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Abstract

Aspen regeneration, forage production, and soil compaction on harvested and grazed boreal aspen stands

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The objective of our study was to determine the effects of timber harvesting and cattle grazing on aspen regeneration, forage production, and soil compaction on aspen cutblocks in the Peace River region of British Columbia. This project was carried out on a long-term study site established 5 km south of Dawson Creek, B.C. Samples were collected and vegetation was assessed during the summer of 2002. Summer and winter harvesting significantly increased aspen stem density relative to unharvested plots, whereas 4 years of cattle grazing had no significant impact on stem density. Inter-tree spacing remained above the postulated minimum of 60?0 cm, indicating that livestock can access the stand. Timber harvesting increased forage production by 69%, while grazing had no effect on forage production. Soil penetration resistance was similar for three harvesting treatments down to a 21 cm depth, while between 21 and 60 cm penetration resistance was consistently the highest on summer-harvested plots, followed by winter-harvested and unharvested plots. Grazing had no impact on soil penetration resistance. The results of this study support the view that cattle grazing and aspen harvesting are complementary land uses for aspen cutblocks on similar sites in the Peace River region; however, proper planning is required to avoid potential cattle distribution problems.

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