their range shrank dramatically, so that today they only live in a few scattered pockets in the world (although they are related to the larger family of cypress trees).

- In modern times, the only remaining range of the coast redwoods is a narrow strip of mountains along the California coast, beginning about 150 miles/240 km south of San Francisco and extending north to the Oregon border.
- The redwood forests were enormous when Europeans first arrived in California--there were approximately two million acres/ 809,000 hectares of redwood trees. But over time, more than 95% of those original forests were cut down for lumber.
- Redwood makes excellent lumber because it contains tannic acid (the same chemical that gives red wine its color). This acid repels the insects and other organisms (e.g., fungi) that typically lead to decay in wood products. Thus, houses, fences and decks made from redwood will last a long time.
 - For the same reason, redwood trees can live very long lives. In fact, scientists do not know of any aging process that affects redwoods, so the trees are most likely to die from factors such as being blown over in a windstorm.
 - The oldest trees at Muir Woods are about 700 years old, but there are specimens in other places that can be more than 2,000 years old.
- From the Gold Rush until after World War II, the largest use of redwood lumber was to build houses in San Francisco. Many of the forests were cut in the late 19th century as San Francisco's population grew, and even larger needs occurred for rebuilding the city after the 1906 Earthquake and Fire, and for the post-World War II housing boom.
- Small ports and lumber mills up and down the Northern California coast shipped redwood to the city. For example, very close to Muir Woods are towns named Mill Valley and Corte Madera ("cut wood"), reflecting their past in the timber industry.
- Muir Woods avoided being logged because it is located in a valley that was not easily accessible, and subsequently became the focus of conservationists.

Redwood Preservation/Creation of the Park

- Although redwood forests were primarily seen as an economic resource, some people did recognize their value as curiosities, for science, and as places to enjoy nature. California's oldest state park was created in 1902 to preserve redwoods in the Santa Cruz mountains south of San Francisco.
- In 1905, local conservationists William and Elizabeth Thatcher Kent purchased the area that would become Muir Woods to preserve the trees. However, soon after this, a water company planned to use its legal authority to build a reservoir that would drown the trees.
- To prevent that from happening, the Kents donated the land to the federal government, and in 1908, using a law called the Antiquities Act, President Theodore Roosevelt declared Muir Woods to be a National Monument. (National monuments are created by the President, whereas national parks are created by Congress.)
- Although the name "Kent Woods" was considered, the Kents asked that the new park be named in honor of conservationist John Muir. Muir was pleased, and called Muir Woods "the best tree-lovers monument that could possibly be found in all the forests of the world."
 - John Muir was one of the most important conservationists in American history. His writings were very influential in the late 19th/early 20th centuries as Americans debated economic use versus preservation of public lands. Muir is considered the "Father of Yosemite" for his advocacy work that led to Yosemite becoming a national park, and he was a co-founder of the Sierra Club.
 - While John Muir and William Kent are considered heroes of the conservation movement, it must also be noted that Muir expressed negative opinions about Native Americans, and Kent was an ardent opponent of Chinese and Japanese immigration to

the United States. On the other hand, Elizabeth Kent was an activist in the national suffragist movement and helped win the right for women to vote.

- In the decades after the creation of Muir Woods, the State of California preserved other redwood groves in various state parks.
- Eventually, in the 1960s, it was realized that to truly protect the trees, entire watersheds must be protected rather than just individual groves of trees. Thus, Redwood National Park was created in 1968 in far northern California to provide that additional protection.
- In a highly publicized series of events often called the "timber wars" of the 1980s and '90s, the government eventually paid a lumber company for the last large group of ancient redwoods that had been privately owned. With that purchase, most of the remaining old growth redwoods (about 75%) are now preserved in state and national parks.
 - An "old growth" forest such as Muir Woods is one in which few if any of the trees have been harvested. It is a natural, ancient forest, consisting of a mixture of young and mature trees of several species, along with both standing and fallen dead trees and various other plants. These forests provide an important habitat for many species of birds, insects, amphibians, fish and mammals.

What Are "Sequoias"?

- The trees at Muir Woods are coast redwoods (*Sequoia sempervirens*), and are a close cousin of the giant sequoias (*Sequoiadendron giganteum*, also known as "the big trees" or "Sierra redwoods") which grow in the Sierra Nevada Mountains 200 miles/320 km east of San Francisco, e.g., in Yosemite and Sequoia national parks. Together they are the state trees of California.
- The coast redwoods grow taller than the giant sequoias, but the giant sequoias grow fatter. The former Chief Ranger at Muir Woods likes to say that the coast redwoods are like basketball players while the giant sequoias are like football players. While the coast redwoods grow to be the world's tallest trees, the giant sequoias are considered to be the largest living organisms on earth.
- Most guests have seen a picture of a tree so large that a car can drive through it. Although there is at least one of these "drive through" coast redwoods in far northern California, the image that most people have in mind was a giant sequoia at Yosemite National Park, which fell in the winter of 1969. Apparently, cutting a large hole in a tree is not good for its health!
- Some visitors from other countries might say that they have redwood trees also. That would be a different type of tree that happens to have the same common name.
- The only other tree in the world that is closely related to the coast redwoods and giant sequoias is the "dawn redwood" (*Metasequoia glyptostroboides*), which grows in China. Scientists had believed the dawn redwood to be extinct, but the trees were discovered alive and well in a remote valley in central China in 1944.
- The genus name *Sequoia* honors a famous member of the Cherokee Indian Nation who created the tribe's written language. Although he had no connection to the trees in California, the botanist who named the trees was an admirer. The species name *sempervirens* translates as "ever living."

Natural History

- Redwoods are conifers (cone-bearing trees) and reproduce from tiny seeds released from their cones. The cones are very small (smaller than an olive) and yet produce the world's tallest trees!
- Unlike most other trees, redwoods also reproduce from special "bud cells," at the base of the tree. These cells directly produce new trees, which begin as pale green sprouts. If the parent tree dies, the sprouts may grow into full size trees.
 - Because the sprouts were born surrounding the parent, the new trees grow in a cluster, even a circle, and are known as family circles or fairy rings. Sometimes the stump of the dead parent can still be seen in the center of the ring.
- In many places where the ancient forests were logged, new forests ("second" and "third" growth) have grown up from the bud cells. Because redwoods grow tall very quickly (about 100'/30 m in 50 years), these new forests may be very impressive themselves, even though they are not very old. Some of these are local parks, and others are owned and harvested by timber companies.
- Redwoods consume a lot of water, up to several hundred gallons (more than 1,000 liters) each day! Those that have the best access to water, such as growing at the bottom of a hill or next to a river, are likely to grow the tallest.
- In addition to rain, redwoods rely on fog for a portion of their water. Fog condenses onto the needles of the trees. Some drips to the ground to be collected by the roots, while some is absorbed directly into the needles.
- It is the presence of fog along northern California's coastal mountains that makes this area ideal for redwoods. There is some concern for the future, however, since climate change may reduce the amount of fog over time.
- Surprisingly for such tall trees, redwoods do not have a deep taproot. Instead, their root systems spread out very far, but just a few feet below the surface, where they intermesh with the roots of nearby trees and help hold each other up.