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The Effects of Fire Severity and Clearcutting on the Mycorrhizal Colonization and Growth of Douglas-fir Seedlings

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Volunteer Oral Presentation

This study aims to compare the impact of wildfire severity with clearcutting on Douglas-fir regeneration. The study consists of five treatments that compare a range of disruptions to the soil organic layer and host vegetation: high severity burn low severity burn clearcut screefed clearcut and undisturbed forest. Seed beds were sown at four replicates of each treatment in late spring of 2004. Germinants were assessed monthly for growth and mycorrhizal colonization. Germination was highest in clearcuts and low severity burns intermediate in the high severity burns and lowest in the undisturbed stands. After two growing seasons high severity burn seedlings had the highest mean shoot biomass while the low severity seedlings had the highest foliar % N and P. Seedlings growing in the undisturbed stands had the highest percentage of ectomycorrhizal roots and highest ectomycorrhizal diversity while the lowest of both occurred in the high severity burns.