

ORDER – UNGULATE WINTER RANGE (black-tailed deer & mule deer) #U-2-008

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 shown in the map set out in the attached Schedule A (#U-2-008) is established;
2. the ungulate winter range in the attached Schedule A is established for black-tailed deer (*Odocoileus hemionus columbianus*) and mule deer (*Odocoileus hemionus hemionus*); and
3. the general wildlife measures outlined in Schedule 1 are established for the ungulate winter range in the attached Schedule A;
4. where there is any discrepancy between the ungulate winter range boundaries as shown in the attached Schedules 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 ungulate winter range is what establishes the boundary; and
5. 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.

Schedule 1 – General Wildlife Measures

In this schedule:

- a) “primary forest activity” is defined as in the *Forest Planning and Practices Regulation*, and includes (a), (b), & (c).

A. Retention Deer Winter Range

1. Primary forest activities, including salvage and harvest of botanical forest products, are not permitted within a retention deer winter range. Exemptions would only normally be considered if they enhance quality of the winter range habitat or for roads where there is no other practicable option. An exemption is not required for: 1) road maintenance or deactivation on existing roads within the UWR; 2) to allow tailholds/guylines in the UWR associated with landings/cutblocks adjacent to the UWR boundary; 3) to meet worker safety concerns on existing roads within the UWR, or worker safety concerns along cutblock boundaries adjacent to the UWR (e.g. danger tree felling). Any felled

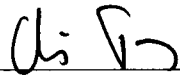


trees will be left on site to function as coarse woody debris, unless the tree falls onto the road or landing or outside the UWR boundary.

2. Do not use pesticides within the UWR. When reforesting areas within the UWR consider using the techniques described in Chapter 5 of the document entitled: Deer and Elk Habitats in Coastal Forests of Southern British Columbia (Nyberg & Janz, 1990).
3. Block 11-62E is approved in a FDP and does not require an exemption under this order for harvesting to proceed.

B. Rotation Deer Winter Range

1. Maintain a minimum of 20% of the total rotation polygon area as *functional winter range* at any one time. The functional winter range must be spatially arranged to provide optimum ready access to food and shelter and must be spatially identified prior to commencing a primary forest activity.
2. Up to 20% of the total polygon area can be harvested every 20 years **without restrictions** as long as general wildlife measure 1 has been met. Any harvesting that does occur over the 20% every 20 years should augment or enhance the remaining winter habitat within the rotation winter range polygon.
3. Harvesting, intermediate commercial thinning, and silviculture treatments (in addition to the 20% harvest) that enhance, create or expedite the production of functional winter range are permitted and encouraged (see operational guidelines, in Appendix 1 "C" below).
4. Blocks 14-50H, 41-59H, 41-60H, 41-56H and 43-59H are approved on a FDP and do not require an exemption under this order for harvesting to proceed.


Signed this 5th day of July, 2007
Chris Trumpy, Deputy Minister
Ministry of Environment

Appendix 1

The following information is intended to provide background information and support to the legal order establishing UWR 2-008. This appendix is not part of the legal order for UWR 2-008.

1. Deer winter range

A. Definitions:

- 1) Retention Winter Range: forested habitat, usually stands of mature or old-growth conifers, which provide deer with resources critical to survival during severe winters (Nyberg and Janz 1990).
- 2) Rotation Winter Range: Habitats in various stages of succession placed on the landscape to provide winter habitat attributes when the distance between retention winter ranges is usually > 4km or in areas where there is a lower snow pack and known deer winter use.

B. Functional Winter Range

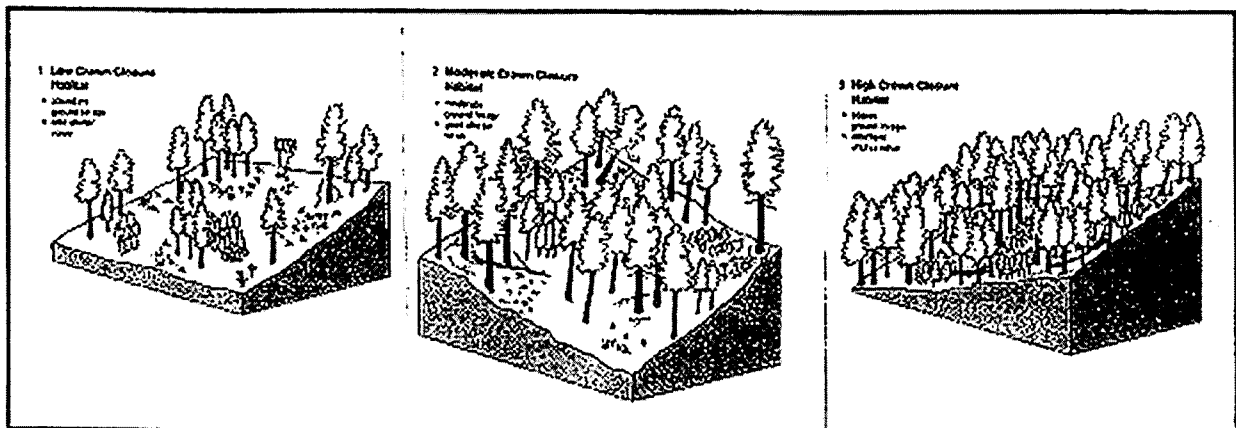
During periods where snow can persist occasionally over extended periods of time, retention of critical deer winter range habitat features is more important. A narrow range of habitats sustain deer over these extended periods of stressful conditions. The critical features of *functional winter range* that will help to sustain deer during these periods are (Bunnell 1990; Nyberg and Janz, 1990; Arnleider et al 1986):

- Well-developed crowns that intercept snow (allowing foraging and movement),
- Warm aspects (SE, S, SW, or W),
- Moderate to steep slopes (40-100%),
- Elevations below 1500m (in the interior ecosystems on the shallow snowpack zones and 1000m on the coastal ecosystems and the moderate to deep snowpack zones),
- Small openings (< .5 ha) in a variable canopy permitting growth of key forage species,
- Multiple canopy layers with an understory of Douglas fir or cedar-hemlock thickets providing additional thermal cover, security cover and food,
- The intense solar radiation provided by small rock outcrops provides foraging areas and thermal sites,

- Minimal shading from adjacent hillsides,
- Older forests (>100 years) with arboreal lichen (*Alectoria*, *Bryoria* and *Usnea spp.*) which is a key winter food source (Stevenson, 1985), especially when snow depths restrict the availability of other forage species.
- Proportions of crown closure habitat within functional deer winter range (Figure 1) within the Moderate Snowpack Zone:

Crown closure habitat types within functional deer winter range in Low, Moderate and Deep Snowpack Zones (Armleder 1986)					
Crown Closure Habitat	Crown Closure Percentage	Crown Closure Class Code	Recommended Proportion (%) of Crown Closures within the Shallow Snowpack Zone (100 cm mean annual snowfall)	Recommended Proportion (%) of Crown Closures within the Moderate Snowpack Zone (100-150 cm mean annual snowfall)	Recommended Proportion (%) of Crown Closures within the Deep Snowpack Zone (150-200 cm mean annual snowfall)
Low	16-35%	2,3	~40	~33	~33
Moderate	36-65%	4,5,6	~40	~33	0
High	>65%	>6	~20	~33	~66

Figure 1: Proportions of crown closure habitat within functional deer winter range



C. Suggested operational guidelines for planning harvesting, planting, stand tending and road building within a Rotation Winter Range

- The following guidelines have been divided into two; recommendations when harvesting an area within a rotation winter range that meets Objective 2 and when

harvesting a portion of the winter range for the purpose of mitigating or enhancing a portion of the winter range.

<i>Harvesting</i>	
<i>Guidelines to consider when harvesting the unrestricted 20% of the winter range as to Objective 2</i>	<i>Guidelines to apply when creating winter range attributes through mitigation or enhancement</i>
<ul style="list-style-type: none"> • Consider smaller openings as opposed to one large one. 	<ul style="list-style-type: none"> • Maintain the crown closure proportions recommended for the specific snowpack zone
<ul style="list-style-type: none"> • Consider lower volume selective harvesting. 	<ul style="list-style-type: none"> • Openings should be 0.5 to 1.0 tree height wide (Nyberg and Janz 1990).
<ul style="list-style-type: none"> • Maintain micro-habitats important to deer (ridges, rock-outcrops and knolls with conifer cover, topographic breaks or edges that show travel use by deer, dense thickets that provide security and thermal cover) 	<ul style="list-style-type: none"> • Maintain a significant component of old-growth trees; cover must be 100m wide to provide cover and gain thermal shelter
	<ul style="list-style-type: none"> • Maintain micro-habitats important to deer (ridges, rock-outcrops and knolls with conifer cover, topographic breaks or edges that show travel use by deer, dense thickets that provide security and thermal cover)
	<ul style="list-style-type: none"> • Control debris depths
	<ul style="list-style-type: none"> • Minimize damage to residuals and regeneration

- If road building must occur in or adjacent to a winter range, road layout should be designed to minimize the amount of road required. By reducing the amount of road, avoiding routes through the winter range or along an edge, and by maintaining, where possible a cover buffer along the road edge, harassment pressures to the deer can be reduced.
- Reforestation (tree species selection) and stand density management that produce an optimum mix of large crowns for cover and thermal shelter should be considered when preparing a site plan or enhancement plan in a rotation winter range.
- Consulting a professional in wildlife/forest management is recommended when preparing site plan or enhancement plan for a rotation winter range.