

Grassland Conservation Newsletter



Center for Biological Conservation
Massachusetts Audubon Society



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The Grassland Conservation Program



BARRY VAN DUSEN

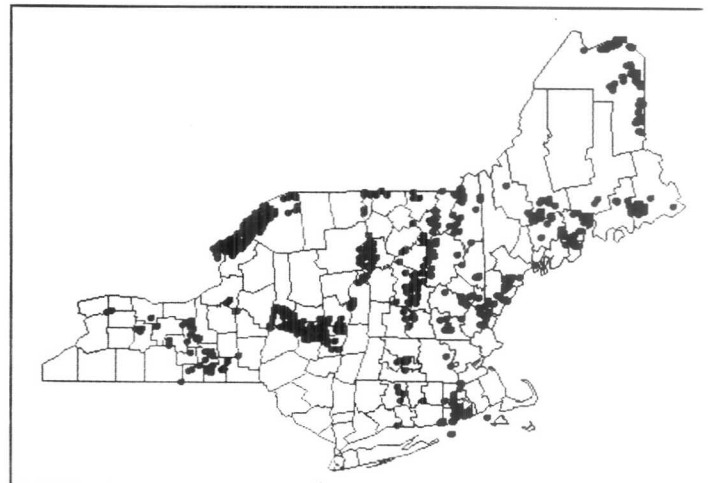
The Grassland Conservation Program at the Center for Biological Conservation, initiated in 1993, is a regional effort to preserve grassland habitats that provide breeding and feeding sites for a wide variety of birds, plants, and butterflies. Program staff are working with private landowners, universities and airports, and state and federal agencies to promote effective conservation practices for these grassland sites. Staff scientists also study grassland birds to document reproductive success and habitat selection as part of a national network of grassland ecologists. Program funds are used to carry out, in partnership with a variety of state and federal agencies, a regional inventory and evaluation of threatened grassland areas and to create management plans for their preservation.

Grasslands, once common habitat throughout the New England landscape supporting endemic species such as the now-extinct Heath Hen, have declined rapidly in the region in the past century. Many birds, plants, and butterflies that require grasslands for breeding and feeding habitat are declining throughout New England. At least six grassland bird species are recognized as regionally endangered or threatened in many New England states (Northern Harrier, Short-eared Owl, Upland Sandpiper, Loggerhead Shrike, Grasshopper Sparrow, and Vesper Sparrow). The Regal Fritillary, a grassland butterfly, has recently become extirpated from Massachusetts and most of New England. Additionally, numerous endemic plant species, such as Northern Blazing Star, are also declining and are considered threatened or endangered.

The Grassland Conservation Program is a proactive effort that seeks to anticipate extirpations and the prohibitive costs they entail.

Program Highlights, 1993-1997

- 1993-1997: Inventoried grassland birds in southern Maine and Massachusetts.
- 1994: Organized Northeast Grasslands and Heathlands Conference at UMass, Amherst.
- 1995: Secured Vesper Sparrow and Grasshopper Sparrow state listing as threatened based on recommendations made to Massachusetts Division of Fisheries and Wildlife.
- 1995: Cochaired scientific committee for International Conference and Training Workshop on Conservation and Ecology of Grassland Birds.
- 1995: Formed Northeast Grassland Bird Working Group through Partners in Flight; published annual newsletter.
- 1996: Initiated four-year study of Grasshopper Sparrow metapopulation dynamics in Massachusetts.
- 1997: Published *Grasslands of Northeastern North America: Ecology and Conservation of Native and Agricultural Landscapes*.
- 1997: Published 3 booklets, *Conserving Grassland Birds*; to date, 4,000 copies have been distributed in 14+ states.
- 1997: Completed first year of seven-state inventory (New England and New York) for breeding grassland bird distribution and abundance.
- 1997-98: Edited *Ecology and Management of Grassland Birds of the Western Hemisphere*, expected publication date: December 1998.



Areas surveyed in New England and New York in 1997.

Field Season Site Summaries:

Westover Air Reserve Base, Chicopee

This base contains the largest contiguous grassland in Massachusetts, encompassing approximately 1,600 acres, and is home to the region's largest populations of Upland Sandpipers and Grasshopper Sparrows. Program staff banded Grasshopper and Savannah sparrows at this base in the 1996 and 1997 field seasons, as part of a four-year metapopulation research project. A total of 167 Grasshopper and 22 Savannah sparrows have been banded with US Fish and Wildlife Service metal bands and color bands. Future field seasons will focus on relocating banded individuals. Dr. Scott Melvin, Massachusetts Division of Fisheries and Wildlife, conducted a thorough inventory of breeding grassland birds on the base in June 1997. Melvin reports that these totals were less than the 1995 survey results, except for Upland Sandpipers and Killdeer (unchanged) and Red-winged Blackbirds (increased). A total of 152 singing male Grasshopper Sparrows and 118 adult Upland Sandpipers were counted. See page 8 for complete survey results.

Turners Falls Airport, Turners Falls

Turners Falls airport, located near Montague, is a small privately owned airport, adjacent to an area known historically as Montague Plains. The 87-acre airfield is characterized as having dry sandy soil, which provides suitable vegetation structure for Grasshopper Sparrows. Massachusetts Audubon summer intern Darcie Vallant surveyed the airfield and found five pairs breeding. Eight Grasshopper Sparrows were banded at the airfield during the 1997 field season. Silvio O. Conte National Fish and Wildlife Refuge has included this site as part of its grassland bird project, and staff are working with the airport manager to protect nesting birds and plant sandplain species such as Wild Lupine.

Parachute Landing, Fort Devens

Located on the former Fort Devens military installation in central Massachusetts, the parachute landing area, encompassing 212 acres, has been an important breeding site for Grasshopper Sparrows, Vesper Sparrows, and other grassland birds. Each year, one pair of Upland Sandpipers has been found nesting in the landing. Surveys this year were conducted by volunteer Ron Lockwood. Lockwood visited the site 10 times during the breeding season to document singing males and reproductive success: 30 male Grasshopper Sparrows were counted. This area continues to be used by the military for parachute training and is also managed for grassland birds, through a combination of mowing, burning, and cutting of woody vegetation. Lockwood plans to begin banding Grasshopper Sparrows at the landing in the 1998 field season.

Orange Airport, Orange

Orange Airport, located in north-central Massachusetts, is a 190-acre privately owned airfield. Surveys of this site have been conducted for several years by Dave Small of the Metropolitan District Commission. Small has been working with the airport manager and the town conservation commission to recommend mowing practices to benefit breeding grassland birds. This year, Small observed one pair of Grasshopper Sparrows and two pairs of Vesper Sparrows. Airport manager Lenny Bedaw is implementing several management recommendations based on Massachusetts Audubon's *Conserving Grassland Birds* booklet. At a recent meeting of the Orange Conservation Commission, Mr. Bedaw reported his adoption of the management recommendations. Commission members were pleased with the concern for listed species and encouraged continuation of habitat management. This positive response has opened the door for more grassland management options at the airport in the future.

Hanscom Field, Bedford

Hanscom Field, located in the suburbs of Boston, includes 150 acres of grassland, and has been an important site for Upland Sandpipers and Grasshopper Sparrows. Volunteer Ron Lockwood continued his second year of weekly breeding season surveys of the grasslands. In 1997, Lockwood counted 12 adult Upland Sandpipers and 6 male Grasshopper Sparrows. Numbers of these species were lower this year, although Bobolinks that usually only breed outside the fences on adjacent hayfields bred on the property this year. Last year, Lockwood convinced airport managers to discontinue their weekly mowing on portions of the airfield containing nesting birds. Each year, Lockwood will work with airport managers to locate areas of nesting birds and offer management recommendations. With Lockwood's efforts, Hanscom Field will continue to be an important breeding area for some of the region's rarest grassland birds.

Nashawena Island

Part of the Elizabeth Islands chain, Nashawena Island supports the second largest breeding population of Grasshopper Sparrows in Massachusetts. Nashawena is a 2,000-acre private island containing heathlands and grasslands, barrier beaches, wetlands, and oak woodlands. The owners, the Nashawena Trustees, have contracted The Trustees of Reservations to develop a habitat management plan for the island. Massachusetts Audubon is providing assistance by monitoring and studying the populations of grassland birds on the island. In the past two field seasons, 99 Grasshopper and 6 Savannah sparrows have been banded with USFWS and color bands, using the same procedures as those employed at Westover Air Reserve Base. With this

1997 Field Notes - Monitoring the Grasshopper Sparrow

by Laura Gladys Liptak

Setting plots: ...We have waded the grassland with compass, measuring tape, and orange plastic flags; high-stepped through scrub oak, lowbush and highbush blueberry, huckleberry, native sandplains grasses; and extracted our pincushioned calves from the bloodiest claws around - catbrair and lots of it. Having arranged our orderly grids among the twine and snag, the future of many can be extrapolated from a banded few....

Mist netting: ...The twenty-foot nets are only slightly stiffer than silk thread, loosely woven and secured at each end by five, soft, nylon loops. We slide them over six-foot metal poles and beat them into the ground with our heels. Usually, a tape of Grasshopper Sparrow songs playing nearby helps lure the curious, territorial bird into the net. Not today. For awhile, one of us hid behind shrubs while the other two attempted to flush birds by circumnavigating the area. Finally, we all gave up and hid - hour after hour, 90-degree heat, brushing off red ants and slathering on sunblock, we waited for a strike...tirelessly, the tape buzzed "tip-tup-a-zeeeee," followed by the sustained song that wobbled and squeaked like a rusty clothesline across the silver-green grassland. The "real" sparrows twiddled their toes silently under the huckleberry beside the Common Yellowthroat and Eastern Towhees, while above our heads Turkey Vultures wound past and Barn Swallows crosshatched the sky looking for insects. Andrea spotted an immature Bald Eagle, Darcie a Purple Finch... Four o'clock, same setup; elsewhere, we netted two males. Bird in hand, I'm always impressed by the goldenrod lores and shoulder edging that is rarely

distinguished in field guides. After slipping on the colored leg bands, I measured the wing spread, the molt; noted any ectoparasites and blew gently on the breast and underwing to eyeball the fat level. A distance from the net, I opened my fingers and the bird pressed off, returning to its original perch to belt out a few nasty chips - "tsik, tsik, tsik"...

July Drought: ...It's a new landscape! Half an inch of rain in the past month. The grassland's slick edged waves, limber under our boots last month, rasp and hiss. The Grasshopper Sparrows have fledged from under desiccated clumps of grass, and our banding is somewhat steady. As opposed to the buff-breasted adults, the Grasshopper fledglings wear a beaded necklace that is hard to distinguish in the field from that of Savannah Sparrows, but Savannahs are usually too crafty to land in the net. They like to perch on it instead!

The tail of Hurricane Daniel: ...Yesterday, our bird chasing came to a sudden halt with marine forecasts of high winds and rain. Though dusk and drizzle, we hiked away from our leaking tent to warm beds at the caretaker's farm. Winds gusting to 50 knots; our sagging tent and everything inside got drenched, including the data sheets. Yet, this morning - stillness. Tree Swallows pluck insects from the damp air over the caretaker's victory garden, and in the grassland beyond, a Grasshopper Sparrow perches on a spike of Butterfly Weed. The frail clarity of its buzzy song soothes away the fracas of the storm.

study, we hope to determine rates of dispersal and between-site movements as well as document breeding success. Twenty-eight survey points have been established throughout the prime grass and shrub habitat on the island to document changes in avian communities long-term. During the 1997 field season, 95 Grasshopper Sparrows were counted at these points and research plots. For the first time in several years, a pair of Northern Harriers (state listed as threatened) appear to have nested on the island last summer. With the help of The Nature Conservancy, small-scale burns are planned to enhance grassland habitat.

Katama Plains, Martha's Vineyard

Katama Plains is a 190-acre native sandplain grassland located on the southeastern end of Martha's Vineyard. This site, while an active airfield, is managed by The Nature Conservancy (TNC). Nan Harris, TNC volunteer, has been monitoring the populations of Grasshopper Sparrows on the plains for two years. This year, Harris counted only six territorial males while in 1996 she counted ten. Numbers of breeding pairs have fluctuated and more recently declined in the past eleven years, although TNC continues management practices, such as prescribed burning, to enhance the grassland habitat. In 1996, Massachusetts Audubon staff banded 4 singing male Grasshopper Sparrows, and

in 1997, 3 of them returned to the same plain. (See p. 5 for more on Katama Plains).

Capped Landfills

Landfills have recently become breeding habitats for grassland birds. Full landfills are capped with plastic and then covered with soil and planted with grasses. Some larger landfills have created well-drained grassland habitats suited for many species of grassland birds. During the 1997 field season, Massachusetts Audubon intern Laura Liptak surveyed two capped landfills in central Massachusetts that have supported populations of breeding Grasshopper Sparrows for the past several years. At Clinton landfill, approximately 45 acres, Liptak found no breeding Grasshopper Sparrows this year, although one male was seen at the beginning of the field season. In 1994, a high of 7 singing males were counted. At Worcester landfill, approximately 60 acres, Liptak counted 4 pairs of Grasshopper Sparrows in addition to breeding Bobolinks, Savannah Sparrows, and Eastern Meadowlarks. In 1994, 8 singing male Grasshopper Sparrows were observed. We will continue to work with these and other towns with capped landfills to offer management recommendations so that they may continue to provide sanctuary to grassland birds.

1997 Regional Grassland Bird Survey

During the 1997 field season, Greg Shriver at the Massachusetts Audubon Society coordinated a regional survey of breeding grassland birds in New England and New York. Peter Vickery and Andrea Jones of the Grassland Conservation Program oversaw completion of this regional effort. This project, funded by a matching grant from the National Fish and Wildlife Foundation and the Davis Conservation Foundation, was complemented by grassland bird survey work already in progress in each state. Ten field technicians were employed and distributed throughout the seven-state region. Two of these people were provided by the Maine Department of Inland Fisheries and Wildlife.

Over 1,000 sites were censused for eight species of grassland birds across the Northeast. These sites included hayfields, fallow fields, pastures, airports, and military bases from northern Maine to western New York. Efforts focused on areas that were historically recorded as grassland bird breeding areas. This project was aided by the cooperation of numerous state and federal agencies, conservation organizations, ornithologists, and birding enthusiasts. The contacts made during the course of this project enhanced communication and improved the coordination of many regional and local grassland bird conservation actions.

The Natural Resource Conservation Service was integral in helping us select sites by providing access to aerial photographs of each county within each state. We considered sites suitable if they were clear of trees and shrubs, were greater than approximately 5 ha (12 acres), and were dominated by grasses and forbs. Each site was surveyed using 100 m radius point counts. Bird abundances were then summarized across the region and within each state. All site coordinates were recorded and generated into a Geographic Information System (GIS) coverage for future analysis and surveys.

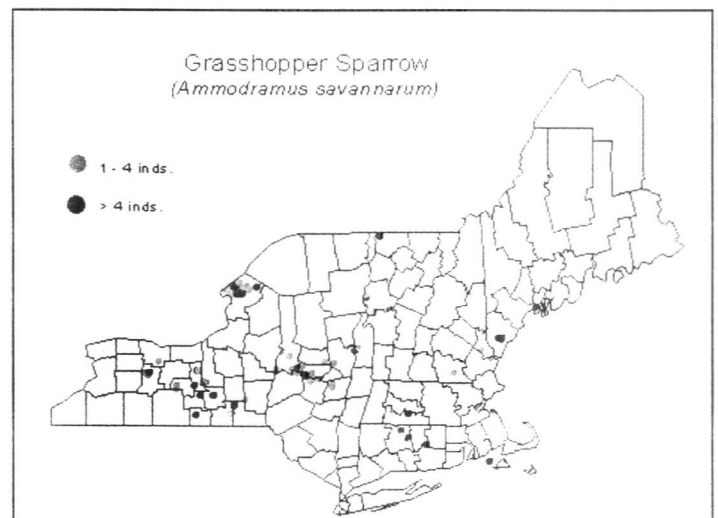
Of the eight species surveyed, Savannah Sparrows, Bobolinks, and Red-winged Blackbirds were the most common, occurring on 60 percent of all points in the region. Eastern Meadowlarks were detected on 23 percent of all points. Vesper Sparrows, Grasshopper Sparrows, Upland Sandpipers, and Henslow's Sparrows occurred on fewer than 15 percent of the surveys. Results of these surveys and GIS maps will be posted on Massachusetts Audubon's website (www.massaudubon.org) by mid-1998, or a final project report can be obtained by contacting Andrea Jones (phone: 781-259-9506 x 7406; e-mail: ajones@massaudubon.org).

This project would not have been successful without the cooperation of numerous individuals and agencies throughout the region, and we are thankful to all involved.

Efforts to Gather Regional Grassland Bird Data

In collaboration with Jeff Wells, director of Bird Conservation for the National Audubon Society Important Bird Areas Program, US Fish and Wildlife Service, and Partners in Flight Northeast region, there is a plan to begin gathering information on existing grassland bird data in Pennsylvania, Virginia, West Virginia, New Jersey, Delaware, and Maryland. In 1997, the Massachusetts Audubon Society coordinated a regional survey of grassland birds in New England and New York. We plan to broaden this database by including existing information on breeding grassland birds throughout the US Fish and Wildlife Service (USFWS) Northeast Region (Region 5), particularly in states not covered by Massachusetts Audubon's 1997 survey. This compilation of data will enable us to produce maps that include all major breeding sites throughout Region 5. We think this will be a valuable resource for future conservation initiatives that focus on these declining grassland species. This summer, regional distribution maps by grassland species will be available on Massachusetts Audubon's web page (www.massaudubon.org).

A parallel project aimed at gathering more information on abundance and distribution of grassland birds will be initiated in the 1998 field season by the USFWS Region 5. A wildlife inventory management plan for all refuges is currently being developed by Jennifer Casey at the Lake Umbagog National Wildlife Refuge in New Hampshire. The primary objective is to provide baseline information about grassland birds that occur on refuges during the breeding season. This information will be used to monitor grassland management practices across the region. Included in this plan are detailed instructions of standard protocol procedures so that data will be collected in a consistent manner and be comparable to data collected by Massachusetts Audubon in 1997. The results of this cooperative effort will be added to our regional database and GIS distribution maps and eventually posted on the web page.



Grasshopper Sparrow sites in New England and New York in 1997.



Bobolinks

during this year's nesting season. In most of the fields surveyed, only four of the seven grassland species included in the study were sighted. The most diverse field was Turners Falls Airport, where Eastern Meadowlarks, Killdeer, Horned Larks, Savannah Sparrows, and Grasshopper Sparrows nested this year. Vallant also spotted a lone Clay-colored Sparrow at this site, a bird not normally found this far east and possibly expanding its range.

State-threatened Grasshopper Sparrows were absent at all of the other sites, even in areas where they were found in previous years. And, as reported by Vallant, one of the airport's five pairs was disturbed by July mowing as they attempted to fledge a second brood.

When this experimental project is completed in the year 2000, a management and education plan will be created, recommending treatments such as mowing, controlled burning, grazing, invasive plant control, and planting of native warm-season grasses. Some of these techniques are already being implemented at various sites. Refuge staff biologist Beth Goettle says that they hope to keep expanding the project each year, all the way to Coos County, New Hampshire, an area currently supporting nesting Northern Harriers.

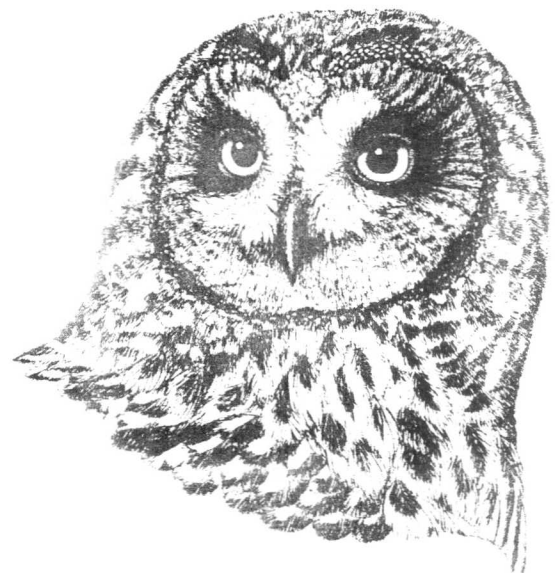
Short-eared Owls Return to Martha's Vineyard

It has been ten years since the last pair of Short-eared Owls nested on Martha's Vineyard. No one knows why the birds abandoned the Island, but one theory is that the Island's booming skunk population finally routed its way into the sandplain grasses and discovered owl ground nests to be easy picking.

Late last May, two Short-eared Owls were spotted at a 190-acre airport on Martha's Vineyard known as Katama Plains. The Nature Conservancy was just beginning the eleventh year of a Grasshopper Sparrow monitoring project on the site, when TNC volunteer Nan Harris spotted one owl perched in a low snag and another on the ground nearby. Harris, who surveyed the area three to four times weekly, saw the owls eight times over the next

couple of months. Her supervisor, Tom Chase, the regional ecologist for TNC, also witnessed the birds twice at dusk hunting and circling the plains.

Walking through Katama Plains is prohibited because it is an active airfield that contains many rare fragile plants and ground-nesting birds. Therefore, to prevent temptation and the risk of disturbing the owls if they had a nest, special care was taken to hush the owl sightings from an eager birding community. The Nature Conservancy even barred volunteers from entering the shrubby site to document the presence of a nest for fear skunks might follow the scent. "Unfortunately," says Harris, "no one ever saw young, so we're not sure if they bred successfully or at all." There is also the possibility that the owls were young or the same sex. Last sighted in early July, the two owls were generally seen near the territory of a pair of Northern Harriers. The future for Short-eared Owls on Katama Plains is unclear, but the area will be closely monitored next year for signs of their return.



Short-eared Owl

Grassland V Golf Course: Natick Resident Tries to Steer Fate of Landfill

Jackie Boucher describes herself as "a concerned citizen activist...fighting for the critters" of Natick's soon-to-be-capped landfill and its surrounding acres of woodland and wetland habitats. If town administrators have their way, it won't be long before bulldozers arrive at the 34-acre landfill and approximately 66 adjacent acres of its environs to construct a proposed 9-hole golf course. Boucher would like to see the landfill used as conservation grassland habitat that would help protect nearby wetlands that form the head of Indian Brook, which flows directly into the Charles River. She also envisions a trail system where, for years to come, people could study and enjoy the diversity of habitats and native species.

When the golf course was first proposed in 1995, Boucher began to wonder why no alternatives had been explored, especially ones that might preserve such an ecologically sensitive area. As a concerned citizen, she was concerned that a notice of intent was filed for the golf course before a qualified biologist was hired to survey the area for rare and endangered species. It seemed curious that the only preliminary study initiated by proponents claimed that a golf course would result in 30 acres of additional grassland habitat. As it turns out, those 30 acres were to include the noncontiguous unmanicured green areas around each hole.

"Even though it's a landfill, I think it's important to look beyond that and see the bigger picture," Boucher says. She is saddened by the limited view many Natick residents have concerning local preservation efforts. As one letter to the editor of a local paper put it, "We find it hard to believe that people would choose an eyesore like the dump over a beautiful new golf course."

Ever since the town proposed the golf course two years ago, she has worked tirelessly to force city officials to survey the present natural diversity on the site and assess the impact such development might have. As a result of her efforts, the Natick Conservation Commission hired Hyla Ecological Associates biologist Bryan Windmiller to evaluate the land. During his visit, he identified one vernal pool and discovered the presence of the Mystic Valley Amphipod, a state-threatened species. At an earlier date, Boucher and a biologist who volunteered his services located and certified two vernal pools on the Sherborn portion of the land included in the proposed golf-course layout. At great expense, developers were forced to scrap their initial course layout. Boucher remains "cautiously optimistic" that when the town files its official notice of intent within the next couple of months, the certified wetland may ensure the future rehabilitation of the landfill into high-quality native grassland.

Grassland Friends Score Victory in Littleton

Four Littleton residents scored a victory for grassland preservation this year when they persuaded their town to purchase 113 acres of open space, including 25 acres of grassland habitat. Linda Cantillon, Sarah Foss, Patty Townley, and David Koonce joined forces as the Friends of Open Space (FOOS) nearly two years ago, after learning that a unique tract of grassy hills, marshland, forest, and shoreline was being sold to a housing developer.

Friends of Open Space had no trouble highlighting the valuable attributes of the tract. The Frost/Whitcomb property, as it is known, serves as a natural greenbelt between Acton and Groton and contains an established wildlife corridor connecting it to the adjacent Sarah Doublet Forest. Well-worn recreational trails through the property have served the Littleton community for many years; and it protects 1,700 contiguous feet along the edge of Long Lake.

In a stroke of luck for the open-space proponents, the housing developer was forced to withdraw his bid to build 65 homes on the property due to environmental laws preventing his planned on-site waste treatment facility. After the land was offered to the town for \$700,000, the real challenge for FOOS became, as reported by *The Lowell Sun* in 1995, to "find a way to keep the land open and undeveloped in Littleton without burdening taxpayers or the town coffers."

Initially, FOOS approached the Littleton Conservation Trust, a private land trust, which immediately donated \$5,000 toward the purchase price and costs for a large-scale postal campaign. Friends of Open Space also began the process to obtain a state grant issued from a Division of Conservation Services self-help fund that will reimburse the town with 56 percent or more of the land cost. "We launched an all-out campaign," Cantillon recalls. "Before the townwide vote, we called 700 people, solicited advice from environmental groups, and publicized with a constant flow of letters in the newspapers. We turned our lives into a mission." Two successful townwide votes later, FOOS had won the support of the community and preserved a special and wild place for generations to come.

Amherst Grassland Bird Project

The Silvio O. Conte National Fish and Wildlife Refuge has completed the second year in a five-year experimental project, aimed at forming a grassland management partnership with local landowners in the Connecticut River Watershed. According to refuge literature, "The key to this project is recognizing the landowners' management objectives and working to accomplish them while also helping the birds."

Refuge staff members originally identified Hadley, Amherst, and Hatfield as towns with grassland fields suitable for attempting the project, and this year three new sites, including Turners Falls Airport, were enrolled in the study.

University of Massachusetts wildlife biology student and Massachusetts Audubon summer employee Darcie Vallant inventoried 11 fields (over 400 acres)

Nantucket's Northern Harrier Habitat Preservation Project

Native grasslands and heathlands on Nantucket Island have been dramatically reduced in recent decades by development and habitat conversion. This unique habitat contains many rare species of flora and fauna, including plants such as St. Andrew's Cross (state endangered) and Bushy Rockrose (state special concern) and birds of prey such as the Short-eared Owl (state endangered) and Northern Harrier (state threatened). A rare grassland butterfly, the Regal Fritillary, and the Grasshopper Sparrow have already been extirpated from the island. Many of the birds that breed in this habitat need expansive areas of open grasslands. Such grasslands on Nantucket have become fragmented or have grown up into stands of Scrub Oak.

As a result of the increasing concern over habitat loss, an innovative agreement has been struck between the Natural Heritage and Endangered Species Program, Massachusetts Audubon Society, Nantucket Conservation Foundation, and a Nantucket golf course developer. The Nantucket Golf Club has recently converted 250 acres of native habitat to a golf course. As a condition to a conservation permit issued by the Division of Fisheries and Wildlife, the golf club will fund the restoration and management of 1,110 acres to grassland and heathlands to provide breeding and feeding habitat for Northern Harriers. As a result of this agreement, a conservation organization known as the Partnership for Harrier Habitat Preservation, Inc., (PHHP) was formed by all parties.

This project began in 1996 and will continue for 50 years on conservation land owned by the Nantucket Conservation Foundation (1,000 acres) and Massachusetts Audubon (110 acres at Sesachacha Heathlands Wildlife Sanctuary). Funds will be provided for brush cutting and controlled burning and also for monitoring vegetation and responses of harriers and other grassland species to changes in habitat. The golf course plan is also designed to minimize impacts to the habitat by restoring areas within the golf course to native vegetation. This agreement provides a unique opportunity to study responses of rare grassland and heathland species to cutting and burning regimes over a long period of time. We hope to see grassland-dependent species, such as the Northern Harrier and Short-eared Owl, protected in this area where they are more common than elsewhere in the state. As part of Massachusetts Audubon's participation in PHHP, the Grassland Conservation Program plans to initiate grassland bird research in this area starting in 1998.

Northern Blazing Star, a Rare Grassland Plant

As the name suggests, Northern Blazing Star (*Liatris scariosa* var. *novae-angliae*) is a showy native wildflower of grasslands and heathlands that stands 2 to 3 feet tall with clusters of dark pink purple flowers. It is an early



PETER VICKERY

Northern Blazing Star at Kennebunk Plain

successional perennial plant, native to the northeastern United States, that grows in sandy soils and appears to benefit from fire. It is rare and declining throughout much of its range; of the 67 known populations, only 20 have more than 50 individual plants. Recent observations seem to indicate that recruitment of juvenile plants into wild populations appears to be very low.

From 1994 through 1997, Peter Vickery at the Massachusetts Audubon Society studied several factors that were found to affect rates of seedling establishment for Northern Blazing Star. Research took place in a large native grassland in Kennebunk, Maine, that contained plots periodically burned in certain years. He found that rates of predation on seeds were much higher (more than 90 percent) in plots that had not been recently burned as compared to units that had been burned within the past 12 months (20 percent). Efforts by collaborators at the University of Connecticut to pupate the caterpillars that predate Northern Blazing Star seeds into adult moths have not yet been successful. Future research will examine possible interactions between the parasitic wasps and the seed-eating caterpillars.

Seedling establishment rates were strongly connected to time since previous fire. Under natural conditions, seedling establishment rates were much greater in management units that had been burned 20 months previously than in management units that were burned within the past 8 months, or units that had not been recently burned (more than 4 years). These results suggest that Northern Blazing Star benefits from fire in two ways and that these two factors are linked temporally. First, fire reduces seed predation rates, thus providing a large supply of viable seeds. Second, fire appears to provide a suitable substrate for seedling establishment and development.

In August of 1996, Vickery found an *Braconid* wasp depositing eggs on Northern Blazing Star flowers. This is the first time a parasitic wasp that might affect populations of the Northern Blazing Star seed predator has been observed. Several adult wasps were collected and sent to experts for possible identification.

Program Future

- Initiate salt-marsh project on the ecology and conservation of Salt-marsh Sharp-tailed and Seaside sparrows in New England; study will focus on these species' habitat use, area requirements, and spatial distribution in order to assist local conservation agencies in developing conservation management plans for salt marsh habitats.
- Publish a technical manual to include information from the three *Conserving Grassland Birds* booklets, data summaries, and distribution maps of grassland birds throughout New England and New York, detailed descriptions of plant and animal compositions in grassland habitats, classifications of grassland communities, historical information, and a comprehensive literature review.
- Develop habitat management recommendations for Grasshopper Sparrows and other rare grassland birds based on metapopulation research.
- Continue regional survey throughout New England and New York in 1998-1999 to revisit prime sites and survey areas not covered in 1997.
- Incorporate regional species distribution and abundance maps, regional data, and published grassland bird literature on the Massachusetts Audubon Society's web page (www.massaudubon.org).



Upland Sandpiper chick

JOHN GAVIN

RECENT PUBLICATIONS

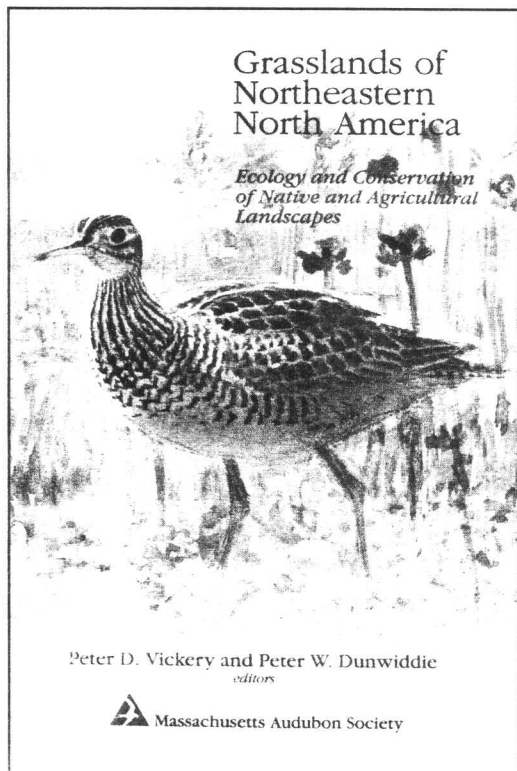
Conserving Grassland Birds

A series of three 16-page booklets has been prepared by the Grassland Conservation Program to help communities, agencies, and individuals manage grasslands to protect bird species.

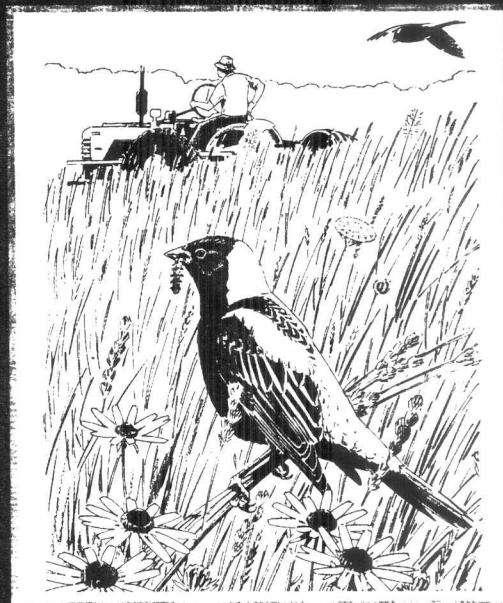
1. **Managing Agricultural Lands Including Hayfields, Crop Fields, and Pastures for Grassland Birds.**
2. **Managing Small Grasslands Including Conservation Lands, Corporate Headquarters, Recreation Fields, and Small Landfills for Grassland Birds.**
3. **Managing Large Grasslands Including Conservation Lands, Airports, and Landfills over 75 acres for Grassland Birds.**

To order booklets:

Please indicate which booklets you want by calling: 781-259-9506 x 7406 or e-mail: ajones@massaudubon.org. These booklets are free of charge. Quantities limited.



CONSERVING GRASSLAND BIRDS



MANAGING AGRICULTURAL LANDS
INCLUDING HAYFIELDS, CROP FIELDS,
AND PASTURES FOR GRASSLAND BIRDS

Grasslands of Northeastern North America: Ecology and Conservation of Native and Agricultural Landscapes

This volume, developed from the 1994 Northeast Grasslands and Heathlands Conference held at the University of Massachusetts in Amherst, has recently been published by the Massachusetts Audubon Society. It covers a wide range of topics relevant to northeastern grasslands. Hardcover. 297 pages. \$30.00 non-members, \$27.00 Massachusetts Audubon Society members.

To order a book:

Please call the publications office: 781-259-9506 x 7255.

SUPPORT GRASSLAND RESEARCH

You can make a difference! The Grassland Conservation Program relies on outside contributions to continue its efforts to protect grassland birds and their habitats throughout Massachusetts and New England. Please make your donation today.

Grassland Conservation Program

Center for Biological Conservation

Massachusetts Audubon Society

208 South Great Road, Lincoln, MA 01773

781-259-9506 x 7406

Enclosed is a tax-deductible gift of \$_____ to help protect Massachusetts grassland habitat for rare and endangered grassland birds, animals, and plants.

Make checks payable to:

Massachusetts Audubon Society ~ Grassland Conservation Program

Name _____ Date _____

Street _____

Town _____ State and Zip _____

Please charge my: _____ Visa _____ Mastercard

Account Number _____ Exp. _____

Signature _____

I am interested in receiving information on one of the following areas of support for the Grassland Conservation Program:

____ Volunteering in the field

____ MAS membership

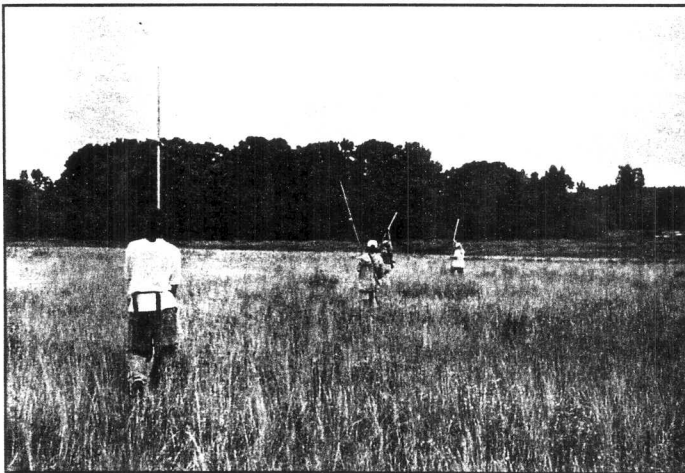
____ Donation of agricultural lands or grassland habitat

Volunteer! ~ Another great way to help ~ Volunteer!

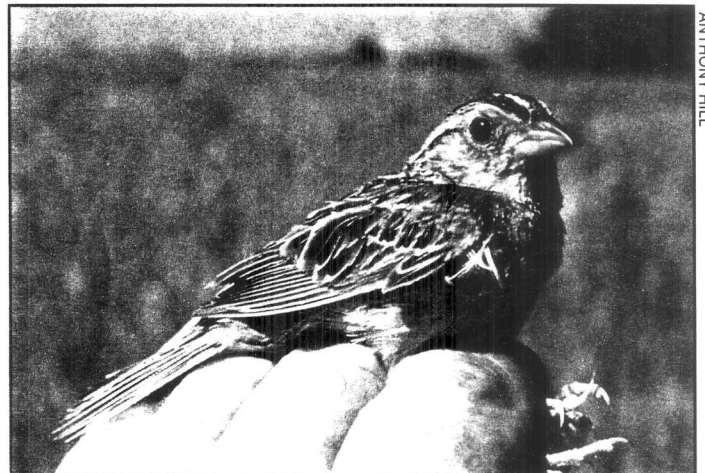
The Grassland Conservation Program consistently relies on the help of volunteers throughout the field season. The following important opportunities exist.

- Count breeding grassland birds in your local area between late May and late July. Surveys can occur as few as two times in a given area. We will provide you with survey instructions, data sheets, and tapes of grassland bird songs.
- Survey known Grasshopper Sparrow breeding area for birds color banded in 1997 and 1998.
- Help band Grasshopper and Savannah sparrows at Westover Air Reserve Base in Chicopee. Help is needed most in late July through August. Previous banding experience is helpful but not required.

For more information: contact Andrea Jones at 781-259-9506 x7406 or ajones@massaudubon.org.



JIM RIVERS



ANTHONY HILL

Special Thanks

For providing data and helping facilitate access to grasslands:

Amherst Conservation Department, Fort Devens, Hanscom Field, Hitchcock Center for the Environment, Massachusetts Division of Fisheries and Wildlife, Massachusetts Metropolitan District Commission, Nashawena Trustees, Orange Airport, Silvio O. Conte National Fish and Wildlife Refuge, The Trustees of Reservations, The Nature Conservancy, Towns of Worcester and Clinton, Turners Falls Airport, Westover Air Reserve Base

For Financial Assistance:

Davis Conservation Foundation, National Fish and Wildlife Foundation, Silvio O. Conte National Fish and Wildlife Refuge, Wharton Trust

For volunteering or interning during the 1996-1997 field seasons:

Mike Bouchard, Kendra Burse, Tylan Dean, Michelle Eckman, Steve Ells, Tamara Enz, Graham Fairhurst, Jeff Farrington, Nan Harris, Anthony Hill, Valerie Kostaras, Jon Liller, Laura Liptak, Ron Lockwood, Bonnie MacCulloch, Scott Melvin, Simon Perkins, Jim Rivers, Greg Shriver, Dave Small, Fred Thurber, Darcie Vallant, David Ziomek.



BARRY VAN DUSEN

Northern Harrier

The **Massachusetts Audubon Society** is a voluntary association of people with a common concern - the preservation of an environment that supports both wildlife and people. The Society is one of the oldest conservation groups in the world and the largest in New England. Its programs encompass three broad areas: conservation, education, and advocacy. As an independent state Audubon society, the primary focus of its activities is Massachusetts.



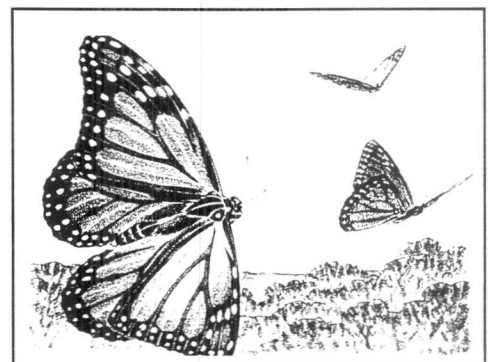
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Grassland Conservation Program
Center for Biological Conservation
Massachusetts Audubon Society
208 South Great Road, Lincoln, MA 01773

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