SPECIES ACCOUNT

Species Data

Common Name:	Grasshopper Sparrow
Scientific Name:	*Ammodramus savannarum*
Species Code:	B-GRSP
BC Status:	Red-listed
Identified Wildlife Status:	Volume II
COSEWIC Status:	Not assessed

Project Data

Project Name:	Vernon Commonage Sensitive Ecosystems Inventory
Project Type:	Terrestrial Ecosystem Mapping
Area:	Central Okanagan
Ecoprovince:	Southern Interior
Ecoregions:	Thompson-Okanagan Plateau
Ecosections:	Northern Okanagan Basin (NOB)
BGC Units:	IDFxh1
Map Scale:	1:15 000

Distribution

Provincial Range

In BC, Grasshopper Sparrows are generally restricted to the Okanagan (particularly the north and south ends) and lower Similkameen valleys (Cannings 1995), but also occur near Cache Creek, in the Fraser Canyon south of Williams Lake, in the Nicola Valley, and possibly in the extreme southern Rocky Mtn. Trench (Fraser et al. 1999).

Elevation Range

In BC, breeding generally occurs between 300 and 500 m, but nests have been found up to 1160 m (Campbell et al. 2001).

Distribution in the Project Area

No known records in the study area, but occurs regularly at two sites in the North Okanagan: Middleton mountain and Goose Lake (Campbell et al. 2001, Ministry of Environment 2005).

Ecology and Habitat Requirements

Grasshopper Sparrows are migratory, arriving in BC in spring from early to mid-May and departing in the fall from September to mid-October (Cannings et al. 1987).

Nesting territories range from 0.4 to 1.3 ha in size (BC Environment 1996), situated in large tracts of grasslands. Nest construction begins in late May and egg laying begins early June (BC Environment 1996, Smith undated). Nests are built on the ground, usually at the base of a clump of grass or shrub, and are covered with a dome of overhanging grasses with a side entrance (Fraser et al. 1999). Second clutches are frequent in the species, but are smaller than first clutches which contain three to six eggs (Paczek 2002a). Renesting has not been recorded in BC (Campbell et al. 2001).

Grasshopper Sparrows occur in grasslands, with generally sparse shrub and grass cover, and patches of bare ground (Campbell et al. 2001), within expansive grasslands. Sites with surrounding coniferous or deciduous forest tend to be avoided, and they are highly correlated with the amount of shrub-steppe within a 2 km radius (Paczek 2002a).

Grasshopper Sparrows forage on the ground in open unvegetated areas for seeds, forbs and insects (Wiens 1973; Cannings 1995; BC Environment 1996). Insects comprise the majority of the diet, particularly of young, including grasshoppers, beetles and caterpillars (Paczek 2002a).

Predators of Grasshopper Sparrows include Red Fox, Raccoon, Striped Skunk, weasels, ground squirrels, hawks, Loggerhead Shrikes and snakes (Paczek 2002a). Trampling of eggs and nestlings by cattle is also a concern (Campbell et al. 2001).

General Living (Security/Thermal Habitat and Food)

Grasshopper Sparrows tend to avoid areas of dense shrub cover, although scattered shrubs are an important component of their habitat (Paczek 2002a). Grasshopper Sparrows are absent in fields where 35% of area is covered in shrubs, and prefer grasslands composed of short to middle height (20 to 60 cm) grass cover (Cannings 1995, Siddle 1993). During the breeding season, areas with lower grass cover, less litter and greater forb height and variability are occupied more than areas occupied during the non-breeding season (Wiens 1973).

Birds have been found in bluebunch wheatgrass, bunchgrass-sagebrush, rabbitbrush, crested wheatgrass and occasionally in very disturbed sites dominated by Russian thistle (Cannings 1995). In sagebrush habitats, they most commonly occurred in sites with sparse sagebrush, an abundance of cheatgrass and pasture sage, and needle-and-thread grass as the dominant perennial grass (Paczek 2002b). They will breed in areas of non-native grasses, but the structure must be similar to healthy native grasslands; they are not found in early seral stages of forests following clearing or fires (Cannings 1995).

Grasshopper Sparrows prefer lightly grazed or ungrazed grassland (Cannings 1995, BC Environment 1996). In tall and mixed grass communities of the prairies they respond positively to grazing, but in shorter grasslands and in shrub-steppe habitats they likely respond negatively due to increased shrub cover (Bock et al. 1992). However, in eastern Washington they were most abundant in sites with deep, loamy soil in fair range condition, or shallow soil in poor condition (Vander Haegen et al. 2000).

Although they have been positively associated with native perennial grasses (Vander Haegen et al. 2000), they were positively associated with cheatgrass and pasture sage, both weedy species, in sagebrush habitats of the south Okanagan (Paczek 2002b). Grasshopper Sparrows have also been more abundant in areas with abundant Eurasian weeds in other studies, but may be responding more to structure than floristics, or to increased insect populations (e.g., grasshoppers) in weedy areas (Paczek 2002b).

Grasshopper Sparrows showed a negative correlation with north aspects (Paczek 2002b).

Ratings

This model employs a 4-class rating scheme because there is insufficient knowledge of habitat requirements to use a 6-class scheme yet there is sufficient knowledge to go beyond a 2-class rating scheme. This complies with the recommended rating scheme in the RIC (1999) standards manual.

Provincial Benchmark

Ecosection	• NOB, STU, SOB, OKR (BC Environment 1996)
Biogeoclimatic Zones	• BG, PP, IDF
Habitats	• Open grasslands

Map Themes

Habitat Use	Life Requisite	Season	Rating Code	Ecosystem Attributes
Living	Security/ Thermal, Food	Growing season	LIG	• open grasslands

Ratings Assumptions

Living during growing season – Security/Thermal, Food (LIG)	
Site Series	• Grasslands rated up to High and shrub-steppe rated up to Moderate
Structural Stage	• Stage 2 up to High, stage 3 up to Moderate
Shrub Density	• Moderate (>30%) rated Low, dense (>50%) rated Nil
Range Condition	• Very poor (lack of bunchgrass – cn, cg, kc, sk) rated down 1
Aspect	• Cool rated down 1
Slope	• Steep rated down 1
Soil Texture	• No effect on rating
Soil Depth	• No effect on rating

Map Interpretation

This model generates one map theme: general living during the growing season (LIG), which includes nesting and foraging areas. The dot density method is used to display ratings, which applies dots of various shades (darker =higher suitability) randomly within the polygon, based on the percent area of the polygon receiving that rating.

The size of contiguous suitable habitats should be considered when interpreting the map. Grasshopper Sparrows prefer large expanses of grassland, and tend to avoid areas with surrounding forest. Small, isolated areas of potentially suitable habitat are less likely to be used.

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Grasshopper Sparrow Suitability - Vernon Commonage