

Forest floor protection during drilling pad construction and its benefits for natural regeneration of native boreal forest vegetation

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Abstract

I tested forest floor protection techniques in the construction and reclamation of temporary drilling pads to restore native boreal canopy and understory cover. By covering and delineating the forest floor I hoped to reduce damage to the vegetative propagule bank, so clonal species such as aspen (*Populus tremuloides*) can quickly re-establish from root sprouts after being cut on disturbed sites. These were compared to the current soil salvage and replacement operations, assessing density, height and survival of aspen regeneration, as well as associated understory cover and richness. After re-contouring and soil placement, I measured the extent of surface disturbance, slash cover, soil temperature, soil bulk density and nutrient status in the four treatments and control plots. Aspen and understory recovery was prolific in protected sites and exceeded that of salvaged sites. Only little soil compaction from covering and moderate soil surface disturbance in forest floor protection sites were detected.