

**AMENDED ORDER #U-5-001, U-5-002 and U-5-003 – Ungulate Winter Ranges  
Cariboo Chilcotin Land Use Plan, Transition and Deep Snowpack**

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. This order replaces the order established on December 07, 2006 titled “AMENDED ORDER #U-5-001, U-5-002 and U-5-003 – Ungulate Winter Ranges Cariboo Chilcotin Land Use Plan, Transition and Deep Snowpack”;
2. Within Ungulate Winter Ranges U-5-001, U-5-002, U-5-003 established on December 13, 2004, in the area of the Cariboo Chilcotin Land Use Plan, the:
  - a) Stand Structure Habitat Classes
  - b) Topographic Buffers,are established as identified on the attached maps (Ungulate Winter Range No. U-5-001, including Habitat Stand Structure Classification, Topographic Buffers and Habitat Management Zones; Ungulate Winter Range No. U-5-002, including Habitat Stand Structure Classification, Topographic Buffers and Habitat Management Zones; Ungulate Winter Range No. U-5-003, including Habitat Stand Structure Classification, Topographic Buffers and Habitat Management Zones);
3. where there is any discrepancy between the ungulate winter range boundaries as shown in the December 13, 2004 Schedule A’s (U-5-001, U-5-002, U-5-003) and the GIS file *tuwra\_bc*, the boundaries as detailed in the GIS file will take precedent. Where there is any discrepancy between the attached maps and the linework identified in the GIS files for Stand Structure Habitat Classes or Topographic Buffers, as stored on the FTP site [ftp://ribftp.env.gov.bc.ca/pub/outgoing/cdc\\_data/uwr/r5/](ftp://ribftp.env.gov.bc.ca/pub/outgoing/cdc_data/uwr/r5/), the GIS files stored on the FTP site will take precedent. The centre point of the line on the map denoting the ungulate winter range is what establishes the boundary;
4. The General Wildlife Measures outlined in Schedule 1 are established for mule deer (*Odocoileus hemionus hemionus*) within the Transition and Deep Snowpack Zones of the following ungulate winter range units:
  - (a) in Ungulate Winter Range U-5-001: Alix Honeyburn (dqu\_3), Australian Alix (dqu\_7), Baker Creek (dqu\_8), Dragon Australian (dqu\_30), General Tingley (dqu\_38), Gerimi (dqu\_39), Lower Quesnel (dqu\_60), Narcosli (dqu\_64), Nazko (dqu\_65), Upper Quesnel (dqu\_80), West Road South (dqu\_87); Blackwater (dqu\_14)
  - (b) in Ungulate Winter Range U-5-002: Mosley Creek (dwl\_1), Antoine Lake (dwl\_6), Beaver Valley North (dwl\_9), Beaver Valley South (dwl\_10), Big Lake North (dwl\_12), Borland Valley (dwl\_16), Farwell (dwl\_34), Hart-Marguerite (dwl\_42), Hawks Creek (dwl\_43), Horsefly Lake (dwl\_45), Horsefly River (dwl\_46), Jones Creek (dwl\_49), Knife Creek (dwl\_50), Likely (dwl\_56), Little Lake (dwl\_57), McLeese Lake (dwl\_62), Niquidet (dwl\_66), Quesnel Forks (dwl\_70), Rose Lake (dwl\_72), Skelton (dwl\_74), Tatloyoko (dwl\_78), West Arm (dwl\_84); and
  - (c) in Ungulate Winter Range U-5-003: 111 Mile-Forest Grove (dmh\_2), Bonaparte River (dmh\_15), Bradley Creek (dmh\_17), Bridge Lake North (dmh\_18), Buffalo Creek (dmh\_19), Canim Lake North (dmh\_20), Canim Lake West (dmh\_21), Drewry Lake North (dmh\_31), Fawn Lake (dmh\_35), Horse Lake (dmh\_44), Howard Lake

- North (dmh\_47), Lac La Hache North (dmh\_53), The Lakes (dmh\_55), Roserim Lake (dmh\_73), Timothy-Rail (dmh\_79), Watch Lake North (dmh\_83);
5. (a) The General Wildlife Measures set out in Schedule 1 are also established for the following ungulate winter range units in the Moderate Snowpack Zone:
- 111 Mile-Forest Grove(dmh\_2), Alix-Honeyburn(dqu\_3), Australian-Alix(dqu\_7), Borland Valley(dw1\_16), Buffalo Creek(dmh\_19), Enterprise(dw1\_33), Fawn Lake(dmh\_35), Hawks Ck(dw1\_43), Horse Lake(dmh\_44), Jones Creek(dw1\_49), Knife Creek(dw1\_50), Lac La Hache North(dmh\_53), Lac La Hache South(dmh\_54), McLeese Lake(dw1\_62), Narcosli(dqu\_64), Williams Lake-Hawks Creek(dw1\_81), Watch Lake North(dmh\_83).
- (b) for the purposes of 5(a) (Moderate Snowpack Zone), the area of forest to which the General Wildlife Measures will apply must be:
- (i) subject to primary forest activities over an area greater than 10 ha, and
- (ii) 70% or more of the area subject to primary forest activities must be comprised of:
- north-facing aspects between 315 and 60 degrees, and
  - slope greater than 20%;
7. For the purposes of section 2(3)(a) of the *Government Actions Regulation*, these General Wildlife Measures also apply to minor tenures; and
8. These General Wildlife Measures do not apply for the purposes of exploration, development or production activities when these activities have been authorized for the purpose of subsurface resource exploration, development or production under the *Mineral Tenure Act*, the *Coal Act*, the *Mines Act*, the *Petroleum and Natural Gas Act*, the *Pipeline Act* or the *Geothermal Resources Act*.

Definitions:

**A primary forest activity** is defined as per the definition included in the *Forest Planning and Practices Regulation*

**Schedule 1 – General Wildlife Measures**  
**Mule Deer Winter Ranges in the Transition and Deep Snowpack Zones**

1. Except for stands on ungulate winter ranges that are subject to GWMs 14, 15, or 16, the group selection harvest system described in GWMs 6 through 11 must be applied during timber harvest entries into a stand of trees within ungulate winter ranges to which this order applies.
2. For stands of trees in ungulate winter ranges that are subject to GWMs 14, 15 or 16, group selection management will begin on the next harvest pass following the initial harvest treatment.
3. After one rotation, all stands of trees in an ungulate winter range to which this order applies will be managed using a group selection silviculture system consistent with GWMs 6 through 12, except:
  - Old Growth Management Areas, or other “no-harvest” land use designations
  - Sub-hygic sites with stand composition <40% Douglas-fir

**Definitions pertaining to GWMs 3, and 4:**

- Douglas-fir stand composition is calculated as the proportion of basal area of Douglas-fir trees >12.5 cm diameter at breast height.
4. The applicable silviculture systems for stands with ≤40% lodgepole pine by composition, and all other mixed stands that are mesic and drier, or that have ≥ 40% Douglas-fir by composition will be thinning from below (described in GWM 16) or group selection (described in GWMs 6 through 10).
  5. Primary forest activities will result in:
    - Protection of existing Douglas-fir regeneration to the extent practicable
    - Retention of Douglas-fir in juvenile spacing treatments.
  - 6.(a) The first pass of group selection is to be applied when the stand basal area is:
    - (i) ≥45m<sup>2</sup> in Interior Cedar Hemlock (ICH), or
    - (ii) ≥40m<sup>2</sup> in other Biogeoclimatic Zones.
  - (b) No timber harvesting is to occur where the conditions set out in 6(a) are not met, and GWMs 14, 15 or 16 do not apply.

**Definition pertaining to GWM 6:**

- Basal area is to be calculated as the total live conifer basal area of trees greater than 12.5 cm dbh.
7. (a) Group selection forest activities planned for each cutblock area in an ungulate winter range to which this order applies, must result in a condition where the 0-40 year age component for the Stand Structure Habitat Class set out in Column 1 of Table 1 does not exceed the percentage of cut block area set out in Column 2 of Table 1.
  - (b) Skid trail area must be included in the percentage area for the 0-40 year age category. Roads and landings are excluded.
  - (c) The percent in Column 2 includes any previously harvested area or natural disturbance which created openings of 0.1 ha or greater within the last 40 years.

Table 1.

Stand Structure Habitat Class	Maximum percent of cutblock area to be in Age Class of 0 – 40 years
Low	33
Moderate	25
High	20

**Definitions pertaining to GWM 7:**

- “Group selection” is a selection silviculture system in which small groups of trees are periodically harvested, resulting in an uneven-aged forest stand made up of a mosaic of small even-aged patches. Stand structure is regulated in group-selection harvesting by cutting a specified proportion of the total area of the cutblock at each harvest entry and by specifying the group size and cutting cycle. The parameters for the group selection system designed for mule deer winter range are provided in GWM 6 through 11.
- “Stand Structure Habitat Class” is a stand level classification used to define three different stand structure management objectives for mule deer winter habitat (Low, Moderate and High). For transition and deep snowpack zones, differences between the classes are based on differences in the proportion of various age classes within managed cutblocks. All habitat classes have common objectives to maintain or create multi-storied, uneven-aged stands dominated by Douglas-fir. The long-term objectives map for each winter range shows the distribution of the three habitat classes on the winter range.
- Polygons depicting the spatial distribution of low, moderate and high Stand Structure Habitat Classes are available from the following FTP site:  
[ftp://ribftp.env.gov.bc.ca/pub/outgoing/cdc\\_data/uwr/r5/](ftp://ribftp.env.gov.bc.ca/pub/outgoing/cdc_data/uwr/r5/). Files are located in each of the folders “tuwra\_U-5-001.zip”, “tuwra\_U-5-002.zip” and “tuwra\_U-5-003.zip”. The specific files are titled “Stand\_struc\_hab\_class\_5-001”, “Stand\_struc\_hab\_class\_5-002”, “Stand\_struc\_hab\_class\_5-003”.

8. Primary forest activities in stands of trees on the ungulate winter ranges to which this order applies, where the group selection silviculture system is to be employed, will result in the harvest proportions and cutting cycles for each Stand Structure Habitat Class set out in Column 1 of Table 2 that are consistent with the specifications of Columns 2 through 5 of Table 2.

Table 2.

Stand Structure Habitat Class	Area Harvested Per Pass (%)	Minimum Cutting Cycle (years)	Effective Rotation (years)	Number of Different Aged Patches in the Stand Mosaic After a Full Rotation
Low	33	40	120	3
Moderate	25	40	160	4
High	20	40	200	5

See definitions pertaining to GWM 7 above, for the location of polygons depicting the spatial distribution of low, moderate and high Stand Structure Habitat Classes.

9. (a) Primary forest activities on sites ecologically capable of growing Douglas-fir must achieve at least an additional 20% in post-harvest Douglas-fir composition as compared to the pre-harvest Douglas-fir composition. For an example see Appendix 3.
- (b) Despite 9(a), no further increase in post-harvest Douglas-fir composition is required beyond 60% for sites in the following Biogeoclimatic units: ICH, SBSwk, SBSmc, SBSmw.
- (c) Despite 9(a), no further increase in post-harvest Douglas-fir composition is required beyond 80% for sites in all Biogeoclimatic units except those specified in 9(b).
- (d) Sites with a pre-harvest Douglas-fir composition of less than 40% and a frost hazard class rating of high or very high are not required to meet the Douglas-fir composition requirements in 9(a), but existing Douglas-fir should be maintained where possible.

**Definitions pertaining to GWM 9:**

- Post-harvest Douglas-fir stand composition is defined as the percent of live conifer stems greater than 1.3 meters in height measured at the earliest of: a) the time of the free to grow declaration, where applicable or b) at twenty years.
- Pre-harvest Douglas-fir composition is the percent Douglas-fir estimated by pre-harvest measurements of merchantable Douglas-fir by basal area in the areas to be harvested.
- Sites are deemed to be ecologically capable for Douglas-fir regeneration if: 1) Douglas-fir is included as a preferred species in the 2002 Ministry of Forests FDP stocking standards for the applicable Forest Region or 2) the pre-harvest stand is composed of 40% or more Douglas-fir by basal area.
- Frost hazard rating classes are to be defined based on the process documented in Chapter 3 of Steen et al. 1990. *Identification of Summer Frost-prone Sites in the Cariboo Region*. FRDA report #157.

10. Primary forest activities in the Snowpack Zones set out in column 1 of Table 3 will result in a range of opening sizes and an average opening size consistent with the specifications for the types of forest sites set out in columns 2 through 4 of Table 3.

Table 3.

Snowpack Zone	Opening Size (ha)		
	Warm aspect sites	Other aspects	Frost prone sites
Transition	0.1 – 0.4 (0.3)	0.1 – 0.7 (0.4)	0.1 – 0.3 (0.2)
Deep	0.1 – 0.4 (0.3)	0.1 – 1.0 (0.6)	0.1 – 0.4 (0.3)

The bracketed numbers in Columns 2 through 4 refer to the recommended average opening size.

**Definitions pertaining to GWM 10:**

- Opening sizes are measured from tree stems on the outside of the opening. It includes the total contiguous opening area which could be made up of any combination of currently harvested openings, natural openings and openings from any previous harvest within the past 40 years.
- Warm aspect sites have slopes >10% and aspect between 136° and 270°.
- Sites with a summer frost hazard class of medium, high or very high (Steen, O. et al., 1990) are considered frost prone.
- Snowpack zones are defined in Appendix 2.

11. The construction of the skid trail network and the location, orientation and shape of group selection openings on ungulate winter ranges will result in:
  - the total area affected by road and landing areas for current and future passes being minimized so as to not materially impact the continuity of forested habitat.
  - not more than 10 % of the block area (excluding roads, landings and Wildlife Tree Patches) being in skid trails.
  - skid trails being located at least 30m from ridges or topographic breaks, except for trails perpendicular to the feature that are required to access otherwise inaccessible timber.
  - having no concentration of openings from any one pass within 30m either side of a ridge or topographic break.
  - a residual stand with minimal windthrow risk.
  - relatively uniform distribution of openings throughout the block for each pass.
  - maintenance of wildlife tree patches.
12. (a) Primary forest activities must not result in the construction of roads or landings within:
  - Topographic buffers identified along major topographic features as delineated in the files “topo\_buffer\_U-5-001”, “topo\_buffer\_U-5-002” and “topo\_buffer\_U-5-003” located on the FTP site [ftp://ribftp.env.gov.bc.ca/pub/outgoing/cdc\\_data/uwr/r5/](ftp://ribftp.env.gov.bc.ca/pub/outgoing/cdc_data/uwr/r5/), or
  - 100m of minor ridges or minor topographic breaks identified in the field.(b) Despite (a), perpendicular road crossings may be constructed across the topographic breaks where there is no other practicable alternative for access to isolated timber.

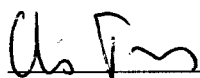
**Definitions pertaining to GWM 11 and 12:**

- Minor topographic breaks and ridges are defined as features requiring special management where the slope is greater than 15% when measured from the apex of the feature to a point 15m perpendicular to the feature or to the nearest gully bottom if this is less than 15m away. Ridges have a slope >15% on both sides while topographic breaks have a slope of >15% on only one side.
13. Subject to section 92(1) of the *Forest Planning and Practices Regulation*, primary forestry activities must not result in the construction of roads within Old Growth Management Areas in ungulate winter ranges to which this order applies.
  14. Primary forest activities for the purposes of Douglas-fir bark beetle sanitation to remove currently infested stems will result in:
    - The volume of non-target, non-infested stems greater than 27.5 cm diameter at breast height removed being less than 10% of the total volume of infested stems removed.
    - No harvesting of green un-infested Douglas-fir trees that are >37.5cm diameter at breast height except as required for safety.
    - No salvage of dead trees within Old Growth Management Areas or Wildlife Tree Patches established in ungulate winter ranges to which this order applies except as required for safety.
  15. In stands with >40% lodgepole pine where greater than 50% of the pine component is dead or at high risk of mountain pine beetle mortality, primary forest activities will result in:
    - a) No harvest or damage (including skid trail development) to Douglas-fir trees that exceeds:
      - 15% for stems 22.5 to 37.5 cm dbh, and

- 5% for stems >37.5 cm dbh of the pre-harvest basal area of Douglas-fir stems in each of the two diameter categories.
  - b) No cutting of Douglas-fir stems >22.5 cm dbh to access lodgepole pine located in patches less than 0.1 ha.
  - c) Protection of established Douglas-fir regeneration where regeneration is of good form and likely to produce a timber resource of good value.
  - d) Use of Wildlife Tree Patches to maintain and recruit snags.
16. Timber harvesting practices that employ thinning–from-below for stems from 12.5 to 37.5 cm dbh will result in:
- Harvest or damage to Douglas-fir stems >37.5cm dbh that does not exceed 10% of the pre-harvest basal area of the Douglas-fir trees >37.5cm dbh.
  - Retention of a minimum residual basal area of 75% of the pre-harvest conifer basal area (counting stems >12.5cm dbh).
  - The area covered by skid trails not exceeding 10% of the net harvested area.
  - Harvesting priority on species other than Douglas-fir in mixed species stands.
  - Location of landings in non-fir areas and in areas with little or no Douglas-fir >37.5cm dbh unless there is no other practicable option.

**Definitions pertaining to GWM 15 and 16:**

- Damage is defined as
  - (1) loss of one-quarter or more of the photosynthetic volume of the crown, or
  - (2) loss of either 1000cm<sup>2</sup> of bark or loss of bark from one-third of the circumference of the tree.
  - Note: the damage definition applies to all harvest types.
- Residual basal area is the average for the net harvested area (excluding roads, landings and wildlife tree patches).



Signed this 20<sup>th</sup> day of Feb, 2007  
Chris Trumpy, Deputy Minister  
Ministry of Environment

## **Appendix 1**

Note that the appendix is not part of this legal Order. It is intended to provide guidance for meeting the General Wildlife Measures addressed in the order.

### **Exemptions from General Wildlife Measures**

1. Authority to consider an exemption from the requirement to comply with these General Wildlife Measures (GWM) is provided in Section 92(1) of the Forest Planning and Practices Regulation. Where it is not practicable to comply with these GWM, a person proposing to conduct forestry activities may choose to seek an exemption from the requirements to comply with the applicable GWM. The requisite official may grant an exemption, with conditions.

An exemption application should be submitted to the Minister's delegate for the Region where the Ungulate Winter Range is located (Regional Manager - Ministry of Environment), with a rationale describing the nature of the problem, why it is impracticable to comply with the GWM, and options to integrate winter range conservation with proposed forest practices. This submission of information with the request for exemption will assist in timely consideration of the matter, and will inform the conditions, if any, of the exemption. The applicant must not proceed with activities until the exemption is received by the applicant.

The exemption process is meant to apply in cases where it is found to be impracticable to comply with GWM given the specific situation and circumstances pertaining to compliance with a specific GWM applicable to a specific area of land, in this case, an area located within a specific ungulate winter range. Exemptions are a special administrative process that allows a person the authority to operate in a manner not otherwise allowed under law, due to the special circumstances identified at a specific site, or on a specific area of land. These provisions should not be used broadly to alter the true intent of the law applicable to winter ranges established by order under authority of the Government Actions Regulation. The exemption provision is not applicable for the purposes of broad or blanket exemption from the requirement to comply with GWM across numbers of winter ranges, unless it can be demonstrated to the satisfaction of the requisite official that it is impracticable for practices being carried out at specific locations in each winter range to comply with the GWM.

Salvage of dead (non-infectious) timber resulting from severe natural disturbance may be proposed as an exemption if the proposal results in a net benefit to the Ungulate Winter Range species being managed for, as opposed to taking no action.



## Appendix 2

Note that the appendix is not part of this legal Order. It is intended to provide guidance for meeting the General Wildlife Measures addressed in the order.

### Snowpack Zones in the Cariboo-Chilcotin

A map of mule deer winter ranges and snowpack zones in the winter ranges in the Cariboo-Chilcotin can be accessed at the following ftp site:  
[ftp://wmlftp.env.gov.bc.ca/pub/outgoing/mdwr/all\\_tsa\\_region\\_maps/mdwr\\_snowpck\\_cclup.pdf](ftp://wmlftp.env.gov.bc.ca/pub/outgoing/mdwr/all_tsa_region_maps/mdwr_snowpck_cclup.pdf)

**Note:** The UWR polygon in the Blackwater (dqu\_14) is missing from this map. This polygon is located entirely within the transition snowpack zone.

TABLE A1. Definition of snowpack zones for mule deer winter range management in the Cariboo-Chilcotin, based on biogeoclimatic units.

<b>Snowpack Zone</b>	<b>Biogeoclimatic zones and subzones<sup>a</sup></b>	<b>Applicable General Wildlife Measure Order</b>	<b>Applicable Management Plan</b>
<b>Shallow</b>	BG-all, IDFXm, IDFXw	Order for Shallow and Moderate Snowpack Zones <sup>c</sup>	<i>Management Plan for Shallow and Moderate Snowpack Zones (2002)</i>
<b>Moderate</b>	IDFdk 3 & 4, IDFdW, SBPSxc, MSxk, SBSmh <sup>b</sup>		
<b>Transition</b>	SBSdw1 & 2, SBPSmk, SBPSdc, MSxv, SBSmh <sup>b</sup>	Order for Transition and Deep Snowpack Zones	<i>Management Plan for Transition and Deep Snowpack Zones (2005)</i>
<b>Deep</b>	IDFmw2, ICH-all, SBSwk, SBSmc, SBSmw		

<sup>a</sup>Biogeoclimatic zones: BG=bunchgrass, IDF=Interior Douglas-fir, SBPS=Sub-Boreal Pine–Spruce, MS=Montane Spruce, SBS=Sub-Boreal Spruce, ICH=Interior Cedar Hemlock

Subzones: x=very dry; m=moist; w=warm; d=dry; k=cool; c=cold; h=hot; v=very cold

<sup>b</sup>Note that the SBSmh is shown in two snowpack zones. The portion of the SBSmh south of Quesnel is in the moderate snowpack zone while the portions of the SBSmh north and east of Quesnel City are in the transition snowpack zone.

<sup>c</sup>Note that there are some exceptions, depending on slope and aspect, for some areas within winter ranges in the moderate snowpack zone, as described in the Order.

Some mule deer winter ranges are located within more than one snowpack zone. When a winter range is situated partially within both the moderate and transition snowpack zones, for example, the General Wildlife Measures Order for Shallow and Moderate Snowpack Zones and the *Management Plan for Shallow and Moderate Snowpack Zones* would apply to the area within the moderate snowpack zone, while the General Wildlife Measures Order for Transition and Deep Snowpack Zones and the *Management Plan for Transition and Deep Snowpack Zones* would apply to the winter range area within the transition snowpack zone.

### Appendix 3

Note that the appendix is not part of this legal Order. It is intended to provide guidance for meeting the General Wildlife Measures addressed in the order.

#### Additional Information

1. The *Management Strategy for Mule Deer Winter Ranges in the Cariboo-Chilcotin Part 1b: Management Plan for Transition and Deep Snowpack Zones* (2005) is available at: [ftp://ftpwml.env.gov.bc.ca/pub/outgoing/SRMP/report\\_documents/](ftp://ftpwml.env.gov.bc.ca/pub/outgoing/SRMP/report_documents/)

2. The maps of Spatial Distribution of Stand Structure Habitat Classes (Long-term Objectives) for individual mule deer winter ranges are available at: [ftp://wmlftp.env.gov.bc.ca/pub/outgoing/mdwr/all\\_mdwr\\_hab\\_classes/](ftp://wmlftp.env.gov.bc.ca/pub/outgoing/mdwr/all_mdwr_hab_classes/)

**Note:** The Blackwater UWR polygon (dqu\_14) is missing from this map. The Blackwater polygon is designated as a High Stand Structure Habitat Class.

3. For purposes of interpreting GWM 7 and GWM 8, Table A2 outlines the age distribution for each cutblock area, to be achieved after a full rotation.

Table A2.

Stand Structure Habitat Class	Age Class Categories (years)				
	0-40	41-80	81-120	121-160	161-200+
High	20%	20%	20%	20%	20%
Moderate	Age Class Categories (years)				
	0-40	41-80	81-120	121-160+	
	25%	25%	25%	25%	
Low	Age Class Categories (years)				
	0-40	41-80		81-120+	
	33%	33%		33%	

4. The following information regarding mule deer winter range management can be found at [http://wlapwww.gov.bc.ca/car/env\\_stewardship/ecosystems/mdwr\\_strat/mgmtplan.html](http://wlapwww.gov.bc.ca/car/env_stewardship/ecosystems/mdwr_strat/mgmtplan.html) :

- *Management Strategy for Mule Deer Winter Ranges in the Cariboo-Chilcotin Part 1a: Management Plan for Shallow and Moderate Snowpack Zones.*(2002)

5. For consideration of forest health on mule deer winter ranges, refer to the *Management Strategy for Mule Deer Winter Ranges in the Cariboo-Chilcotin Part 1b: Management Plan for Transition and Deep Snowpack Zones*.
6. The Regional Biodiversity Conservation Strategy Update Note #7 *Integration of the Biodiversity Strategy with a Douglas-fir Beetle Suppression Strategy – Interim Direction December 2005* outlines the process and conditions to follow when considering sanitation harvest for Douglas-fir bark beetle in Old Growth Management Areas. Biodiversity Strategy Updates are located at:  
<http://ilmbwww.gov.bc.ca/ilmb/lup/lrmp/northern/cclup/biodiv/biodiv7.pdf>
7. For further interpretation of GWM 10, determination of hazard ratings for frost prone sites is described in *Identification and Management of Summer Frost-prone Sites in the Cariboo Forest Region*, Steen, O. et al., 1990 FRDA Report 157.
8. For the purposes of determining the post-harvest Douglas-fir composition requirement of GWM 9, here is an example: If the pre-harvest stand composition is determined to be 99% pine, 1% Douglas-fir, the required post harvest stand composition of Douglas-fir would be 21%. Definitions of pre and post-harvest composition are described following GWM 9.
9. Table A3 shows the sequence of management steps required to address various stand conditions and to move various stand structures towards the desired long-term condition while maintaining adequate habitat quality.

TABLE A3. Timing and sequence of management actions for various stand types and conditions.

Applicable stand type or situation	Progression towards long-term stand structure objectives		
	1 <sup>st</sup> pass	2 <sup>nd</sup> pass	3 <sup>rd</sup> and subsequent passes
Stands with significant current Douglas-fir beetle	Apply Douglas-fir beetle sanitation (Harvest Type A). Then apply harvest treatments appropriate to the stand type in column 1 of this table.		
Stands with greater than 40% lodgepole pine where greater than 50% of the pine component is dead or at high risk of mountain pine beetle (mpb) mortality.	Harvest of mpb infested stems with minimal damage to Douglas-fir. (Harvest Type B)	Apply first pass of group selection when stand basal area $\geq 45\text{m}^2$ in ich or $\geq 40\text{m}^2$ in other zones (Harvest Type D)	At 40-year intervals apply subsequent group selection passes. (Harvest Type D)
Stands with less than or equal to 40% lodgepole pine and all other mixed stands that are mesic and drier or that have 40% or greater Douglas-fir	Apply “thinning from below.” (Harvest Type C) or Apply first pass of group selection when stand basal area $\geq 45\text{m}^2$ in ich or $\geq 40\text{m}^2$ in other zones (Harvest Type D)		
Subhygric or wetter sites with < 40% Douglas-fir	Do not need to manage for mule deer winter range stand structure values. (Harvest Type E)		

*Transition and Deep Snowpack MDWRs General Wildlife Measures*

Old Growth Management Areas	No harvest except very limited bark beetle sanitation or trap tree use as directed by the Ministry of Forests and Range.
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## Appendix 4

Note that the appendix is not part of this legal Order. It is intended to provide guidance for meeting the General Wildlife Measures addressed in the order.

### **Guide to Planning within Mule Deer Winter Range**

The following information, along with Table A3, were written to provide guidance when planning forest activities in mule deer winter range.

*1. How do I know if I am within the boundaries of a mule deer winter range in the Cariboo-Chilcotin?*

Mule deer winter range boundaries were established under the Government Actions Regulation of the Forest and Range Practices Act and can be found at:

[http://www.env.gov.bc.ca/wld/uwr/ungulate\\_app.html](http://www.env.gov.bc.ca/wld/uwr/ungulate_app.html)

*2. There are two General Wildlife Measure orders for mule deer winter range in the Cariboo-Chilcotin. How do I know which order applies?*

One of the orders contains General Wildlife Measures for those areas within winter ranges that are in the shallow and moderate snowpack zones, while the other applies to the areas within winter ranges that are in the transition and deep snowpack zones. Appendix 2 defines the snowpack zones by biogeoclimatic zones, and will direct you to the appropriate order. Some winter ranges are located entirely within one of the snowpack zone categories and therefore only one of the GWM orders will apply, while others may be located within multiple snowpack zones and require the use of the appropriate measures from both orders.

The first page of both orders list which winter range the order applies to. For winter ranges in multiple biogeoclimatic zones and multiple snowpack zones, both orders are to be reviewed to determine if one or both orders apply.

In some winter ranges within the moderate snowpack zone, there are exceptions where the Order for the Transition and Deep Snowpack zones will be applied instead of the Order for the Shallow and Moderate Snowpack zones. The specific winter ranges where the exceptions occur are listed in the orders, and will apply on treatment units greater than 10 ha, in which 70% or more of the area is on north-facing aspects (between 315 degrees and 60 degrees) and has slopes greater than 20%.

*3. What are the steps for planning a forestry activity within a mule deer winter range?*

The Order for the Transition and Deep Snowpack Zones contains one Schedule. Schedule 1 contains the General Wildlife Measures 1 - 16, some of which apply to all forest activities and others that are designed specifically by activity. Maps of individual mule deer winter ranges that are covered by the Order are located at the ftp site noted in the Order. These maps show the spatial distribution of stand structure habitat classes that are (described) in the GWMs of Schedule 1. Locating your area of interest on one of the maps will show which stand structure habitat class you are managing towards, and which targets to apply from the corresponding GWMs in Schedule 1.

The Order for the Shallow and Moderate Snowpack Zones is similar to the Transition and Deep Snowpack Order but contains 13 General Wildlife Measures.

To help determine which particular GWMs within an Order apply, the map files on the ftp site also show biogeoclimatic zones, topographic buffers and Habitat Management Zones, as well as the stand structure habitat class.

The Order for the Transition and Deep Snowpack Zones, identifies six different stand conditions that require different types of treatment:

1. GWM 4 identifies stand conditions to be managed for group selection or thinning from below using the direction in GWMs 6-11.
2. GWM 14 identifies and specifies management requirements for sites requiring sanitation harvest treatments for Douglas-fir bark beetle.
3. GWM 15 identifies and specifies management requirements for sites requiring salvage treatments for pine mortality due to Mountain pine beetle.
4. GWM 16 identifies and specifies management requirements for sites suitable for thinning from below.
5. GWM 3 identifies subhygric sites for which no specific silviculture requirements for mule deer management are required.
6. GWM 3 identifies Old Growth Management Areas as no-harvest areas. Additional requirements and exceptions relating to Old Growth Management Areas within the winter range are provided in GWM 13.

The direction in GWM 12, relating to location of roads and landings, applies to harvest of all stand types and treatment types within the winter range.

The Order for the Shallow and Moderate Snowpack Zones identifies the following different types of stands and treatments:

1. Requirements and exceptions relating to forest activities in Old Growth Management Areas within the winter range are provided in GWM 4.
2. GWM 9 identifies and specifies management requirements for sites suitable for thinning from below.
3. GWM 10 identifies and specifies management requirements for sites suitable for the clumpy single tree selection method of Douglas-fir harvesting. This is to be used in conjunction with Table 3 until the year 2026, after which time Table 3 will no longer apply.
4. GWM 7 identifies and specifies management requirements for sites requiring salvage treatments for pine mortality due to Mountain pine beetle and for the non-fir harvest in mixed species stands.
5. GWM 6 identifies and specifies management requirements for sites requiring sanitation harvest treatments for Douglas-fir bark beetle.

The direction in GWMs 1-5 apply to harvest of all stand types and treatment types within the winter range.