



Fish Assemblages

RESOURCE MONITORING BRIEF

National Park Service
U.S. Department of the Interior

North Coast and Cascades Network
Inventory & Monitoring Program



IMPORTANCE

North Coast and Cascades Network parks protect some of the best remaining Pacific salmon habitat outside of Alaska. The free-flowing and unregulated rivers and streams that originate in Olympic, Mount Rainier, and North Cascades National Parks comprise large tracts of contiguous, undisturbed aquatic habitat home to numerous species of native salmon.

Salmon are anadromous. Hence, salmon communities link freshwater, marine, and terrestrial ecosystems – making them excellent indicators of ecosystem health. Studies have shown that Pacific salmonids provide food for over 130 species of aquatic and terrestrial wildlife species and that 20 to 40% of the phosphorus, nitrogen, and carbon in freshwater systems derive from their carcasses.

Salmon are ecologically, economically, and culturally important to the Pacific Northwest and they contribute significantly to recreational, commercial, and tribal fisheries. But these native fish face several threats including overharvest, habitat degradation, and competition from hatchery and non-native fish. Despite the vital importance of native anadromous and resident fish populations, there has been no integrated monitoring program for fish assemblages in the North Coast and Cascades Network.

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Monitored at:

Olympic National Park

“The Pacific Northwest can be defined as anywhere that the salmon can still get to.”
– Timothy Egan



Fisheries scientists record data during a snorkel survey in Olympic National Park. (Photo credit: Jeff Duda, USGS, Seattle)

STATUS and TRENDS

North Coast and Cascades Network rivers support numerous fish species and unique populations of Pacific salmon, trout, and char. Fish species within Olympic National Park are now being monitored by snorkeling in eight rivers and electrofishing in five streams. These two complimentary techniques will allow for adults to be monitored in rivers and juveniles in streams with the goal of determining seasonal and annual trends in:

- Fish species composition
- Fish growth
- Timing of migration
- Relative abundance
- Age and size structure
- Extent of non-native fish and hatchery salmonids
- Water temperature

Olympic National Park contains 31 native species of fish, 6 non-native species of fish, and at least 70 unique populations of Pacific salmonids throughout 12 major watersheds and 3,500 miles of flowing water.

DISCUSSION

Extensive monitoring of native species by tribes and the State of Washington focuses on commercially and recreationally valuable species like coho, Chinook, and steelhead. The addition of this monitoring program designed by National Park Service and U.S. Geological Survey scientists will provide valuable information for several fish species and provide managers with important information for the protection of the last and best remaining habitats for Pacific salmon and other native fish communities.

Specifically, this monitoring program will allow managers to detect trends in high priority management species, non-native and hatchery fish, and federally listed fish. It will also inform management actions pertaining to:

- Harvest management
- Generation of fishing regulations
- Hatchery supplementation
- Control of non-native fish species
- Habitat restoration projects



The North Coast &
Cascades Network