

Grasshopper Sparrow (*Ammodramus savannarum*)

Species Status Statement

Distribution

The range of grasshopper sparrow extends throughout the Great Plains (where it is most common), across into the Midwest, and down the Atlantic coast. In the western US, its range is patchy and restricted to the remaining grasslands of Washington, Idaho, Utah, and California. In winter, individuals migrate to Mexico, northern Central America, and the southeastern US (Vickery 1996).

In Utah, grasshopper sparrow is generally restricted to the northern portion of the state for breeding (eBird). This sparrow occurs in the largest abundance in the higher marshes and grasslands around the Great Salt Lake, and north to the Idaho border following lower elevation CRP grasslands and farm field edges (eBird). During migration, the sparrow can be seen throughout the state in suitable habitat and along grassy habitat edges.

Table 1. Utah counties currently occupied by this species (eBird and Utah NHP)

Grasshopper Sparrow	
BOX ELDER	RICH
CACHE	TOOELE
DAVIS	UTAH
JUAB	WEBER

Abundance and Trends

The global population size estimate of grasshopper sparrow is 34 million, with roughly 97% breeding in the United States (Partners in Flight 2019a). Breeding Bird Survey (BBS) data show a significant range-wide decline of 2.49% per year (Sauer et al. 2017). At the current estimated rate of decline, grasshopper sparrow populations will decline by another 50% in 51 years (Partners in Flight 2019b). The Utah population of grasshopper sparrows is estimated to be 61,000 individuals (Partners in Flight 2019a). Utah BBS data have shown significant 2.49% declines per year from 1967-2015 (95% CI: -3.19 to -2.02; Sauer et al. 2017).

Currently the grasshopper sparrow is:

- Identified by the U.S. Fish and Wildlife Service as a priority species at the Bird Conservation Region scale, on the Birds of Conservation Concern list (draft USFWS 2017)

- Listed by Partners in Flight as “A Common Bird in Steep Decline” (Partners in Flight 2019a)

Statement of Habitat Needs and Threats to the Species

Habitat Needs

Grasshopper sparrows are generally found in open grassland and prairie habitats through their range. Dominant plant species vary; however the sparrows are found to prefer grasslands without extensive shrub cover. In the western US, grasshopper sparrows have a higher tolerance for shrubs interspersed within grasslands, including sagebrush. Western sparrows may depend on a proportion of shrubs to be present for nesting and cover (Bock and Bock 1992, Vickery 1996). These sparrows forage on insects and seeds from bare ground patches (Vickery 1996).

The habitat requirements of this sparrow have been extensively studied in the Great Plains and the northeastern US, but little is known about their habitat preferences west of the Rocky Mountains. Individuals are more likely to be in large, continuous tracts of habitat than in fragmented patches (Vickery et al. 1994). In Maine, minimum area requirements were found to be 100 ha (Vickery et al. 1994), and in Illinois to be 30 ha (Herkert 1994).

Threats to the Species

The main threat to grasshopper sparrow populations is reduction in suitable habitat. Prime native sparrow habitat is most often located in large, flat expanses which can be easily converted into agriculture or developed areas. Though effects of non-native grass conversion or encroachment is relatively unknown, in Oregon grasshopper sparrows preferred native bunchgrass to non-native grasses (Holmes and Geupel 1998). In Utah, areas with grasshopper sparrows are often already in agricultural production or in CRP, and both are at risk of urban expansion and potential non-native grass encroachment.

Grazing within grasshopper sparrow habitats appears to have mixed impacts depending on the region and grazing pressure. In Oklahoma, grazing of tallgrass prairies increased sparrow abundances (Saab et al 1995), while grazing in southeastern Arizona eliminated grasshopper sparrows from the site (Bock and Webb 1984). In California, grazing in one site reduced sparrow densities to small patches; when grazing was removed from another site, shrubs invaded and excluded the sparrows. It is thought that historical overgrazing in Utah, which replaced grassland with dense shrub cover, contributed to its rarity in the state (Behle et al. 1985).

Similarly to grazing, inappropriate fire regimes in grasslands may lead (with too-infrequent fire) to shrub encroachment, or (with too-frequent fire) weed invasion. When grasshopper sparrows breed in hayfields and other agricultural lands, timing of harvest has significant impacts on nest success. Early-season mowing is responsible for major nest failures of grassland birds (Bollinger et al. 1990, Rhodenhouse et al. 1995). Mowing during the breeding season leads to destruction of nests, site abandonment, and reduced cover for fledglings.

Table 2. Summary of a Utah threat assessment and prioritization completed in 2014. This assessment applies to the species' entire distribution within Utah. For species that also occur elsewhere, this assessment applies only to the portion of their distribution within Utah. The full threat assessment provides more information including lower-ranked threats, crucial data gaps, methods, and definitions (UDWR 2015; Salafsky et al. 2008).

Grasshopper Sparrow
High
Improper Grazing (historic)
Medium
Housing and Urban Areas
Roads – Transportation Network

Rationale for Designation

As noted above, grasshopper sparrow has undergone range-wide declines in the last few decades, including in Utah. Lack of suitable habitat through its range is the main cause of threats to the grasshopper sparrow. Designating grasshopper sparrow as a Sensitive Species will facilitate local research leading to better understandings of local occurrences and declines and will result in development of more robust management guidelines.

Economic Impacts of Sensitive Species Designation

Sensitive species designation is intended to facilitate coordinated management of this species, which is recommended to prevent the chance of an Endangered Species Act listing and related economic impacts, and to prevent the extirpation of the species from Utah. In Utah, grasshopper sparrow is largely reliant on private-lands agriculture: healthy grasslands and management practices such as the CRP Farm Bill program. Movement toward listing under ESA would affect the management and development of grassland, upland marsh, and other agricultural lands in Utah's northern counties. There would also be increased costs of regulatory compliance for many land-use decisions and mitigation costs.

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