

Sequoia / Kings Canyon

National Parks
California

National Park Service
U.S. Department of the Interior

Campaign for the Parks

The first authentic record of the giant sequoia was published in Pennsylvania in 1839, but before the papers were distributed the printing company burned to the ground. A June 1852 article received wider circulation and this is considered the species discovery date. Devastating logging followed immediately. Many large trees were cut for national and international exhibition purposes. Public spirited efforts to preserve the Big Trees began almost with their discovery. Yosemite came under state protection in

1864. But John Muir and many legislators still feared for the trees' future. In September 1890, after a sawmill was built just 14.5 kilometers (9 miles) from the Giant Forest, Sequoia and General Grant National Parks were created. Sequoia became the nation's second national park, after Yellowstone. Yosemite was made a national park just days later. Concern remained high, however, and when Theodore Roosevelt became President in 1901, a petition of 1,437,260 signatures was sent to him to save additional se-

quoia lands in California. Other lands were subsequently protected, and in 1940 Kings Canyon National Park was created. It included the General Grant National Park lands previously set aside. The Mineral King Valley was added to Sequoia National Park in 1978.



Sequoia and Kings Canyon National Parks embrace sweeping mountain grandeur and minute floral beauties. Their high peaks and deep canyons match the massive, giant sequoia. Extensive trails give ready access to walkers, hikers, or backpackers.



A Wilderness of Superlatives

In Sequoia and Kings Canyon National Parks you might well miss the forest for the trees. Here stand the largest living thing in the world, and the highest mountain in the United States outside of Alaska. This is Mount Whitney, elevation 4,418 meters (14,495 feet), capping the Sierra Nevada that John Muir dubbed "the Range of Light." And the superlatives do not stop with trees and mountains. There are spectacular valleys. Muir found the Valley of the Kings even "grander" than Yosemite Valley.

In fact, these parks contain two such spectacular valleys, and Mount Whitney does not stand alone. The parks are unique in that their comparatively small area embraces many peaks more than 4,267 meters (14,000 feet) above sea level. The two parks encompass a vast stretch of the Sierra crest and the only slightly less high intermediate crest known as the Great Western Divide. Here is a hiker's world of unbounded superlatives. More so than any other, this corner of the

Earth nearly rendered the effusive John Muir speechless.

What can the hiker find? More than 1,300 kilometers (800 miles) of trails in a favorable climate, and fascinating glacial features. These cirques, serrated ridges and crests, glacial lakes, and abruptly changing valley gradients are awesome, especially as viewed close up by the hiker or backpacker. Here are classic examples of hanging valleys, moraines, and related glacial features. There are also more than 1,000 glacial lakes nestled at elevations higher than 3,048 meters (10,000 feet). You can grasp firsthand a sense of the mountain heights from atop Moro Rock, near Giant Forest Village in Sequoia National Park. From the crest of this rock, at 2,050 meters (6,725 feet) elevation, you get a 360-degree panorama of the Central Valley 1,828 meters (6,000 feet) below to the west, and the Great Western Divide 2,133 meters (7,000 feet) above you to the east. You get all this unsurpassed scenic

reward for a climb of only 91 meters (300 feet) above the parking lot.

Truly the giant sequoia, a survivor of the last Ice Age, stands in an environment whose scenic grandeur underscores the tree's own majesty. Take your time here. You can't afford to miss the forest—and the mountains and valleys—for the awe-inspiring trees.

Planning Your Visit

Sequoia and Kings Canyon National Parks are accessible only from the west, via Visalia, Fresno, and Bakersfield, California. No roads cross the east-west width of the parks. However, certain trailheads on the eastern side of the parks are accessible via U.S. 395. Public transportation serves the parks from Fresno in summer. For information about the parks write or call Sequoia and Kings Canyon National Parks, Three Rivers, CA 93271, (209) 565-3341.

Visitor Centers make good first stops on your visits to national parks. There are three at Sequoia and Kings Canyon: Ash Mountain

(south entrance), Lodgepole (Giant Forest), and Grant Grove (north entrance). Their exhibits portray the sequoias, park wildlife, and local geology and history. You can purchase maps and publications there.

Campgrounds in the parks feature running water, toilets, fireplaces, and tables. A gas stove is recommended; firewood is sold only by concessioners. Some areas include trailer dumping stations, but there are no electrical or sewer hookups. Occupancy is limited to 14 days. Most campgrounds are open from June 1 until snow closes them in October. You can camp in winter at Potwisha.

Lodges, cabins, house-keeping cabins, and motel-type rooms are available in the parks. Most are open from late May to October; some are open year round. Reserve lodges and cabins by writing to Sequoia and Kings Canyon Hospitality Service, Sequoia National Park, CA 93262; and Kings Canyon National Park, CA 93633.

Other accommodations, can be found nearby.

The summer season extends from Memorial Day to Labor Day, although the parks are open year round. July temperatures in the lower elevations average 21° to 38° C (low



70s F to about 100 F). In the middle elevation area the range is 17° to 27° C (low 50s to the upper 80s F).

Things to do: Hike, walk, or backpack the many trails. Ski downhill and crosscountry or snowshoe in winter. Enjoy naturalist guided walks and interpretive talks in the tall trees. Fish fine trout waters. And much more . . . Write the parks for more information.

The Giant Sequoia

In volume of total wood, the giant sequoia (*Sequoiadendron giganteum*) stands alone as the largest living thing on Earth. One tree lives longer; one has a greater diameter. Three others grow taller. None is larger.

The age of the General Sherman tree, the largest of the sequoias, is estimated at 2,200 years. Coring devices used to date trees do not reach this big sequoia's heart. There is no record of a sequoia ever having lived more than 3,200 years. Some other statistics on the General Sherman: Estimated weight of trunk, 1,256 metric tons (1,385 tons); height above base 83.8 meters (274.9

feet); circumference at ground, 31.3 meters (102.6 feet); and diameter of largest branch, 2.1 meters (6.8 feet). Few records show mature sequoias ever having died from disease or insect attack. They usually die of toppling.

To appreciate the size of the General Sherman at Giant Forest and the General Grant tree at Grant Grove is difficult because neighboring trees are so large. The diameters of these trees at their bases exceed the width of many city streets.



Range

The giant sequoia's early ancestors ranged over the entire Northern Hemisphere. As climate changed the giants retreated. Their natural range is now restricted to the western slope of California's Sierra Nevada, a strip about 580 kilometers (360 miles) long and 100-130 kilometers (60-80 miles) wide.

Survival by Fire

Giant sequoias produce seeds and cones at an amazing rate. A mature tree will produce more than 2,000 cones per year with nearly half a million seeds, three times the coast redwood's seed-per-cone ratio. Green, closed sequoia cones may stay on the tree for up to 20

years. But fire may occur and dry them, forcing a seed explosion onto the soil below, now free of competitors. Sequoias do not sprout; they depend on seeds to reproduce.

Brown cone ready to disperse seeds



Close Cooperators

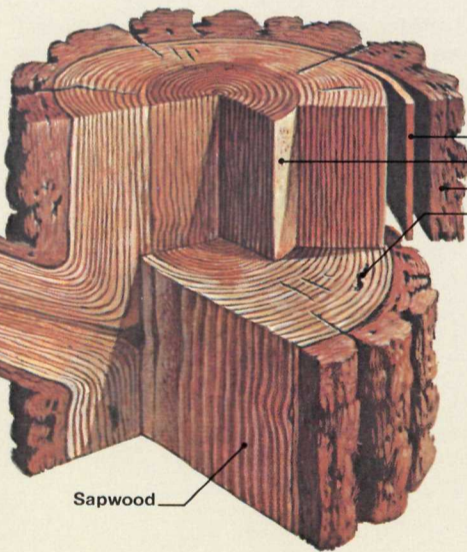
The Douglas squirrel or chickaree feeds on green sequoia cones much as you would chew kernels off corn ears. It also cuts and stores cones for winter since it does not hibernate: 1,242 cones were found below one tree. The chickaree's rate of metabolism is 1.76 times that of most



mammals. It eats enough to perform hard labor 24 hours per day at normal metabolic rates! Its furious cutting and storage makes it a planter of potential new sequoia trees.

Besides the chickaree, a tiny cone boring beetle is also impor-

tant to the sequoia's survival as a species. The beetle larvae chew their way into the cone to eat the inner tissue. This cuts the cone's veins, causing the cone to dry out and shrink. Seeds then fall to the ground.



Protective Bark

Sequoia trees only a few hundred years old are wrapped in porous bark up to 15 centimeters (6 inches) thick. This helps them survive the fire which is essential to their reproduction by seed. The bark's spongy fiber has little

or no resin that would fuel flames, and it insulates the wood tissues from excess heat. Bark on part of one sequoia measured 79 centimeters (31 inches) thick.

Seed to Sapling



Mature seed



Germinating seed



Shedding seed coat



2 weeks: Showing four cotyledons

The sequoia story from seed to sapling unfolds in an endless cycle from earth to sky and back again.

Cones, aided by the chickaree and beetles, send seeds showering down on soil that fire prepares for optimal sprouting. The fire also

burns off smaller species such as the white fir. Fires can grow in the shade, so between fires they spring up to crowd out sequoia seedlings. Fire gives sequoia seedlings their moment in the sun, their start on life.

In this drawing a se-

quoia sapling is shown growing next to the parent tree. This would not be so in nature. The saplings you see in this position are usually white fir trees, which readily succumb to fire. In fact, it is their burning that leaves many fire scars on the sequoia's bark.

Fire is critical to the reproductive success of sequoias. For years it was suppressed. Now lightning fires and prescribed burning promote new growth.

Shallow Roots

Roots reach out to 30 meters (100 feet) but go down only a meter (2-3 feet). There is no taproot.

