

# Savannah Sparrow

*Passerculus sandwichensis*

Savannah Sparrows are small, migratory songbirds whose breeding distribution includes the mid and high latitudes of North America, from the Russian island of Wrangel to Newfoundland, southward into south-central Mexico and along the western coast of Baja and western rim of the Sea of Cortez (Wheelwright and Rising 2008). This broad range includes diverse habitat types, including both freshwater and saltwater marshes, tundra, agricultural fields, and native and restored prairie. Wheelwright and Rising (2008) recognized seventeen subspecies and suggested that several may actually be sibling species. The Savannah Sparrow is likely the most abundant and widely distributed grassland bird that breeds in New England. In Vermont, this species benefited from eighteenth-century land clearing, breeding in habitats dominated by introduced grasses and forbs.

A grassland obligate species, the Savannah Sparrow uses nearly all of the grassland habitats throughout the state, from intensively managed dairy fields and pastures to old fields in the earliest stages of succession. Males arrive in mid-April and immediately begin singing their buzzing song from high perches. Females arrive a week later. From 2003 to 2007, N. Perlut and A. Strong banded 505 adult Savannah Sparrows and monitored 670 nests in Chittenden County. Females built open-cup nests with dried grass. Fifteen percent of the nests were built under the overhang of grass clippings. First eggs were documented as early as 7 May; the latest fledging was 24 August. Mean clutch size was  $3.9 \pm 0.75$  ( $N = 650$ ), incubation lasted 10 days, and nestlings remained in the nest for another 10 days. Neither egg-dumping nor brood parasitism by Brown-headed Cowbirds was observed. On the breeding grounds, adults primarily eat insects, but also feed on seeds, particularly dandelion, in the early summer. Nestlings were exclusively fed insects (Zalik and Strong 2008).

The timing of hay harvest largely determined the number of offspring fledged per female per year (Perlut et al. 2006) and adult survival (Perlut et al. 2008a). Incremental harvest delays of two weeks improved success. The number of offspring fledged per female per year rela-

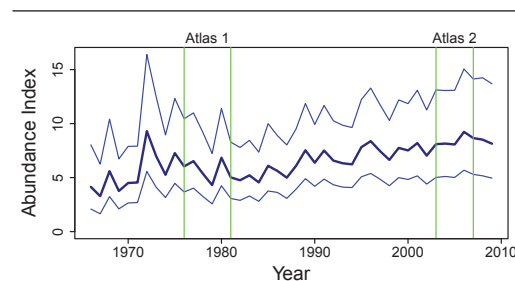


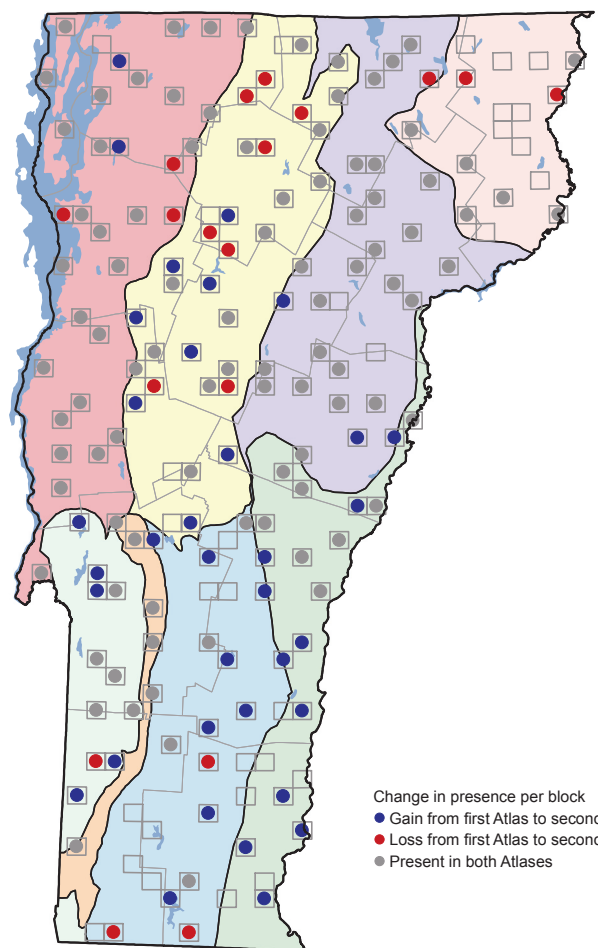
tive to timing of harvest was 1.3 on 11 June; 3.5 between 21 June and 11 July; and 3.3 on 1 August. While 100 percent of active nests failed during hay harvest, females began renesting as early as 1 day after the grass was removed from cut fields (Perlut et al. 2006). On intensive dairy hay-fields, females can lay up to six clutches (24 eggs), yet have no fledged young (N. Perlut unpubl. data).

The Savannah Sparrow was documented in 130 blocks across the state, a 15 percent increase from the first atlas. This species was most prevalent in the central and northern portions of the state, which include the Champlain Valley, site of approximately 146,000 hectares (360,770 acres) of managed grassland. This species increased substantially in the Southern Green Mountains, Taconic Mountains, and Southern Vermont Piedmont.

Breeding Bird Survey data from 1982 to 2007 show varying population trends across the Northeast. In Vermont populations increased annually by 2.1 percent, a trend that supports atlas findings. Populations were stable in New Hampshire and Maine, but declined by 2.7 percent annually in New York (Sauer et al. 2011). The second Pennsylvania atlas recorded a substantial 26 percent increase in the number of blocks populated by Savannah Sparrows (Wilson et al. 2012).

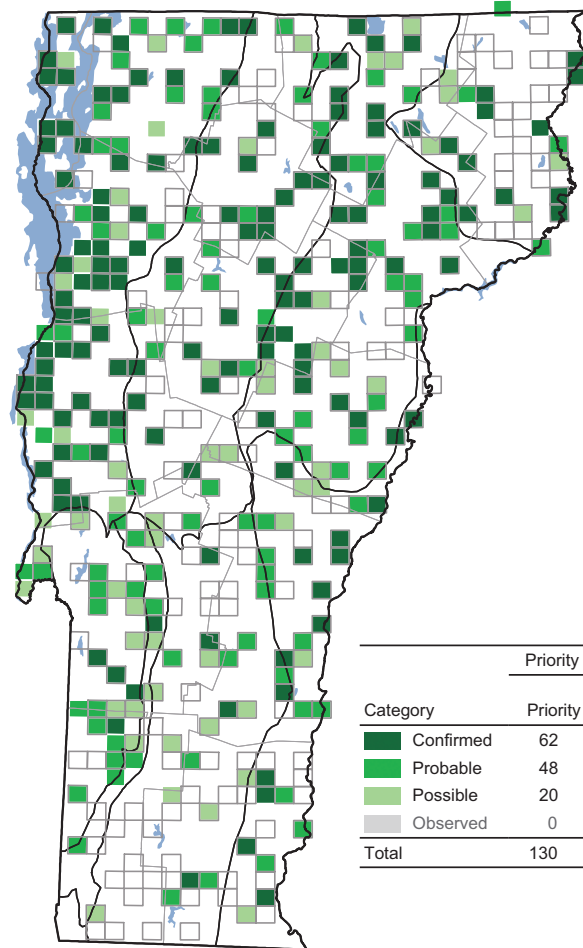
RELATIVE ABUNDANCE OVER TIME





**CHANGE IN DISTRIBUTION BETWEEN ATLASES**

| Biophysical Region        | First Atlas | Second Atlas | Change | % Change |
|---------------------------|-------------|--------------|--------|----------|
| Champlain Valley          | 30          | 29           | - 1    | - 3      |
| Northeastern Highlands    | 8           | 6            | - 2    | - 25     |
| Northern Green Mountains  | 23          | 23           | + 0    | + 0      |
| Northern Vermont Piedmont | 25          | 27           | + 2    | + 8      |
| Southern Green Mountains  | 8           | 13           | + 5    | + 63     |
| Southern Vermont Piedmont | 8           | 17           | + 9    | + 113    |
| Taconic Mountains         | 6           | 10           | + 4    | + 67     |
| Vermont Valley            | 5           | 5            | + 0    | + 0      |
| Totals                    | 113         | 130          | + 17   | + 15     |



| Category  | Priority Block Count |                |
|-----------|----------------------|----------------|
|           | Priority 1           | Priority 1 & 2 |
| Confirmed | 62                   | 126            |
| Probable  | 48                   | 85             |
| Possible  | 20                   | 45             |
| Observed  | 0                    | 0              |
| Total     | 130                  | 256            |

**DISTRIBUTION IN CURRENT ATLAS**

| Biophysical Region        | % of region species occupies | % of all records for this species found in region |
|---------------------------|------------------------------|---------------------------------------------------|
| Champlain Valley          | 91                           | 26                                                |
| Northeastern Highlands    | 43                           | 6                                                 |
| Northern Green Mountains  | 69                           | 18                                                |
| Northern Vermont Piedmont | 87                           | 22                                                |
| Southern Green Mountains  | 42                           | 9                                                 |
| Southern Vermont Piedmont | 62                           | 10                                                |
| Taconic Mountains         | 76                           | 6                                                 |
| Vermont Valley            | 75                           | 2                                                 |

Persistence and high annual survival rates have enabled the Savannah Sparrow to maintain populations throughout the state. Given this sparrow's use of diverse grassland habitats, numerous conservation measures can ensure viable populations in the future. Practical habitat management techniques should include annual cutting and hay removal after 1 August, although nestlings will sometimes be found in nests as late as 24 August. On intensively managed dairy fields, a first harvest by 1 June and a 65-day delay before the second harvest would ensure enough time for successful reproduction between

harvests. For rotational pastures, a similar 65-day delay between grazing periods would also support successful nesting.

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