



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

INFORMATION CONCERNING WILDLIFE HABITAT FOR THE SURVIVAL OF SPECIES AT RISK IN THE SQUAMISH FOREST DISTRICT

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 survival of species at risk in the Squamish Forest District. 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 Licence Planning and Practices Regulation*.

1. BACKGROUND INFORMATION

The 1% impact budget associated with the Identified Wildlife Management Strategy (IWMS) is directed at the short-term timber supply. For the purpose of this Notice the short-term timber supply budget represents the total mature timber harvesting land base (THLB) in age classes older than 60 years. Within the Squamish Forest District the short-term timber supply budget is equal to 825 ha. Current to December 1, 2004, there are no approved wildlife habitat areas in the forest district. Therefore, the remaining available budget is 825 ha. Table 1 summarizes the amount of area included in the Notice as well as the amount of area in approved WHAs and their respective impacts to the mature THLB.

Indicators of amount, distribution and attributes included in the Notice are based on existing data, current knowledge of species distribution, current and future inventory efforts, and species biology, including territory size and intraspecific competition. In many cases, comprehensive inventories have not been completed. Where inventory work generates a greater number of known occurrences and suitable habitat, the Notice may be amended to reflect a greater number of anticipated wildlife habitat areas. Any amendment to the Notice will be consistent with the policy direction on timber supply impacts.

Species accounts for each of the species mentioned in the Notice can be obtained from the Identified Wildlife Management Strategy website:

http://wlapwww.gov.bc.ca/wld/identified/iwms2004_index.htm



Table 1. Summary of mature THLB impacts for amounts included in the Notice and approved WHAs in the Squamish Forest District.

| Species | Total Area (ha) | Estimated Mature THLB (ha) | Percent of 1% District Budget |
|---|-----------------|----------------------------|-------------------------------|
| Amounts in Notice | | | |
| Marbled Murrelet | Unknown* | 415.0* | 50.3 |
| Grizzly Bear | 7280.0 | 385.0 | 46.7 |
| Coastal Tailed Frog | 40.0 | 25.0 | 3.0 |
| Subtotal | 7,320.0 | 825.0 | 100.0 |
| No Approved Wildlife Habitat Areas | | | |
| Total | 7,320.0 | 825.0 | 100.0 |

* Note: the amount for Marbled Murrelet does not include the area in the non-contributing landbase.

Figures and spatial information (shapefiles) to support the amount and distribution statements for species included in the Notices 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/Species_at_Risk/Squamish_FD/Supporting_Info/

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

The following section is intended to clarify the amount, distribution and attribute statements in the legal Notice.

1) Marbled Murrelet (*Brachyramphus marmoratus*)

Amount:

The *Marbled Murrelet Letter of Clarification* outlines current policy for the management of Marbled Murrelet nesting habitat; establishment of Old Growth Management Areas (OGMA), the available portion of the district 1% budget and the non-contributing landbase.

The Notice identifies 415 ha of mature timber harvesting landbase impact that is to be used to manage suitable nesting habitat within the following landscape units: East Howe, Lower Squamish, Upper Squamish, Elaho, Indian, Mamquam, Whistler, Callaghan, Soo. It is anticipated that this amount will address the timber supply impacts of potential wildlife habitat areas within these landscape units as well as compliment high quality smaller patches within the

non-contributing landbase (or existing patches in OGMA) to provide high quality large polygons.

It is intended that suitable marbled Murrelet nesting habitat within the non-contributing landbase will be identified as per the Marbled Murrelet account in the Identified Wildlife Management Strategy. A model has been developed with the support of the Marbled Murrelet Recovery Team to identify potential suitable Marbled Murrelet nesting habitat at a coarse scale for the entire coast. Work is currently underway to field verify the model and test its accuracy in different Marbled Murrelet Conservation Regions. This model serves as a useful tool for identifying potential habitat at a coarse scale, but should not be used to identify individual habitat polygons at an operational scale. Air-photo interpretation followed by aerial flight overviews continue to be the best methods for identifying suitable Marbled Murrelet nesting habitat. Additional models are being developed at a local scale to serve as more accurate predictors of suitable nesting habitat. Contact the Ministry of Water, Land and Air Protection for more information.

Landscape Unit Planning has not been completed for 5 of the 9 Landscape Units being managed for Marbled Murrelet within the Squamish Forest District. It is intended that forest tenure holders will work to identify old growth management areas that overlap suitable Marbled Murrelet nesting habitat consistent with the Landscape Unit Planning Guidelines and Marbled Murrelet habitat requirements outlined in the species account for Marbled Murrelet in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).

Distribution:

Figure 2 shows potential suitable nesting habitat as determined by the Marbled Murrelet Recovery Team habitat algorithm mapping, it should also be used as a source of information to identify distribution of suitable nesting habitat.

2) Grizzly Bear (*Ursus arctos*)

Amount:

The amount in the Notice is based on the total area of 7280 ha for 22 proposed Grizzly Bear wildlife habitat areas with an estimated mature timber supply impact not exceeding 385 ha. These habitat areas are to be located in the Stein-Nahatlatch, South Chilcotin Ranges and Squamish-Lillooet Grizzly Bear threatened population units. Additional Wildlife Habitat Areas are expected to be developed in accordance with this policy or in concert with the Grizzly Bear Recovery Strategy or the Sea to Sky Land and Resource Management Plan. The Notice may have to be amended to reflect the new amount of area. Information is available from the Ministry of Water, Land and Air Protection. Estimates of mature timber supply impact are based on preliminary habitat mapping completed by Ministry of Water, Land and Air Protection.

Distribution:

Figure 1 shows the current locations of habitat areas for Grizzly Bear in the Squamish Forest District. MWLAP will continue to work with members of the Soo TSA to discuss WHA boundaries.

3) Coastal Tailed Frog (*Ascaphus truei*)

The amount in the Notice is based on the anticipated need for 2-3 wildlife habitat areas to be located in the Squamish Forest District. Each future WHA is expected to be approximately 13-20 ha in size with an estimated mature timber supply impact of 8-12 ha each. Although this species is known to occur in the Squamish Forest District, current occurrence data is incomplete. Perennial small headwater streams are thought to be important habitat areas. Estimates of WHA size and mature timber supply impacts are based primarily on information provided in the “Estimated Impact of the Identified Wildlife Management Strategy (Version 2004) on Provincial Timber Supply” and the IWMS species account for Coastal Tailed Frog.

Information is available from MWLAP, Greg George.

4) Spotted Owl (*Strix occidentalis*)

The amount, distribution and attributes included in the Notice are based on existing provisions within the 1997 *Spotted Owl Management Plan* and 1999 *Spotted Owl Management Plan – Resource Management Plans*. These two documents represent current Government policy for management of Spotted Owl habitat. Should this policy direction change either through a revision to the Spotted Owl Management Plan or a refinement of Long Term Activity Centre boundaries or attributes, the Notice will be revised to reflect these changes.

Spotted Owl will continue to be managed separately from the IWMS 1% budget. This species is known to occur in the Squamish Forest District; however, nest areas and forage areas cover large expanses and are outside the scope of the 1% timber impact for IWMS. Refer to within the 1997 *Spotted Owl Management Plan* and 1999 *Spotted Owl Management Plan – Resource Management Plans* for spatial information to support the amount and distribution statements in the Notice.

5) Red-legged Frog (*Rana aurora*)

No amount for Red-legged frog has been included in the Notice as there is insufficient occurrence information and insufficient timber supply impact budget within the Squamish Forest District to manage for this species. This species is expected to occur in the Squamish Forest District; however, currently there are no confirmed occurrences on Crown forest land. If new inventory information becomes available, the Notice may have to be amended to include an amount for Red-legged frog.

Forests with abundant coarse woody debris adjacent to standing water or other riparian features at low slope gradient and low elevation are thought to be important habitat areas.

6) Great Blue Heron (*Ardea herodias fannini*)

No amount for Great Blue Heron has been included in the Notice as there is insufficient occurrence information and insufficient timber supply impact budget within the Squamish Forest District to manage for this species. This species is expected to occur in the Squamish Forest District; however, currently there are no confirmed occurrences on Crown forest land. If new inventory information becomes available, the Notice may have to be amended to include an amount for Great Blue Heron.

Mixed conifer and deciduous forest stand types in or around riparian features are thought to be important nesting habitat areas.

7) Pacific Water Shrew (*Sorex bendirii*)

No amount for Pacific Water Shrew has been included in the Notice as there is insufficient occurrence information and insufficient timber supply impact budget within the Squamish Forest District to manage for this species. This species is expected to occur in the Squamish Forest District; however, currently there are no confirmed occurrences on Crown forest land. If new inventory information becomes available, the Notice may have to be amended to include an amount for Pacific Water Shrew.

It appears that moist, coastal forests that border slow moving streams and skunk cabbage marshes with abundant shrubs and coarse woody debris and extensive canopy closure are more important habitat features than forest age.

8) Keen's Long-eared Myotis (*Myotis keenii*)

No amount for Keen's Long-eared Myotis has been included in the Notice as there is insufficient occurrence information and insufficient timber supply impact budget within the Squamish Forest District to manage for this species. This species is expected to occur in the Squamish Forest District; however, currently there are no confirmed occurrences. If new inventory information becomes available, the Notice may have to be amended to include an amount for Keen's Long-eared Myotis.

Generally, protection of maternity colonies, hibernacula and roosting sites is important. Keen's Long-eared Myotis appear to be associated with cool wet coastal montane forests and karst features. Caves >100 m in length and above 500 m elevation with stable temperatures and 100% relative humidity were important winter hibernation sites for myotis bats on northern Vancouver Island.