COMMON GARTER SNAKE

Scientific Name: *Thamnophis sirtalis*
Species Code: R-THSI

Status: Yellow-listed

Distribution

- **Provincial Range**

Common Garter Snakes are widespread throughout the southern and central part of B.C.

- **Elevational Range:** Sea-Level to 1300m.

- **Provincial Context**

Common Garter Snakes are most widely distributed along the coastal zones and river valleys of the province.

- **Project Area:**

Ecoprovince: Central Interior
Ecoregions: Chilcotin Ranges and Fraser Plateau
Ecosections: *Central Chilcotin Ranges (CCR), Chilcotin Plateau (CHP) and Fraser River Basin (FRB)*
Biogeoclimatic Zones: *BGxh3, BGxw2, IDFxm; IDFdk3; IDFdk4*; MSxk; MSxv; ESSFxv2, ESSFxvp2*; SBPSxc*
The ecosections and biogeoclimatic zones that have been italicized indicate areas within the project area, that have suitable habitat for the species under consideration, and have therefore been rated.

Ecology and Key Habitat Requirements

The Common Garter Snake utilizes both terrestrial and aquatic habitats. They are often found in close proximity to aquatic habitats such as streams, lakes, ponds, marshes or ditches. They can also be found in open, well-vegetated fields or open woods that border wetlands. Garter snakes eat a variety of prey items including fish, amphibians, reptiles, small birds, mammals, molluscs and insects (Russell and Bauer 1993). Breeding usually occurs in the late fall or shortly after emergence from hibernation (Orchard 1988). Hibernacula are generally deep crevices in rocky outcrops.

Habitat Use and Life Requisites

- **Living**

The diet of garter snakes includes leeches, earthworms, slugs, fish, amphibians, reptiles, fledgling birds and small mammals (Orchard 1988). Important feeding areas for garter snakes include wetlands, riparian and deciduous areas, moist grasslands, or grasslands with dense vegetation and occasionally open forests. Regenerating clearcuts in the earlier structural stages are also used. In the Cariboo-Chilcotin garter snakes are more commonly found in the Upper Grassland (higher elevation grasslands) habitats of the IDFxm. They also occur in the cooler, wetter subzones (IDFdk3 and IDFdk4) but at a lower density than the IDFxm. They are rarely observed in the dry grasslands areas of the Bunchgrass subzones, other than in or near richly vegetated ponds or marshes. Other than near wetlands, garter snakes are most often observed in the denser, moister grassland habitats of the Bunchgrass subzones.

- **Hibernating**

Common Garter Snakes hibernate in crevices in rocky areas such as rock piles, at the base of cliffs, talus, volcanic cones with good sun exposure. Warm rocky areas and coarse woody debris are also used for hibernating.

Seasons of Use

Table 1. Monthly Life Requisites for the Common Garter Snake.

Life Requisite	Month	Season
Hibernating	January	Winter
Hibernating	February	Winter
Hibernating	March	Winter
Hibernating	April	Winter
Living	May	Growing
Living	June	Growing
Living	July	Growing
Living	August	Growing
Living	September	Growing
Living	October	Growing
Hibernating	November	Winter
Hibernating	December	Winter

Habitat Use and Ecosystem Attributes
Table 2 outlines how each life requisite relates to specific ecosystem attributes (e.g., site series/ecosystem unit, plant species, canopy closure, age structure, slope, aspect, terrain characteristics).

Table 2. Terrestrial Ecosystem Mapping (TEM) Relationships for each Life Requisite for the Common Garter Snake.

Life Requisite	TEM Attribute
Living Habitat	- site: structural stage - soil/terrain: flooding regime - vegetation: % cover by layer - Wetlands, marshes, lakes, ponds, riparian
Hibernating Habitat	- site: structural stage, aspect - soil/terrain: bedrock, cliffs, talus - mensuration: coarse woody debris

Ratings
There is an intermediate level of knowledge on the habitat requirements of Common Garter Snakes in British Columbia and thus, a 4-class rating scheme will be used.

- **Provincial Benchmark**

Ecosection: North Okanagan Highland (NOH)
Biogeoclimatic Zone: IDF
Habitats: Mature black cottonwood riparian

- **Ratings Assumptions**

1. Moist, dense grasslands will be rated higher than dry grassland habitats for living.
2. Dry open grasslands of the BG subzones ie. those with cactus rate nil only if found in dense moist grasslands usually bordering richly vegetated ponds
3. Cultivated fields will be rated up to low for living.
4. Coniferous forest units will be rated up to moderate for living.
5. Rock outcrops and talus habitats will be rated up to high on warm aspects and up to moderate on cool aspects for hibernating.
6. Riparian/deciduous habitats will be rated up to high for living.
7. Riparian/wetland habitats will be rated up to high for living.

Table 3. Summary of habitat requirements for the Common Garter Snake in the study area.

Season	Life Requisite	Structural Stage	Requirements
Growing	Living (LI)	2-7	Wetlands, ponds, marshes, riparian, deciduous and coniferous habitats.
Winter	Hibernating (HI)	1	Rock outcrops, cliffs, talus with deep crevices

- **Ratings Adjustment Considerations**

Final capability and suitability map products may incorporate 1) landscape heterogeneity and connectivity; 2) habitats adjacent to significant anthropogenic disturbance regimes (e.g. settlements); 3) interspersion of different structural stages within the landscape.

Please note that eventhough structural stage substage or modifiers and stand composition modifiers were employed in the original mapping, these units (other than structural stage modifier 3a and 3b) have not been included in the final ratings tables. This is because the ratings for the modified and unmodified ecosystem units are the same and including these units in the final ratings table would in turn make the ratings table too cumbersome. In instances where the modified ecosystem unit (either structural stage substage or modifiers and stand composition modifiers) is mapped, please use the wildlife habitat rating for the same unmodified ecosystem unit.

References

Gregory, P. and R.W. Campbell. 1984. The Reptiles of British Columbia, B.C. Provincial Museum Handbook #44.

Orchard, A. 1988. Wildlife Habitat Handbooks for the Southern Interior Ecoprovince. Volume 3: Species Notes for Reptiles. Wildlife Report No. R-17. Ministry of Environment, Lands and Parks. Wildlife Branch, Victoria, B.C. 44pp.

Roberts G., and A. Roberts. 1993. Biodiversity in the Cariboo-Chilcotin Grasslands. Ministry of Environment unpublished report. 143pp.

Russel A. and A. Bauer. 1993. The Amphibians and Reptiles of Alberta. University of Calgary Press. Edmonton, Alberta. 264pp.

Stevens, V. 1993. Wildlife Diversity in British Columbia: Distribution and Habitat Use in Biogeoclimatic Zones Draft Report. Wildlife Interpretations Subgroup. B.C. Ministry of Environment, Lands, and Parks. B.C. Ministry of Forests. Victoria B.C.