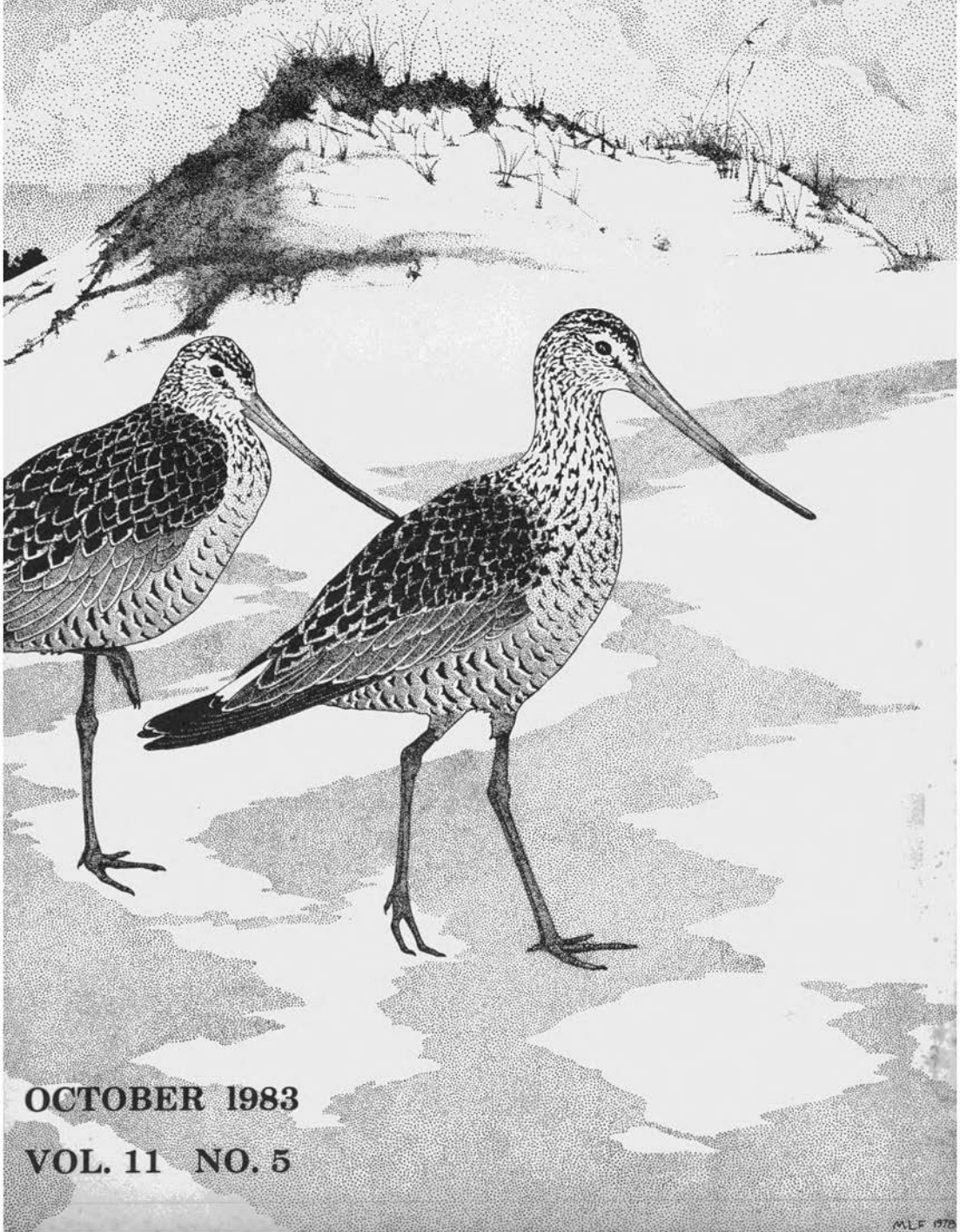


BIRD OBSERVER

OF EASTERN MASSACHUSETTS



OCTOBER 1983

VOL. 11 NO. 5



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TIME TO RENEW

You will find a BIRD OBSERVER 1984 renewal form tucked into the front of this issue. We would very much appreciate it if you would send in renewals as soon as possible. Thank you.

The staff of Bird Observer is saddened to announce the death of Louise DeGiacomo on October 9, 1983. Louise was active in the early planning stages of this publication and continued as a member of the production staff from the beginning nearly twelve years ago. She will be missed.

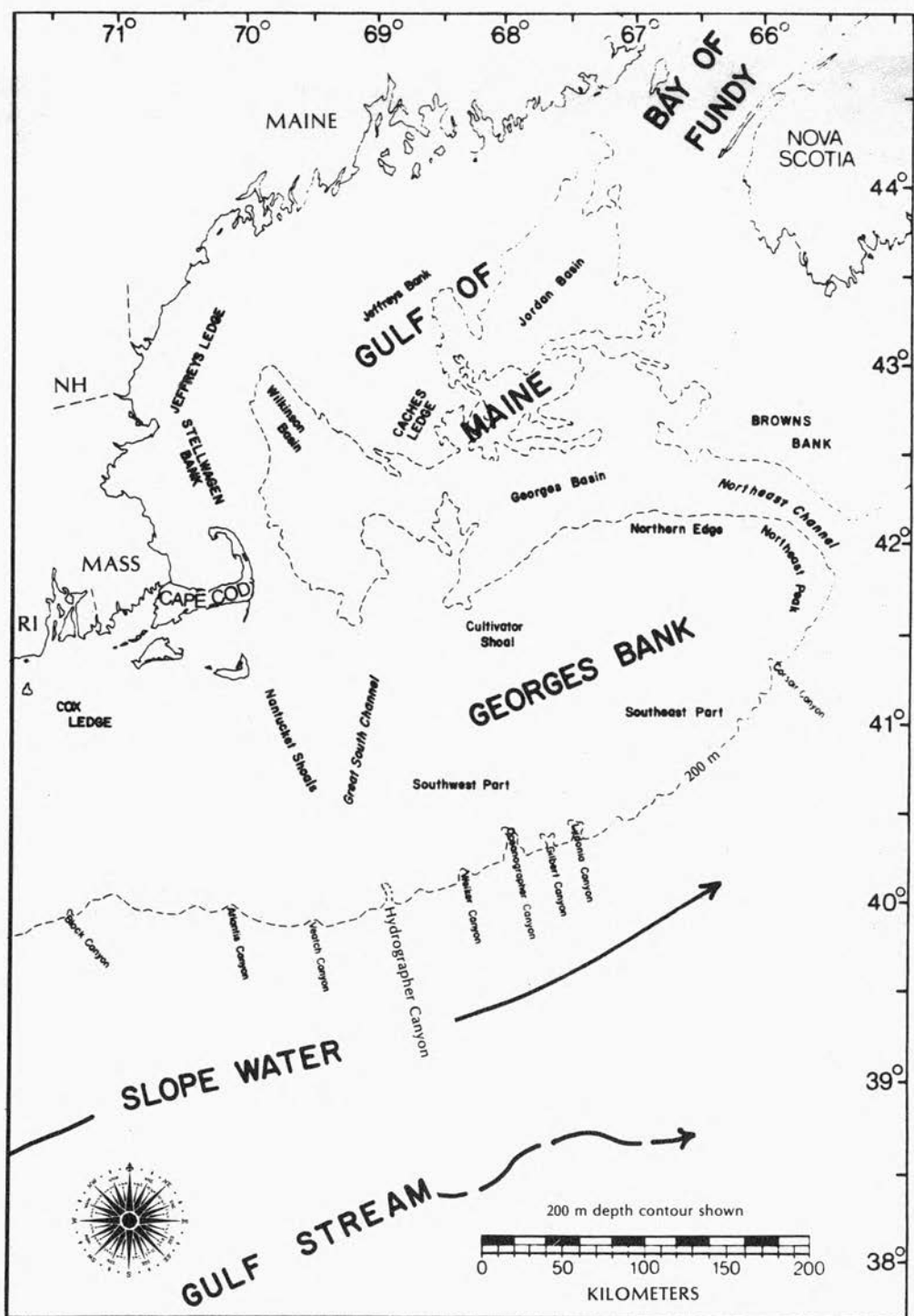
WHERE WE WENT: PELAGIC TRIP TO GEORGES BANK
SUNDAY TO TUESDAY, 21-23 AUGUST 1983

by George W. Gove, Winchester

Forty-two birders plus the crew of the "Yankee Capts." left Gloucester at seven P.M. on Sunday evening headed for Georges Bank and Hydrographer Canyon. We sailed with a beautiful sunset and a nearly full moon on a warm and exceptionally clear night. We were assigned bunks by a random lottery process in three compartments below. The first compartment was about midships and got all of the engine noise and traffic to the other compartments; the second was forward and was probably the best as there was minimal noise, and it was well ventilated; the third was all the way forward in the bow and was probably a little cramped. There were fourteen bunks in the middle compartment arranged perpendicular to the keel in two- and three-high stacks. Bunks in the other two compartments were arranged both parallel to and perpendicular to the hull. We all stowed our gear in our assigned bunks and then went on deck to leave Gloucester.

After we had been out a couple of hours, we had an orientation program conducted by Dick Veit (birds and hydrogeography) and Wayne Petersen (whales, food items, and related topics) that was extremely well done. Both these leaders deserve much praise for the organization and conduct of the trip. It was difficult to hear the program over the engine noise, but this problem was solved the next night by cutting the engines to idle. [Another solution, for the future, would be to hold the orientation program on shore in the afternoon before the start of the trip.] After the program, most of us hit the sack and slept fitfully. Most people were up again by five A.M. in time to witness a beautiful sunrise preceding an equally beautiful day.

We didn't see many birds at the start, only an occasional Wilson's Storm-Petrel, a species that proved to be the most abundant during the entire trip. How many of these birds are offshore here is certainly open to conjecture, but it is probably safe to say that there must be many thousands. When we got over the canyon, we put out a slick of fish oil and suet chum; where there had been a few dispersed Wilson's Storm-Petrels, there were now a hundred or more, and they moved in very quickly. A few other birds also moved in, but the majority were Wilson's, so we moved to another location to lay out another slick. While moving from the first site to the next, a whale blow thought to be that of a Sperm Whale was spotted, and this caused considerable excitement. Indeed, it did prove to be a Sperm Whale, a "life" mammal for most of us. Also along here we sighted Risso's Dolphin (Grampus griseus), another "lifer" for most of us.



When we got to the second location and put out the chum, again Wilson's Storm-Petrels came out of nowhere and flew up and down the slick, stopping to feed by pattering along the surface and even standing on the water for a few moments with their wings outstretched but scarcely flapping. The yellow webs of their feet could easily be seen as they dangled their long legs and danced on the water. It was at this point that a lighter bird was noted among the feeding storm-petrels, and Benton Basham called out "White-faced Storm-Petrel" for the 680th species of his quest for "703 in '83." Everyone aboard got a good view of the bird as it hopscotched along the water and flew with stiff wingbeats much like a Spotted Sandpiper. We found and re-found this bird several times so that everyone had a chance to see it in good light. Much to our surprise, we sighted a White-faced Storm-Petrel (Frigate Petrel), the same or another bird, at another location later in the day. Needless to say, the bird was a life bird for most of us.

The rest of the day was spent moving from one location to another seeing many birds and mammals. Among the whales were the aforementioned Sperm Whale and Grampus Dolphins plus Pilot Whales, Finbacks, and Bottle-nosed Dolphins. We also saw two Hammerhead Sharks, Basking Shark, Ocean Sunfish, and Swordfish. We traveled over the canyon out to the one thousand-meter depth, and the most common bird was Wilson's Storm-Petrel. Among other seabirds sighted were Cory's, Greater, Manx, and Audubon's shearwaters, the one or two White-faced Storm-Petrels, Leach's Storm-Petrels, Pomarine Jaeger, Common and Black terns, a few Great Black-backed and Herring gulls, and both Red and Red-necked phalaropes. Shorebirds seen included a Whimbrel flying in a northerly direction, Lesser Yellowlegs, Semipalmated Sandpipers, Semipalmated Plover, and Solitary and Baird's sandpipers. The land birds flying there included Northern Waterthrush, Eastern Kingbird, and Tree Swallow.

In the evening we headed north, and Wayne went over what we had seen that day as well as parts of the previous night's program; the engines were cut so this time we could all hear. We then collapsed in our bunks, fatigued from the long day and all the excitement, while the boat continued northward on automatic pilot. At about three A.M., we anchored somewhere in Great South Channel southeast of Nantucket Shoals until about seven A.M. We had heard a weather forecast that night predicting a front coming through and expected rain and wind, but it didn't materialize, and we awoke to a gentle rocking and overcast skies. In fact, falling asleep that night had been like being gently rocked in a cradle, and I had slept "like a log" as did most of the others. As we started north Tuesday morning, the skies gradually cleared, and a fresh northwest wind came up which made for choppy four- to eight-foot seas but not really very rough in that size boat. By afternoon, we were in the lee of Cape Cod, and the seas calmed; from Provincetown to Gloucester, the sea was as calm as glass, and the day was warm and sunny.

Birds were generally scarce on the northerly leg to Provincetown, although we saw the ever present Wilson's Storm-Petrels and encountered several flocks of feeding terns and other birds, highlights of which were Leach's Storm-Petrel, Manx, Audubon's, and Sooty shearwaters, Pomarine and Parasitic jaegers, and Roseate and Black terns. We also encountered schools of fish, located by the boat's fish-finder, and the crew stopped to catch a number of cod and a couple of bluefish. We had the cod for supper in a delicious chowder. It is appropriate here to say that the crew was very solicitous of our wants, particularly in chasing and finding birds and mammals, and the boat was very clean and in good shape when we boarded. The crew and the quality of the boat contributed immensely to the success of the trip. We had the free run of the boat, and the crew was always ready to answer any questions.

Around Provincetown and in Cape Cod Bay, we encountered several large flocks of feeding terns, including many Roseates, and schools of feeding bluefish. We also saw from twelve to twenty Humpback Whales who put on quite a show breaching, flipper-slapping, lobtailing, and diving. A few individuals were identifiable by their fluke patterns. We sailed into Gloucester and the Annisquam River about seven P.M., dead tired but completely happy with the success of our venture.

GEORGE W. GOVE, an environmental biologist by profession, is an enthusiastic and expert shore birder regularly sighted at Plum Island and along the north shore. He is a member of Nuttall Ornithological Club and has worked as a member of the Records Staff of BOEM since 1981.

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WHY GO TO GEORGES BANK AND HYDROGRAPHER CANYON?

Georges Bank is a submarine plateau that roughly coincides with the eastern edge of the Continental Shelf and which is located approximately 100-150 miles east and southeast of Massachusetts. Without describing in detail all the bathymetric, hydrographic, and oceanographic parameters that make Georges Bank so critical to marine organisms, several key factors deserve to be mentioned. First, Georges Bank is bordered on three sides by waters of depths greater than 150 meters compared to depths of 40-100 meters on the bank itself. In the deep water off the bank nutrients such as nitrates and phosphates that are critical to phytoplankton (tiny floating algae) are generally below the depth of the sun's penetration. Here they are unable to serve as marine fertilizer for the phytoplankton. In addition, there is a complex water circulation pattern in the Gulf of Maine to the north and in the Gulf Stream-affected waters to the south. This creates a clockwise gyre over Georges Bank. This gyre draws the nutrient-rich deep water onto the bank. Then, in the well-illuminated shelf waters over Georges Bank, phytoplankton seasonally bloom, with particularly high productivity occurring in mid- to late summer. This bloom forms the base for a food pyramid that includes a myriad of zooplankton species, fish, and finally, marine birds and mammals. The effect of the mixing of the shallower shelf water and the deeper water off the Continental Shelf, called slope water, is often most profound at the edges of the submarine canyons along the southern border of Georges Bank, which roughly coincides with the 200 meter isobar.

Besides the high productivity over Georges Bank, a second factor that is critical to the seasonal concentration of marine birds is the occurrence of oceanographic fronts. Fronts are boundary areas between different water masses. When waters of differing temperatures and salinities come together, narrow bands, often detectable by lines of floating surface debris or differences in water color, form at the frontal interface. South of Cape Cod a frontal area exists that roughly corresponds to the southern edge of Georges Bank. This front occurs where cool shelf waters meet warmer slope waters. The result of such a frontal area is high biological productivity which is essential to concentrating marine birds and mammals. This frontal effect can be particularly dramatic when warm water eddies drift north from the Gulf Stream into slope water. This phenomenon is most apparent off southern New England in the vicinity of the southwest portion of Georges Bank at locations such as Hydrographer Canyon.

A third feature that makes Georges Bank so important to marine birds is the human artifact created by commercial fishing. Due to the concentrations of commercially valuable fish in the area, the presence of major fishing operations often attracts large numbers of scavenging sea birds. It is around these fishing fleets that major concentrations of shearwaters, storm-petrels, and gulls occur and where we are most apt to encounter skuas.

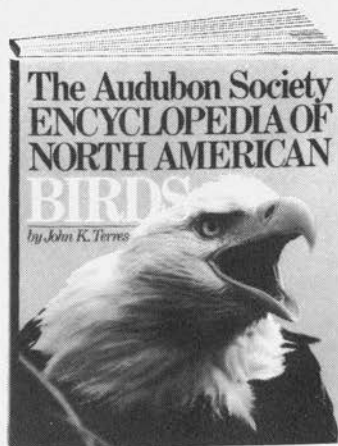
Wayne R. Petersen

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ALTITUDE OF BIRD MIGRATION

by Paul Kerlinger, University of Calgary

One of the most commonly asked questions among birders is, "How high do birds fly during migration?" A simple answer cannot be given, for the altitude of bird migration is as variable as the types of birds that migrate. The best answer is one that relates altitude of migration to the type of bird, the time of day, the geographic and topographic situation, and the weather. This type of conditional answer may not be pleasing, but it acknowledges the complexity of migration. In this paper I will attempt to show how atmospheric phenomena and geographic-topographic setting can influence the altitude of migration for various types of birds. I will also present a brief (and selective) review of the literature on the altitude of bird migration.

Effects of Atmospheric Phenomena on Migration.

Birds, like aircraft, are subject to the whims of the atmosphere. The atmosphere is rarely, if ever, still. There is almost always horizontal wind as well as vertical turbulence. Anyone who has flown extensively in airplanes knows how uncomfortable the atmosphere can become. Even jumbo-jets can be tossed about by strong turbulence. The structure and timing of atmospheric turbulence, horizontal wind, temperature, and oxygen concentration all influence the altitude of bird migration.

Temperature and oxygen concentration represent two potential physiological constraints that might limit the altitude of bird migration. Both temperature and oxygen partial pressure become lower with increasing altitude. [Partial pressure is a standard measure for expressing the concentration of any component of a gaseous mixture.] At altitudes greater than 2000 meters, humans usually show signs of oxygen stress when engaged in strenuous exercise. Birds, however, do not show signs of oxygen stress during flight at altitudes up to at least 3000 meters. House Sparrows flown in wind tunnels at Duke University with conditions simulating 3000 meter altitudes were not stressed at all (Tucker, 1968). Other studies at the Duke University Laboratories have confirmed that birds are not oxygen-stressed at high altitudes.

What little is known about the temperatures that birds can tolerate during flight suggests that high temperatures may be more inhibiting than the lower temperatures that are experienced by birds flying at 3000 to 4000 meters. Starlings flown in wind tunnels at various temperatures showed marked respiratory water loss at temperatures greater than 28° C. (Torre-Bueno, 1976, 1978). Evaporative water loss presumably lowers body temperatures below stressful levels. Larger birds that use powered (flapping) flight and have low surface area to volume ratios may experience heat stress. I have seen loons migrating at low altitudes along the New Jersey coast

fly with their mouths open when the air temperature exceeded 30° C. These same migrants frequently fly at altitudes above 1000 to 2000 meters during extended overland flights (Kerlinger, 1982). The lower temperatures at these altitudes may reduce heat stress and subsequent evaporative water loss. Thus, low temperatures and low oxygen partial pressures at altitudes up to 3000 or 4000 meters probably do not limit the altitude of bird migration.

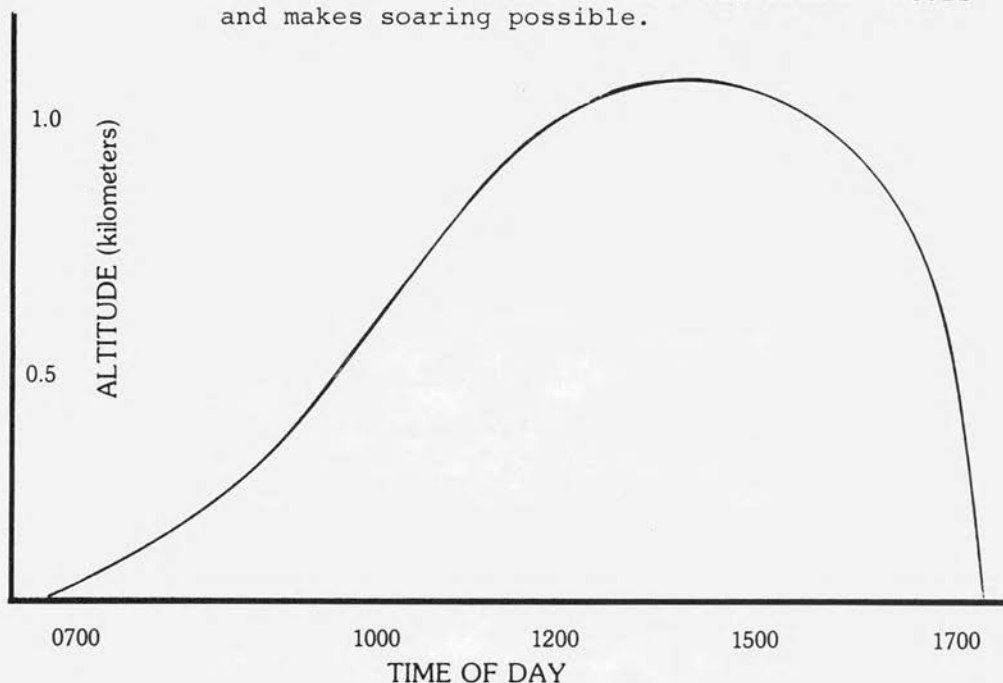
Horizontal wind and vertical turbulence are undoubtedly the most important factors affecting the altitude of bird migration. Vertical turbulence, also known as atmospheric convection or thermal convection, follows a regular circadian cycle, with greatest turbulence (instability) occurring at or near midday and the least turbulence (stability) at night or in the early morning. The difference between surface and upper air temperatures determines how much, how strong, and how quickly convective turbulence develops. When the surface is heated to higher temperatures than the air above the surface, the warmer, more buoyant surface air rises and creates an unstable layer.

Thermal convection usually makes riding in airplanes uncomfortable and may adversely influence birds using powered flight. Conversely, without thermal convection, soaring birds cannot soar for extended periods. Usable thermal convection in the northeastern United States is normally limited to the first 1300 meters above ground level, while on the Great Plains and over the Rocky Mountains, thermals rise to over 2000 to 4000 meters. Early in the day or near the surface any time during the day, convection is often unstructured and not usable by soaring migrants. Later in the day, convective elements rise to higher altitudes and become more structured. An example of the development of convective depth and the altitude to which thermals can rise is shown in Figure 1. Convective development is most rapid between 0800 and 1100 hours, but thermals do not cease forming until after 1700 hours or when weather conditions change, e.g., to total cloud cover. The base of cumulus clouds is a rough indicator of the convective depth, but more precise methods have been devised to determine convective depth and thus to predict the altitude of migration of soaring birds (Cipriano and Kerlinger, 1984). Heavy cloud cover (cumulus-stratus), generally indicative of instability, can also be a factor in determining the altitude of migration.

On most days some usable convection occurs, but sometimes the air is stable and devoid of thermals. Stable conditions occur when air above the surface is warmer than surface air. This phenomenon, known as inversion, is poor for soaring birds but makes for very smooth airplane flights.

Before leaving the topic of vertical turbulence, I should make it clear that thermal convection is not the only form of vertical air currents used by migrant birds - just the most common one. There are several other forms of updrafts that are not created by typical heating of the earth's surface, but by

Figure 1. Relation between time of day and convective depth. For a given time of day, altitudes below the curve are those where thermal convection occurs and makes soaring possible.



wind, by combinations of solar heating and wind, and by differential temperatures between bodies of water and adjacent land. Wind updrafts, probably the second most common source of vertical air currents used by migrants, are the result of wind deflected vertically off ridges, hills, tree rows, bridges, etc. The altitude of migrants using such updrafts is often below 100 to 300 meters. Wind deflected by ridges or hills can be augmented by thermal currents to create very powerful updrafts. When this occurs at locations like the Kittatiny Ridge in New Jersey or Pennsylvania, a long, linear and continuous thermal can form and allow soaring migrants to glide continuously without circling for many kilometers. The last type of vertical turbulence mentioned here is the sea breeze updraft. Created by a difference in temperature between the shore and the cooler water, these updrafts are restricted to coastlines and are presumably only useful when the coastline is aligned with the preferred direction of flight.

Horizontal winds also vary with altitude above the surface. At higher altitudes winds usually become stronger and change direction. This variation with altitude gives a migrant a choice of wind speeds to fly in. The gradient of wind speed with respect to altitude is usually greatest within the first fifty meters above the surface but continues upward for thou-

sands of meters. Thus, a bird flying into headwinds should fly lower than one flying with tailwinds. Changes of wind direction with altitude, called wind shears, can also influence the altitude at which birds fly. Directional changes of up to 180 degrees can sometimes be found within the first 1000 to 2000 meters above the surface. For instance, in spring on the Gulf coast of Texas, surface winds are usually from the southeast, while winds at altitudes greater than 2000 meters are from the southwest or west. A bird flying to the northwest would maximize its ground speed by flying at altitudes where winds are following, i.e., well below 2000 meters.

To summarize, both horizontal and vertical components of wind can strongly influence the altitude of bird migration. The vertical wind component in the form of thermal convection and other updrafts is the most important determinant of the altitude of migration of soaring birds. The role of vertical turbulence in determining the altitude of migration of powered migrants is not clear, but it is likely that strong turbulence makes level flight difficult. The effect of horizontal winds on powered migrants is clearer: e.g., increased energy expenditure when migrating in opposing winds. Soaring migrants probably do not experience this effect, but they do realize slower ground speeds or difficulty in maintaining their course. Because wind direction and speed vary with altitude, a bird should carefully select the altitude at which it migrates in order to maximize ground speed, which in turn minimizes time and amount of energy necessary for migration. A bird that is able to maximize ground speed may have a selective advantage over birds that do not use such a strategy.

Altitudes of Major Categories of Migrants.

So far we have seen that atmospheric phenomena affect migrating birds in predictable ways and that there are good reasons for birds to fly in particular altitudinal bands or to fly only at times when atmospheric phenomena reduce the energy necessary for migration. In this section I shall present a brief comparative review of what is known about altitudes used by birds during migration including whether or not the migrants involved have demonstrated a tendency to select altitudes in accordance with variable conditions. This review is divided into subsections corresponding to three major migrant categories based upon time of day and principal mode of flight, namely, nocturnal migrants, soaring diurnal migrants, and diurnal migrants using powered flight. Some groups of birds migrate during both day and night. For these groups, the differences between the nocturnal and diurnal altitudes will be noted. Altitudinal ranges used by different groups are summarized in Table 1. Where altitudinal ranges are given, data were gathered with radar (of varying types) unless otherwise specified.

Table 1. Summary of the altitudes of migrating birds.
See text for references.

TYPE OF BIRD	TIME	LOCATION	ALTITUDE (METERS)
Passerine	Night	Southeastern U.S. & elsewhere	<700
Passerine	Day	Gulf of Mexico	>800
Passerine	Day	North Atlantic Ocean	>700 - >3000
Passerine	Day	South & Northeastern U.S.	<100 - 300 ?
Loons	Day	Eastern New York (over land)	>1000
Hawks	Day	Eastern U.S. (ridge)	<100 - 300
Hawks	Day ^a	Texas, New York, New Jersey	<300 - 400
Hawks	Day ^b	Texas, New York, New Jersey	<500 - >1000
Cranes	Day	Sweden	<1500
Swallows & Swifts	Day	Texas, New Jersey, New York	<600 ?
Unidentified birds	Day	Eastern New York	>2000 - >3000

a = before 1100 hours; b = after 1100 hours.

Nocturnal Migrants.

Birds that migrate at night can conveniently be categorized by the echo they leave on a radar screen. Shorebirds and ducks make large, fast-moving echos on radar and generally migrate at higher altitudes than do passerines, which leave small, slow-moving echos. The altitude of more than 90% of nocturnal migration studied in the southeastern United States was below about 700 meters (Able, 1970). Radar studies in other locales have yielded similar altitude ranges for passerines migrating at night (Gauthreaux, 1972; Bellrose, 1966, 1971). A few studies have reported slightly higher migration of passerines at night (Lack, 1960). Interestingly, the birds studied by Able (1970) were flying downwind (Gauthreaux and Able, 1970), so selection of altitude may not have been critical for these birds. A study conducted in the Alps in Switzerland (Bruderer and Steidinger, 1971) showed that the altitudes selected by passerine migrants corresponded to the altitudinal band with winds most advantageous for migration. Not many studies have shown this type of altitudinal selection. An alternate strategy for dealing with winds is to migrate only when winds favor a swift and energetically efficient flight. The strategy of migrating on nights when winds are best for migration has been demonstrated for numerous groups of birds (see Lack, 1960 and Richardson, 1978 for reviews).

The question of why passerines migrate at night has been asked frequently. Of the many hypotheses proposed, avoidance of predation and use of daylight hours for foraging have been favored. A third hypothesis considers atmospheric turbulence as a factor. Because passerines fly at such slow air speeds, they cannot maneuver easily in strong winds. Reduced turbulence at night may allow easier maneuvering or less energy

consumption during flight. None of the proposed hypotheses has been adequately tested.

Soaring Diurnal Migrants.

Hawks and other soaring migrants (pelicans, swallows, some gulls, cranes, etc.) depend largely upon thermal convection to gain altitude between periods of gliding flight. Thus, they are rarely in level flight but are mostly either climbing or descending. For such birds, determining and interpreting mean altitude of flight and some measure of variance is difficult. These measures must not be considered comparable to similar measures for migrants that use level (non-soaring) flight. Migrating hawks using wind-generated or thermal updrafts along ridges often maintain level flight, usually less than 100 meters above the level of the ridge (Broun, 1949). During flight over water or over land where no updrafts are available, soaring birds must often resort to level, powered flight. Most Peregrine Falcons, Ospreys, and other hawks making short-distance water crossings against strong headwinds fly within one to five meters of the water (Kerlinger, unpublished data).

Because soaring birds rarely use powered flight, the maximum altitude of flight must be a function of convective depth (Cipriano and Kerlinger, 1984). Convective depth can vary with time of day (as shown in Figure 1), geographic or topographic location, and atmospheric conditions. Convective activity over water is uncommon and undependable. Thermals formed over water are also less powerful than those over land (Woodcock, 1975). In the northeastern United States convection over land seldom exceeded 1300 meters (Cipriano and Kerlinger, 1984 and Kerlinger et al., MS). Hawks migrating in New York, New Jersey, and south Texas mostly flew below 1300 meters and did most of their soaring between 300 and 900 meters (Kerlinger and Gauthreaux, MS, Kerlinger and Gauthreaux, MS, Kerlinger et al., MS). Mean altitudes were below 950 meters for all species in both spring and autumn. Vultures soaring over the Serengeti Plains of Africa seldom exceeded 2000 meters above ground level (Pennycuik, 1982). Although these birds were not migrating, they too were constrained by convective activity. Cranes migrating in Sweden did not exceed 2000 meters (Pennycuik et al., 1979). So, it seems that soaring birds consistently migrate within 2000 meters of the earth's surface.

The highest altitudes reported for migrating soaring birds come from Panama where migrating hawks have been reported to use "thermal streets" and convection in thunder clouds to attain altitudes of 3000 to 6000 meters (Smith, 1979, 1984). Birds flying in thermal streets (linear arrays of thermals) were observed from a sailplane, but unfortunately the altitudes of 3000 to 6000 meters were derived from direct visual observations and from occasional reports from pilots. Intensive radar-aided studies of the altitudes of soaring birds in the tropics, as well as on the Great Plains, would not only

confirm or refute these reports but would also add greatly to our knowledge of the overall picture of bird migration and atmospheric phenomena.

Altitudes of a few other soaring migrants are given in Table 1, but data are scarce. Few species of soaring migrants other than hawks and cranes have been studied, but the data that are available for birds like gulls, swifts, swallows and martins are within the range given for hawks.

Diurnal Migrants Using Powered Flight.

Practically all migrant species of birds, including many of the nocturnal migrants, do some powered-flight diurnal migration. In view of the large number of diurnally migrating birds, surprisingly few studies of altitude have been undertaken, and few empirical data are available.

Passerine migrants that migrate at night frequently fly in the daytime just after sunrise (called morning flight) or, of necessity, during long-distance water crossings. The predictable variation in altitudes used by these migrants as a function of the time of day and geography is extremely interesting. During morning flight (Gauthreaux, 1978; Bingman, 1980), large numbers of passerines can be seen flying at altitudes from only a few meters above the trees up to a few hundred meters, much lower than migrants flying in darkness hours earlier. This type of flight has been suggested to be either a means of compensating for wind drift from the previous night's flight (Gauthreaux, 1978) or a continuation of the migration (Bingman, 1980).

Many passerines and shorebirds make long-distance water crossings that necessitate flight during daylight hours. Fall migrants over the Atlantic Ocean (probably Blackpoll Warblers and shorebirds) have been tracked on radar at altitudes over 2000 to 4000 meters (Williams and Williams, 1978) during their two-to-four-day flights from northeastern North America to South America. Flight at higher altitudes presumably enables these birds to utilize stronger tailwinds and to lose less body water to evaporation because of lower temperatures. Slightly lower altitudes have been reported for passerines migrating over the Gulf of Mexico in the spring. Gauthreaux (1972) has observed passerine migrants over the Gulf with various radars in southern Louisiana. Daytime altitudes were higher than those at night and ranged from about 900 to 2000 meters. The changes in altitude when the sun rose were dramatic. Cloud cover also influenced the altitude of migrants over the Gulf. Birds flying on days with complete overcast tended to fly above the clouds (Gauthreaux, 1972).

Among the other birds that migrate during the day, some species, e.g., loons, migrate at high altitudes over land - above 1000 to 2000 meters (Kerlinger, 1982), while over water, they fly from a few meters to 100 or more meters above the surface (Cherry, personal communication). The highest fliers may be shorebirds or waterfowl, but other groups may be a

part of the high-altitude flights observed. High-altitude echoes from birds are common during radar studies. During fall and spring near Albany, New York, I have tracked objects not visible with a 20X scope flying at altitudes between 2000 and 4000 meters. The objects were unquestionably birds because they flew at slower airspeeds than airplanes and left wing-beat "signatures" on the radar screen. In fall, it should be noted that many flew downwind above a continuous cloud cover in the direction of the Atlantic Coast.

Although few data are available, it seems that smaller diurnal migrants such as some finches, Blue Jays, flickers, etc., migrate in the first hundred to few hundred meters above the surface. For this group, quantitative studies would prove most fruitful. Overall, the trend seems to be for larger, fast-flying birds to migrate high and for smaller, slow-flying birds to migrate low during the day.

Conclusions. It should be clear to the reader by now that the altitude of bird migration varies considerably. I have tried to show how the altitudinal band used by migrating birds varies with atmospheric conditions, geography, topography, and type of migrant. From what we know, most migration occurs at altitudes below 1000 meters, but higher migrations are performed by some birds including soaring birds, passerines flying in daytime over water, and some shore and water birds. The relation between atmospheric structure and altitude of bird migration has been studied most for soaring migrants. Even for these birds, but especially for powered migrants, this relation is still poorly understood. Unfortunately for prospects of obtaining a better understanding, fewer migration studies are being conducted now, and even fewer are concerned with altitude of migration.

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PAUL KERLINGER, a post-doctorate fellow in the Department of Biology at the University of Calgary and currently conducting studies of raptors, particularly the Snowy Owl, is very interested in the behavioral phenomena associated with migration. As a student, he collaborated with Kenneth Able and Sidney Gauthreaux in their radar observations of migration. Author of a number of papers, Paul also regularly writes for the Hawk Migration Association of North America newsletter.



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RESULTS OF THE 1982 SPARROW MIGRATION PROJECT

by Michael Sharpe, Winthrop

Although some birders seem content to let the fall sparrow migration slip past almost unnoticed, there is a cadre of true sparrow aficionados who eagerly await the crisp days of autumn when each weedy field harbors a satisfying assortment of these cryptically-colored birds. In the fall of 1981, a sparrow survey was organized by Nicholas and Oliver Komar [Eastern Massachusetts Sparrow Survey, BOEM 10 (August 1982): 189-192]. In the fall of 1982, this was expanded into a Sparrow Migration Project under the sponsorship of the Bird Observer Field Studies Committee. This report summarizes the principal results of that project.

Project participants regularly visited eleven selected sites between September 26 and November 7. The numbers of all sparrow species present at these sites were recorded. The species composition and peak migration periods for the study are provided in the table below. The peak migration period is defined as the period over which the birds-per-hour abundance was at least two-thirds of the peak birds-per-hour count for the season. Exact limits are impossible to determine for the less common species. This table does not include 286 sparrows that were observed but not identified as to species.

Sparrow Species	Number Sites	Number Records	Percent of Total	Peak Migration Period
Song	11	1260	48.3	Oct. 7-24
Savannah	7	367	14.1	Oct. 14-19
White-throated	9	346	13.3	Oct. 4-21
Swamp	11	210	8.1	Oct. 6-15
Dark-eyed Junco	9	167	6.4	Oct. 28-Nov. 5
Chipping	5	89	3.4	Oct. 16-17
Field	7	56	2.1	Oct. 19-22
Lincoln's	8	45	1.7	Sept. 26-27
American Tree	6	43	1.7	(after Nov. 5)
White-crowned	5	17	0.6	mid-October
Vesper	3	3	0.1	Undetermined
Grasshopper	1	1	<0.1	Undetermined
Fox	1	1	<0.1	Undetermined

Total: 2605

The sparrow migration actually began in mid-September about a week before the start of the project. Peak numbers for most species were observed during the second week of October. The migration period for White-throated and Song sparrows

appeared to be extremely broad when compared to Savannah and Swamp sparrows. Dark-eyed Junco peaked late in October with a distinct maximum on October 31. The only species whose peak is not reflected in the data is the American Tree Sparrow, a species that arrives late and often remains as a winter resident.

The relative abundance of the species varied considerably between the sites. A chi square analysis revealed that this variation is not due to chance alone. An analysis of habitat preferences has been deferred until a larger data base is available.

The Field Studies Committee would like to thank the following participants who submitted data sets from the locations indicated after their names: John Andrews (Lexington, two sites), Jim Barton (Cambridge), Seth Kellog (Southwick, two sites), Oliver Komar and Mike Greenwald (Newton), Nicholas Komar (Newton), Leif Robinson (Belmont, two sites), Mike Sharpe Sharpe (Revere), and Lee Taylor (Belmont).

MICHAEL SHARPE who works as a computer programmer has long been interested in natural history. A course in animal behavior stimulated his interest in birdwatching about four years ago. His interests now lean toward population biology, animal behavior, and subjects such as territoriality. He would be interested in joining others in research projects along these lines.



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DETECTING SONG SPARROWS

by Leif J. Robinson, Wellesley

Try answering these questions.

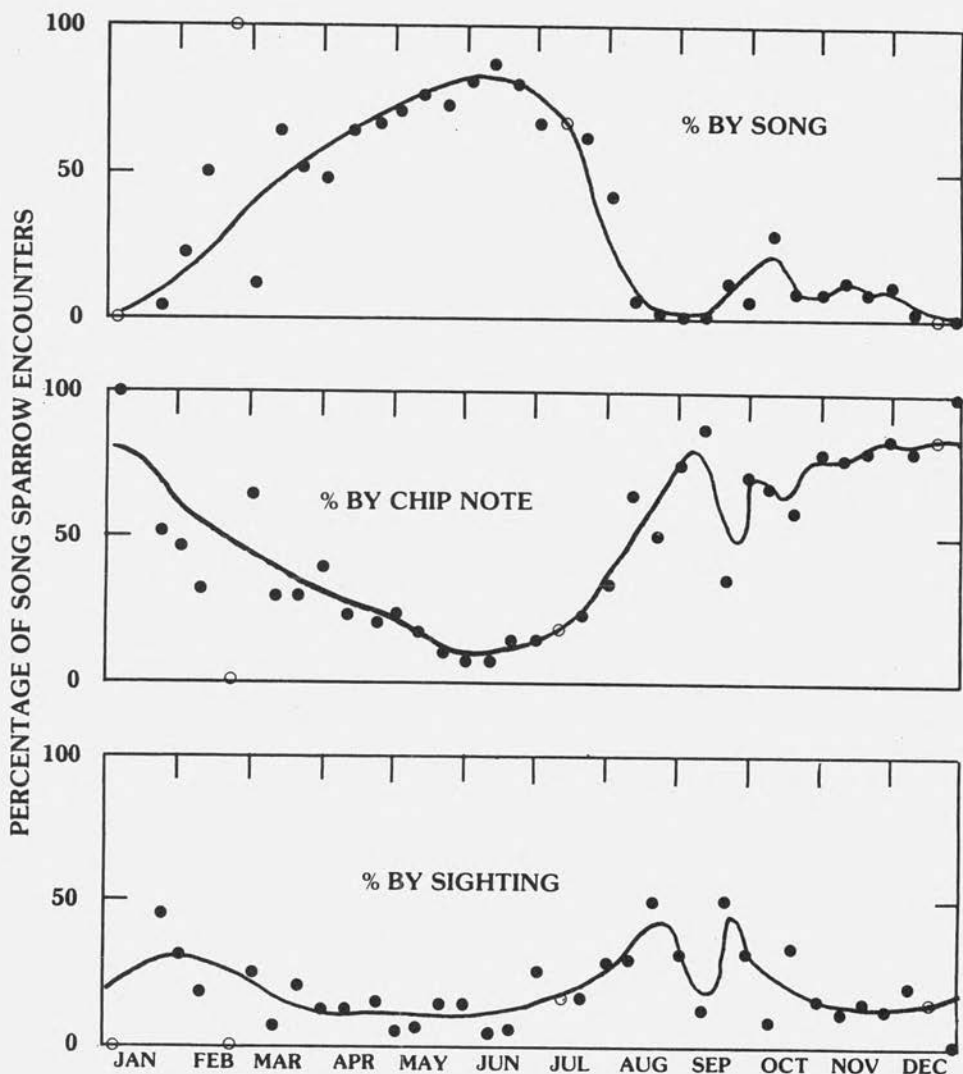
1. Over an entire year, what percent of your encounters with Song Sparrow are initially by sight, by chip note, or by song?
2. Do these percentages change during the year? If so, by how much?
3. Which of the three cues is the most effective?

For the past couple of years, during my frequent surveys of Acorn Park on the Cambridge-Belmont line, I've recorded how I first recognize each bird encountered, by the three criteria in the first question. Although the results are still somewhat uncertain, I share an annual cycle for Song Sparrow in the hope that others might also try this experiment. Song Sparrow was chosen for this demonstration because it is relatively common all year long, has a loud familiar song, and a rather weak yet distinctive chip note (though care must be taken to avoid misidentification during White-throated Sparrow migration).

Not surprisingly, as the year opened, Song Sparrows were without aria, and 80 percent of my encounters occurred through chip-note recognition. By mid-February, however, warm days sparked males to begin their summer serenades. The percentage of birds recognized by their call note diminished correspondingly, while visual sightings remained at about 20 percent, which is roughly the year-long average. Detection by song peaked at about 80 percent during the first week of June and then fell off dramatically. By the beginning of August only 40 percent of the birds were first recognized by song, and none at all by the last week of that month.

The interval from the beginning of August to mid-November was most interesting, and the manner in which birds were identified changed rapidly and in a complex fashion. First, visual and chip-note recognition increased simultaneously, concomitant with the decrease in post-breeding song. But note in the accompanying graph the subsequent, curious, and quick changes in the former two cues, followed by a smooth and protracted increase in autumn song (the latter being a well-known phenomenon).

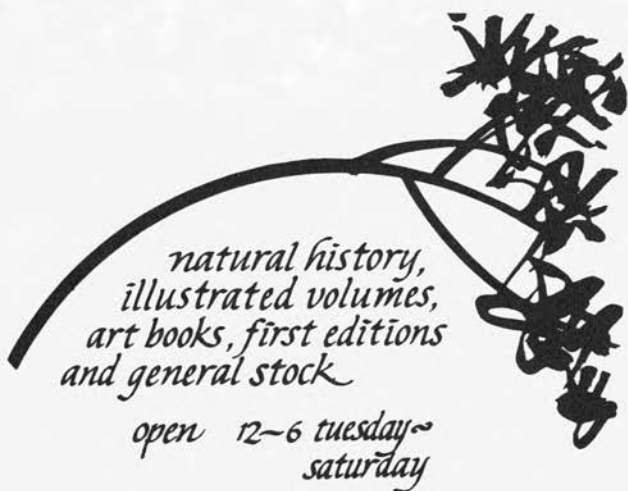
The overall character of the observed annual variation in how birds reveal themselves can be understood in a straightforward manner, from changes in hormones to the injection of juvenile birds into the study population. To me, at least,



Percentages of Song Sparrows Detected by Three Cues. The three curves show the percentage of Song Sparrows initially detected through song, chip note, and visually. With the exception of open circles, all points are ten-day averages of at least three field trips at Acorn Park on the Cambridge-Belmont line. Data collecting began in the spring of 1981.

the cause of the more subtle details (if real) is less clear. However, I do feel confident in predicting that during the next twelve months I shall first encounter 20 percent of all Song Sparrows by seeing them; 40 percent will be given away by song; and another 40 percent by their chip note. For this species, at least, eyes are rather inefficient tools for bird-finding.

LEIF J. ROBINSON is editor of Sky and Telescope, an international popular magazine of astronomy and space science. He has been a bird student for fifteen years with a principal interest in resident populations and the statistical means for assessing them. Mr. Robinson is also active in studying the migration of birds of prey.



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BREEDING SUCCESS OF PURPLE MARTINS IN EASTERN MASSACHUSETTS

by David E. Clapp, Marshfield

The population of Purple Martins (Progne subis) in the state is sporadic and is so man-dependent that changes can occur rather rapidly. Though weather is the ultimate controlling factor, the location of suitable nesting facilities in areas attractive to the species is very important in establishing new colonies or allowing older colonies to grow. The south-eastern part of Massachusetts has long had local populations of martins in managed colonies. There are several good areas in the state for observing them, and there are still many people interested in the maintenance of the nest sites. In fact, people with martin colonies tend to worry about these attractive, but vulnerable, birds that seem to arrive in spring just ahead of dependably warm weather and to depart as much as a month ahead of time while there are still many flying insects about. This quirk, along with their domesticity, creates a very emotional concern on the part of people who are responsible for martin colonies. This concern has manifested itself in a Purple Martin newsletter that has a nationwide readership.

Historically, the birds have been quite uncommon in the state and are at present, locally common. Near established nest sites, the species is easily found, and away from these sites it is rare. It is rarely reported as a migrant although it can be both seen and heard during late August.

The best situation for Purple Martins seems to have several predictable components: nesting boxes, lack of breeding competition, and an unforested landscape with water. The usual nesting box is a multi-roomed house located on a pole 10-20 feet above the ground. The apartments should be kept clean and free of starlings (Sturnus vulgaris) and House Sparrows (Passer domesticus). The number of apartments seems to be a limiting factor in a colony where reproduction is repeatedly successful. If more apartments are added at a successful site, the colony will grow; if space is restricted, the younger birds will seek other nesting areas. Current research at colonies shows that about half of the birds of the year present at a colony were not fledged from that colony. So, post-breeding dispersal and late summer scouting forays help to keep a heterogeneous mix in colonies. The competition for the apartments with the aforementioned species can be a significant factor in limiting growth of a colony. In many well-managed colonies, the interlopers are trapped and removed from the site. At a minimum, the nesting efforts of starlings and sparrows should be interrupted on a regular basis. Metal nest boxes seem to be significantly less attractive to starlings than wooden houses. Water is an important component as martins often feed over ponds and lakes, but the need for open space is almost as important as far as feeding areas are concerned. The final factor that must be

considered is the availability of birds. The total Massachusetts population is small. There are few actively managed colonies, and a well-maintained colony often increases its apartment space yearly. There are few excess birds on an annual basis. Thus, it is often true that an area with fields, water, a lovely house, and nearby colonies remains uncolonized year after year.

The State Division of Fisheries and Wildlife, Non-game Section, has been actively collecting information on Purple Martins and supplying houses to locations that offer probable success if a colony were to establish. Dick Turner at the Southeast Regional Office in Bourne has collected a great deal of information on the colonies in this part of the state and watches over many of the sites. He has also set up several houses in southeastern Massachusetts during the past two years.

There have been many reliable sites in the southeastern part of Massachusetts during the past thirty years with Wiksten's Dairy and the Reg Maxim colonies perhaps the two best known. On the north shore, the colony at Plum Island is perhaps the best known occurrence. In the southeastern part of the state, there are several active colonies:

Location/Manager	Pairs in 1983	History
Marshfield Country Club/Gurney	16	4th year; well managed.
Halifax Country Club/Gurney	1	3rd year; maximum 4 pairs in 1982
Carver/Arponen	10	31st year; lower number than usual.
Middleboro/Steill (Maxim's old colony)	44	27th year; has had as many as 150 pairs in the past.
Middleboro/Wiksten's Dairy	15	54th year; good site; formerly a larger colony.
Middleboro/MacDonald	1	2nd year with one pair
Middleboro/Akers	2	6th year; about same as always.
W.Wareham/Pierce	5	40th year; 16 pairs in 1982; could support 20+ pairs.
Hanson/Smith	16	21st year; could support more.

There are several other sites that have had birds in the past and several sites that are ready for the arrival of martins, but as of July 1983, this table seems to be an accurate tally of nesting birds in southeastern Massachusetts. There are about 130 pairs known, and the southward-heading group could have as many as 400 birds.

Cold rainy weather has a very severe effect on martins. Clyde Gurney who manages the Halifax and Marshfield colonies feels that an early arrival can result in a high mortality rate among adult birds if an extended cold and/or rainy spell

occurs in April or early May. The birds are often known to cluster in a small cavity such as one room of a colony to combat the cold weather of late spring. If the weather is such that the flying (feeding) time is diminished and flying insects are unavailable, the birds will die. Three days of rain is often sufficient to kill off newly arrived spring birds. The same situation can occur with extended bad weather in June or early July as the nestlings are being fed. A spell of bad weather can eliminate the food source, and though the adults might survive, the young will die in the nest. Although they might lay a second clutch, they will only raise one clutch each season.

Most martins begin their southward migration in August and are all gone by early September. As migration approaches, the birds often leave the area of the colony and gather in pre-migration flocks. I do not know where they gather on the south shore, but the north shore will have a flock in the Norway Spruces along Middle Road in Newbury. I presume it is largely from the Plum Island martin colony that this staging area fills up in mid-August. The flocks will then migrate southward, the majority of them going into the Amazon River Basin in Brazil.

It would be remiss not to mention the colony on the north shore at the Parker River Wildlife Refuge. This is the colony that is easiest to approach and affords the birder the best chance for a year bird. There are eleven houses erected between the headquarters at the north end of the island and Stage Island Pool to the south. Ludlow Griscom, in his book, Plum Island and Its Bird Life, written in 1955, cites only six records on the island through the early 1950s and describes the bird as a rare transient on Plum Island. There have also been breeding birds in Rockport at Whale Cove, in Topsfield at Clark's Pond, and scattered along the New Hampshire coast.

The first record for nesting at Plum Island was of two pairs of birds in 1955. George Gavutis, refuge manager in the 1970s, thinks that this first house was a gift from the Massachusetts Audubon Society, and it served as the only residence until the latter part of the mid-60s when one other was added. During the decade of the 70s, houses were added to reach the total of eleven. All houses have had nesting birds in them, and in a given year, there is rarely more than one empty house. This coastal colony seems to be flourishing and, for the past fifteen years, has been very successful. The coastal location offers the advantage of moderate temperature fluctuations and open water which affords flying insects even in the cool early spring. This location, on a large scale, is similar to what the Eastern Phoebe (Sayornis phoebe) is seeking in the spring when it hangs around small open ponds looking for the few available insects.

I wish to thank Ruth Emery, Richard Forster, George Gavutis, and Dick Turner for their information and advice.

DAVID E. CLAPP: a boyhood enthusiasm for natural history has led to a major in biology in college, a master's degree in secondary science education, and his present position as director of the South Shore Regional Office of the Massachusetts Audubon Society. In addition, Dave has served as a tour leader for M.A.S. and taught courses in environmental science at Northeastern University.

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SUMMARY OF HIGHEST COUNTS OF INDIVIDUALS
RECORDED FOR MASSACHUSETTS CHRISTMAS BIRD COUNTS, 1982

compiled by Janet L. Heywood, Robert H. Stymeist

A total of 170 species plus four additional subspecies (Eurasian Green-winged Teal, Ipswich Sparrow, Oregon Junco and Bullock's Oriole) were recorded on the twenty-four counts held within the state. An additional eight species were observed during the count period but went unrecorded on any count. Those species were: Little Gull, Common Murre, Jackdaw and Lark Sparrow all from Nantucket; a Little Blue Heron from Marshfield; an Eastern Phoebe from Springfield; Eastern Bluebird from the Vineyard and a Blue-gray Gnatcatcher in Central Berkshire. On the 1981 Christmas counts, 177 species plus two additional subspecies were recorded.

National high counts were recorded for the following species: Oldsquaw, 81,525; Common Eider, 33,315; Red-breasted Merganser, 6688; Black-legged Kittiwake, 15,904; Razorbill, 1120; Hairy Woodpecker, 152; Black-capped Chickadee, 2885; and Yellow-breasted Chat, 1. The Oldsquaw count of 81,525 was an all time high count as was the Razorbill count of 1120.


The complete results of all 1982 Christmas counts are published in the July 1983 issue of American Birds. Copies are available for \$9.50 from American Birds, 950 Third Avenue, New York, NY 10022.

The following abbreviations are used: BB - Buzzards Bay; CA - Cape Ann; CC - Cape Cod; Con - Concord; Bos - Greater Boston; Green - Greenfield; Marsh - Marshfield; MV - Martha's Vineyard; MidC - Mid Cape Cod; Nan - Nantucket; N.Bed - New Bedford; N.Berk - Northern Berkshire; New - Newburyport; Nhpt - Northampton; Ply - Plymouth; Q - Quincy; Spring - Springfield; Taun - Taunton; Worc - Worcester.

Red-throated Loon 103 (Nan); Common Loon 453 (MV); Pied-billed Grebe 17 (CC); Horned Grebe 114 (BB); Red-necked Grebe 79 (Ply); Western Grebe 1 (Marsh); Northern Gannet 695 (CC); Great Cormorant 237 (Q); Double-crested Cormorant 11 (MV); American Bittern 1 (Marsh, MV, New, Taun); Great Blue Heron 62 (CC); Black-crowned Night-Heron 3 (CC, MV); Tundra Swan 5 (MV); Mute Swan 181 (MV); Snow Goose 1 (CA, MV, Nan, Worc); Brant 1278 (CC); Canada Goose 4045 (MV); Wood Duck 4 (BB); Green-winged Teal 53 (Nan); "Eurasian Green-winged Teal" 1 (Nan); American Black Duck 2290 (New); Mallard 1241 (Bos); Northern Pintail 47 (MidC); Blue-winged Teal 4 (N.Bed); Northern Shoveler 2 (MV, New); Gadwall 36 (New); Eurasian Wigeon 1 (New); American Wigeon 60 (Marsh, MV); Canvasback 585 (Taun); Redhead 102 (BB); Ring-necked Duck 56 (MidC); Greater Scaup 3064 (Bos); Lesser Scaup 20 (Taun); Common Eider 33,315 (Nan); King Eider 3 (Nan); Harlequin Duck 10 (MV); Oldsquaw 81,525 (Nan); Black Scoter 529 (Nan); Surf

Scoter 117 (BB); White-winged Scoter 3331 (MV); Common Goldeneye 2346 (Nan); Barrow's Goldeneye 7 (Nan); Bufflehead 1740 (BB); Hooded Merganser 163 (BB); Common Merganser 1235 (Ply); Red-breasted Merganser 6688 (Nan); Ruddy Duck 40 (CC); Bald Eagle 7 (5 ad, 2 imm) (Athol); Northern Harrier 54 (Nan); Sharp-shinned Hawk 14 (MV); Cooper's Hawk 1 (six counts); Northern Goshawk 2 (Con, New); Red-shouldered Hawk 1 (Millis); Red-tailed Hawk 59 (Con); Rough-legged Hawk 4 (MV); American Kestrel 18 (Nan); Merlin 4 (CC, Nan); Peregrine Falcon 2 (MV); Ring-necked Pheasant 102 (Bos); Ruffed Grouse 25 (Spring); Wild Turkey 10 (N.Berk); Northern Bobwhite 77 (MV); Virginia Rail 9 (Nan); American Coot 130 (Taun); Black-bellied Plover 16 (Bos); Killdeer 1 (Bos, Q, Spring); Greater Yellowlegs 6 (CC); Ruddy Turnstone 29 (CA); Red Knot 76 (Marsh); Sanderling 128 (Nan); Purple Sandpiper 210 (Bos); Dunlin 582 (CC); Long-billed Dowitcher 1 (MidC); Common Snipe 8 (Taun); American Woodcock 4 (MV); Laughing Gull 2 (Q); Common Black-headed Gull 1 (CA, Q); Bonaparte's Gull 3414 (MV); Ring-billed Gull 901 (Bos); Herring Gull 49,627 (Nan); Iceland Gull 51 (Nan); Lesser Black-backed Gull 3 (Nan); Glaucous Gull 7 (Nan); Great Black-backed Gull 5692 (Nan); Black-legged Kittiwake 15,904 (Nan); Dovekie 65 (CC); Thick-billed Murre 3 (Ply); Razorbill 1210 (CC); Black Guillemot 25 (Nan); Rock Dove 2677 (Bos); Mourning Dove 1835 (New); Common Barn-Owl 2 (MV); Eastern Screech-Owl 30 (Nhpt); Great Horned Owl 20 (Con); Snowy Owl 6 (New); Barred Owl 2 (Con); Long-eared Owl 2 (Bos); Short-eared Owl 3 (Bos, New); Northern Saw-whet Owl 4 (Nan); Belted Kingfisher 18 (CC, MV); Red-headed Woodpecker 4 (MV); Red-bellied Woodpecker 3 (MV); Yellow-bellied Sapsucker 2 (Nan); Downy Woodpecker 395 (Con); Hairy Woodpecker 52 (Con); Northern Flicker 175 (Nan); Pileated Woodpecker 3 (Green); Say's Phoebe 1 (Con); Horned Lark 406 (Nhpt); Blue Jay 727 (BB); American Crow 2343 (Con); Fish Crow 43 (Con); Black-capped Chickadee 2885 (Con); Tufted Titmouse 554 (Con); Red-breasted Nuthatch 32 (CC); White-breasted Nuthatch 406 (Con); Brown Creeper 59 (Con); Carolina Wren 23 (BB); House Wren 1 (Nhpt); Winter Wren 5 (N.Bed); Marsh Wren 5 (Nan); Golden-crowned Kinglet 110 (Con); Ruby-crowned Kinglet 5 (CC); Hermit Thrush 9 (BB); American Robin 461 (Nan); Gray Catbird 10 (BB); Northern Mockingbird 157 (Con); Brown Thrasher 2 (CC); Water Pipit 3 (Nhpt); Cedar Waxwing 283 (Con); Northern Shrike 3 (Con); European Starling 202,500 (Bos); Orange-crowned Warbler 2 (BB); Yellow-rumped Warbler 5128 (Nan); Pine Warbler 5 (CC); Palm Warbler 5 (Nan); Common Yellowthroat 2 (Nan); Yellow-breasted Chat 1 (BB, Ply); Northern Cardinal 266 (Con); Dickcissel 1 (Marsh); Rufous-sided Towhee 17 (BB); American Tree Sparrow 1471 (Nhpt); Chipping Sparrow 6 (CC); Field Sparrow 79 (BB); Vesper Sparrow 3 (N.Bed); Savannah Sparrow 47 (Nan); "Ipswich Sparrow" 2 (Bos, Marsh, MV, Nan); Henslow's Sparrow 1 (Bos); Sharp-tailed Sparrow 2 (CC, MidC); Seaside Sparrow 2 (New); Fox Sparrow 13 (N.Bed); Song Sparrow 310 (Bos); Swamp Sparrow 40 (Ply); White-throated Sparrow 295 (BB); White-crowned Sparrow 4 (N.Bed); Dark-eyed Junco 1120 (Con); "Oregon Junco" 1 (Con, Q); Lapland Longspur 2 (Bos); Snow

Bunting 129 (Nan); Red-winged Blackbird 122 (Nhpt); Eastern Meadowlark 179 (MV); Rusty Blackbird 3 (Con); Common Grackle 95 (MV); Brown-headed Cowbird 169 (Worc); Northern Oriole 1 (BB, MV, Nhpt, Q); "Bullock's" Oriole 1 (BB); Pine Grosbeak 6 (Central Berkshire); Purple Finch 612 (Con); House Finch 546 (Con); Common Redpoll 4 (Athol); Pine Siskin 5 (New); American Goldfinch 899 (Con); Evening Grosbeak 1739 (Athol); House Sparrow 1714 (Nhpt).




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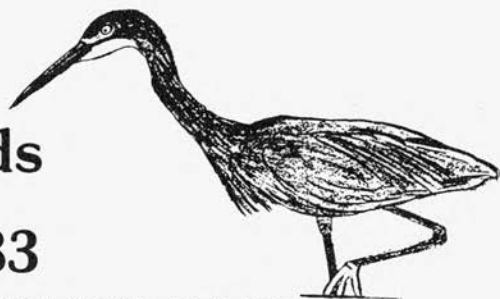
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Western Reef-Heron
 Field Sketch by Michel Kleinbaum
 July 15, 1983



Field Records

July 1983

by George W. Gove, Robert H. Stymeist, Lee E. Taylor

July was very sunny and dry with record heat. The temperature averaged 78.0°, 4.5° above normal and a new mark for any month. The old record was 77.5° in July 1952. The month's high of 99° on July 16 broke that day's record of 98° set in 1980. A total of thirteen days reached 90° or more, the most since the record count of fourteen days in July 1955. A three-day heat wave came on July 2-4, with 98° on the Fourth of July. On July 15, a seven-day heat wave began, tying for the fourth longest run of days in the nineties. The record run was nine days in July 1912. Rain totaled only 1.07 inches, 1.61 inches less than normal. Sunshine on the otherhand was plentiful, totaling 76% of the possible time, the most in July since 1977, and the eighth most in ninety-one years.

LOONS THROUGH CORMORANTS

A breeding-plumaged Red-throated Loon was found off Plum Island on July 10. At this same location on July 21, seven winter-plumaged Common Loons were counted. Shearwaters were noteworthy for the very low numbers that were recorded as compared with recent July records, with only 6 Cory's, 49 Greater, 10 Sooty and 2 Manx shearwaters recorded. Numbers of Wilson's Storm-Petrels were a bit better represented at Stellwagen with over 350 there on July 2. Great Cormorants totaled four immatures off Cohasset, perhaps this species will be one of the next breeders in the future of Massachusetts. The Double-crested Cormorants continue to proliferate in Boston Harbor and in the Plum Island-Newburyport area. R.H.S.

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>OBSERVERS</u>
Red-throated Loon: 10,15	P.I.	1 br. pl., 1	G.Gove#, A.Williams
Common Loon: 21,24	P.I., Monomoy	7 winter pl., 7	R.Heil, R.Prescott
Pied-billed Grebe: thr.,19	Monomoy, Acoaxet	pr. w/ yg., 1	W.Bailey#, R.Bowen
24,31	Stoughton, Lakeville	1, 1	R.Titus, W.Petersen
Cory's Shearwater: 24,28	off Chatham, Stellwagen	2, 4	BOEM, K.Holmes
Greater Shearwater: 2,28	Stellwagen	48, 1	J.Grugan, K.Holmes
Sooty Shearwater: 2, 28	Stellwagen	9, 1	J.Grugan, K.Holmes
Manx Shearwater: 21	P.I., Nantucket Sound	1, 1	R.Heil, D.Spector#
Wilson's Storm-Petrel: 2;2,28	Boston Harbor;Stellwagen	6; 350+, 100+	J.Grugan;J.Grugan,K.Holmes
7,13	Nantucket, Pocasset	5-6, 2	E.Andrews, P.Hallowell
Great Cormorant: (details on file) 15	off Cohasset	4 imm.	W.Petersen#
Double-crested Cormorant: thr.	P.I.-Newburyport	1000+	R.Heil
2	Boston Harbor	1000+	J.Grugan
15	Cohasset (Bush I.)	12 nests w/19 yg.	W.Petersen#

HERONS

July 1983 the entry reads in thousands of bird watchers' diaries and life lists across the country. The Western Reef-Heron (*Egretta gularis*) that had been enjoying the comforts of Quaise Marsh, Nantucket, since at least April 26 was finally identified. Birders near and far converged on Nantucket for what surely will be the Bird of the Year [BOEM 11 (June 1983): 124].

The usual herons and egrets that inhabit Massachusetts were also around with three Tricolored, seventeen Cattle Egrets, and an adult Yellow-crowned Night-Heron highlighting the list. R.H.S.

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>OBSERVERS</u>
Least Bittern:			
thr.	P.I.	1-2 adults	v.o.
15,19	P.I., Nantucket	1 ad. 2 yg., 1	A.Williams,F.Bouchard
Great Blue Heron:			
thr.	P.I., GMNWR	max. 10, max. 3	v.o.
Great Egret:			
2,4	Lynnfield, P.I.	1, 2	R.Titus, BBC
9	Westport, Marshfield	15, 3	R.Stymeist#, W.Petersen
23 on,31	Lakeville, Ipswich	1-2, 4	D.Briggs#, I.Giriunas
Western Reef-Heron (Identified July 11, 1983):			
thr. (from 4/26)	Nantucket	1	E.Andrews + v.o.
Snowy Egret:			
17,31	E.Boston	119, 165	S.Zendeh
Little Blue Heron:			
17	P.I., Scituate, Ipswich	2 imm, 1 imm, 1 ad	W.Petersen#, R.Titus, I.Giriunas
Tricolored Heron:			
3,16	P.I., Nantucket	2, 1	J.Grugan, v.o.
Cattle Egret:			
9,17-31	Marshfield, Ipswich	2, max. 15	W.Petersen, J.Berry#
Green-backed Heron:			
10,23	P.I., GMNWR	6, 4	BBC, BBC
Black-crowned Night-Heron:			
6,11	Squantum, P.I.	25-30, 50	R.Campbell#, N.King#
31	E.Boston, Eastham	40, 78	S.Zendeh, R.Heil
Yellow-crowned Night-Heron:			
6	Squantum	1 ad.	R.Campbell#
Glossy Ibis:			
thr.	P.I., Monomoy	max. 21, max. 20+	v.o.
17,31	E.Boston	18, 11	S.Zendeh

WATERFOWL THROUGH BOBWHITE

A drake Tufted Duck was found on the south end of Monomoy on July 27, the first summer occurrence of this species in Massachusetts. As you may recall, a male Tufted Duck was present in Chatham during the late spring of this year. Increasing numbers of Common Eider continue to "summer" in Boston Harbor. Note 300 were seen in North Scituate. With the increase of Common Eider you might expect to see an occasional King Eider; however an amazing count of eight immature King Eiders was noted in Boston Harbor on July 2. Other stragglers included one drake Black Scoter, three Surf Scoters and a Common Merganser in Harwichport Harbor.

A count of ninety-one Ospreys was made on both branches of the Westport River; this number included young birds as well as adults. A Cooper's Hawk in Duxbury was noteworthy as was a fledged Northern Goshawk in Halifax. At least two Northern Bobwhite were heard calling at Rock Meadow, Belmont. R.H.S.

Wood Duck:			
22,23	Stoughton, GMNWR	12, 40+	R.Titus, S.Carroll#
Green-winged Teal:			
thr.	P.I.	30+	R.Heil
Northern Pintail:			
17	P.I.	2	W.Petersen#
Blue-winged Teal:			
11	P.I.	25	BBC
Northern Shoveler:			
thr.	Monomoy	6+	J.Lortie#
American Wigeon:			
thr.	P.I.	2-5	v.o.
Tufted Duck:			
27-31	Monomoy	1	T.Vose + v.o.
Common Eider:			
15	N.Scituate	300	W.Petersen#
King Eider:			
2	Boston Harbor	8 imm.	J.Grugan
Black Scoter:			
24	Monomoy	1	BOEM (W.Petersen)
Surf Scoter:			
24	Monomoy	3	BOEM (W.Petersen)

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>OBSERVERS</u>
Common Merganser:			
24	Harwichport	1 f.	BOEM (W.Petersen)
Ruddy Duck:			
thr.	P.I., Monomoy	1-3, 12+	v.o., J.Lortie# + v.o.
Turkey Vulture:			
22,31	Leominster, Ipswich	6, 1	B.Sorrie, I.Giriunas
Osprey:			
9	Westport	91 incl. yg.	R.Stymeist, G.Gove#
Cooper's Hawk:			
24	Duxbury	1	B.Sorrie
Northern Goshawk:			
16,19	Halifax, Middleboro	1 imm fl., 1	K.Anderson, D.Briggs
Red-shouldered Hawk:			
3,8	Medfield, E.Middleboro	1, 1	C.Floyd#, K.Anderson
26	Middleton	2	J.MacDougall
Broad-winged Hawk:			
thr., 10	Sharon, E.Middleboro	1 pr., 2 yg.	R.Titus, K.Anderson
American Kestrel:			
thr.	Lynn-Everett	max. 6	J.Berry
15	E.Middleboro, P.I.	3 yg.(b), family of 5	K.Anderson, A.Williams
Northern Bobwhite:			
30	Belmont (Rock Meadow)	2 calling	L.Taylor

RAILS THROUGH HUMMINGBIRDS

A King Rail was seen at Plum Island where two adult Virginia Rails were seen with a chick. Twenty-two Virginia Rails were noted at Great Meadows and an immature Sora was also seen there. An adult Purple Gallinule was observed there on July 31 for the fourth consecutive annual record for that species at that location.

Southward migration of the shore birds got underway this month with the numbers of the commoner or more abundant species increasing as the month progressed. These included Semipalmated Plover, Semipalmated and Least sandpiper, Sanderling and Short-billed Dowitcher. However, a trip to Newburyport Harbor on July 4 produced no shorebirds of any kind on and after the falling tide - a remarkable observation. Typically 1-2 Lesser Golden-Plover are reported in July, and this was no exception with one reported from Monomoy. Two adult Piping Plovers with four chicks were seen at Scituate and 92 Killdeer were counted in Halifax. A maximum of 30 American Oystercatchers was noted on Monomoy showing a general increase of this species over the years. Solitary Sandpipers were noted from several locations with the first reports being in the second week of the month as is typical. A maximum of 14 Willets, including 2 downy young, was reported from Plum Island and more than 45 were present on Monomoy where a maximum of 50 Whimbrels, the highest July count, was noted. In Lincoln, two family groups of Upland Sandpipers included 2 adults with 3 young and 2 adults with one young. Massachusetts is the place to see Hudsonian Godwits on the East Coast, particularly at a few favored locations and the godwits accumulated at those locations, increasing throughout the month. Red Knots also favor particular habitats, especially those with a combination of peat banks and food in the form of mussel spat, and their numbers built up towards month's end at Monomoy and at Scituate where 150 Ruddy Turnstones were also counted on the 31st. The highest July count in the BOEM records of 2050 Sanderlings was made at Monomoy on the twenty-third. Individual Western Sandpipers were noted, one on the early date of July 4, and the Curlew Sandpiper continued through July 2 from June on Plum Island affording many observers an excellent view of its breeding plumage. A Ruff and a Reeve were seen on Monomoy on different occasions and Long-billed Dowitchers arrived as usual in the second to third week of the month.

Four Little Gulls were present in Stage Island Pool, PRNWR, early on the month, and high counts of Ring-billed, Great Black-backed and Herring gulls were estimated at Newburyport. An Iceland Gull was seen in Acoaxet, and details were provided for four individual Lesser Black-backed Gulls. A Caspian Tern was noted in Scituate, and six Royal Tern sightings were recorded. One of the latter was an adult in full breeding plumage, and it was noted by the observer that, unlike Caspian Terns, Royal Terns seldom have a complete cap for more than a few weeks during the breeding season. "Portlandica" Arctic Terns were noted on Monomoy where 1-2 Forster's Terns were also present. Three individual Black Terns rounded out the list of terns and two individual Black Skimmers were also seen.

An immature Long-eared Owl was seen on Nantucket, and a total of 15 Short-eared Owls were counted on the two islands of Monomoy. A female Ruby-throated Hummingbird was seen on a nest in Duxbury and within the next ten days the young hatched. G.W.G.

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>OBSERVERS</u>
King Rail:			
10	P.I.	1	BBC
Virginia Rail:			
2,15;15	P.I.; Newburyport	3, 2 ad.+1 yg.; 1	R.Titus; A.Williams
7,23	GMNWR	2, 22	BBC
Sora:			
4,31	Monomoy	1, 1	B.Nikula
23,27	GMNWR	3, 1 imm.	BBC, A.Williams
Common Moorhen:			
thr.	P.I.	max. 5 ad. + 2 yg.	v.o.
3,23	GMNWR	3, 2	BBC
Purple Gallinule:			
31	GMNWR	1 ad.	T.Billings
Black-bellied Plover:			
17,30	Monomoy, P.I.	75, 25	BBC
Lesser Golden-Plover:			
23	Monomoy	1	B.Nikula
Semipalmated Plover:			
1,31	Scituate	3, 275	W.Petersen, SSBC
17,30	Monomoy	4, 100	BBC
30	P.I.	25	BBC
Piping Plover:			
thr.;17,30	P.I.; Monomoy	2; 2	BBC; BBC
27,28	Scituate, Plymouth	2 ad. + 4 chicks, 10	W.Petersen, K.Holmes
Killdeer:			
1,4;8	P.I.; Concord	1 yg., 5; 4	A.Williams,BBC;J.Carter
10,14	Halifax	26,92	W.Petersen#
26,28	Woburn, E.Boston	2, 9	G.Gove, S.Zendeh
American Oystercatcher:			
thr.	Monomoy	max. 30	B.Nikula#
9,23	Scituate, Nantucket	1, 14+	W.Petersen, R.Titus#
Greater Yellowlegs:			
5,31	Acoaxet	1, 73	R.Bowen#
10,31	P.I., Scituate	2, 4	BBC, SSBC
Lesser Yellowlegs:			
7,30	Acoaxet	5, 65	R.Bowen#
10,31	P.I.	250, 91	BBC, J.Heywood#
Solitary Sandpiper:			
13;20	Medfield;Marblehead,Wayland	6; 1, 7	B.Cassie; J.Smith, J.Hines
25,26	Halifax, Woburn	2, 1	W.Petersen, G.Gove
Willet:			
thr.	P.I.	max. 14 (7/7), 2 downy yg. (7/7)	R.Heil + v.o.
thr.	Monomoy	max. 45+	B.Nikula#
28,30	Plymouth, Chatham	3, 18	K.Holmes, BBC
Spotted Sandpiper:			
3,17	GMNWR	2, 3	BBC
10,11	Halifax, P.I.	2, 4	W.Petersen#, BBC
26,28,30	Woburn,Plymouth,Monomoy	3, 3, 4	G.Gove, K.Holmes, BBC
Upland Sandpiper:			
2;17,31	Lincoln;Newburyport,Bridgewater	8; 3, 4	J.Carter; W.Petersen#
Whimbrel:			
thr.	Monomoy	max. 50	B.Nikula#
thr.	Nantucket	max. 19	E.Andrews
26,30	Ipswich, P.I.	1, 6	J.Nove, BBC
30	Boston Harbor	5	F.Bouchard
Hudsonian Godwit:			
thr.	Newburyport-P.I.	1 (7/1) - 22 (7/31)	v.o.
thr.	Monomoy	max. 110, 7 (7/2) - 97 (7/30)	v.o.
3-31	E.Boston	max. 14 (7/28)	S. Zendeh
Ruddy Turnstone:			
28,30	Plymouth, P.I.	1, 4	K.Holmes, J.Berry
31	Scituate, Boston Harbor	150, 41	W.Petersen#, F.Bouchard
Red Knot:			
thr.	Scituate	1 (7/1) - 500 (7/31)	max. 800 (7/23) W.Petersen#
thr.	Monomoy	max. 600 (7/30)	B.Nikula#
28,30	Nauset, Boston Harbor	550, 3	B.Nikula, F.Bouchard
Sanderling:			
23,26	Monomoy, Ipswich	2050, 135	B.Nikula, J.Nove
30,31	Boston Harbor, Scituate	23, 75	F.Bouchard, SSBC

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>OBSERVERS</u>
Semipalmated Sandpiper:			
9-30	Scituate	max. 1500 (7/30)	W.Petersen
17,23	Monomoy	250, 1700	BBC, B.Nikula
26,28,30	Woburn, Nauset, P.I.	6, 1500, 500	G.Gove, B.Nikula, BBC
Western Sandpiper:			
4,27	P.I., Nauset	1, 1	G.Gove#, B.Nikula
29,31	Scituate	1, 1	W.Petersen#
Least Sandpiper:			
9,31	Scituate	40, 100	R.Titus, SSBC
17,23	Monomoy	2000, 1050	B.Nikula
26	Woburn	14	G.Gove
White-rumped Sandpiper:			
2,17	Monomoy	2, 1	G.Gove#, BBC
2,30,31	P.I.	1, 2, 2	T.Leverich#, BBC, G.Gove#
31	Scituate	5	W.Petersen#
Pectoral Sandpiper:			
10,17	P.I.	2, 1	BBC, W.Petersen#
16,24	Acoaxet, Halifax	1, 6	R.Bowen#, K.Anderson
25,28	Monomoy, E.Boston	5, 1	W.Petersen#, S.Zendeh
Dunlin:			
4,15	P.I.	2, 1 (w.p.)	G.Gove#, R.Heil
Curlew Sandpiper:			
1,2	P.I.	1 (br. pl.)	R.Emery#, A.Williams
Stilt Sandpiper;			
10-31	P.I.	max. 19 (7/31)	v.o.
17,31	Monomoy	5, 20+	B.Nikula#
Ruff:			
2,17-23	Monomoy	1 m., 1 f.	G.Gove#, I.Nisbet#
Short-billed Dowitcher:			
thr.	Monomoy	max. 1800 (7/17)	v.o.
1,10;17	P.I.; Newburyport	18, 200; 350	A.Williams, BBC; W.Petersen#
4,28	Acoaxet, Plymouth	45, 50+	R.Bowen, K.Holmes
3-31	E.Boston	max. 195 (7/28)	S.Zendeh
Long-billed Dowitcher:			
15,16,31	P.I.	4 ad. (br.pl.), 2, 1 (br.pl.)	R.Heil, W.Petersen#, C.Floyd#
Common Snipe:			
2,14	Bolton Flats, Halifax	3, 1	BBC, W.Petersen
American Woodcock:			
6	Lexington	1	J.Carter
Wilson's Phalarope:			
thr.	P.I.	max. 1 m. + 1 f.	v.o.
23,30	Monomoy	1 f., 1	B.Nikula, BBC
Laughing Gull:			
thr.	Monomoy	400+	v.o.
Little Gull:			
7	P.I. (Stage I. Pool)	1 ad.+3 (1 S)	R.Heil#
17+23,26	Monomoy, Ipswich	1 imm., 1 ad.	J.Barton, B.Nikula, J.Nove
Common Black-headed Gull:			
thr.	Monomoy	1 ad.	D.Holt + v.o.
Bonaparte's Gull:			
4,30	Newburyport	40, 21	M.Barrett#, J.Berry
8,9	Acoaxet, Scituate	35, 1	R.Bowen, W.Petersen
Ring-billed Gull:			
22	Newburyport	1200+	R.Heil#
Herring Gull:			
22	Newburyport	10,000+	R.Heil
IceLand Gull:			
11	Acoaxet	1	R.Bowen
Lesser Black-backed Gull: (details provided on all the following)			
22	Newburyport	1 (1 S)	R.Heil
24	Monomoy	1 ad.	BOEM (L.Taylor, G.Gove)
30	Scituate	1 (1 S) ph.	W.Petersen#
30	Annisquam	1 (2 S)	H.Wiggin
Great Black-backed Gull:			
22	Newburyport	3000+	R.Heil
Black-legged Kittiwake:			
17	Monomoy	1	BBC (J.Barton)
Caspian Tern:			
31	Scituate	1	W.Petersen#

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>OBSERVERS</u>
Royal Tern:			
2,3	Newburyport, Marion	1, 1	R.Titus, I.Nisbet
13,22	Monomoy, Newburyport	1, 1 ad. full br.	pl. B.Nikula#, R.Heil
31	P.I., Scituate	2, 2	R.Titus, W.Petersen#
Roseate Tern:			
29	Scituate	60	W.Petersen
Common Tern:			
17,30	Monomoy	1000, 1100	BBC
Arctic Tern:			
25	Monomoy	23"portlandica"	W.Petersen#
Forster's Tern:			
2-17	Monomoy	2-1	v.o.
Least Tern:			
4,17	Monomoy	30, 6	BBC
Black Tern:			
1,15,24	P.I.,Newburyport,Monomoy	1, 1 ad., 1	C.Floyd#,R.Heil,BOEM(W.Petersen)
Black Skimmer:			
3,19	Monomoy, Nantucket	1, 1	B.Nikula#, F.Bouchard
Black-billed Cuckoo:			
thr.	5 locations	8 individuals	v.o.
Yellow-billed Cuckoo:			
thr.	6 locations	8 individuals	v.o.
Barred Owl:			
10-18	Stow	2-4	B.Parker
Long-eared Owl:			
1,3	Nantucket	2 ad., 1 imm.	J.Dennis# + v.o.
Short-eared Owl:			
thr.	Monomoy-N.Island	max. 10	D.Holt + v.o.
thr.	Monomoy-S.Island	max. 5+	D.Holt + v.o.
Ruby-throated Hummingbird:			
11,21	Duxbury	f. on nest, yg. hatched	H.Philbrick

FLYCATCHERS THROUGH ORCHARD ORIOLE

The earliest post-breeding wandering and/or migrant award for this July goes to the adult male Tennessee Warbler seen in Littleton on the surprising date of the fifteenth. Definite flow of migrants became apparent about a week later, during the period of July 23 through 28, with Cliff Swallow, Red-breasted Nuthatch, Swainson's Thrush, another Tennessee Warbler, Yellow Warbler, Northern and Louisiana Waterthrush represented.

A report of Winter Wren in South Easton on the tenth constitutes the only midsummer record of this species in the last five years. The other rare sighting for the month was of a breeding-plumaged Water Pipit at Scituate. Good details were received on this unusual wanderer.

L.E.T.

Eastern Wood-Pewee:			
8	E.Middleboro	1	K.Anderson
Willow Flycatcher:			
2	Bolton Flats, P.I.	5, 1	BBC, T.Leverich#
Eastern Phoebe:			
4,12	Natick, Lincoln	2, 1	BBC, J.Carter
Great-crested Flycatcher:			
4	Natick	2	BBC
Eastern Kingbird:			
4,11	Milton, P.I.	5, 10	J.Paputseanus, BBC
Horned Lark:			
9,31	Scituate	1 ad. + 5 yg., 9	R.Titus, SSBC
Purple Martin:			
thr.	P.I.,Middleboro (3 loc.)	84 max. (7/31), 125	v.o., D.Briggs#
Tree Swallow:			
11-30,24	P.I., Squantum	100 max. (7/30), 50+	BBC, J.Paputseanus
Northern Rough-winged Swallow:			
24,26	Stoughton, Scituate	2, 3	R.Titus, W.Petersen
Bank Swallow:			
8,30	N.Carver, P.I.	colony of 60 holes, 10	K.Andersen, BBC
Cliff Swallow:			
thr.,23	P.I., Nantucket	37 max. (7/31), 1	v.o., E.Andrews#
Red-breasted Nuthatch:			
10-31;11,28	Lakeville, MNWS	5 max. (7/31); 1, 1	W.Petersen,J.Smith

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBERS</u>	<u>OBSERVERS</u>
Red-breasted Nuthatch (continued): 12,16	E.Middleboro, Monomoy	1, 1	K.Anderson, D.Holt#
Brown Creeper: 3	Stoughton, Taunton	2 ad. + 4 yg., 5	R.Titus, B.Sorrie
4,23	Natick, E.Middleboro	1, 1	BBC, K.Anderson
Carolina Wren: 9	Westport	9	R.Stymeist#
Winter Wren: 10	S.Easton	1	B.Sorrie
Marsh Wren: 16,17	Mashpee, GMNWR	10+, 24	J.Aylward#, BBC
Golden-crowned Kinglet: 10-31	Lakeville	4 max. (7/10)	W.Petersen#
Blue-gray Gnatcatcher: 26	Middleton	1	J.MacDougall
Eastern Bluebird: thr.,26	Middleboro, Middleton	pair, 6	D.Briggs#, J.MacDougall
Veery: 16	Bolton	2	B.Parker
Swainson's Thrush: 24-28	MNWS	1 (details)	R.Heil#
Gray Catbird: 11	P.I.	25	BBC
Water Pipit: 9	Scituate	1 (details)	R.Titus
Cedar Waxwing: 21,30	Mt.A., P.I.	6, 15	F.Bouchard#, BBC
White-eyed Vireo: 9	Westport	6	R.Stymeist#
Yellow-throated Vireo: 2	Bolton	2	BBC
Tennessee Warbler: 15,24-28	Littleton, MNWS	1 ad. m., 1	J.Baird, R.Heil#
Northern Parula: 16	Mashpee	2	J.Aylward#
Yellow Warbler: 24	at see off Cahtham	2 migrants	BOEM
Chestnut-sided Warbler: 30	Waltham	2 imm.	L.Taylor
Yellow-rumped Warbler: 31	Lakeville	1 m.	W.Petersen
Black-throated Green Warbler: 6	E.Middleboro	1	K.Anderson
Pine Warbler: 4-6,4	E.Middleboro, S.Carver	3, 1	K.Anderson
Prairie Warbler: 6	Lexington	2	J.Carter
Black-and-white Warbler: 4	Natick	1 f. carrying food	L.Taylor
American Redstart: 1-19,16	Lincoln, Bolton	pair + 4 yg., 1 f.	J.Carter, B.Parker
Northern Waterthrush: 24,28	Nantucket, Yarmouthport	1 b., 1	E.Andrews, J.Aylward
28	MNWS, WBWS	2, 1 b.	J.Smith, J.Fisk
Louisiana Waterthrush: 26	Middleton	1	J.MacDougall
Canada Warbler: 10	Raynham-Taunton	3 ad. + 1 yg.	B.Sorrie
Indigo Bunting: 2,31	Bolton, Medford	2, 4	BBC, I.Giriunas
Field Sparrow: 6	Lexington	3	J.Carter
Savannah Sparrow: 2,17	P.I., Monomoy	4, 4	T.Leverich#, BBC
Grasshopper Sparrow: 3-7,9	Medfield, Falmouth	2, 10	v.o., J.Aylward#
19	Nantucket	2	F.Bouchard
Sharp-tailed Sparrow: thr.,8	P.I., Marshfield	25 max. (7/10), 2	v.o., W.Petersen
17,24	Monomoy, E.Boston	6, 8	BBC, S.Zendeh

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>OBSERVERS</u>
Seaside Sparrow:			
1-17	P.I.	5 max.	v.o.
Song Sparrow:			
17	GMNWR	35	BBC
Bobolink:			
9,16	Marshfield, Bolton	80+, 25	W.Petersen, B.Parker
Orchard Oriole:			
30	W.Newbury	1 f.	A.Williams

CORRIGENDUM: APRIL 1983 FIELD RECORDS

Peregrine Falcon:			
23	Bolton	1	B.Parker

should be deleted.

LIST OF ABBREVIATIONS

ad.	adult	F.M.	Fowl Meadow, Milton
alt.	alternate (plumage)	gr.	greater as in Gr.Boston area
b.	banded	I.	Island
br.	breeding	M.V.	Martha's Vineyard
dk.	dark (phase)	Mt.A.	Mt. Auburn Cemetery, Cambridge
f.	female	Nant.	Nantucket
fl.	fledge	Newbypt	Newburyport
imm.	immature	ONWR	Oxbow National Wildlife Refuge
ind.	individuals	P.I.	Plum Island
loc.	locations	P'town	Provincetown
lt.	light (phase)	R.P.	Race Point, Provincetown
m.	male	S.N.	Sandy Neck, Barnstable
max.	maximum	Stellw.	Stellwagen (Bank)
migr.	migrating	ABC	Allen Bird Club
ph.	photographed	BBC	Brookline Bird Club
pl.	plumage	BOEM	Bird Observer of Eastern Massachusetts
pr.	pair	CBC	Christmas Bird Count
thr.	throughout	DFWS	Drumlin Farm Wildlife Sanctuary
v.o.	various observers	FBC	Forbush Bird Club
W	winter (2W = second winter)	GBBBC	Greater Boston Breeding Bird Census
w/	with	GMNWR	Great Meadows National Wildlife Refuge
yg.	young	IRWS	Ipswich River Wildlife Sanctuary
#	additional observers	MAS	Massachusetts Audubon Society
A.A.	Arnold Arboretum	MBO	Manomet Bird Observatory
A.P.	Andrews Point, Rockport	MNWS	Marblehead Neck Wildlife Sanctuary
Buzz.	Buzzards (Bay)	NEBC	Newburyport Breeding Bird Census
C.Cod	Cape Cod	SSBC	South Shore Bird Club
E.P.	Eastern Point, Gloucester	TASL	Take a Second Look (BOEM project)
F.E.	First Encounter Beach, Eastham	WBWS	Wellfleet Bay Wildlife Sanctuary
F.H.	Fort Hill, Eastham	WMWS	Wachusett Meadows Wildlife Sanctuary



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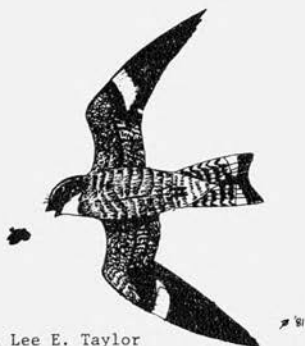
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Field Records

August 1983



by George W. Gove, Robert H. Stymeist, Lee E. Taylor

August 1983 was hot; the temperature averaged 73.6°, 1.7° above normal. This was the hottest August only since 1980 (at 74.2°). The high mark was 97° on the twentieth, the highest August reading since 102° in 1975. The high of 96° on the eighth broke the old record for that date of 95°, last noted in 1949. The 92° mark on the nineteenth tied the record from 1906, and the 74° minimum on the twentieth was a record high minimum, tying with 1937. Days with temperatures above 90° totaled six, double the average; this brings the year total of days above 90° to twenty-four days, second only to twenty-eight days in 1955. This was the most in August since ten in 1973. In spite of the abundance of hot days, some days were very cool. The low mark was 55° on the thirteenth. The maximum was only 64° on the twelfth, and for the four days of August 11-14, the mercury never exceeded 70°.

Rainfall totaled 3.28 inches, 0.40 inch less than normal. The most rain in any twenty-four hours was 1.53 inches on the eleventh to twelfth. Above normal amounts were reported in suburban areas. A station in Natick reported over eight inches. R.H.S.

LOONS THROUGH CORMORANTS

The pelagic trip to Hydrographer Canyon along the continental shelf was most successful with many specialities being observed at close range. [See "Where We Went: Pelagic Trip to Georges Bank" elsewhere in this issue.] The highlights were three Audubon's Shearwaters, all clearly seen with both flight and structural characters noted by all on board. Two White-faced Storm-Petrels were well observed and photographed, and also noted were twelve Leach's Storm-Petrels among over one thousand Wilson's Storm-Petrels.

Strong northeast gales blew late in the afternoon of August 12, 1983, setting up ideal conditions for a watch along Sandy Neck in Barnstable, First Encounter Beach in Eastham, and Andrews Point in Rockport. Leach's Storm-Petrels, rare inshore this early in the season except under these conditions, were seen at all of the above locations.

A Great Cormorant was found on a sand bar at Monomoy with a young Double-crested nearby for direct comparison. It is very unusual to find this species on the cape in summer; no doubt the great increase in the number of summering cormorants may be the factor.

R.H.S.

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>OBSERVERS</u>
Common Loon:			
20,27	Monomoy, P.I.	2, 2	B.Schlinger#, P.W. Smith
Pied-billed Grebe:			
thr., 5&15	P.I., Woburn	2-3, 1	v.o., G.Gove
23,27	W.Newbury, GMNWR	3, 1	R.Heil, BBC
Cory's Shearwater:			
22-23	Georges Bank	4	BOEM (W.Petersen#)
Greater Shearwater:			
6&14, 22-23	off Cape Ann, Georges Bank	50 & 2, 20	T.Raymond, BOEM
Sooty Shearwater:			
6, 22-23	off Cape Ann, Georges Bank	1, 7	T.Raymond, BOEM
Manx Shearwater:			
1, 12	Stellwagen, A.P.	2, 5	R.Heil
12, 22-23	S.N., Georges Bank	1, 9	W.Petersen, BOEM
Audubon's Shearwater:			
22	Georges Bank	3 ph.	BOEM(W.Petersen#)
Wilson's Storm-Petrel:			
1, 26	Stellwagen	2500, 24	R.Heil, C.Hubbard#
6, 14	off Cape Ann	1000, 800	P.Hallowell, T.Raymond
12	A.P., Nantucket	30, 346	R.Heil, K.Harte

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>OBSERVERS</u>
<u>Wilson's Storm-Petrel (continued):</u>			
13	Sandwich, Eastham	300, 12	P.Hallowell, A.Williams
22-23	Georges Bank & Stellw.	1000	BOEM(W.Petersen)
<u>White-faced Storm-Petrel:</u>			
22	Georges Bank	2 ph.	BOEM(W.Petersen)
<u>Leach's Storm-Petrel:</u>			
12	A.P., Nantucket	2, 1	R.Heil, K.Harte
12,13	S.N.	2, 30	W.Petersen#, R.Pease#
22,23	Georges Bank, Stellw.	10, 2	BOEM(W.Petersen)
<u>Northern Gannet:</u>			
13,14	Eastham, Barnstable	7, 1 imm.	B.Nikula, J.Berry
14	off Cape Ann	1 imm.	T.Raymond
<u>Great Cormorant:</u>			
13	Monomoy	1 imm.	W.Petersen#

HERONS THROUGH HAWKS

The Western Reef-Heron continued at Quaise Marsh, Nantucket. Over one thousand observers signed in the guest book provided by hosts Edith and Clint Andrews. Other heron highlights include reports from Monomoy of nine Little Blue and a Tricolored Heron. A total of sixty-one Cattle Egrets was counted at Appleton Farm in Ipswich; where they all came from is a mystery, but this is a record count for this north shore farm.

The Fulvous Whistling-Ducks photographed on the south island of Monomoy on August 7 constitute the fifteenth record for this species in the state, the first being a bird that was shot at Chilmark, Martha's Vineyard, on December 22, 1962, the specimen stored at the Peabody Museum. Records for this species have been reports of one to ten birds seen mostly in the summer and fall. The August ducks were also "shot" by photographer Roger Everett and then identified by Jim Baird from slides contributed by Mr. Everett to the slide collection at Massachusetts Audubon Society.

Two Brant summered in Wellfleet, probably injured individuals. A Ring-necked Duck was noted in Lakeville on August 25. From observations at Lakeville over the last few years, the Ring-necked Duck is known to be regular in small numbers by mid-to-late August. A King Eider continued to summer off the Chatham-Monomoy area.

Two immature Bald Eagles were noted, one each from Newbury and Wayland. Early migrants included eighteen Broad-winged Hawks at Mt. Watatic on August 28. A Peregrine Falcon was noted at Nauset on August 10. R.H.S.

<u>American Bittern:</u>			
thr.	GMNWR	max. 4 8/26	J.Carter & v.o.
<u>Least Bittern:</u>			
1-13, 7	P.I., Monomoy	1, 1	v.o., R.Prescott
<u>Great Blue Heron:</u>			
thr.	GMNWR	max. 60 8/23	B.Phillips# & v.o.
23,27,30	P.I., Monomoy, Marshfield	16, 4, 23	BBC, W.Petersen#, D.Clapp
<u>Great Egret:</u>			
1-15, 3-10	Lakeville, Saugus	1-2, 1	D.Briggs, J.Berry
7,23,26	Monomoy, Lincoln, Middleboro	1, 2, 1	BBC, J.Carter, E.Akens
<u>Western Reef-Heron:</u>			
thr.	Nantucket	1	E.Andrews & v.o.
<u>Snowy Egret:</u>			
thr., 1	Saugus, Whitman	max. 49 8/11, 1	J.Berry, W.Petersen
7	Nant. (Quaise), Brookline	45, 1	E.Andrews, R.Stymeist
20,27,30	Monomoy, P.I., Marshfield	35, 200+, 65	D.Lange#, J.Berry, D.Clapp
<u>Little Blue Heron:</u>			
thr.	Nantucket	1 ad.	N.Claflin & v.o.
7,13	Marshfield, Acoaxet	1 imm., 2	J.Carter, P.Swift
13	Monomoy, E.Orleans	1 ad., 1 imm.	W.Petersen, A.Williams
20	Monomoy, Squantum	2 imm., 1 imm.	B.Schlinger#, J.Murphy
<u>Tricolored Heron:</u>			
13	Monomoy	1	W.Petersen#
<u>Cattle Egret:</u>			
thr.	Ipswich (Appleton Farm)	max. 61 8/28	J.Berry
<u>Green-backed Heron:</u>			
thr., 30	GMNWR, Marshfield	max. 5, 5	v.o., D.Clapp
<u>Black-crowned Night-Heron:</u>			
8,22	Eastham (Hem. Landing)	74, 89	B.Nikula# & v.o.
13	GMNWR, P.I.	30, 30	BBC

SPECIES/DATE	LOCATION	NUMBER	OBSERVERS
Yellow-crowned thr., 22	Night-Heron: P.I., Eastham	1-2 imm., 2 imm.	v.o., B.Nikula#
Glossy Ibis: thr. 13,21	Monomoy, P.I. Acoaxet, Woburn	max. 20, max. 7 6, 1	v.o., v.o. P.Swift, C.Gove
Fulvous Whistling-Duck: 7	Monomoy (S. Island)	2 ph.	R.Everett
Mute Swan: 28	Ipswich (Clark Pond)	2 ad & 8 yg.	J.Berry
Brant: 8 25	Wellfleet (2 locations) Wellfleet (same birds?)	2 2	B.Sorrie D.Reynolds, B.Nikula
Canada Goose: thr.	Sherborn	400	E.Taylor
Wood Duck: 6,13 20 23	Ipswich, GMNWR Wayland, Brookline W.Newbury	7, 40+ 8, 7 20	J.Berry, BBC(R.Clayton) B.Howell#, R.Stymeist# R.Heil
Gadwall: 16	Monomoy	40	B.Nikula#
American Wigeon: 13	P.I.	1	C.Floyd
Ring-necked Duck: 25	Lakeville	1	W.Petersen
King Eider: 21-30	Chatham	1 imm. m.	J.Hines & v.o.
Surf Scoter: 14,21	E.Orleans, Orleans	1 m., 1	A.Williams, T.Raymond
White-winged Scoter: 27	Marblehead	3	J.Berry
Hooded Merganser: 14	Cambridge (Mt.A.)	1	A.Bennett
Red-breasted Merganser: 8	Wellfleet (2 locations)	2 f.	B.Sorrie
Turkey Vulture: 3,27 28	Middleboro, S.Dartmouth Mt.Watatic	3, 1 5	E.Parks, T.Raymond L.Taylor
Osprey: 17,19 25,28;26,28	Winchester, Lincoln E.Orleans; GMNWR	1, 1 1, 2; 1	R.Stymeist#, R.Forster A.Williams,D.Williams;G.Gove#
Bald Eagle: 5,8	Newbury, Wayland	1 imm., 1 imm.	J.MacDougall,D.Gould
Northern Harrier: thr. 20,21	P.I. Monomoy, E.Orleans	max. 9 8/27 4, 2	P.W.Smith# & v.o. B.Schlinger,D.Williams
Northern Goshawk: 6;7,26	N.Carver, GMNWR	1 ad.; 1 imm., 1 imm.	K.Anderson;W.Petersen,G.Gove
Broad-winged Hawk: 28	Mt.Watatic	18 migrants	L.Taylor
Peregrine Falcon: 10	Nauset	1	B.Nikula

RAILS THROUGH GOATSUCKERS

A Clapper Rail was noted in Newburyport as were six Virginia Rails and six Soras at Great Meadows where an adult Purple Gallinule provided brief glimpses from the first through the ninth of the month. This is the fourth year in a row that this species has been seen at Great Meadows, and the sequence has been immature, adult, immature, and adult. So at least two birds are involved.

Shorebirds continued their southward migration with numbers of the common species increasing throughout the month. Of the resident birds, Piping Plover numbers were low at Monomoy, and American Oystercatcher numbers were high there possibly indicating a successful breeding season. An American Avocet was present at Plum Island at midmonth for the nineteenth BOEM record. The highest count on record, 190 Whimbrel, was noted at Monomoy this month, and one hundred were seen at Wellfleet. "Western" Willets were present at Monomoy where 156 Hudsonian Godwits were present. Thirty-two of these birds were seen on the causeway to Mashnee Island in Bourne constituting a new, or at least a previously unreported, stopping area for this species. A Marbled Godwit was noted in South Dartmouth. Red Knots were present in good numbers at Monomoy and Scituate

where many were banded and marked by MBO. Stilt Sandpipers at Plum Island numbered 62 which is the third highest total on record. A Buff-breasted Sandpiper on Marblehead Neck provided Benton Basham his 681st species for the year in North America, number 680 being the White-faced Storm-Petrel seen on the BOEM Hydrographer Canyon pelagic trip. Also on that excursion, a Whimbrel was seen flying over Georges Bank as were two Baird's Sandpipers.

One observer noted an extraordinary number of Great Black-backed Gulls in Newburyport Harbor - "the greatest concentration in twenty-five years" - in his experience. The birds may have been feeding on bait fish that had been chased into the harbor by bluefish. Individual Sabine's Gulls were seen on two occasions at Stellwagen Bank. Three individual Royal Terns were observed and 2500 Roseate Terns were counted at Monomoy where fifteen "portlandica" Arctic Terns were seen along with as many as twenty Forster's Terns. A Bridled Tern was reported from fifty miles south of Martha's Vineyard, but no details were provided. Black Terns were present throughout the month with a maximum of twenty on the vineyard, and eight were seen on the BOEM pelagic trip. Ten Black Skimmers were reported from various locations.

Three individual alcids were noted including one Thick-billed Murre with badly injured legs (it later died) possibly due to an attack by bluefish. Common Nighthawks were migrating and a total of 1795 were counted between August 13 and 30 in Brookline.

G.W.G.

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>OBSERVERS</u>
Clapper Rail:			
7	Newbypt	1	W.Petersen#
Virginia Rail:			
thr.	GMNWR	max. 6 8/28	v.o.
Sora:			
thr.	GMNWR	max. 6 8/28	v.o.
Purple Gallinule:			
1-9	GMNWR	1	T.Billings, D.Arvidson#
Common Moorhen:			
thr.	GMNWR	max. 6	v.o.
13,23	P.I.	2	BBC
Black-bellied Plover:			
13,27	P.I.	200, 1500	BBC
14-28	Monomoy	max. 1000 8/20	v.o.
20,30	Squantum, Scituate	120, 350	R.Abrams, W.Petersen
Lesser Golden-Plover:			
6,7;20	P.I.; Chatham	1 ad., 1; 1	W.Petersen#, G.Gove#; G.d'Entremont
26	GMNWR	1	J.Carter
Semipalmated Plover:			
thr.	P.I.	max. 600 8/23	v.o.
thr.	Monomoy	max. 2000 8/20	v.o.
11,14	Scituate	350	W.Petersen, L.Taylor
6,13	Ipswich, Marblehead	50, 100	J.Berry
Piping Plover:			
thr.	Monomoy	max. 15 8/3	v.o.
13,23	P.I.	1	BBC, A.Bennett
20,30	Plymouth, Scituate	1, 6	D.Briggs, W.Petersen#
Killdeer:			
thr.	Woburn, P.I.	4, max. 8	G.Gove, BBC
13,23	Halifax, Lincoln	85, 13	W.Petersen#
31	Newton	25	O. & N. Komar
American Oystercatcher:			
thr.	Monomoy	max. 45 8/20	v.o.
American Avocet:			
11-18	P.I.	1	S.Mirek & v.o.
Greater Yellowlegs:			
thr.,7	P.I., Monomoy	max. 100, 25	v.o., BBC
20	Squantum	40	R.Abrams
Lesser Yellowlegs:			
thr.	Newbypt-P.I., Woburn	max. 600 8/6, max. 12	v.o., G.Gove
14,20	Halifax, Monomoy	7, 45	K.Anderson, G.d'Entremont
Solitary Sandpiper:			
12,13	S.Peabody, Halifax	10, 3	R.Heil, W.Petersen
20,26	Monomoy, P'town	1, 2	G.d'Entremont, W.Petersen
21,23;24,28	Lincoln; GMNWR	1, 2; 3, 2	J.Carter; BBC
Willet:			
thr.	Monomoy	max. 50 8/2	B.Nikula & v.o.
11,30;23	Scituate; P.I.	2; 3	W.Petersen; A.Bennett

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>OBSERVERS</u>
Willet (continued):			
13,27	Acoaxet, S.Dartmouth	1, 7	P.Swift, T.Raymond
"Western" Willet:			
thr.	Monomoy	max. 15	v.o.
Spotted Sandpiper:			
thr.	Woburn	max. 6	G.Gove
23,26	Lincoln	5, 7	J.Carter
Upland Sandpiper:			
2,5	Lincoln, Bridgewater	5, 2	J.Carter, W.Petersen
20	MNWS, Chatham, WBWS, Nant.	1, 1, 1, 1	R.Heil, B.Nikula, D.Williams, E.Andrews#
23,27	Newbypt	2	A.Bennett, BBC
Whimbrel:			
thr.	Monomoy, P.I.	max. 190 8/2, max. 6	B.Nikula & v.o., v.o.
15	WBWS	100	B.Nikula#
21,27	MNWS, S.Dartmouth	3, 1	R.Forster, T.Raymond
22	Flying over Georges Bank	1	BOEM
Hudsonian Godwit:			
thr.	Newbypt-P.I., Monomoy	max. 34 8/27, max. 156 8/6	v.o., J.Lortie#
18	Bourne	32	R.Bushnell
Marbled Godwit:			
27	S.Dartmouth	1	T.Raymond
Ruddy Turnstone:			
3,7	Monomoy	200, 150	R.Heil, BBC
13-28	P.I.	max. 15	v.o.
13,14	Marblehead, Scituate	28, 50	J.Berry, G.Gove#
Red Knot:			
14-30	Scituate	max. 1000 8/14	v.o.
thr.	Monomoy	max. 575 8/2	v.o.
Sanderling:			
thr.	Monomoy	max. 1600 8/2	v.o.
25,27	Revere, Scituate	95, 100	K.Durham, SSBC
Semipalmated Sandpiper:			
thr.	Monomoy, Woburn	max. 2500, max. 65	v.o., G.Gove
13-27	P.I.	max. 1000 8/13	BBC
6,7,13	Ipswich, Nauset, Wenham Lake	135, 1500, 200	J.Berry, B.Nikula, J.Berry
23	Lincoln	125	J.Carter
Western Sandpiper:			
15,23	P.I.	1, 1 juv.	A.Williams, R.Heil
18,20;20,27	WBWS; Monomoy	1; 1, 2	D.Williams; G.d'Entremont, W.Petersen#
19,27-30	Squantum, Marblehead	1, 1	R.Abrams, R.Heil#
30	Scituate	5	W.Petersen
Least Sandpiper:			
8, 20	Woburn, Monomoy	7, 1000 (many juvs.)	G.Gove#
23,24	Lincoln, Concord	50, 27	J.Carter
20,27	P.I.	20	J.Berry
White-rumped Sandpiper:			
7-28	P.I.	max. 20 8/7	v.o.
22	Nantucket	1	E.Andrews
Baird's Sandpiper:			
20,27	Monomoy	1, 1	G.d'Entremont#, W.Petersen#
22,28	Georges Bank, P.I.	2, 1	BOEM(W.Petersen), G.Gove#
Pectoral Sandpiper:			
thr.	Woburn	max. 8 8/8	G.Gove
13-27	P.I.	max. 6 8/27	v.o.
5,14;26	Halifax; GMNWR	6; 3	K.Anderson; J.Carter
Dunlin:			
11,13	Scituate, Monomoy	1, 1	W.Petersen#
Stilt Sandpiper:			
thr.	P.I.	max. 62 8/7	v.o.
Buff-breasted Sandpiper:			
21-31	Marblehead	1	R.Heil & v.o.
21,27	Nantucket, P.I.	1, 2	C.Andrews, BBC
27,31	Monomoy, Newton	1, 1	B.Nikula, O. & N.Komar
Short-billed Dowitcher:			
6-27	Newbypt-P.I.	500-30	v.o.
7-20	Monomoy	100-20	v.o.
20	Plymouth	10	D.Briggs#
Long-billed Dowitcher:			
3-28	Monomoy	1	v.o.
6-27	P.I.	max. 55 8/16	v.o.
19,30	Squantum, Scituate	4, 2	R.Abrams, W.Petersen

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>OBSERVERS</u>
Common Snipe:			
13,15,28	Halifax, Woburn, GMNWR	2, 1, 2	W.Petersen#, G.Gove, BBC
Wilson's Phalarope:			
thr.	P.I.	max. 6	v.o.
7,20	Monomoy	1	BBC, B.Nikula#
18,21	WBWS, Nauset	1,1	D.Williams, B.Nikula
Red-necked Phalarope:			
13,27;13	P.I.; Eastham	1, 2; 65	BBC; B.Nikula
21,22	Cape Cod Bay, Georges Bank	2, 20	S.Smith, BOEM (W.Petersen)
Red Phalarope:			
22	Georges Bank	15	BOEM(W.Petersen)
Pomarine Jaeger:			
22	Georges Bank	4	BOEM(W.Petersen)
Parasitic Jaeger:			
1,26	Stellwagen Bank	1, 3	R.Heil, C.Hubbard#
12,23	Rockport, Stellw.	1, 6	R.Heil, BOEM (W.Petersen)
Laughing Gull:			
4,25	Scituate, Revere	18, 4	W.Petersen, K.Durham
20,23	P.I., Newbypt	6, 25	BBC, R.Heil
7,20	Monomoy	400, 100	BBC
Little Gull:			
13,20,28	Newbypt-P.I.	2, 1 ad. & 1(2S), 2	BBC, R.Forster, C.Floyd#
Common Black-headed Gull:			
20	P.I.	1 ad.	R.Forster
Bonaparte's Gull:			
20-31	Newbypt	max. 280 8/20	v.o.
25	Revere	175	K.Durham
Sabine's Gull:			
26,30	Stellwagen Bank	1, 1	C.Hubbard, T.Rumage
Royal Tern:			
6,20,25	Rockport, P'town, Nant.	1, 1, 1,	J.Berry, D.Briggs#, E.Andrews
Roseate Tern:			
3,26	Monomoy, Nauset	2500, 800	R.Heil, B.Nikula
Common Tern:			
thr.	Monomoy	max. 1000 8/7	BBC
20	Newbypt, Squantum	100, 40	J.Berry, R.Abrams
Arctic Tern:			
3	Monomoy	15	R.Heil
Forster's Tern:			
14-31	Monomoy	max. 20	v.o.
6-27	P.I.	max. 10 8/23	v.o.
20	P'town	14	D.Briggs#
Least Tern:			
13,27;14	P.I.; Monomoy	20, 2; 50	BBC
<u>Bridled Tern:</u>	(no details)		
7	50 miles S of M.V.	1 ad.	V.Laux
Black Tern:			
7-31	Monomoy	max. 20	v.o.
17,20	Nantucket, P'town	1, 2	E.Andrews#, D.Briggs#
22 & 23	Georges Bank	8	BOEM (W.Petersen)
Black Skimmer:			
14-31	Monomoy	max. 2 ad. & 4 imm.	v.o.
16-31	E.Dennis	2 imm.	G.Adami
12-31	Nauset	1 imm.	B.Nikula#
27	S.Dartmouth	2 imm.	T.Raymond
Alcid, sp.			
12	Rockport (A.P.)	1	R.Heil
<u>Thick-billed Murre:</u>			
19	Truro	1	D.Reynolds
Black Guillemot:			
23	P.I.	1 partial br.pl.	R.Heil
Barred Owl:			
15	Sherborn	1	E.Taylor
Short-eared Owl:			
thr.	Monomoy	5+	D.Holt & v.o.
Common Nighthawk:			
8,13	Framingham, Lincoln	1, 1	R.Forster
13-16	Brookline (Lars Anderson)	98	R.Stymeist, J.Heywood
20-25	Brookline (Lars Anderson)	1413	J.Heywood, D.Arvidson#
26-30	Brookline (Lars Anderson)	284	R.Stymeist, J.Heywood#
17,18	Lincoln, Haverhill	6, 9	P.Swift, R.Stymeist#
23,30	P.I., Yarmouthport	12+, 5	R.Heil, J.Aylward

SPECIES/DATE	LOCATION	NUMBERS	OBSERVERS
Whip-poor-will: 13,14	E.Orleans	1	A.Williams
<u>CHIMNEY SWIFT THROUGH VIREOS</u>			
A roost of Chimney Swifts was discovered, appropriately enough, in the chimney of a church in Haverhill during midsummer. On August 18, a count taken at dusk as the birds entered the chimney tallied just over 300 individuals. Area residents indicated that this roost was of annual occurrence and that numbers usually peaked at even higher levels around the first week in September. Some twenty Fish Crows, adults based on the presence of molt, were observed going to roost in Whitman. This is a very high count for this season in Plymouth County. As in the late spring months, a Common Raven was seen on Cape Cod, this time in West Harwich. It seems likely that this is the same individual that frequented Chatham in April and May. L.E.T.			
Chimney Swift: 18,20	Haverhill, P.I.	302 (roost), 6 migr.	R.Stymeist#, R.Forster
Ruby-throated Hummingbird: 10,13 24,27	Lakeville, E.Orleans Carver, Framingham	1, 1 1, 1	D.Briggs, A.Williams T.Akers, R.Forster
Belted Kingfisher: 9,30	GMNWR, Marshfield	2; 2	A.Williams, D.Clapp
Pileated Woodpecker: 24	Littleton	1	J.Baird
Olive-sided Flycatcher: 21	P.I.	1	G.Gove#
Eastern Wood-Pewee: 20,27	Wayland, P.I.	2, 1	BBC
Yellow-bellied Flycatcher: 20,22	Annisquam, MBO	2, 1 b.	H.Wiggin, MBO staff
Alder Flycatcher: 4,9	Concord, Lincoln	1, 1	A.Williams
Willow Flycatcher: 10-15,13	Lincoln, GMNWR	2 ad. & 2 yg., 1	J.Carter, BBC
Least Flycatcher: 4,13	Lexington, MBO	1, 1 b.	J.Carter, MBO staff
Eastern Kingbird: 13-28,13-27 27	GMNWR, P.I. Scituate	7 max. 8/13, 25 max. 8/27 20	BBC SSBC
Purple Martin: 1-23,31	P.I., Newton	100 max. 8/7, 2	v.o., O. & N.Komar
Tree Swallow: 1,27	P.I.	3000, 15000	BBC, v.o.
Bank Swallow: 13	GMNWR	2	BBC
Cliff Swallow: 1	P.I.	35	BBC
Barn Swallow: 1,20	P.I., MNWS	200, 200+	BBC, R.Heil
Fish Crow: 10-25, 31	Whitman	1, 21	W.Petersen
Common Raven: 7	W.Harwich	1	E. & P.Bates#
Red-breasted Nuthatch: 15-31	7 locations	13 total	v.o.
Brown Creeper: 13,21	GMNWR, Sherborn	1, 1	L.Taylor#, E.Taylor
Carolina Wren: 20	Chatham	1	G.d'Entremont#
Marsh Wren: 13-28,27	GMNWR, P.I.	25 max. 8/13, 3	BBC
Blue-gray Gnatcatcher: 16,17 22	Annisquam, MBO Framingham	1, 1 b. 1	H.Wiggin, staff R.Forster
Eastern Bluebird: 1-6,27	Middleboro, Hingham	pr., 5	D.Briggs, S.Smith#
Veery: 20	Waltham	1	L.Taylor
Swainson's Thrush: 19	MNWS	1	R.Heil
Wood Thrush: 27	Marshfield	1	SSBC

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>OBSERVERS</u>
Gray Catbird: 27	P.I.	20	BBC
Water Pipit: 20	Annisquam	1	H.Wiggin
Cedar Waxwing: 13,18	GMNWR, Marshfield	8, 16	v.o., D.Clapp
White-eyed Vireo: 17	MBO	1 b.	MBO staff
Solitary Vireo: 13,28	P.I., Princeton	1, 1	R.Stymeist, D.Lange#
Warbling Vireo: 17,20	MBO, Wayland	1 b., 2	MBO staff, BBC
Philadelphia Vireo: 25,28	MBO, Princeton	1 b., 1	MBO staff, D.Lange#
Red-eyed Vireo: 17,28	MBO, GMNWR	1 b., 1	MBO staff, BBC

WARBLERS THROUGH AMERICAN GOLDFINCH

Southern warblers were well represented in this year's August migration/dispersal. The single Yellow-throated Warbler was consistent with the past record of about one individual every other August. Three Prothonotary Warblers is also about average for this month but seems a good count compared to the total absence of this species during August 1982. Individuals of both Kentucky and Hooded warblers turned up rather early in the month.

One of the Dickcissels reported in the region was a somewhat early arrival; total number for the month was about average. Two Yellow-headed Blackbirds turned up at coastal sites as has come to be expected in the early part of the fall movement. This year's birds were both immatures, in contrast to the adults seen in 1982.

Excitement was provided during the period of August 22-27 by a Sudan Golden Sparrow (*Passer luteus*) on Plum Island. This African native is commonly kept in pet shops and parlors. Thus this individual must go into the record as an escape and not as the second African vagrant in eastern Massachusetts for the year! L.E.T.

Blue-winged Warbler: 7,7-28	W.Newbury, MNWS	4, 6 max. 8/19	W.Petersen, R.Heil#
17	MBO	1 b.	MBO staff
Golden-winged Warbler: 6-23	W.Newbury	1	v.o.
Tennessee Warbler: 6,11	W.Newbury, MBO	1, 1 b.	W.Petersen, MBO staff
23,28	MNWS, Princeton	5, 3	R.Forster, J.Pfortner#
Nashville Warbler: 10	MBO	1 b.	MBO staff
Yellow Warbler: 17,28	MBO, GMNWR	1 b., 3	MBO staff, BBC
Chestnut-sided Warbler: 26	MBO	1 b.	MBO staff
Magnolia Warbler: 28,30	Princeton, MBO	2, 1 b. (first)	D.Lange#, MBO staff
Cape May Warbler: 16,20	MBO, Annisquam	1 b., 16	MBO staff, H.Wiggin
23	P.I., MNWS	3, 4	A.Bennett, R.Forster
Black-throated Blue Warbler: 22	Lexington	1	J.Carter
Yellow-rumped Warbler: 11,28	Halifax, Ashby	1, 3	W.Petersen, L.Taylor
Black-throated Green Warbler: 13,28	P.I., Princeton	1, 2	BBC, J.Pfortner#
Blackburnian Warbler: 13,28	P.I., Princeton	1, 3	BBC, D.Lange#
Yellow-throated Warbler: 14	Gloucester	1	C.Leahy#
Bay-breasted Warbler: 6,23	MNWS, MBO	1, 1 b.	R.Heil, MBO staff
22,23	Lexington, MNWS	4, 8	J.Carter, R.Forster
Blackpoll Warbler: 23,27	MNWS, Scituate	1, 1	R.Forster, SSBC
28,30	GMNWR, MBO	4, 1 b.	BBC, MBO staff
Black-and-white Warbler: 4,28	GMNWR, Princeton	1, 3	A.Williams, D.Lange#

<u>SPECIES/DATE</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>OBSERVERS</u>
American Redstart:			
1,16	P.I., MBO	1, 4 b.	BBC, MBO staff
23,28	MNWS, Princeton	6, 16	R.Forster, J.Pfortner#
Prothonotary Warbler:			
14,15	Nantucket, MBO	1 m., 1 b.	E.Andrews, MBO staff
24	Chatham	1 m.	D.Holt#
Ovenbird:			
16,27	MBO, P.I.	1 b. (first), 1	MBO staff, BBC
Northern Waterthrush:			
9,10	GMNWR, MBO	1, 1 b.	A.Williams, staff
Louisiana Waterthrush:			
7	WBWS	1 b.	E.Fisk
Kentucky Warbler:			
11-22	MNWS	1	J.Smith#
Mourning Warbler:			
20	P.I., MNWS	1, 1	R.Forster, R.Heil
23	MNWS	1	R.Heil
Hooded Warbler:			
4-5,19	Chatham, MNWS	1 m., 1	R.Clem#, R.Heil
Canada Warbler:			
16,23	MBO, MNWS	1 b. (first), 2	MBO staff, R.Forster
Yellow-breasted Chat:			
23,25;25	MBO; Nantucket	1 b., 1 b.; 1	MBO staff; E.Andrews
27,30	Scituate, MNWS	1, 1	SSBC, R.Heil
Rose-breasted Grosbeak:			
19,20	Annisquam, Wayland	4, 5	H.Wiggin, BBC
Dickcissel:			
5,20	Whitman, MNWS	1, 1	W.Petersen, J.Smith#
20,21	Nantucket	1	E.Andrews#
Chipping Sparrow:			
28	Monomoy	1	W.Petersen#
Field Sparrow:			
3	MNWS	1	J.Smith
Savannah Sparrow:			
24	GMNWR	1	R.Forster
Sharp-tailed Sparrow:			
7-14,13-27	Monomoy, Newbypt	6, 30 max. 8/27	BBC, J.Berry
14,25	E.Orleans, MBO	3, 1 b.	A.Williams, MBO staff
Seaside Sparrow:			
20	Monomoy	3	G.Gove#
White-throated Sparrow:			
7	MNWS	1	J.Smith
Bobolink:			
2,27	GMNWR, Newbypt	6, 10	G.Gove, BBC
Yellow-headed Blackbird:			
20	P.I., Monomoy	1 imm., 1 imm.	J.Berry#, B.Nikula#
Brown-headed Cowbird:			
24	Concord	90+	J.Carter
Purple Finch:			
27	P.I.	2	BBC
House Finch:			
6,12	Ipswich, S.Peabody	150+, 75+	J.Berry, R.Heil
American Goldfinch:			
13,27	GMNWR, Marshfield	40+, 12	BBC, SSBC

CORRIGENDUM: June 1983 FIELD RECORDS

<u>Curlew Sandpiper:</u>			
29,30	P.I.	1 ad. br. pl.	H.Weissberg & v.o.
		should read	
<u>Curlew Sandpiper:</u>			
29,30	P.I.	1 ad. br. pl.	E.Pyburn, S.Garrett & v.o.

WHERE AND WHEN TO SEND FIELD RECORDS

In order to be processed, all field records for any given month must be submitted PROMPTLY and NOT LATER THAN the eighth of the following month to:

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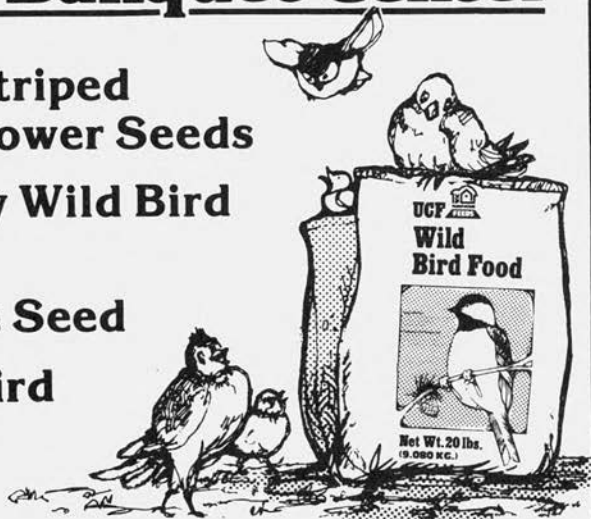


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FIELD NOTES FROM HERE AND THERE

Loons in New Hampshire and Florida: Good News and Bad. On July 16, 1983, 134 New Hampshire lakes and ponds were censused for the presence of Common Loons, and the data reflect another good year for loon productivity. This year's census was the first to be sponsored by the Loon Preservation Committee of the Audubon Society of New Hampshire. The census figures which are collected at the society's headquarters in Concord indicate a total population of 256 adult loons, 65 chicks, and one immature on the lakes and ponds surveyed. These data compare very favorably with a count last year that recorded 257 adults and 76 fledging chicks. These two years represent the highest figures on record for loon productivity in that state.

Robert H. Stymeist
Brookline

In view of the mysterious death last spring of two thousand Common Loons wintering along Florida's Gulf Coast [New York Times, June 28, 1983], any evidence that this species is holding its own on the northern breeding grounds is encouraging news. Examination of the Florida loon carcasses by federal and state researchers of several states revealed emaciated birds with empty stomachs. The loons apparently became too weak to dive for fish and starved to death. The bodies then were found floating on the surface or washed up on the beaches. Tissue tests revealed the presence of viruses, bacteria, and flatworms, but none of the parasites found are known to cause sickness in loons or other birds. Toxicological tests so far have not been completed or reported, but the areas where the dead loons were found were relatively free of pollutants. One of the survivors was still present at Ding Darling Wildlife Refuge through May and into June and apparently doing well. This bird presented an unusual sight at that time of year for residents and visiting birders.

Dorothy R. Arvidson
Brookline

Confrontation at Great Meadows. Great Meadows at dawn possesses an unearthly stillness. On September 5, the quiet was shattered by guttural, strident squawks and croaks suggesting a battle to the death. At the end of the dike in the tall grasses on the right, a Great Blue Heron flailed furiously at a partially hidden American Bittern. The bittern, refusing to move, stubbornly fought back. The heron attacked with increasing vigor and shortly succeeded in driving off the bittern who flapped across the dike to the grasses on the far side. The heron thereupon possessed itself of the bittern's prized fishing spot.

Barbara Phillips
Watertown



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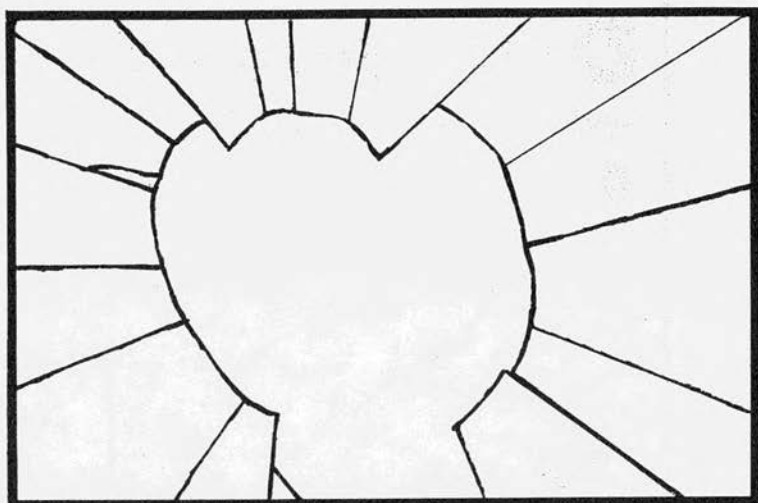
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FIELD NOTES FROM HERE AND THERE



Signature of A Cooper's Hawk. On October 11, 1983, I was to join my parents for breakfast at their home in East Orleans, At 7:30 that morning, my mother heard what she thought was my car door slamming. She came to the back door to greet me, but I had not yet arrived. Instead, she discovered a very different visitor - an immature Cooper's Hawk, flying around inside the screened porch.

Pictured above is a drawing of the window pane through which the hawk came crashing. The window (12 x 18 inches) was at waist height, its position second from the bottom in a series of four such panes that fill in the porch door. The hawk came through the pane with such force that pieces of glass were thrown about fifteen feet to the window sill on the opposite side of the porch. This sill is nearly as high as the pane from which those chips of glass had come.

I'm happy to report that the hawk was uninjured. My parents had terrific views of the crow-sized dynamo before it discovered that my father had opened the ill-fated door. When the bird did see its way to freedom, it wasted no time but flew straight through the doorway and out of sight "like a bullet." When I arrived, my folks were cleaning up the glass. I'd missed the incident but not the excitement it had generated.

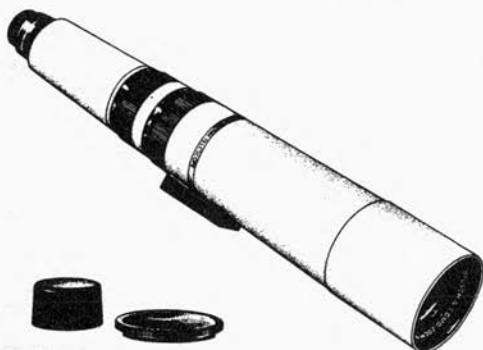
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Upcoming Screech Owl Survey

The Field Studies Committee of BOEM announces yet another Screech Owl Survey - the fourth! The project period begins December 2 and ends December 12, 1983. With a little luck one can see over ten Screech Owls in one night and at the same time contribute valuable data to this study. For a description of the project and previous results, see BOEM 10 (5): October 1982. For data forms and instructions or for more information, contact Oliver Komar, 61 Wade Street, Newton, MA 02161, telephone: 332-5509.

FORBUSH BIRD CLUB - WORCESTER SCIENCE CENTER

1984 ANNUAL BIRD PHOTOGRAPHY CONTEST

The deadline for entries is March 6, 1984. For an entry form or more information, write or call the Worcester Science Center, 222 Harrington Way, Worcester, MA 01604, telephone (617) 791-9221.

Award ribbons and cash prizes are offered in both professional and amateur categories. Photographs will be judged by a combination of professionals in the fields of ornithology and photography and will be on display at the Worcester Science Center for up to ninety days after March 15, 1984.

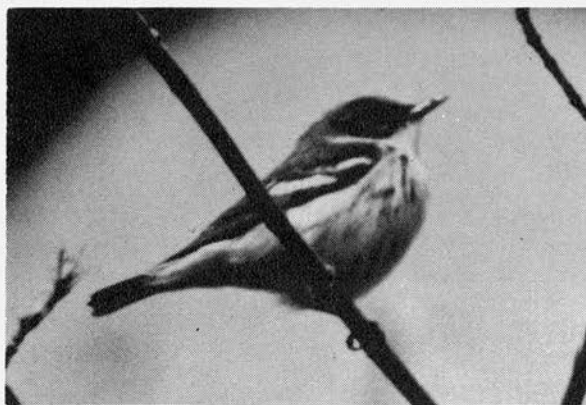
This contest is being supported by the Brookline Bird Club and Bird Observer of Eastern Massachusetts.

The photos in At-a-Glance are always subjected to scrutiny by one or two expert advisers before publication. The comment of one when shown the photo of the Cerulean Warbler was - "Very, very sneaky." But having in mind a test of the mettle of the "real" birders perusing this column, I decided to offer this picture as number four in our contest. The response ratio of right to wrong answers was 60:40. [I learned early on from "real" scientists to disguise the bulk of results by expressing them in percentages.] The quality of the responses, however few, was excellent as always - wrong as well as right.

"The mystery bird in the August 1983 issue may be a Cerulean Warbler. This parulid has the clear white? throat, breast streaks (but lightly), wing bars, back stripes, pale crown, dark face, no eye ring, clear undertail coverts. That's a rarely photographed bird, IF that's what it is. The contortions of the chest may hide a necklace."

This tentative, but accurate, assessment was offered by distinguished world birder, Peter Alden. The chest feathering does indeed hide a blue-black neck band. But then, how often do you see this field mark on the Cerulean anyway, perched way up there in the tree tops? The spectacular May 1983 migration produced this bird in our state about nine times, at the least, a doubled incidence. We are indebted for the picture (rare, as Pete says) to Roger Everett, the master photographer from Mansfield who seems always to be there when the unusual avian comes through. [See the Mississippi Kite photo in August BOEM and the Fulvous Whistling-Duck report in the August records in this issue.]

D.R.A.



*Cerulean Warbler
Beech Forest, Provincetown
May 7, 1983*

Photo by Roger Everett

At a Glance . . .

Photo by Dorothy R. Arvidson



Can you identify this bird? Identification will be discussed in next issue's *At a Glance*. *Bird Observer* will award a PRIZE to the reader who submits the most correct answers in 1983. Please send your entry on a postcard to Bird Observer, 462 Trapelo Road, Belmont, MA 02178 before the answer is published in the next issue.



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