

ENVIRONMENT

The Olympic Experimental State Forest (OESF) encompasses all State lands managed by Washington Department of Natural Resources (DNR) on the Western Olympic Peninsula within the water resource inventory area No. 20 (Sol Duc/Hoh) and portions of water resource inventory areas No. 19 (Lyle/Hoko) and No. 21 (Queets/Quinault).

Altitude ranges from 0 m near the Pacific Ocean to 2423 m at the border with the Olympic National Park. Most parent material is uplifted marine sedimentary, and marine basaltic rocks with surficial continental and alpine glacial deposits. The area is characterized by a maritime climate with annual precipitation 200- 457 cm yr⁻¹. The forest experiences strongly seasonal rainfall, with most falling October through May. Snowfall is rare in lower elevations, with snowpack usually only above ~600 m. Strong winds from the Pacific Ocean, floods, and debris flows are the major natural disturbance forces.

Major river systems that run through the OESF include the Queets, Clearwater, Hoh, Bogachiel, Quillayute, Hoko, and Pysht rivers. Steep erodible terrain and heavy annual precipitation produce high stream densities with more than 4000 km of streams on State lands within the OESF. Stream flows are largely rain-dominated with pronounced seasonal low flows during dryer summer months. Most streams have channel deposits of coarse material (rocks and large wood) largely derived from unstable channel banks and debris flows that originate in steep tributary basins. The combination of high rainfall and soil layers that restrict water movement results in numerous wetlands.

Sitka spruce (*Picea sitchensis*) vegetation zone dominates along the coast. Inland, a western hemlock (*Tsuga heterophylla*) zone comprises a majority of the forest with western redcedar (*Thuja plicata*) in the areas with wetter soils. Douglas-fir (*Pseudotsuga menziesii*) is a seral component in all zones; red alder (*Alnus rubra*) is a seral component at lower elevations. A Pacific Silver Fir (*Abies amabilis*) zone occurs at higher elevations. The area's abundant moisture and long growing season produce high tree growth rates. Old-growth forests that once dominating the landscape still exists on some parts of the OESF where logging has not occurred. About 50 percent of the OESF is dominated by young stands that are regrowing after extensive logging in 1970s and 1980s.

Streams and riparian areas in the OESF provide habitat for a diversity of fish including nine resident or anadromous salmonid species: sockeye salmon (*Oncorhynchus nerka*), pink salmon (*O. gorbuscha*), chum salmon (*O. keta*), Chinook salmon (*O. tshawytscha*), coho salmon (*O. kisutch*), steelhead (*O. mykiss*), cutthroat trout (*O. clarkii*), bull trout (*Salvelinus confluentus*), and mountain whitefish (*Prosopium williamsoni*). Seventeen other fish species, including lampreys, minnows, suckers, and sculpins, are also found in the OESF. The western Olympic Peninsula has more robust salmonid populations than most other locations on the northwest

Pacific Coast, south of Canada. Bull trout and the Lake Ozette sockeye are the only local ESA listed species.

The Olympic Peninsula is rich with endemic species and subspecies of amphibians, birds, and mammals. Species dependent on late-seral forest include the federally threatened northern spotted owl (*Strix occidentalis caurina*) and marbled murrelet (*Brachiramphus marmoratus*).

HISTORY

In 1989, the Commission on Old Growth Alternatives — a broad-based citizen advisory group — recommended the creation of an experimental forest on state trust lands on the west side of the Olympic Peninsula. They saw the experimental forest as a place where DNR could develop solutions in a “working forest” that meets the compatible goals of generating revenue while providing for the conservation of diverse species. This will be achieved by applying and learning from innovative silvicultural techniques.

In 1992, the Olympic Experimental State Forest (OESF) was established as a separate sustainable harvest management unit. The primary purpose of this classification was to gain and apply knowledge in order to better integrate management for forest commodities and ecological values.

In 1997, DNR signed an agreement with the US Fish and Wildlife Service and National Marine Fisheries Service creating a long-term, multiple-species Habitat Conservation Plan (HCP) for forested state trust lands in the range of the northern spotted owl, which includes the OESF. The OESF was singled out as a distinct HCP planning unit with unique conservation strategies from the other HCP planning units.

In 2009, the OESF joined the Experimental Forest and Range (EFR) Network, in an agreement between DNR and the USFS PNW Research Station that encouraged collaboration between OESF and Forest Service scientists.

MANAGEMENT AND PLANNING

The OESF is an actively managed forest with a mandate to produce revenue for various trusts (e.g. schools, counties, and universities). Most of this revenue comes from timber harvest - approximately 414 ha (1024 ac) have been harvested annually in the OESF over the last 15 years (between 1999 and 2014).

In 2007, DNR started a planning effort to develop a forest land plan (landscape plan) that will guide the management activities in the OESF and will support an adaptive management

process. The Draft Environmental Impact Statement (EIS) for the OESF Forest Land Plan was published on June 1 2010.

In 2013, DNR released Revised Draft EIS and Draft Forest Land Plan for the OESF. As part of the planning process, DNR conducted a comprehensive review of current knowledge gaps. Identifying the key uncertainties in managing the OESF provides a fresh focus for OESF research and monitoring. The list of DNR priority research and monitoring activities to be implemented in the near term (within approximately five years) is presented in Chapter 4 of the draft plan. DNR also developed a process to address these uncertainties in a programmatic fashion, linking information-gathering activities to future management decisions through a formal adaptive management. A draft procedure describing the steps in the OESF adaptive management process and the roles and responsibilities of DNR staff in the adaptive management cycle is included in the draft plan.