



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

**INFORMATION CONCERNING WILDLIFE HABITAT FOR THE WINTER SURVIVAL OF UNGULATE SPECIES IN ARROW TIMBER SUPPLY AREA**

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 the Arrow TSA. 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 or act in a manner consistent with section 9(3) of the *Woodlot License Planning and Practices Regulation*.

Note: It is expected that woodlots will only have to address the indicators in the Notice to the extent that their woodlot contains ungulate winter range as identified in the maps referenced in the appendix below.

**Arrow Timber Supply Area**

**Amount:**

The most recently revised UWR mapping derived from the KBLUP-IS that was used for FPC purposes was the basis for determining the amount of ungulate winter range area in this notice. The amount of snow interception cover was derived from the same mapping together with the retention targets provided for in the KBLUP-IS. In no case was the retention target amount increased compared to the KBLUP-IS provisions, but in some cases, where it was possible to do so, the retention targets were lowered to better reflect the collective work on the pending ungulate winter range linework for approval under the Government Actions Regulation (GAR). The attribute age definitions contained in this notice are also based on KBLUP-IS, but where possible to do so, were lowered to better reflect the pending GAR submission. Additionally, substantial areas of KBLUP-IS based ungulate winter range were excluded from this notice in consideration of caribou management.

The amount of ungulate winter range hectares and the amount of snow interception cover hectares exclude parks and protected areas, woodlots, private land and those landscape units (N505 and N529) where managing for over wintering deer, elk or moose conflicts with caribou management. Figure 1 shows the ungulate species winter range polygons.

## **Moose**

### **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/Timber\\_Supply\\_Areas/Arrow\\_TSA/Supporting\\_Info/](ftp://ribftp.env.gov.bc.ca/pub/outgoing/cdc_data/Approved_FRPR_sec7_WLPPR_sec9_Notices_and_Supporting_Info/Ungulate_Winter_Range/Timber_Supply_Areas/Arrow_TSA/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.

- A minimum of 30% forest cover area should be retained as snow interception cover within each 250 to 500 hectare management unit. This minimum retention applies to all BEC subzones where moose is the primary management species. The identification of each management unit is the responsibility of the relevant forest licensee.
- Snow interception cover should be located adjacent to or in close proximity to areas supporting forage species.
- To adequately manage suitable forage supply through time, it is recommended that no more than 40% of a management unit be in an early seral stage (i.e., stands < 21 years in age) at any given time.

### **Attributes:**

- Douglas-fir or spruce leading stands are preferred for snow interception cover and should be located adjacent to flood plains, riparian areas, moist benches and early seral habitats that provide forage. Snow interception cover patches may be any shape but should have a minimum width of 40 meters at any given point. These forest stands should have a canopy closure of at least 40%.
- Forage species are generally available within harvested areas and early seral habitats throughout the winter range. During the late winter period, use and selection of riparian areas, high-production shrub areas, avalanche tracks, recent burns and early seral stands increases. Preferred forage species include *Salix spp.*, *Alnus spp.*, *Ceanothus spp.* and Douglas maple.

## **Mule Deer, White-tailed Deer, Rocky Mountain Elk**

### **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/Timber\\_Supply\\_Areas/Arrow\\_TSA/Supporting\\_Info/](ftp://ribftp.env.gov.bc.ca/pub/outgoing/cdc_data/Approved_FRPR_sec7_WLPPR_sec9_Notices_and_Supporting_Info/Ungulate_Winter_Range/Timber_Supply_Areas/Arrow_TSA/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.

The following table refers to the Crown forest land base and identifies the desired amount and distribution of forest retention for snow interception cover within each 250 to 500 hectare management unit.

Snow Conditions	BEC Subzone Variants	Minimum amount of forest cover retention (%)
Shallow (slopes>50%)	PPdh1, PPdh2, IDFdm1, IDFdm2, IDFun, IFDxh1, ICHxw, MSdk (only on site series 2&3 on slopes >50%)	15
Moderate (slopes< 50%)	PPdh1, PPdh2, IDFdm1, IDFdm2, IDFun, IFDxh1, ICHxw, MSdk (only on site series 2&3 on slopes < 50%)	25
Deep	MSdm1, MSdk (except site series 2&3), ICHdw, ICHmk1, ICHmw1,2&3, ICHvk1, ICHwk1, ESSFdk	30

- Snow interception cover should be located adjacent to or in close proximity to areas with ample forage species.
- To adequately manage suitable forage supply through time, it is recommended that no more than 40% of a management unit be in an early seral stage (i.e., stands < 21 years in age) at any given time.

**Attributes:**

- Snow interception cover for deer and elk is comprised of mature forested stands that reduce mid-winter snow depth by at least 30% compared to open sites in the same area. Desired stand structure features include large, well-developed crowns, preferably comprised of Douglas-fir dominants or co-dominants. In areas where moderate and deep snow is prevalent, dense stands with interlocking crowns provide the best attributes. Snow interception cover patches in these areas may be any shape but should have a minimum width of 40 meters at any given point. These forest stands should support a canopy closure of at least 40%. In areas with shallow snow conditions, mature trees with

large, well developed crowns provide the best attributes. It is best to distribute these retention trees in a variable semi-open, dispersed and small clumped manner. These areas provide both understory forage and snow interception micro sites.

- Forage species are generally available within harvested areas, early seral, open and semi-open habitats. Preferred forage species for deer and elk include Ceanothus spp., Saskatoon, Douglas maple, Salix spp., red-osier dogwood, Douglas-fir, cedar and aspen. Elk prefer grazing on grasses and sedges in open and semi-open areas.