Giant salamander: This moist-skinned amphibian resembles a lizard and is generally found near the stream. Its wet, shiny appearance is due to its body covering which allows moisture to pass freely through the skin.

California mole: The presence of this burrowing animal can be noted by the small mounds of loose dirt encountered along the trails. Only 5 to 6 inches long, moles spend most of their lives underground hunting for worms and insects.

Black-tailed deer: These graceful animals are usually seen only when there is insufficient water or food on the higher hillsides. It is the lack of food in the monument rather than the presence of people that keeps the deer away.

Winter wren: A resident bird difficult to distinguish because of its small size and peculiar habit of constantly moving about the ground. One must look carefully to see it.

When Redwood Creek is swollen by winter rains, silver salmon and steelhead trout fight their way up rapids to spawning beds in the monument. Here the fish hollow pockets in the gravel and deposit their eggs.

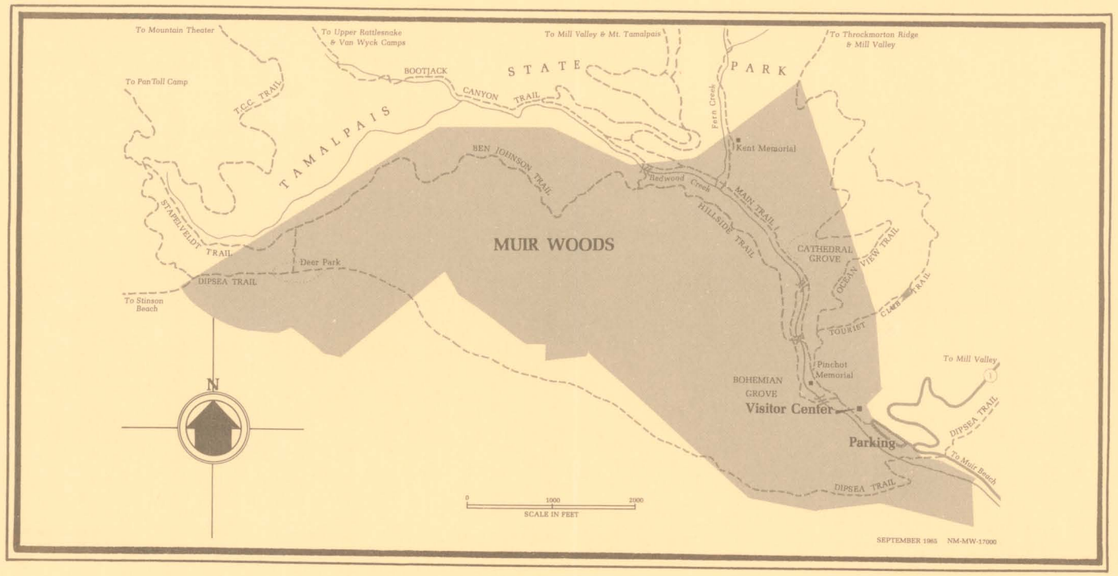
Water level in the stream will fluctuate during the spawning migrations. Its depth is dependent upon the amount of drainage from the hillsides after a storm. When water is low, the backs of the largest fish protrude above the surface as they splash through the riffles. During summer and autumn you can see young fingerlings moving about in the pools.

Silver salmon have an average life cycle of three years: one year in the stream and two years in the ocean. During the third year they return to the streams where they were raised to spawn and die.

Redwood Creek is closed to fishing within the monument because it is a vital spawning stream.

This is the only stand of coast redwoods preserved in the National Park System.

Congressman William Kent of Marin County, realizing the beauty and uniqueness of the trees and the value of their preservation, made this area a gift to the Federal Government to be preserved for all to enjoy. Mr. Kent asked that it be named in honor of John Muir (1838-1914), the noted writer, naturalist, and conservationist.



LOCATION:

Muir Woods National Monument is 17 miles north of San Francisco, and can be reached by highways U. S. 101 and Calif. 1. Sightseeing buses and rental cars are available to bring visitors to the monument from the city.

MAY WE HELP YOU?

Please contact the park rangers; they are here to answer your questions. You may visit the monument from sunrise to sunset. Plan on wearing comfortable walking shoes—not all trails are paved.

PICNICKING AND CAMPING:

There are no picnic or camp sites within the monument. However, facilities for both are provided in nearby Mount Tamalpais State Park at Boothjack Camp, Pantoll, and Camp Alice Eastwood (groups only) and also at Rock Spring, which is administered by the Marin Municipal Water District. Stinson Beach State Park provides picnic facilities only.

Please build no fires in the monument.

TO PROTECT YOUR PARK:

Certain regulations provide for your continued enjoyment of Muir Woods. We ask that you:

Keep your pets on a leash or under physical control at all times.

Do not play your radio so loudly that it disturbs others around you.

Park all bicycles in the parking area; do not ride on the trails.

ADMINISTRATION

Muir Woods National Monument, established on January 9, 1908, and comprising about 500 acres, is administered by the National Park Service, U. S. Department of the Interior.

The National Park System, of which this area is a unit is dedicated to conserving the scenic, scientific, and historic heritage of the United States for the benefit and enjoyment of its people.

A superintendent, whose address is Mill Valley, Calif. 94943, is in immediate charge of the monument.

THE DEPARTMENT OF THE INTERIOR—

the Nation's principal natural resources agency—bears a special obligation to assure that our expendable resources are conserved, that our renewable resources are managed to produce optimum benefits, and that all resources contribute their full measure to the progress and prosperity of the United States, now and in the future.

U. S. Department of the Interior

National Park Service

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muir woods

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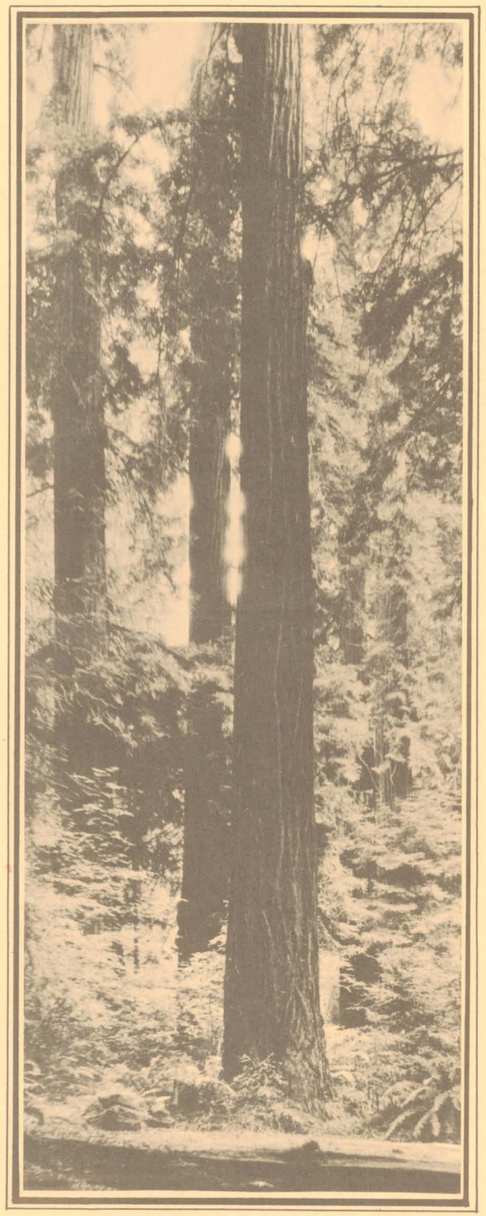

As you advance into these splendid forests, the arches of foliage narrow above you and shade deepens into twilight. Between close set trunks you look through windows framed in shadow.

–John C. Merriam

Towering redwood trees stretch to heights of over 200 feet; delicate vegetation progresses upward in an almost continuous display of green; a profound awareness of shadow and calm engulfs you; and the changing moods of the forest are reflected in the streamside pools.

Follow the paved main trail shown on the map; it will lead you into the redwood groves. Then cross one of the bridges to the opposite side of the creek for your return.

Muir Woods is a living, outdoor museum; no flower, fern, or leaf may be picked. Everything should be left undisturbed for others to enjoy.

Please stay on the trails.
Do not climb trees—such abuse can permanently destroy delicate plantlife. The very existence of these plants depends upon their being undisturbed.

Redwoods similar to those preserved in this narrow valley were living 140 million years ago and were once scattered over many parts of the world. Though they endured drastic changes in climate and earth-rending shifts of the world's crust, the trees could not survive the great sheets of glacial ice which covered Europe, Asia, and much of the North American continent during the ice age.

Today, the only place in the world that these trees grow in their natural environment is in a narrow belt no more than 30 miles in width and stretching only 540 miles along the Pacific coast from just north of Monterey to the southwestern corner of Oregon. The dampness and cooler climate created by abundant fog and the proximity of the ocean provide ideal growing conditions.
In Northern California's Humboldt County two redwood trees soar to 367 feet (112 meters) above Redwood Creek—the tallest living things yet discovered by man. Some redwoods in Muir Woods are 240 feet (73 meters) high.
The coast redwood is often confused with its cousin, the giant sequoia (Sequoia gigantea), which grows along the western slope of the Sierra Nevada between elevations of 4,000 and 8,000 feet. Magnificent groves of this species are preserved in Yosemite, Sequoia, and Kings Canyon National Parks. The giant sequoias are undoubtedly the largest living things on the face of the earth. They have attained diameters of 40 feet (12 meters) and are known to have lived for over 3,200 years, while the largest diameter for a coast redwood is about 20 feet and some have lived for over 2,200 years.

The ability of redwoods to grow large and live long results from their high resistance to three principal enemies of forest trees: fire, insects, and fungi.
Redwoods resist fire so successfully by having a large amount of water in their wood, almost no inflammable pitch, and a very thick asbestos-like bark. The moist habitat in which they thrive also helps to drastically reduce the possibility of fire.

Burned and charred trees seen along the trail show the effects of the last major fire started by lightning or Indians about 150 years ago. Dampness within the redwood groves makes this an unlikely place for the fire to have originated. But burning conditions on the drier hillsides would have favored a violent, rapidly moving fire—one that was capable of burning into this area. The fire was dated by determining the ages of the young unscarred redwoods that have grown since then.
Look closely at the edges of the charcoal-covered wounds and note that the wound is healing. Inch by inch, new bark will grow over the edges of the blackened area.
Insects and fungi are effectively kept from injuring many trees because of certain chemicals in the bark and wood. This not only keeps out many would-be attackers but also reduces the severity of damage by enemies that do get in.

The roots of neither the coast redwood nor the giant sequoia penetrate much deeper than 6 feet, but their lateral root systems radiate 100 feet or more from the tree. The giant sequoia reproduces only from seeds while most coast redwoods reproduce by sprouting from burls. Heavy winter rains, damp ocean winds, and summer fog produce a consistently high amount of moisture in these valleys. Growing conditions in the sheltered area of Muir Woods are not as severe as those on the exposed hillsides where powerful winds discourage and prune vegetation. Temperatures are not high, so evaporation is less. Climate appears to be the key for opening this small valley to the growth of redwoods.

Although Muir Woods National Monument preserves a virgin (unlogged) stand of redwoods, these trees do grow in other near-by valleys. However, most of these valleys were logged during the early 1900's.

The forest is more than a collection of trees; it is a community of plants living together as a unit, from the tallest to the smallest, each dependent upon the other.
Great redwoods dominate the scene and overshadow other plants. The red alder and western azalea successfully compete for light by stretching out over the stream. Tanoak succeeds here because of its high tolerance to shade. On the forest floor grow the shade-loving flowers. These blend so well with the background, you must look carefully to see them. As early as February the Oregon oxalis, trillium, and wild-ginger may be seen in bloom. By September the flowering season has ended.

Ferns may be regarded as true associates of the redwood forest. Where the rich humus soil is deep, large areas of the forest floor may be covered with them. The most common fern in the redwood grove is the handsome evergreen swordfern. The lovely ladyfern favors the banks of the stream, while the widespread western bracken thrives in shaded forest or open hillsides.

The California laurel bends and curves as it grows from shade to sunlight. As laurels grow in height they become topheavy and fall, but will continue to live if enough of their roots remain in the ground.

If the flowers and ferns of Muir Woods are of interest to you, additional publications are available at monument headquarters.

Shade is indirectly responsible for limiting the number of animals that live in the lower part of the forest. Most of the foods preferred by wildlife are light-loving plants; fewer grow in the forest, and those that do produce fewer leaves and flowers. As a result, less foliage, seeds, and fruit develop for the wildlife to eat. Insects occur in fewer numbers in shade, so there are fewer of these for birds. Thus, less light gives rise to less food and fewer animals.
All animals in the monument are fully protected.

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