

## Grasslands – Refuges

### Definition

Grasslands are anthropogenic areas dominated (>50%) by noninvasive (but often non-native) grass with a lesser abundance of forbs. They are typically cultivated for livestock forage, and do not include fields of cereal grains.

### Ecological Function

The primary function of grasslands is as habitat for species of birds that require grassland for breeding and foraging, particularly Bobolink, Eastern Meadowlark, and Savannah Sparrow. This element seeks to provide a minimum area and configuration of productive breeding habitat capable of supporting numbers of bobolinks, meadowlarks, and savannah sparrows that would prevent state listing as Threatened or Endangered. These areas also provide habitat for plants and numerous other species of wildlife that use grasslands for their life requirements.

### Priority Target for an Ecologically Functional Landscape

Three Refuges, covering a total of 7,500 acres, managed specifically for grassland birds in Addison, Franklin, and Orleans Counties, and located outside highest-priority landscape-scale elements. In Orleans County, 500 acres of Refuge areas should be located within the Lake Memphramagog watershed, in minimum contiguous suitable habitat areas of 100 acres. In Addison and Franklin Counties, 7000 acres of Refuge areas should be divided between the two counties, in minimum contiguous suitable habitat areas of 250 acres. Fields should be adjacent or in as close proximity as possible. Patches of managed grassland that are smaller than the minimum size may provide habitat of a lower quality, but still have value, particularly if grouped near larger patches.

#### *Highest Priority:*

All reserve areas are Highest Priority

### Guidelines for Maintaining Ecological Function

The management regime of grasslands is essential. Disturbance must be often enough to maintain quality grassland, and (optimally) remove thatch to allow vigorous growth. Management must not, however, destroy nests during the breeding season (generally, May to early August).

In grassland refuges, mowing or other management should take place after August 1. Grassland patches should be larger than 25 acres, which will meet the needs of bobolink and savannah sparrow and will contribute to the needs of other species. Patches that are blocky or circular have more interior grassland area and will support more birds. Trees within the grassland will generally lower the habitat use and should be absent or limited to a small number of individual trees (not a treeline or island). Mowing regimes should be designed to incorporate best management practices for birds and reptiles.

## Mapping Comments

Inventory is needed to identify and assess suitable locations for achieving these targets. Grassland refuges are not mapped at this time.

## Restoration Needs

Efforts on grassland should focus on maintaining and improving existing grassland areas and supporting grass-based agriculture over intensive row crops or other land uses.

## Methods and Rationale

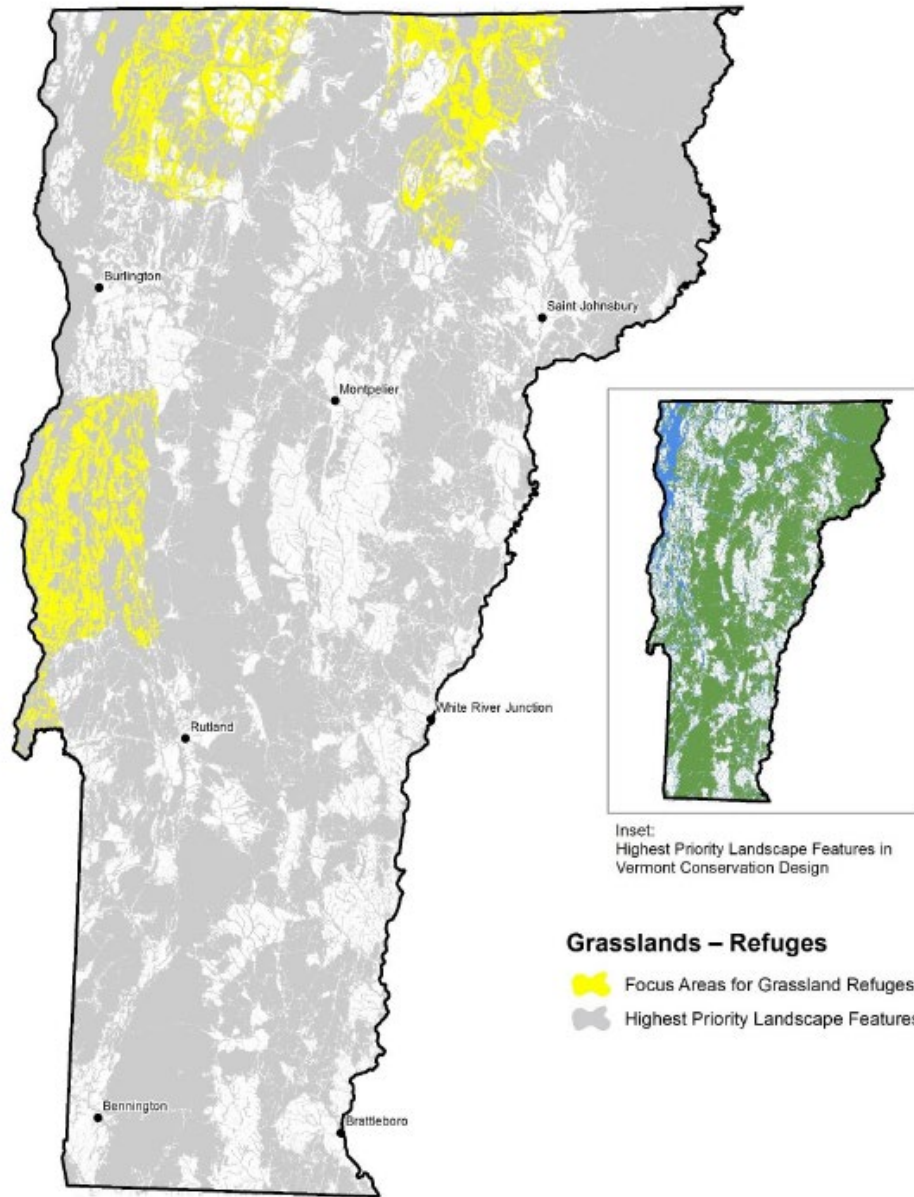
The wildlife species that rely on grasslands are experiencing some of the gravest declines across the both the US and the northeast. Habitat loss from development and loss of functional habitat through agricultural intensification are the primary threats to these species in Vermont.

Maintaining and enhancing grasslands of sufficient quality, size, and arrangement will enable populations of birds, plants, and other animals to persist in Vermont into the future.

Specifically, these targets were developed based on the habitat needs of three umbrella species: bobolink, eastern meadowlark, and savannah sparrow. These common grassland species and their biological needs are broad enough to reflect the needs of the majority of obligate and facultative grassland wildlife species, though they do not capture the needs of all grassland dependent species. Very rare species (e.g., vesper sparrow) and species with unique requirements (e.g. northern harrier, American kestrel) likely need fine filter consideration.

Long-term persistence of these three umbrella species is best achieved with dedicated habitat management. Acreages were derived by calculating the area needed to support a breeding population of at least 500 pairs. This ensures populations are above the threshold for listing as State Threatened or Endangered. Focus regions were chosen based on the presence of large areas of grassland and abundant grassland birds.

Map 9: Grassland Refuge Target Regions



Refuges are targeted outside of the highest priority landscape-scale elements.



### For more information

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