Using group selection systems to maintain caribou habitat

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In the Quesnel Highland area east of Williams Lake, British Columbia, a long-term project in the Engelmann Spruce–Sub-alpine fir wet cold subzone (Cariboo Variant) (ESSF wc3) is currently underway to test the effectiveness of various silvicultural systems that can be used to maintain mountain caribou habitat.

Mountain caribou are designated as threatened under the federal *Species at Risk Act* (*SARA*) within the Southern Mountains National Ecological Area and are considered a key management species under the Cariboo-Chilcotin Land Use Plan. Forest practices and associated effects such as habitat fragmentation, reduction in winter food supply, increased human access and associated disturbance, and alteration of predator-prey relationships are currently the greatest habitat concerns for mountain caribou (Mountain Caribou Technical Advisory Committee 2002[1]).

The project, which has received funding from the Forest Investment Account, Forest Science Program, as well as from a variety of other sources since its inception in 1990, has been implemented in three phases: a pilot study, a replicated research trial, and an adaptive management study. A variety of opening sizes (0.03 to 1.0 ha) based on 33% area removal and an 80-year cutting cycle is being tested.

In addition to testing the effects of partial cutting on caribou habitat quality (i.e., arboreal lichens, vegetation, and stand structure), the team of researchers is also gathering information on the effects of partial cutting on regeneration, hydrology, biodiversity, small mammals and birds, and old-growth forest attributes.

This research project is part of the Canadian Forest Service's Forest Ecosystem Research Network of Sites (FERNS); detailed information on the project, as well as a list of various reports and extension notes describing project results can be found by visiting the following Web site: ***www.pfc.forestry.ca/ecology/ferns/quesnel/index_e.html***

Recent additions to the publications list include a B.C. Ministry of Forests research report on stand structure, and a paper on snow dynamics presented at the Western Snow Conference, held in Vancouver in 2004. An article on the tenth-year natural regeneration results has also been recently submitted to a journal and is being considered for publication.

References

[1]Mountain Caribou Technical Advisory Committee. 2002. A strategy for the recovery of mountain caribou in British Columbia. Version 1.0, B.C. Ministry of Water, Land and Air Protection, Victoria, B.C. ***wlapwww.gov.bc.ca/wld/documents/mtcaribou_rcvrystrat02.pdf***

Steve Walker photo

Woodland caribou in the partial-cut treatments of the Quesnel Highland alternative silvicultural systems research project.

Additional reading

Steen, O.A., R.A. Coupé, H.M. Armleder, and R.J. Dawson. 2005. Development and structure of three high-elevation old spruce-fir stands in the Quesnel Highland of east-central British Columbia. B.C. Ministry of Forests, Research Branch, Victoria, B.C. Res. Rep. 26. URL: ***www.for.gov.bc.ca/hfd/pubs/Docs/Rr/Rr26.htm***

Teti, P. [2005]. Effects of small logged openings on snow ablation during a high snow year. 72nd Western Snow Conference. April 19-22, 2004, Vancouver, British Columbia. In press.

Steen, O.A, R.A. Coupé, and M.J. Waterhouse. [2005]. Natural regeneration of subalpine fir and Engelmann spruce in three partially harvested high elevation stands on the Quesnel Highland of British Columbia. Submitted.

Over the next couple of years, a range of publications on the following topics is anticipated: arboreal lichen, windthrow, breeding birds, and planted stock. In addition, planning for a summer/fall 2005 field tour of the site is currently under way.