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Abstract

Natural regeneration of lodgepole pine following partial harvesting on northern caribou winter range in west-central British Columbia

Ordell A. Steen; Michaela J. Waterhouse; Harold M. Armleder; and Nola M. Daintith

This study compares pine natural regeneration density and height growth in small harvested openings (0.01–0.07 ha) within two biogeoclimatic subzones (Sub-Boreal Pine–Spruce [SBPS] xc and Montane Spruce [MS] xv) and three partial harvesting treatments on northern caribou (*Rangifer tarandus caribou* Gmelin) winter range in the western Chilcotin region of British Columbia, Canada. Regeneration density was assessed annually for 7 years (1996–2002). In year 7, post-logging ingress stems > 1 year old had a significantly greater density on SBPSxc blocks (5898 stems per hectare) than on the higher-elevation MSxv blocks (1829 stems per hectare). The percentage of 2-m2 plots with a natural post-logging seedling > 1 year old averaged 52% in the SBPSxc and 31% in the MSxv. Advance regeneration added substantially to density and stocking in the SBPSxc but not in the MSxv. These results indicate that small (0.01–0.07 ha) harvested openings in the SBPSxc can be naturally restocked by lodgepole pine without post-logging site preparation, but higher-elevation blocks in the MSxv will need to be planted to ensure full stocking by lodgepole pine within 7 years. However, the long period between harvest entries on caribou winter range may still allow sufficient time to naturally regenerate openings in the MSxv.

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