

NEWS BULLETIN

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SUCCESSION AND AVAILABILITY OF TERRESTRIAL FORAGE LICHENS



Mountain pine beetle epidemic

Trees knockdown
before burning →



Terrestrial forage lichens are dominant on sites influenced by extreme environmental conditions (limited by low nutrient and moisture availability) where other forms of vegetation are less successful. Lichens survive in harsh environments because they are adapted well for persisting through periods of heat stress yet are able to re-hydrate and Dynamics of terrestrial lichen sites are changing because of the recent mountain pine beetle epidemic; initially, dwarf shrubs tend to increase and terrestrial lichens tend to decrease following tree mortality caused by mountain pine beetle attack.

The Laidman Lake prescribed burn project was initiated in 2008 to investigate the use of fire for rejuvenating lichen sites types that become dominated by moss, and for rejuvenating sites affected by the mountain pine beetle epidemic. The objectives of the prescribed burn were: to reduce the duff layer to reduce the seedbed and existing vegetation; to reduce coarse woody debris; and, to expose mineral soil to facilitate lichen recolonization. Tree knockdown was conducted in March

2010. The prescribed burn was conducted in September 2009 and the plots were revisited in September



The prescribed burn after the knockdown

After the burn →



Results from the Laidman Lake prescribed burn suggest that the combination of tree knockdown and subsequent prescribed burning is an effective tool for reducing dwarf shrubs and mosses that can outcompete terrestrial forage lichens on some site types and in post-

mountain pine beetle-killed forests. Tree knockdown prior to the prescribed burn ensures a high intensity fire that kills vegetation and exposes soils, and that reduces potential future impediments to caribou movement caused by fallen dead trees.