



December 30, 2004

**NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF
WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF SPECIES AT RISK IN
THE OKANAGAN SHUSWAP 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 Okanagan Shuswap Forest District (excluding Tree Farm License 49). Any further references to the Okanagan Shuswap Forest District within this Notice recognize that Tree Farm License 49 is excluded.

Schedule 1

1) Tiger Salamander (*Ambystoma tigrinum*)

Amount:

1. 541 ha not exceeding an impact to the mature timber harvesting landbase of 300 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 Tiger Salamander 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 Tiger Salamander in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

**Species:
Tiger
Salamander**

Attribute	Characteristics
Size	Generally between 5-25 ha but will depend on the size and number of wetland included and the area of associated suitable upland habitat.
Terrestrial Habitat	Terrestrial habitat includes riparian habitats, open forest and sagebrush grasslands. Structural stage 2 and 3 are generally used but this species will used later structural stages if the forest is open and soils are suitable (uncompacted). Presence of coarse woody debris, digs and mammal burrows. Uncompacted soils.
Aquatic Habitat	Breeds in both temporary and permanent aquatic water bodies that retain water into late July or August. Water depth generally < 1m. Presence of emergent vegetation. Absence of predatory fish. Permanent water bodies are required for Paedogenesis to occur - paedogen lakes are generally free of predatory fish, permanent and deep enough to prevent freezing solid during the winter.
Elevation	300 - 1250 m.

2) Great Basin Spadefoot (*Spea intermontana*)

Amount:

1. 200 ha with no impact to the mature timber harvesting landbase.

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 Great Basin Spadefoot 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 Great Basin Spadefoot in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

**Species:
Spadefoot Toad**

Attribute	Characteristics
Size	Approximately 10 ha but will depend on site-specific factors such as size of water feature and extent of surrounding suitable habitat. The core area should include the aquatic breeding site(s) and suitable uplands within ~250 m to protect most of the aestivation habitat.

Terrestrial Habitat	Most closely associated with herb (2) and shrub (3) structural stages for foraging, they will occur in open forest (4–7). Loose soil texture, deep soils, and an open habitat structure are more critical factors in determining foraging suitability. Terrestrial habitats include semi-arid habitats such as bunchgrass grasslands, sagebrush steppe, and open ponderosa pine forests.
Aquatic Habitat	Breeds in permanent or temporary aquatic habitats, generally in areas of shallow water (<1m). The absence of predatory fish dramatically increases the survival of eggs and tadpoles. Breeding habitat is used between April and July.
Elevation	275–1800 m but generally found breeding below 600 m.

3) “Great Basin” Gopher Snake (*Pituophis catenifer deserticola*)

Amount:

1. 6250 ha with no impact to the mature timber harvesting landbase.

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 “Great Basin” Gopher Snake 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 “Great Basin” Gopher Snake in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

Species: Great Basin Gopher Snake

Attribute	Characteristics
Size	Approximately 200–300 ha but will depend on site specific factors such as area of suitable habitat and nearness to foraging areas.
Foraging Habitat Characteristics	Sites with low disturbance and absence of roads (populations are negatively impacted by mortality, particularly road mortality). Presence of retreat sites including structural elements such as rock outcrops, talus slopes, friable soils, coarse woody debris, burrows in areas with friable soils, concentrations of boulders, or other unconsolidated materials and vegetative cover. Areas with moderate to dense cover provided concealment cover to snakes and maintain foraging opportunities. Properly functioning riparian areas also may provide enhanced foraging opportunities. Grassland, parkland forest, wetland, and riparian areas provide foraging habitat for snakes. Foraging habitats must also provide suitable cover, in the form of vegetation and coarse woody debris, to provide protection from predation. Rock outcroppings and wildlife trees (class 8 and 9[dead fallen]) were observed to be important sources of cover for the snakes.

Denning	Rock outcrops or talus habitat. Located on south facing slopes in Ponderosa Pine or Bunchgrass BEC zones.
Egg-laying Site Characteristics	South to southeast facing slopes, but are more likely to be found in abandoned rodent burrows than in talus or rock outcrops. Well drained sites.
Structural stage	1, 2 and 3.
Elevation	250-1100 m.

4) Flammulated Owl (*Otus flammeolus*)

Amount:

1. 540 ha not exceeding an impact to the mature timber harvesting landbase of 420 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 Flammulated Owl 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 Flammulated Owl in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

Species: Flammulated Owl

Attribute	Characteristics
Size	Between 10 and 30 ha, based on estimated home range size using habitat suitability information. Should include a core area of 7-12 ha that includes key foraging, the nest site and security habitats and ~100 m management zone. Consider a WTP ≥ 4 ha where salvage does not occur and where as many suitable wildlife trees as possible are maintained or recruited over the long term (>80 yrs).
Tree Features	Visible woodpecker or natural cavities; understory brush or thickets, snags with cavities.
Tree Species	Most commonly, Ponderosa pine; less commonly, Douglas-fir, trembling aspen or western larch.
Nesting Habitat Features	Includes multi-age class stands with multiple canopy layers, including a veteran tree component for nesting or roosting. Large diameter ponderosa pine for nest trees may be critical to sustain local populations. Nest in Pileated Woodpecker and Northern Flicker cavities and it is therefore important to consider nesting requirement of these species as well. Nests are often located within and/or near foraging habitat.

Foraging Habitat Features	Often forages within 300 m of nest during breeding season. Habitat is characterized by small forest openings (<1 ha) adjacent to Douglas-fir thickets and/or large veteran Douglas-firs or ponderosa pines with heavy branching for security. Understorey structure may be important in forest openings for foraging habitat.
Tree Size	64-77 cm. In the absence of trees with the preferred dbh, trees >35 cm or largest available should be retained for recruitment.
Wildlife Tree Class	1, 3-7
Structural Stage	6 (mature forest), 7 (old forest).
Elevation	400-1375 m.

5) “Interior” Western Screech-Owl (*Otus kennicottii macfarlanei*)

Amount:

1. 110 ha not exceeding an impact to the mature timber harvesting landbase of 55 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 “Interior” Western Screech-Owl 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 “Interior” Western Screech-Owl in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

Species: Interior Western Screech-Owl

Attribute	Characteristics
Size	Typically between 5 and 30 ha. The area should include a 5–12 ha core area for the nest area and may include a ~100 m management zone. The management zone should include suitable foraging habitat. Other features to include are large diameter snags (particularly black cottonwood, trembling aspen, water birch, and broadleaf maple) with suitable nest cavities.
Tree Features	Visible woodpecker cavities or natural cavities, conks, fire scars, heartwood decay and broken tops.
Tree Species	Trembling aspen, black cottonwood, water birch, Douglas-fir, possibly ponderosa pine, and western larch.

Nesting and Roosting Habitat Features	Home ranges can be small in optimal habitat; a reasonable size is ~ 2.5-10 ha. Occupancy is closely associated with riparian habitats. A minimum of 2 suitable nesting cavities must be present to accommodate one breeding pair. Nesting and roosting occurs in tree cavities often made by Northern Flickers and Pileated Woodpeckers; dense vegetation thickets are also used for roosting.
Tree Size	34–44 cm dbh or larger for deciduous tree species. 74–85 cm dbh or larger for coniferous tree species. In the absence of trees with the preferred dbh, trees with ≥ 30 cm dbh should be retained for recruitment.
Wildlife Tree Class	2–6
Structural Stage	6 (mature forest), 7 (old forest).
Elevation	0–700 m.

6) Lewis's Woodpecker (*Melanerpes lewis*)

Amount:

1. 84 ha with no impact to the mature timber harvesting landbase.

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 Lewis's Woodpecker 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 Lewis's Woodpecker in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

Species: Lewis's Woodpecker

Attribute	Characteristics
Size	5-50 ha but depends on the area of suitable habitat.
Nesting Habitat	Old growth ponderosa pine or Douglas fir, typically <25% canopy closure with presence of large diameter dead or live snags (preferably ≥ 45 cm dbh and a minimum of 30cm dbh). In mature deciduous stands (i.e., paper birch), canopy closure varies (5-80%) and includes large trees (preferably ≥ 45 cm dbh and a minimum of 30 cm dbh). Nesting trees often have evidence of heartrot infection or broken tops or limbs.
Tree Species	Ponderosa pine, black cottonwood and Douglas fir.
Foraging Habitat Features	Includes open forests and valley bottoms, deciduous groves near lakes and streams, burns, logged areas, agricultural habitats such as orchards and farms, rural gardens, and urban areas. Broken-topped or large-limbed living or dead trees are used as hawking perches.
Tree Size	Preferably with greater than or equal to 45 cm dbh and a minimum of 30 cm dbh

Wildlife Tree Class	2–4 for ponderosa pine; 4–7 for Douglas-fir (a mix would be ideal, but preference would be for lower end of decay range to maximize current suitability and longevity).
Structural Stage	2: herb (foraging for beetles, ants and other insects), 3a: low shrub (shrub stage for foraging when insects are abundant), 3b: high shrub (possibly used for foraging when insects are abundant), 5: immature forest (particularly in black cottonwood stands), 6: mature forest (black cottonwood, ponderosa pine and oak stands), 7: old-growth forest (black cottonwood, ponderosa pine and oak stands).
Elevation	Nesting in elevation between 250-1160 m.

7) Fringed Myotis (*Myotis thysanodes*)

Amount:

1. 12 ha with no impact to the mature timber harvesting landbase.

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 Fringed Myotis 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 Fringed Myotis in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

Species: Fringed Myotis

Attribute	Characteristics
Size	Typically 12 ha but depends on site-specific factors, including the proximity to alternate roosts. Area should include a core area of 100m with a management zone of 100m. The design should take into consideration bat movements during the breeding season and that bats may require several maternity trees per year. An area for hibernacula should be similar in design however it will be an isolated feature and will not require connectivity.
Roosting Habitat Features	Day, night and maternity roosts are located in caves, rock crevices, mine tunnels and buildings. Fringed myotis roosts in colonies and therefore, suitable roosts must accommodate several individuals. Roosting in trees has not been documented in BC.
Foraging Habitat Features	Use a variety of habitats including mid-elevation grasslands, deserts and woodlands. Typically in locations within 1 hour's flight of forested habitat. This species may also forage in orchards where roosts are provided and in old growth and mature stands.
Tree Species	The species is most closely associated with arid grassland and Ponderosa Pine-Douglas fir forest.

Tree Size	Large ponderosa pine trees 30-50cm dbh and all large ponderosa pine trees >50m dbh. Retain all large wildlife trees >31cm dbh (class 3-8).
Wildlife Tree Class	4
Elevation	300-854 m.

8) Spotted Bat (*Euderma maculatum*)

Amount:

1. 8 ha with no impacts to the mature timber harvesting landbase.

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 Spotted Bat 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 Spotted Bat in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

Species: Spotted Bat

Attribute	Characteristics
Size	5-10 ha; the area should related to the size of the roost feature (i.e., cliff face) and may in some cases be larger than 10 ha. The core of the area will consist of the roost cliff and talus base; the management zone should be 100 m around the roost cliff.
Roosting Habitat Features	Steep, high cliffs within a few kilometres of suitable feeding areas (riparian areas, marshes, fields, grasslands, and open forest) and close to a source of water are important as day roosts. These sites are typically located in crevices in steep, tall cliffs.
Foraging Habitat Features	Grassland, parkland, forest, wetland, and riparian areas. Foraging corridors, such as lake edges, may also be used.
Structural Stage	There are no structural stage preferences known for this species, as they roost in large cliffs and often forage well above the canopy.
Elevation	Variable. Typically between 300 to 900 m, although most occurrences are below 500 m. In other parts of its range, it has been found from sea level to 3300 m.