

## CONSERVATION OF GRASSLAND BIRDS IN THE NORTHEAST

by Robert A. Askins

The three articles on grassland birds in this issue reflect a growing interest in the future of grassland birds in eastern North America. The recent concern about these species comes surprisingly late in the course of population declines that have proceeded steadily for many decades. Although considerable attention has focused on migratory forest birds, grassland birds have shown much more severe and consistent declines (Peterjohn 1994). In fact, Breeding Bird Surveys indicate that the majority of woodland bird species in eastern North America have shown increasing population trends since 1966, while the majority of grassland and savanna species, such as Northern Bobwhite, Vesper Sparrow, Grasshopper Sparrow, Henslow's Sparrow, and Eastern Meadowlark, declined on eastern Breeding Bird Survey routes by more than two percent per year between 1966 and 1991. These species will soon disappear if this rate of decline continues. Already, many grassland species are listed as endangered, threatened, or species of special concern in New England and New York (Vickery 1994). The Upland Sandpiper and Grasshopper Sparrow (both of which were common in the nineteenth century) have disappeared from most of New England, and the Henslow's Sparrow is virtually extirpated from the region. We face the prospect of losing almost an entire community of bird species from the region.

Although the steady decline of grassland birds has been obvious for decades, it was largely ignored by conservation organizations and wildlife agencies. Grassland birds are typically found in hay meadows, pasture, or the mowed areas around airport runways. These artificial environments are of little interest to organizations dedicated to protecting wild nature, and a common interpretation is that the decline of grassland birds is an inevitable consequence of the return to the heavily forested conditions that characterized New England before the land was cleared by Europeans (Whitcomb 1987). However, historical descriptions of New England at the time of European settlement indicate that there were many openings in the forest, and that some areas were treeless and grassy (Whitney 1994). Most of these open landscapes were probably created by Indians, who burned large areas to improve hunting and to clear land for farming (Day 1953). Fields were abandoned when soil fertility declined after a few years of farming. Consequently, forest was constantly cleared to create new fields, resulting in a mosaic of old fields and forest in various stages of succession (Whitney 1994).

Some sandy, fire-prone areas may have been open grassland even before agriculture first appeared in the Northeast about 3000 years ago. Moreover, transitory grasslands were continually produced by various types of natural

disturbance. Grassy meadows grow in the dry beds of abandoned beaver ponds (Remillard et al. 1987), and low vegetation was occasionally produced by intense fires. Thus, many grassland bird species may be ancient components of the New England landscape rather than recent interlopers from the midwestern prairies.

Although there are historical records of the eastward spread of Horned Larks and Dickcissels from the Great Plains to the East Coast (Hurley and Franks 1976), most eastern grassland species were recorded along the East Coast by John James Audubon, Alexander Wilson, and other early ornithologists. If these species moved from western prairies to eastern farmland, the process must have occurred immediately after European settlement. Significantly, two grassland specialists, the Henslow's Sparrow and the Greater Prairie Chicken, have eastern populations that are distinctive enough from the populations of the western prairies to have been classified as subspecies. The Eastern Henslow's Sparrow (*Ammodramus henslowii susurrans*) has a breeding range restricted to central New York and southern New England south to Virginia, eastern West Virginia, and North Carolina (Smith 1968). It is darker than the western subspecies of Henslow's Sparrow, with a stouter bill, more buff on the underparts, and more yellow in the wing (Smith 1968). The eastern subspecies of the Greater Prairie Chicken was the extinct Heath Hen (*Tympanuchus cupido cupido*). During the early years of European settlement, Heath Hens were common or even abundant in open grasslands and scrublands on Long Island and around Boston, and they ranged along the coast from southern Maine as far south as Virginia (Gross 1932). The existence of these two distinct East Coast forms indicates that grassland habitat has been present long enough for distinctive populations to evolve.

Hence, we have evidence that both grassland habitats and grassland birds were part of the landscape of the East Coast long before European farmers cleared the land. Early successional species, including grassland species, are an important component of regional biological diversity. They generally have not received as much attention as forest and wetland species, however, because they primarily depend upon artificial or semi-natural habitats such as fallow farmland or hay meadows. Beavers and wildfires do not produce natural grasslands and shrublands as frequently as they did in the pre-settlement landscape.

The papers in this volume illustrate two of the approaches that are needed to preserve grassland birds: locating and maintaining existing populations, and creating habitat that will support new populations. Andrea Jones and Peter Vickery describe a statewide survey of grassland birds in Massachusetts that was organized by the Massachusetts Audubon Society (an organization that has taken a leading role in efforts to protect grassland communities). They show that a handful of sites accounts for most of the state population for several species of grassland birds. Most of these sites are airfields with extensive mowed grassland

around the runways. Without careful habitat management at these sites, these species are likely to disappear from Massachusetts. The successful attempt to increase the nesting success of Grasshopper Sparrows and Upland Sandpipers at Westover Air Base (Melvin 1994) shows that habitat management can be effective.

The two papers by Steve Ells also illustrate the effectiveness of careful management for the recovery of grassland bird populations. Bobolinks in hay meadows that were not cut until after the breeding season had much higher reproductive rates than those in meadows that were mowed in early summer. Most surprising, one of the fields that was managed for Bobolinks attracted a breeding pair of Henslow's Sparrow, a species that has almost disappeared from Massachusetts (Veit and Petersen 1993). This is an extreme example of the ability of grassland birds to colonize favorable habitats. This capability was also dramatically demonstrated when abandoned strip mines in heavily forested areas of West Virginia were restored and seeded with grass. Horned Larks, Eastern Meadowlarks, Savannah Sparrows, Vesper Sparrows, and Grasshopper Sparrows colonized these new grasslands (Whitmore and Hall 1978), showing that even extremely isolated grasslands can attract breeding populations of grassland birds.

Grassland birds can be retained in New England and other parts of eastern North America not only by identifying and maintaining appropriate habitat at localities where they presently occur, but also by creating new nesting habitat in places where they have disappeared. Because their habitat can be sustained only through mowing, burning, or other types of vegetation disturbance, the future of grassland birds in eastern North America will depend largely on how much favorable habitat is created for them as a result of activities such as farming and airport maintenance.

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