BRITISH COLUMBIA

MATERIAL SUPPORTING THE NOTICE, BUT NOT PART OF THE NOTICE.

INFORMATION CONCERNING WILDLIFE HABITAT FOR THE WINTER SURVIVAL OF UNGULATE SPECIES IN TREE FARM LICENSE 15

This document is intended to provide background information and support to the legal framework of the notice of indicators of the amount, distribution and attributes of wildlife habitat required for the winter survival of ungulate species in Tree Farm License 15. This document is not part of the legal notice. Its purpose is to provide additional information for consideration by delegated decision makers and by those persons required to prepare results and strategies consistent with section 7(1) of the Forest Planning and Practices Regulation.

The Okanagan-Shuswap LRMP (OSLRMP) provides strategic direction for the management of mule deer and moose winter ranges. The winter range map (Figure 1) represents the most up to date information on the area of mule deer winter range in the OSLRMP area. The map MDWR has been revised slightly since the OSLRMP was approved, however, revisions were expected, and have been agreed to in principle by an OSLRMP working group. The new map will be provided to government for approval later this year. The moose winter range outlined in Figure 1 is from the OSLRMP.

Mule deer:

Amount:

The amount included in this objective is based on the total area of mule deer winter range (MDWR) within TFL 15 as defined through the OSLRMP. The OSLRMP recommends that snow interception cover (SIC) for mule deer winter range is applied at each planning cell. SIC retention is based on snowpack zones. Where two snowpack zones are adjacent to each other (usually one upslope of another eg. IDFdm above IDFxh) a weighted average is calculated to determine the SIC retention for the upper snowpack zone. In other words, a lesser retention rate is applied to the upper snowpack zone when two snowpack zones are adjacent to each other. Given that MDWR within TFL 15 are comprised of a large proportion of Shallow snowpack zone, the Moderate snowpack zone retention rate is estimated to be 22%. Other factors are also incorporated into the final retention rate for each planning cell, and much of this work is not complete at this time. As such, Table 1 provides an estimated retention rate for each snowpack zone, along with the estimated number of hectares of SIC for each snowpack zone. It is assumed that a more precise SIC rate will be specified in Section 7 of the Government Actions Regulation.

Table 1: OSLRMP MDWR Area and Snow Interception Cover Retention for TFL 8

Snowpack Zone	BEC Unit	Total MDWR Area (ha)	SIC Retention Rate (%)	SIC Retention Area (ha)	Comments
Shallow	PPxh, IDFxh	8,925	15	1,339	
Moderate	IDFdm	1,623	22	357	The SIC rate is an estimate based on the proportion of Moderate snowpack zone to the total winter range area.
Total		10,548		1,696	

The AAC rationale for TFL 15 (July 29, 1999) recognized a "wildlife management zone" of 11,989 ha and is noted to be similar in area to the area identified through the OSLRMP as MDWR. The draft Management Plan #9 (July 2003) identified 9,949 ha of MDWR. A GIS analysis of MDWR within TFL 15, conducted for this initiative, identified 10,548 ha of MDWR. Table 2 depicts the area differences between the three: i) 1999 AAC rationale, ii) 2003 draft Management Plan, and iii) existing OSLRMP MDWR area. For this initiative, the latter was used to determine 'amount of area'.

Table 2: Area Comparison for TFL 15 – OSLMP MDWR and 1999 AAC Rationale

Initiative/Year	Area (ha)
AAC Rationale/1999	11,989
MP #9/2003	9,949
OSLRMP/2004	10,548

Distribution:
Figures and spatial information (shapefiles) to support the amount and distribution statements are included in the folders titled "Figures" and "Spatial Data" on the following ftp site:
ftp://ribftp.env.gov.bc.ca/pub/outgoing/cdc_data/Approved_FRPR_sec7_WLPPR_sec9_Notices_and_Supporting_Info/Ungulate_Winter_Range/Tree_Farm_Licenses/TFL_15/Supporting_Info/

Inclusion of draft and proposed Ungulate Winter Range boundaries in the supporting information does not prejudice the review and comment that may be ongoing around these Ungulate Winter Ranges. Where Ungulate Winter Ranges have not been through the full review and comment process, MWLAP will continue to work with affected parties to address the Ungulate Winter Range boundaries.

As part of implementation of the OSLRMP, a working group of government agency representatives and stakeholders have met to further refine mule deer winter range boundaries. The working group have agreed to a revised mule deer winter range boundary. This work has been endorsed by the OSLRMP Monitoring Committee, it is

provided in Figure 1 as the most up to date information on mule deer winter range location in TFL 15, but has not been endorsed by Government. In addition, this group has finalized planning cell boundaries. Planning cells have been delineated (see Figure 1) to provide a spatial distribution of winter range attributes, such as forage and cover. These boundaries, which have been provided to licensees and Ministry of Forests, could be used as the foundation for meeting the distribution requirement.

Attributes:

1. Foraging habitat can be met by areas of high shrub productivity and/or stands that provide arboreal litter-fall, such as lichens and Douglas-fir needles and twigs. The former is provided in wetter sites, as well as, where early seral coniferous forests have not matured to the state as to where they out-compete shrubs for sunlight. The latter is provided in older aged coniferous stands. Mature, and older, Douglas-fir needles and twigs provide greater nutritional value litter-fall than other coniferous types (species and age). A variety of foraging habitats well distributed throughout the winter range best meets the needs of over-wintering ungulates.
2. Snow interception cover is defined as tree crown attributes that have the capability to intercept snow, and thereby reduce snow accumulations on the ground. As snow interception potential is variable dependent upon tree species, stand density, and crown shape and size, it is important to retain stems that will function in an optimum manner. Mature and intermediate aged Douglas-fir in clumps are best suited to meet this need. Larger clumps, or patches, with a high canopy closure are most appropriate in areas of higher snow falls.

Moose:

Amount:

The amount included in this objective is based on the total area of moose winter range within TFL 15. The Timber Supply Analysis Information Package for TFL 15 (July 28, 2003) recognized 608 ha of moose winter range. This is similar to the area recommended by the OSLRMP of 632 ha. An assessment of forest cover retention for the Okanagan TSA lands conducted for TSR2 indicated that the forest cover retention would not impact timber supply primarily because the height criteria could be met at, or prior to, minimum harvest age. It is assumed that the situation is the same for TFL 15.

Distribution:
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Moose winter ranges in TFL 15 are based on biophysical features that result in areas of both high winter browse productivity, and snow depths that are not inhibiting to movement. Most, if not all, moose winter range in TFL 15 is within the plateaus of the Okanagan Highlands where snow accumulations do not regularly inhibit movement. In areas of low snow accumulation, sites that have appropriate soil nutrient and moisture conditions that result in high winter browse productivity generally determine winter range locations. Riparian areas and recently disturbed areas (eg. fire or timber harvest) that have appropriate soil and moisture conditions can produce sufficient forage to maintain over-wintering moose populations. The moose winter range outlined in Figure 1 depicts the most current information on location of moose winter ranges in TFL 15.

Attributes:

1. Foraging habitat – large quantities of browse biomass are required to sustain wintering populations of moose. Woody brush species, including *Salix* spp., red-osier dogwood, and *Betula* spp., are favoured forage species. The OSLRMP provides direction on forage management.
2. Cover – is important to moderate temperature extremes (thermal), moderate snow accumulations (snow interception) and provide security or reduced sight lines to moose utilizing an area. The OSLRMP provides management direction for the types and location of cover.