Group Selection Systems for High Elevation Forests (ESSFwC3) to Maintain Mountain Caribou Habitat in the Cariboo Forest Region: Five-Year Project Update

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The major objective of this research trial is to develop a silvicultural system which maintains mountain caribou habitat but allows timber harvesting. According to the Cariboo-Chilcotin Land Use Plan (CCLUP), about 35% of mountain caribou habitat within the Quesnel Highlands will be available for ‘modified’ harvesting practices. The results of this research will be used to define the ‘modified’ harvesting option in mountain caribou habitat and may be extended to other parts of the ESSF where there is an objective to retain mature and old forest characteristics.

The retention and growth of arboreal lichen, a major forage for caribou, is of premiere importance. All treatments in the research trial are based on 30% volume removal but the size of the removal group varies: small (.03ha), medium (.13ha) and large (1ha). This level of volume removal should retain sufficient numbers of lichen bearing trees, avoid problems with wind-scouring of lichens and maintain windfirmness. The treatments were replicated on four sites in 1992-93.

Ideally, in a group selection silvicultural system, natural regeneration would be relied upon for stocking. Studies were established to look at factors which affect natural regeneration. Because of operational reforestation obligations and the very harsh environment of the ESSFwC3, artificial regeneration is being tested on all sites and in all opening sizes with three species: spruce, pine and subalpine fir. The influence of the planting microsite is also being tested. The third year data has been collected and analysed. This is the first set of data which should be free of nursery and shock effects.

The CCLUP allows for ‘modified’ harvesting over a large landbase, so it is important to measure the effects of group selection on other wildlife species. Small mammal communities were studied prior to harvest and for two years post-harvest. Bird communities have been surveyed prior to harvest and every year thereafter. The rate and pattern of snow melt and differences in accumulation as well as the micro-climate of the treatments have strong effects on lichen, vegetation development and regeneration so these are monitored annually.

More detailed results may be obtained from Extension Note #22 produced by the Cariboo Forest Region Research Section. This Note will be available on our web site at http://www.for.gov.bc.ca/cariboo/research/research.htm.