

Cariboo-Chilcotin
Land Use Plan

Regional Biodiversity Conservation Strategy

UPDATE NOTE #10

Salvage Harvesting of Transition Old Growth Management Areas Heavily Attacked by Mountain Pine Beetle or Spruce Beetle

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Biodiversity
Conservation
Strategy Committee

Prepared for:
Cariboo Mid-Coast
Interagency
Management
Committee

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Biodiversity Conservation Strategy Update Notes are prepared by the Cariboo-Chilcotin Biodiversity Conservation Strategy Committee for purposes of technical clarification or technical additions to the Biodiversity Conservation Strategy report, submitted to the Cariboo-Mid Coast Interagency Management Committee in July 1996. These notes are prepared in response to issues and questions presented to the Biodiversity Committee or recognized by the members of the Committee.

Members of the Biodiversity Conservation Committee include: Robin Hoffos – chair (ILMB), John Youds (WLAP), Harold Armleder (MOF), Rick Dawson (ILMB)

Previous CCLUP Biodiversity Strategy Updates include:

Update #1: Key Assumptions and Recommendations For Use of the Inventory Adjustment Factor in the Cariboo Forest Region

Update Note #2: Amalgamation of Small NDT-BEC Units in Relation to Assessment of Seral Objectives and Old Growth Management Area Planning

Update Note #3: Definition of the Fir Group and Pine Group for Purposes of Seral Stage Assessments within NDT 4 of the Cariboo-Chilcotin

Update Note #4: An Approach for Patch Size Assessments in the Cariboo Forest Region

Update Note #5: An Integrated Mountain Pine-Biodiversity Conservation Management Strategy

Update Note #6: Procedures for Implementation of the Mountain Pine Beetle-Biodiversity Strategy to Address Current Attack During the Outbreak Phase

Update Note #7: Interim Strategy for Sanitation of Douglas-fir Beetle in Old Growth Management Areas

Update Note #8: Strategy for Management of Mature Seral Forest and Salvage of Mountain Pine Beetle-Killed Timber

Update Note #9: Strategy for Management of Mature Seral Forest and Salvage of Mountain Pine Beetle-Killed Timber Within TFLs in the Cariboo

Updates are available at:

<http://srmwww.gov.bc.ca/car/planning/cclup/biodiv/>

Background

Permanent Old Growth Management Areas (OGMAs) have been established to maintain a component of old forest across all landscape units in the Cariboo-Chilcotin as directed by the Cariboo-Chilcotin Land Use Plan. The location of these Permanent OGMAs was designed to meet long-term ecological needs and, where possible, to reduce impact on long-term timber flows. In order to address these long-term needs, the Permanent OGMAs were not always located where they would provide enough old forests to meet biodiversity targets now. In order to come closer to meeting biodiversity needs for old forest now, additional areas called “Transition Old Growth Management Areas” were designated. These Transition OGMAs are temporary designations where forest harvesting is not allowed. However, the designation is to be removed, and harvest allowed when the old forest requirements are met in the Permanent OGMAs or at the end of the first rotation.

The deferral of harvest in Transition OGMAs was designed to meet a short-term ecological need without significant reductions in timber flow. Because of the limited “shelf life” of dead standing timber, deferral of harvest in Transition OGMA stands with a high proportion of beetle killed lodgepole pine or spruce could result in a significant loss of timber value by the time they were available for harvest. This was not the intention of the Transition OGMA policy.

The approach described below is intended to address situations where the short-term, old forest values are so reduced by beetle mortality that release of the Transition OGMA for harvest, to capture economic values, is appropriate.

Management Approach

The approach includes three parts that:

- List the criteria to identify which Transition OGMAs or parts of Transition OGMAs would be available for harvest.
- Describe harvest prescription elements, in addition to those normally required, that must be met in blocks harvested under this policy;
- Describe implementation steps and define the roles of government agencies and the forest industry in the process.

A) Criteria for Removal of Harvest Deferral in Highly Infested Transition OGMAs

Transition OGMAs, or parts of Transition OGMAs that meet one of the three following criteria would be candidates for removal of deferred harvest status for the infested species in the applicable stand:

1. Lodgepole Pine composition of 70%* or greater where at least 50% of the pine component is infested or killed by mountain pine beetle;
OR
2. Spruce composition of 60% or greater where at least 50% of the spruce component is killed or infested above “lethal attack levels”¹ by spruce bark beetle;
OR
3. Combined Pine/Spruce composition of 70% or greater where at least 50% of the pine component is killed or infested and at least 50% of the spruce component is killed or infested above “lethal attack levels” by bark beetles.

* Species composition is measured on site as the percent of merchantable basal area. Application for harvest can be made based on qualitative field assessment signed by an RPF. This assessment must include estimates of species composition and percent dead or infested for the relevant species. Cruise data information confirming this information must then be submitted before cutting permit approval.

The percent composition threshold for spruce is lower because a lower proportion of spruce stands in this region are dominated by a single species. For both pine and spruce, determination of the forest health threshold includes dead as well as infested trees, based on the assumption that most infested trees will die given the overall attack level in the stand. For spruce the minimal attack to be considered as infested above “lethal attack levels” is discussed in footnote 1 below.

B) Harvest Prescription

To minimize the loss of biodiversity attributes in the Transition OGMA and to expedite the recovery of the stand structure, non-target species and non infested spruce should be retained wherever possible. Non-target stems include spruce trees with zero or endemic levels of current spruce bark beetle infestation and all species other than lodgepole pine. Where non-target species are present, partial cutting should be used to harvest the pine and dead or infested spruce and retain the other species unless a site specific windthrow assessment, signed by an RPF, indicates that the residual trees would be at **high overall hazard** of windthrow². Harvest polygons are to be drawn in areas of concentrated bark beetle mortality. Patches 2 ha or greater in size with 30% or more of non-target species (40% or more in spruce salvage stands) must be retained regardless of windthrow risk.

¹ Personal communication with Leo Rankin, MOF Regional Forest Entomologist. 2005. Leo suggests a very liberal rule of thumb for estimation of “lethal attack levels” for spruce beetle attack of an individual tree as follows: “Trees with 5 or more current spruce beetle pitch tubes or boring holes easily seen above breast height should be considered to be above ‘lethal attack level’ and be removed.”

² See S.J. Mitchell. 1995. **The windthrow triangle: A relative windthrow hazard assessment procedure for forest managers.** For. Chron. 71:446-450.

Harvest within a Transition OGMA under this policy may result in residual patches that have increased windthrow risk. Where these patches are 2 ha or greater, a buffer of at least 50m must be left to reduce the risk of windthrow in the residual patch. The buffer must be designed to protect the residual patch in the direction(s) of expected damaging winds. If the likely direction of damaging winds cannot be reliably predicted, the buffer should include the entire interface area between the residual patch and the harvested area. The buffer must be located in the stand type proposed for harvest and not in the patch dominated by non-target species.

Areas harvested under this policy would be subject to all the standard harvesting requirements including the normal stand-level retention requirements and any increased stand-level retention that is applied to MPB salvage areas. Any harvesting in areas where transition OGMA overlap “modified harvest” areas identified by the Cariboo-Chilcotin Land Use Plan, must meet the requirements for the modified harvest designation.

C) Implementation steps

The action steps and responsibilities required to implement this policy are as follows:

1. **Licencees and BCTS** field check and then apply for a cutting permit for portions of Transition OGMA that meet the criteria above, noting in the application that they occur in a Transition OGMA that is being proposed for harvest under the provisions in this Update. The application must include written confirmation, signed by an RPF, that the stands meet one of the three conditions specified in section A. The estimated species composition and percent mortality or infestation of the affected species must be included in the application. If this assessment is qualitative, it must be confirmed by cruise data information submitted before cutting permit approval.
2. **MOF District** approves the cutting permit if it meets the criteria for harvest in section A and if the cutting prescription meets requirements in section B. MOF documents the approved harvest blocks in a digital coverage that is supplied annually to ILMB.
3. **ILMB (Integrated Land Management Bureau of the Ministry of Agriculture and Lands)** annually incorporates the deletions of Transition OGMA into OGMA coverages that are made available to MOF districts, Licencees, BC Timber Sales, and Ministry of Environment.