

## SPECIES PROFILE

# Upland Sandpiper

*Bartramia longicauda*

**Federal Listing:** Not listed

**State Listing:** Endangered

**Global Rank:** G5

**State Rank:** S1

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### ELEMENT 1: DISTRIBUTION AND HABITAT

#### 1.1 Habitat Description

Upland sandpipers occupy a wide range of grassland habitats. In the East, these include airfields, blueberry barrens (Maine), and mixed agricultural areas. The species needs a mix of short (less than 20 cm) and tall (up to 60 cm) grasses for foraging and nesting, respectively. Taller structures—such as fence posts, runway lights or signs, and taller forbs such as mullein—are needed for singing perches. Upland sandpipers avoid grasslands with high densities of legumes or with a dense litter layer (Carter 1992, Houston and Bowen 2001).

Upland sandpipers require large areas of grassland for breeding. Ideally, such fields should be over 60 ha (150 acres), and even fields as large as 120 ha (300 ac) may not necessarily support the species (Carter 1992, Vickery et al. 1994). Territories average 8 to 12 ha (20 to 30 ac), and the species is often loosely colonial where it reaches higher densities (Carter 1992). Sites used by sandpipers in New Hampshire include large airfields (Pease, Manchester, Nashua) and large agricultural mosaics (Dover, Rochester, Haverhill).

#### 1.2 Justification

The upland sandpiper has always been rare in New Hampshire. It probably did not occur in the state until the 1800s, after forest clearing allowed it to expand eastward from the Midwest (Foss 1994). It was

primarily limited to major river valleys and coastal plain, where it occasionally reached high densities. Population declines in New Hampshire began as early as 1900 (Foss 1994), although detailed data are lacking. As recently as the early 1980s, upland sandpipers still bred in at least 5 locations (Foss 1994, figure 1), although there were fewer sightings of migrating birds (NHBR, figure 2.). Breeding has only been confirmed at the Pease Airfield in Portsmouth and Newington (with at least one confirmed breeding event just off the airfield at the Great Bay National Wildlife Refuge), although sightings from Dover, Manchester, and southern Coos County in the last decade (figure 1) imply that birds are still visiting appropriate habitat elsewhere in the state.

The upland sandpiper is of conservation concern throughout the Northeast. Many historic habitats in New England were on large dairy farms, and these have been gradually disappearing (A. Jones, personal communication). Over the range as a whole, Breeding Bird Survey data indicate an insignificant increase of 0.8% per year from 1966, but a 1.2% annual decline since 1980. In the Northeast, the corresponding values are both declines: 0.4% since 1966 and 1.7% since 1980 (Sauer et al. 2004). The steeper declines since 1980 coincide with the period of greatest decrease in the New Hampshire breeding population.

#### 1.3 Protection and Regulatory Status

This species is protected at the federal level by the Migratory Bird Treaty Act, which prevents the killing of most non-game birds and collection of their nests or eggs. The New Hampshire Endangered Species Conservation Act (RSA 212) protects upland sandpipers in New Hampshire.

## 1.4 Population and Habitat Distribution

From the 1960s onward, most of New Hampshire's upland sandpipers have occurred in 3 areas of the state: 1) the upper Connecticut River Valley (Haverhill through Northumberland), 2) the Merrimack Valley from Plymouth southward, and 3) the seacoast (figure 1). Specific locations where sandpipers have been recorded since 1980 are presented in table 1.

Only a small proportion of the continental upland sandpiper population occurs in New England, which supports roughly 250 breeding pairs. The majority of these (150 pairs) breed in eastern Maine, with another 50 to 60 pairs at Westover Air Force Base in western Massachusetts (Jones et al. 2001). New Hampshire's share of the regional population is thus extremely small.

### 1.5 Town Distribution Map

*Not completed for this species.*

### 1.6 Habitat Map

*N/A*

### 1.7 Sources of Information

Basic natural history information in this profile was largely gathered from the literature cited in element 5. Data on upland sandpiper distribution in New Hampshire were compiled from NHBR and reports on breeding surveys at the Pease Airfield.

### 1.8 Extent and Quality of Data

The combination of an active amateur birder population and systematic grassland bird surveys over the last decade makes it unlikely that breeding sandpipers would have been overlooked in southern New Hampshire. However, the historic breeding areas in the upper Connecticut River valley have not been well surveyed, and recent records from Lancaster and Whitefield suggest that a small population may persist somewhere in the north.

### 1.9 Distribution Research

A comprehensive survey of suitable habitat in the upper Connecticut River valley and lower Merrimack River valley is needed. Observers should search for

the species in Haverhill, in the extensive grasslands in the Lancaster area, and at the Manchester Airport. Surveys should broadcast sandpiper vocalizations during the breeding season. Such research should reach out to farmers and local residents in areas where suitable habitat remains to inform people of the species' rarity and distinguishing characteristics, and encourage data reporting.

## ELEMENT 2: SPECIES CONDITION

### 2.1 Scale

Given the severely restricted current distribution (1 site), the best approach to conservation of this species in the state should focus on 4 units:

- Pease Airfield and vicinity
- Agricultural lands in southern Strafford County (especially Durham, Dover, Rochester)
- Lower Merrimack River Valley (especially Manchester Airport)
- Upper Connecticut River Valley (Haverhill to Lancaster)

### 2.2 Relative Health of Populations

The only population in New Hampshire occurs at the Pease Airfield in Portsmouth and Newington. This population has been monitored regularly since 1989 and has averaged 8 to 12 pairs during the period (figure 3). This population has produced a minimum of 10 to 15 chicks in most breeding seasons, although surveys have not always been comprehensive. Since 1990, single birds or pairs have appeared in nearby areas of Newington (table 1), suggesting that dispersing individuals occasionally settle in suitable habitat away from the airfield. Populations that once consistently occupied sites in Haverhill and Manchester were last recorded in 1984 and 1985, respectively, although the species was reported at the Manchester Airport in 1999. Since 1985, only 5 sites other than Pease have supported upland sandpipers for more than a year, and even in those cases there was little evidence of breeding activity.

### 2.3 Population Management Status

No management specific to this species—other than periodic monitoring—is currently occurring in New Hampshire. See Section 2.6 for details on habitat management at the only occupied site.

### 2.4 Relative Quality of Habitat Patches

The 4 units identified in section 2.1 vary in type of land use, development pressures, and habitat management. At the Pease Airfield, sandpipers are being managed (see section 2.6). Sandpipers are not being managed in adjacent areas of Newington, where occupancy is irregular. Strafford County agricultural lands are at greater threat from development, and because they are closer to the species' core range, they probably represent better potential habitat. The Manchester Airport has an extensive area of suitable habitat, but security and safety concerns have so far made it impossible even to determine the extent of sandpiper use at this site, much less implement management beneficial to the species. Finally, the northern agricultural areas are at somewhat lower risk from habitat conversion than those near the seacoast. In all areas, any assessment of habitat quality will need to consider both the composition (i.e., mix of grass heights) and size of available fields as discussed in section 1.1.

### 2.5 Habitat Patch Protection Status

With the exception of the Weapons Storage Area at the Great Bay National Wildlife Refuge, none of the breeding areas identified above are protected. A memorandum of understanding is in place at the Pease Airfield (see section 2.6).

### 2.6 Habitat Management Status

Starting in the 1990s, several entities cooperated to manage upland sandpiper habitat at the Pease Airfield. The resulting mowing regime meets airport safety regulations and protects sandpipers during vulnerable early stages of nesting (incubation and pre-flight chick). Mowing of safety areas begins by 1 May to discourage nesting attempts, and no other areas of the airfield are mowed until after 31 July (De Luca 2002). Airport personnel are regularly informed

of active nesting areas (when monitoring is being done) so that disturbance is minimized. Although a fence surrounding the habitat discourages large mammals from approaching the runway, sightings of fox and coyote have increased (De Luca 2002). Given that these species pose a predation risk to sandpipers, there may be need to reconsider predator control at this site.

The Great Bay National Wildlife Refuge is managing its grassland areas, including the weapons storage area where sandpipers have recently bred. Management includes mowing and burning to maintain grassland, and such activities are not done until after the breeding season.

At the Strafford County Farm in Dover, there is an agricultural lease agreement covering the years 2003 to 2008. This agreement includes the following provisions beneficial to grassland birds:

- Delayed mowing in wetter areas
- Raise mowing bar to 6 inches or more in areas with grassland bird concentrations
- Attach flushing bars to the front of mowers
- Avoid night mowing
- 16 acres have been set aside as a reserve, and will not be mowed until after 1 August
- If upland sandpipers are found on the farm, an un-mowed buffer should be established around the occupied area

### 2.7 Sources of Information

Summaries of population health were based on data from NHBR and reports of upland sandpiper monitoring produced by NHA. Details of management practices at the Pease Tradeport and Strafford County Farm were taken from management agreements for those 2 locations.

### 2.8 Extent and Quality of Data

With the exception of Pease Airfield, data are largely lacking for all areas of the state. Even there, current monitoring intensity may not be sufficient to detect productivity or to determine what factors may be responsible for recent population declines.

## 2.9 Condition Assessment Research

Increased sightings of potential predators at the Pease Airfield suggest that predator monitoring may need to be implemented. Since Pease is the only known population of upland sandpipers in the state, it is especially important to understand the quality of this site for breeding sandpipers. In addition, no studies of the actual grassland habitat at Pease have been conducted since the original Pease Air Force Base was decommissioned in 1990. An assessment of current habitat condition at this site could be valuable in guiding future management activity.

### ELEMENT 5: REFERENCES

#### 5.1 Literature

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- Zeranski, J.D., and T.R. Baptist. 1990. Connecticut Birds. University Press of New England, Hanover, New Hampshire, USA.

#### 5.2 Data Sources

NHBR. New Hampshire Bird Records, New Hampshire Audubon, Concord, NH.

### ELEMENT 6: LIST OF FIGURES

Figure 1. Distribution of breeding season (late May-July) records of upland sandpiper in New Hampshire 1965-2004. Towns are coded according to the number of years in each period when sandpipers were reported: yellow = 1, red = 2-5, black = > 5 (data from NHBR and De Luca 2002). Records of birds in late May but not later in the season are excluded as being possible migrants unless they were reported from a site with a consistent pattern of use by the species.

Figure 2. Number of reports of migrant upland sandpipers in spring (April-May) from 1965-2004. For each five-year period, all year/location records have been combined. Migrant reports from the Pease

Airfield are not included in this analysis.

Figure 3. Numbers of upland sandpipers at the Pease Airfield, 1989 to 2004. Values represent the mid-point of the range given for numbers of pairs in a given year. Systematic surveys were not conducted in 2000 and 2001.

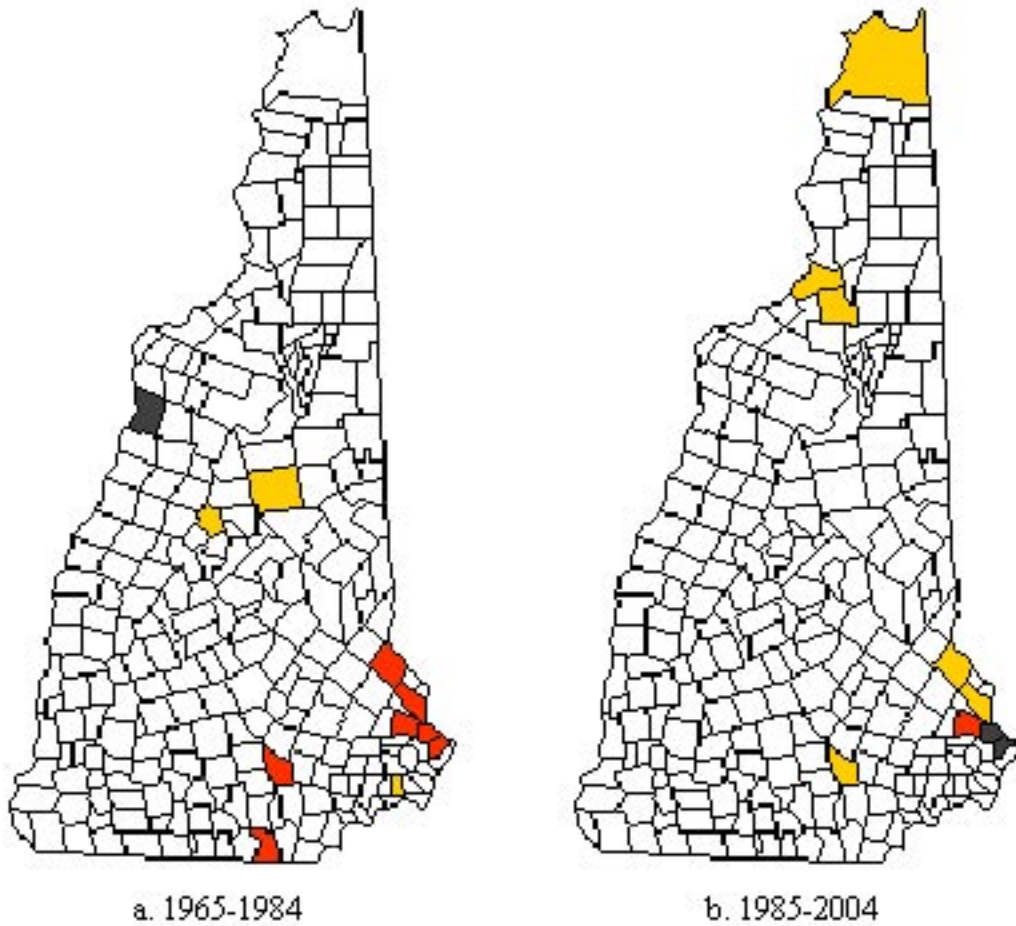


Figure 1

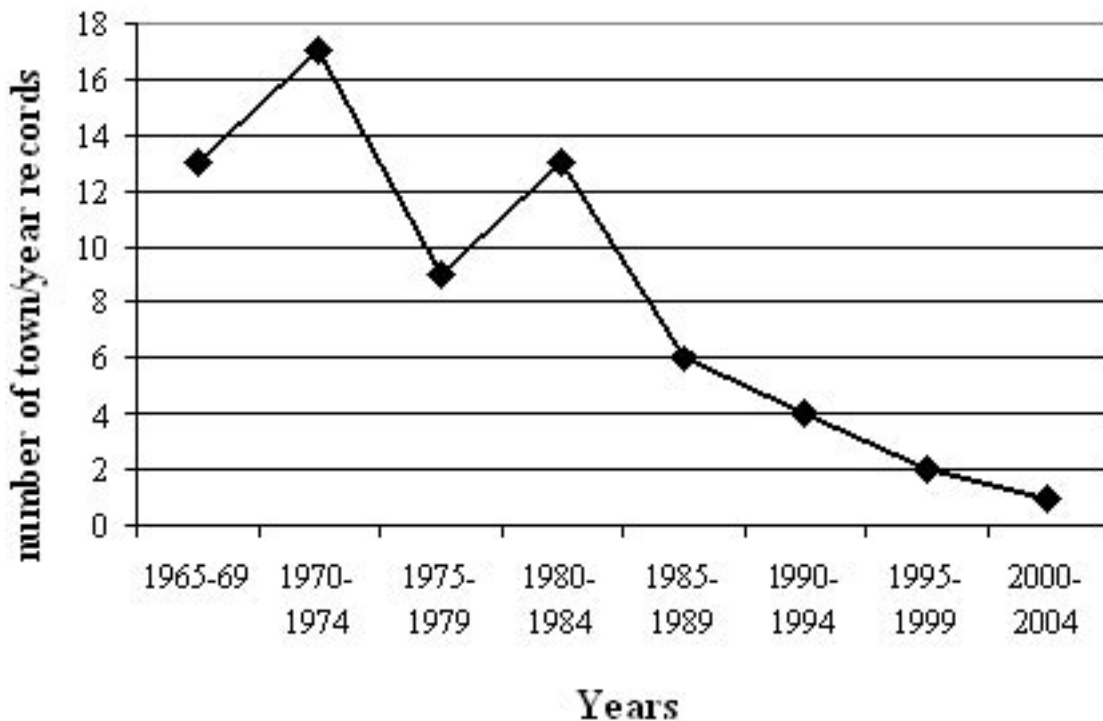
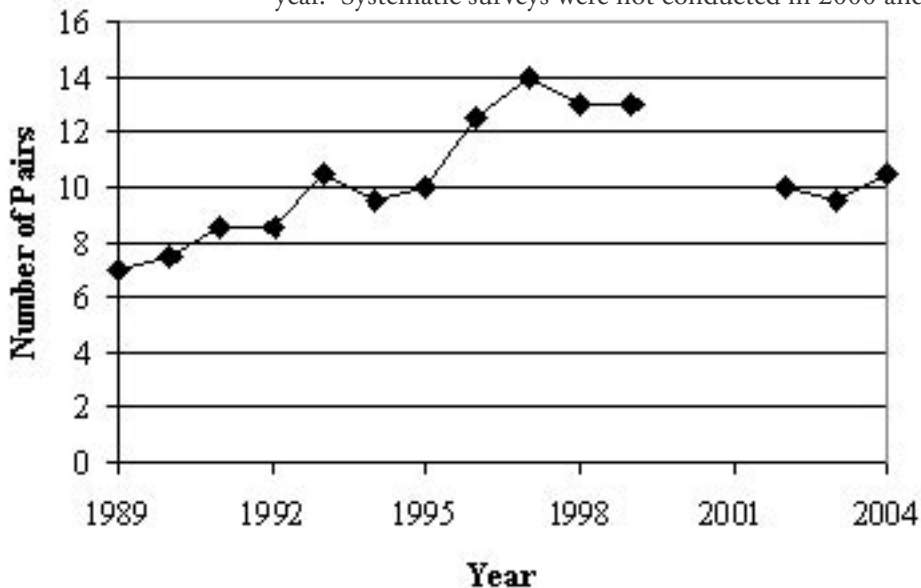


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## Distribution of Upland Sandpiper in New Hampshire

### Distribution

-  Known
-  Potential
-  Historic



0 10 20 40 Miles

Known = confirmed breeding observations as reported in the NH Natural Heritage Bureau's Element Occurrence Database and obtained from NH Bird Records and the NH Breeding Bird Atlas, Audubon Society of New Hampshire  
Potential = possible breeding and other observations from the same data sources  
Historic = observations greater than 20 years old.

