PARENT SESSION

Poster Session 37: Forest Ecology.

Thursday, August 5 Presentations from 5:00 PM to 6:30 PM, Exhibit Hall A 1.

Understory vegetation response to alternative thinning treatments in young Douglas-fir stands.

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ABSTRACT- The Young Stand Thinning and Diversity Study was designed to test whether management of young forest stands, specifically alternative thinning regimes, can accelerate development of late-successional habitat while maintaining wood production goals. The study is located on the western slope of the central Oregon Cascades. It consists of four replications of four thinning treatments (treatment areas average 30 ha each) in 30-50 year old second-growth Douglas fir (*Pseudotsuga menziesii*) stands. Treatments include a control, heavy thin, light thin, and light thin with gaps. Following treatment completion, first, third, and fifth-year vegetation response were measured. The thinnings resulted in initial declines of bryophytes, tall shrubs, and low shrubs followed by subsequent recovery and growth. While herbs displayed little initial response, a release was evident by fifth-year post-treatment. Gap treatments displayed plant assemblages most distinct from those of the control. We conclude that thinning had a short-term impact on shrubs and bryophytes through harvesting damage and/or alteration of microclimate. The herb layer benefited from increased resource availability after thinning. A thinning in combination with gap creation may thus be a useful tool in the acceleration of late-successional habitat.

Key words: thinning, vegetation, douglas-fir, understory