



State Trust Lands Habitat Conservation Plan INTERACTIONS OF STAND CONDITION & DOWN WOODY DEBRIS IN MAINTAINING LONG-TERM SITE PRODUCTIVITY & CREATING WILDLIFE HABITAT

This project examines the influences of stand development and timber use levels on forest site productivity and wildlife habitat creation. Treatments include three forest conditions: clearcuts replanted with mixed Douglas-fir (*Pseudotsuga menziesii*) and red alder (*Alnus rubra*); clear cuts replanted with Douglas-fir only; and thinning to create older forest conditions.

Three levels of down woody debris (low, typical, and high) were superimposed on these treatments as a 3 x 3 factorial design. The nine treatments plus an untreated control were replicated four times on 4.9 acre (2 hectare) plots in the Olympic Experimental State Forest (OESF).

The quantity of down wood left following timber harvest is believed to be important for wildlife habitat and site productivity. An examination of the down wood targets within northern spotted owl habitat on DNR-managed lands is being conducted. This will inform our adaptive management process. However, biomass utilization also has other long-term site and economic implications. The results of this project support the OESF research goal of balancing commodity production and conservation.



Sample plot for the Long-Term Ecosystem Productivity study on DNR land near Sappho, WA. Research plots lie at approximately 100m (328 ft) elevation on a glacial outwash plain near the Sol Duc River on the Olympic Peninsula.

This project was the first major experimental effort in the OESF and the first large-scale contract harvest sale conducted by DNR. Researchers and foresters worked with contract loggers to harvest over 14 million board feet (33,000 cubic meters) of wood while implementing the study design. Harvested timber was sorted and marketed to individual purchasers to maximize the revenue generated for the state trust. Funded by the US Forest Service and the Washington State Department of Natural Resources, this site is one of five replicates in the Pacific Northwest.



Treatment locations for the Long-Term Ecosystem Productivity study. Treatments are implemented as a 3x3 factorial design of forest condition x down woody debris level.

Relation to HCP: Results will provide information on the functional role of down woody debris for northern spotted owl habitat and long-term site productivity, and support the OESF goal of balancing commodity production and ecology.

Project Status: Initiated in 1997; post treatment measurements are currently being collected.

Principal Investigators: Drs. Robyn Darbyshire and Bernard Bormann, US Forest Service. Cooperators include the Washington State Department of Natural Resources, University of Washington, Oregon State University, University of Oregon, and Western Washington University.

More Information: Additional information available at the [LTEP website](#), maintained jointly by the US Forest Service and Oregon State University.