

**STATE  
ENDANGERED**

**Grasshopper  
Sparrow**  
(*Ammodramus savannarum*)



Jonathan Mays

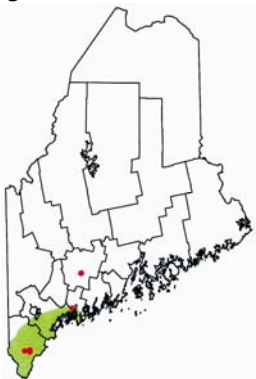
**Description**

The future of the grasshopper sparrow is tied inextricably to the fate of large grasslands, a rare feature amid Maine’s forest-dominated landscape. The grasshopper sparrow is a small, inconspicuous bird known for its buzzy, grasshopper-like song. This sparrow is five inches in length. It has a wingspan of about eight inches and a short, pointed tail. Its flat-topped head has a pale buffy-white central stripe. The unstreaked, cream-buff breast distinguishes it from other grassland sparrows. A yellow patch at the bend of each wing can be seen at close range. Its song is a high, hissing, insectlike buzz preceded by weak *tik* notes.

**Range and Habitat**

The grasshopper sparrow breeds in grasslands across the U.S., except for the Southwest. Maine is the northernmost extent of the breeding range in the East. Grasshopper sparrows are believed to nest at four or fewer sites in southern Maine. Wintering areas are in the southern U.S. and Central America.

This species requires grasslands of at least 30 acres and prefers fields greater than 100 acres. All breeding sites in Maine are greater than 200 acres. Preferred grasslands have short, native bunch grasses, patches of bare ground, and scattered forbs and short shrubs. Fence posts provide perches. Patches of bare ground are important to allow adults and young to run to escape predators and search for insects. These habitat characteristics are most frequently found in glacial outwash plains dominated by sandy soils. Breeding sites in southern Maine include airports and intensively managed blueberry



barrens. The Kennebunk Plains, at 600 acres, is one of Maine’s largest grasslands. It supports most of the state’s grasshopper sparrows. Individual birds also have been observed in blueberry barrens in eastern Maine, but is not believed to breed there.

**Life History and Ecology**

Grasshopper sparrows first breed at one year of age. Males arrive at breeding areas in late May, 5-10 days before the females arrive. Males establish territories and display to prospective mates from perches on weed stalks, shrubs, or fence posts. Nest-building begins immediately following pair formation. A cup nest is built on the ground, usually at the base of a shrub or clump of grass. The nest is domed with overhanging grasses and has a side entrance. Females lay between 3-6 eggs, although 4-5 is typical. The female incubates the eggs for 11-13 days, after which she broods the chicks for about 9 days. Both parents share feeding duties.

After the young leave the nest, they remain concealed below the vegetation. Fledglings disperse from their natal nesting territory, but are still fed by the female for an additional 4-19 days. Adults may produce two broods during the breeding season, which lasts from May through the second week of August.

The grasshopper sparrow forages exclusively on the ground. During the breeding period, insects, primarily grasshoppers, make up most of the diet. Seeds of various grasses and weeds comprise the remainder. Fall migration begins in mid or late August and continues through September.

**Threats**

Grasshopper sparrows were once common in New England; however, because of habitat loss mostly from forest succession, they now breed only at a few scattered locations in the Northeast, mostly at airports, military

bases, large blueberry barrens, and a few remnant sandplain grasslands. In the past 100 years, there has been a decline in the quantity and quality of grasslands for wildlife. Maine agricultural lands have diminished from 33 percent of the landscape to 6 percent as farmland has reverted to forests or been converted to residential and commercial development or gravel pits. In the Northeast, hayfields were traditionally not harvested until late summer and so provided ideal habitat for birds throughout the breeding season. Today, most hayfields are mowed earlier and more frequently, or are planted to crops. Pastures can be suitable habitat for grassland birds unless they are subject to heavy grazing. Extensive row crops or fields uniformly covered with mat-forming grasses are not suitable. Some agricultural herbicides and pesticides negatively affect grassland bird habitat or their insect food.

### Conservation and Management

The grasshopper sparrow was listed as endangered in Maine in 1986 because of small populations, declining habitat, and limited distribution in the state. At the peak of agricultural development, it was common in many large hayfields and pastures of southern and central Maine. After 1950, declining agriculture and increasing reforestation resulted in widespread loss of suitable breeding habitat. Since 1983, 20-80 territorial males have occurred annually at just four breeding sites in York and Cumberland Counties. Intensive site management, including prescribed burning, mowing, and curtailment of herbicide spraying, has been necessary to retain populations at Brunswick Naval Air Station, Kennebunk Plains, Sanford Municipal Airport, and the Wells Barrens; status at the latter two sites is uncertain. The continued existence of this species depends on maintaining large grassland communities. Additional research is needed to estimate population size, productivity, and limiting factors in different habitats and to assess management techniques. Reclamation of large sand or gravel pits with proper vegetation management may create suitable habitats. Grasshopper sparrow nests, eggs, and fledglings are strictly protected by the Maine Endangered Species Act.

The grasshopper sparrow shares its habitat with many other rare or uncommon bird species, such as the upland sandpiper (threatened), vesper sparrow, horned lark, bobolink, meadowlark, and northern harrier. All these species are reliant on grasslands; many are declining in the Northeast. Conservation of the grasshopper sparrow depends on protecting, maintaining, or enhancing the remaining grassland areas of the state, particularly fields greater than 100 acres.

### Recommendations:

- ◆ Prior to land development or managing grasslands and barrens in Central and Southern Maine, consult with a biologist from MDIFW to assist with planning.
- ◆ Municipalities should strive to maintain important grasslands and barrens identified by MDIFW as open space, identify these areas in comprehensive plans, and conserve accordingly.
- ◆ Use voluntary agreements, conservation easements, conservation tax abatements and incentives, and acquisition to protect important habitat for threatened and endangered species.
- ◆ Maintain known nesting areas in native grasses, such as little bluestem, or low-growing shrubs like lowbush blueberry and do not develop or convert them to other land uses; enlarge these whenever possible.
- ◆ When managing grasslands, employ best management practices using guidelines in Massachusetts Audubon Society's *Conserving Grassland Birds* publications ([www.massaudubon.org](http://www.massaudubon.org)).
- ◆ Avoid mowing nesting areas for brush control between May 1 and August 5. If mowing is necessary prior to early August, mark nest sites or locations of young birds and leave patches of unmowed grass or low-growing shrubs. Raise the mower to greater than six inches to prevent destruction of nests and young birds.
- ◆ Keep grazing animals off known nesting fields during the critical nesting period (May 1 to August 5).
- ◆ Maintain approximately 40 percent of the vegetation cover at a height of 8-12 inches, with minimal litter and grass cover. Maintain some patches of bare ground, scattered tall forbs (8-25 inches), and short shrubs for song perches.
- ◆ Manage multiple, contiguous fields to provide a mosaic of grassland types by mowing, burning, or late-season grazing. Mow every 2-5 years (not annually) to inhibit establishment of shrubs and trees.
- ◆ Burn fields every 5-10 years after September 1 or before May 1. Do not burn more than 50 percent of a grassland within a year.
- ◆ Avoid or minimize herbicide and pesticide applications, or employ integrated pest management techniques.
- ◆ Limit commercial gravel and sand mining in grasslands and blueberry barrens. Restore old gravel pits and agricultural fields to grasslands and low shrubs.