



ORDER – NORTHERN CARIBOU HIGH ELEVATION UNGULATE
WINTER RANGE U-7-025
Mackenzie Forest District

This Order is given under the authority of sections 9(1), 9(2) and 12(1) of the *Government Actions Regulation* (B.C. Reg. 582/2004).

1. The Regional Executive Director, Omineca Region, Ministry of Forests, Lands and Natural Resource Operations, being satisfied that
 - i. the following area contains habitat that is necessary to meet the winter habitat requirements for northern caribou (*Rangifer tarandus*); 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 (Ungulate Winter Range U-7-025) and contained in the ungulate winter range (UWR) spatial layer stored in the Land and Resource Data Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_UNGULATE_WINTER_RANGE_SP) are established as ungulate winter range U-7-025 for northern caribou. The centre point of the line on the attached Schedule A is what establishes the UWR boundary; and
 - b) if there is a discrepancy between the areas shown in the map set out in the attached Schedule A and the UWR spatial layer stored in the Land and Resource Data Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_UNGULATE_WINTER_RANGE_SP), the areas as detailed in the UWR spatial layer will take precedent, and
 - c) pursuant to section 7(3) of the *Forest Planning and Practices Regulation*, 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 *Forest Planning and Practices Regulation* for the winter survival of northern caribou in the Mackenzie Forest District.

2. The Regional Executive Director, Omineca Region, Ministry of Forests, Lands and Natural Resource Operations, being satisfied that
 - i. the general wildlife measures (GWMs) described below are necessary to protect and conserve northern caribou and northern caribou habitat; 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 UWR U-7-025.
 - b) the GWMs 4 and 5, Schedule 1, are applied to the areas specified in those GWMs.

Schedule 1 – General Wildlife Measures

Definitions

In this schedule:

- a) Words and expressions not defined in this order have the meaning given to them in the *Forest and Range Practices Act* and regulations made thereunder, unless context indicates otherwise.
- b) “primary forest activity”, “permanent access structure” and “temporary access structure” are defined as in the Forest Planning and Practices Regulation,
- c) “cutblock” is a specific area, with defined boundaries, authorized for harvest,
- d) “northern caribou high elevation winter range” are those winter range units established by way of this Order,
- e) “northern caribou high elevation specified area” are those specified area units established by way of this Order,
- f) “mineral exploration activity” means an activity involving the cutting of trees or construction and/or maintenance of roads and trails related to the exploration and development of a mineral or placer tenure under the *Mineral Tenures Act* and which requires a Notice of Work permit under the *Mines Act*,
- g) “mineral cell” means a Mineral Titles Online claim acquisition unit and is 16 to 21 hectares, depending on latitude,
- h) “preferred winter moose browse” is the following; trembling aspen (*Populus tremuloides*) less than or equal to 3 metres in height, paper birch (*Betula papyrifera*) less than or equal to 3 metres in height, red-osier dogwood (*Cornus stolonifera*), high-bush cranberry (*Viburnum edule*) and willow (*Salix spp.*) stems less than or equal to 3 metres in height,
- i) “percent cover” is the percent of the ground area covered by a vertical projection of the crown of the plant with foliage onto the ground surface, and
- j) “early seral moose winter range potential” is defined as area less than or equal to 1200 metres in elevation, less than 40 years in stand age, and within the mesic to subhygric ecological units identified within Table 1:

Table 1. High value ecological units for early seral moose winter range potential within the Mackenzie Forest District.

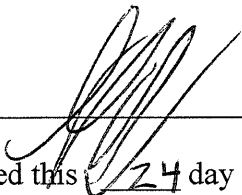
| Biogeoclimatic Zone | Subzone/ Variant | Site Series | | |
|---------------------|---------------------|-------------|----------|---------------------------------------|
| | | Number | Map code | Name |
| SBS | wk2 | 01 | SO | Sxw-Oak fern |
| SBS | wk2 | 05 | SD | Sxw-Devil’s club |
| SBS | wk2 | 06 | SH | Sxw-Horsetail |
| SBS | mk1 | 01 | SB | Sxw-Huckleberry-Highbush cranberry |
| SBS | mk1 | 07 | SO | Sxw-Oak fern |
| SBS | mk1 | 08 | SD | Sxw-Devil’s club |
| SBS | mk1 | 09 | SH | Sxw-Horsetail |

| | | | | |
|------|-----|------|----|--|
| SBS | mk1 | 00 | AA | Sx - Oak fern / Sx - Devil's club |
| SBS | mk1 | 00 | AS | Mountain alder-Skunk cabbage-lady fern |
| SBS | mk1 | 00 | DD | Sx Horsetail: Organic phase |
| SBS | mk1 | 00 | CC | Sx Horsetail: Fluvial phase |
| SBS | mk2 | 01 | SB | Sxw-Huckleberry-Highbush cranberry |
| SBS | mk2 | 05 | SO | Sxw-Oak fern |
| SBS | mk2 | 06 | SH | Sxw-Horsetail |
| SBS | mk2 | 00 | BW | Sb - Horsetail – Willow |
| SWB | mk | 01 | SB | Sw - Grey-leaved willow - Scrub birch |
| SWB | mk | 06 | SS | Sw - Willow - Step moss |
| SWB | mk | 07 | SC | Sw - Scrub birch – Bluejoint |
| SWB | mk | 08 | SH | Sw - Shrubby cinquefoil - Horsetail |
| ESSF | mv3 | 01 | FR | Bl - Rhododendron - Feathermoss |
| ESSF | mv3 | 04 | FO | Bl - Oak fern - Knight's plume |
| ESSF | mv3 | 05 | FD | Bl - Devil's club - Rhododendron |
| ESSF | mv3 | 06 | SC | Sxw - Huckleberry - Highbush-cranberry |
| ESSF | mv3 | 07 | FH | Bl - Horsetail – Feathermoss |
| ESSF | mv3 | 00 | FV | Bl - Valerian – Arnica |
| ESSF | mv3 | 00 | AA | Bl - Rhododendron - Feathermoss / Bl - Oak fern - Knight's plume |
| ESSF | mv3 | 00 | CC | Bl- Oak fern - Knight's plume / Bl - Horsetail-Feathermoss |
| ESSF | mv3 | 00 | DD | Bl - Horsetail - Feathermoss / Bl - Oak fern - Knight's plume |
| ESSF | mv3 | 00 | EE | Bl - Horsetail-Feathermoss / Fluvial Willow |
| ESSF | mv3 | 00 | GG | White spruce Wildrye - Feathermoss and/or Hybrid white spruce - Huckleberry - Highbush-cranberry |
| ESSF | mv4 | 01 | FR | Bl - Rhododendron - Feathermoss |
| ESSF | mv4 | 04 | RH | Bl - Rhododendron – Horsetail |
| ESSF | mv4 | 05 | FH | Bl - Alder - Horsetail (Ws08 - Bl - Sitka valerian - Common horsetail) |
| ESSF | mv4 | 00 | OT | Picea engelmannii - Salix sp - Equisetum arvense |
| ESSF | wk2 | 01 | FO | Bl - Oak fern - Knight's plume |
| ESSF | wk2 | 03 | FB | Bl - Oak fern – Bluebells |
| ESSF | wk2 | 04 | FD | Bl - Devil's club - Rhododendron |
| ESSF | wk2 | 05 | FR | Bl - Rhododendron - Lady fern |
| ESSF | wk2 | 06 | FH | Bl - Horsetail – Sphagnum |
| ESSF | wk2 | 00 | OT | Picea mariana - Salix sp - Carex aquatilis |
| BWBS | dk | 101a | SM | Sw - Soopolallie - Step moss |
| BWBS | dk | 101b | SR | Sw - Soopolallie - Step moss |

| | | | | |
|------|----|-------|-----|---|
| BWBS | dk | 104b | BC | Sb - Labrador tea - Step moss |
| BWBS | dk | 110 | SC | Sw - Currant – Horsetail |
| BWBS | dk | Wb 09 | BH | Sb - Horsetail - Peat Moss |
| BWBS | dk | 111 | 111 | Sw - Mountain alder – Horsetail |
| BWBS | dk | 00 | CC | Sw - Currant - Horsetail / Sb - Lingonberry - Coltsfoot / WF |
| BWBS | dk | 00 | SO | Sw - Oak fern |
| BWBS | dk | 00 | AA | Sw - Wildrye - Toadflax / Sw - Knight's plume - Step moss / Sw - Soopolallie – Twinflower |

1. Primary forest activities must not result in the removal of forest cover within the northern caribou high elevation winter range, except as provided in GWM 2 or GWM 3.
2. GWM 1 does not apply where:
 - a) guyline anchors and tailholds are required to facilitate timber harvesting adjacent to the northern caribou high elevation winter range; and,
 - b) trees felled for the purposes in (a) that fall within the designated northern caribou high elevation winter range are retained on-site.
3. GWM 1 does not apply for the purposes of mineral exploration activities if:
 - a) exploration activities occur outside of the critical late winter and calving period of January 15th – July 15th ;
 - b) exploration activities use existing clearings, trails and roads unless it is not practicable to do so;
 - c) any necessary tree harvesting avoids mature stands (≥ 80 years old) and avoids the removal of lichen-bearing trees, unless it is not practicable to do so;
 - d) an individual forest opening (defined as the total tree harvested area created for the purposes of mineral exploration and mining activity) is not greater than 1 hectare, not including forest openings for the purposes of building trails and roads;
 - e) the total of individual forest openings (defined as the total tree harvested area created for the purposes of mineral exploration activity), including those created for the purposes of building trail and roads does not exceed:
 - i. 10 percent of the mineral cell, OR
 - ii. 10 percent of any defined aggregate of mineral cells up to a maximum of 25 mineral cells;
 - f) new trails and roads do not have a running width greater than 3.5 metres except for the purposes of safety or culvert placement; and
 - g) actions are taken on newly constructed or reconstructed trails and roads to restrict access. This will be site-specific and could include, but is not limited to:
 - i. use of signage and gates on active trails and open roads where practicable,
 - ii. use of signage and safe (defined as large and clearly visible), impassable barricades across seasonal or permanently deactivated road surface widths.

4. Primary forest activities must not result in the construction of roads or trails within 100 metres of a northern caribou high elevation winter range, except as provided in GWM 2(a) or GWM 3.
5. Primary forest activities that occur within northern caribou high elevation specified area units SA1, SA2, SA3, SA4, SA5, SA6, SA7, SA8, SA9, SA10, SA11, SA12, SA13, SA14, SA15, SA16, SA17, SA18, SA19, SA20, SA21, SA22, SA23, SA24, SA25, SA26, SA27, SA28, SA29, SA30, SA31, SA32, SA33, SA34 or SA35 and within areas of early seral moose winter range potential within a cutblock must limit, up to the free growing declaration date, the production of preferred winter moose browse to not more than 8 percent cover, except as provided in GWM 6.
6. GWM 5 does not apply to:
 - a) permanent access structures,
 - b) a road as defined in the Forest Planning and Practices Regulation, not including temporary access structures, or
 - c) mineral exploration activities authorised under the *Mines Act*.



Signed this 24 day of May, 2016
Greg Rawling, Regional Executive Director
Ministry of Forests, Lands and Natural Resource Operations

Appendix 1

These appendices are not part of the legal Order for U-7-025. They are intended to provide guidance for meeting the General Wildlife Measures addressed in the order.

1. As per section 2(2) of the *Government Actions Regulation*, the order entitled “ORDER – NORTHERN CARIBOU HIGH ELEVATION UNGULATE WINTER RANGE #U-7-025” 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 forest 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
 - c. areas described in section 196(1) of the *Forest and Range Practices Act*; and
 - d. areas referred to in section 110 of the *Forest Planning and Practices Regulation*.
2. Authority to consider an exemption from these general wildlife measures is provided in Section 92(1) of the *Forest Planning and Practices Regulation*. In instances where it is not practicable to comply with these measures, a person proposing to conduct forestry activities should consider seeking an exemption from the requirements to comply with the applicable General Wildlife Measures.
3. An exemption application should be submitted to the Minister’s delegate (Director, Resource Management – Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) for the Omineca Region) with a rationale describing the nature of the problem and options to integrate winter range conservation with proposed forest practices (a template for exemption requests is available at: <http://www.env.gov.bc.ca/wld/frpa/index.html>). 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 for exemptions will be handled within 15 working days of arrival at the MFLNRO Regional office. Incomplete packages will be returned to the proponent for resubmission.
4. Exemptions for salvage of dead timber (non-infectious) resulting from severe natural disturbance may only be considered if the proposal is a net benefit to the Ungulate Winter Range species being managed for, as opposed to taking no action.
5. These GWMs do not apply to persons who must comply with the *Worker’s Compensation Act* and the regulations under that Act (e.g. danger tree felling).

Appendix 2 – Supporting Information

Guidelines for Northern Caribou Ungulate Winter Range

Ungulate Winter Range #U-7-025, Mackenzie Forest District (Mackenzie Natural Resource District)

These guidelines are important practices to consider while planning and operating within and around northern caribou UWRs. Professionals preparing operational plans have site-specific discretion and flexibility in prescribing methods to achieve desired habitat condition. Additional guidance may be found within *A compendium of wildlife guidelines for industrial development projects in the North Area, British Columbia* (FLNRO 2014), where best available science and best practices literature is summarized in a results-based, professional reliance approach.

Woodland caribou are found within 75-80% of the Mackenzie Forest District (Mackenzie Natural Resource District). Both the *Recovery Action Plan for Northern Caribou Herds in North-central British Columbia* (McNay *et al.* 2008) and the *Recovery Strategy for the Woodland Caribou, Southern Mountain Population in Canada* (Environment Canada, 2014) identifies an elevated risk of predation to be a significant risk to recovery and management of these northern caribou herds. This risk of predation is increased in areas where the presence of moose and the corresponding draw of wolves provides predation pressure on moose populations and on caribou where ranges overlap (Festa-Bianchet *et al.* 2010; Whittington *et al.* 2011, Johnson *et al.* 2015). McNay (2011) summarizes a review of silviculture strategies and general guidelines for operations within areas designated for the conservation of caribou.

To Minimize Predation:

1. To reduce the overall landscape-scale impacts on caribou, new forest openings should be concentrated in time and space into areas where habitat suitability values have already been compromised through previous harvest and road access (eg, aggregate cutblocks and harvesting in already-fragmented habitat). Develop a harvest pattern (spatially and temporally) that maintains large contiguous patches of mature forest balanced by large contiguous patches of regenerating forest, such that caribou have the ability to occur at low density and in locations distant from the predators attracted to moose using young seral habitats. This is important where spatial configurations of early seral forests depart from that expected under natural disturbance.
2. Accelerate the development of suitable connective habitat for caribou in managed forests to facilitate movement between foraging habitats and predator avoidance.
3. When planning harvesting or silviculture activities for approved cutblocks or roads within high elevation core winter range units, consider risk during timing of activities. Plan activities within the low risk timing window of July 16th to September 15th where ground conditions permit. Avoid development activities during the cautionary timing window of September 15th – January 14th and the critical timing window of January 15th to July 15th to reduce sensory disturbance and potential displacement of caribou from critical habitats during the physiologically stressful late winter period. *A compendium of wildlife guidelines for industrial development projects in the North Area, British Columbia* (FLNRO 2014) provides additional guidance in this regard.
<http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?subdocumentId=9921>
4. Minimize trail and road density wherever practicable.

Further to GWMs 3 and 4:

To Minimize Predation:

Strategies that may create conditions to make unfavourable future conditions for wolf and snowmobile travel may include:

1. Adjacent to high elevation winter range units, reclaim or rehabilitate road surfaces to support tree growth.
2. Plant road or trail surfaces (or strategic sections of road surfaces) with a suitable, fast-growing **non-preferred** species (such as alder) that will inhibit movement in future years.

Further to GWM 5:

The definition of preferred winter moose browse species includes species (trembling aspen, paper birch and willow), which may grow above the height reach of moose. In the case of willow, those willow stems (which may be part of a willow clump) growing above 3 metres in height will not contribute to the percent cover calculation for GWM 5. Those individual willow stems which are 3 metres or less in height and therefore accessible to a moose, will contribute to the percent cover calculation for GWM 5.

The high value ecological units for early seral moose winter range potential within the Mackenzie Forest District (Mackenzie Natural Resource District) identified within Table 1, include both site series number and Terrestrial/Predictive Ecosystem Mapping (TEM/PEM) map codes. As Biogeoclimatic Ecosystem Classification guides and TEM standards undergo revisions, users are advised to cross reference old and new codes.

GWM 5 will be reviewed within 5 years following Order approval to assess testing and implementation.

To limit the production of preferred winter moose browse potential:

Strategies that may limit the production of preferred moose browse may include, but are not limited to:

1. Avoid harvesting or site preparation activities that enhance shrub species such as red-osier dogwood (*Cornus stolonifera*), willow (*Salix* spp), paper birch (*Betula papyrifera*), trembling aspen (*Populus tremuloides*), or high-bush cranberry (*Viburnum edule*), which are preferred by moose.
2. Protect mature deciduous stems (particularly aspen and birch) during harvest to limit the amount of suckering.
3. One to two years after harvest, assess trembling aspen and paper birch. Space aspen and birch to 200 stems/hectare. Treat the stems when they are 1 cm diameter, and ≤ 3 m tall.
4. Manually brush stems in early spring, just as they are starting to leaf out (eg. half leaf-out is best).
5. Red-osier dogwood does not sucker very well. Cut stems low to the ground.
6. Reduce inter-tree spacing to reduce time to reach stand crown closure.
7. Minimize regeneration delay.

8. Use larger stock on more productive sites to reduce time to stand crown closure.
9. Explore alternate stocking standards to address the potential need to treat aspen and birch greater than 3 metres.

An overview of vegetation management alternatives for conifer regeneration in boreal forests is provided in Wiensczyk *et al.* (2011). A Best Management Practices document for GWM 5 is under development and will be made available to proponents when finalised. It will include a recommended assessment methodology.

Further to GWM 6:

Primary forest activities associated with cutblocks that create early seral moose winter range potential within the full road permit right-of-way may have a tendency to create untreated permanent road right-of-ways which may provide potential travel corridors for moose (and predators) with enhanced levels of preferred moose browse. Proponents should strongly consider implementing GWM 5 within that portion of road clearing width not needed for maintenance of road safety.

Appendix 3 – Cross reference to Proposed UWR U-7-028

Proposed Stone's sheep Ungulate Winter Range specified area units SA1, SA2, SA3, or SA4 within U-7-028 overlap with the following U-7-025 northern caribou high elevation winter range units:

Unit # 21, 37, 38, 44, 45, 46, 49, 55, 60, 62, 106.

These units have northern caribou listed as the primary species, and Stone's sheep listed as the secondary species. To reduce the considerable risk of disease introduction from domestic sheep and goats to naïve native Stone's sheep populations, the specified area units SA1, SA2, SA3 or SA4 as identified in U-7-028, will apply adjacent to those northern caribou high elevation winter range units that have Stone's sheep listed as a secondary species.

References and links for more information:

Additional information on northern caribou management initiatives can be found at:

<http://www.centralbccaribou.ca/crg/9/northcentral+bc>

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