

**ORDER – UNGULATE WINTER RANGE #U-9-004**  
**Fort St. John TSA, Mackenzie TSA and TFL 48**  
**Northern Caribou and Stone's Sheep**

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

The Deputy Minister of Environment orders that:

1. the ungulate winter range (UWR) shown in the map set out in the attached Schedule A (U-9-004) and boundaries contained in the GIS file *tuwra\_bc* are established for northern caribou (*Rangifer tarandus*) and Stone's sheep (*Ovis dalli stonei*);
2. the general wildlife measures outlined in Schedule 1 are established for the UWR in the attached Schedule A and boundaries contained in the GIS file *tuwra\_bc*;
3. where there is a discrepancy between the UWR boundaries as shown in the attached Schedule A and the GIS file *tuwra\_bc*, the boundaries as detailed in the GIS file will take precedent. The centre point of the line on the map denoting the UWR is what establishes the boundary;
4. the general wildlife measures outlined in Schedule 1 do not apply for the purposes of exploration, development and production activities when these activities have been authorized for the purpose of subsurface resource exploration, development or production by the *Mineral Tenure Act*, the *Coal Act*, the *Mines Act*, the *Petroleum and Natural Gas Act*, the *Pipeline Act* or the *Geothermal Resources Act*; and
5. 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 ungulates in TFL 48 and to the extent that this order addresses the amount set out for ungulates in the Fort. St. John TSA. Including consideration of this order the amount remaining for ungulates in the Fort St. John TSA is as follows: 406 ha for Rocky Mountain elk and mule deer, 4168 ha for Mountain Goat, 0 ha northern caribou and 3126 ha for boreal caribou.

Schedule 1 – General Wildlife Measures

*Definitions*

- **Coordinated planning of road development and deactivation:** coordinate planning, development and deactivation schedules with other users operating within the UWR; use of existing linear corridors and shared access to minimize the creation of new access routes.
- **Designated primary access routes:** those routes described within Section 3 *Access Recommendations, Compartment #3 – Lower Dunlevy*, and *Compartment #4 – Upper Dunlevy* (and mapped in Figure 6) of the Dunlevy Creek Management Plan (2002) (Appendix 3). These routes are designed to inhibit uncontrolled access within the Dunlevy Plan area.
- **Key terrestrial lichens:** List of documented key lichen species utilized by northern ecotype caribou (species most commonly consumed are in bold) is as follows:

<b>Terrestrial Lichens</b>	<b>Arboreal Lichens</b>
<b>Cladonia spp.</b>	<i>Bryoria</i> spp.
<b>Cladina spp.</b>	<i>Usnea</i> spp.
<i>Peltigera</i> spp.	
<b>Stereocaulon spp.</b>	
<b>Cetraria spp.</b>	
<i>Cladina mitis</i>	
<i>Peltigera aphthosa</i>	
<i>Peltigera malacea</i>	
<i>Cladonia rangiferina</i>	
<i>Cladonia gracilis</i>	
<i>Cladonia uncialis</i>	
<i>Cetraria cuculatta</i>	
<i>Cetraria islandica</i>	
<i>Cetraria ericetorum</i>	
<i>Cetraria nivalis</i>	

- **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. Low-impact roads are often constructed and used during winter (temporary routes under frozen ground conditions and/or a substrate of packed snow) (*Dunlevy Creek Management Plan 2002*).
- **Mainline road:** permanent, all-weather roads that serve as the main access into an operational area.

- **Material adverse:** 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.
- **Pine-leading stands:** > 50% lodgepole pine.
- **Primary forest activity:** as defined in the *Forest Planning and Practices Regulation of the Forest and Range Practices Act*.
- **Primary silviculture activity:** as defined in the *Dunlevy Creek Management Plan (2002)*, consists of three steps:
  - a) initial primary planting in first planting season following harvest;
  - b) regeneration survey in the second year following planting; and
  - c) fill planting (if necessary) in the third year.
- **Secondary access routes:** spur roads from mainlines (excluding in-block roads); may be seasonal or all season roads.
- **Sequential development:** primary forest activities that follow a multi-pass system, activity within designated areas that proceed sequentially over time and space (*Dunlevy Creek Management Plan 2002*).

Northern Caribou and Stone’s Sheep: High-Elevation Winter Range:

Polygons GR-000, GR-001, GR-002, GR-003, GR-004, GR-005, GR-006, GR-007, GR-008, GR-009, GR-011, GR-012, GR-013, GR-014, GR-015, GR-016, GR-018, GR-019, GR-020, GR-021, GR-022, GR-023, GR-025, GR-026, GR-027, GR-030, GR-031, GR-032, GR-033, GR-034, GR-035, GR-036, GR-037, GR-038, GR-039 and GR-040

*Access*

- 1) Primary forest activities will not result in the construction of roads or trails.

*Harvesting and silviculture*

- 2) Primary forest activities will not result in the removal of forest cover.
- 3) Primary forest activities will not result in the use of domestic sheep or goats.

*Pesticides*

- 4) Primary forest activities will not result in the use of pesticides.

*Recreation*

- 5) Primary forest activities will not result in the development of recreation sites or trails.

Northern Caribou: Mid to Low-Elevation Winter Range:

Polygons GR-010 and GR-017

*Access*

- 6) Primary forest activities will not result in the construction of mainline roads.

- 7) Primary forest activities will result in deactivation of roads upon completion of primary silviculture activities.
- 8) Primary forest activities will result in secondary access routes as low impact roads, to the extent practicable.
- 9) Secondary and in-block road layout and construction will result in utilization of existing linear corridors, to the extent practicable.
- 10) Access corridors will provide adequate visual screening, to the extent practicable.
- 11) Primary forest activities will result in coordinated planning of road development and deactivation to minimize disturbance to caribou.

*Harvesting and silviculture*

- 12) Primary forest activities will not result in material adverse disturbance to the productivity of key terrestrial lichen communities.
- 13) Primary forest activities will result in a network of connected forest cover, which provides visual screening and snow interception, to facilitate caribou movement.
- 14) Primary forest activities will result in pre-harvest pine-leading stands to be reestablished as pine-leading stands.
- 15) Primary forest activities will be completed in as short a time frame as practicable, to a maximum of 5 years from initiation.
- 16) Primary forest activities will not result in the use of domestic sheep or goats.

*Recreation*

- 17) Primary forest activities will not result in the development of recreation sites or trails.

Northern Caribou: Mid to Low-Elevation Winter Range:  
Polygons GR-024, GR-028, and GR-029

*Access*

- 18) Primary forest activities will result in utilization of designated primary access routes.

*Access*

- 19) Primary forest activities will result in deactivation of roads upon completion of primary silviculture activities.
- 20) Primary forest activities will result in secondary access routes as low impact roads, to the extent practicable.
- 21) Secondary and in-block road layout and construction will result in utilization of existing linear corridors, to the extent practicable.
- 22) Access corridors will provide adequate visual screening, to the extent practicable.
- 23) Primary forest activities will result in coordinated planning of road development and deactivation to minimize disturbance to caribou.

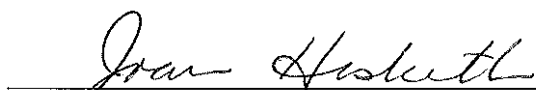
*Harvesting and silviculture*

- 24) Primary forest activities will result in sequential development.
- 25) Primary forest activities will not result in material adverse disturbance to the productivity of key terrestrial lichen communities.

- 26) Primary forest activities will result in a network of connected forest cover, which provides visual screening and snow interception, to facilitate caribou movement.
- 27) Primary forest activities will result in pre-harvest pine-leading stands to be reestablished as pine-leading stands.
- 28) Primary forest activities will be completed in as short a time frame as practicable, to a maximum of 5 years from initiation.
- 29) Primary forest activities will not result in the use of domestic sheep or goats.

*Recreation*

- 30) Primary forest activities will not result in the development of recreation sites or trails.

  
Signed this 20 day of May, 2008  
Joan Hesketh, Deputy Minister  
Ministry of Environment

**The following information is intended to provide background information and support to the legal order establishing UWR 9-004. This appendix is not part of the legal order.**

**Appendix 1 – General Information:**

1. Authority to consider an exemption from these GWMs is provided in Section 92(1) of the *Forest Planning and Practices Regulation*. 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.
2. An exemption application should be submitted to the Minister's delegate (Regional Manager – Ministry of Environment, for the Region that the UWR is located) with a rationale describing the nature of the problem and options to integrate UWR 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 the commencement of activities. Upon receipt of a complete application, a determination will be made within 30 days of arrival. Incomplete packages will be returned to the proponent for resubmission.
3. Exemptions for salvage of dead timber (non-infectious) resulting from severe natural disturbance will only be considered if the proposal is a net benefit to the UWR species being managed for, as opposed to taking no action.
4. An exemption is not required for:
  - a) any harvesting and/or road construction activities related to an approved cutblock (Category A or equivalent); or
  - b) any harvesting and/or road construction activities related to a Special Use Permit by a person who holds a permit under Section 10 of the *Mines Act*.
5. 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 northern caribou.
6. The UWR polygons fall within Management Units (MUs) 7-35, 7-36, 7-43 and/or 7-57. Within these MUs, the operation of all motor vehicles (with the exception of snowmobiles less than 450 kg in weight from Nov 1 to April 30) is prohibited year round above 1,400 m in elevation (see item 41, Schedule 1 of the *Motor Vehicle Prohibition Regulation*).

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

### **Applicable to GWMs 1 thru 5:**

1. For any harvesting activities related to an approved (Category A) cutblock, licensees should give consideration to:
  - a) minimizing adverse impacts to lichen communities;
  - b) timing harvesting activities during frozen ground conditions with sufficient snow cover to improve terrestrial lichen survival and regeneration;
  - c) controlling slash build-up to improve lichen survival and regeneration;
  - d) retaining Wildlife Tree Patches (WTPs) as islands to serve as dispersal sources for lichen propagules;
  - e) maintaining a minimum of 10% representative pre-harvest mature/old forest as WTPs within clearcut areas;
  - f) where non-conventional silviculture systems are used (e.g. strip, shelterwood or selection cutting), retaining a minimum of 44% of the representative stand in mature/old seral stage (>120 years old); and
  - g) expediting the regeneration of lichen-bearing coniferous stands within cutblocks.
  
2. When planning winter harvesting or silviculture activities for approved Category A cutblocks, licensees should consider timing activities for early winter (November 1<sup>st</sup> to January 30<sup>th</sup>) to reduce sensory disturbance and potential displacement of caribou from critical habitats during the physiologically stressful late winter period.
  
3. When planning access development for approved Category A cutblocks, licensees should consider:
  - h) constructing access to the lowest standard possible (as long as safety elements are met);
  - i) minimizing ploughing of access routes within and adjacent to caribou habitat to reduce predator use;
  - j) promptly deactivating access corridors upon completion of activity; and
  - k) upon completion of silviculture obligations, permanently deactivating secondary and in-block roads to the highest standard possible.

### **Applicable to GWMs 1 thru 5:**

4. When implementing timber harvest/silviculture requirements under GWM 3 within approved Category A cutblocks, licensees should not use domestic sheep or goats where wild sheep populations occur (Schwantje 1992, Newsome et al. 1995). Stone's sheep populations are known to occur, either seasonally or year-round, on Aylard Ridge, Butler Ridge, Twenty Mile Ridge, and lower elevations proximal to escape terrain along the north side of Williston Lake, Peace Arm, Williston Zone (Dunlevy Creek Management Plan; MSRM 2002).

*Applicable to GWMs 7 thru 16, 19 thru 23 and 25 thru 30:*

5. When implementing access control under GWM 7 and GWM 19, licensees should consider rehabilitation/reclamation techniques on access corridors beyond stream crossing deactivation that can help limit or inhibit human/recreational (and possibly predator) movement and maintain or improve habitat for caribou. Where this is not feasible, the use of gates or other access control measures to inhibit, restrict or minimize vehicular traffic is recommended. Unless required by other industrial users, licensees should consider blocking winter access with snow berms during periods of inactivity to help impede public access.
6. When implementing access development under GWM 8 and GWM 20, 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 and reduce the risk of caribou harassment by humans.
7. When implementing access development under GWM 9 and GWM 21, licensees should utilize existing linear 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, alteration or degradation.
8. When implementing access development under GWM 10 and GWM 22 adequate visual screening along secondary access corridors is preferred to aid in reducing the line of sight of predators as well as to mitigate harassment or disturbance of caribou by humans. 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 60 m (200 ft). Topographical features may minimize the amount of vegetative visual screening required along access routes. Licensees should also consider employing other techniques (e.g. doglegs) that reduce line of sight along access corridors.
9. When implementing access development under GWM 11 and GWM 23, licensees should coordinate access planning, development and deactivation schedules with other users operating within the UWR areas. Minimizing the amount of traffic using access routes is also recommended. By coordinating and scheduling activities efficiently, licensees can employ techniques that reduce the efficiency and speed of predators such as wolves on access corridors (e.g. minimizing snow ploughing along routes) and reduce the amount of human-caused disturbance along access corridors.
10. When implementing timber harvesting/silviculture requirements under GWM 12 and GWM 25, conducting harvest under frozen ground conditions with sufficient snow cover will improve terrestrial lichen survival and regeneration. In addition, licensees should employ appropriate silvicultural techniques (e.g. reducing slash



build-up, strategically placing WTPs to maintain/enhance existing key lichen communities and serve as dispersal sources for lichen propagules, thinning the stand, and employing appropriate vegetation management treatments, where required) to expedite the regeneration of lichen-bearing forest stands within cutblocks. Timing harvesting activities for early winter (November 1<sup>st</sup> to January 30<sup>th</sup>) is preferred to reduce sensory disturbance and potential displacement of caribou and/or Stone's sheep from critical habitats during the physiologically stressful late winter period.

Terrestrial lichen habitats generally include the following site characteristics:

- a) pine-leading forests;
- b) 25 – 55% crown closure;
- c) 50 – 110 years of age;
- d) pine 7 – 17 m in height;
- e) a site index < 14.5;
- f) slope ~ 5%;
- g)  $45^{\circ} < \text{aspect} < 315^{\circ}$ ;
- h) dry nutrient poor site series;
- i) coarse-textured (sandy) soils with a high coarse fragment content; and
- j) a duff layer < 5 cm.

Note: These attributes are based on literature sources not site specific to the Graham, and are provided for guidance only. There are exceptions to the above noted attributes and a thorough walk-through of pine-leading stands will determine whether key lichen communities are present<sup>1</sup>. Single stands may not possess all of these attributes; however, the potential to support key lichens generally increases if one or more of these criteria are met.

11. When considering harvesting or silvicultural practices under GWM 13 and GWM 26, excessive slash, slash piles or slash in the form of windrows, especially along linear corridors, can prevent the movement of caribou between or through habitats. Harvesting and silvicultural practices that maintain natural levels of coarse woody debris along linear corridors and in cutblocks is adequate to facilitate movement of caribou. Using large openings/patches or block clusters approximately 100 hectares (or larger) and at least equal sized leave areas are recommended. Where practicable, planners should arrange patches or clusters in a manner that does not fragment the UWR polygon (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 block clusters within a patch should accommodate connectivity for movement of caribou between the openings. Restricting access and the creation of new roads for all industries 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

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<sup>1</sup> Current lichen habitat value can be assessed as per "A Guide to Evaluating Forest Stands as Terrestrial Lichen Forage Habitat for Caribou" – Ministry of Environment – Omineca Region, 2000.

habitats over space and time, and the maintenance of connected patches of mature forest cover.

12. When implementing timber harvesting/silviculture requirements under GWM 15 and GWM 28, licensees should complete activities in the shortest timeframe that is reasonable to minimize impacts to wildlife and other values.
13. When implementing timber harvest/silviculture requirements under GWM 16 and GWM 29 within approved Category A cutblocks, licensees must not use domestic sheep or goats where wild sheep populations occur (Schwantje 1992, Newsome et al. 1995). Stone's sheep populations are known to occur, either seasonally or year-round, on Aylard Ridge, Butler Ridge, Twenty Mile Ridge, and lower elevations proximal to escape terrain along the north side of Williston Lake, Peace Arm, Williston Zone (Dunlevy Creek Management Plan; MSRM 2002).

*Applicable to GWMs 18 and 24:*

14. When considering access development and/or deactivation under GWM 18, licensees are required by policy to be consistent with recommendations and guidelines in Section 3 *Access Recommendations, Compartment #3 – Lower Dunlevy, and Compartment #4 – Upper Dunlevy* of the Dunlevy Creek Management Plan (MSRM 2002).
15. When implementing timber harvesting/silviculture requirements under GWM 24, licensees are required by policy to be consistent with recommendations and guidelines in Section 3 *Forestry Recommendations, Recommended Forestry Plan, Compartment #3 – Lower Dunlevy, and Compartment #4 – Upper Dunlevy* of the Dunlevy Creek Management Plan (MSRM 2002).