

**ORDER – Wildlife Habitat Areas**  
**# 9-101**  
**Boreal Caribou –Fort Nelson Resource District**

This order is given under the authority of sections 9(2), 10(1) and 10(2) of the *Government Actions Regulation* (B.C. Reg. 582/2004) (GAR).

1. The Deputy Minister of Forests, Lands and Natural Resource Operations (FLNRO), being satisfied that
  - i. the following area contains habitat that is necessary to meet the habitat requirements for boreal caribou (*Rangifer tarandus caribou*); and
  - ii. the habitat requires special management that is not otherwise provided for under GAR or another enactment;orders that
  - a) the areas shown in the map set out in the attached Schedule A (9-101) and contained in the wildlife habitat areas (WHAs) spatial layer stored in the Geographic Warehouse (WHSE\_WILDLIFE\_MANAGEMENT.WCP\_WILDLIFE\_HABITAT\_AREA\_POLY) are established as wildlife habitat areas 9-101 for boreal caribou. The centre point of the line on the attached Schedule A is what establishes the WHA boundary; and
  - b) if there is a discrepancy between the areas shown in the map set out in the attached Schedule As and the WHA spatial layer stored in the Geographic Warehouse (WHSE\_WILDLIFE\_MANAGEMENT.WCP\_WILDLIFE\_HABITAT\_AREA\_POLY), the areas as detailed in the WHA spatial layer will take precedent; and
  - c) pursuant to section 7(3) of the *Forest Planning and Practices Regulation* (FPPR) the person(s) required to prepare a forest stewardship plan are hereby exempted from the obligation to prepare results or strategies in relation to the objective set out in section 7(1) of the FPPR for boreal caribou in the Notice for the Fort Nelson Forest District.
  
2. The Deputy Minister of Forests, Lands and Natural Resource Operations, being satisfied that
  - i. the general wildlife measures (GWMs) described below are necessary to protect and conserve the habitat of boreal caribou; and
  - ii. GAR or another enactment does not otherwise provide for that protection or conservation;orders that
  - a) the GWMs outlined in Schedule 1 are established for WHAs 9-101.
  
3. The Deputy Minister of Forests, Lands and Natural Resource Operations, being satisfied that

- i. the wildlife habitat area requires special management that has not otherwise been provided for under GAR or another enactment;
- orders that
- a) the objective outlined in Schedule 2 is established for WHAs 9-101.

## **Definitions**

Words and expressions not defined in this order have the meaning given to them in the *Forest and Range Practices Act (FRPA)* and the regulations made under it, unless context indicates otherwise.

**access structure:** a road, landing, pit, quarry, excavated or bladed trail or other logging trail.

**adequate visual screening:** In general, an adequate visual screen is comprised of vegetative cover capable of hiding 90% of a standing adult caribou from view at a distance of 200 ft (60 m).

**black spruce bogs:** treed peatlands or muskegs (black-spruce leading) with 10 – 60% crown closure, extremely low gradients (0.0° to 0.3° slope), and poorly drained, organic soils.

**coordinated access planning:** any and all activities that are designed to reduce the proliferation of access corridors in the WHA area, including but not limited to: coordinated access planning, coordinating development and deactivation schedules with other users operating on the WHA; use of existing linear corridors and shared access among users to minimize the creation of new access routes and overall road density

**corridor:** any anthropogenic removal of forest cover that results in the creation of linear disturbances, such as roads, motor-vehicle trails, transmission lines, seismic lines, pipelines, and secondary roads.

**disturbance:** indirect or direct impacts. Indirect disturbance includes non-physical, sensory stimuli associated with ground or aerial mechanized activity. Direct disturbance includes industrial activities that result in a physical, adverse alteration of habitat used by caribou.

**early seral forage species:** forage species for early seral ungulates such as moose, including (but not limited to) willows, red-osier dogwood, Saskatoon, trembling aspen, high bush cranberry, snowberry, bog birch, paper birch, and mountain ash.

**Historic trail:** a trail given heritage designation under the *Heritage Conservation Act*.

**key terrestrial lichen:** list of documented key lichen species utilized by boreal caribou in the muskeg bogs and peatlands of the Boreal White and Black Spruce (BWBSmw2, site series 02, 04, 06, 08, 09) biogeoclimatic zone includes:

- *Cladina* spp.
- *Stereocaulon* spp.

- *Cetraria* spp.
- *Cladina mitis*
- *Cladina rangiferina*
- *Cladina stellaris*

**lake clusters:** two or more lakes 1 – 20 ha in size that are within 200 m of each other, and buffered around the perimeter by 250 m, associated with extremely low-gradient areas.

**large bog-fen complexes:** large mosaics of bog, fen and treed peatland / muskeg habitats.

**low-impact roads:** low grade/standard roads that have minimal deactivation requirements since their construction involves minimal alteration of the surficial hydrology. These roads are substantially self-sustaining and pose a low erosion hazard.

**material adverse disturbance:** in the context of disturbance or impacts, “material” means that the disturbance must be real, substantive, or significant. “Adverse” means the disturbance must have negative consequences for the affected species.

**permanent, all-weather, high-grade roads:** high order/standard roads, intended for long-term (more than one season) use that provide future access for timber harvesting or other activities.

**pine-leading stands:** > 50% lodgepole pine.

**pre-calving (March 15 to May 15) period:** the timing of caribou pre-calving movements show annual variability, but generally start in mid-March and concentrate throughout April and the first half of May.

**secondary access:** spur roads from mainlines (excluding in-block roads); may be seasonal, but not all-season roads.

## Schedule 1 – General Wildlife Measures

### **A) Access**

1. Do not construct permanent, all-weather, high-grade roads.
2. Wherever practicable, construct secondary access as low-impact roads.
3. Wherever practicable, use existing corridors during layout and construction of access structures.
4. Wherever practicable, provide adequate visual screening along access structures.
5. Wherever practicable, minimize line-of-sight on new access structures.
6. Wherever practicable, avoid constructing access structures through black spruce bogs, large bog-fen complexes, or lake clusters.
7. Maintain natural drainage patterns during road construction.
8. Minimize disturbance to caribou during the pre-calving period.

### **B) Harvesting and silviculture**

9. Maintain connected forest cover.
10. Minimize growth of early seral forage species within harvested cutblocks.
11. Harvesting or silviculture activities must not cause material adverse disturbance to the productivity of key terrestrial lichen.
12. Wherever practicable, avoid harvesting in black spruce bogs, large bog-fen complexes, or lake clusters.
13. Wherever practicable, maximize forest retention adjacent to black spruce bogs, large bog-fen complexes, and lake clusters.
14. Maintain natural drainage patterns during harvesting and silviculture activities.
15. Complete timber harvesting and silviculture activities in as short a timeframe as practicable.
16. Minimize disturbance to caribou during the pre-calving period.

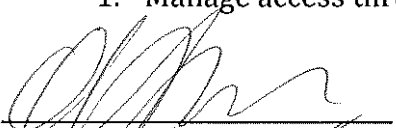
### **C) Recreation**

17. Do not develop recreation sites and trails.
18. Establishment of existing sites or trails is permitted where:
  - a) the trail is designated a Historic trail; and
  - b) establishment of the site or trail does not have material adverse disturbance to caribou or their habitat.

## Schedule 2 – Wildlife Habitat Area Objectives

### **D) Planning:**

1. Manage access through coordinated access planning.

  
Signed this 29 day of January, 2014

Dale Morgan, Regional Executive Director, North Area – Northeast Region  
Ministry of Forests, Lands and Natural Resource Operations

## Appendix 1:

The following information is provided by the Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) as background information and support to the order establishing WHAs 9-101. This appendix is not part of the order.

**1. Activities to which the order does not apply:** Section 2(2) of the *Government Actions Regulation* states

An order under any of sections 5 to 15 does not apply in respect of

(a) any of the following entered into before the order takes effect:

(i) a cutting permit;

(ii) a road permit;

(iii) a timber sale licence that does not provide for cutting permits;

(iv) a forestry licence to cut issued by a timber sales manager under section 47.6 (3) of the Forest Act;

(v) subject to subsection (3), a minor tenure,

(b) a declared area,

(d) areas referred to in section 110 of the Forest Planning and Practices Regulation.

(e) areas referred to in Section 81(1)(i) and 81(1)(e) of the *Fort St. John Pilot Project Regulation* (FSJPPR) and in Table 16 of the Forest Operations Schedule (FOS) in effect at the time of the approval

2. Authority to consider an exemption from these GWMs is provided in section 92(1) of the FPPR and section 25(1) of the FSJPPR. An exemption may be provided if the Minister's delegate is satisfied that the intent of the GWM will be achieved or that compliance with the provision is not practicable, given the circumstances or conditions applicable to a particular area.

An exemption application should be submitted to the Minister's delegate (Director of Resource Management, Northeast), with a rationale describing the nature of the problem and options to integrate WHA conservation with proposed forest practices. This submission will assist in timely consideration of the matter, and will inform the conditions, if any, of the exemption that may be granted prior to commencement of activities. Upon receipt of a complete exemption application, a determination will normally be made within 14 days of arrival. Incomplete packages will be returned to the proponent for re-submission.

3. An exemption is not required for any harvesting and/or road construction activities related to an approved cutblock (that is, a cutblock meeting definition of FRPA Section 196(1) or Section 196(2) as of December 12, 2008).
4. When reviewing options on how to best implement the GWMs, licensees should consider adopting the principle of adaptive management and employing the most appropriate methods to reduce impacts to boreal caribou.

5. Ministry of Forests, Lands and Natural Resource Operations acknowledges that, due to improved inventory data, there was a significant increase in timber harvesting land base (THLB) between timber supply review (TSR) 2 and TSR3. Timber supply impacts for this order were assessed and found consistent with current government policy. If government's policy, with respect to timber supply impacts, is revised then it is recommended that this order be reviewed and amended as necessary to ensure it remains consistent with that new policy.

#### **Appendix 2 – Considerations for Selection of Practices:**

The following information is provided by the Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) as background information and support to the order establishing WHAs 9-101. Professionals preparing operational plans and carrying out practices have site-specific discretion and flexibility in prescribing methods to achieve the desired habitat condition. This appendix is not part of the order.

#### **Regarding GWMs 1 through 17:**

1. When planning access development for approved Section 196 (1) cutblock, or a cutblock meeting definition of Section 196 (2) as of December 12, 2008, licensees should consider, to the extent practicable, the following:
  - a. avoiding the construction of permanent, all weather, high-grade roads;
  - b. constructing secondary access as low-impact roads;
  - c. utilizing existing linear corridors or disturbances (e.g., seismic lines, roads, right-of-ways, etc.);
  - d. providing adequate visual screening along roads and minimizing line-of-sight on new roads;
  - e. minimizing snow removal of access routes within and adjacent to caribou habitat to reduce predator use and minimize predation risk;
  - f. maintaining natural drainage patterns (surface hydrology and flow patterns);
  - g. promptly deactivating access corridors upon completion of activity;
  - h. permanently deactivating secondary and in-block roads to the highest standard possible upon completion of silviculture obligations;
  - i. maintaining critical habitat features, such as large, intact, treed fen-bog complexes with adequate thermal cover, security cover and forage species by
    - i. avoiding road construction through black spruce bogs, bog-fen complexes or lake clusters;
    - ii. maximizing forested buffers proximal to these areas;
    - iii. restricting access or using multiple use roads through large leave areas;
    - iv. maintaining connected forest cover;
  - j. minimizing disturbance during sensitive periods (pre-calving, calving, post-calving, and rutting periods); and
  - k. completing activities in as short a timeframe as practicable.

2. For any harvesting activities within an approved Section 196 (1) cutblock, or cutblock meeting definition of Section 196 (2) as of December 12, 2008, licensees should consider, to the extent practicable, the following:
  - a. minimizing growth of early-seral forage species within harvested cutblocks
  - b. minimizing adverse impacts to lichen communities;
  - c. timing harvesting activities during frozen ground conditions with sufficient snow cover to improve terrestrial lichen survival and regeneration;
  - d. controlling slash build-up to improve lichen survival and regeneration;
  - e. retaining Wildlife Tree Patches (WTPs) as island to serve as dispersal sources for lichen propagules;
  - f. maintaining representative pre-harvest forest type as WTPs within harvest areas, according to Landscape Unit specific targets;
  - g. expediting the regeneration of lichen-bearing coniferous stands/patches within cutblocks, recognizing that cutblocks will be reforested to pre-harvest conditions (e.g., deciduous stands will be reforested to deciduous stands);
  - h. promoting regeneration of natural, pre-harvest ecosystems by avoiding artificial seeding of grass- and legume-based mixes. The use of herbicides may be used to promote natural regeneration;
  - i. maintaining natural drainage patterns;
  - j. completing activities in the shortest timeframe practicable; and
  - k. minimizing disturbance during sensitive periods for boreal caribou (pre-calving, calving, post-calving, and rutting periods).
3. When implementing access development under **GWM 1, 2 and 8**, construction and use of low grade, low maintenance, temporary winter access routes under frozen ground conditions and/or on a substrate of packed snow is recommended to improve terrestrial lichen survival and regeneration. Low grade access roads should be constructed to minimize disturbance in space and time, such as using reduced road right of way clearing widths and deactivating promptly upon completion of activity, as operationally practicable. Completing primary forest activities in the early winter months, to the extent practicable, will avoid disrupting caribou movements within this connectivity WHA during the pre-calving period when individuals are traversing to high quality core areas to the north and south of the WHA.
4. When implementing access development under **GWM 3**, licensees should consider utilizing existing corridors such as seismic lines, pipeline right-of-ways and access routes developed by or for other industries to the extent practicable to minimize the construction of new access and resultant habitat loss, fragmentation, alteration, or degradation of caribou habitat.
5. When implementing access development under **GWM 4 and 5**, adequate visual screening along access structures is required to aid in reducing the line-of-sight of predators. In general, an adequate visual screen is comprised of vegetative cover capable of hiding 90% of a standing adult caribou from view at a distance of 200 ft



(60 m). Topographical features may minimize the amount of vegetative visual screening required along access routes. Licensees should also consider employing other techniques (e.g. doglegs, sight-line screens), ideally at least every 200 m, that reduce line-of-sight along access structures, and decrease caribou visibility to predators.

6. When implementing access development or timber harvesting/silviculture activities under **GWM 6, 7, 12, 13, and 14**, maintaining the integrity of landscape-level attributes (e.g. large, intact, treed fen-bog complexes with adequate thermal cover, security cover, and forage species) is critical to caribou survival. Contiguous, unfragmented, suitable habitats allow caribou to employ effective anti-predator strategies (e.g. maintain dispersion and avoid high predation risk areas such as linear corridors). By avoiding and providing maximal no-disturbance buffers around these areas, the predation risk to migrating caribou will be reduced, and the habitat effectiveness will be maintained within this connectivity habitat.
7. When implementing access development or timber harvesting/silviculture activities under **GWM 8, 15, and 16**, avoiding activities when practicable during the pre-calving period when caribou are known to be moving through the WHA and reducing (spatially and temporally) activities outside of this period would help to minimize disturbance to caribou using this connectivity habitat. Licensees should complete activities in the shortest timeframe that is reasonable to minimize impacts to wildlife and other values.
8. When implementing timber harvesting/silviculture requirements under **GWM 9**, licensees should give consideration to maintaining appropriate forest stand types (leave areas) that are large and contiguous. Where practicable, planners should arrange openings or clusters of blocks in a manner that does not fragment the WHA area (e.g. harvesting activities may progress sequentially across the landscape allowing for areas of intensive management and large leave areas in an unmanaged state). Large patches or clusters of blocks within a patch should accommodate connectivity for movement of caribou between the openings. Restricting access and adopting or constructing multiple-use roads through large leave areas is also recommended. Following these principles of cluster harvest is an important component of caribou habitat management, and results in fewer new linear corridors, more confined early seral habitats over space and time, and the maintenance of connected patches of mature forest cover and habitats suitable for boreal caribou.
9. When implementing timber harvesting/silviculture requirements under **GWM 10**, licensees should give consideration to techniques that will minimize the growth of early seral forage species used by alternative prey species (e.g. moose) of caribou predators.

10. To avoid creating a material adverse disturbance to lichen from timber harvesting or silviculture activities under **GWM 11**, licensees should consider:
  - a. minimizing or clustering disturbance footprints;
  - b. avoiding altering surface hydrology and flow patterns;
  - c. timing harvesting activities during frozen ground conditions with sufficient snow cover to improve terrestrial lichen survival and regeneration;
  - d. controlling slash build-up to improve lichen survival and regeneration;
  - e. retaining Wildlife Tree Patches (WTPs) as island to serve as dispersal sources for lichen propagules;
  - f. maintaining representative pre-harvest forest type as WTPs within harvest areas, according to Landscape Unit specific targets;
  - g. where practicable, expediting the regeneration of lichen-bearing coniferous stands within cutblocks, recognizing that cutblocks will be reforested to pre-harvest conditions (e.g., deciduous stands will be reforested to deciduous stands); and
  - h. promoting regeneration of natural, pre-harvest ecosystems by avoiding artificial seeding of grass- and legume-based mixes. The use of herbicides may be used to promote natural regeneration.
  
11. When implementing access development under **Objective 1**, licensees should discuss and consider access planning, development and deactivation schedules with other users operating within the UWR areas to minimize total road densities and the cumulative impacts of access structures within boreal caribou ranges.

### References:

The management direction and consideration for selection of practices was developed using information from the following sources:

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- Dunford, J.S., P.D. McLoughlin, F. Dalerum, and S. Boutin. 2006. Lichen abundance in the peatlands of northern Alberta: implications for boreal caribou. *EcoScience* 13: 469-474.
- Goddard, A. 2009. Boreal caribou in northeastern British Columbia. Biological rationale, data summary and literature review, March 2009. Peace Region Technical Report, Ecosystems Section. 25 pp.

Ministry of Environment. 2009. Peace Region least-risk timing windows, biological rationale. Peace Region Technical Report, Ecosystems Section, October, 2009. 45 pp.

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