

ORDER – UNGULATE WINTER RANGE U-2-006

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

1. The Deputy Minister of Environment, being satisfied that
 - i. the following area contains habitat that is necessary to meet the winter habitat requirements for Mule Deer (*Odocoileus hemionus hemionus*) and Columbian Black-tailed Deer (*O. h. columbianus*); 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 (U-2-006) and contained in the ungulate winter range (UWR) spatial layer stored in the Land and Resource Data Warehouse (*tuwra_bc*) are established as ungulate winter range U-2-006 for Mule Deer and Columbian Black-tailed Deer. 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 (*tuwra_bc*), the areas as detailed in the UWR spatial layer will take precedent.
2. The Deputy Minister of Environment, being satisfied that
 - i. the general wildlife measures (GWMs) described below are necessary to protect and conserve Mule Deer and Columbian Black-tailed Deer; 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-2-006.
3. Pursuant to section 7(3) of the *Forest Planning and Practices Regulation* a person required to prepare a forest stewardship plan is exempt 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 deer winter range in the Fraser TSA.
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*.

Definitions:

For the purposes of this order:

capable winter range means areas within established ungulate winter ranges which are situated on warm aspects (135-285°), and moderate to steep slopes (40-100%, including associated benches) that are not exposed to topographic shading from adjacent hillsides. Includes areas that may be interspersed with small openings (<0.5 ha), and/or rock outcrops exposed to solar radiation to provide warmth and snow ablation. Gentle slopes in the shallow snow zone which are generally snow free are also capable habitat regardless of forest canopy attributes. (Schedule B map).

deep snow zone means areas of an ungulate winter range that are >800m elevation.

moderate snow zone means areas of an ungulate winter range that are between 400m elevation and 800m elevation.

mainline road means a principal timber extraction road.

non-retention ungulate winter range means an area within an ungulate winter range that is not being managed as suitable snow interception habitat, recruitment habitat, open suitable habitat or young suitable snow interception habitat to meet the requirements of general wildlife measures 1, 2 and 4.

open suitable habitat means capable winter range areas with the following forest attributes: mature (>100 years old) or old growth (>250 years old) Douglas-fir leading (>40% fir) forest that has been confirmed to have moderate to high deer use as winter habitat; with at least 90% of tree heights >19.5m (up to 10% can come from height class 2) or site index >12; crown closure class ≤5%; exhibit multiple canopy layers and large well developed crowns.

primary forest activities is as defined in the *Forest Planning and Practices Regulation*

recruitment habitat means, for the purposes of general wildlife measure 1, 2 and 4, capable winter range areas which:

- (a) will provide leading Douglas-fir (>40% fir) forest stands with Site Index >12
 - i) that will, when a deficit occurs in the required percent in suitable snow interception habitat, recruit to suitable snow interception habitat in the shortest time frame possible; or
 - ii) that will, when a deficit occurs in the percent allowed in young suitable snow interception habitat, recruit to suitable snow interception habitat and minimize impact on available timber supply; and
- (b) will provide contiguous recruitment habitat patches >20 ha or is adjacent to suitable snow interception habitat such that a contiguous patch is >20 ha; and
- (c) can include young suitable snow interception habitat in excess of the 20% limit, where required.

retention area means the ungulate winter range area maintained in suitable snow interception habitat, recruitment habitat, open suitable habitat or young suitable snow interception habitat to meet the requirements of general wildlife measure 1, 2 and 4.

shallow snow zone means areas of an ungulate winter range that are <400m elevation.

suitable snow interception habitat means capable winter range areas with the following forest attributes:

mature (>100 years old) or old growth (>250 years old) Douglas-fir leading (>40% fir) forest, or MOE defined winter range (Schedule B map), that has been confirmed to have moderate to high deer use as winter habitat; with at least 90% of tree heights >19.5m (up to 10% can come from height class 2) or site index >12; crown closure class >35%; exhibit multiple canopy layers and large well developed crowns; or Spotted Owl Type A habitat (i.e., old forests with superior habitat suitable for spotted owl nesting, roosting, foraging, and dispersal) that is leading Douglas-fir (>40%) with crown closure class >35%.

temporary road means a road that is required only for a limited period during a specific forest management phase leading to, or occurring within, a cutblock. These include: excavated or bladed trails, main skid trails, backspar trails, corduroyed trails, and other similar structures.

traditional and cultural activities is as defined in the *Free Use Permit Regulation*

young suitable snow interception habitat means capable winter range areas with the following forest attributes:

- (a) in the deep snow zone, may include young forests (60-100 years old) leading in Douglas-fir (>40% fir) with crown closures exceeding 55%, and Site Index >12 that comprise up to 20% of the total amount of suitable snow interception habitat.
- (b) in the moderate snow zone in Big Silver, Chehalis, Chilliwack, Coquihalla, East Harrison, Hatzic, Mehatl, Pitt, Silverhope, Spuzzum, Stave, Tretheway, West Harrison and Yale Landscape Units, may include young forests (60-100 years old) leading in Douglas-fir (>40% fir) with crown closures exceeding 55%, and Site Index >12 that comprise up to 20% of the total amount of suitable snow interception habitat.

Schedule 1 – General Wildlife Measures:

1. Within the following ungulate winter ranges: BS1-3, BS4-6, BS7-25, BS8-9, BS9-11, BS13-15, BS16-17, BS18-19, BS20-21, BS24, BS28, BS29-31, BS32, BS32a, BS33, CH2-6, CH7, CH9-11, CH14-16, CH18-19, CL1-3, CL4-6, CL28-31, CL41-43, CQ1-3, CQ4-16, CQ18-26, CQ27-29, CQ30, CQ33-36, CQ38-39, CQ40-44, CQ46, EH2-5, EH7, EH21, EH26, EH32, HT6, MH13-14, MH15-16, MH17-NA33, MH24, PI2-6, SH1-3, SH4-5, SH10-13, SH15-17, SH18-26, SH20-22, SH23-24, SP1, SP4-6, SP14-15, SP19-20, SP21-26, YA1, YA3-AN15, YA4-7, YA8-9, YA10-13, YA11-12, YA16-24, YA18-25, YA26-27, YA31, YA40-48, YA44, YA51-53 located in Big Silver, Chehalis, Chilliwack, Coquihalla, East Harrison, Hatzic, Mehatl, Pitt, Silverhope, Spuzzum, Stave, Tretheway, West Harrison and Yale Landscape Units:
 - (a) (i) maintain at least 65% of the capable winter range area in the deep snow zone in each ungulate winter range as suitable snow interception habitat. Up to 20% of this amount may be comprised of young suitable snow interception habitat.
 - (ii) maintain at least 65% of the capable winter range area in the moderate snow zone in each ungulate winter range as suitable snow interception habitat. Up to 20% of this amount may be comprised of young suitable snow interception habitat.
 - (iii) maintain at least 20% of the capable winter range area in the shallow snow zone in each ungulate winter range as suitable snow interception habitat.

- (b) where sufficient suitable snow interception habitat does not exist to meet the required amount in general wildlife measure 1(a), maintain:
 - (i) open suitable habitat to address any deficit in the amount of suitable snow interception habitat; or
 - (ii) recruitment habitat to address any deficit in the amount of suitable snow interception habitat required.
 - (c) within each ungulate winter range maintain not less than one contiguous area that is ≥ 40 ha of suitable snow interception habitat. Minimum patch size for other retention areas should be ≥ 20 ha, and where retention requirements by snow zone are < 20 ha the small retention amount should be combined with a patch in the adjacent snow zone.
 - (d) if replacement of suitable snow interception habitat, as identified in (a), (b) or (c) above, is considered over time, the replacement snow interception habitat must be equivalent or better in quality and quantity to the original area.
2. Within the following ungulate winter ranges: AI1-4, AI7-8, AI10-30, AI16-19, AI20-23, AI26-28, AI2-AN40, AN3-6, AN7-9, AN8, AN10-12, AN17-22, AN24-27, AN28-29, AN30-33, AN36-38, MA11-16, MA18-46, MA19-28, NA1-6, NA11-16, NA17-19, NA30-32, NA34-36 located in Ainslie, Anderson, Manning, and Nahatlatch Landscape Units:
- (a) (i) maintain at least 60% of the capable winter range area in the deep snow zone in each ungulate winter range as suitable snow interception habitat. Up to 20% of this amount may be comprised of young suitable snow interception habitat.
 - (ii) maintain at least 40% of the capable winter range area in the moderate snow zone in each ungulate winter range as suitable snow interception habitat.
 - (iii) maintain at least 20% of the capable winter range area in the shallow snow zone in each ungulate winter range as suitable snow interception habitat.
 - (b) where sufficient suitable snow interception habitat does not exist to meet the required amount in general wildlife measure 2(a), maintain:
 - (i) open suitable habitat to address any deficit in the amount of suitable snow interception habitat; or
 - (ii) recruitment habitat to address any deficit in the amount of suitable snow interception habitat;
 - (c) within each ungulate winter range, maintain not less than one contiguous area that is ≥ 50 ha of suitable snow interception habitat. Minimum patch size for other retention areas should be ≥ 20 ha, and where retention requirements by snow zone are < 20 ha the small retention amount should be combined with a patch in the adjacent snow zone.
 - (d) if replacement of suitable snow interception habitat, as identified in (a), (b) or (c) above, is considered over time, the replacement snow interception habitat must be equivalent or better in quality and quantity to the original area.
3. Primary forest activities are not permitted within each of the following ungulate winter ranges: AN34, BS23, BS37, CL13, CQ31, CQ37, MA5-7, MA7-11, NA8-9, NA22, NA25-26, PI9, SP22, TR4, YA29, YA34. General wildlife measure 3 does not apply for the purposes of traditional and cultural activities.
4. Within established ungulate winter ranges:
- (a) AI13-15 maintain 4.5 ha of the winter range area in the shallow snow zone as suitable snow interception habitat; and 95.5 ha of the winter range area in the moderate snow zone as suitable

- snow interception habitat; and 30.9 ha of the winter range area in the deep snow zone as suitable snow interception habitat.
- (b) AN13-18 maintain 67.5 ha of the capable winter range area in the moderate snow zone in suitable snow interception habitat; and 38.6 ha of the capable winter range area in the deep snow zone in suitable snow interception habitat.
 - (c) MH12 maintain 0.2 ha of the capable winter range area in the shallow snow zone in suitable snow interception habitat; and 86.5 ha of the capable winter range area in the moderate snow zone in suitable snow interception habitat; and 14.4 ha of the capable winter range area in the deep snow zone in suitable snow interception habitat.
 - (d) ST2 maintain 51.0 ha of the capable winter range in the moderate snow zone as suitable snow interception habitat; and 3.1 ha of the capable area in the deep snow zone in suitable snow interception habitat. Design a maximum of two patches for retention.
 - (e) CL7-8 maintain 108.9 ha of the capable winter range area in the moderate snow zone in suitable snow interception habitat; and 67.2 ha of the capable winter range area in the deep snow zone in suitable snow interception habitat.
 - (f) where sufficient suitable snow interception habitat does not exist to meet the required amount in general wildlife measure 4(a)(b)(c)(d)(e), maintain:
 - (i) open suitable habitat to address any deficit in the amount of suitable snow interception habitat; or
 - (ii) recruitment habitat to address any deficit in the amount of suitable snow interception habitat;
 - (f) within ungulate winter range AI13-15 and AN13-18, maintain not less than one contiguous area that is ≥ 50 ha of suitable snow interception habitat. Minimum patch size for other retention areas should be ≥ 20 ha, and where retention requirements by snow zone are < 20 ha the small retention amount should be combined with a patch in the adjacent snow zone.
 - (g) within ungulate winter range CL7-8, MH12 and ST2, maintain not less than one contiguous area that is ≥ 40 ha of suitable snow interception habitat. Minimum patch size for other retention areas should be ≥ 20 ha, and where retention requirements by snow zone are < 20 ha the small retention amount should be combined with a patch in the adjacent snow zone.
 - (h) if replacement of suitable snow interception habitat, as identified in (a), (b), (c), (d) or (e) above, is considered over time, the replacement snow interception habitat must be equivalent or better in quality and quantity to the original area.
5. Before a person carries out primary forestry activities within an ungulate winter range:
- (a) areas of suitable snow interception habitat or any young suitable snow interception habitat, and any required recruitment habitat must be spatially identified on a map. Non-contributing land base areas, as defined by TSR2, known to currently provide suitable snow interception habitat, must be selected as a first priority for meeting the suitable snow interception habitat requirements.
 - (b) the map must be made available upon request of an official of Ministry of Forests and Range or Ministry of Environment.
6. Helicopter logging within an ungulate winter range must be completed between May 1 to November 15 of a calendar year to prevent disturbance to wintering deer.
7. (a) New roads, trails or landings that are required within non-retention ungulate winter range are to be temporary, except when required as mainline roads. Deactivation (as per FPPR s82) of temporary roads, excluding mainline roads, is required within one year after regeneration date if practicable; or otherwise within 1 year after the last silviculture treatment performed to achieve

free to grow.

(b) Do not construct new roads, trails or landings within identified retention areas.

(c) general wildlife measure 7 (b) does not apply to:

(i) the construction of mainline road through retention winter range in CH14-16 and CH18-19, to provide future access up the east side of Chehalis Lake.

(ii) the construction of future temporary road (beginning from existing cutblock F001) through retention winter range in CH7 in Woodlot License 1698 to access timber outside the ungulate winter range.

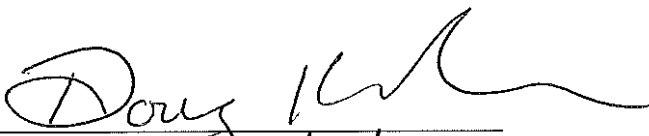
8. Where differences may occur between inventory data and on the ground data, the on-ground data will take precedence in planning for suitable snow interception habitat and timber harvesting. Records pertaining to differences are to be kept on file by licensees and must be made available upon request of an official of Ministry of Forests and Range or Ministry of Environment.

9. Use of pesticides, except as provided by general wildlife measure 10 and 11, is limited to ground based spot treatment within 1m of desirable crop trees.

10. General wildlife measure 9 does not apply to the use of *Bacillus thuringiensis* for the control of western spruce budworm and beetle pheromones for the control of bark beetles.

11. General wildlife measure 9 does not apply for the treatment of invasive plant species and noxious weeds.

12. Within all ungulate winter ranges general wildlife measure 1, 2, 3 and 4 do not apply as necessary to fell trees required for guyline tiebacks in the ungulate winter range. Any trees felled within identified suitable snow interception habitat must be left onsite to provide coarse woody debris. The portion of felled trees that lies in whole, or in part, outside the suitable snow interception habitat may be harvested.



Signed this 22 day of Sept., 2009

Doug Konkin, Deputy Minister

Ministry of Environment

Appendices

These appendices are not part of the legal order for U-2-006, they are intended to provide background information and support to the legal order establishing U-2-006.

Appendix 1

1. 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.

An exemption application should be submitted to the Ministry of Environment's Regional Manager at the Lower Mainland Regional Office – at 10470 152 Street Surrey, BC V3R 0Y3 (a template for exemption requests is available at: <http://www.env.gov.bc.ca/wld/frpa/index.html>). The exemption application must include a rationale describing the nature of the problem and options to integrate winter range 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 for timing window exemptions will be processed within 10 calendar days, all other exemptions will be handled within 14 calendar days of arrival at the MOE Regional office. Incomplete packages will be returned to the proponent for resubmission.

2. For the purposes of interpreting general wildlife measure 1 (a) & (b), 2 (a) & (b), and 4 (a) to (e) the intent is that moderate to high use deer winter range is designated to meet retention requirements. However, in some winter ranges ideal suitable snow interception habitat and young suitable snow interception habitat (to the 20% limit where allowed) may not exist in sufficient quantity. When this occurs and selection from other forest stand types becomes necessary, select from open suitable habitat or recruitment habitat as needed to meet retention requirements and in attempt to minimize impact to timber supply. See the Table in Appendix 3 for recommended selection order. It is recognized that open suitable habitat comes from stands with low stocking and therefore will likely never recruit to suitable snow interception habitat. For this reason, try to minimize this component.
3. For purposes of general wildlife measure 1, 2 and 4, the intent for non-retention area in ungulate winter range is that it will provide deer forage over a rotation. Harvesting and silviculture activities should therefore be planned accordingly such that forage supply is accommodated over time. Ministry of Environment will be monitoring this component of the winter range.
4. To calculate retention area amounts in general wildlife measure 1, 2 and 4, areas within ungulate winter range mapped as capable winter range habitat were used. In some winter ranges small areas of non-capable habitat may lie within the ungulate winter range boundary. As well, in some winter ranges small areas of capable area may never become suitable and will not be used to contribute towards retention. Engaging the services of a qualified professional will be

helpful in determining suitable snow interception habitat requirements.

5. In regards to general wildlife measure 1 (d), 2 (d) and 4 (h), to consider replacement of identified retention area over time, replacement area that is of similar or better quality (e.g. attributes such as age, stand composition, patch size, snow zone) must be identified to at least an equivalent amount and in the same ungulate winter range. It is important that a qualified professional indicates that the replacement habitat is functioning as suitable snow interception habitat.

To further facilitate replacement, tree species selection and stem density management (e.g. silvicultural activities) in ungulate winter range should result in a mix of large crowns and multiple canopy layers to ensure the stand will recruit to and be eligible for suitable snow interception habitat.

Basic and incremental silviculture activities in ungulate winter range should manage for Douglas-fir as the preferred and leading tree species wherever the ecological characteristics of the forest site are suitable for the purpose.

6. In regards to general wildlife measure 3 and 4 (a) to (e), a different amount of retention from the standard used elsewhere is used for one of three reasons: a) deer winter range habitat extends into an adjacent park and park habitat contributes to the retention amount; b) the winter range size is small and requires 100% retention to remain viable, forage is supplied internally or in adjacent openings; or c) the deer winter range overlaps with spotted owl long term owl habitat areas (LTOHA) and has no access.
7. As per general wildlife measure 5 (a), the “hatched” polygons on Schedule B maps represents MOE defined deer winter range (using TSR 2), as determined by field survey. Both the non-contributing (NCLB) and contributing land bases (THLB) are shown. When spatially identifying areas on a map for the purposes of general wildlife measure 5, consideration should be given to the selection of MOE defined winter range first from the NCLB, then from areas that will minimize impact on available timber supply (i.e. this could be THLB that is not of commercial interest), then from THLB areas. See Appendix 3 for the recommended selection order.

These MOE defined winter ranges are derived from winter field surveys and were known to function as deer winter range under forest conditions at the time of survey. Since these maps were derived from mapping completed in 2001 and 2002, some of the currently suitable snow interception habitat has been harvested. In other cases, MOE defined winter range does not account for small mapable areas of Pine stands, low crown closure, non-forested excluded land, Non-productive brush, or similarly non-forested areas (>1 ha in size). These harvested areas, Pine stands, low crown closure, or non-forested areas are not to contribute towards the percent retention amount (e.g. if a 60 ha patch of otherwise currently suitable snow interception habitat contains 10 ha of non-forested area, count 50 ha towards the target).

8. For situations when retention ungulate winter range overlaps with long term owl habitat area (LTOHA) and habitat enhancement treatment is proposed under the Spotted Owl plan, it will be important for a qualified professional to indicate that any treatment achieves the general wildlife measures in this order. In overlapping deer/LTOHA, emphasis should be placed on carrying out Habitat Enhancement Practices within forests 60-100 years old due to a greater

likelihood that there will be a benefit to deer when comparing pre and post treatment stand conditions (i.e. forest stands age >100 years old likely already provide multiple winter range attributes for deer, while stands aged <100 years may only provide snow interception habitat). It is acknowledged that habitat enhancement opportunities are allowed in older LTOHA forests (>100 years old to usually 140 years old). If treatment in older forest is considered in retention deer winter range a more careful review of compliance with this order should be undertaken. If a conflict between the Spotted Owl Management Plan and this order arises from a proposed forest activity, the proponent needs to first assess their proposal for compliance, and can consider applying for an exemption should it be deemed necessary and biologically appropriate.

9. For general wildlife measure 7 (a), new roads, trails or landings within non-retention ungulate winter range, where required for forestry purposes, should be temporary (except main lines). This is important since the intent of non-retention areas is to provide forage for deer, and deer need to be able to access these areas without added stress or disturbance from humans. Stress and disturbance cause deer to burn important fat reserves, which are critical for deer overwinter survival. Road layout should minimize the length of road required and clearing width should be kept to a minimum. Impacts of roads can be reduced by avoiding routes across ridge breaks or rock outcrops, and by maintaining under-story cover along road edges. The intent of deactivation is such that the road or trail is not driveable with a 4 wheel drive vehicle; and that deactivation is carried out in the shortest time frame possible.

For general wildlife measure 7 (b) where roads are required through retention areas (as provided by exemption), a replacement area of at least equivalent size and value would have to be identified contiguous to the affected retention area. This condition will be part of the exemption.

10. Where an established ungulate winter range is subject to the operations of multiple *Forest Act* agreement holders, which may include areas under Timber Licence and Woodlot Licence, cooperation between licence holders should occur in order to select suitable snow interception habitat in compliance with the general wildlife measures established by this order.
11. In the definition for "open suitable habitat" and "suitable snow interception habitat", most of the retention area is to come from mature or old forest stands of height class 3 or greater (>19.5 m). A provision for up to 10% from height class 2 (10.5-19.4m) is included to allow some flexibility by inclusion of small areas of shorter trees interspersed with height class 3. It is important to understand that limitations on shorter trees are required since they will generally not provide large crowns to intercept snow.
12. In the definition for "open suitable habitat" and "suitable snow interception habitat" moderate to high deer use is a relative assessment to other areas within that particular UWR polygon.
13. These general wildlife measures 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); and to carry out road maintenance, road deactivation, brushing or clearing on existing roads within the ungulate winter range. These activities will be carried out in a manner that will not result in a material adverse impact on the suitable habitat.

Appendix 2

Table 1. Ungulate winter range name, retention amount by snow zone, total retention, comments and percent retention.

UWR Name	Shallow Ret'n (ha)	Moderate Ret'n (ha)	Deep Ret'n (ha)	Total Ret'n (ha)	Comments & % retention
AI 10-30		25.8	141.9	167.6	40/60
AI 13-15	4.5*	95.5	30.9	130.9	Skewed to west
AI 1-4	23.0	139.4	37.4	199.8	20/40/60
AI 16-19	4.4*	112.9	8.4*	125.7	20/40/60
AI 2-AN 40	38.5	29.4		67.9	20/40
AI 20-23	12.7*	111.1	35.1	158.8	20/40/60
AI 26-28	2.3*	41.5	75.8	119.5	20/40/60
AI 7-8		77.9	83.2	161.1	40/60
AN 10-12	21.1	89.1	22.6	132.8	20/40/60
AN 13-18	0	67.5	38.6	106.1	Some Ret'n in Park
AN 17-22		97.3	139.0	236.4	40/60
AN 24-27	0.6*	108.2	19.5	128.3	20/40/60
AN 28-29	11.8*	74.2	11.2*	97.1	20/40/60
AN 30-33		64.9	77.9	142.8	40/60
AN 34		60.5	70.0	130.4	100% Small
AN 3-6	3.7*	92.2	64.9	160.8	20/40/60
AN 36-38		80.4	78.1	158.6	40/60
AN 7-9	17.9*	57.7	19.9	95.5	20/40/60
AN 8	8.8*	97.7	12.2*	118.7	20/40/60
BS 1-3	19.3	88.6	40.4	148.3	20/65/65
BS 13-15	20.2	113.8	70.1	204.2	20/65/65
BS 16-17	10.9*	106.6	72.3	189.8	20/65/65
BS 18-19	25.2	86.8	33.4	145.3	20/65/65
BS 20-21	13.7*	96.4	51.8	161.9	20/65/65
BS 23	66.4	91.3		157.7	100% Small
BS 24	9.7*	114.4	19.2	143.3	20/65/65
BS 28	1.2*	81.6	61.7	144.5	20/65/65
BS 29-31	23.3	102.7	74.8	200.8	20/65/65, GWR
BS 32	8.4*	62.9	70.7	141.9	20/65/65
BS 32a	35.0	20.4		55.4	20/65
BS 33		10.6*	63.1	73.6	65/65
BS 37		86.3	49.9	136.3	100% Small
BS 4-6	27.2	114.3	48.3	189.8	20/65/65
BS 7-25	5.7*	97.2	97.6	200.5	20/65/65
BS 8-9	28.7	58.3		86.9	20/65
BS 9-11	5.6*	141.4	2.6*	149.6	20/65/65
CH 14-16	6.1*	118.0	21.9	146.0	20/65/65
CH 18-19		110.0	84.4	194.4	65/65
CH 2-6	0.3*	105.2	83.7	189.2	20/65/65

UWR Name	Shallow Ret'n (ha)	Moderate Ret'n (ha)	Deep Ret'n (ha)	Total Ret'n (ha)	Comments & % retention
CH 7		146.4	53.9	200.3	65/65
CH 9-11		92.3	44.3	136.6	65/65
CL 13		25.3	57.0	82.3	100% Small
CL 1-3		164.3	100.1	264.4	65/65
CL 28-31		55.4	94.3	149.7	65/65
CL 41-43		7.9*	76.3	84.1	65/65
CL 4-6		119.0	120.6	239.6	65/65
CL 7-8		108.9	67.2	176.1	Minor ret'n in park
CQ 1-3		63.4	65.7	129.1	65/65
CQ 18-26		162.7	123.1	285.8	65/65
CQ 27-29		109.8	70.6	180.4	65/65
CQ 30	1.0*	41.1	12.2*	54.2	20/65/65
CQ 31	2.4	50.8	25.7	78.9	100% Small/LTOH
CQ 33-36	4.9*	102.8	66.8	174.5	20/65/65
CQ 37		9.8	54.1	63.9	100% Small/LTOH
CQ 38-39	6.8*	131.7	67.8	206.4	20/65/65
CQ 40-44	16.4*	182.3	87.8	286.5	20/65/65
CQ 4-16		102.9	83.6	186.5	65/65
CQ 46	13.5*	145.0	26.8	185.3	20/65/65
EH 21	7.1*	107.8	28.3	143.1	20/65/65
EH 2-5		74.8	53.0	127.8	65/65
EH 26		123.2	117.2	240.4	65/65
EH 32		24.0	51.2	75.2	65/65
EH 7	5.3*	76.9	82.2	164.4	20/65/65
HT 6	3.2*	78.6	11.7*	93.6	20/65/65
MA 11-16		25.1	179.2	204.2	40/60
MA 18-46			72.7	72.7	60
MA 19-28		17.3*	41.3	58.6	40/60
MA 5-7			118.8	118.8	100% LTOH
MA 7-11		0.5	271.8	272.3	100% LTOH
MH 12	0.2*	86.5	14.4*	101.1	Some Ret'n in Park
MH 13-14	0.5*	188.7	102.7	291.8	20/65/65
MH 15-16		83.1	84.2	167.3	65/65
MH 17-NA 33	4.7*	194.1	110.9	309.7	20/65/65
MH 24		51.4	91.0	142.4	65/65
NA 11-16	2.7*	135.2	104.7	242.6	20/40/60
NA 1-6	10.7*	82.4	15.0*	108.1	20/40/60
NA 17-19	4.7*	122.0	110.3	237.0	20/40/60
NA 22		31.6	31.5	63.1	100% Small
NA 25-26		53.6	43.4	96.9	100% Small
NA 30-32	2.8*	111.2	86.4	200.4	20/40/60
NA 34-36	25.6	59.4	10.2*	95.2	20/40/60
NA 8-9	23.4	50.8	38.2	112.4	100% Small
PI 2-6	47.9	48.6		96.5	20/65
PI 9	2.5	56.1	1.1	59.7	100% Small
SH 10-13		55.7	84.2	139.9	65/65

UWR Name	Shallow Ret'n (ha)	Moderate Ret'n (ha)	Deep Ret'n (ha)	Total Ret'n (ha)	Comments & % retention
SH 1-3	0.0	124.9	83.2	208.1	65/65
SH 15-17		133.5	78.2	211.7	65/65
SH 18-26		157.9	101.7	259.6	65/65
SH 20-22		95.9	109.5	205.4	65/65
SH 23-24		75.1	128.9	204.0	65/65
SH 4-5	2.2*	134.4	70.4	207.0	20/65/65
SP 1	5.7*	60.3	17.9*	83.9	20/65/65
SP 14-15		39.8	60.4	100.2	65/65
SP 19-20		110.4	87.7	198.1	65/65
SP 21-26	12.2*	153.2	57.1	222.5	20/65/65
SP 22	44.3	58.9		103.1	100% Small
SP 4-6	12.9*	79.2	40.0	132.1	20/65/65
ST 2	0.0	51.0	3.1*	54.1	Some Ret'n in Park
TR 4	11.5	92.1	4.1	107.7	100% Small
YA 1	27.3	113.3	11.3*	152.0	20/65/65
YA 10-13	10.4*	94.8	89.8	195.1	20/65/65
YA 11-12		117.9	104.9	222.8	65/65
YA 16-24	0.4*	44.1	61.1	105.7	20/65/65
YA 18-25	25.6	144.2	100.2	270.0	20/65/65
YA 26-27	3.5*	105.6	55.6	164.7	20/65/65
YA 29	51.7	22.3		74.0	100% Small
YA 3-AN 15	8.8*	139.6	0.6*	149.0	20/65/65
YA 31	19.3	54.5		73.8	20/65
YA 34	69.2	35.2		104.4	100% small
YA 40-48	0.1*	129.2	32.1	161.4	20/65/65
YA 44	0.2*	135.7	33.2	169.1	20/65/65
YA 4-7	21.1	161.2	30.9	213.1	20/65/65
YA 51-53	26.8	171.1	31.9	229.9	20/65/65
YA 8-9	17.6*	121.2	74.0	212.8	20/65/65
Grand Total	1012.9	10046.4	6633.8	17693	

Note: small errors in addition are due to rounding.

* represents the snow zones where small retention amounts should be combined with patches in adjacent snow zones as specified in general wildlife measure 1 (c), 2 (c) & 4 (f) (g). Achieving this will help to ensure that retention patches are effective and function as winter range. Note: winter ranges where retention is 100% are not highlighted.

Appendix 3

Table 2. Recommended selection order priority for retention area by suitability type and TSR 2 land base classification (e.g. when retention requirements can not be met by area in priority #1, select from available area in #2, then #3 etc.). A person may choose from THLB categories as a higher priority if that helps minimize overall impact to timber supply while still addressing retention requirements.

Priority	Suitability Description	Additional Description	TSR2 Land Class'n*	Comment
1	Currently Suitable	MOE defined DWR**	NCLB	
2	Currently Suitable		NCLB	
3	Young Suitable	MOE defined DWR	NCLB	Up to 20% Limit
4	Young Suitable		NCLB	Up to 20% Limit
5	Open Suitable	MOE defined DWR	NCLB	
6	Open Suitable		NCLB	
7	Currently Suitable	MOE defined DWR	THLB	
8	Currently Suitable		THLB	
9	Young Suitable	MOE defined DWR	THLB	Up to 20% Limit
10	Young Suitable		THLB	Up to 20% Limit
11	Open Suitable	MOE defined DWR	THLB	
12	Open Suitable		THLB	
13	Young Suitable	MOE defined DWR	NCLB	Above 20% Limit (as recruitment)
14	Young Suitable		NCLB	Above 20% Limit (as recruitment)
15	Recruitment	MOE defined DWR	NCLB	
16	Recruitment		NCLB	
17	Young Suitable	MOE defined DWR	THLB	Above 20% Limit (as recruitment)
18	Young Suitable		THLB	Above 20% Limit (as recruitment)
19	Recruitment	MOE defined DWR	THLB	
20	Recruitment		THLB	

* NCLB = Non-contributing land base

THLB = Timber harvesting land base (contributing & partial contributing)

** MOE defined DWR = this winter range has been confirmed as important/functioning by MOE.

