



State Trust Lands Habitat Conservation Plan

YOUNG STAND THINNING TO PROMOTE HABITAT STRUCTURE

This project tests how applying silvicultural practices to create different stand conditions will affect future stand structures, habitat quality, plant communities and the production of forest products. Relatively few specific data exist on the impact of young stand thinning on non-timber aspects of stand development and ecosystem function and productivity.

Using a scientific framework of contrasting stand treatments, scientists collect detailed data on the relationships between tree spacing, stand differentiation and overstory, and understory reestablishment.

The objectives of this project are to:

1. Produce forest stands that differ in species composition and stand structure
2. Monitor short and long-term responses of plant populations to the treatment regimes and resulting stand conditions
3. Accelerate development of late seral characteristics in some treatments
4. Determine long-term forest product yields under each alternative

The study design consisted of five treatments: 4 thinning regimes and an unmanaged control (see table below) replicated at 5 locations in the Olympic Experimental State Forest (OESF) in western Washington. Each treatment was conducted on a randomly selected 6-10 acre (2.5-4 hectare) area.

Treatment Objective	Management Objective	Stand Condition				Thinning Summary
		Density (TPA)	Spacing (feet)	Species	Stand Structure	
Unthinned control	Stand development without pre-commercial thinning	2000-3000	N/A	Douglas-fir plantations with western hemlock ingrown	Slow natural differentiation of dominant trees	No thinning
Thinned plantation	Focus on wood production through uniform species and stand structure	300	12 ft x 12 ft	Primarily Douglas-fir	Uniform	Thin to 300 TPA with preference given to Douglas-fir
Thinned plantation with openings	Focus on wood production with passive habitat enhancement through increased species diversity	300	12 ft x 12 ft	Multiple species promotes	Gaps in stand allow understory establishment	Thin to 300 TPA, leaving 40% of tree species other than Douglas-fir. Cut 2 sizes of openings as marked in stand.
Wide spaced plantation	Focus on developing stands that are wind firm and have large diameter trees	200	15 ft x 15 ft	Primarily Douglas-fir	Uniform	Thin to 200 TPA with preference given to Douglas-fir
Wide spaced plantation with openings	Focus on aggressive habitat enhancement through wide spacing and increased species diversity	200	15 ft x 15 ft	Multiple species promoted	Gaps in stand allow understory establishment	Thin to 200 TPA, leaving 40% of tree species other than Douglas-fir. Cut 2 sizes of openings as marked in stand.

Relation to HCP: In 1998, approximately 26% of the 250,000 acres (101,000 hectares) of the Olympic Experimental State Forest (OESF) contained forests less than 20 years of age. Major questions will arise in the near future about management of these forests and the restoration of stands having late seral or at least diverse stand characteristics. It is crucial that the management regimes adopted to restore ecosystem functions minimize conflicts between timber objectives while maintaining public support and achieving a high level of timber production. This project addresses those needs directly by testing ideas that may provide operational guidance for young forest management.

Project Status: Initiated in 1998. Ongoing.

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