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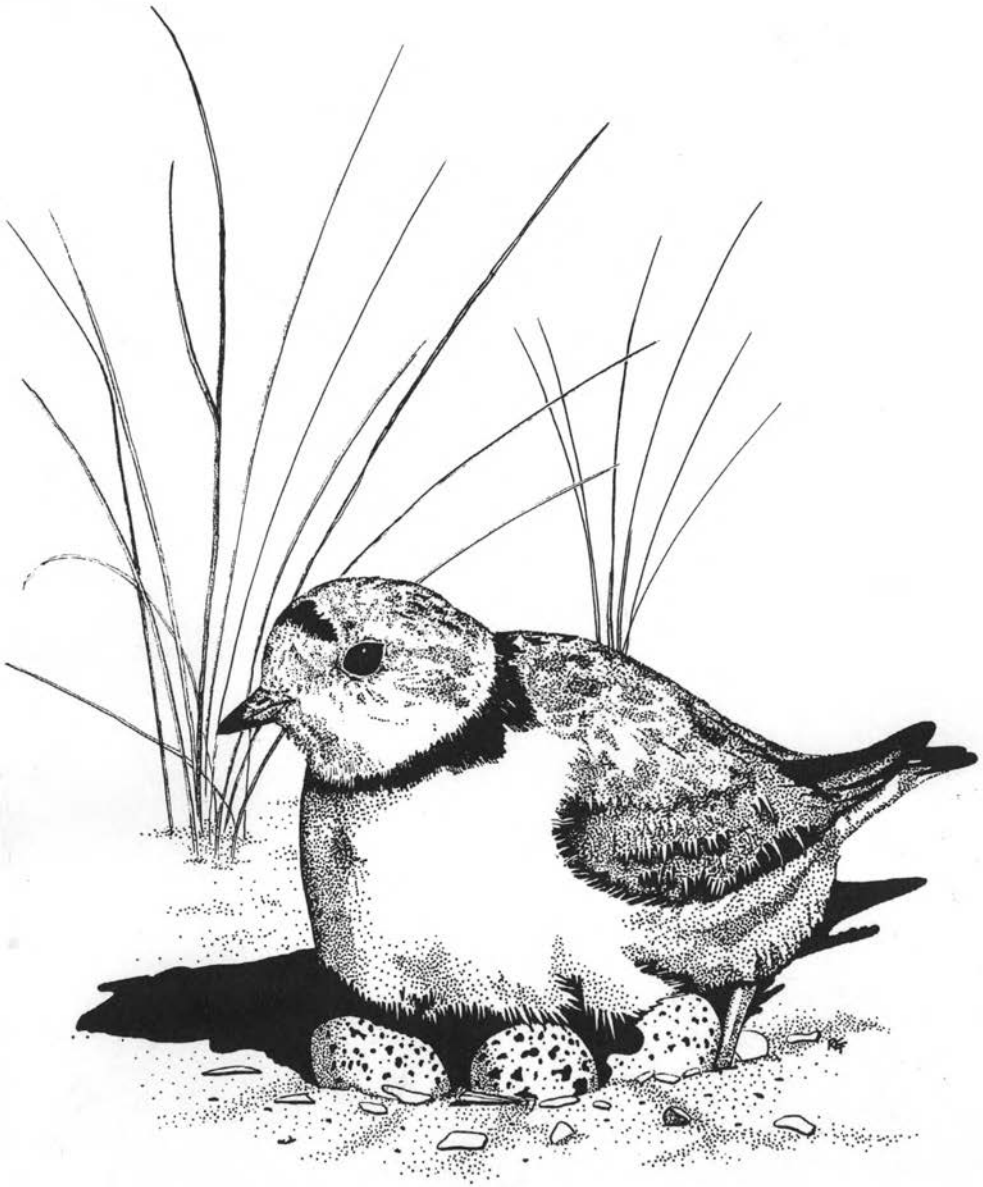

Bird Observer

A bimonthly journal — to enhance understanding, observation, and enjoyment of birds
VOL. 28, NO. 3 JUNE 2000

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Cover Illustration: Piping Plover by Rob Gough

Note from the President: From time to time birders tell us about local spots that have brought them pleasure. These places may not merit entire articles, but are worth sharing with other birders who may live nearby or be visiting the area. We invite you to contribute to our new, occasional series and share your "Pocket Place" with our readers (see page 183). *M.W.R.*

Status of Common Loons on Squam Lake in 1999

Amy Wright and Kate Taylor

Introduction

By 1975 the Common Loon (*Gavia immer*) population in the state of New Hampshire was in notable decline. In1976 the Loon Preservation Committee (LPC) was created to address concerns about the impact of human activities on loons. Over the next several years the LPC was able to document a decrease in the presence and productivity of loons in New Hampshire, resulting in the registration of the Common Loon as a state-listed threatened species in 1979. Today, the LPC continues to study the breeding success of loons in the state. A self-funded project of the Audubon Society of New Hampshire, LPC's mission is the restoration and maintenance of a healthy loon population, with the ultimate goal of reviving the role of New Hampshire's loons in the regional ecosystem.

The LPC annually conducts a statewide survey of loons. The survey grew from the efforts of Squam Lake residents to organize a loon census of Squam Lake (which includes Little Squam Lake), which is centrally located in Grafton County, New Hampshire. Squam Lake is unique among lakes in the statewide survey both historically and biologically. Squam Lake is considered a fairly well-developed lake that has heavy recreational use, yet it hosts one of the highest concentrations of breeding loons in the state. Prior to 1970, loons were considered nuisance birds that impacted local fishing, and game wardens were instructed to shoot the birds on sight (R. Wood, pers. comm.). The filming of the movie "On Golden Pond" at Squam Lake in 1981 helped to elevate the status of loons, and today loons help to define the Squam lakes region. Tourists attracted to the area have become very important to the region's economy.

Although LPC's mission has grown to encompass loon-monitoring statewide, data on the Squam Lake population represent the most complete subset of LPC's data archive. These birds are, however, the most intensively managed of any New Hampshire loons. Annual management techniques include providing alternative nest sites and restricting traffic. The LPC is also developing long-term interactive educational programs with the Squam lakes' residents.

Squam Lake requires a full-time LPC field biologist for surveying, in addition to residents who aid in protecting loon families facing increasing human disturbance. Squam's long-term data set, and the intensive monitoring system, provides a unique measure of changes in environmental quality, and an important foundation for studies of loon mortality and the impact of contaminants over time. Here we report the results of the 1999 field season at Squam Lake.

Study Area

Glacially formed 40,000 years ago, Squam Lake is the third largest lake in New Hampshire, totaling 6,770 acres. Debris carried by glacial melt water rivers formed

Squam's peninsula and islands (Noon 1990). The many islands and secluded coves of this lake provide habitat for a variety of birds, including Common Mergansers, Black Ducks, warblers, vireos, Killdeer, Barred Owls, kingfishers, hummingbirds, and Great Blue Herons (Ridgeley 1988). Recently, Bald Eagles have also been reported (C. Martin pers. comm.). Mammals such as mink, otter, and raccoon are quite common along the shoreline. It is thought that loons first appeared on Squam nearly 10,000 years ago (Noon 1990). Today, it hosts a population of 50-60 loons, with 16 territories established during the breeding season (Figure 1).

Figure 1. A Map and Chart of 1999 Territories

Chart of 1999 Loon Activity on Squam Lake

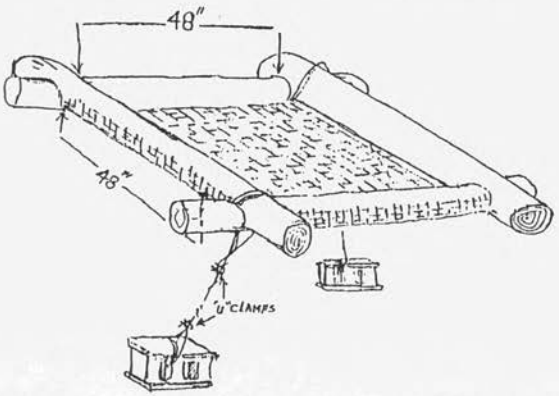
Code	Name of Territory	Rafts floated	Nesting Pairs	Chicks Hatched	Chicks Surviving in August
A	Little Squam	–	X	0	–
B	Piper Cove	X	X	1	1
C	Perch Island	–	X	1	1
D	Great Island	X	–	–	–
E	Heron Cove	X (2)	X	1	–
F	Moon/Bowman	–	X	1	–
G	Kimball Island	X	–	–	–
H	Sturtevant Bay	X	X	1	1
I	Moultenboro Bay	–	X	1	1
J	Yard islands	–	–	–	–
K	Long Point	X	–	–	–
L	Squaw Cove	–	X	0	–
M	Rattlesnake Cove	–	X	0	–
N	Five Finger Point	X	X	0	–
O	Long Island	–	–	–	–
P	Mink Island	X	X	1	1

Methods

In May 1999 a field biologist was hired to determine the abundance, distribution, and reproductive success of loons of Squam Lake. Data were collected on territorial pairs (defined as a pair of loons defending a territory for at least 4 weeks) and single birds (adults that had not established a pair bond lasting 4 weeks). Nest sites were mapped on 1:24,000 USGS topographical maps, and hatch dates were calculated by counting 29 days from the onset of incubation. Information gathered on successful nests included number of chicks, number of unhatched eggs, and chick survival. Field biologists also collected data on return chronology, adult return rates, mate fidelity, and territory faithfulness for banded birds, and speculated on the cause of failed nests (Taylor and Vogel 1997).

At the first sign of nesting, or with the establishment of a brood site, protective signs and float lines were placed in areas of high visibility to restrict boats from the area. When field biologists were present, they restricted boat traffic in sensitive areas under the authority of the New Hampshire Marine Patrol. Nesting platforms ("rafts"), which provide artificial nest sites, were constructed by volunteers or by field biologists according to specifications provided by LPC (Figure 2). Rafts were deployed at sites where established pairs had experienced successive nest failures due to artificial water level fluctuations or shoreline predation (LPC, 1985, 1990, 1997). Rafts do not serve to attract loons to water bodies with unsuitable territories (McIntyre 1975).

Figure 2. A Diagram of Loon Nesting Raft Configuration



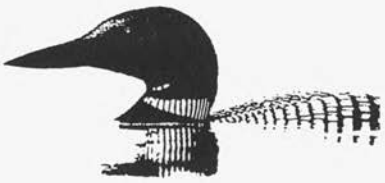
Abandoned loon eggs were collected as part of the survey. Collection of eggs from nests occurred when birds were observed to be off-nest for over 24 hours. If an egg was cold or obviously addled, it was marked with an "X" in pencil. If the "X" was in the same position by the following day, indicating the egg had not been turned, the egg was collected. Eggs were frozen and stored in LPC's sample freezer for later processing. Each egg was accompanied by a biological collection report with information regarding history of the nest, number of eggs, reason for failure, and fate of other eggs in the clutch. All samples were sent to the University of Pennsylvania for mercury analysis.

LPC occasionally received reports from the public about dead or dying loons, and responded promptly. Live birds were brought to local veterinarians for examination and treatment or euthanasia. All carcasses, accompanied with observation data, were sent to Tufts University Wildlife Clinic in Grafton, MA for necropsy. Postmortem results were assigned to one of three categories: (1) "boat trauma," evidenced by massive internal injury incurred from blunt trauma, (2) "loon trauma," evidenced by punctures and lacerations on the head, neck or sternum, which are indicative of loon attacks, and (3) "other," including mortality due to predation, monofilament fishing line, lead, parasites, or infection (Pokras, In Press).

Loon families were captured at night using a combination of spotlighting and playback recordings (Evers 1993). Captured birds were banded for individual identification using unique color-marked bands and numbered USFWS aluminum bands. Each bird was weighed, two of the second secondary feathers were removed at the base of the quill, and a blood sample was taken from the leg vein.

Results and Discussion

During the 1999 field season, 65 person days were spent surveying Squam Lake. Return rates will be available in subsequent years as Squam's banded population increases. At Lake Umbagog in northern New Hampshire, a similar multiple territory lake, 90 percent of males and 91 percent of females returned to former territories (D.C. Evers pers. commun.). Of the 16 territories established by pairs on Squam, 11 (69 percent) of the territorial pairs attempted nesting in 1999. Seven (63 percent) of these pairs were successful in hatching a single chick. Five chicks (71 percent) survived. Four nest failures were recorded, with no renest attempts observed in any of these territories.



Nine loon-nesting rafts were floated on Squam Lake in 1999 (Figure 2). Five of these rafts were used for nesting, and these pairs fledged three chicks. Raft-hatched chicks on Squam contributed 60 percent of total surviving chicks. The 1999 data from Squam Lake are consistent with the 23-year state mean ratio of nests per territorial pair, both nearing 70 percent. However, the number of chicks hatched per territorial pair (44 percent) on Squam Lakes in 1999 is dramatically lower than the state average of 68 percent chicks per pair.

The character of Squam Lake is strongly identified with the presence of loons, and the economy benefits from the tourism industry related to them, but increasing human disturbance may be negatively impacting the birds. Two agencies run regular pontoon tours retracing key scenes from "On Golden Pond," and observing loon families. LPC received numerous phone calls reporting loon disturbance by tour boats, and the Squam field biologist several times requested that tours maintain a 500-foot distance from loon families.

Although analysis of eggs, feathers, and blood collected from loons on Squam Lake indicate that birds are not at risk of reproductive failure due to contaminants, the 1999 field data highlighted a sobering result of increased human activity. Statewide, lead poisoning from the ingestion of lead fishing weights resulted in the death of 10 adult loons, 2 of which were from Squam Lake. One loon was collected from the Heron Cove territory; the second was found in a nonterritorial area. Intensive education campaigns promoting the use of nonlead fishing tackle, a recent alternative to the lethal lead sinkers used by many anglers, have been in place for several years. However, it took loon mortality data, recorded by LPC and Tufts University of Veterinary Medicine, to help pass New Hampshire House Bill 1196 into law effective January 2000. The bill prohibits the use of lead sinkers weighing 1 ounce or less and jigs less than 1 inch along the axis on freshwater lakes and ponds. The reduction of this source of lead in the environment should decrease this type of mortality.

Aggressive interactions among loons at Squam, where the density is relatively high, also have a negative impact on reproductive success. Density-dependent pressures can increase loon intrusion rates, which can disrupt established pair bonds, interrupt nest attendance, and reduce parental care of chicks. Preliminary analysis of the past 12 years of reproductive data shows a tendency toward fewer chicks surviving to fledge, and fewer eggs hatched by pairs attempting to nest.

The LPC's work toward evaluating raft management on Squam Lake continues, as do our monitoring and education programs. Our stewardship efforts strive to restore and maintain New Hampshire's loon population as an important part of the region's ecosystem. We believe that a healthy coexistence of humans and loons can be a reality, and we continue working toward that goal.

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Amy Wright is the 2000 Monadnock region field biologist for the Loon Preservation Committee. She works as a freelance writer reporting a variety of environmental and recreational subjects. **Kate Taylor** is the senior biologist for the Loon Preservation Committee in New Hampshire and oversees the most comprehensive statewide loon monitoring program in the country.

Loon Proposal

At the March Fisheries and Wildlife Board meeting, MassWildlife Assistant Directors Dr. Mark Tisa and Dr. Tom French presented information relative to a proposed ban on the use of all lead sinkers for the taking of fish in Quabbin and Wachusett Reservoirs. The proposed ban is in response to necropsies of Common Loons conducted at Tufts University School of Veterinary Medicine which found ingested lead fishing gear to be the single largest cause of mortality for adult loons in New England. Quabbin and Wachusett are the two most important nesting sites for loons in Massachusetts.

MassWildlife News (4/14/00, #4)
Bill Davis: bill.davis@state.ma.us

Winter Population Trends of Six Species of Sparrows

Thomas R. Hamilton

Introduction

Christmas Bird Counts (CBCs) are single-day surveys of winter bird populations that are conducted annually during the period from approximately one week before to one week after Christmas day. Each local count surveys a circle fifteen miles in diameter with a fixed center, ensuring that the same area is surveyed every year. Organized by the National Audubon Society and conducted by teams of volunteers, the CBC seeks to provide long-term data on winter bird populations on a continent-wide scale. In addition to reporting the number of birds they see, count participants record the time they spent in the field, miles traveled, and the conditions under which the count was conducted, facilitating year-to-year comparisons. A report on each year's CBC is published by the National Audubon Society; also, data from the years 1959-1994, plus other relevant data, are now available on the Internet at <www.mp1-pwrc.usgs.gov/birds/cbc.html>.

The strengths and limitations of CBCs as a standardized method of tracking populations have been well documented (see Butcher et al. 1990, and Bock and Root 1981 for comprehensive discussions). The greatest virtue of the CBC is the wealth of data that has been accumulated over the 100 years of the count's existence. CBC results are commonly normalized by the calculation of a figure called "birds per party-hour," to adjust for the fact that each CBC involves different numbers of parties in the field for varying amounts of time. This manipulation of the data is not perfect, since it doesn't take into account the number of members of each party, or other important variables such as the weather, the skill levels of the participants, or the level of effort involved in a given year. However, the concept of "birds per party-hour" addresses the largest variable involved in the collection of CBC data, allowing valid region-to-region comparisons and reliably revealing long-term population trends. This method of normalization was applied to the data used in this paper.

Methods

Massachusetts had thirteen regional CBCs in 1959. By 1997, thirty-two counts were being conducted in the Bay State, involving 1,165 observers and surveying an area of 5,655 square miles (14,656 km^2) — approximately 68 percent of the total land area in the state. A look at CBC circles superimposed on a map of Massachusetts (see Rines and Stymeist 1998) shows that the coastal area of the state is now "saturated" with CBCs, since the rules governing the count do not permit overlapping circles.

Using data from Massachusetts CBCs taking place from 1959 to 1997, I examined the population trends for six sparrow species: American Tree Sparrow (*Spizella arborea*), Field Sparrow (*Spizella pusilla*), White-throated Sparrow (*Zonotrichia albicollis*), Song Sparrow (*Melospiza melodia*), Swamp Sparrow (*Melospiza georgiana*), and Dark-eyed Junco (*Junco hyemalis*). I separated the counts into

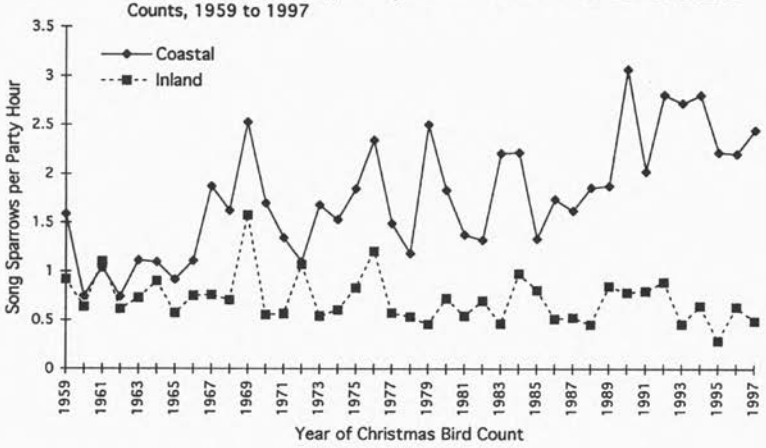
"coastal" and "inland," to permit comparison between population sizes and trends in the two areas. The data for coastal populations were derived from the following CBCs: Buzzards Bay, Cape Ann, Cape Cod, Greater Boston, Marshfield, Mid-Cape Cod, Newburyport, Plymouth, Quincy, and New Bedford. Because of the special nature of Tuckernuck Island, Martha's Vineyard, Nantucket, and Stellwagen Bank, these counts were not used in my analysis. The inland counts used were Athol, Central Berkshire, Greenfield, Northampton, North Berkshire, Quabbin, Springfield, Uxbridge, Westminster, Worcester, and South Berkshire.

One problem with a survey of this nature is that the number of CBCs did not remain constant during the thirty-eight-year period I examined. Some CBCs were not established until after 1959, while some that existed as of 1959 have not been conducted continuously since then (counts taking place in 1959 and used in this analysis were Northampton, Springfield, Worcester, Ware, Greenfield, Cape Cod, Marshfield, Quincy, Cape Ann, and Newburyport). In general, the number of CBCs has increased with time, although some counts had data that were incomplete and hence not usable. Moreover, I excluded surveys that provided only a few years of data. For these reasons, the number of counts included in my analysis did not stay constant from year to year. Since my main purpose was to compare coastal and inland populations, I excluded counts that were intermediate in location — generally those centered around Interstate 495. After calculating birds per party-hour for each subject species on each count used, I calculated the mean number of birds per party-hour for the combined inland counts and the combined coastal counts. While the results of any given count can be influenced by the weather conditions on the day that count takes place, averaging results from throughout the two-week count period should tend to even out each year's results on a regional scale. The results of these calculations are plotted in figures 1-6.

Results and Discussion

Song Sparrows (Figure 1) are one of the most common passerine species in Massachusetts, and the species is frequently found at backyard feeding stations as well as in more natural settings. Early-successional growth, and the type of shrubbery typically used for suburban landscaping, probably benefits this species. In winter, Song Sparrows often occur as members of mixed-species sparrow flocks, which may be quite large, in brushy areas offering adequate food supplies (see Pelikan 1998). The winter population of Song Sparrows in Massachusetts generally contains both resident birds and migrants (Veit and Petersen 1993). CBC data from the last thirty-eight years show that this species is appreciably more common in winter along the coast than inland; the winter coastal population appears to be generally increasing while the inland population remains fairly stable. While the pattern is by no means inviolable, year-to-year results for inland and coastal counts are parallel, suggesting that winter Song Sparrow populations inland and on the coast respond to some of the same factors. Interestingly, annual Breeding Bird Surveys (BBSs) that have been conducted since 1966 show a decreasing trend (-2.3 percent per year) in the breeding population of Song Sparrows in Massachusetts (Sauer et al. 1997). Presumably increasing numbers of migrants are wintering in the state, accounting for the stable or increasing numbers

Figure 1. Song Sparrows per Party-Hour in Coastal and Inland Christmas Bird Counts, 1959 to 1997



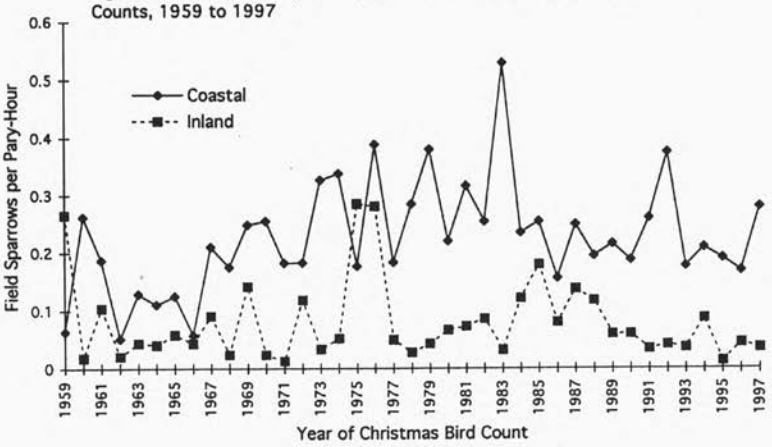
of Song Sparrows noted during CBCs. Such an increase could reflect either a growth in the populations that migrate to Massachusetts, or favorable changes in habitat, climate, food supply, or other variables within the state that encourage a higher percentage of migrants to remain here.

Although BBS data show a decreasing population (-6.6 percent per year) of breeding **Field Sparrows** in Massachusetts, perhaps the result of the gradual succession of the old agricultural fields this species prefers (Veit and Petersen 1993; Carey et al. 1994), the winter population of this species in the state appears to be fairly stable over the long term. The data from CBCs show no obvious positive or negative trend, although in most years the species is appreciably more common in coastal areas. The contrast between BBS and CBC results suggests that there are significant differences between the breeding-season and wintertime ecology of this sparrow in the state.

Perhaps the most striking aspect of the CBC data for this species is the pronounced year-to-year fluctuation in Field Sparrow numbers (Figure 2), with inland and coastal peaks sometimes, but not always, coinciding. The 1975 and 1976 CBCs recorded exceptionally high figures for Field Sparrows per party-hour in inland areas, which may have been the result of food shortages or heavy snow cover elsewhere forcing birds into the region. Along the coast, Field Sparrow numbers echoed the inland peak in 1976, but actually dipped in 1975. The coastal population of Field Sparrows showed an unusually high peak in 1983, a year in which the inland population dropped nearly to zero. I initially expected that differences in snow cover or temperature would explain the striking discrepancy between inland and coastal CBC results in 1983. However, only one inland CBC reported significant snow cover at the time of the count, while three of the coastal CBCs reported snow cover; all coastal and inland CBCs generally reported fair to good availability of wild food.

Probably part of the explanation for the puzzling CBC results for this species has to do with the role played by migrant Field Sparrows, which might be forced into

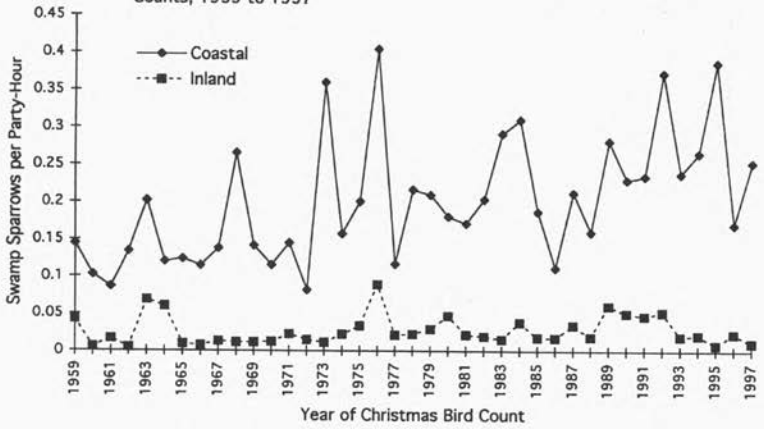
Figure 2. Field Sparrows per Party-Hour in Coastal and Inland Christmas Bird Counts, 1959 to 1997



Massachusetts by conditions that aren't evident within the Bay State. Also, it is important to note that even in their years of greatest abundance, wintering Field Sparrows are present here at a very low density. Typical birds per party-hour figures for inland counts, between 0 and 0.2, represent roughly 0-2 birds observed by each party during the roughly nine hours of birdable daylight during a CBC. At that level of detection, random variations in the density of birds can produce significant anomalies on a single count, or even across an entire region. The potential for uneven distribution of this species was well illustrated by the 1998 Martha's Vineyard CBC (which was not used in this analysis), during which 50 of the count total of 55 Field Sparrows were tallied by a single party, and one flock, alone, contained thirty-five Field Sparrows (M. Pelikan, pers. comm.). Figuring that the count's eleven parties spend about nine hours each in the field, data from that one party raised the count's figure for Field Sparrows per party-hour tenfold, roughly from 0.05 to 0.55! So, taken as a whole, Massachusetts CBC results for this species may reflect complexities of distribution that cannot be adequately described using the available data.

Swamp Sparrows (Figure 3) are found in much greater abundance on CBCs along the coast, where they often form small flocks near open water. As in the case of Song Sparrows, population peaks inland and along the coast sometimes coincide (e.g., 1963, 1976, and less prominently in 1984), suggesting some similarity in the factors governing numbers in the two regions; the relationship is far from perfect, however. As with Field Sparrows, low figures for birds per party-hour and gregarious winter habits (producing uneven distribution) probably account for much of the apparent volatility of CBC data for this species. There appears to be a gradual upward trend in the winter coastal population of Swamp Sparrows, which contrasts with BBS data indicating that no significant change is occurring in the breeding Swamp Sparrow population in Massachusetts (Sauer et al. 1997). This suggests that the winter population of Swamp Sparrows may include birds that migrate from outside the state to coastal Massachusetts for the winter. Nationally, Swamp Sparrows seem to be increasing slightly, and they may be benefiting from the acceleration of wetland protection and

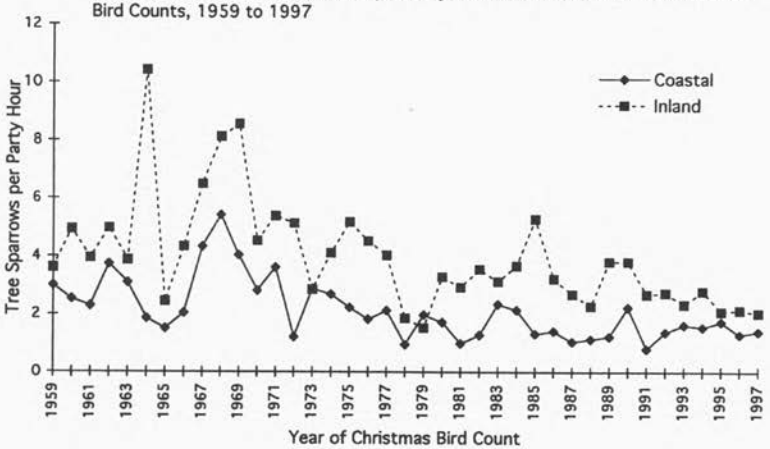
Figure 3. Swamp Sparrows per Party-Hour in Coastal and Inland Christmas Bird Counts, 1959 to 1997



restoration under the North American Waterfowl Management Plan (Mowbray 1997). Certainly, continued protection of wetlands in Massachusetts can only help Swamp Sparrows both as breeding and as wintering birds.

American Tree Sparrows (Figure 4) breed on the tundra and visit Massachusetts in winter, where they often associate with other sparrows in brushy areas; this is the only species involved in this study that does not breed in the Bay State (two others, Dark-eyed Junco and White-throated Sparrow, are largely limited as breeders to the western portion of the state). In winter, Tree Sparrows are frequently in flocks that seem to roam from feeder to feeder. My analysis of CBC data suggests that winter populations of American Tree Sparrows are larger inland, reversing the pattern shown in most years by the other species (except Dark-eyed Junco) in this study. Coastal portions of the state, characterized by fairly mild winters as a result of ocean-moderated temperatures, are effectively near the southern border of the wintering range for Tree Sparrows.

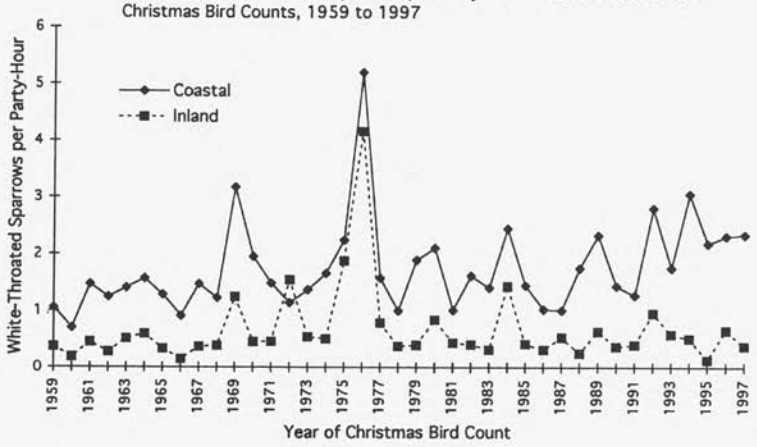
Figure 4. American Tree Sparrows per Party-Hour in Coastal and Inland Christmas Bird Counts, 1959 to 1997



CBC results suggest that Massachusetts winter populations of Tree Sparrows, both inland and along the coast, are declining slowly (although this trend results partly from a few years of exceptional abundance early in the period examined in this analysis). However, Naugler (1993) considers this species abundant in the arctic (he estimates a total population of 10 to 20 million pairs) and suggests that since it breeds in remote, undisturbed areas, its population is likely to remain stable. So a decline in winter Tree Sparrow populations in Massachusetts could stem from either regional changes in habitat that are unfavorable for this species, or could reflect a warming climate and a slight northward shift in the wintering range of the species. It is also possible that overall Tree Sparrow numbers are declining due to some limiting factor that is independent of the breeding biology of the species, and unanticipated by Naugler (1993).

White-throated Sparrow (Figure 5) is a woodland species that is more common in winter along the coast than inland. The winter population throughout the state appears to be remaining fairly constant, with perhaps a slight upward trend along the coast, especially in recent years. BBS data indicate a substantial decrease (-8.2 percent

Figure 5. White-Throated Sparrows per Party-Hour in Coastal and Inland Christmas Bird Counts, 1959 to 1997



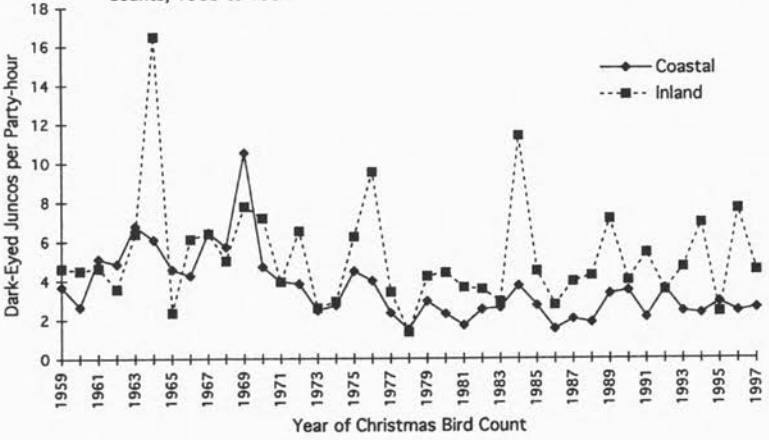
per year) in the state's breeding population between 1966 and 1995 (Sauer et al. 1997), but the breeding distribution of the species (mostly north of Massachusetts) suggests that the state's wintering population of White-throated Sparrows consists largely of migrants. One hypothesis to explain this situation comes from the work of Falls and Kopachena (1994), who suggest that White-throated Sparrow populations change in response to changes in forest composition: the birds become more abundant as forests open up, and less abundant as they close in from regeneration. The species prefers forest edge habitat, and may benefit from forestry practices that leave some conifers standing. It is possible that the decline in the state's breeding population reflects maturing forests, while the increase in numbers of wintering birds reflects the implementation of more benign management practices farther north.

Interestingly, some of the years (e.g., 1976) in which White-throated Sparrows were most abundant were also years in which December was unusually cold (Figure 7; from National Climatic Data Center, 1999). However, the correlation is not reliable, and there have been many Decembers with below-average temperatures without a corresponding increase in White-throated Sparrow numbers. Perhaps more important is the fairly close parallel between inland and coastal numbers for this species; the pattern breaks down in a few years, notably 1972, but such lapses are surprisingly infrequent. If our winter population of White-throated Sparrows does indeed consist of migrants from outside the region, this statewide pattern of abundance would suggest that large-scale variations in either total numbers of this species, or at least in its movements in a given year, determine how many White-throats are present during a CBC period.

Dark-eyed Junco (Figure 6) is another woodland species that is common during the winter in Massachusetts. Juncos breed in New England at higher elevations, descending to lower elevations as winter approaches. They are usually one of the first "winter" birds to arrive near the coast, and they are frequent visitors to suburban backyards, where they scurry about in shrubbery near feeders. CBC data show that the winter population of juncos is highly variable from year to year, especially inland (note the astounding drop from about 17 to 2 birds per party-hour from 1964 to 1965); the long-term trend appears to be fairly stable statewide, and numbers inland and along the coast seem to move roughly in tandem, especially if you look at periods of several years at a time (for example, from 1966, through a statewide peak in 1970, to a statewide decline through 1974). BBSs in Massachusetts indicate that the breeding population of Dark-eyed Juncos in the state may be increasing; however, since the data come from only six survey routes, it is difficult to say for certain.

It is interesting to note that in 1964, inland numbers of Dark-eyed Juncos and American Tree Sparrows peaked sharply, increasing roughly two-and-a-half times from the preceding year, while other sparrows (including coastal juncos and Tree

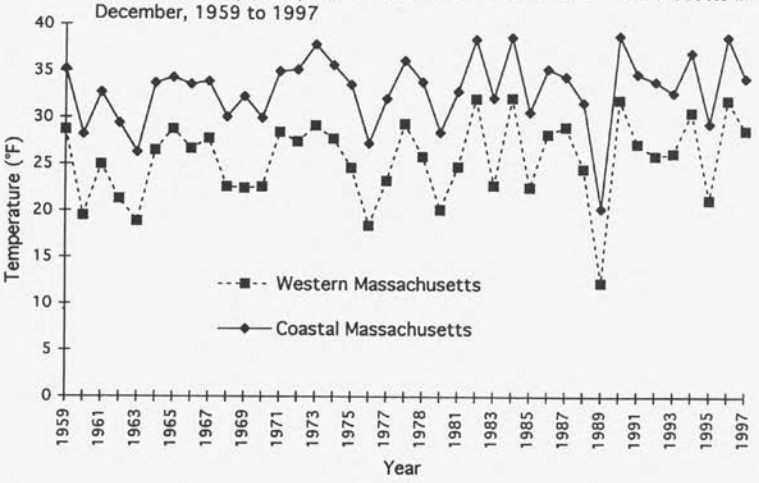
Figure 6. Dark-Eyed Juncos per Party-Hour in Coastal and Inland Christmas Bird Counts, 1959 to 1997



Sparrows) showed declines, steady numbers, or at most modest increases. Perhaps some affinity in the ecology or geographic origin of these two species accounts for this striking event.

In some years (e.g., 1969, 1976, and 1984), it appears that sparrows generally were numerous both inland and on the coast, perhaps indicating that conditions favorable for this group of birds prevailed statewide — or that especially unfavorable conditions elsewhere drove sparrows to the Bay State (Figure 7 suggests that temperature may be part, though not all, of the story). Such widely experienced data peaks could stem from

Figure 7. Average Temperatures for Western and Coastal Massachusetts in December, 1959 to 1997



sampling error — for example from especially good conditions for counting birds in some years — rather than from actual numbers of birds. However, these conditions would have to exist throughout the entire count period to skew results so broadly. Moreover, at least some species or regional populations show contrary results during these "sparrow years." For example, in 1969 Swamp Sparrows had a lackluster year; in 1976 Tree Sparrow numbers dipped statewide; in 1984 coastal Field Sparrow numbers plunged from a high the preceding year, and Tree Sparrows had an indifferent season. If sampling error alone accounted for these "sparrow years," one would expect the results to be homogeneous. A more likely explanation is that the ecology of these related birds is similar enough so that their populations often change simultaneously, but different enough so that one species is sometimes influenced by conditions that do not affect the others. This pattern of not-quite-homogeneous results certainly rings true when compared to a birder's extensive, if scientifically uncontrolled, experience with bird abundance, and it argues that the CBC data used in this analysis bear at least seem connection, even viewed year by year, to real changes in sparrow populations.

Conclusion

In drawing conclusions from CBC data, it is important to remember the fundamental limitations of these surveys. As I pointed out earlier, the numbers of

counts and participants have increased tremendously over the last three decades, and many other variables are not controlled. However, basing an analysis on birds per party-hour minimizes the effect of variable numbers of participants, and averaging the figures for birds per party-hour across multiple counts reduces the impact of a particular count that may be unreliable. The real question is: Are apparent trends in bird populations the result of real changes in the numbers of birds, or the result of increased thoroughness of CBCs generally? I suggest that the number of counts and the large geographical area involved in this analysis yield a credible reflection of long-term changes, and perhaps, to a lesser degree, of year-to-year variations as well.

If we accept that CBC data are valid — that is, reflective of actual changes in winter bird populations — then this study shows important long-term changes occurring in some of the winter populations of sparrows in Massachusetts, especially along the coast. CBC data suggest that, along with such species as American Robin, Northern Mockingbird, Northern Cardinal (Hamilton 1997), and House Finch (Hamilton 1994), Song Sparrows and Swamp Sparrows have increased in numbers over the last three decades. Other species, such as House Sparrow (Hamilton 1994) and Tree Sparrow, have declined. CBC data also offer interesting hints about the winter ecology of individual species, and even of sparrows generally. For some species, like Song and Swamp sparrows, year-to-year numbers tend to change statewide, suggesting that conditions on a broad scale affect the numbers of individuals wintering (or at least detected by CBC observers) in the state; for other species, like Field Sparrows, coastal and inland numbers may follow their own independent logic.

The population dynamics of wintering sparrows in Massachusetts undoubtedly depend on a complex set of interacting factors, including survival rates from the previous winter, breeding-success rates from the past summer, variations in annual movements, long-term changes in habitat and climate, and year-to-year variation in weather. While CBC data alone, especially in the absence of sophisticated statistical analysis, can hardly explain everything about this complicated topic, they nevertheless offer a compelling picture of some regional differences and long-term trends — and they hint at a great deal more about the fascinating complexity of bird ecology.

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The Change in the Numbers of Wintering Hooded Mergansers (*Lophodytes cucullatus*) in New England

Steve Davis

Introduction

In our environs — greater Providence, RI and Bristol County, Massachusetts — there clearly has been an increase in the number of wintering Hooded Mergansers (*Lophodytes cucullatus*) over the past decade. This study summarizes an investigation into their numbers based on New England Christmas Bird Count (CBC) results (see Hamilton, this issue, for a discussion of CBC data). A comparison was made between the average number of Hooded Mergansers reported on the 1985–1988 New England CBCs and the average number reported from the same CBCs in 1996–1998. A total of 87 counts that had an adequate number of years reported (at least 6 of the 7 years) was used.

The number of Hooded Mergansers counted per party-hour for each count in the above years was calculated. The average count per party-hour for the 1980s and for the 1990s was calculated for each count. Comparisons could then be made between the decades for each count.

Comparisons by latitude-longitude units were also made for the 24 Lat-Long blocks in New England where counts occurred. These blocks are one degree latitude by one degree longitude.

Since there seems to have been a warming trend for the past decade, an analysis was done using the temperatures on the count days. Three measures of temperature were used: high temperature, low temperature, and average temperature for the day. The average temperatures for counts from the 1980s were compared with the average temperatures for the counts from the 1990s. These temperature measures for individual counts were also compared to changes in the numbers of Hooded Mergansers.

Results and Discussion

The number of counts that reported Hooded Mergansers (HMs) out of the total are as follows:

Year	1985	1986	1987	1988	1996	1997	1998
Counts	35/83	34/84	38/87	40/87	57/87	60/87	64/86
Percent	42%	40%	44%	46%	66%	69%	74%

The number of Hooded Mergansers reported per party-hour ranged from a low of 0 on many counts in all the years to a high of 4.34 HMs/Party-Hr on the Buzzards Bay,

MA count in 1998. Interestingly, the second highest individual count was in 1985, also on the Buzzards Bay count (4.30).

The average number of Hooded Mergansers per party-hour per year (HMs/P-Hr) for all included counts, were as follows:

Year	1985	1986	1987	1988	1996	1997	1998
HMs/P-Hr	0.15	0.15	0.21	0.17	0.32	0.36	0.51

The average number of Hooded Mergansers per party-hour per year from the late 1980s was significantly lower than the average from the late 1990s.

The Buzzards Bay count had the highest average for its four counts from the 1980s (2.97 HMs/P-Hr) and also the highest average for the three years in the 1990s (4.04). The New London, CT count was second in both of these averages: 2.20 for the 1980s and 3.38 for the 1990s.

For each count, the average number of Hooded Mergansers counted per party-hour in the 1980s was compared with the average counted from the 1990s. There were 15 counts where none were counted in any of the 7 years. There were 66 counts in which the average count number increased, and there were 6 counts where the average decreased. The counts with a decrease in the number of HMs per party-hour, and the amount by which they decreased, were Athol, MA (- 0.738: 0.87 to 0.13); Old Lyme, CT (-0.18: 0.35 to 0.17)); Hartford, CT (- 0.018: 0.025 to 0.007); Errol/Umbagog, NH (- 0.010: 0.018 to 0.009); Biddeford/Kennebunkport, ME (- 0.006: 0.017 to 0.011); and Storrs, CT (- 0.003: 0.045 to 0.042). Interestingly, three of these counts — Old Lyme, Hartford, and Storrs — are in the same Lat-Long block (41°, 72°).

The greatest increases in count averages from the 1980s to the 1990s occurred in New London, CT (+1.18); Plymouth, MA (+1.13, from 0.75 to 1.88); South Kingstown, RI (+1.13, from 0.26 to 1.39); Worcester, MA (+1.08, from 0.13 to 1.21); and Buzzards Bay (+1.07).

The changes in individual count averages from decade to decade were calculated, and compared to the latitude and longitude of the counts (decimalized). Interestingly, there was no significant correlation between the longitude of the count and the magnitude of the change. There was, however, a significant relationship between the count latitude and the increase in numbers. This suggests that the more southerly counts had larger increases, but that the east-west direction had little effect.

Temperature Changes

There were statistically significant changes in the average temperatures reported for the New England CBCs between the two decades. These changes were similar for all three factors considered: high and low temperatures reported and calculated average temperature. The averages for all counts by years are as follows:

Year	1985	1986	1987	1988	1996	1997	1998
High	27.3	35.7	32.3	26.7	36.0	37.2	35.4
Low	12.0	24.0	18.0	11.8	23.0	24.7	20.1
Average	19.7	29.8	25.2	19.3	29.4	30.9	27.7

When each count's average temperatures for the 1980s is compared with its average temperatures for the 1990s, there are also significant differences. Again, the differences are similar for each temperature measure. The increase in temperature between the decades was 6.1° for average temperature, 5.6° for low temperature, and 5.8° for high temperature. These temperature changes were compared with the count's latitude and longitude values, but there was not a significant relationship for either directional component.

Perhaps more importantly for this study, there is no significant relationship between the measures of temperature changes between the decades and the changes in the average counts of Hooded Mergansers. This is in spite of the observation that for nearly all counts both the average temperature and the average numbers of Hooded Mergansers increased between the two decades.

It is important to note that these temperature data are from the specific count days recorded for each CBC. As such, they may not be representative of true average temperature changes between the decades, if they do exist. The changes in numbers of Hooded Mergansers may be more closely related to the true average temperature changes, or to secondarily related factors such as freshwater or estuary freezing.

Coastal Counts

Another variable recorded for all CBC counts was whether or not the count circle included the ocean coast. This variable may be important in studying numbers of Hooded Mergansers since these birds winter on both salt and fresh water, and in New England winters, the fresh water is often frozen. Of the 87 counts considered, 34 (39 percent) included the coast. When the coastal variable was considered in the changes in Hooded Merganser numbers, it was correlated with higher count numbers and with increases between the decades.

The coastal counts in the 1980s recorded an average of 0.352 HMs/P-Hr compared to an average of 0.057 for the non-coastal counts. For the 1990s the averages were 0.717 and 0.181 for the coastal and non-coastal counts, respectively. Both of these comparisons are statistically significant.

The calculated increase in HMs/P-Hr per count was also significant when considering this variable: the increase for the coastal counts was 0.379 versus 0.128 for the non-coastal. In other words, not only did the coastal counts have higher numbers of Hooded Mergansers in both decades, but they also had larger increases between the decades. (Note: This difference is not just the difference between the averages for the

1980s and those for the 1990s, since it includes the differences for each count, not simply the differences by decade.)

A multiple regression analysis of the changes in numbers of Hooded Mergansers between the decades was done. When longitude, latitude, coastal(ness), and temperature were considered, latitude was the most important correlate of the change, and whether or not the count was coastal was the other important factor. Longitude and temperature were not significantly related to the increase in mergansers. Counts that were farther south and were coastal had the largest increases.

Latitude-Longitude Evaluation

The New England CBCs considered are located in 24 latitude-longitude blocks. Of those 24 blocks, 20 had average increases (from 0.01 to 0.65 HMs/P-Hr) in the numbers of Hooded Mergansers between the decades, two had no change (one of which, the 43°-73° block, is primarily in New York and contained only one Vermont count considered here), and two had (small) decreases (-0.01 in the 44°-68° block with three counts, and -0.04 in the 42°-72° block with six counts). See the accompanying table which demonstrates those changes and the temperature changes by Lat-Long block. Note that no block had an average temperature decrease.

Change in New England Wintering Hooded Mergansers and Change in Average Temperature by Latitude-Longitude Blocks

	73°	72°	71°	70°	69°	68°	67°	66°
44°	2 0.18 3.4	2 0.0 8.3	2 0.01 2.6	2 0.16 10.8	3 0.01 5.4	3 -0.01 2.3	3 0.17 12.1	1 0.38 7.1
43°	1 0.0 4.3	5 0.05 1.5	3 0.41 4.6	4 0.03 6.5	1 0.50 8.8	1 0.01 1.8		
42°	3 0.06 6.2	6 -0.04 6.3	8 0.24 4.1	5 0.14 7.1			**Also**	**71°**
41°	7 0.39 6.7	8 0.39 5.7	5 0.55 0.0	7 0.65 8.1	1 0.21 11.6		**45°**	1 0.01 7.8

KEY: number of counts
change in HM/P-Hr for the counts in that block
change in temperature in F° for the counts in that block

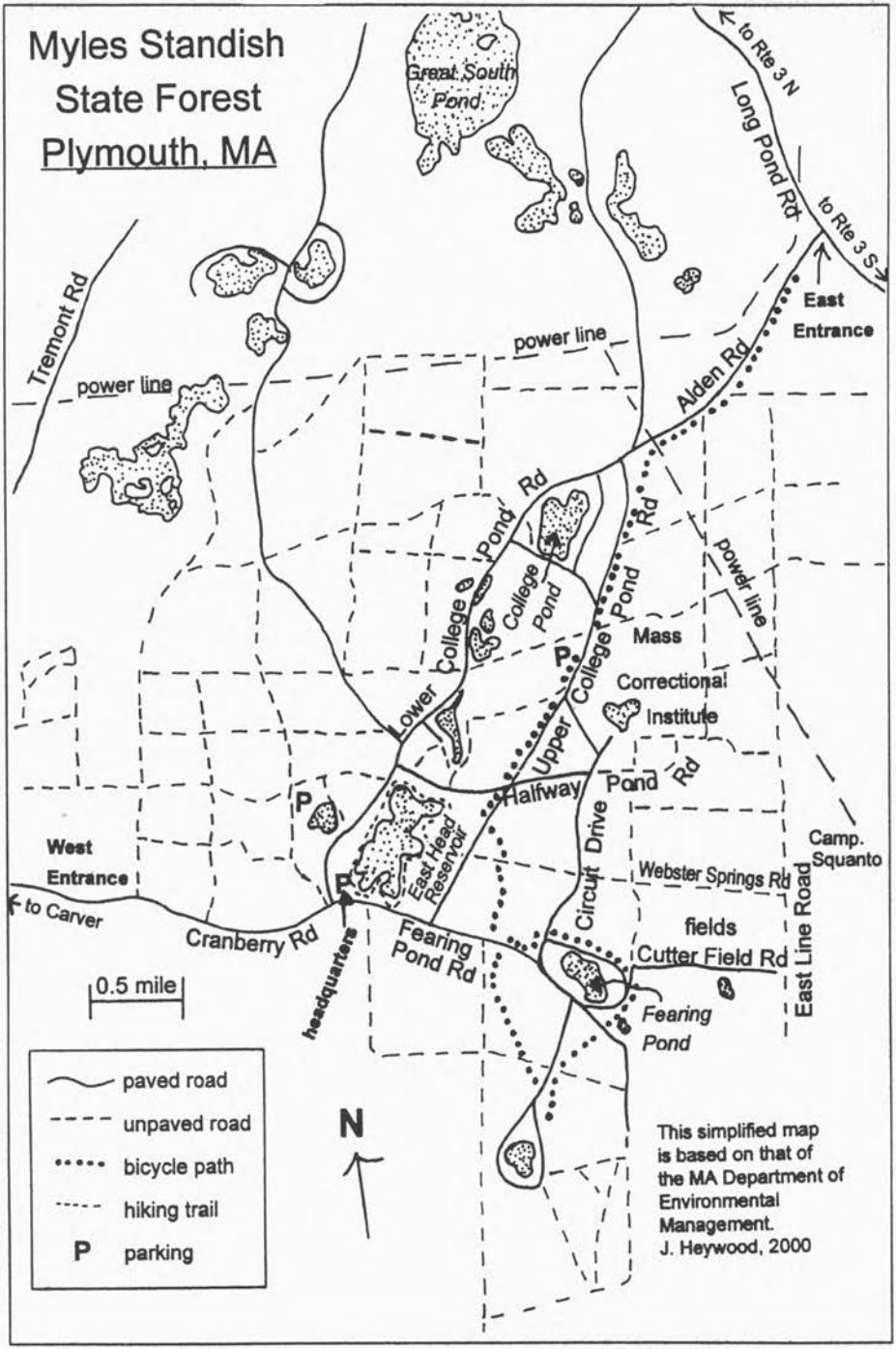
Conclusions

This study demonstrates an increase in the numbers of Hooded Mergansers reported on the New England Christmas Bird Counts over the past decade. Counts that are farther south not only had larger numbers in the 1980s and 1990s on average, but also had larger increases in bird numbers between decades. Not surprisingly, New England CBC areas that include the coast have higher numbers of Hooded Mergansers, and they also had larger increases between decades. The latitude of the count was not shown to be an important factor in the changes in numbers.

An analysis of temperature data demonstrates an increase in the temperatures (high, low, and mean) reported for the count days in the 1990s compared with the 1980s. These temperature changes are not significantly correlated with the increase in the counts of Hooded Mergansers. Whether there actually has been a warming trend over the past decade, or whether some nuance of the CBC dates chosen (e.g., earlier dates) accounts for the temperature increases, is not determined by this study. It might be enlightening to compare actual average temperatures from the two decades as measured by the weather bureau to the changes in the numbers of Hooded Mergansers.

The data analyzed are available from the author on a Statview 512 program for the Macintosh.

Steve Davis is a family doctor who works with the Brown University School of Medicine residency in Family Medicine. He lives in Swansea, Massachusetts.


Myles Standish
State Forest
Plymouth, MA
Great South Pond
to Rte 3 N
Long Pond Rd
to Rte 3 S
East Entrance
Tremont Rd
power line
power line
Alden Rd
Pond Rd
College Pond
Lower College Pond
Upper College Pond
power line
Mass Correctional Institute
Halfway Pond Rd
Circuit Drive
Webster Springs Rd
Camp. Squanto
East Line Road
West Entrance
to Carver
Cranberry Rd
East Head Reservoir
headquarters
Fearing Pond Rd
fields
Cutter Field Rd
Fearing Pond
0.5 mile
paved road
unpaved road
bicycle path
hiking trail
P parking
N
This simplified map is based on that of the MA Department of Environmental Management.
J. Heywood, 2000

Birding the Myles Standish State Forest in Plymouth

Glenn d'Entremont

Forty miles south of Boston is a paradise where a patient observer can enjoy the tranquil transition from day to night. There is no better place to be after a long day's work. Perhaps it is the sandy soil which absorbs the sound waves or its location several miles from any concentration of urban activity. Whatever the reason, the outcome is the same. Hermit Thrushes, Prairie Warblers, and Field Sparrows reluctantly give way to American Woodcock, Great Horned Owl, and Whip-poor-wills.

This is not how it was. Before the filling in of Back Bay in Boston, before the slashing and burning of tropical forests of South America, a pristine hardwood forest was destroyed. At the time of the arrival of the Pilgrims, cherry and chestnut trees stood in the pine barrens now called the Myles Standish State Forest.

Glaciers have shaped this terrain. It is pocked with kettleholes, bodies of water with no inlet or outlet. The water is colored brown by tannic acid. The sandy soil is glacial deposit. This area was the terminus of the sheet of ice covering New England, and when the glacier(s) retreated, pulverized stone in the form of sand was left.

When first cut over by Europeans, the precious top soil was cultivated for a short period, and then it was washed away, leaving the sandy soil base deposited by the glaciers. This soil provides excellent drainage, good for the production of the scrub oak and pitch pine that dominate the landscape today. Fires were frequent in such a dry environment and necessary to maintain the scrubby vegetation that today seems to be disappearing. The largest fire, in 1957, burned all the way to the ocean (some five to seven miles) and made an impression that has just been obliterated in the last ten years. Smokey the Bear does not like pine barrens.

It is here that my story begins. We used to take a ride in the family car on Sunday afternoons. One such trip went to the forest and inspired my interest in the area. I do not recall the event, but my father told me that a turtle was crossing the road. He stopped and moved it to the side of the road. He said that the bottom of the shell was red and claimed he showed it to all of us. If so, then this is the only time I have seen a Red-bellied Turtle. Also, I remember my parents discussing the "fire" and saying "look at the dead trees." I recollect the muted sounds and the look of its being bare. I expect it is the latter reason that this habitat is called the pine barrens.

Barren? Anything but. My explorations in the forest have produced interesting sightings. In addition to birds, coyotes, white-tailed deer, bats, Fowler's toad, gray tree frogs, Plymouth gentian, ferns, oaks (numerous species), poison ivy, cone-headed grasshoppers, tiger beetles (including a rare species I have not seen), numerous moths, and even cockroaches are just some of the things seen and encountered in the barrens.

Just short of 15,000 acres, it is the largest continuous forest owned by the Commonwealth of Massachusetts. Still, there is little area that cannot be accessed by some road or path. As for roads, they are more or less laid out in a grid pattern with roads every half mile or so. There are few paved roads, and some of the dirt roads I have

walked have sand hazards, so caution is advised if you want to take a two-wheel-drive vehicle on these. Most will be navigable, but you will want to get out of your vehicle and enjoy the area by walking.

I will address the spring and summer birding aspects of this very large public forest. There are not a large number of bird species using this unique habitat for breeding. Those that do breed here are present in numbers not encountered in other habitats. Eastern Towhees are abundant as are Chipping Sparrow, Pine Warbler (found in larger pines over 30 feet high), and Prairie Warbler (in disturbed areas with smaller pines under 30 feet high). In fact, Prairie Warbler is so numerous that a monograph on Prairie Warbler written in the 1960s listed this population as being the densest on the planet! This is the reason why a nice likeness of Prairie Warbler graces the dust cover of the *Birds of Massachusetts* by Veit and Petersen.

American Woodcock, Black-billed Cuckoo, Whip-poor-will, Eastern Wood Pewee, Tree Swallow, House Wren, Ovenbird, Gray Catbird, Hermit Thrush, American Robin, and Mourning Dove are among the common breeding birds. Northern Bobwhite, Yellow-billed Cuckoo, Northern Saw-whet Owl, Great-crested Flycatcher, Fish Crow, Brown Thrasher, Yellow-rumped Warbler, and Field Sparrow represent the less common breeding birds. Northern Harrier, Cooper's Hawk, Eastern Screech-Owl, Hairy Woodpecker, Red-bellied Woodpecker, Chimney Swift, Alder Flycatcher, Olive-sided Flycatcher, Golden-crowned Kinglet, Blue-winged Warbler, Nashville Warbler, and Clay-colored and Lincoln's sparrow are birds that have bred on rare occasions over the past fifteen or so years.

Our journey begins at exit 5 off Route 3 in Plymouth, the northern Long Pond Road exit. (Coming from the south, take exit 3, which also lists Long Pond Road.) From exit 5, turn right onto Long Pond Road. After about three miles, a power line crosses the road. Shortly on the right, the east entrance to the Myles Standish Forest goes right, while Long Pond Road bends left. (Coming from the south, the road bends right, and the entrance is on the left.) It is well marked with a state brown sign with white lettering. This is Alden Road (unmarked).

Follow Alden Road for about two miles. Take the first paved road to the left. This is Upper College Pond Road. Follow it for a little over three miles until you reach a "T". Turn left. (Since 1997 the bridge over the outlet to East Head Reservoir has forced traffic to the left anyway.) This will take you to Fearing Pond Road. This is a circular road with three paved outlets to the right, each of which leads to a dead end, forcing a return to Fearing Pond. Counting the paved roads on the right, take number three, the road to Camp Squanto. Turn right and drive up the short hill. Follow the paved road as it turns ninety degrees to the right (Cutter Field Road, unmarked).

As you drive, you will see several fields on the left. These fields offer the best diversity in the forest. They are cut to stimulate breeding by Northern Bobwhite with notable success. This is the only area where I hear them. There are approximately six such fields, each with a brushy break in the middle. They extend for about one-half mile to Webster Springs Road at their north end and are about one-eighth mile wide.

Stop and walk any of these fields. You will never be out of earshot or sight of an Eastern Towhee or Chipping Sparrow. Several of these fields have birdhouses which are

breeding homes to Tree Swallows, some House Wrens, and the occasional Eastern Bluebird. Purple Finches are sometimes present. Brown Thrashers and Field Sparrows should be encountered in these fields in small numbers. Prairie Warblers are abundant. Listen for their up-the-scale song. They are certainly feisty, fending off Pine Warblers. Prairies almost always win these battles. Perhaps Pine Warblers know that it is just a matter of time before they take over.

Migrating Alder Flycatchers and Lincoln's Sparrows have been seen. Before the grasses became a solid mat, Vesper Sparrows nested. Northern Harriers occasionally put in an appearance, but Cooper's Hawks are encountered a little more frequently. Song Sparrows are along the edge while Cedar Waxwings and Blue-winged Warblers are sometimes in the edge trees on the north and south ends of the fields. Black-billed Cuckoos are regular anywhere along the edges. Hermit Thrushes should be singing from the scrub. Listen for their slurred upward *reee*. Common Yellowthroats can be anywhere, as can House Wrens. In the denser evergreens (there are some spruces) one might find a Red-breasted Nuthatch.

Black-and-white Warblers are rare but regular breeders in this area, and with a little patience one should encounter them. Their alternate song is amazingly different from their squeaky-wheel territorial song. It is complex, pleasing to the ear, and very interesting. I hear it mostly after mid-June when they should be feeding young.

Pay attention. Clay-colored Sparrows have been present and singing, defending territory against Chipping Sparrows, in at least two of these fields. Listen for their buzzy song, reminiscent of the Golden-winged Warbler's. This forest historically had breeding Golden-wings, so track down any song with buzzy notes.

The Cutter Field Road does a little jog around an unseen pond and climbs a hill. At the top of this hill there is a parking lot. You have traveled about seven and one-half miles from the Long Pond Road entrance. This parking lot is stop number one of a survey I have conducted for close to 15 years to count Whip-poor-wills. It continues to stop 18 at the entrance at Long Pond Road. It is here that I enjoy the dusk. If you stop and look west, then you notice one lone pine tree which stands above the canopy. This tree appears one-third higher than the height it was in 1988 when our Whip-poor-will survey began. But I digress.

Continuing on the road to the east brings you to the East Line Road and off the forest property to Camp Squanto where the road ends. The field to the south has birdhouses and a search should turn up a bluebird or two.

Retrace your path back to the Fearing Pond Road. Since the road is one way, you must turn right and continue the loop. In about one-half mile there will be a road on the right (Circuit Drive) which is blocked off. Park and walk this road. Since there is no vehicular traffic, there is less noise. Prairie and Pine warblers dominate. Chipping and Field sparrows should be encountered. Once I observed low flying Chimney Swifts in June along this road, and I wonder whether there are naturally nesting swifts in the forest. There are several old dead trees which could be hollow for them to use. I have not seen additional evidence of nesting, but keep a watchful eye. If you keep walking along this road, you join another paved road (Halfway Pond Road) from the left. If you continue beyond that intersection, you come to the Massachusetts Correctional Institute-Plymouth.

You will probably hear the loud speakers before arriving at the entrance. I usually avoid this section of road, turning around at the intersection.

Returning to your vehicle, continue on the Fearing Pond loop road to a stop sign. Bear right to return to Upper College Pond Road (turning left begins the loop again). Turn right onto Upper College Pond Road. (Since 1997 the bridge over the outlet to East Head Reservoir has forced traffic to the right anyway.) At the next intersection with a paved road (Halfway Pond Road), park off the pavement on one of the two "corner" cutoffs located on the southwest or northeast corner. Walking back, locate the paved bike trail on the west (right) side of the street. A walk in these woods should turn up Eastern Wood Pewee, Ovenbird, and, in the white pines, Yellow-rumped Warbler. Occasionally a Red-breasted Nuthatch will be here. Both cuckoo species have been recorded here. House Wrens use the openings in the gates to nest. If you go to the east-side bike trail, then you have a chance to see more of these species. A Hairy Woodpecker was in these woods during one walk.

The margins of all the major roads have been cut for greatest visibility for deer. However, on the east side of Upper College Pond Road, there is a single larch tree in the short grass. There was a Clay-colored Sparrow using the larch and the surrounding area as a territory several years ago. The adjacent area along the south side of Halfway Pond Road has not been cut recently. A walk along Halfway Pond Road should yield Pine Warbler on the left (north) and Prairie Warbler on the right (south). Also, Field Sparrow has been on the right (south).

Return to your car and go west on Halfway Pond Road. At the next intersection with a paved road, turn left. This is Lower College Pond Road. The road is windy, and caution is advised. This is a heavily forested area with large pine and other evergreen species. There are numerous pulloffs for a car or two. On the left, there is a small spruce stand that was planted after the 1957 fire. A stop here should produce Red-breasted Nuthatch. Brown Creeper is probably here all the time, but their inconspicuous living habits prevent them from being recorded on every visit. On one May Big Day, I recorded a singing Golden-crowned Kinglet from these spruces. This was 1987, and future visits during prime season did not produce additional records. This is a rare breeder in the southeastern coastal plain of Massachusetts, so this individual may have been a wandering singleton.

Continuing southwest, Lower College Pond Road eventually curves southeast, and buildings appear on the right. These are maintenance buildings for vehicles and equipment. There is one residence. A short distance beyond, there is a paved road joining the road on which you are driving. This is Cranberry Road and is the west entrance to the park off Route 58. Straight ahead of you there will be a barrier just after a parking lot with a large brown building. Pull into the lot.

There are restrooms here, just renovated. They are in the small building called the Interpretive Center and are located on the sides, so that if the center is closed, the restrooms are still available. The long brown building has staff and is open 7:30 a.m. to 4:30 p.m. in season. Trail maps are available. The maps are not complete; for example, the fields and trails on Cutter Field Road are not listed, so there may be still some exploring to be done by the adventurous. However, all the major roads and structures are shown.

The headquarters are located on the southern end of the largest body of water in the forest, called East Head Reservoir. It had been diked on the south end by an earthen dam that gave way during spring of 1997, almost killing the driver of the car that was crossing at the time. Cranberry bog owners quickly re-dammed it to prevent loss of cranberry plants downstream. This is now closed to vehicular traffic and necessitates a circular route to get from the headquarters to the Fearing Pond area. A walk along this section of road is quieter than others, and all the above-mentioned common species can be recorded. Listen for cuckoos and Purple Finch, too.

At the headquarters, there should be a trail map for a self-guided nature walk around the reservoir. This walk circles the reservoir and begins on the other side of the dam from the parking lot and returns to the lot. It is a little long, but is worth doing in order to learn about the various plants of the pine barrens. Birdwise, this is the only location for some species, such as Yellow Warbler and Mute Swan. Song Sparrows, Northern Cardinals, and Red-winged Blackbirds are present. Pine Warblers are abundant and an occasional Yellow-rumped Warbler may be encountered.

From the headquarters, return to Lower College Pond Road. If you follow this road northeast, it will bring you back to the east entrance and Long Pond Road. Lower College Pond Road is more serpentine than Upper College Pond Road with blind turns and dropaway rises. A right turn back onto Halfway Pond Road and a left onto Upper College Pond Road may actually be quicker. Either way, the trip back to the east entrance is seven and one-half to eight miles. (The two roads eventually join to become Alden Road before you get back to Long Pond Road.)

There are several species that can be seen anywhere in the forest and, at the same time, nowhere. Fish Crow and Common Grackle are two such species. One can see a flock of several individuals or, more likely, none.

Lastly, there are wildcards, flyovers which can be encountered anywhere. Great Blue Heron and Solitary Sandpiper are two such birds. Some unusual encounters are a flock of Oldsquaw and a Virginia Rail, both heard in the pitch black!

Night birding in the forest is rewarding. Any stop not in enclosed forest will produce Whip-poor-will. These birds call all night in June. They are truly daylight-sensitive so that they begin calling at about 15 minutes after sundown. Birds on easterly facing slopes call first. If it is cloudy, then they call earlier because it is darker. Warm, humid, moonlit night counts record the highest numbers of "Whips." If it is cold and cloudy, then they call briefly at dusk.

Any imitation will produce a response no matter how poor. (I mimic Whip-poor-will so well that they now move away from me.) Some responses will be a bird flying by your nose. Another will be a sharp *whit* as a bird flies by.

As the season progresses, the birds call less and less. By September they must be enticed to call. And then it is only during a short five minute span 10 or so minutes after sunset. I have recorded Whip-poor-will from April 27 to September 30.

Historically, Common Nighthawks nested on the ground in recently burned areas, their dark gray eggs mottled with black and white blending perfectly with the blackened earth. In the 1970s when Manomet staff found the first nest, this was believed to be the

only place in the state where nighthawks still nested under natural conditions. With subsequent suppression of fire, there are seldom any blackened open areas, and nighthawks must search out blackish, graveled rooftops as the closest approximation of their desired habitat. Late May is now the only time I encounter Common Nighthawk. The southward migration seems to bypass the southeastern coastal plain of Massachusetts as they follow a southwestward path from Boston to Narragansett Bay or southern Rhode Island.

Northern Saw-whet Owls are sporadic breeders. There have been as many as five territories on the eighteen stop, seven-and-one-half-mile Whip-poor-will survey route. The most reliable spot has been the College Pond area. (Perhaps this is because by the time I get there it is completely dark.) Sometimes the only sign of residence is a haunting *eeeeeeEEE* which is more emphatic at the end. This call is given later in the breeding season perhaps after young have fledged. I have heard it in April as well. The squeaks and other noises heard during the winter do not seem to be heard here. There have been years with no Northern Saw-whet Owls.

Great Horned Owls may be the most numerous raptor in the forest. They are certainly the most reliable. You may encounter them anywhere. One moonlit night, my friend and I heard two owls. He mimicked the call of an injured rabbit. In a few seconds we were surrounded by four owls! They were flying over the road looking for this rabbit.

On one occasion I heard an Eastern Screech-Owl. It was early August and the species has not been recorded since. This is not a place for this species to be regularly encountered.

One last word regarding the habitat. It is fragile and constantly wanting to mature. The suppression of fire has caused a reduction of disturbed habitat, resulting in decreased numbers of Whip-poor-wills, Brown Thrashers, Prairie Warblers, Field Sparrows, and Eastern Towhees. The Manomet Center for Conservation Sciences is attempting to work with the Massachusetts Division of Fisheries and Wildlife for a prescribed burn schedule to rejuvenate the habitat.

Acknowledgements: I would like to thank Kathleen (Betty) Anderson for her invaluable knowledge of the bird life and other happenings at Myles Standish State Forest. I have used her nighthawk information almost word for word. I would also like to thank Trevor Lloyd-Evans at Manomet Center for Conservation Sciences for reviewing the draft of this article.

Glenn d'Entremont's interest in birds was sparked by a visit to the Manomet bird banding station in October 1968. His uncle, Herman D'Entremont, was a volunteer who worked the nets removing the birds caught. A wide-eyed Glenn was handed a few birds to release after banding. He was hooked for life. Glenn has done Whip-poor-will surveys at night in the Myles Standish State Forest since 1987. He occasionally completes surveys during the breeding season of the other birds residing in the forest. Glenn is a General Accounting Manager at CGI Circuits, Inc., in Taunton, and serves on Bird Observer's Board of Directors.

Birds and Building a Backyard Pond

Alan E. Strauss

In 1993 I made a freshwater pond and waterfall in my backyard in Providence, Rhode Island. Since that time I have had numerous interesting birds visit, including a Northern Waterthrush, Blackburnian Warbler, Wilson's Warbler, Yellow Warbler, Yellow-rumped Warbler, Black-throated Green Warbler, Black-throated Blue Warbler, as well as numerous other warblers; and Carolina Wren, Rose-breasted Grosbeak, Northern Oriole, Cooper's Hawk, grackles, sparrows, and a host of other songbirds.

My backyard is small, maybe one-quarter acre at most. I live in a residential neighborhood, and most of the yards are small. The back area was shaded by maple trees, and there was a slight depression in the lawn. Grass never grew well in this section, and cutting the lawn in the depression was always a problem. I decided to dig out the area, build a pond, and plant native trees and shrubs that would attract birds and wildlife.

To begin, I used a pickax and shovel to remove the soil and many large rocks that I encountered (Figure 1). The excavating was difficult, even with the help of my son. I took about a week to dig the basin to a depth of about two and a half feet. My pond is somewhat oval shaped, but you can make your pond whatever shape and size you want as long as it is about 2.5 feet in depth. Ponds that aren't deep enough may freeze solid during the winter months. I left a one-foot shelf along the entire edge of the pond so that I could put containers of water-loving plants along the perimeter.

The next step was to remove any roots or small rocks from the basin and smooth it out. I went to a local sand and gravel company and was able to purchase inexpensive stone dust which I used to line the entire surface of the pond basin. This moist stone dust packs in place and insures that no sharp objects will pierce the liner. You can obtain a flexible plastic liner from most garden shops. There are several grades, from thick to thin, and I selected a medium-grade liner which lasted for about seven years. The thickest PVC liner on the market today is about 45 mil, and that type should be a good choice. A 10 x 15-foot liner costs about $120.00. If you measure your pond for length, width, and depth, the store can

Figure 1. Excavation of the pond in progress, showing the basin and the shelf around the edge (photographs by the author)

advise as to what size liner you need. I also bought a pump and hoses that would circulate the water and make a waterfall. The sound of running water is a big attraction for many birds, especially on hot summer days. While I have always had birds in my yard, especially in spring, the pond attracts more birds, and many come to drink right at eye level. In fall and winter, birds hide under the hemlock trees and in the thick bushes that I planted. Juncos, and Song and White-throated sparrows are usually there every fall and winter. Within a week of building the pond, I had a Least Flycatcher that landed on a dead tree branch I erected over the water. Also, last year I had a large flock of about twenty Cedar Waxwings in the trees next to the pond.

Figure 2. Completed pond showing waterfall, stones along edge, marginal plants, and floating plants

After placing the liner in the pond, I used large rocks around the edge. I scavenged these from various locations to make the pond look natural and to hide the liner (Figure 2). Then I placed water-container plants along the pond shelf. I used a layer of gravel on the bottom and top of the pots to keep the soil from washing out. My pond is lined with wild irises and cattails. I also put some cinder blocks in the bottom and put a plastic washtub on them which I filled with waterlilies. You can buy numerous aquatic plants from a local pet store, or you can order plants from several of the outfits that deal specifically with pond plants and fish. There are floating water plants such as water hyacinth and water lettuce. The water plants not only add to the overall appearance of the pond but also serve to filter and aerate the water and to cut down on sunlight, which causes algal growth. The floating water plants multiply quickly so it is not necessary to buy a large number. I added a few fish to the pond, including Japanese Koi, Shebunken, Comets, and Fantails. I think the koi are the hardiest, and I have some that have been living since I started my pond. There are Japanese and domestic koi; the domestic are less expensive. Koi are generally sold based on size and run from about five to thirty dollars per fish. The fish require little care except for feeding with floating food sticks. Your local pet store or aquarium will help you to get started and tell you if you need to add any chemicals to your water when you start.

The final process was building a waterfall, which I constructed out of several large rocks that were carefully positioned so that the water would flow over them and ultimately splash into the pond. My main concern with the waterfall was the sound, so

I kept adjusting it until it made as much bubbling and gurgling as possible. The hose from the pump was placed at the top of the waterfall to keep recirculating the water.

The final touch was planting native trees, shrubs, and plants around the pond. Since my backyard is partly in shade, I had to select shade-tolerant species. I planted those species that would be found in the wild as well as plants that bear fruit and berries to attract birds. The plants I selected include: Sweet Pepper Bush (*Clethra alnifolia*), Swamp Azalea (*Rhododendron viscosum*), Shadbush (*Amerlanchier* spp.), several types of viburnum, dogwood, hemlock, May-Apple (*Podophyllum peltatum*), and Solomon's Seal (*Polygonatum biflorum*). Every year I add a few more plants. You can check the *Sierra Club Naturalist's Guide* (Jorgensen 1978) for the native plants that grow in various types of habitats.

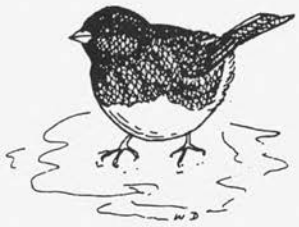
A few words of caution. If you build a pond, make sure that you have it fenced in, and check your local town ordinances. Also be prepared to drain and clean the pond at least a few times a year. I clean mine every spring, summer, and fall. You can buy pond filters and even UV lights that will cut down on the sediments and algae and will save you the hassle of some of the cleaning. In the fall, I stretch netting over the pond to trap the leaves before they fall into the water. One year I didn't get to clean out the leaves and after the winter the pond stunk, the water was black, and my fish were dead. So a pond in your yard is not totally maintenance-free. I keep the pump running in winter so the water doesn't completely freeze over. Again, before you undertake a pond project, be sure to consult your garden or pet shop about all of the details. The result is worth it. I enjoy sitting by the pond and listening to the waterfall, watching the fish, and seeing the birds come to my backyard. What started off as a problem area has now become the neighborhood showplace.

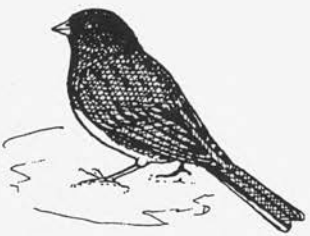
June is a good time to start a pond, after all of the maple flowers fall off. The weather is warm enough to put fish in and to get it all established before the winter. It takes a few months to get everything in balance.

Reference

Jorgensen, Neil. 1978. *A Sierra Club Naturalist's Guide to Southern New England*. Sierra Club Books, San Francisco.

Alan E. Strauss is the director of Cultural Resource Specialists of New England, an archaeology firm. He has run an archaeology summer field school at Wellfleet Bay Wildlife Sanctuary, and plans to run one again this year in August.





YOUNG BIRDERS

Big Day Birding: A Change of Pace

Barrett Lawson

Birding has always been a major part of my life. My first word was "bird," so that should give you an idea of when I started. All through my elementary school years the big excitement of birding was to get a new "life bird." I was a "lister." I could get a new bird almost every time I went out, and I thrived on the thrill of seeing my life list grow. But by the time I reached middle school, the inevitable happened: new life-birds became hard to come by. At this point I entered a new phase. I made it my goal to be able to identify all the birds by myself and not to rely on adults to point them out. I made a notebook, along with my dad, and took notes on all the key fieldmarks. New life birds became less important. I drew satisfaction from improving my skills as a birder.

Although I loved to go birding any time of year, there was one day that was by far my favorite, The Massachusetts Audubon Bird-a-thon. This wasn't just another day in the field, it was an all-out race. Frantically moving from place to place, chalking up a huge list, seeing great birds, and best of all, competing against other good birders was a different kind of birding altogether, where a sense of leisure was eliminated and in its place was an intense focus.

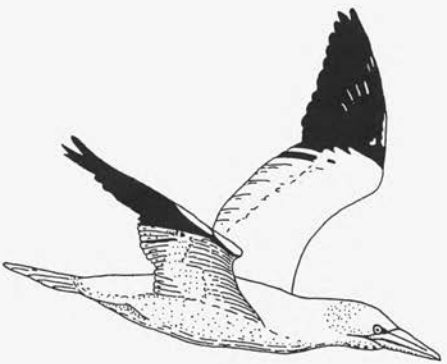
On Bird-a-thons my dad and I have gone out with Strickland Wheelock. He is an incredible birder and has been my mentor throughout the years. We have all enjoyed the excitement of Bird-a-thon so much that Strickland suggested that we do something like that every month. We would try to set a Big Day record in Massachusetts for the American Birding Association for each month of the year. The idea sounded great to me! We have followed through, and are now in our second year of doing ABA Big Days (as well as the annual Bird-a-thon).

ABA Big Days alter birding from a hobby to a sport. Just like any other sport there are specific rules and regulations that must be followed. There is a *playing field*, which is the designated state that the day is taking place in; a *play clock* of twenty-four hours, from midnight to midnight; a final *score* of total number of species seen; and a *team*, which consists of two or more people who must stay together during the day.

Just as in any sport, the quality of the players in a Big Day is very important. There is not much I can say about this. Obviously, the more experienced birders will have better luck. Another parallel to sports is the importance of strategy. In a Big Day, having a good strategy may even be more important than the skill of the birder. Developing this takes practice and experience. The more you do it, the better you become at understanding all the intricate strategies that will help add birds to your list. I feel that I have a decent understanding of how to plan and execute a Big Day.

The first thing to decide is what date you are going to bird. For any particular month, choose a day that seems most likely to yield the greatest diversity of species. For example, if you are birding in April it would be much better to have the Big Day at the end of the month than at the beginning. There would be a greater influx of migrants then. Other factors can determine optimum timing. For example, when we did our Big Day in late January 2000 we did it in the midst of a deep freeze. Everything was frozen, and we couldn't find any bay ducks anywhere. However, the next day Strickland discovered two ponds that somehow stayed open during the freezing weather. In these two ponds alone, he had fourteen species of ducks! With this concentration of birds, we then tried to do our February Big Day as soon as possible. There was an obvious advantage to getting a large number of duck species in one or two locations.

The next thing to do is to plan where you will bird. It is crucial to visit a wide variety of habitats. Massachusetts birders are fortunate because we have an ocean coast. No matter in what month you are doing a Big Day, coastal stops are important. Shorebirds, ducks, alcids, gulls, or terns fatten up the list. Be sure to include all the other obvious habitats — marshes, open fields, thickets, forests, and ponds. One thing that you might try is to take a checklist and mark all the species you think are possible on the date of your Big Day. Next, draw on your experience, and write down the best specific places you know of to find the birds that you marked. Make sure that your itinerary doesn't take you all over the state. That makes for too much driving and not enough birding.



Once you have figured out the locations you want to bird, plan your itinerary for efficient driving so that you can hit the right spots at the right time of day. Various habitats are productive at different times of the day, and it is important to be at your destinations when you can get the most out of them. One of the best ways to start a Big Day is by owling. During the waning darkness before dawn is usually the time when the owls are the most vocal, so that is the ideal time to be in owl habitat. Also, since rails call at night, it is an efficient use of time to go after these birds in the dark also. As the sun rises and the songbirds are most active, make sure you are not at a beach with a telescope looking out at the ocean. You should be birding prime passerine locations. (Furthermore, many ocean birds, like gannets and kittiwakes, are not up and flying until later in the day.) Another thing to take into consideration is the tide. You will get the most shorebirds close up when the mudflats are becoming exposed during an outgoing tide.

The final strategic consideration is timing your stops. Once you have your itinerary, try to allot a specific amount of time for each area. At the end of the day all

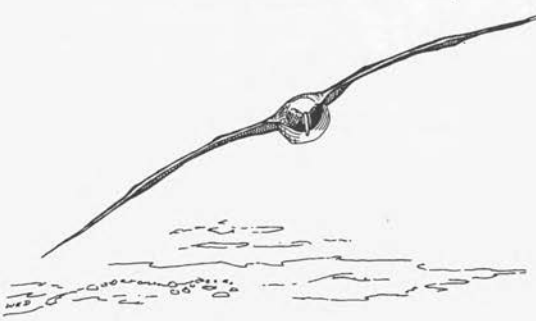
itinerary stops should be completed, with no extra downtime. But flexibility is necessary because a destination may be more productive than anticipated (or less). And the time you spend there should be adjusted accordingly. Also, don't get hung up searching for a particular species. If you have already scanned through a large flock of Semipalmated Sandpipers looking for a Western, it's not worth it to check it a second or third time as you might on a regular day. Accept your loss, and move on.

With all the different considerations to take into account for a successful Big Day, it may sound like a daunting task. But if you are feeling energetic, it is a day of birding like no other. The rewards have been great. Every month I get a broad view of the bird activity in Massachusetts. This allows me to gain a greater knowledge of habitat preferences, migration patterns, and populations of birds. I remember on November 6 that every time we looked out from a coastal stop there were streams of Red-throated Loons migrating south. And how on March 25 at the same stops we saw gannets moving north. On October 9, finding Rough-winged Swallows at Great Meadows was exciting because they were probably the only ones left in New England. A Big Day makes you consider things more carefully. It forces you to ponder every option and appreciate everything you see.

Barrett Lawson, age seventeen, is a junior at Concord-Carlisle High School. He is an avid tennis player, and has played on the varsity team since freshman year. Last year Concord-Carlisle won the State Championship. Music is his other main interest. He plays cello and electric bass. He is now starting to look at colleges. Bowdoin and Colby are promising because they both have ornithologists in their biology departments.

[Editor's note: Barrett was six when he participated in his first Bird-a-thon, and since then he has raised over $47,000 for the Massachusetts Audubon Society.]

Barrett and birding buddy Strickland Wheelock scanning for sea ducks at Halibut Point during a Big Day (photograph by Bob Lawson)



Pocket Places

Steele Farm, Boxborough

Judy Bartos

I continue to try to find new places to bird locally. On March 8 on the way home from work I tried Steele Farm in Boxborough for the first time, mostly to see whether it held any woodcock and maybe to owl a little bit as it grew dark.

As soon as I reached the farm road, I saw a Northern Shrike in the lone tree located in the middle of the field between the pine grove and the stone wall. I milled around in the pines for a bit and headed off into the deciduous woods at the end of the field. There were a couple of hundred robins and many Red-winged Blackbirds flitting from tree to tree, and a Red-tailed Hawk higher up in the opposite direction.

I walked fairly far into the woods and at that point the sun was down, but it was still light enough and I heard a Great Horned Owl. I couldn't see the owl so I headed out of the woods to plant myself at the edge to see, as it got darker, whether the owl would come out to perch adjacent to the field. I got a little distracted because the woodcock started peenting and performing their nuptial flights fairly early. It was still light enough to get really good sightings. I counted about five woodcock.

I then tucked myself in the edge of the pine grove facing the woods and started scanning the edges. In the meantime, the woodcock were peenting and whirring all around me, and then a very dark shape emerged about 30 feet on my left from the grove I was standing in, swooped low across the field, and perched about 60 feet from me in the same tree that the shrike had been in an hour earlier. It was a Great Horned Owl. I marveled at the owl until it swooped across the field to hunt. By that time it was very dark and hard to see. Although it may have lacked in numbers, this evening rated pretty high. Alone in the quiet, getting these great birds in a place that I tried for the first time, I am filled with wonder at the potential a new place can hold.

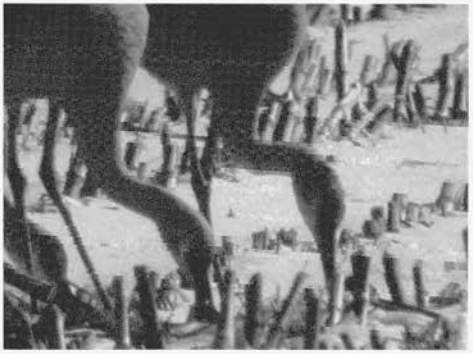
Steele Farm is about 30 acres and about half is forested. It is contiguous to another 30 acres of conservation land called Beaver Brook Meadows. It is a rather small parcel of accessible public conservation land. However, the land has several edges that create nice habitat diversity for such a small area. There is a large open field — some of which, on the southern end and along the fringes of a small stream, consists of wet meadow. In addition to the stream, there are some small farm ponds, low lying multiflora rose and juniper along an adjacent upland hillside, rock walls, a small stand of spruces and scotch pine (which is basically the remnant of an old Christmas tree farm), upland white pine and oak forest, and a fairly large red maple swamp.

Directions to Steele Farm: Take exit 28 (Route 111) off of Interstate 495. Head east on Route 111 toward Boxborough (you should immediately pass an Exxon station on your left). Continue 1.7 miles until you reach Middle Road and a white church on your left. Turn left onto Middle Road, and drive about one mile. Slow down when you see Picnic Street (on your right). As you go down the hill to your immediate left, you will see an abandoned white farmhouse, a white barn, and other smaller structures with a large field in the background. That's it, and it's okay to park in the farmhouse driveway.

HOT BIRDS

American White Pelican first seen 4/15/00 at Flint Pond, Tyngsboro. This bird, missing the left eye, could be the same individual seen in Eastern Massachusetts in 1997.

Three **Sandhill Cranes** (2 ad., 1 juv.) spent the much of the winter of 1999/2000 in southeastern Massachusetts (chiefly Marion, Mattapoisett, and Fairhaven).



Photographs: American White Pelican, Barred Owl, Northern Shrike, by Marjorie W. Rines; Sandhill Cranes, Bohemian Waxwing by David M. Larson.

The winter of 1999/2000 was also notable for sightings of **Bohemian Waxwing** (such as this bird in Royalston, one of a flock of up to two hundred).

Barred Owl sightings were common, particularly during the periods with crusty snow cover (photographed in Lexington).

Northern Shrikes were reported from throughout the state (in Bedford).

YARD BIRDS

Editors' note: We encourage readers to continue sending their observations to brookestev@aol.com.

Are you sure want to hear everyone's favorite backyard bird story? Well, you asked for it. Dave Cooper and I live on a busy street in Medford in a house on a corner, with neighboring houses close by and very little yard. The "habitat" consists of the shrubs next to the house. I don't keep a backyard list since we see just the usual suburban stuff. Even so, in the two or three years that we have been birding somewhat seriously, there have been a few highlights:

* The pair of Red-tailed Hawks that sat side by side for a couple hours on Christmas morning in a tree we can see from the kitchen window

* Four Fox Sparrows that showed up the day after the April Fool's Day snowstorm (2 feet of snow), and stayed for 4 days to scratch for seeds under the feeder

* An immature Cooper's Hawk that landed beneath the feeder this winter

*A Robin that we watched building a nest in a rhododendron bush just outside the window in a torrential rainstorm

* A Ruby-crowned Kinglet that hung out for an afternoon in one of the front yard shrubs

* A Red-breasted Nuthatch that appeared twice at our feeder just the past weekend

* And finally my favorite story: One May morning in 1997, the first spring that we owned a good pair of binoculars and had just begun to look for warblers, Dave and I went for a walk at the Brooks Estate, about a mile from our house. While we walked, we heard a strange, new (to us) buzzy bird call and worked hard to follow the sound. Dave finally caught a brief glimpse of the bird, and we got out the field guide and guessed that it was a Blue-winged Warbler. That afternoon, back at home, I realized that I was hearing that same buzzy call in our back yard. Sure enough, it was another Blue-winged Warbler (or had he followed us home?), busily eating little green worms in our neglected pear tree. We got out the lawn chairs and our single pair of binoculars and enjoyed the luxury of watching and listening to this wonderful bird for a couple of hours. We've not seen another warbler (of any kind) in our yard.

Renee LaFontaine
Medford, MA

My yard is roughly two acres with a hedgerow of bittersweet, multiflora rose, and wild black cherry trees bordering two sides of the property, and a row of hemlock trees along the northern border. About an acre is left untouched and open with a few trees that were planted to attract birds. We also have a weedy field surrounding a 35' x 15' pond and have many bird feeders and different nest boxes. The area consists of agricultural

farmland and deciduous woodlands and is semirural. We are about two miles from Padanaram Harbor.

I started my yard list in 1986 and to date have 147 species. It is hard to list my top 10 birds since I have had some interesting sightings. My favorites would be: a pair of Northern Goshawks, Common Black-headed Gull, Caspian Tern, Snowy Owl, Yellow-throated and Philadelphia vireos, Mourning Warbler, Yellow-breasted Chat, Blue Grosbeak, and Dickcissel. My yard is also a magnet for sparrows, totaling fifteen species to date. These include Clay-colored, Vesper, Lark, Grasshopper, Fox, Lincoln's, and White-crowned.

My most unusual sighting would have to be a Common Black-headed Gull. November 14, 1995 was a drizzly and raw day and I had some stale bread to throw out for the birds. A flock of Ring-billed and Herring gulls came in not long after the bread was out. I watched from my den window (roughly fifteen feet away from the birds) when I noticed a gull with a red bill and legs. After studying the other field marks, it was obvious that it was a Common Black-headed Gull. Not a bad yard and feeder bird!

Micheal Boucher
North Dartmouth , MA

My yard in Lincoln is a 2.3 acre corner lot on a hill with oak-lined roads on two sides, a conservation wetland with swamp maples at the bottom of the hill, and conservation land (mixed pine and oak woodland) a very short distance away in several directions. My actual back yard is mostly mowed grass, but across my street is an overgrown field with a few apple trees and some bramble patches, and a short distance away are farm fields and ponds. In a nutshell, anything could visit briefly or fly over.

I have lived here for 6 years now, after almost 25 years in a bleak condo in Brookline where I was starved for birds and greenery. The exquisite joy of finally having a yard to observe, and the fun of adding to my yard-bird list was one of my primary motivations for becoming a serious birder.

Very early on, I decided to keep my backyard mowed so I could raise bluebirds, and each year a pair has graced the property, raising up to three broods a season — some successful, some not. These hardy and gentle souls have provided me with hours of drama, sadness, and joy as I watch them guarding their boxes, incubating and feeding their chicks, helping their young fledge, and facing agonizing adversity like snowstorms in April, House Sparrows and House Wrens raiding their nests, and Crows trying to eat the new fledglings as they first try to fly. The Bluebirds never give up and are models of perseverance — keeping the petty problems of my own life in perspective.

Other birds visit as well, and I love to add to my yard list whenever possible. To give myself a fighting chance, given that my property is in no way ideal bird habitat and few birds actually nest here, my yard list rules allow me to count anything I can see or hear while standing within my property boundaries. To my own amazement, I now have seen or heard 104 birds (106, if only I could distinguish a Herring from a

Ring-billed Gull flying overhead at 500 feet). Included in this count are 18 species of warblers, 3 wrens, 5 different raptors, 6 sparrows, and 2 owls. Many other species have flown over or have spoken briefly but have remained unidentified, leaving me perpetually motivated to learn more.

Most birds made my yard list in the first two years, and now I am lucky if I can add two or three in any given year. So, if I hear something new, all conversations stop, friends or relatives roll their eyes, and out I run to identify the latest visitor. I have been outside at 3 a.m. in my nightgown, finally to be blessed with a face to face encounter with "my" Great Horned Owl. I stand in my driveway at 20 minutes past sunset to get a glimpse of "my" migrating Woodcock. I stop commuter traffic at 5:30 a.m. as I crane my neck from the street to identify the call notes of the latest migrating warbler.

Each visitor is a joy and a blessing. Warbler migration (when, at last, that orange cheek of a Blackburnian Warbler peeks out from under a leaf in the canopy) and the unpredictable arrival of winter finches is always wonderful. The annual arrival, singing, and nesting of the neighborhood pair of Blue-winged Warblers in the scrubby field across the street is heartwarming. The occasional appearance by Pileated Woodpeckers, a Rusty Blackbird, a Fox Sparrow, or an Indigo Bunting can't help but be thrilling. Some visits are simply unforgettable — like Wood Ducks copulating on the branch of an oak tree within sight of my porch; being woken every morning one entire season by the song of a Wood Thrush under my window; the chimpanzee screeching of Barred Owls sorting out their territory; the death of a pigeon at the talons of a Sharpie; and thirteen turkeys admiring their reflections in my sliding glass door. Nonetheless, I love all my goldfinches which are there every day, even if they eat my spinach and beet greens. And, my all-time favorite will always be the first chickadee to find my brand new bird feeder after only two hours.

Nancy Soulette
Lincoln, MA

Your request for backyard bird information got me to review my lists and journal. I, too, am amazed at the diversity of visitors to my yard. Our feeders regularly support 14 species, with another 3 or 4 seasonal "regulars." Our total list is 45 species. This year's highlight has been a Red-bellied Woodpecker. I had not seen one in my yard in 7 years!

More important to me than numbers and rare birds is the daily rhythm and constancy that backyard birds provide. They have become part of my extended family. I eagerly await their children in spring and carefully fill their feeders throughout the winter. If a "regular" does not show up for several days, I begin to feel concerned and keep a watchful eye out for him or her. I love to go out on bird trips and see many different and beautiful birds, but I feel a real sense of relationship with my backyard family. It is something I value greatly!

Ann Gurka
Watertown, MA

My wife, Ellie, and I live on the Merrimack River in Salisbury, just down river from the two bridges that connect Amesbury with Newburyport via Deer Island. In fact, we live exactly opposite Eagle Island which is just down river from Deer Island. We live on 23 acres of mixed habitat that includes the river, saltmarsh, grasslands, mixed woodlands, and successional brushlands. We feed cracked corn to the ground feeding birds; black oil sunflower, safflower, and a woodpecker mix in tray and tube feeders; suet for the woodpeckers and nuthatches; and nectar for the hummingbirds in season. We feed all year since we like to see the birds all the time.

Additionally, we have 12 nest boxes that have drawn Eastern Bluebirds, Tree Swallows, Great Crested Flycatchers, House Wrens, and Black-capped Chickadees in the three years that we have been here. We also have a variety of nesting species on the property including Red-tailed Hawks, Mallards, Rose-breasted Grosbeaks, Northern Cardinals, Tufted Titmice, American Robins, Eastern Phoebes, Wood Thrushes, Gray Catbirds, Northern Mockingbirds, Brown Thrashers, Downy Woodpeckers, and Northern Flickers to name a few. We have not taken an inventory of all nesters.

My best sighting this year was in late February to early March when the ice was breaking up on the river. I had 7 Bald Eagles in sight at once with 5 in flight in one binocular field. This is the most I have seen at one time since living here. Usually 4-5 has been the maximum.

A couple of incidents also featured Bald Eagles. The first was last year when I went out in the early morning to tend the bird feeders. I noticed a group of birders on Eagle Island all looking in my direction with scopes and binoculars. I waved to them and then heard a sound above my head. An eagle was sitting on a tree branch about 20 feet above me. The second incident happened this year when I saw one immature eagle being chased by another. The first eagle had a hornpout that the second eagle wanted. The first eagle landed in a tree about 30 feet away from my deck and proceeded to eat the fish. The eagle stayed for approximately 30 minutes and leisurely consumed its meal.

Perhaps my favorite sighting was of a Mourning Warbler two years ago. It was a rainy morning in May and I was out in the yard observing migrating warblers. I wandered into an adjoining piece of property and took shelter under a cedar tree. After a few moments I noticed the Mourning Warbler in the brush about 30-40 feet away, so I stayed perfectly still to watch. Eventually he came my way and proceeded to forage within 6 inches of my feet, while I had the best look ever at this hard-to-observe species.

Randall L. Shore
Amesbury, MA

FIELD NOTES

An Eastern Bluebird Nest with a Twist

Dan Furbish

When I was a young boy, living in Holbrook, Massachusetts, in the 1950s and 1960s, Holbrook was "country." We lived in a nice neighborhood, where our home backed up to a beautiful mixed-hardwood forest with small brooks and ponds and varied habitats. About a mile from our home, on the other side of the forest, was a high-tension power line that went for miles into Randolph in one direction, and to Braintree and Weymouth in the other direction. My friends and I explored this area extensively. We called it the "woods" and the "Big Corner." I spent my childhood in the woods. I'm not any good at Trivial Pursuit, and when folks talk about old TV shows I can't relate, because my childhood was spent in the woods. I knew every tree, every bush, and all the wildlife that lived in the woods behind our home.

I can remember those different habitats like it was yesterday. Behind a good friend's house on the other side of the neighborhood was a field, "White's Farm," with a nice milking herd of Holstein cows. I can remember spending hours watching Eastern Bluebirds (*Sialia sialis*) flying in and out of old tree holes up there. I was fascinated with the colors of those birds; they reminded me of the American flag — red, white, and blue. They stayed in small family groups and attended to their nests and young so diligently. I've always loved Eastern Bluebirds because it seems like they stay as a family unit and work cooperatively as a team.

Many years later, I was hired by the Massachusetts Audubon Society's South Shore Regional Center as the caretaker/property worker for the Daniel Webster Wildlife Sanctuary (DWWS) in Marshfield. After working for a while in those beautiful fields, I couldn't figure out why Eastern Bluebirds didn't nest on the property. The staff told me that they had nested there, but not with any regularity, and that because they choose to nest where there are short grasses, they usually nested in boxes up by the farmhouse where, unfortunately, they were often predated by House Sparrows. So in the spring of 1996 I set a goal for myself: I would get Eastern Bluebirds to nest consistently at DWWS.

The battles over who gets the best nesting boxes start as soon as the first Tree Swallows show up in May. Tree Swallows get the best nesting boxes for the first nesting period, probably because the grasses are long then. We've found that Eastern Bluebirds favor sites with short grasses, where they usually hunt from a high perch, peering over a large expanse of low-cut vegetation, looking for small crawling insects. In mid-July the Tree Swallows fledge their young and vacate the boxes.

During the weeks when the Tree Swallows are nesting in the 70 or so boxes on site, the House Sparrows try to take charge of two out of the three boxes up by the parking lot. I wanted to attract bluebirds, so for one nesting box I built I chose weathered wood that most looked like an old tree. Although new rough-sawn wood

looks old when it's left outdoors for about four months, I wanted to get a jump start on this box, the one closest to the farmhouse (box #X16), because the grass is short in that area. This upper field does not attract grassland-nesting birds, so it gets mowed in the last week of June. I hoped that bluebirds would be attracted to a weathered-looking box there.

It worked, with a little help from me. In June 1996 I watched as Eastern Bluebirds tried to defend this nesting box, only to be harassed by two, and sometimes three or four House Sparrows trying to defend the same box. That year I removed 14 House Sparrow nests before the bluebirds established the box as "theirs." (The male and female House Sparrows worked like there's no tomorrow; I once watched while it took them only six hours to build a complete nest!) Fortunately, here at DWWS once the bluebirds establish their nest, the male bluebird fiercely defends his home and the House Sparrows give up, offering only occasional harassment, especially after the chicks hatch. This is in contrast to other locations where House Sparrows have been seen to kill bluebirds on the nest by pecking them on the head, then building their own nest over the corpses (personal notes from data recorded over many years of monitoring nesting boxes at DWWS).

In the years after that first spring, I removed 13 to 15 House Sparrow nests each season before the Eastern Bluebirds became established in the nesting box. For nesting material they used the fine, short grasses that were typical of their habitat. Every year since 1996, two to four young bluebirds have been banded from box #X16. As I mentioned, this box is in a field that has long grasses until the last week of June. When we cut the field to make hay, the stubble is apparently short enough to entice Eastern Bluebirds to this box. It's my feeling that the bluebirds probably have already raised one brood in a short-grass habitat by this time; and that this site, box #X16, might have been their first site, but that they shied away from it when they saw long grasses growing during the nesting season. On any given day in the winter and early spring, before the breeding season, one can observe bluebirds acting out the breeding rituals on this box. But then the grass grows high, and they apparently look elsewhere for their first nest cavity.

The spring of 1999 was different. The first nesters in box #X16 were Tree Swallows (as usual). The second nesters looked like they were going to be a pair of Eastern Bluebirds (as usual). The birds performed courtship feeding on the nesting box.

On June 11 the female started to build the nest, with the male showing a defensive posture and round-the-clock presence. There was bonding between the two bluebirds, and everything was going well. On June 24 there was one egg, then within a couple of days there were three bluebird eggs. Two of them hatched on July 14. Days went by, and the bluebirds were soon feeding their young.

Then one morning everything changed. I saw a female House Sparrow sticking her head out of nesting box #X16, and the young bluebirds were only three days old! I put my shoes on and rushed out and opened the box. Out flew the House Sparrow, and I expected the worst. But the two chicks were fine; the third egg had never hatched. In the cherry tree perch that the bluebirds used, a male bluebird was calling and calling, while the House Sparrow was scolding me from the brush pile. I checked the chicks again, closed the box, and went back into the house.

That summer we had two college students working with us, Julie Tilden and J.J. Healy, both interested in learning about bluebirds. The three of us watched as this saga unfolded. We saw the female House Sparrow fiercely defend "her" chicks, going in with food (usually small food barely sticking out of her bill, apparently grass seeds), and flying out to discard the fecal sacs. No male House Sparrow was ever near this nest. When the male bluebird tried to get near box #X16, the female House Sparrow drove him off. But the persistent bluebird managed to bring in large insects, most of them with large wings like moths or flying ants, and fly out with fecal sacs.

The female Eastern Bluebird was never seen again at this location, although a female bluebird was seen by the barns for the first time. The female House Sparrow and the male Eastern Bluebird fed and cared for the young bluebirds for about 15 days, certainly a welcome variation on the theme of House Sparrows killing bluebirds! Others have reported House Sparrows caring for offspring that were not their own (M. Hersek 1999. Selfish Altruism: Cooperative Breeding in Birds, *Bird Observer* 27 (5):241-246, and K. Hudson 1999. Interspecific Helping Behavior: House Sparrows at Baltimore Oriole and Eastern Kingbird Nests, *Bird Observer* 27 (5): 247-249).

On the morning of July 26, at about 10 a.m., box #X16 was not active. I searched the farmhouse yard and found the female House Sparrow attending a young Eastern Bluebird in the brush pile and feeding it, picking up what I found out later to be white millet seeds from an area where I feed birds; the fledgling ate the seeds. I located the male bluebird in front of the house, up in the locust trees, feeding another young bluebird grasshoppers and other winged insects. Two days later the male and the two young bluebirds were feeding in the hedgerow in front of the farmhouse, while the female House Sparrow was nowhere to be found.

When the young bluebirds, the adult male bluebird, and female House Sparrow were gone, I opened the nesting box, and I found that the nesting material consisted of white pine needles, rather than the usual short grasses. The closest white pine tree is over 300 feet away from box #X16! This was yet another surprising twist to an unusual Eastern Bluebird nest.

Playing Tag with Osprey

Tod McLeish

Barely six weeks old, the young Osprey was clearly agitated as it climbed to the edge of the nest and scanned its surroundings. The bird tested the strength of its wings by jumping up and flapping a few times, and then looked skyward toward its soaring parents. They appeared to look down and call.

The young Osprey flapped its wings one more time, and then jumped.

It was the fledgling's first flight, so none of the onlookers expected it to be an expert right away. We all had heard stories of clumsy baby birds crash-landing in their first attempts at flight or getting stuck in awkward positions.

But that wasn't the case with this bird. Two seconds after take-off it was impossible to tell that this was a first flight. Its wing beats were strong and effortless. Its plumage was immaculate. And its soaring ability seemed comparable to that of its parents.

In fact, the young Osprey was such a strong flier that we never saw it land. Its first flight lasted more than thirty minutes, and continued long after we left, as the bird soared ever higher above its nest atop a utility pole.

The fate of the Osprey's siblings was not quite the same.

More than a dozen people had congregated that July day near the Osprey nest pole in Dighton, Massachusetts, in our annual attempt to band the nestlings. A bucket truck and crew from Eastern Edison Company, the local electric utility that installed the pole, arrived to elevate bird bander Gil Fernandez up to the nest.

As the bright yellow utility truck moved into position and inched Gil ever closer to the nest, the first and probably oldest young Osprey took to the sky amidst oohs and aahs from the crowd. A second nestling stood near the edge of the pile of sticks it called home and, as Gil reached toward it, took the plunge. It dropped quickly, but pumped its wings just hard enough to save itself from crashing, and slowly climbed to soaring height.

"Oh, darn!" cried one onlooker. "I guess we're just a little too late this year." We had missed the opportunity to band the first two Osprey. But we had not missed their glorious first flight. And there were still two young birds in the nest.

From the ground it was impossible to see what Gil was doing thirty-five feet above us at the nest. After appearing to struggle for a few moments, he put two brown lumps in a box and brought them down to the ground. When he opened the box, the birds didn't move. I thought they were dead. But he gingerly picked one up and held it out for all to see.

This Osprey looked identical to its parents — brown back and tail, white underparts and sharp beak and talons. The only difference was, this one wore a brown

leather hood, like the ones used by falconers, to keep it calm. Gil's short struggle was caused by his efforts to avoid the bird's flesh-tearing beak while putting the hood on.

"I've only gotten hurt once doing this," he explained, "when one bird's beak went straight through the palm of my hand. I've learned a lot since then." Two volunteers took body measurements — foot pad, beak, and weight — then held the bird out to Gil. One squeeze from a pair of pliers was all it took to secure the shiny aluminum tag around the bird's leg.

This was the fourth year the Osprey had successfully raised a family at this site. One of the young birds tagged in prior years had turned up in South America the following winter.

To appease the camera-toting crowd, Gil briefly removed the bird's hood. The young Osprey looked quickly around from face to face and from camera to camera, its deep orange eyes ablaze. Though unable to get away, it lashed out with its talons and opened wide its mouth to show us that it was still in charge.

The process was the same with the second nestling, and by the time they were returned to their nest, it appeared that the four Osprey circling above were ready to land. As the utility truck drove away from the pole, one adult bird immediately flew to the nest to check on its remaining offspring.

Two miles away, on the grounds of Bristol County Agricultural School at the edge of the Taunton River, the experience was repeated. From below it appeared that just one young Osprey was in this nest. But as the bucket drew near, two birds made their maiden flights.

The parent birds at this nest were not nearly as cooperative as the first ones, though. One circled the nest, continuously calling out with its loud, clear whistle. As Gil got closer to the nest to check for additional young, the other adult began to dive-bomb him in an effort to chase him away.

Higher and higher the Osprey flew. Then the bird flopped over into a nose dive, appearing at first as if it had been shot and was dropping to its death. As the Osprey picked up speed, it homed in on its target. Several feet before reaching Gil, the bird pulled out of its dive, made a U-turn, and flew straight up. Then it flopped over again and repeated the process.

Over and over again, the Osprey dove at Gil; all the while its mate was circling and calling out. Gil discovered one more young bird in the nest, which he removed for banding.

It wasn't until the utility truck had pulled away from the pole and the crowd had dispersed that the birds returned to hunting, feeding, and perching. And now that two of their three young had fledged, the adult birds had another job — teaching their young to fish.

Osprey in Revere

Geoffrey Wood

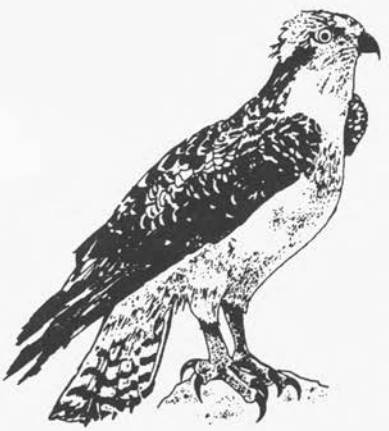
On Friday evening, March 31, I was dismayed to find a distinct lack of Osprey nesting structure on the North Revere marshes. We put up the nest pole many years ago, and for the last three years Ospreys have raised young at this site: 1997 (3), 1998 (2), 1999 (1). Since I was viewing from a distance, I hoped I was mistaken, and, besides, my field trip was going there the next day.

On Saturday from Oak Island we saw an Osprey grab some nesting material, fly back to the old pole site, and drop the material on the marsh. Clearly, I had to get a pole out there right away.

On Monday I was promised a 25-foot pole, so a platform was made; but the pole turned out to weigh well over 1000 pounds. The female and male Osprey were sitting out on the marsh just waiting for that pole. On Wednesday we found money to buy half a ton of wood in smaller pieces, and Rene Morin and Joe Nickerson and I headed out into the marshes to get the platform built. It is not easy to get out there. Two wide creeks intervene, plus it is a long way across those sinky marshes. The gale that was blowing didn't help. When we got the material to the site, there was no sign of the old structure in the ground; but as I reached the spot, two Ospreys, calling loudly, dive-bombed me. Wow, what site fidelity!

It took us about three hours to build the structure, and we had some fun because our canoe blew away and we almost got marooned. We were also working in over a foot of water at high tide. The Ospreys vanished after an hour, but as we waded ashore, one had returned to ride out the gale right next to the pole.

On Thursday, April 6, the female was on the nest platform, and the male was busy bringing sticks for her to weave into a nest.



I know there are a lot of Ospreys in southern Massachusetts, but this is Revere. It is possible to view the platform at a distance from Route 107. Head north out of Revere on Route 107. After crossing the Pines River, park and look eastward. The nest is north of Oak Island. If you visit Oak Island to get a close view, please be polite to the residents. Enter off Route 1A, turn west on Oak Island Street, cross the rails, and make your way into the small community to look northward (preferably on foot). There is one unnamed street heading west that gives a nice view of the nest.

ABOUT BOOKS: Looking Back

(Bird Observer *continues its series celebrating the books that have inspired, delighted, or enlightened our book reviewers.*)

Looking Back

Paul M. Roberts

Reading earlier articles in this series has reminded me how diverse birders — and good birding books — are. I've read some of the books cited by previous authors, but generally those books did not have the same effect on me as on those writers, and I don't recall seeing many of my favorites on their lists.

When I began birding in my mid-to-late twenties, binoculars, scopes, and travel were not the big ticket items for most birders that they are today. Instead, books were, at least for me. I was fortunate in being drawn into birding during a very exciting surge of interest in the environment and birds, the early 1970s. The bird book market was just beginning to evolve, with the rapid growth of birding booksellers, clubs, and lists.

As a bibliophile whose ability to navigate around our apartment was severely circumscribed by hundreds of books on history and philosophy, I further limited my mobility by buying more birding books than my wife thought prudent. (She was right, of course.) I bought all the birding guides, but as a beginner I religiously used the "Golden Guide" by Robbins, Bruun, and Zim, with illustrations by Arthur Singer. Those plates were the most realistic, and having the range maps available on the same spread as the illustrations and descriptions was a real benefit. I cherished my original copy, but regrettably, subsequent revised editions did not do justice to the original plates.

A second field guide exercised my mind more than my eyes. The two-volume Audubon field guide by Richard Pough remains a mind-boggling achievement. The man who drew attention to the slaughter of raptors at Hawk Mountain wrote a field guide that focused more attention on the natural history and behavior of each species, so that you could better understand what the species *is*, not merely what it looks like. The plates by Don Eckleberry in the original printing are considered by some to be the best plates ever done for a field guide. You could not tell that by my reprint, but the prose was — is — rich in insight and detail. I remain in awe of the man and his achievement. A third book also close to my heart was *The Birds of Canada* by W. Earl Godfrey, with plates by John A. Crosby. Although not a field guide, it provided a special combination of up-to-date information on field identification, excellent plates, and good distribution maps. Before I left for a target bird trip, and when I got home after seeing something new or particularly well, I turned to Godfrey.

Friends will not be surprised that some of my most treasured books of the past are hawk-related, but several nonraptor books occupy a special place in my heart. *The Shorebirds of North America*, edited by Gardner Stout, with text by Peter Matthiessen,

excellent plates by Robert Clem, and state of the art species accounts by Ralph Palmer, is a true classic. I shall never forget the first time I read Matthiessen's captivating prose, particularly his description of Black-bellied Plovers calling in the fog on Long Island. He captures the essence of shorebirds and the ethos of migration unlike anyone else I've ever read. The day I first read that book on the shores of a small pond in Maine was the day I fell in love with shorebirds, with nary one in sight. (Of course, I was predisposed.) His prose was subsequently republished as *The Wind Birds*, and reprinted many times. Griscom and Sprunt's *The Warblers of America* is another classic. The prose is not as eloquent as Matthiessen's, but is rich with insights about behavior and song that I've found nowhere else. It taught me more about warblers than anything I've read before or since, and I would highly recommend it to anyone today.

Before I had been birding very long, I fell in love with hawks, experiencing a religious conversion in the midst of a Broad-winged Hawk flight over Mount Tom, the only place in Massachusetts where one could hope to see numbers of hawks, or so it was thought at the time. There were very few books on hawks available then, although the numbers began to grow respectable over the next decade. I shall always be grateful to Mary Louise Grossman and John Hamlet, who wrote *Birds of Prey of the World* (1964). It was out of print when I first heard of it, so I solicited every family member and close friend across the country to stop in every used bookstore and flea market to look for it. When finally found in San Diego, California, it proved to be a mother lode of information and photography, truly encyclopedic, with superb essays on birds of prey and their conservation, and the most extensive life histories (with black and white flight silhouettes) of hawks around the world. I still marvel at what Grossman and Hamlet accomplished.

The breadth of *Birds of Prey* was complemented by an obscure paper by Frank L. Beebe, *Field Studies of the Falconiformes of British Columbia*. This 163-page paper contained more information on the identification, behavior, and status of North American raptors than anything else available. Alden and Nancy Clayton gave me my first copy, which I shall always treasure. Knowing the Claytons and reading Beebe, I learned that at least several other people were as fascinated by hawks as I was. (It wasn't easy to find such people in 1974!)

Four other raptor books stand out from those early years. *Hawks, Owls and Wildlife*, by John and Frank Craighead, focused more on surveys of breeding and wintering raptors, including owls. First printed in 1956, Dover reprinted the volume in 1969, making it easily available and inexpensive. Anyone with an interest in raptors should read the descriptions of their extensive field research.

Those interested in hawk migration should read Donald S. Heintzelman's *Autumn Hawk Flights; The Migrations in Eastern North America*. Heintzelman is an amateur who didn't know he couldn't do what he did. He invested tremendous effort in researching and writing the first synthesis documenting what was known, and speculated about the migration of hawks in eastern North America. A quarter century later, no one has dared to write a sequel.

From the beginning of my birding life, I've been impressed with the quality of ornithological literature coming out of Britain, and out of publishers T. & A. D. Poyser

in particular. Two of my favorites, looking back, are from Poyser. Ian Newton is perhaps the world's preeminent student of raptors and clearly one of the most articulate. His groundbreaking *Population Ecology of Raptors* focuses on the social behavior of hawks, including their dispersion, numbers, movements, breeding, and mortality. Global in scope, it is tightly written and based on extensive and very thorough research. It truly unlocks the world of raptor behavior and the limits of their population growth. This is one of those books I reread every five years or so, because the more I know, the more I learn from it.

Flight Identification of European Raptors by Porter, Willis, Christensen, and Nielsen revolutionized bird and particularly hawk identification guides. This innovative effort used large black and white drawings of hawks as viewed from below and above, and flight photographs (black and white, of course) to help you identify hawks in flight as to age, sex, and morph, and confusing species. It seems so simple now, but they took a leap and elevated the bar for all field guides. I prayed that someone would do something like that for the hawks of my hemisphere, but it took another decade before Bill Clark and Brian Wheeler (*Hawks*, 1987) could answer those prayers!

Beginning early in my birding life, I rated each book by a very tough personal standard: If I were to be stranded on a deserted island for the rest of my life, and could have only five books with me, would this be one of them? Thomas Alerstam's *Bird Migration* would be on that island; it is, to my mind, one of the greatest bird books ever written. Originally done in Swedish and untranslated for almost a decade, Alerstam shows a command of migration research across the world, citing American research that is rarely referenced even in North American publications. If you are really interested in bird migration, Alerstam will transport you to a new, richer understanding of that phenomenon. If I could take only one book with me....

Last but not least is a humble effort by another great researcher and raptor authority, Joe Hickey. His *Guide to Bird Watching*, first published in 1943 and reprinted by Dover, is a brief, spirited introduction to bird study. Hickey focuses on what the lay person, the amateur, has contributed to and could yet add to our understanding of birds and their world. Sixty years later, this book is still an invaluable guide and an inspiration, and so much of what he has suggested amateurs could do remains as yet undone.

I was fortunate to have become a birder during an era in which publications in ornithology flourished. I am inspired by the efforts of amateur birders, such as Heintzelman, who invest considerable effort and take substantial risks to write and publish books that are highly unlikely to be profitable financially, and that many American academics fear to touch out of concern for manageable scope, peer review, tenure, and cost efficiency.

In the era of the Internet, I hope that birders will recognize the limitations of much of the wealth of information available on the web and appreciate the value of a substantive book that required a considerable intellectual and spiritual investment and that is reviewed by peers and well-edited before it is placed before them. This distilled knowledge and experience is a treasure and should not be forsaken. Of the books I've

described looking back, I would encourage any birder looking forward to read any or all of them. With the exception of the Porter, Willis, et al., which was a milestone in field identification, they have yet, in my opinion, to be surpassed.

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Paul M. Roberts bought the Golden Guide, a Peterson record of bird calls, and an expensive ($35) pair of binoculars to learn that the spectacular bird he and his wife Julie were hearing and seeing while hiking in the Middlesex Fells was called a "Brown Thrasher." That bird, reinforced by multiple Rufous-sided Towhees, redirected their lives. Paul became an active birder and eventually developed a special interest in hawks. He founded the Eastern Mass Hawk Watch in 1976, served as Chair of the Hawk Migration Association of North America and Editor of *Bird Observer*, and is currently Chair of the NorthEast Hawk Watch. He lectures to bird clubs and teaches courses for several Massachusetts Audubon sanctuaries on hawks, shorebirds, and waterfowl. A resident of Medford, he pays for his most recently acquired bird books by working as Director of Communications for Analogic Corporation, one of the world's largest developers of medical imaging equipment.

BIRD SIGHTINGS

JANUARY/FEBRUARY 2000

James Berry, Seth Kellogg, Marjorie Rines, and Robert Stymeist

Y2K. Birders, for the most part, ignored the hype, the hoopla, shut off their computers, and went to bed early to start a new year of birding. The weather did not disappoint. New Year's Day opened 9 degrees warmer than normal, and on January 3 the temperature in Boston reached an all-time high at 64 degrees, which broke the previous high of 62 set in January 1913. The first 12 days of the month, in fact , were above normal, benefiting the birds as well. The season's first snow finally arrived on January 13, ending a record 303-day stretch with no observed snow in Boston. The previous latest date for a trace of snow was December 16, 1973. With the snow came a deep freeze, and the temperature dropped to zero on the 17th, the first zero reading since January 19, 1997. Most of the last half of the month was below normal. Total snowfall in Boston during January was 13.7 inches, about an inch over the average. The heavy wet snow on the 25th changed to glazing before ending on the 26th and caused serious traffic problems with cars piling up everywhere! Rainfall totaled 2.77 inches in Boston during January with measurable amounts falling on 11 days.

February was quite mild with nearly average snowfall in eastern Massachusetts, and much more reported from western Massachusetts. In Boston, the temperature averaged 34.2, 3.9 above normal; the high for the month was 61on the 24th and 27th. Snowfall totaled 9.2 inches, 2.2 inches less than normal, and inland suburbs were covered nearly all month and reached about 10 inches on January 19. The total rain for Boston in February was 2.55 inches, 1.07 inches under the average amount for the month. Strong southwest winds on the 27th and temperatures 17 degrees above normal accompanied the widespread arrival of American Woodcocks. R H.S.

LOONS THROUGH ALCIDS

Two hundred Red-throated loons off Provincetown February 13 were a good count for midwinter. A Horned Grebe at Turners Falls on February 29 could have been an early migrant or a wintering bird taking advantage of the warm conditions. The **Eared Grebe** at East Gloucester continued its fifth consecutive winter in friendly Massachusetts, but hasn't seen fit yet to bring any of its friends along. A **Brown Pelican** found in a weakened condition in Westfield January 1-4 was captured and rehabilitated before being relocated to a warmer place (Florida). This was the first record of the species for western Massachusetts; there are only about a dozen prior records for the state. Why one would wander inland in New England is anyone's guess, if indeed it got there on its own.

Great Blue Herons showed their typical hardiness by wintering inland as far as Agawam. The only two other wintering herons were the expected ones: four American Bitterns, all in southeastern Massachusetts, and eight Black-crowned Night-Herons, divided equally between the north and south shores. Turkey Vultures are wintering in the southeastern part of the state in ever-increasing numbers, with a maximum count of 45 in Westport February 13; two as far north as Gloucester at the end of February could have been early migrants. Joining the Westport/Dartmouth roost this winter were two **Black Vultures**, reflecting that species' recent "invasion" of southern New England. This trend should continue so long as the winters remain on the mild side.

Speaking of which, yet another mild winter encouraged many waterfowl to winter farther north than usual, though "usual" is a relative word; many waterfowl will stay as far north as

the ice allows, and some of them seem to move back and forth with the ice's edge all winter, advancing and retreating as if with the progress of a glacier. (This reviewer has observed Mute Swans literally breaking through new ice with their bodies to keep the water open on their chosen ponds.) The records for this two-month period are peppered with sightings of many species from western Massachusetts, where most of them are sparse but fairly regular, especially in the recent series of mild winters. Perhaps most significant were 12 Green-winged Teal and 50 Ring-necked Ducks in Southwick January 7, the former the most ever in the west so late into the winter, and the latter the biggest January flock there since at least 1983.

On the rarer side among waterfowl were one and possibly two **White-fronted Geese** on the north shore and another way south in Fairhaven; seven Eurasian Wigeons, all but one in the southeast; four Blue-winged Teal, always rare this far north in winter; a "Eurasian" Green-winged Teal in Eastham; and single **Tufted Ducks** in Plymouth and at Wachusett Reservoir. King Eider reports numbered only three, whereas the flock of Harlequin Ducks at Rockport reached what could be an all-time high for the state of 81 birds on January 30, though that number may have been closer to a hundred based on subsequent oral reports. Oldsquaws continued to winter in massive numbers in their ocean stronghold off Nantucket, while Common Mergansers made an excellent showing in Westport, among other places. Ruddy Duck numbers were considerably lower than during their record-setting fall, but the few hundred that remained in the eastern half of the state still dwarfed what Massachusetts birders are used to finding in the winter.

Northern Harriers, Rough-legged Hawks, and raptor-seeking birders made their best showings at the Daniel Webster Wildlife Sanctuary in Marshfield. Red-shouldered Hawks also favored southeastern Massachusetts. Red-tails, on the other hand, seem to favor the Newburyport/Salisbury area, where recent Newburyport CBCs have consistently turned up 80 or so birds. In western Massachusetts, raptor reports were low almost across the board. Statewide, Cooper's Hawk reports significantly outnumbered those of Sharp-shinned Hawks, which is a real switch from a decade or two ago. But are all Sharp-shins being reported? Reports of American Kestrels continued to trail those of Merlins, though they did catch up to Peregrine reports. The same question applies here: are all kestrels being reported? It may be a good idea to report all single birds these days, since their numbers are apparently declining throughout the northeast.

On the chicken front, Ring-necked Pheasants were reported from only a single town! Are they really getting that scarce, or are birders simply not reporting them? No doubt the cessation of stocking by the state in some areas has had an impact. Wild Turkey reports have come to dwarf those of all other gallinaceous species, and this trend will almost certainly continue for many years to come. At least three **Yellow Rails** were observed on Nantucket, a rare occurrence anywhere in New England in winter. Twenty-five American Coots in Southwick January 15 were the largest flock in the west in fifteen years. Three of the most popular birds of the season were an apparent family of **Sandhill Cranes** (Hot Birds, page 184) that wintered on farm fields in Fairhaven near Buzzard's Bay. This was one of several Massachusetts winterings by this hardy species over the last decade.

Several species of shorebirds (Killdeer, Greater Yellowlegs, Ruddy Turnstone) that normally winter only south of Boston made showings on the north shore this winter, while a Whimbrel in Yarmouth January 8 was an unusual winter record. A count of 325 Purple Sandpipers in Gloucester January 9 was one of the best in recent memory. American Woodcocks were right on schedule the last two days of February, announcing spring with their flight songs and delighting the birders who were out listening for them.

Little Gulls were limited to a single report, in contrast to over a dozen Black-headed Gulls. Bonaparte's Gulls were in large numbers only at Nantucket; elsewhere they were found in double digits only once, at Rockport. A single **Mew Gull** was found in South Boston

through most of the period. Iceland, **Lesser Black-backed**, and Glaucous Gulls continued to be found in western Massachusetts in small numbers, about in line with recent winter showings there. Two Lesser Black-backs graced the north shore with their presence, one adult of the *graellsii* race remaining in Newburyport harbor for several weeks. Most of these birds seem allergic to locations north of Boston.

It was a fairly typical winter for the six North Atlantic alcid species, with thousands of Razorbills and unidentified large alcids (the biggest numbers from Cape Cod), dozens of Black Guillemots (almost all from Cape Ann), and from one to four individuals of the other four species. Most notable among these was a single **Atlantic Puffin** at Rockport January 9. J.B.

Red-throated Loon
- 1/1 Dorchester 4 R. Stymeist#
- 1/9, 2/6 Boston H. 16, 6 TASL (M. Hall)
- 1/30 P'town (R.P.) 55 R. Heil
- 1/30, 2/13 P'town (R.P.) 45, 200 B. Nikula
- 2/9 Rockport 1 J. Berry#
- 2/10 Lynn 1 R. Heil

Common Loon
- 1/1 Wachusett Res. 10 M. Lynch#
- 1/3 Quabbin Park 4 E. Labato
- 1/8-9 Nantucket 21 BBC (H. Bailey)
- 1/9, 2/20 Bourne 8, 7 K. Anderson, P. Vale
- 1/9, 2/6 Boston H. 10, 2 TASL (M. Hall)
- 1/16, 2/20 Westport 8, 11 M. Lynch#
- 1/23 Gloucester 12 P. + F. Vale
- 2/24 Nahant 21 R. Heil

Pied-billed Grebe
- 1/1 Agawam 7 K. Anderson
- 1/2 Arlington 2 M. Rines
- 1/7 Lakeville 2 K. Anderson
- 1/8-9 Nantucket 4 BBC (H. Bailey)
- 1/8 Plymouth 2 J. Hoye#
- 1/9 Wareham 9 SSBC (K. Anderson)
- 1/17-26 Lynn 1 R. Heil
- 1/22 Wareham 9 BBC (R. Stymeist)
- 2/5-21 Framingham 1 K. Hamilton

Horned Grebe
- 1/3 Quabbin Park 2 E. Labato
- 1/7 E. Gloucester 9 J. Berry#
- 1/8 Wachusett Res. 7 M. Lynch#
- 1/9, 2/6 Boston H. 197, 31 TASL (M. Hall)
- 1/16, 2/20 Swansea 19, 27 M. Lynch#
- 1/16, 2/20 Somerset 58, 8 M. Lynch#
- 2/21 Gloucester (B.R.) 20 P. + F. Vale
- 2/23 P.I. 28 R. Heil
- 2/24 Nahant 79 R. Heil
- 2/27 N. Weymouth 100 K. Vespaziani
- 2/27 Hull 100+ K. Vespaziani
- 2/29 Turners Falls 1 M. Taylor

Red-necked Grebe
- 1/1 Barnstable (S.N.) 6 B. Nikula
- 1/7 E. Gloucester 9 J. Berry#
- 1/9, 2/6 Boston H. 83, 12 TASL (M. Hall)
- 2/13 P'town (R.P.) 6 B. Nikula
- 2/13 Winthrop B. 18 P. + F. Vale
- 2/24 Nahant 58 R. Heil
- 2/26 Truro 4 J. Young

Eared Grebe *
- thr Gloucester (E.P.) 1 v.o.

Northern Fulmar
- 2/26 P'town (R.P.) 1 B. Nikula

Northern Gannet
- 1/9 Boston H. 4 TASL (M. Hall)
- 1/9 Rockport (A.P.) 25 J. Soucy
- 2/19 Rockport (A.P.) 55 J. Paluzzi
- 2/26 P'town (R.P.) 40 B. Nikula

Brown Pelican
- 1/1-4 Westfield 1 v.o.

Great Cormorant
- 1/9, 2/6 Boston H. 25, 3 TASL (M. Hall)
- 1/9 Cape Ann 190+ R. Heil
- 2/9 Cape Ann 100+ J. Berry#
- 2/11 Amesbury 21 J. Berry
- 2/24 Nahant 46 R. Heil
- 2/26 Arlington 2 br pl M. Rines

Double-crested Cormorant
- 1/9 Belmont 5 D. Oliver
- 1/9, 2/6 Boston H. 3, 2 TASL (M. Hall)
- 1/16 Westport 1 M. Lynch#
- 1/16 Marstons Mills 1 J. Liller#
- 2/20 Somerset 1 M. Lynch

American Bittern
- thr DWWS 1 D. Furbish
- 1/1 Nantucket 1 G. d'Entremont#
- 1/28 Gay Head 1 P. Glavin
- 1/30 Eastham (F.H.) 1 E. Nelson-Melby

Great Blue Heron
- 1/7 Falmouth 6 R. Farrell
- 1/7 Agawam 2 S. Kellogg
- 1/9 Boston H. 6 TASL (M. Hall)
- 1/9 Eastham (F.H.) 16 L. Berk
- 1/16 Marstons Mills 7 J. Liller#
- 1/17 Mattapoisett 3 S. Moore#
- 2/5 Framingham 5 K. Hamilton
- 2/20 Westport 9 M. Lynch
- 2/24 Waltham 3 J. Forbes

Black-crowned Night-Heron
- 1/1 Beverly 2 G. Leet
- 1/9-10 Danvers 1 ad K. Haley
- 1/15 Fairhaven 1 E. Giles
- 1/30 Orleans 2 R. Heil
- 2/3 Plymouth 1 imm M. LaBossiere
- 2/7 Revere 1 P. Keenan

Black Vulture
- 2/3 W. Barnstable 1 G. Martin
- 2/13-29 Westport 1-2 E. Nielsen# + v.o.

Turkey Vulture
- 1/8 Worcester 12 J. Liller
- 1/9 Westboro 2 E. Morrier
- 1/16 Westport 22 M. Lynch#
- 1/22 S. Dartmouth 39 BBC (R. Stymeist)
- 2/12 Oxford 18 P. Meleski
- 2/13 Westport 45 E. Nielsen#
- 2/21 Randolph 7 N. Smith
- 2/22 DWWS 2 G. + L. Long
- 2/27-28 W. Gloucester 2 J. Nelson
- 2/28 Waltham 3 M. Daley

Greater White-fronted Goose
- 1/6-10 Hamilton 1 J. Paluzzi + v.o.
- 1/9 Wenham 1 R. Heil
- 1/11-2/22 Fairhaven 1 M. Boucher + v.o.

Snow Goose
- 1/4 Northampton 3 B. Bieda
- 1/5 Hadley 1 W. Lafley
- 1/6 P.I. 5 M. Rines
- 1/9 Topsfield 2 D. + I. Jewell

Snow Goose (continued)

1/9	Ipswich	1	BBC (J. Nove)

Brant

1/1	New Bedford	209	M. Boucher
1/9, 2/6	Boston H.	1105, 899	TASL (M. Hall)
1/23	Fairhaven	450+	M. Lynch#
2/24	Nahant	167	R. Heil

Mute Swan

1/1	Northboro	10	A. Boover
1/8	Marlborough	10	R. Crissman
1/9	Ipswich	35	BBC (J. Nove)
1/16	Swansea	124	M. Lynch#
1/16	Westport	135	M. Lynch#
1/29	Cape Ann	24	BBC (L. Ferraresso)
2/21	Arlington	26	K. Hartel

Whooper Swan

1/27	Ipswich	1	D. + I. Jewell

Wood Duck

1/1	Worcester	pr	M. Lynch#
1/1	Belmont	1 m	D. + I. Jewell
1/4-2/1	S. Hadley	1	H. Allen
1/15	Cambr. (F.P.)	1 m	J. Barton
1/16	Arlington	1	M. Rines
1/17	Boston	7	J. Dekker
1/23	Newbypt.	1 f	R. Heil
1/30	Waltham	1	M. Rines
2/27	Bolton Flats	7	M. Lynch
2/28	Wayland	4	G. Long
2/29	Ipswich	3	J. Berry

Gadwall

1/1	Belmont	31	D. + I. Jewell
1/4	S. Peabody	9	R. Heil
1/8	Cambr. (F.P.)	12	A. Joslin
1/9	Gloucester	23	R. Heil
1/9	Ipswich	12	BBC (J. Nove)
1/12	Waltham	34	M. Rines
1/15	Southwick	3	S. Kellogg
1/16, 2/20	Somerset	47, 51	M. Lynch#
1/23	Salisbury	14	BBC (D. + D. Oliver)
1/26	Salem	7	R. Heil
2/6	Marstons Mills	26	J. Liller#
2/10	Gloucester	27	R. Heil
2/20	Wareham	12	K. Anderson
2/23	Newbypt.	34	R. Heil

Eurasian Wigeon

1/3-2/29	Fairhaven	1 m	M. Boucher + v.o.
1/8-2/28	S. Carver	1	S. Hedman + v.o.
1/12	Osterville	2	J.Trimble
1/17	Wareham	1 m	C. Wright
1/24-2/29	Newbypt.	1 m	P. Brown + v.o.

American Wigeon

1/9	Easthampton	9	B. Bieda
1/9	Ipswich	35	BBC (J. Nove)
1/11	Northampton	7	E. Labato
1/15	Wachusett Res.	3	M. Lynch#
1/16, 2/20	Somerset	40, 91	M. Lynch#
1/16, 2/20	Swansea	22, 6	M. Lynch#
1/30	Turner's Falls	1	R. Packard
2/23	Newbypt.	6	R. Heil

American Black Duck

1/9, 2/6	Boston H.	1283, 696	TASL (M. Hall)
1/23	Newbypt.	1800+	R. Heil
1/30	Westport	1262	M. Boucher

Blue-winged Teal

2/4, 9	Gloucester	1	J. Soucy
2/25	N. Middleboro	3	K. Holmes

Northern Shoveler

1/1, 2/28	Eastham	6, 4	B. Nikula, W. Petersen
1/13, 17	Boston	3	A. Joslin
1/15	Pembroke	1 pr	E. Giles
1/16	Marstons Mills	1 m	J. Liller#
1/18	Wareham	1 m	M. LaBossiere

Northern Pintail

1/6	Amherst	1	H. Allen
1/8	Gardner	1 m	T. Pirro
1/16	Westport	38	M. Lynch#
1/16, 2/6	Marstons Mills	6, 5	J. Liller#
1/16	Cumb. Farms	35	K. Anderson#
1/23	Marlboro	8	K. Hamilton
2/1	Amherst	3	R. Packard
2/13	Westport	28	E. Nielsen#
2/20	Newbypt. H.	4	J. Berry#
2/21	Blackstone	6	M. Lynch
2/8	Pepperell	4	E. Stromsted

Green-winged Teal

1/1	Eastham	37	B. Nikula
1/4	S. Peabody	6	R. Heil
1/5	Scituate	20	M. Faherty
1/7	Southwick	12	S. Kellogg
1/9, 30	Belmont	13, 9	D. Oliver
1/16	Marstons Mills	8	J. Liller#
2/7	Pittsfield	2	R. Laubach
2/21	Blackstone	2	M. Lynch
2/27	Northhampton	3	G. d'Entremont#
2/27	Rowley	10	J. Berry
2/28	Eastham	20	W. Petersen
2/28	Chilmark	20	A. Keith

Eurasian Green-winged Teal

2/20-29	Eastham	1	G. Martin#

Canvasback

1/1	Wachusett Res.	pr	M. Lynch#
1/1	Gloucester	3	BBC (L.de la Flor)
1/1	Waltham	1	J. Forbes
1/5	Brockton	2	M. Faherty
1/5-2/29	Gill	1	B. Bieda + v.o.
1/8-9	Nantucket	7	BBC (H. Bailey)
1/9	Lakeville	40	W. Petersen
1/15	Cambr. (F.P.)	56	J. Barton
1/16, 2/20	Westport	72, 136	M. Lynch#
1/16	S. Boston	4	BBC (R. Stymeist)
1/16	Marstons Mills	6	J. Liller#
1/17	Falmouth	17	D. Larson
1/19, 2/1	Yarmouthport	1, 102	K. Hamilton
1/30	Wayland	1	J. Meyers

Redhead

thr	Charlton	1	D. Blain
1/1-23	Plymouth	1 m	S. Moore# + v.o.
1/3-09	Wachusett Res.	1 m	F. McMenemy
1/8-9	Nantucket	8	BBC (H. Bailey)
1/8	Salisbury	1 m	L. Clark#
1/12	Osterville	1	J.Trimble
1/16	Westport	1m	M. Lynch#

Ring-necked Duck

1/1	Nantucket	51	G. d'Entremont#
1/4	Longmeadow	7	N. Eaton
1/7	Northampton	24	W. Lafley
1/7, 16	Southwick	50, 16	S. Kellogg
1/7	Quabbin (G24)	24	B. Lafley
1/8	Wachusett Res.	133	S. Moore#
1/10	Natick	12	E. Taylor
1/15	Cambr. (F.P.)	12	J. Barton
1/16	Marstons Mills	115	J. Liller#
1/23, 2/23	Framingham	5, 18	K. Hamilton
2/3	Plymouth	8	M. LaBossiere
2/6	Waltham	6	J. Forbes
2/21	Blackstone	7	M. Lynch
2/23	Chilmark	32	A. Keith
2/24	Arlington	5	R. LaFontaine
2/29	Belchertown	4	H. Allen

Tufted Duck

1/1-15	Plymouth	1	v.o.
1/4-8	Wachusett Res.	1	F. McMenemy + v.o.

Greater Scaup

1/5	Hingham H.	30	M. Faherty
1/7	Lakeville	30	K. Anderson

Greater Scaup (continued)

1/8	Wachusett Res.	16	M. Lynch#
1/8	Falmouth	500	ABC (S. Kellogg#)
1/9, 2/6	Boston H.	722, 757	TASL (M. Hall)
1/16, 2/20	Swansea	310, 604	M. Lynch#
1/16	Westport	61	M. Lynch#
1/16	Marstons Mills	12	J. Liller#
1/30	Swampscott	381	M. Lynch#
1/30	Gloucester	23	J. Berry#

Lesser Scaup

1/7-16	Southwick	2	S. Kellogg
1/8	Wachusett Res.	3m	M. Lynch#
1/9	Boston H.	6	TASL (M. Hall)
1/9	Pembroke	18	W. Petersen
1/15	Cambr. (F.P.)	8	J. Barton
1/16, 2/6	Marstons Mills	32, 6	J. Liller#
1/21	Framingham	1	K. Hamilton
2/13	S. Dartmouth	6	E. Nielsen#
2/24	Nahant	123	R. Heil

King Eider

thr	Gloucester	1	v.o.
2/13	Wellfleet	1 m	D. + S. Larson#
2/24	Nahant	1 m 1W	R. Heil

Common Eider

1/1	Quincy	100	E. Taylor
1/7	E. Gloucester	250	J. Berry#
1/9	Bourne	530	SSBC (K. Anderson)
1/9, 2/6	Boston H.	7302, 5289	TASL (M. Hall)
1/16, 2/20	Westport	2272, 1080	M. Lynch#
1/23	Fairhaven	560+	M. Lynch#
1/23	Salisbury	500	BBC (D. + D. Oliver)
2/13	S. Dartmouth	600	E. Nielsen#
2/20	Newbypt. H.	500	J. Berry#

Harlequin Duck

1/9	Boston H.	1	TASL (M. Hall)
1/15	Orleans	21	SSBC (W. Petersen)
1/30	Rockport	81	J. Berry#
2/6	Nantucket	19	E. Ray
2/26	Gloucester	10	J. Dekker#
2/27	Sandwich	2	S.McKeon

Surf Scoter

1/7	E. Gloucester	20+	J. Berry#
1/9, 2/6	Boston H.	220, 134	TASL (M. Hall)
1/16	Westport	66	M. Lynch#
2/20	Bourne	35	P. + F. Vale
2/24	Nahant	135	R. Heil

White-winged Scoter

1/3	Salisbury	500	J. Berry#
1/7	E. Gloucester	150	J. Berry#
1/9, 2/6	Boston H.	281, 269	TASL (M. Hall)
1/9	Cape Ann	670	R. Heil
2/24	Nahant	830	R. Heil

Black Scoter

1/3	Salisbury	1 f	J. Berry#
1/7	E. Gloucester	1 m	J. Berry#
1/9, 2/6	Boston H.	23, 12	TASL (M. Hall)
1/23	Rockport (A.P.)	14	P. + F. Vale
1/23	P.I.	8	S. Grinley
2/13	Sandwich	2 f	D. + S. Larson#

Oldsquaw

1/6	Nantucket	175,000	A. Charder#
1/9	Boston H.	13	TASL (M. Hall)
1/10	Rockport (A.P.)	12	J. Soucy
1/20	Nahant	5	A. Joslin

Bufflehead

1/1	Ipswich	55	J. Berry
1/9, 2/6	Boston H.	1715, 1235	TASL (M. Hall)
1/14	Northampton	1	W. Lafley
1/16, 2/20	Westport	343, 252	M. Lynch#
1/23	Newbypt.	250	R. Heil
1/23	Fairhaven	420+	M. Lynch#
1/26	Salem	135	R. Heil
2/20	Swansea	156	M. Lynch
2/23	Newbypt.	320	R. Heil
2/24	Nahant	350	R. Heil
2/26	Hadley	5	E. Labato

Common Goldeneye

1/1	Ipswich	80+	J. Berry
1/2	Petersham	12	W. Lafley
1/7	Holyoke	49	S. Kellogg
1/9, 2/6	Boston H.	874, 573	TASL (M. Hall)
1/10	E. Gloucester	30	J. Berry
1/16, 2/20	Swansea	228, 253	M. Lynch#
1/16	Marstons Mills	28	J. Liller#
1/23, 2/21	Newbypt.	310, 250	R. Heil
1/23	Fairhaven	900+	M. Lynch#
1/31	Agawam	17	H. Allen
2/13	S. Dartmouth	120	E. Nielsen#
2/23	Framingham	26	K. Hamilton
2/29	Turners Falls	22	M. Taylor

Barrow's Goldeneye

1/1	Oak Bluffs	1	M. Pelikan
1/1	Barnstable (S.N.)	1	B. Nikula
1/10, 2/9	E. Gloucester	1 m, 2 m	J. Berry
1/15	Falmouth	3	E. Giles
1/22	Fairhaven	1 m	BBC (R. Stymeist)
1/23, 2/9	Newbypt.	1 m	R. Heil, J. Brown
1/26	Swansea	1 pr	R. Farrell#
1/28	Edgartown	1	A. Keith#
2/6	Nantucket	1 m	E. Ray
2/12	Rockport	1 m	ABC (J. Weeks#)
2/13	Winthrop B.	2 m	P. + F. Vale
2/13	Osterville	1 m	G. Ferguson
2/20	Essex	1 pr	R. Heil

Hooded Merganser

1/1	Wachusett Res.	117	M. Lynch#
1/1	Wareham	32	K. Anderson
1/2	Petersham	15	W. Lafley
1/7	Lakeville	65	K. Anderson#
1/12	Turner's Falls	10	H. Allen
1/16	Marstons Mills	35	J. Liller#
1/16	Boston	39	BBC (R. Stymeist)
1/16	Swansea	189	M. Lynch#
1/17	Falmouth	18	D. Larson
1/17	Lynn	30	R. Heil
1/24, 2/23	Framingham	63, 36	K. Hamilton
1/30	Waltham	27	D. + D. Oliver
2/19	W. Concord	14	M. Schwope
2/20	Manomet	10	K. Anderson
2/26	Hadley	10	E. Labato
2/26	Wakefield	10	P. + F. Vale
2/28	S. Carver	16	K. Anderson

Red-breasted Merganser

1/1	Wareham	20	K. Anderson
1/1	Ipswich	29	J. Berry
1/2	Somerville	9	D. Oliver
1/7	E. Gloucester	150	J. Berry#
1/9, 2/6	Boston H.	1033, 331	TASL (M. Hall)
1/16, 2/20	Westport	241, 475	M. Lynch#
1/23	Fairhaven	25+	M. Lynch#
2/11	Medford	5	M. Rines
2/13	P'town (R.P.)	300	B. Nikula
2/29	Middleboro	1 m	K. Anderson

Common Merganser

1/1	Brewster	250	B. Nikula
1/2	N. Truro	35	J. Young
1/7	Quabbin (G24)	226	B. Lafley
1/7	Lakeville	50	K. Anderson
1/7	Northampton	224	W. Lafley
1/8, 2/27	Arlington	185, 76	M. Rines
1/8	Cambr. (F.P.)	104	A. Joslin
1/10	Stoneham	43	D. + I. Jewell
1/12	Turner's Falls	90	H. Allen
1/15	Wachusett Res.	271	M. Lynch#
1/16	Westport	738	M. Lynch#
1/16	Marstons Mills	175	J. Liller#

Common Merganser (continued)

1/24, 2/23	Framingham	61, 45	K. Hamilton
2/11	Amesbury	43	J. Berry
2/20	Wachusett Res.	37	M. Lynch
2/21	Blackstone	82	M. Lynch
2/26	N. Hadley	30	E. Labato

Ruddy Duck

1/1	Brookline	50	E. Taylor
1/3	Natick	3	G. Long
1/7	Framingham	1	K. Hamilton
1/7	Lakeville	12	K. Holmes
1/9	Melrose	3	D. + I. Jewell
1/9	Wenham	19	R. Heil
1/10	E. Gloucester	67	J. Berry
1/15	Cambr. (F.P.)	5	J. Barton
1/16	Somerset	19	M. Lynch#
1/16	Boston	105	BBC (R. Stymeist)
1/16	Swansea	24	M. Lynch#
2/10	Jamaica Plain	20	B. Mayer
2/13	Orleans	52	R. Heil
2/24	Beverly	22	J. Paluzzi
2/24	Nahant	15	R. Heil
2/27	Winchester	3	M. Rines

Bald Eagle

1/1	Plymouth	1 imm	D. + S. Larson
1/2	N. Dartmouth	1	M. Boucher
1/3	Quabbin Park	1 ad, 1 imm	E. Labato
1/7	Lakeville	2 ad, 1 imm	K. Holmes
1/7	Quabbin (G24)	2 ad, 1 sub-ad	B. Lafley
1/8, 2/11	Amesbury	2 ad, 2 imm	I. Lynch, J. Berry
1/8	Hadley	1 imm	M. Williams
1/17	Bourne	1 ad	R. Stymeist#
1/23	Newbypt. Area	5-6	MAS (P. Roberts)
1/23	W. Newbury	2 ads.	R. Heil
1/24, 28	Framingham	1 ad	K. Hamilton
1/27	Ipswich	2	D. + I. Jewell
1/29-31	Millbury	1 ad	D. Berard
1/30	Lincoln	1	P. Roberts
2/thr	Newbypt.	6 total	R. Heil
2/2	Salisbury	1 ad	C. Ralph#
2/2	Waltham	1 ad	C. Ralph
2/3	Assonet	2	S. Kelly
2/5	Framingham	1 ad	K. Hamilton
2/6	Billerica	1	B. Green
2/5	Medford	1 ad	R. LaFontaine
2/7	Northampton	1 ad	B. Packard
2/12	Hadley	2 ad	M. Lynch
2/13	Westport	2	E. Nielsen#
2/17	Gay Head	1 imm	A. Fischer
2/20	Salisbury	2 ad	J. Berry#
2/27	W. Gloucester	1	J. Nelson
2/29	Pepperell	1 sub ad	T. Pirro

Northern Harrier

1/2, 2/13	DWWS	12, 9	S. Moore, P. Roberts
1/7	Wayland	1 f	K. Hamilton
1/9	Medfield	1	E. Morrier
1/16, 2/thr	Cumb. Farms	4, 2	K. Anderson
1/16, 2/20	Westport	1, 1	M. Lynch#
1/23	Newbypt. area	7	R. Heil
1/27	E. Boston (B.I.)	1 imm	A. Joslin
1/28	Rockport	1	M. Flor
1/30	Winthrop	1 imm.	M. Lynch#
2/5	W. Bridgewater	3	S. Arena
2/5	Fairhaven	1	D. Larson
2/13	Rowley	1 m	J. Berry
2/14	P.I.	1	J. Berry
2/18	Adams	1	R. Rancatti
2/19	Salisbury	1	P. + F. Vale

Sharp-shinned Hawk

thr Reports of indiv. from 30 locations

Cooper's Hawk

1/5-7	S. Boston	2 imm	R. Donovan
1/8	Hadley	1 ad, 1 imm	E. Labato

thr Reports of indiv. from 44 locations

Northern Goshawk

1/1	E. Middleboro	1	K. Anderson
1/2	S. Quabbin	1	H. Allen
1/2	Boston (Long I.)	1 imm	R. Donovan
1/8	E. Boxford	1 imm	J. Brown#
1/26	Newton	1 ph	A. Cadel
1/26	N. Pepperell	1	G. Coffee
2/2	N. Orange	1 ad	M. Taylor
2/4	Waban	1	P. Gilmore
2/9	Dennis	1	D. Crockett
2/12	Royalston	1 ad	B. Kane
2/13	Medfield	1	E. Morrier
2/21	Templeton	1	T. Pirro
2/26	Chappaquiddick	1 ad	A. Ben David

Red-shouldered Hawk

1/1	W. Barnstable	1 ad	B. Nikula
1/3	Weston	1	M. Rines
1/7	Mendon	2	D. Moffett
1/7	Lakeville	1	K. Anderson
1/8-2/4	Sudbury	2 ad	K. Hamilton
1/18	Fairhaven	1	M. Boucher
1/23	Salisbury	1 imm.	R. Heil
2/5	Dartmouth	1 ad	D. Larson
2/5	Squantum	1 imm	G. d'Entremont
2/5	P.I.	1	P. Roberts
2/7	Lincoln	1	M. Rines
2/12	Hanover	1	G. Ferguson
2/20	Plymouth	1	P. + F. Vale
2/21-29	E. Middleboro	pr	K. Anderson
2/21	Taunton	1	J. Hoye#
2/27	N. Middleboro	1	K. Holmes

Red-tailed Hawk

1/16	Boston	8	BBC (R. Stymeist)
1/23	Newbypt. Area	27	P. Roberts#
1/23	DWWS	5	M. Lynch#
1/30	Winthrop	4	M. Lynch#
2/9	Newbypt area	25	R. Heil
2/13	DWWS	9	P. Roberts

Rough-legged Hawk

1/2	Ipswich	1 dk	D. Jacques
1/6	Salisbury, P.I.	1 dk, 1 lt	M. Rines
1/16	Cumb. Farms	2	K. Anderson#
1/23	Salisbury	4	BBC (D. + D. Oliver)
1/23	Newbypt.	3 lt	R. Heil
1/24	Medfield	2	E. Morrier
1/28, 2/22	Boston (Logan)	1, 7	N. Smith
1/29	DWWS	4	D. Williams
1/30, 2/9	W. Bridgewater	1, 5	M. Faherty
1/30-2/29	Lexington	1 lt	M. Rines
2/1-29	Reports of indiv. from 10 locations		
2/2	Newbypt. Area	3	MAS (R. Gough#)
2/5	P.I.	2 dk	P. Roberts
2/8, 2/16	Rowley	1, 2	J. Berry#
2/12, 2/20	DWWS	12, 11	N. Smith
2/14	P.I.	2 lt	J. Berry
2/17	Westport	2 lt	E. Giles
2/21	Newbypt area	11	R. Heil
2/23	Salisbury	4	MAS (N. Soulette#)

American Kestrel

1/1, 30	Westboro	1	A. Boover
1/2	Arlington	1	L. Reiner
1/2	Essex	1	D. Jacques
1/5	Northampton	1	B. Bieda
1/11, 2/24	Hadley	1, 1	H. Allen
1/20, 2/24	W. Bridgewater	2, 1	M. Faherty
1/27	E. Boston (B.I.)	1 m	A. Joslin
1/30	Northampton	1	S. Surner
1/30	Winthrop	2	M. Lynch#
2/5	Fairhaven	1	D. Larson
2/10	Danvers	1	K. Haley
2/13	Rowley	1	ABC (J. Weeks#)
2/19, 27	Salisbury	1	P. + F. Vale

American Kestrel (continued)

2/20	Wellfleet	1	P. + F. Vale
2/21	Rowley	1 m	BBC (J. Berry)
2/24	Waltham	1	J. Forbes

Merlin

2/21	Newbypt.	2	R. Heil
thr	Reports of indiv. from 34 locations		

Peregrine Falcon

1/1, 2/21	Worcester	1 ad, pr	M. Lynch#
1/2, 27	Chilmark	1, 1	A. Keith
1/5, 2/5	Hadley	1, 1	E. Labato
1/9	Boston	2 ad	R. Stymeist#
1/22	New Bedford	1	D. + S. Larson
1/23	Mansfield	1	K. Anderson
1/27, 2/17	Brockton	1, 1	M. Faherty
1/29	Salisbury	1 ad	P. + F. Vale
2/10, 23	Boston	4, 3	K. Hudson
2/13	Westport	1 imm	E. Nielsen#
2/16	Rochester	1 imm	M. LaBossiere
2/20	Swansea	1 imm	M. Lynch
2/20	Bourne	1 ad	P. + F. Vale
2/20	Westport	1	M. Boucher
2/26	Chappaquiddick	1	A. Ben David

Ring-necked Pheasant

1/1, 4	W. Newbury	6, 8	S. Moore#, T. Roberts

Ruffed Grouse

1/7, 15	Pepperell	2, 1	E. Stromsted
1/8	Quabbin (G40)	2	R. Packard
1/8	Whately	1	M. Williams
2/4	E. Boxford	1	J. Brown#
2/6	Wayland	1	G. Long
2/20	ONWR	1	J. Bartos

Wild Turkey

1/2	N. Beverly	33	J. Soucy#
1/8	Bridgewater	5	K. Holmes
1/8	Danvers	3	I. Lynch
1/9	Petersham	31	M. Lynch#
1/16	Templeton	62	T. Pirro
1/19	Yarmouthport	1	K. Hamilton
1/19	Westwood	3	G. Long
1/23	Orange	70+	R. Stymeist#
1/28	Middleboro	22	L. Garafalo
1/29	Athol	11	G. d'Entremont#
2/4	E. Middleboro	5	K. Anderson
2/6	Plympton	9	K. Anderson
2/9	Westfield	29	R. Packard
2/9	Westhampton	29	B. Packard
2/12	Lincoln	6	E. Nelson-Melby
2/17	Royalston	24	R. Packard
2/21	Ipswich	4	J. Nelson
2/24	Lanesboro	35	B. Lafley

Northern Bobwhite

1/18, 2/1	Yarmouthport	11	K. Hamilton
2/26	Truro	6	J. Young

Yellow Rail *

1/17, 19	Nantucket	3, 1	F. Gallo + v.o.

Virginia Rail

1/1	Nantucket	1	G. d'Entremont#
1/20	New Braintree	1	C. Buelow
1/22	Northbridge	1	M. Lynch#
1/24	Edgartown	1	R. Knight

American Coot

1/1	Westboro	1	A. Boover
1/1, 2/26	Worcester	13, 15	M. Lynch#
1/2	Boston	11	A. Joslin
1/7, 15	Southwick	9, 25	S. Kellogg
1/8-9	Nantucket	37	BBC (H. Bailey)
1/16	Marstons Mills	30	J. Liller#
1/17, 2/4	Lynn	17, 8	R. Heil
2/6	Marstons Mills	8	J. Liller#
2/10	Jamaica Plain	8	B. Mayer
2/11	Woburn	16	M. Rines
2/20	Swansea	7	M. Lynch
2/21	Arlington	99	K. Hartel

Sandhill Crane

thr	Fairhaven	1-3	E. Giles + v.o.

Black-bellied Plover

1/23	Nantucket	2	fide E. Ray
2/13	E. Sandwich	3	G. Ferguson

Killdeer

1/1	E. Sandwich	4	B. Nikula
1/1	Fairhaven	5	M. Boucher
1/2-30	Plymouth	1	S. Moore# + v.o.
1/5	Hingham H.	4	M. Faherty
1/29	Cape Ann	1	BBC (L. Ferraresso)
2/20	Duxbury B.	1	L. Cleveland
2/23	Groton	2	T. Pirro
2/24	Lynn	2	R. Heil
2/24	W. Bridgewater	12	M. Faherty
2/24	Canton	1	M. Burns
2/24	Fairhaven	6	K. Anderson
2/24	Amherst	1	S. Surner
2/26	Concord	2	M. Rines
2/27	Westport	4	R. Heil

American Oystercatcher

2/27	Edgartown	2	J. Ben David

Greater Yellowlegs

1/1	E. Sandwich	3	B. Nikula
1/7	Swansea	2	R. Farrell
1/8	Sandwich	1	ABC (S. Kellogg#)
1/9	Boston H.	1	TASL (M. Hall)
1/12	Winthrop	1	D. Larson
2/5	W. Tisbury	1	W. Manter

Lesser Yellowlegs

1/1	S. Dartmouth	1	M. Boucher

Whimbrel

1/8	Yarmouth	1	C. Buelow#

Ruddy Turnstone

1/1	Nantucket	59	G. d'Entremont#
1/9	Gloucester	2	R. Heil
1/9	Boston H.	77	TASL (M. Hall)
1/9, 2/24	Fairhaven	35, 30	K. Anderson
1/23	Nantucket	10	fide E. Ray
2/7	Salem	8	L. Healey
2/13	E. Sandwich	12	G. Ferguson

Sanderling

1/7	Falmouth	45	R. Farrell
1/8-9	Nantucket	200	BBC (H. Bailey)
1/9	P'town	200	B. Nikula
1/9, 2/6	Boston H.	51, 48	TASL (M. Hall)
1/30	P'town	239	T. Raymond
2/20	Bourne	100	P. + F. Vale
2/21	Salisbury	55+	R. Heil

Purple Sandpiper

1/1	Nantucket	5	G. d'Entremont#
1/9	Gloucester	325	R. Heil
1/20	Nahant	5	A. Joslin
1/23	Fairhaven	8	M. Lynch#
1/30	Rockport	40	J. Berry#
2/12	Chilmark	19	L. Raleigh
2/13	E. Sandwich	8	G. Ferguson
2/16	Salisbury	15	M. Taylor#
2/20	Bourne	32	P. + F. Vale
2/24	Beverly	16	J. Paluzzi

Dunlin

1/1	F.E.	500+	B. Nikula
1/1	Ipswich	2	J. Berry
1/1	Westport	250	M. Boucher
1/9, 2/24	Fairhaven	75, 20	K. Anderson
1/30	P'town	110	R. Heil
2/13	E. Sandwich	24	G. Ferguson
2/24	Nahant	250	R. Heil
2/27	Rowley	12	J. Berry
2/29	Duxbury B.	100	C. Fiorini#

Common Snipe

1/1	Nantucket	1	G. d'Entremont#

Common Snipe (continued)

1/3	Squantum	1	R. Donovan
1/9	Bourne	2SSBC	(K. Anderson)
1/22	Northbridge	1	M. Lynch#
1/23	Newbypt.	3	R. Heil
1/24	Wayland	1	G. Long
1/28	Oak Bluffs	1	A. Keith
2/13	Sandwich	6	D. + S. Larson#

American Woodcock

1/1, 2/26	Truro	3, 6	J. Young
1/28	Oak Bluffs	1	A. Keith
2/27	DWWS	8	R. Heil
2/27	Lexington	2	A. Joslin
2/27	Bolton Flats	7	M. Lynch

Phalarope species

1/29	Nantucket	1	K. Blackshaw#

Little Gull

1/1	Oak Bluffs	1	M. Pelikan

Black-headed Gull

1/1	Barnstable	1 1W	B. Nikula
1/1-2/10	Plymouth	1	S. Moore# + v.o.
1/4, 2/28	S. Boston	1, 1	R. Donovan
1/5	Gloucester	1	MAS (N. Soulette#)
1/7, 2/21	Newbypt.	1, 1	K. Disney, R. Heil
1/12	Osterville	1 ad	J.Trimble
1/15	Easton	1 1 W	S. Arena
1/18	Nantucket	1 yg	J. Trimble#
1/2, 10	Lynn	1 ad	J. Quigley
1/20	Brockton	1	M. Faherty
1/23-31	Oak Bluffs	1	M. Pelikan#
1/26	Lynn	1 ad.WP	R. Heil
1/28-30	Waltham	1 1W	J. Michaels
1/30	Winthrop	1 adW	M. Lynch#
2/1-9	Oak Bluffs	1 imm	M. Pelikan#
2/5	Easton	1 imm	S. Arena

Bonaparte's Gull

1/3	Salisbury	2	J. Berry#
1/4	Lynn	1 ad	J. Quigley
1/7	E. Gloucester	7	J. Berry#
1/9	Ipswich	2	BBC (J. Nove)
1/9	Fairhaven	1	SSBC (K. Anderson)
1/9, 2/6	Boston H.	5, 2	TASL (M. Hall)
1/10	Rockport (A.P.)	40	J. Soucy#
2/6	Nantucket	2500	E. Ray

Mew Gull *

1/10-2/25	S. Boston	1-2	W. Zuzevich + v.o.

Ring-billed Gull

1/1	Worcester	550+	M. Lynch#
1/12	S. Boston	1500+	R. Donovan
2/23	Newbypt.	880	R. Heil
2/24	Nahant	385	R. Heil
2/24	Lynn	325	R. Heil

Herring Gull

2/6	Nantucket	5000	E. Ray
2/23	Newbypt.	6500	R. Heil

Iceland Gull

1/4-16	Acton	1 imm	M. Resch + v.o.
1/10	Littleton	1 imm	M. Resch
1/18	Nantucket	85	J. Trimble#
1/21, 2/29	Pepperell	1	E. Stromsted
1/23, 2/9	Newbypt.	5, 23	R. Heil
1/25	Edgartown	4	V. Laux
1/26	E. Orleans	3	A. Williams
1/26	Lynn	2 ad	R. Heil
1/27	Waltham	1	M. Rines
1/28	Oak Bluffs	1	A. Keith#
1/28	Bourne	1 1W	M. LaBossiere
1/30, 2/26	P'town	16, 13	T. Raymond, J. Young
1/30	Gloucester (E.P.)	4 1W	M. Lynch#
2/1	S. Hadley	1	H. Allen
2/2	Salisbury	1	C. Ralph#
2/5	Hadley	1 1W	E. Labato
2/5	Truro	6+	B. Nikula
2/6	Barre	1 ad	M. Lynch
2/8	Northampton	1	W. Lafley
2/13	Chatham	2 ad	D. + S. Larson#
2/19	Rockport (H.P.)	1	BBC (J. Nove)

Lesser Black-backed Gull

1/9-31	Boston	1	R. Stymeist + v.o.
1/18	Nantucket	10	J. Trimble#
1/25	Edgartown	1	V. Laux
1/30	Gloucester (E.P.)	1 3W	M. Lynch#
2/5-06	Nantucket	2	E. Ray
2/6	Barre	1 ad	M. Lynch
2/9-29	Newbypt.	1ad graellsii	R. Heil
2/11	Hadley	1	H. Allen
2/12	Northampton	1 3W	M. Lynch
2/26	P'town (R.P.)	1 ad	B. Nikula
2/28	Hadley	3	P. Champlin

Glaucous Gull

1/2	Lowell	1 imm	M. Resch
1/5	Gill	1 1W	M. Taylor
1/6, 9	S. Boston	1 ad, 1 imm	R. Donovan
1/10	West Tisbury	1	W. Manter
1/12	Gloucester H.	1 ad	D. Larson
1/23	Plymouth	1 1W	C. Floyd
1/28	Gloucester H.	1 imm	B. Volkle#
1/30	Boston (Long I.)	1	S. Donovan#
2/3	Turners Falls	1 1W	M. Taylor
2/6	Northampton	1 2W	E. Labato
2/9	Salisbury	3 1W	MAS (N. Soulette#)
2/13	Gloucester (E.P.)	1	R. Lewis
2/16	W. Boylston	2	E. Salmela
2/19	Plymouth H.	1	L. Cleveland#
2/21	Newbypt.	2 (1W,2W)	R. Heil
2/27	Westport	1 1W	R. Heil
2/28	Hadley	2 imm	P. Champlin

Black-legged Kittiwake

1/1	Nantucket	8	G. d'Entremont#
1/9, 30	P'town (R.P.)	400, 800	B. Nikula
1/10	Rockport (A.P.)	140	J. Soucy#
1/23, 2/9	P.I.	7, 5	R. Heil
2/10	Rockport (A.P.)	57	R. Heil
2/13, 21	P'town (R.P.)	205, 300	B. Nikula

Dovekie

1/6	Rockport	1	M. Flor
2/5, 13	P'town (R.P.)	1, 1	B. Nikula

Common Murre

2/12	Chatham	1	J. Flaherty#
2/17	Nantucket	1	E. Ray
2/26	P'town (R.P.)	1	J. Young
2/26	Chappaquiddick	1	A. Ben David

Thick-billed Murre

2/10	Rockport (A.P.)	2	R. Heil

Razorbill

1/8	Rockport (A.P.)	150	M. Rines
1/30, 2/5	Truro	40, 30	B. Nikula
1/30	P'town (R.P.)	400	R. Heil
2/9	Salisbury	8	R. Heil
2/12	Wellfleet	4	J. Hoye#
2/13	P'town (R.P.)	500	B. Nikula
2/13	Wellfleet	50	D. + S. Larson#
2/18	Rockport (A.P.)	52	J. Soucy
2/20	Bourne	1	P. + F. Vale
2/26	P'town (R.P.)	1000	J. Young
2/27	Rockport (A.P.)	87	B. Kane
2/29	Gay Head	32	A. Keith

Black Guillemot

1/1	Rockport (H.P)	2	BBC (J. Nove)
1/8	Gloucester (B.R.)	20	M. Rines
1/9	Boston H.	5	TASL (M. Hall)
1/23	Rockport (A.P.)	6	P. + F. Vale
1/30	Cape Ann	44	R. Heil
2/21	Gloucester (B.R.)	29	P. + F. Vale

Atlantic Puffin

1/9	Rockport (A.P.)	1	D. Chickering#

Razorbill				1/30	P'town (R.P.)	550	B. Nikula
1/30	P'town (R.P.)	30+	B. Nikula	2/5	P'town (R.P.)	340	B. Nikula
1/30	Truro	40+	B. Nikula	2/5	Truro	140	B. Nikula
2/5	Truro	30	B. Nikula	2/13	P'town (R.P.)	1000	B. Nikula
2/5	P'town (R.P.)	60	B. Nikula	2/21	P'town (R.P.)	2850 (1.5 hrs)	B. Nikula
2/13	P'town (R.P.)	500	B. Nikula	2/26	P'town (R.P.)	450	B. Nikula
2/26	P'town (R.P.)	100	B. Nikula	Monk Parakeet			
large alcid species				2/21	S. Dartmouth	7	J. Hoye#
1/30	Truro	180	B. Nikula				

OWLS THROUGH FINCHES

The mild weather for the first twelve days of the year accounted for a sizable population of what we New Englanders refer to as hardy lingerers. Despite a cold snap at Christmas which decimated some of those less hardy individuals that were recorded on the various CBCs, the numbers of Eastern Bluebirds, Hermit Thrushes, American Robins, Gray Catbirds, and Eastern Towhees were better than the average mid-winter numbers. Other species that appeared in better than normal numbers included Yellow-bellied Sapsucker with over 11 reports, 2 Eastern Phoebes, 9 species of warblers, and good numbers of sparrows and other "field" birds that took advantage of our almost snowless winter and were able to feed in areas that would normally be covered in snow.

It was a good winter for owls (Hot Birds, page 184), and the show continued through the period with many of the same individuals still present since last November. At Daniel Webster Wildlife Sanctuary as many as 12 Long-eared and 4 Short-eared owls were part of the nightly entertainment for many birders this winter. Some there were lucky to add a Great Horned and Barred owl to the menu. At Boston's Logan Airport a Barn Owl was found along with as many as 5 Snowy Owls. This year Norman Smith of the Trailside Museum has captured two females and a male Snowy at the airport and has placed a transmitter on the birds to try to track their comings and goings. The literature says that Snowy Owls that come to New England may never make it back to the Arctic, and Norman hopes to prove this theory wrong. Stay tuned. There were 29 reports of Barred Owls and 11 Northern Saw-whets, two of which delighted birders from both sides of the trail at Dunback Meadow in Lexington.

The banner year for Northern Shrikes continued. Over 60 birds were noted during this period, and they were widespread throughout the state (Hot Birds, page 184). Pileated Woodpeckers seemed to be everywhere too, at least 17 different locations with most reporting a pair. Carolina Wrens appreciated the mild winter and have rebounded back to beyond their highest numbers, and there were many Winter Wrens noted. On the low side were Red-breasted Nuthatches and Brown Creepers, especially in western Massachusetts which reported the fewest nuthatches since 1986 and the lowest number of creepers since 1987. A report of 7 Monk Parakeets from South Dartmouth proved that they are determined to establish a foothold in Massachusetts; their nest had been taken down by the power company last summer.

The flashy birds were scattered about the state. Feeder stakeouts included a Boreal Chickadee in West Newbury, a Western Tanager in Orleans, and an Oregon Junco and a Hoary Redpoll at Arcadia in Easthampton. Another feeder bird of sorts (whose continuous presence was encouraged by the kindness of many birders) was a Spotted Towhee in Hadley, the first regional sighting. The feeder at Daniel Webster Sanctuary was well stocked as well as observed by birders coming for the nightly raptor show. A Gambel's White-crowned Sparrow joined a Clay-colored Sparrow and a few Fox Sparrows at the "cool" feeder. Two Sedge Wrens were flushed alongside as many as 8 Marsh Wrens in a marsh on Nantucket, and another Hoary Redpoll was found at Halibut Point in Rockport. A Yellow-headed Blackbird was present for three days in North Dartmouth.

Royalston Common played host to over 200 Bohemian Waxwings at one point this winter (Hot Birds, page 184). This picturesque town welcomed birders throughout the winter, and some were lucky enough to see not only Bohemians but also Pine Grosbeaks, Evening Grosbeaks, Common Redpolls, and Pine Siskins. Other large flocks of Bohemians were found in Orange and Wellfleet and in smaller numbers in several other towns. There were good numbers of Cedar Waxwings with many flocks of over 100 individuals. Numbers of Common Redpolls were impressive and were reported from just about everywhere, while reports of Purple Finch were as scarce as they have been for the last seven winters. Evening Grosbeaks were relatively scarce and for the most part confined to northern sections of the state. R.H.S.

Barn Owl
- 1/1 Nantucket 3 G. d'Entremont#
- 1/6 Boston (Logan) 1 N. Smith
- 1/18 Nantucket 2 J. Trimble#
- 1/20 S. Dartmouth 1 S. Storer

Eastern Screech-Owl
- thr Reports of indiv. from 15 locations

Great Horned Owl
- 2/21 Wayland 2 G. Long
- thr Reports of indiv. from 12 locations

Snowy Owl
- 1/1-31 Boston (Logan) 3-5 N. Smith
- 1/8 P.I. 1 L. Clark#
- 1/9 Boston H. 1 TASL (M. Hall)
- 1/9 Rockport (H.P.) 1 imm P. Meleski#
- 1/15 Salisbury 1 J. Soucy#
- 2/1-29 Boston (Logan) 1-3 N. Smith
- 2/1-29 Duxbury B. 1-2 N. Smith
- 2/13-23 P.I. 1 J. Weeks + v.o.
- 2/17 Nantucket 2 B. Perkins

Barred Owl
- thr Reports of indiv. from 29 locations

Long-eared Owl
- 1/2 DWWS 2 S. Moore#
- 1/5 Southwick 1 S. Kellogg
- 2/1-29 Duxbury B. 4 max 2/17 N. Smith
- 2/6 Newbypt. 1 P. Grimes
- 2/12, 20 DWWS 9, 12 N. Smith
- 2/28 Edgartown 1 A. Keith

Short-eared Owl
- 1/thr P.I. 1 v.o.
- 1/6 Boston (Logan) 2 N. Smith
- 1/8, 2/27 Salisbury 1 I. Lynch, F. Vale
- 1/9 Halifax 2 W. Zuzevich
- 1/23 Fairhaven 1 M. Lynch#
- 1/23 DWWS 1 M. Lynch#
- 1/29 Chappaquiddick 1 E. + R. Potter
- 1/30 Boston (Moon I.) 1 R. Donovan
- 1/30, 2/27 Rowley 2, 3 J. Berry
- 2/thr P.I. 3 D. Williams#
- 2/thr Duxbury B. 2-3 N. Smith
- 2/thr Boston (Logan) 2-6 N. Smith
- 2/3-29 E. Middleboro 1-2 K. Anderson
- 2/3 Nantucket 1 K. Blackshaw#
- 2/5 Cumb. Farms 4 D. Larson
- 2/6 S. Dartmouth 1 S. Storer
- 2/9 Newbypt. 1 MAS (N. Soulette#)
- 2/13 Truro 1 D.Bandes
- 2/24 DWWS 4 T. Pirro#
- 2/27 Concord (NAC) 1 S. Perkins#

Northern Saw-whet Owl
- 1/1 Nantucket 2 G. d'Entremont#
- 1/2 Petersham 1 W. Lafley
- 1/6 Plympton 1 J. Shaw
- 1/24 Groton 1 T. Pirro
- 1/30 Boston (Long I.) 1 R. Donovan#
- 2/2 Salisbury 1 F. Vale#
- 2/7 Nahant 1 S. Tomajran
- 2/18-29 Lexington 2 M. Rines + v.o.
- 2/27 Chilmark 1 A. Keith

Belted Kingfisher
- 1/1 Newbypt. 1 P. + F. Vale
- 1/1 Wareham 1 K. Anderson
- 1/1 Wachusett Res. 2 M. Lynch#
- 1/2 Hardwick 1 H. Allen
- 1/4 Southwick 1 H. Allen
- 1/7 Agawam 1 S. Kellogg
- 1/7 Hadley 1 B. Bieda
- 1/8 Lakeville 1 K. Holmes
- 1/8 Boston 1 G. d'Entremont
- 1/8 Cheshire 1 R. Rancatti
- 1/9 Worcester 1 M. Lynch#
- 1/9 Ipswich 1 BBC (J. Nove)
- 1/16 Westport 2 M. Lynch#
- 1/16 Wayland 1 G. Long
- 2/20 Eastham (F.E.) 1 P. + F. Vale

Red-headed Woodpecker
- 1/1-2/20 Natick 1 G. + L .Long

Red-bellied Woodpecker
- 1/1 W. Boylston pr M. Lynch#
- 1/1 S. Dartmouth 2 M. Boucher
- 1/1-31 S. Middleboro pr C. Sylvia
- 1/7 Sudbury 2 m K. Hamilton
- 1/8 Worc. (BMB) 3 J. Liller
- 1/8-9 Nantucket 2 BBC (H. Bailey)
- 1/30 Maynard 2 L. Nachtrab
- 2/6 Hadley 1 E. Labato
- 2/21 Blackstone 2 M. Lynch
- 2/21 Easthampton 1 S. Smolen-Morton
- 2/27 S. Natick 2 D. + S. Larson
- 2/27 Westport 4 R. Heil
- 2/28 Wayland 2 G. Long

Yellow-bellied Sapsucker
- 1/thr S. Middleboro 1 f C. Sylvia
- 1/thr M.V. 4 v.o., fide A. Keith
- 1/1-15 Mt.A. 1 R. Stymeist#
- 1/6 Dennis 1 M.Tuttle
- 1/19 Nantucket 2 fide E. Ray
- 1/23 Mattapoisett 1 F. Smith
- 1/25-2/16 Westfield 1 J. Weeks

Hairy Woodpecker
- 1/1, 2/22 Mattapoisett 2, 3 F. Smith
- 1/2 Medford 2 M. Rines
- 1/2 Phillipston 2 P. + F. Vale
- 1/2 Truro 4 J. Young
- 1/3 W. Newbury 4 J. Berry#
- 1/9 Royalston 4 M. Lynch#
- 1/16 Quabbin Park 2 D. + S. Larson
- 1/21 Maynard 3 L. Nachtrab
- 1/30 Quabbin (43) 4 R. Packard
- 2/10 Lexington 2 J. Forbes
- 2/21 Blackstone 2 M. Lynch
- 2/28 Wayland 2 G. Long

Northern Flicker
- 1/1 W. Boylston 4 M. Lynch#
- 1/1 Nantucket 10 G. d'Entremont#
- 1/3 Groton 2 T. Pirro
- 1/6 Adams 2 R. Rancatti
- 1/7 Hadley 2 H. Allen
- 1/16 Westport 4 M. Lynch#

Northern Flicker (continued)

1/23	Fairhaven	4	M. Lynch#
2/4	Ipswich	2-3	J. Berry
2/6	Hingham	7	K. Vespaziani
2/20	DWWS	4	P. + F. Vale
2/21	Blackstone	2	M. Lynch
2/27	S. Natick	3	D. + S. Larson

Pileated Woodpecker

thr	Pepperell	1-2	E. Stromsted
1/1	Wachusett Res.	1	M. Lynch#
1/3	IRWS	3	I. Lynch
1/7	Quabbin (G24)	1	B. Lafley
1/8	Whately	1	M. Williams
1/20	Carlisle	1 f	J. Keskulla
1/23	Hingham	1	J. Rogers
1/23	Milton	1	W. Zuzevich
1/24	Manchester	1 m	S. Hedman
1/30	Quabbin (43)	3	R. Packard
2/2	E. Boxford	2	J. Brown#
2/12, 20	Westford	1	S. Selesky
2/13	HRWMA	1	T. Pirro
2/17	Royalston	1	B. Packard
2/20	Gardner	1	M. Daley#
2/21	Easthampton	2	S. Smolen-Morton
2/28	Groton	1	T. Pirro

Eastern Phoebe

1/1	E. Sandwich	1	B. Nikula
1/29	Wayland	1	B. Howell

Northern Shrike

1/8	Hadley	3	M. Williams
1/15	Petersham	2	S. Moore#
1/23, 2/21	P.I.	2, 2	R. Heil
2/5	W. Bridgewater	1 ad, 2 imm	S. Arena
2/24	DWWS	1 ad, 1 imm	T. Pirro#
2/27	Bolton Flats	2 ad	M. Lynch
2/27	Lexington	2	M. Rines
thr	Reports of indiv. from 43 locations		

American Crow

1/1-31	Framingham	8000+	E. Taylor
1/5	Fitchburg	1500	T. Brownrigg
1/9, 2/19	Worcester	700, 600	M. Lynch#
1/24	Brighton	4000+	M. Partridge
2/1-29	N. Dartmouth	1000 max	M. Boucher

Fish Crow

1/1	Watertown	6	R. Stymeist#
1/2	Northampton	1	R. Packard
1/2	Boston (A.A.)	6	A. Joslin
1/9	Worcester	1	M. Lynch#
1/9	Medford	2	M. Rines
1/11	Waltham	1	M. Rines
1/13	Easthampton	3	H. Allen
1/16	Mattapan	10	BBC (R. Stymeist)
2/3	Seekonk	1	R. Farrell
2/21	Blackstone	1	M. Lynch
2/27	Easthampton	1	J. Hoye#

Common Raven

1/8	Quabbin (G40)	2	R. Packard
1/8	Whately	1	M. Williams
1/16	Quabbin Park	2 ad	D. + S. Larson
1/29	Petersham	1	G. d'Entremont#
1/29	Athol	6	G. d'Entremont#
1/30	Pittsfield	4	T. Collins
2/10	Royalston	2	M. Rines
2/13	Barre F.D.	pr	M. Lynch
2/29	Turners Falls	2	M. Taylor

Horned Lark

1/6	Northampton	25	B. Lafley
1/8	Amherst	10	M. Williams
1/9	Halifax	150+	W. Zuzevich
1/9	Bourne	16	SSBC (K. Anderson)
1/9	GMNWR	70	A. Bragg
1/13	Hadley	200	H. Allen
1/15	Salisbury	58	P. + F. Vale
1/20	New Braintree	20	C. Buelow
1/22	Fairhaven	155	BBC (R. Stymeist)
1/23	Newbypt.	150+	R. Heil
1/23	P.I.	12	S. Grinley
1/30	P'town	11	T. Raymond
2/5	Cumb. Farms	40	D. Larson
2/6	Salisbury	50	D. Williams#
2/7	Northampton	192	B. Packard
2/9	Hadley	118	B. Packard
2/9	Westhampton	19	B. Packard
2/26	Fairhaven	100	J. Berry

Boreal Chickadee

1/1-9	West Newbury	1	D. + W. Monroe + v.o.

Red-breasted Nuthatch

1/1, 2/22	Mattapoisett	2	F. Smith
1/1	Nantucket	3	G. d'Entremont#
1/3	P.I.	3	D. + I. Jewell
1/8	Mt.A.	2	R. Stymeist
1/9	Petersham	3	M. Lynch#
1/29	Boxborough	4	J. Michaels
1/30	Pittsfield	2	T. Collins
2/5	Wellfleet	6	R. Stymeist#
2/12	Westford	2	S. Selesky
2/13	E. Middleboro	1	K. Anderson
2/13	Gardner	3	T. Pirro
2/17	Royalston	2	B. Packard
2/20	WBWS	2	P. + F. Vale

Brown Creeper

1/1	Truro	3	J. Young
1/1, 2/22	Mattapoisett	3, 4	F. Smith
1/1-31	Maynard	2	L. Nachtrab
1/29	S. Quabbin	2	G. d'Entremont#
1/30	Quabbin (43)	2	R. Packard
1/thr	Ipswich	2	J. Berry
2/12	Hadley	2	M. Lynch
2/13	Gardner	4	T. Pirro
2/27	S. Natick	2	D. + S. Larson

Carolina Wren

1/1	Nantucket	7	G. d'Entremont#
1/9	Cape Ann	9	R. Heil
1/13-2/21	Easthampton	1	B. Bieda
1/18	Amherst	1	H. Allen
1/29	Boxborough	2	J. Michaels
1/30	Truro	7	R. Heil
2/4	Athol	1	B. Coyle
2/5	Orleans	10	M. Rines#
2/13	Northampton	1	S. Surner
2/21	Blackstone	4	M. Lynch
2/21	Fairhaven	4	E. Salmela
2/26	Lexington	4	M. Rines
2/27	Westport	36	R. Heil

House Wren

1/9	Halifax	1	W. Zuzevich
1/24	Winchester	1	M. Rines

Winter Wren

1/1	Nantucket	1	G. d'Entremont#
1/2	Stoneham	1	D. + I. Jewell
1/2	Winchester	1	M. Rines
1/8	Cheshire	1	R. Rancatti
1/20	New Braintree	1	C. Buelow
1/22	Northbridge	1	M. Lynch#
1/23	Fairhaven	1	S. Hedman#
1/24	Wayland	3	G. Long
2/4	S. Peabody	1	R. Heil
2/5	Malden	1	P. Vale
2/11	Westport	2	R. Farrell#
2/13	Orleans	1	R. Heil
2/19	Lexington	1	Sa. Miller
2/21	Blackstone	1	M. Lynch

Sedge Wren

1/7-19	Nantucket	2	R. Veit + v.o.

Marsh Wren

1/1-6	Dorchester	1	R. Donovan

Marsh Wren (continued)			
1/9	Gloucester	1	R. Heil
1/18	Nantucket	8	J. Trimble#
Golden-crowned Kinglet			
1/1	Wachusett Res.	3	M. Lynch#
1/3	Quabbin Park	2	E. Labato
1/4	Winchester	2	M. Rines
1/8	Whately	3	M. Williams
1/8	Sandwich	1	ABC (S. Kellogg#)
1/8	Cheshire	1	R. Rancatti
1/9	Belchertown	2	S. Surner
1/11	Hadley	1	H. Allen
1/15	Hardwick	1	S. Moore#
1/16	Woburn	2	M. Rines#
1/16	Wayland	1	G. Long
1/23	Westfield	1	J. Weeks
1/26	MNWS	1	I. Lynch#
2/8	Ipswich	1	J. Berry
2/13	Barre F.D.	2	M. Lynch
Ruby-crowned Kinglet			
1/1	Boston (Fens)	1	R. Stymeist#
1/1	E. Sandwich	1	B. Nikula
1/1	Cambridge	1	H. Hofheinz#
2/4	Millis	1	K. Nichols
Eastern Bluebird			
1/1	Northampton	13	R. Packard
1/1	Sterling	15	M. Lynch#
1/9	New Braintree	12	M. Lynch#
1/10	Wellfleet	10	BBC (D. Wilkinson)
1/15	Petersham	7	S. Moore#
1/16	N. Middleboro	10	K. Anderson
1/16	Princeton	10	P. Meleski
1/20	Williamsburg	16	R. Packard
1/20	Duxbury	6	A. Fenwick
1/23	Mattapoisett	15	F. Smith
1/23	Westboro	8	A. Boover
1/28	Lincoln	10	J. Jewitt
1/30	GMNWR	12	S. Perkins#
2/1	Westford	6	K. Bittner
2/11	Amesbury	20	J. Berry
2/12	Paxton	6	K. Vespaziani#
2/13	DWWS	6	P. Roberts
2/13	Carlisle	8	T. + D. Brownrigg
2/17	Concord	10	D. Schromm
2/20	Wellfleet	6	P. + F. Vale
2/22	Easthampton	12	H. Allen
2/27	Westport	13	R. Heil
2/27	S. Natick	7	D. + S. Larson
Hermit Thrush			
1/16	Jamaica Plain	2	BBC (R. Stymeist)
1/22	Fairhaven	3	BBC (R. Stymeist)
2/1	Mattapoisett	2	F. Smith
2/5	Medford	3	D. + I. Jewell
2/5	Wellfleet	4	R. Stymeist#
2/5	Orleans	2	M. Rines#
2/11	Dartmouth	2	R. Farrell#
thr	Reports of indiv. from 22 locations		
American Robin			
thr	Boston (Fenway)	400-900	K. Hudson
1/1	Hadley	400	R. Packard
1/4	Maynard	100+	L. Nachtrab
1/6	W. Newbury	500+	R. Heil
1/9	Truro	100+	B. Nikula
1/11	Newbypt.	870	J. Nove
1/16	Princeton	100	P. Meleski
1/30	Needham	130	A. Joslin
1/30	Wayland	175	G. Long
1/30	Wakefield	150+	P. + F. Vale
2/1	Amherst	200	H. Allen
2/5	W. Bridgewater	300+	S. Arena
2/14	Pepperell	150	E. Stromsted
2/20	ONWR	250+	J. Bartos
Gray Catbird			
1/1	Nantucket	3	G. d'Entremont#
1/3	Westport	3	M. Boucher
1/3	P.I.	1	D. + I. Jewell
1/15	Rockport (H.P.)	1	ABNC (M. Taylor#)
1/15	Falmouth	3	E. Giles
1/16	Needham	1	D. + A. Bandes
1/18-19	Halifax	1	K. Anderson
1/22	Fairhaven	5	BBC (R. Stymeist)
1/23	Westboro	1	A. Boover
1/24	Wayland	1	G. Long
1/24	E. Orleans	1	A. Williams
2/5	Orleans	1	M. Rines#
2/5	W. Bridgewater	1	S. Arena
2/6	Medford	1	M. Rines
2/6	Hingham	1	K. Vespaziani
2/11	Dartmouth	1	R. Farrell#
2/13	Lexington	1	M. Rines
2/21	Acoaxet	3	E. Salmela
Brown Thrasher			
1/15	Rockport (H.P.)	1	ABNC (M. Taylor#)
2/13	S. Dartmouth	1	E. Nielsen#
2/27	Westport	1	R. Heil
European Starling			
2/1	Newbypt.	15,000+	R. Heil
2/13	Westport	10000+	E. Nielsen#
American Pipit			
1/18	Fairhaven	3	M. Boucher
2/19	Westport	1	J. Hoye#
Bohemian Waxwing			
1/1	Truro	25	J. Young
1/2-4	Gloucester (E.P.)	1-2	T. Martin + v.o.
1/6	Rockport	1	D. + I. Jewell
1/7	Adams	3	R. Rancatti
1/9	Wellfleet	25+	B. Nikula
1/9, 22	Truro	8, 1	B. Nikula
1/23	Lanesville	2	C. Leahy
1/30	Nantucket	3	K. Blackshaw#
1/31	P.I.	1	P. Brown
2/5, 2/24	Royalston	50, 218	J. Morris-Siegel + v.o.
2/20-26	Wellfleet	80 max fide	B. Nikula
2/22, 24	Orange	150, 25	B. Coyle + v.o.
2/22	Athol	10	B. Coyle
2/26	Turners Falls	19	M. Fairbrother
2/27	Northampton	11	W. Lafley
2/27	Turner's Falls	4	T. Gagnon
2/27	New Salem	11	B. Lafley
Cedar Waxwing			
1/1	Sterling	366	M. Lynch#
1/3	Cheshire	100	R. Rancatti
1/6	W. Newbury	300+	R. Heil
1/7	Adams	100	R. Rancatti
1/16	Princeton	200	P. Meleski
1/18	Hanover	160+	K. Hamilton
2/13	Deerfield	100	S. Surner
2/19	Orange	120	D. Small#
2/19	Athol	300	D. Small#
2/28	Wayland	130	G. Long
Orange-crowned Warbler			
1/2	N. Truro	1	J. Young
Nashville Warbler			
1/1-25	Oak Bluffs	1	P. Jackson
1/3	Nantucket	1	J. Bailey#
Yellow-rumped Warbler			
1/9	Bourne	20	SSBC (K. Anderson)
1/16	Westport	4	M. Lynch#
1/23	Fairhaven	2	M. Lynch#
1/24	P.I.	3	P. Brown
2/3	Beverly	1	J. Berry
2/5	Squantum	2	G. d'Entremont
2/5	Orleans	26	M. Rines#
2/20	Westport	3	M. Lynch
2/26	P'town (R.P.)	1	J. Young

"Audubon's" Warbler
2/13 Orleans 1 R. Heil
Pine Warbler
1/30 Wellfleet 3 R. Heil
Palm Warbler
1/8 Bridgewater 1 K. Holmes
1/9 Halifax 1 W. Zuzevich
Common Yellowthroat
1/8 Worc. (BMB) 1 m imm J. Liller
Wilson's Warbler
1/1 S. Boston 1 R. Donovan
Yellow-breasted Chat
1/15 Falmouth 1 E. Giles
1/19 Nantucket 1 fide E. Ray
2/12 Falmouth 1 G. d'Entremont
Western Tanager *
2/1-13 Orleans 1 m ph A. MacPhail + v.o.
Eastern Towhee
1/1 Truro 2 J. Young
1/2 Hardwick 1 H. Allen
1/6 Framingham 1 m K. Hamilton
1/9 Gloucester 2 m R. Heil
1/22 Lakeville 1 K. Holmes
1/22 Fairhaven 1 BBC (R. Stymeist)
1/23 Stoneham 1 B. Allison
2/9 Weston 1 M. Rines
2/11 Dartmouth 1 R. Farrell#
2/24 Fairhaven 1 m K. Anderson#
2/19 Concord 1 S. Perkins
Spotted Towhee *
1/1-2/23 N. Hadley 1 E. Labato + v.o.
American Tree Sparrow
1/9 Worcester 50+ M. Lynch#
1/13 Hadley 80 H. Allen
1/16 Mattapan 40 BBC (R. Stymeist)
1/19 DWWS 60+ R. Heil
1/23 Fairhaven 30+ M. Lynch#
1/24 P.I. 60 P. Brown
1/24 Groton 50 T. Pirro
1/27 Topsfield 80+ D. + I. Jewell
1/30 Rowley 55 J. Berry
1/30 Westboro 65+ A. Boover
1/30 Needham 36 A. Joslin
2/5 W. Bridgewater 150 S. Arena
2/27 Wakefield 35+ P. + F. Vale
Chipping Sparrow
2/27 Westport 2 br pl R. Heil
2/29 W. Gloucester 1 J. Nelson
Clay-colored Sparrow
1/7-2/29 DWWS 1 S. Wheelock + v.o.
Field Sparrow
1/1 Mattapan 1 R. Stymeist#
1/3 Fairhaven 4 M. Boucher
1/30, 2/25 S. Boston 1 R. Donovan
2/2 Rowley 1 M. Rines#
2/3 Southwick 1 S. Kellogg
2/4 S. Peabody 1 R. Heil
2/5 Eastham 7 R. Stymeist#
2/11 Dartmouth 6 R. Farrell#
2/14 Lexington 1 K. Hartel
2/19-21 Lincoln 1 S. Perkins
2/21 Acoaxet 1 E. Salmela
2/27 Burlington 2 M. Rines
2/27 Westport 6 R. Heil
Vesper Sparrow
1/23, 30 Fairhaven 1, 2 S. Hedman, J. Meyers
Savannah Sparrow
1/1 Nantucket 2 G. d'Entremont#
1/20 Fairhaven 35 M. Faherty
1/24 Hadley 5 B. Bieda
1/30 Northampton 1 S. Surner
2/2 Salisbury 1 M. Rines#
2/5 W. Bridgewater 35 S. Arena
2/6 N. Dartmouth 1 M. Boucher
2/11 Westport 32 R. Farrell#
"Ipswich" Sparrow
1/2 Edgartown 1 A. Keith#
1/2, 15 P.I. 2 B. Stevens#, M. Daley
1/19 Newbury 1 R. Heil
1/19 Salisbury 2 R. Heil
1/26 S. Boston 1 R. Donovan
Grasshopper Sparrow
1/1-23 Edgartown 1 M. Pelikan#
Fox Sparrow
1/1 Truro 1 J. Young
1/6 W. Newbury 1 R. Heil
1/9 Lexington 1 M. Rines
1/16 Brookline 1 H. Wiggin
1/19 DWWS 2 R. Heil
1/20 Easthampton 3 B. Bieda
1/23 Fairhaven 3 S. Hedman#
1/24 Wayland 4 G. Long
1/30 Eastham (F.H.) 3 R. Heil
1/30 Danvers 1 D. Coffin
2/1 Burlington 1 M. Rines
2/11 Dartmouth 1 R. Farrell#
2/21 Acoaxet 2 E. Salmela
2/27 Westport 2 R. Heil
2/27 Winchester 1 M. Rines
Swamp Sparrow
1/1 Nantucket 5 G. d'Entremont#
1/1/-31 E. Middleboro 1 K. Anderson
1/7 Sunderland 1 B. Bieda
1/9 Worcester 1 M. Lynch#
1/20 W. Bridgewater 10 M. Faherty
1/20 New Braintree 2 C. Buelow
1/22 Northbridge 1 M. Lynch#
1/27 DWWS 1 C. Buelow
2/21 Blackstone 1 M. Lynch
2/24 W. Bridgewater 2 M. Faherty
2/thr E. Middleboro 1 K. Anderson
White-crowned Sparrow
1/1 Boston (Fens) 1 R. Stymeist#
1/16 Westport 1 ad M. Lynch#
1/19-2/29 DWWS 1 imm R. Heil
1/23 S. Dartmouth 2 M. Boucher
1/30 Northampton 1 S. Surner
1/31 Cumb. Farms 6 K. Anderson
Dark-eyed Junco
1/8 Mt.A. 75 R. Stymeist
1/16 Mattapan 100+ BBC (R. Stymeist)
"Oregon" Junco
1/1-2/29 Easthampton 1 E. Labato + v.o.
Lapland Longspur
1/13 Hadley 1 B. Bieda
1/22 Fairhaven 4 BBC (R. Stymeist)
1/22 Halifax 50 K. Holmes
1/23 Edgartown 1 R. Knight
1/29 Salisbury 40+ P. + F. Vale
1/thr Northampton 1 B. Packard + v.o.
2/1-11 Hadley 1 B. Packard
2/3 Salisbury 50 D. + I. Jewell
2/20 Westport 1 M. Lynch
Snow Bunting
1/2, 2/15 Hadley 1, 55 S. Kellogg, H. Allen
1/22 Fairhaven 30 BBC (R. Stymeist)
1/26 S. Boston 7 R. Donovan
1/29, 2/19 Salisbury 100, 32 P. + F. Vale
1/30 Northampton 10 S. Surner
1/30 Rockport (A.P.) 11 M. Lynch#
2/7, 11 Northampton 4, 12 R. Packard, J. Moulton
2/9 Westhampton 1 B. Packard
2/9 Westfield 1 R. Packard
2/20 Westport 78 M. Lynch
2/20-24 Orange 20-25 J. Forbes + v.o.
2/21 Plymouth 23 E. Salmela

Snow Bunting (continued)

2/21	Templeton	12	T. Pirro
2/24	Nahant	30	R. Heil
2/26	P'town (R.P.)	150	J. Young
2/26	Worcester	2	M. Lynch
2/27	Northhampton	40	G. d'Entremont#

Dickcissel

thr	S. Boston	1	R. Donovan

Red-winged Blackbird

1/1	S. Dartmouth	4000+	M. Boucher
1/1	Truro	15	J. Young
1/2	DWWS	20	S. Moore#
1/3	Groton	75	T. Pirro
1/4, 2/4	S. Peabody	20, 40	R. Heil
1/7	Sunderland	34	B. Bieda
1/8	Hadley	22	M. Williams
1/12, 23	Sudbury	85, 65	K. Hamilton
1/18	Cumb. Farms	ca 100	K. Anderson
1/19	Salisbury	30+	D. + I. Jewell
1/22	Middleboro	50	K. Holmes
1/30	Needham	17	A. Joslin
2/9, 17	W. Bridgewater	30, 200	M. Faherty
2/25	Concord (NAC)	100	S. Perkins
2/26	Lincoln	30	R. Crissman
2/27	Westport	750+	R. Heil
2/27	Bolton Flats	295	M. Lynch
2/28	Wayland	100+	G. Long
2/29	Ipswich	20+	J. Berry
2/29	Southwick	5	S. Kellogg

Eastern Meadowlark

1/7	Hadley	4	H. Allen
1/8	Harvard	1	M. Lynch#
1/8	Worcester	1	J. Liller
1/8	DWWS	30	D. + S. Larson
1/20	Fairhaven	20	M. Faherty
1/22	Middleboro	6	K. Holmes
1/23	S. Dartmouth	20	M. Boucher
1/23	Salisbury	6	R. Heil
1/24	Newbypt.	8	P. Brown
1/30	Rowley	5	J. Berry
2/2	Salisbury	1	F. + M. Howes
2/13	Orleans	3	R. Heil

Yellow-headed Blackbird

2/4-6	N. Dartmouth	1 f	A. Hankin

Rusty Blackbird

1/3	Groton	7	T. Pirro
1/8	Hadley	6	M. Williams
1/15	Lincoln	1	S. Perkins
1/15-22	N. Dartmouth	1	H. Davenport
1/16	E. Natick	2	G. Long
1/16, 24	Wayland	1, 6	G. Long
1/18	Cumb. Farms	4	K. Anderson
1/22	Northbridge	3	M. Lynch#
1/24	Sudbury	37	K. Hamilton
1/30	GMNWR	8	S. Perkins#
1/31	Georgetown	10	A. Bennett
2/1-19	Wakefield	48 max 2/2	F. Vale
2/6	Williamsburg	1	R. Packard
2/20	E. Natick	6	G. Long
2/20	Needham	17	A. Joslin
2/27	Bolton Flats	8	M. Lynch

Common Grackle

1/1	S. Dartmouth	4000+	M. Boucher
1/13	Marblehead	1	K. Haley
1/19	Salisbury	9	D. + I. Jewell
2/13	W. Bridgewater	8	J. Young
2/19	Wakefield	1	P. + F. Vale
2/20	Rehoboth	15	M. Lynch
2/20	Needham	1	A. Joslin
2/24	Fairhaven	1	K. Anderson
2/24	Hadley	1	H. Allen
2/24	Waltham	2	J. Forbes
2/24	W. Bridgewater	25	M. Faherty
2/26	Bedford	14	M. Rines
2/26	Framingham	26	K. Hamilton
2/27	Bolton Flats	120	M. Lynch
2/27	Burlington	10	M. Rines
2/27	Westport	5500	R. Heil
2/28	Wayland	40-50	G. Long

Brown-headed Cowbird

1/1	S. Dartmouth	2000+	M. Boucher
1/22	DWWS	3	S. Peacock#
1/22	Concord	1	M. Rines
1/23	Salisbury	11	R. Heil
2/11	N. Dartmouth	209	M. Boucher
2/13	W. Bridgewater	2	J. Young
2/26	Fairhaven	2	J. Berry
2/28	Wayland	3	G. Long

Baltimore Oriole

1/1	Westport	1	M. Boucher
1/18	Barnstable	1	M. Sylvia

Pine Grosbeak

1/1	Chatham	1	B. Nikula
1/1	E. Sandwich	1	B. Nikula
1/26, 30	Northfield	8, 8	M. Taylor
2/12	Royalston	7	J. Paluzzi#
2/19	N. Orange	7	D. Small#
2/20	Royalston	2	G. d'Entremont#

Purple Finch

thr	E. Boxford	1-8	J. Brown#
1/1	W. Boylston	1	M. Lynch#
1/2	Petersham	7	W. Lafley
1/3, 2/26	Mattapoisett	1, 7	F. Smith
1/7	Northampton	13	W. Lafley
1/7	Quabbin (G24)	7	B. Lafley
1/8, 2/22	Athol	1	B. Coyle
1/11-2/29	Lenox	1-3	R. Laubach
1/16	Templeton	3	T. Pirro
2/1	Ipswich	1 f	J. Berry
2/6	Sudbury	1	N. Schofield
2/18	Mendon	pr	J. + D. Moffett
2/19	N. Middleboro	2	K. Holmes
2/20	Royalston	4	G. d'Entremont
2/21	Blackstone	1	M. Lynch

Red Crossbill

1/1	Truro	19	J. Young
1/1	Yarmouth	20+	B. Nikula
1/2	Petersham	2	W. Lafley
1/6	Dorchester	9	R. Donovan
1/6	S. Hadley	1	B. Cassie#
1/10	Nantucket	3	fide E. Ray
1/16, 22	Salisbury	12, 6	J. Lawrence, F. Vale
1/19	Washington	1	E. Neumuth
1/24	Tisbury	3+	P. Eulendorf
1/27	Oak Bluffs	1 f	A. Keith
2/26	Chatham	15+	J. Eddy
2/26	Salisbury	6	S. Moore#
2/29	Yarmouthport	12	K. Hamilton

White-winged Crossbill

1/2-3	Dennis	20	R.Fisher
1/10	Nantucket	50	fide E. Ray

Common Redpoll

1/1	Salisbury	37	BBC (L.de la Flor)
1/1	Nantucket	50	G. d'Entremont#
1/1-2/29	Blandford	50	M. + K. Conway
1/3	Princeton	40	S. Moore#
1/5	Northampton	40	W. Lafley
1/8	Hadley	200	M. Williams
1/8	HRWMA	45	T. Pirro
1/9	Ipswich	46	BBC (J. Nove)
1/9	P'town	250	B. Nikula
1/9	P.I.	35	J. Soucy#
1/16	W. Royalston	30	P. Meleski
1/16, 2/16	Easthampton	10, 70	S. Moore, R. Packard
1/20	New Braintree	50	C. Buelow
1/23	Dorchester	45+	W. Zuzevich

Common Redpoll (continued)

1/26, 2/25	Northfield	85, 200	M. Taylor
1/29	Petersham	58	G. d'Entremont#
1/30	Windsor	75+	T. Collins
2/5	Russell	50	S. Kellogg
2/5	Salisbury	200+	P. Roberts
2/8	DWWS	25+	D. Comeau#
2/10	Gardner	35	M. Rines
2/13	Becket	40	R. Laubach
2/16	Groton	50	T. Pirro
2/18	Lexington	25	M. Rines
2/18	Mt.A.	25	D. Larson
2/26	Wilbraham	53	D Morrison
2/29	Lenox	50	R. Laubach

Hoary Redpoll * (no details)

2/12-29	Easthampton	1	R. Kuerzel + v.o.

Hoary Redpoll *

2/10	Rockport (H.P.)	1	D. + I. Jewell

Pine Siskin

1/1-2/7	Athol	1-7	B. Coyle
1/1, 2/7	E. Middleboro	1, 2	K. Anderson
1/2	Quabbin	1	R. Packard
1/3	Lincoln	5	M. Rines
1/5, 2/5	Blandford	2	S. Kellogg
1/7, 13	Upton	25, 15	P. + D. DeBruyn
1/9	Petersham	10	M. Lynch#
1/9	Woburn	2	J. Young
1/10	Becket	1	R. Laubach
1/21, 2/25	Mendon	4, 32	D. Moffett
1/23	N. Pepperell	15	G. Coffee
1/27	Brockton	1	M. Faherty
1/29	Royalston	75	G. d'Entremont#
2/1-29	E. Boxford	4-10	J. Brown#
2/2	Amherst	1	H. Allen
2/13	Jamaica Plain	1	R. Lewis
2/13	Deerfield	1	S. Surner
2/18	Williamsburg	1	R. Packard
2/27	Lynnfield	20+	P. + F. Vale
2/27	Douglas	4	M. Lynch
2/29	Uxbridge	2	J. Barthel

Evening Grosbeak

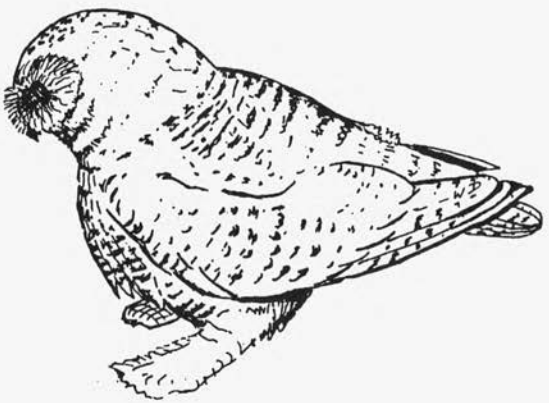
1/1-31	Washington	1-28	E. Neumuth
1/2	Petersham	30	P. + F. Vale
1/2	Royalston	40	P. + F. Vale
1/8, 2/13	HRWMA	6, 2	T. Pirro
1/10	Colrain	8	B. Bieda
1/16	Templeton	22	T. Pirro
1/16	Westport	1	M. Lynch#
1/16	Petersham	113	D. + S. Larson
1/22	Westwood	3	G. Long
1/26	Northfield	45	M. Taylor
1/29	Athol	30	G. d'Entremont#
1/30	Windsor	100+	T. Collins
2/13	Gardner	1	T. Pirro
2/13	Royalston	60	H. Allen
2/13	Barre F.D.	18	M. Lynch
2/21	Templeton	12	T. Pirro
2/25	Northfield	100+	M. Taylor
2/27	Petersham	15	W. Lafley

HOW TO CONTRIBUTE BIRD SIGHTINGS TO BIRD OBSERVER

This publication prints monthly compilations of reports of birds seen in Massachusetts and offshore waters. Space does not permit the inclusion of all material submitted. However, bird sightings sent to Bird Observer are archived at the Massachusetts Audubon Society. Our compilers select and summarize for publication sightings that provide a snapshot of birdlife during the reporting period. These sightings include early and late dates for migratory species, maximum counts of migrants and some common birds, and species found beyond their normal ranges.

Sightings for any given month must be reported in writing by the eighth of the following month. Send to Bird Sightings, Robert H. Stymeist, 94 Grove Street, Watertown, MA 02172. Please organize reports by month and by species in current A.O.U. checklist order. Include name and phone number of observer, common name of species, date of sighting, location, number of birds, number of observers, and information relevant to age, sex, morph, etc.

Species on the Review List of the Massachusetts Avian Records Committee, as well as species unusual as to place, time, or known nesting status in Massachusetts should be reported promptly to the Massachusetts Avian Records Committee, c/o Wayne Petersen, Massachusetts Audubon Society, South Great Road, Lincoln, MA 01773.



LIST OF ABBREVIATIONS

ad	adult
alt	alternate
b	banded
br	breeding
dk	dark (phase)
f	female
fl	fledged
imm	immature
ind	individuals
juv	juvenile
loc	location
lt	light (phase)
m	male
max	maximum
migr	migrating
n	nesting
ph	photographed
pl	plumage
pr	pair
S	summer (1S = first summer)
thr	throughout
vid	videotaped
v.o.	various observers
W	winter (2W = second winter)
w/	with
yg	young
#	additional observers
A.A.	Arnold Arboretum, Boston
A.P.	Andrews Point, Rockport
A.Pd	Allens Pond, S. Dartmouth
Arl.	Arlington
B.	Beach
B.I.	Belle Isle, E. Boston
B.R.	Bass Rocks, Gloucester
Cambr.	Cambridge
C.B.	Crane Beach, Ipswich
Corp. B.	Corporation Beach, Dennis
C.P.	Crooked Pond, Boxford
Cumb. Farms	Cumberland Farms, Middleboro-Halifax
E.P.	Eastern Point, Gloucester
F.E.	First Encounter Beach, Eastham
F.H.	Fort Hill, Eastham
F.M.	Fowl Meadow, Milton
F.P.	Fresh Pond, Cambridge
F.Pk	Franklin Park, Boston
G40	Gate 40, Quabbin
G45	Gate 45, Quabbin
H.P.	Halibut Point, Rockport
H.	Harbor
I.	Island
L.	Ledge
M.V.	Martha's Vineyard
Mt.A.	Mount Auburn Cemetery, Cambridge
Nant.	Nantucket
Newbypt	Newburyport
P.I.	Plum Island
Pd	Pond
P'town	Provincetown
Quab.	Quabbin Reservoir
Res.	Reservoir
R.P.	Race Point, Provincetown
S.B.	South Beach, Chatham
S. Dart.	South Dartmouth
S.N.	Sandy Neck, Barnstable
Stellw.	Stellwagen Bank
Worc.	Worcester
Barre F.D.	Barre Falls Dam, Barre, Rutland, Oakham
ABC	Allen Bird Club
BBC	Brookline Bird Club
BMB	Broad Meadow Brook, Worcester
CCBC	Cape Cod Bird Club
DFWS	Drumlin Farm Wildlife Sanctuary
DWMA	Delaney Wildlife Management Area Stowe, Bolton, Harvard
DWWS	Daniel Webster Wildlife Sanctuary
EMHW	Eastern Massachusetts Hawk Watch
GMNWR	Great Meadows National Wildlife Refuge
HRWMA	High Ridge Wildlife Management Area, Gardner-Westminster
IRWS	Ipswich River Wildlife Sanctuary
LBS	Local Bird Survey
LCES	Lloyd Center for Environmental Studies
MARC	Massachusetts Avian Records Committee
MAS	Massachusetts Audubon Society
MBO	Manomet Observatory
MBWMA	Martin Burns Wildlife Management Area, Newbury
MDFW	MA Division of Fisheries and Wildlife
MNWS	Marblehead Neck Wildlife Sanctuary
MSSF	Myles Standish State Forest
NAC	Nine Acre Corner, Concord
NBC	Needham Bird Club
NEHW	New England Hawk Watch
ONWR	Oxbow National Wildlife Refuge
Pont.	Pontoosuc Lake, Lanesboro
SRV	Sudbury River Valley
SSBC	South Shore Bird Club
TASL	Take A Second Look Harbor Census
USFWS	US Fish and Wildlife Service
WBWS	Wellfleet Bay Wildlife Sanctuary
WMWS	Wachusett Meadow Wildlife Sanctuary

* Indicates a species on the review list of the Massachusetts Avian Records Committee (MARC). Because these sightings are generally published before the MARC votes, they normally have not been approved by the MARC. The editors publish records that are supported by details, multiple observers, or both.

ABOUT THE COVER

Piping Plover

In Massachusetts, the Piping Plover (*Charadrius melodus*) is a pale waif of sandy coastal and island beaches that arrives in late March, signaling that spring has really begun. It is one of several small "ringed" plovers sporting a single breast band of black. It has light gray upperparts, a short, stout bill, a black band from eye to eye across its crown, and has distinctive orange legs. Semipalmated Plovers are similar in size but have much darker backs; the rare Snowy Plover is also light colored, but smaller and has dark legs; Wilson's Plovers have conspicuously long, heavy bills. The Piping Plover is the only small plover to show a white rump and upper tail coverts in flight. In winter the crown stripe and neck ring are muted or absent; juveniles resemble winter-plumaged adults.

Two subspecies, the coastal *C. m. melodus*, and interior *C. m. circumcinctus*, have been established, but the validity of these taxonomic designations is disputed by many authorities, and current data support a monomorphic status for the species. Piping Plovers breed along the east coast from the Gulf of Saint Lawrence south to North Carolina, and inland birds breed in Great Plains wetlands and river margins east through the Great Lakes. They winter in the Greater Antilles and along the coast from North Carolina south to Yucatan.

In Massachusetts, the Piping Plover was considered an uncommon and declining breeder, and a common to uncommon migrant. Now there are over 500 pairs, and the population is still increasing according to reports from Monomoy, South Beach, Plum Island, and Coast Guard Beach. Most have departed by mid-September. Fall counts of more than 50-75 birds are quite uncommon, and rarely the species is encountered into early winter. Piping Plovers are seasonally monogamous, but occasional polyandry has been reported. They produce a single brood but may renest if their first nest fails. Along the coast they nest on sandy beaches, often with Least or Common terns. In the interior they nest on alkali flats or sandflats. The Piping Plover call is typically a clear whistled *peep-lo*. Their nuptial displays include courtship flights by the male over his territory; he utters the long series of *pipe-pipe-pipe* that gives the species its common name. The male also performs a nest-scraping display accompanied by higher and more rapid piping calls. Piping Plovers are highly territorial, but may nest semi-colonially with nesting territories clumped. Territorial birds utter *bec-bec-bec* calls as they charge intruders, legs bent, feathers fluffed, with head drawn back into the body, boldly displaying their black neck band. Males may run side by side along mutual territorial boundaries, or face each other, head-bobbing.

Nesting begins in May, with the nest a simple scrape in the sand. The pair lines their nest in a ritualized "stone-tossing", with tails in the air, bodies tilted, flicking bits of shell and tiny pebbles into the nest-scrape. The usual clutch is four highly cryptic brown splotched buff-colored eggs. Both parents develop brood patches and share incubation duties for about four weeks. The chicks are precocial, leaving the nest several hours after

hatching. Several days later the family may move away from the nest area but usually remains in the nesting territory. The parents also share brooding responsibilities. Chicks are capable of sustained flight in 3-4 weeks. They are cryptically colored and respond to adult alarm calls by lying flat and motionless on the sand. Parents guard their brood and will perform injury-feigning distraction displays when potential predators approach. The young may stay with the adults until the fall migration.

Piping Plovers are visually feeding "peck-and-run" foragers. Characteristically they make short, quick runs followed by rapid pecks. They may vibrate an extended foot in wet sand, presumably to stir quiescent invertebrates into motion. They forage alone or in small groups. Their diet consists primarily of marine invertebrates washed ashore, or terrestrial invertebrates on the beach sand or tide rack. Marine worms, crustaceans, insects, and small molluscs are commonly taken.

The Piping Plover population in Massachusetts is experiencing a welcome rebound from a significant overall decline that has resulted in endangered species status in the USA and Canada in the interior, and threatened status elsewhere. The causes of the declines are largely anthropogenic, and include habitat alteration, development, and disruption of breeding by beach vehicular traffic, dogs, and people on the beaches. Predation of eggs and chicks by dogs, foxes, gulls, and crows is a significant factor in limiting population size. Conservation strategies, exemplified by the efforts of the Massachusetts Audubon Society, have included predator control, building exclosure fences around nests, sign-posting, conservation patrols, and closing beaches during breeding season. Although the latter has produced strong negative reaction among some constituencies, such efforts have increasingly proven to be effective. The total world population of Piping Plovers is probably less than 2500 birds, and it appears that without management their survival is problematic. We certainly hope that humans can manage to figure out acceptable ways to share "their" beaches with these beautiful little plovers, so that they can continue to be harbingers of spring. *William E. Davis, Jr.*

About the Cover Artist

Rob Gough works as a freelance illustrator and graphic designer in Newbury, Massachusetts. His love for drawing has grown alongside his love for nature and a desire to record his observations in the field. Today his artwork appears in a variety of media including environmental education materials, advertisements, and corporate logos. Rob can be reached at Remex Graphex: 978-462-8839 (remex@mediaone.net).

Rob also works full-time for the Massachusetts Audubon Society as the Education Program Coordinator for the Joppa Flats Education Center in Newburyport. He leads natural history field trips along Massachusetts' North Shore, as well as out-of-state and international trips.

The Piping Plover drawing appearing on the cover was created as a T-shirt design and donated to The Nature Conservancy's Endangered Beachnesting Bird Protection Program in southern New Jersey, where Rob was raised. The T-shirts were sold to raise funds to support the protection of the critical breeding habitat needs of these birds.

AT A GLANCE

April 2000

Photograph by Carole D'Angelo

For the second issue in a row, the At A Glance photo depicts a seemingly headless bird! Unlike February's photo of a young Red-tailed Hawk, however, the apparent "headlessness" of the bird in the picture is due not so much to the angle of the image in the photograph as to the actual structure of the bird. With this as a clue, an obvious first point to consider when trying to identify the pictured bird is to think of relatively large birds that typically appear short-necked and blunt- or round-headed. One group of birds that should immediately come to mind is owls — those quintessential nocturnal hunters that go hoot in the night! Most owls are also characterized by having relatively short tails (the Northern Hawk Owl is an exception), fairly long, rounded wings, and muted brown feather patterning. Some species also have distinct feather tufts on the head (e.g., Great Horned Owl).

Clearly, the bird in the April photograph has the features described above, so it is fair to assume that the bird is some species of owl. Furthermore, since the photograph was apparently taken with natural light, not flash, it was undoubtedly taken during the daytime or at least not at night. This is an important clue, since a well-known fact about owls is that most species do most of their hunting under a cloak of darkness, not in bright daylight. The owl species most apt to be seen foraging in the daytime in Massachusetts are the Snowy Owl and Short-eared Owl; however, it is also possible to occasionally encounter a diurnal hunting Barn Owl, Great Horned Owl, Barred Owl, or Long-eared Owl. Deep snow, extreme cold, or when they have young are conditions that apparently encourage these last four species to sometimes hunt in the daytime. Since the

owl in the photograph is hunting over snow, the reader cannot automatically preclude any of these occasional daytime hunters.

Considering this list of owl possibilities, several can at once be eliminated. The Snowy Owl, even the plumage of the duskiest immature, would possess an overall whiter background color and would seldom show such extensive barring on the tail. Similarly, a Barn Owl would normally appear much lighter in dorsal coloration, would show a different and less intricate feather patterning on the wing coverts, and would appear to have a longer neck and much longer legs, even from the angle provided by the photograph. If the photo was depicting the powerful and hefty Great Horned Owl, the bird would appear more uniformly dark above, and it would probably be possible to see the conspicuous feather tufts on the head, even though these are somewhat drawn back in flight. A Barred Owl would, like the Great Horned Owl, appear broader winged, darker above, and would show more obvious white spotting on the wing coverts. Also, Barred Owls tend to be forest owls that do most of their foraging in wooded situations, not open grassy areas as suggested by the surroundings in the photograph.

With the above assumptions in mind, identification possibilities for the owl in the photo are reduced to either Short-eared Owl or Long-eared Owl — two owl species that are very similar and easily confused in flight! Both of these owls forage in the open, typically over grassy meadows or marshes — habitats often shared and similarly hunted by Northern Harriers during daylight hours. Unfortunately, many birders are seemingly unaware of just how similar these two medium-sized owls can be in flight, despite some rather distinct flight differences that help to separate them. Since behavior is of no use in the photograph, the reader is left only with a dorsal view to work with. Obviously, the "long ears" and dark facial disks of the Long-eared Owl are not visible in the picture, so other clues become important.

Fortunately, because of the sharp quality of the photo and the strong illumination provided by the snow beneath the bird, there are two important features that are obvious in the picture that might otherwise not be able to be seen. One of these is a noticeably pale buff or whitish trailing edge to the secondaries. The other is prominent barring on the spread tail, with at least four distinct and widely spaced bands visible in the picture. These two features make it possible to conclusively identify the owl in the photo as a Short-eared Owl (*Asio flammeus*). Long-eared Owls do not ordinarily show a contrasting pale trailing edge to the secondaries in flight, and their tails are more finely and uniformly barred, thus giving a less obviously banded pattern to the tail. In flight, Short-eared Owls have a more buoyant, floating, and erratic flight than Long-eared Owls; Long-ears are more prone to making fairly sharp turns in flight following several deep wing strokes. In general, they appear less "moth-like" than Short-eared Owls.

Short-eared Owls are regular early spring and late fall migrants in Massachusetts, especially along the coast. Small and variable numbers also winter in coastal areas and in areas where there are extensive fields and lots of Meadow Voles for them to feed on. The Short-eared is state endangered as a breeding bird in Massachusetts, with the few remaining nesting pairs located primarily on the offshore islands of Tuckernuck, Nantucket, and Martha's Vineyard.

Carole D'Angelo took this photograph of a Short-eared Owl at Parker River National Wildlife Refuge. *Wayne R. Petersen*

AT A GLANCE

Photograph by Wayne R. Petersen

Can you identify this bird?
Identification will be discussed in next issue's AT A GLANCE.

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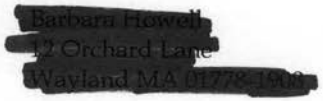

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