Mount Rainier National Park

National Park Service
U.S. Department of the Interior

Old-Growth Forest

Grove of the Patriarchs

When Mount Rainier was established as America's fifth national park on March 2, 1899, the boundaries as formalized by congressional proclamation framed the mountain in an encircling band of forest. This land was included in large measure to provide watershed protection.

Though these forests were already ancient in 1899, little thought was given to their biological significance. In fact, the entire eastern section of the park, along the thickly-forested crest of the Cascade Range, was not included within the park's boundaries until an addition was legislated in 1931.

What is "Old-growth"?

Although there is some disagreement as to when a mature forest becomes an old-growth forest, an age of 250 to 350 years is often cited. Many factors, including soil conditions and other site qualities, determine the age at which a forest will take on the structural qualities of true old-growth. In Mount Rainier National Park, the vast majority of the forest easily falls into this old-growth category with some stands estimated to be 1,000 years old.

An old-growth forest is far more structurally diverse than a typical tree plantation. Consequently, associated life forms are far different than those found in a young, second growth forest. Standing dead trees (snags), and dead-and-down logs are unique to these stands. Defects in the aging trees, along with snags and fallen logs, are the most important components in creating wildlife habitat.

Elevation and topography determine the types of forests that grow within Mount Rainier National Park. The dense, lowland forest of Douglas fir, western red cedar, and western hemlock fills the lowest valleys. Mid-mountain forests dominated by Pacific silver fir shade many of the canyons' slopes. Subalpine forests grow on the higher ridges and bowls, where hardy groves of subalpine fir, mountain hemlock, and Alaska yellow cedar withstand long, harsh winters. All of the park's forests can be referred to as "old-growth", since no commercial logging has ever taken place within its boundaries.

Maintaining a Fine Balance

Scattered through the old-growth forest are a host of smaller trees that grow well in the cool, dense shade. Pacific silver fir, western red cedar, and western hemlock create a multi-layered forest which in turn, creates a cool, highly stable climate where the temperature remains moderate, even during the hottest days of summer. This combination of cool micro-climate, dominant trees, snags, and dead-and-down logs creates a unique habitat for a variety of associated life forms. Examples of these are the northern flying squirrel (*Glaucomys sabrinus*), and hoary bat (*Lasiurus cinereus*).

The best known species dependent on old-growth is the northern spotted owl (*Strix occidentalis*). As a predator high on the food chain, spotted owls are highly sensitive to disruptions within their habitat. Mount Rainier National Park is a significant location for spotted owl habitat. The U.S. Forest Service's spotted owl management areas average 2,200 acres per breeding pair, a figure conservation groups contend is too small and industrial interests maintain is too large. Approximately 60,000 acres of suitable habitat is preserved in Mount Rainier National Park.

Northern flying squirrel

Northern spotted owl

Protecting Diversity

Maintaining species diversity can no longer be viewed as insignificant. In fact, William Penn Mott (National Park Service Director, 1985-89) issued a directive stating, "Our national parks are natural reservoirs for biological diversity. Our role must be to maintain this natural biological heritage–from microbe to sequoia."

Until a short while ago, many of the ecological functions of old-growth forest were not known. If we are to avoid the total simplification of our forest ecosystem through reductionist management practices, such as has occurred throughout Europe, we must be prudent in our current forest practices. Certainly, the preservation of ancient forests in our national parks is one part of the solution. However, it cannot be considered the sole answer.

The old-growth forests of the Pacific Northwest give us the opportunity to experience these ancient regimes. Here in Mount Rainier National Park, the protection of the old-growth forests is as important today as are the glaciers and the snow-capped peak of Mount Rainier.

Experiencing Our Forests

Lowland forest:
Between Nisqually Entrance and Longmire, the road travels through prime examples; stop for a short walk on the Twin Firs Trail, east of Kautz Creek. In the Ohanapecosh area, visit the Grove of the Patriarchs, a 1.2-mile round-trip trail along the Ohanapecosh River. In the Carbon River valley, stroll the Rain Forest Loop Trail and the Carbon River Road.

Mid-mountain forest:
From the Cougar Rock Campground near Longmire, follow the Wonderland Trail along the Paradise River to Carter Falls. Enjoy the forested slopes seen from the many viewpoints along Highway 123 and Stevens Canyon Road.

Subalpine forest:
At Paradise, follow the Nisqually Vista or Dead Horse Creek trails through clusters of hardy woods interspersed with beautiful meadows. In the Sunrise area, enjoy similar features on the Silver Forest and Sunrise Rim trails.