## **Salmon Cycles**

The Soleduck River supports an unusual stock of coho salmon, which returns from sea in mid-August and September, unlike most coho that return in October and November. To reach the section of the Soleduck River visible from this trail, salmon must negotiate more than 50 miles of river — rapids, pools and the plunging torrent of Salmon Cascades. A short distance above the hot springs, the red-tinted marathoners enter quiet streams and side channels to spawn and die, bringing a wealth of nutrients from the Pacific. Salmon carcasses feed

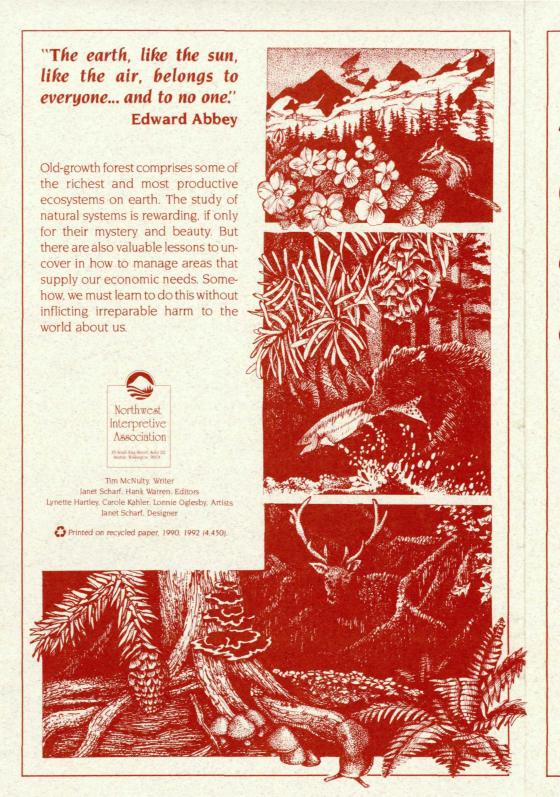


## Wetlands in the Wild

Wetlands occur where groundwater flows close to the surface. Vine maple, red alder, salmonberry, Pacific bleeding heart, lady fern and twisted stalk thrive on abundant moisture and sunlight. Spring brings frog songs, and signals breeding instincts of red-backed salmanders and rough-skinned newts, which require moisture only during breeding season. Where water remains year-round, Pacific giant salamanders slide along moist logs. In the snow-deep woods of winter, raccoons and skunks hunt these unfrozen waters.

In the wetlands, time pauses during an early stage of forest succession. Until trees invade, these soggy grounds provide important seed sources for other forest clearings.





Ancient Groves Nature Trail Soleduck Valley This one-half-mile loop through Soleduck's magnificent oldgrowth forest connects two roadside turnouts. For your safety, please return along the loop trail rather than the road Along the walk, you will be in touch with miraculous cycles of growth and decay. How do these primeval processes keep the forest so finely tuned and meticulously manicured? The answers are all around you — this ancient forest gives freely of its wisdom.

Just over a century ago, naturalist John Muir wrote of the Puget Sound:

"The forest trees press forward to the waters around all the windings of the shore in a most imposing array."



Today, Olympic National Park represents the most extensive reserve of temperate old-growth forest on earth, with the old-growth of Soleduck Valley among the finest in the park. This trail provides a sampler of a once-rich wilderness heritage. Trees that are centuries old mingle with moss-covered logs of their forebears.

The Soleduck Valley offers another special feature — vignettes of temperate rain forest. In this moist valley, the rain forest, which flourishes in west-facing coastal valleys of the Olympic Peninsula, blends with lowland forest more typical of inland areas of the park.

#### **Old-Growth Grandeur**

Enter the old-growth forest and breathe in the fragrant air. Let your eyes follow fluted tree trunks to the multi-layered canopy above. A mix of various ages and species among trees lends stability and diversity to the old-growth forest community. The high canopy filters sunlight, keeping undergrowth relatively sparse. Forested areas remain cooler in summer, warmer and more snow-free in winter, which benefits Roosevelt elk, black-tailed deer and other wildlife.

In old-growth stands, the canopy is itself a habitat, hosting an aerial garden of lichens and mosses. Foliose lichens feed flying squirrels, which are prey for northern spotted owls. Winter storms carry lichens groundward to become food for elk and deer, and provide nitrogen for the soil.

In summer, this forest is a breeding ground for golden-hued Townsend's warblers. Flocks of dark-eyed juncos and golden-crowned kinglets may sweep through the woods year-round. Varied thrushes, winter wrens and noisy Steller's jays are often heard in brilliant melody. Even a chirping Douglas squirrel may sound like a bird in song!

### **Two Forests Blend**

In this old-growth community, the lowland forest has several rain forest characteristics typical of the park's west-facing valleys. Moisture- and fog-loving Sitka spruce trees, with sharp needles and scale-like bark, and bigleaf maples are scattered here. Large down trees may become nurse logs that provide growing space for seedlings on the crowded forest floor. As young trees mature and nurse logs decay, trees stand in rows or colonnades.

In both the lowland and rain forest communities, down logs become habitats for insects, amphibians and small mammals. These are fed upon by predators — from small spiders to black bear and cougar. The activities of all these animals, plus the work of plants, return nutrients to the soil, to be recycled in wonderfully circular pathways.

# **Piercing the Clouds**

Douglas-fir and western hemlock trees dominate this lowland forest community. The largest, most stately trees, with thick, deeply-furrowed bark, are Douglas-fir. These pioneer trees seed readily after natural disturbances, such as windstorms and wildfires. A fire that burned here 300 to 500 years ago may have sparked the beginning of life for these evergreen giants.

As Douglas-fir stands mature, dense foliage shades the forest floor. Young fir seedlings do poorly, but western hemlocks thrive and may eventually dominate this forest, until the next disturbance.

## **Sparkling Waters**

You are traversing glacial deposits, thousands of years old. Mid-loop, you cut over a glacial terrace, then continue along a steep bank. Below, the glimmering Soleduck River cuts a deep gorge in its descent to the sea. Caution! This section is steep.

Red alder and sword fern shade the slopes, and willows silhouette meandering river banks. Streamside vegetation provides cover for fish and habitats for other wildlife.

Belted kingfishers send out rattling calls and water ouzels (dippers) dart from rock to rock. The elusive black bear, deer, elk, mink, weasel, bobcat or raccoon are occasionally sighted. Harlequin ducks may add color to the river in early spring.

