



December 30, 2004

NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF SPECIES AT RISK IN THE CHILLIWACK FOREST DISTRICT

This Notice is given under the authority of section 7(2) of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/04) and 9(3) of the *Woodlot Licence Planning and Practices Regulation* (B.C. Reg. 21/04).

The following Notice includes indicators of the amount, distribution and attributes of wildlife habitat required for the survival of the species at risk outlined in Schedule 1.

Approved Wildlife Habitat Areas are not included in the indicators of amount, distribution and attributes for each of the species outlined in Schedule 1. As per section 7(3) of the *Forest Planning and Practices Regulation*, forest tenure holders are exempt from the obligation to specify a result or strategy in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation*, for approved Wildlife Habitat Areas.

This Notice applies to the Chilliwack Forest District.

WLAP staff will provide assistance to all licensees in the Fraser TSA when these licensees develop results and strategies for FSP. WLAP will help to spatially locate areas with suitable wildlife habitat for species at risk to ensure that results or strategies are biologically appropriate and wherever possible, overlap with existing and proposed Old Growth Management Areas, riparian reserves and other areas that have been removed from timber harvesting, and areas subject to other operational constraints (example: terrain challenges, SPOW areas, scenic areas with VQO).

Schedule 1

1) Coastal Giant Salamander (*Dicamptodon tenebrosus*)

Amount:

1. 850 ha not exceeding an impact to the mature timber harvesting landbase of 550 ha.

Distribution:

1. The amount of habitat referenced above must be distributed to provide:
 - areas of suitable habitat of the size, spatial distribution and connectivity identified in the species account for Coastal Giant Salamander in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).

- The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Coastal Giant Salamander in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

**Species: Coastal
Giant
Salamander**

Attribute	Characteristics
Size	Generally between 20 - 100 ha in size. Areas managed for this species should include a 30 m core area and a 20 m buffer area. This should be maintained on both sides of all occupied stream reaches to encompass known observations and suitable aquatic habitat.
Aquatic habitat Characteristics	Aquatic habitats are characterised by clear, cool, fast-flowing and well-oxygenated streams with step-pool morphology and sufficient hiding cover (i.e., rocks, debris, and overhanging stream banks). Additionally streams by be further characterised by year round flow, non-fish bearing (S4-S6), small size (<5m width), intermediate gradient, stable channel beds and forest canopy cover.
Terrestrial habitat Characteristics	Moist forested areas with ample hiding cover in close proximity (10m) to streams. Most common refuge locations (for adults) are within or under CWD (in advanced stages of decay (Decay Class 3-5), underground and under rocks. Generally within mature or old forest close to headwaters and free of fish.
Stream Classification	Generally found in non-fish bearing streams (S4-S6). Tadpole abundance decreases with increasing width and increasing depth.
Elevation	Found from sea level to 2160 m.

2) Grizzly Bear (*Ursus arctos*)

Amount:

- An amount not exceeding an impact to the mature timber harvesting landbase of 445 ha.

Distribution:

- The amount of habitat referenced above must be distributed to provide:
 - areas of suitable foraging and security habitat of the size and spatial distribution identified in the species account for Grizzly Bear in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
- The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Grizzly Bear in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).

Attributes:

1) Cascades Grizzly Bear Population Unit

A. Important Grizzly Bear Habitat Types and their Season of Use in the North Cascades Grizzly Bear Population Unit.

Habitat Types	Season of Use		
	Spring *	Summer	Fall **
Riparian areas, including wetlands (see Table below)	X	X	X
Avalanche tracks and run out zones	X	X	X
<i>Hedysarum</i> and glacier lily complexes	X	X	
Sub-alpine parkland meadows		X	X
Berry producing sites (see Table below)		X	X

***Spring** refers to the period after bears emerge from their dens - late March through April until spring habitats are no longer used – usually the end of June.

****Fall** refers to the period when berries become abundant - often late July/early August through to November.

B. Attributes of Riparian Habitats in the North Cascades Grizzly Bear Population Unit.

Biogeoclimatic Subzone Variants	Site Series
CWHdm	07, 12, 14, 15
CWHds1	07, 12
CWHms1	06, 11
CWHvm2	07, 08, 11
CWHxm1	07, 12, 14, 15
ESSFdc2	08
ESSFmw	08
ESSFxc	08
IDFdk1	06
IDFdk2	06, 07
IDFww	06, 07
IDFxb2	08
MHmm2	06, 07, 09
MSdm2	07
MSxk	09
PPxb2	07

C. Attributes of High and Moderate Berry (principally *Vaccinium*) Producing Site Series in the North Cascades Grizzly Bear Population Unit.

Biogeoclimatic Subzone Variants	High Berry Productivity Site Series	Moderate Berry Productivity Site Series
CWHdm	12	
CWHms1	02, 01, 05, 06, 11	03
CWHvm2	03, 01, 05, 06, 07, 09, 10, 11	02, 04
ESSFdc2		05
ESSFmw	04, 05	01, 02, 06, 07, 08
MHmm2	02, 01, 04, 05, 06, 07, 08	03, 09

2) Stein-Nahatlatch Grizzly Bear Population Unit

**Species:
Grizzly Bear**

Attribute	Characteristics
Size	1-500 ha, depending on the area of use, extent of seasonal habitat and buffer size required.
Critical patch habitats	Critical patch habitats include, estuaries, rich non-forested fens, the edges of forested and non-forested bogs, herb-dominated patches on avalanche chutes with adjacent forest (particularly south-facing ones), herb-dominated subalpine parkland meadows, skunk cabbage swamps, floodplain ecosystems, white bark pine forage areas, and areas where bears fish for spawning salmon. Den cavities and surrounding stands are also considered critical. Non-forested critical habitats include a core area and buffer of forested cover. Forested critical habitats are not buffered.
Denning Habitat Features	Hibernating habitats tend to be high elevation areas that are sloped with dry, stable soil conditions that remain frozen throughout the winter. Dens are typically located on steep north-facing slopes, areas where vegetation will stabilize the den roof and where snow will accumulate for insulation. Dens are rarely re-used but Grizzly bears will often return to the same vicinity to dig new dens.
Foraging Habitat Features	Habitat selection is strongly influenced by meeting nutritional requirements, access to mates, thermal cover (i.e., dens), social interactions and the presence and activities of people. Habitat requirements vary greatly as some bears are more transient while others are more resident. Both residents and transients select patches or complexes of habitats within landscapes.
Structural Stage	Generally, foraging is more abundant in non-forested sites, sites with partial forest or sites with many tree gaps in older forest. Closed forest sites near quality habitat may be used for security and day bedding areas. Many or all structural stages can be used seasonally or for specific needs and as such, forage type is not necessarily tied to one particular structural stage.
Elevation	All elevations from sea level estuaries to high alpine meadows and talus slopes.

3) Pacific Water Shrew (*Sorex bendirii*)

Amount:

1. 50 ha not exceeding an impact to the mature timber harvesting landbase of 25 ha.

Distribution:

1. The amount of habitat referenced above must be distributed to provide:
 - areas of suitable habitat of the size and spatial distribution identified in the species account for Pacific Water Shrew in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Pacific Water Shrew in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

**Species:
Pacific Water
Shrew**

Attribute	Characteristics
Size	Generally between 5 and 45 ha in size depending on area of suitable habitat. Area should extend entire length of the stream or wetland and include a 30 m core with a 45 m management zone on each side of the stream or around wetland complex.
Habitat Features	Moist, coastal forests that border streams and skunk-cabbage marshes with an abundance of shrubs and coarse woody debris and extensive canopy closure. Maintain 70% basal area within the management zone. Partial harvesting within the management zone will promote microhabitat and structural elements such as multi-layered canopies, wildlife trees and coarse woody debris. The area should include suitable riparian and terrestrial habitat; wetlands, streams or other suitable habitat should reside within 1 km whenever possible.
Structural Stage	4 (pole/sapling), 5 (young forest), 6 (mature forest), 7(old forest).
Elevation	Up to 850 m (generally below 850m).

4) Tall Bugbane (*Actaea elata*)

Amount:

1. 200 ha not exceeding an impact to the mature timber harvesting landbase of 75 ha.

Distribution:

1. The amount of habitat referenced above must be distributed to provide:
 - areas of suitable habitat of the size, spatial distribution and connectivity identified in the species account for Tall Bugbane in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Tall Bugbane in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

**Species:
Tall Bugbane**

Attribute	Characteristics
Size	Typically between 20 and 40 ha but depends on site-specific conditions (i.e., size of population and area covered by population). The area should include a core area (defined by the perimeter of the population plus a 30-50m band around the population) plus a management zone (typically 150-200 m - should be large enough to preserve the ambient conditions and be windfirm).

Tree Species	Tree species that occur with tall bugbane include big-leaf maple, Douglas maple and vine maple.
Habitat Features	Shady, moist, mature (70-150 yrs) western red cedar forest commonly in Thuja Plicata - Polystichum munitum - Achlys triphylla communities. It is almost always associated with big-leaf maple. The deciduous component of mixed forest is important in maintaining optimal light conditions. Known to occur on 15-35 degree slopes with north, southwest and south aspects.
Structural Stage	1-3: non-vegetated to small shrub (<15yrs), 4-6: pole/sapling to mature forest (70-150yrs).
Elevation	300 - 1300 m.

5) Coastal Tailed Frog (*Ascaphus truei*)

Amount:

1. 60 ha not exceeding an impact to the mature timber harvesting landbase of 30 ha.

Distribution:

1. The amount of habitat referenced above must be distributed to provide:
 - areas of suitable habitat of the size and spatial distribution identified in the species account for Coastal Tailed Frog in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within occupied streams in the biogeoclimatic units and preferred elevations identified in the species account for Coastal Tailed Frog in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

Species: Coastal Tailed Frog

Attribute	Characteristics
Size	Approximately 20 ha (depending on number and length of suitable stream reaches). Larger areas may be appropriate in watersheds with unstable terrain (class 4-5). Areas should include at least two streams or stream reaches (i.e., S4 to S6) with previous detections of tailed frogs. The area should include a 30 m core area buffered by a 20m management zone on both sides of occupied stream reaches.
Habitat Attributes	Tailed frog aquatic habitats are generally characterised by year round flow, non fish bearing (S4-S6), intermediate gradient (>2.5%), coarse substrates (>6.4 cm), stable channel beds and forest cover (generally associated with structural stage S6 or S7). Retain 100% of forest cover within the core area. Within the management zone maintain 70% basal area with appropriate structure to maintain riparian forest, important structural elements (e.g., coarse wood debris,) water quality and temperature (5 to 18 degrees), and naturally dispersed water flows.
Elevation	From sea level to 2140 m.

6) Spotted Owl (*Strix occidentalis*)

Amount:

An amount of area consistent with the area contained within Special Resource Management Zone and Matrix Activity Centre boundaries in the Chilliwack Forest District as identified in the 1997 *Spotted Owl Management Plan*.

Distribution:

The amount referenced above must be distributed consistent with Special Resource Management Zones and Matrix Activity Centres boundaries in the Chilliwack Forest District as identified in the 1997 *Spotted Owl Management Plan*.

Attributes:

Attributes consistent with those identified for Long Term Activity Centres (LTACs) in the 1999 *Spotted Owl Management Plan – Resource Management Plans* and attributes consistent with those identified for Matrix Activity Centres in the 1997 *Spotted Owl Management Plan* for the Chilliwack Forest District.