

# BIRD OBSERVER

OF EASTERN MASSACHUSETTS



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MUDHEN



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EDITOR-IN-CHIEF ..... PAULA BUTLER

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REGIONAL STATISTICAL EDITOR ..... RUTH P. EMERY

CONTRIBUTING EDITORS ..... JOSEPH T. LEVERICH  
PHILIP MARTIN

COMPILERS ..... DAVID T. BROWN  
STEPHEN P. GRINLEY  
ROBERT H. STYMEIST

PRODUCTION ..... LOUISE DeGIACOMO  
ETHEL C. PEARSON

SUBSCRIPTION MANAGER ..... HERMAN H. D'ENTREMONT



#### EDITOR'S PAGE

A special word of thanks to Fred Atwood, regional compiler for Suffolk County, for his contributions to Bird Observer. We wish him good luck at Bowdoin College!

Stephen P. Grinley will replace Mr. Atwood as regional compiler for Suffolk County, and William C. Drummond of Haverhill has joined Bird Observer as regional compiler for Essex County.

#### 1973 BIRDER'S KIT

This year the Massachusetts Audubon Society has introduced a new service for birders - the 1973 Birder's Kit.

The initial mailing of the Kit will contain a Directory of Natural History Clubs in New England, a current calendar of Bird Club meetings and field trips, the first of a "Where to Watch Birds in Massachusetts" series, two annual checklists and two field cards. Eleven subsequent mailings at approximately monthly intervals will contain four or five "Field Problems" (a series of discussions on particularly difficult areas in field identification); monthly Calendars of Bird Club meetings and field trips, three to five additional issues of "Where to Watch Birds," a checklist summary, and miscellaneous publications such as leaflets on building bird houses and the care of wild birds.

The Kit can be purchased by sending \$5.00 plus 15¢ sales tax to Birder's Kit, Massachusetts Audubon Society, Lincoln, Massachusetts 01773. If you wish to purchase parts of it separately, you can obtain them by writing for Natural History Club Directory (50¢), Bird Walk Calendar (12 issues) January through December (\$2.00), Field Problems (\$2.00), or "Where to Watch Birds" (\$2.50).

#### BOAT TRIP TO STELLWAGON BANK

The Brookline Bird Club has scheduled a boat trip to Stellwagon Bank on Saturday, October 28, 1973. For information and reservations, write to Mr. Stephen P. Grinley, 1189 Commonwealth Avenue, Apt. 31, Allston, Massachusetts 02134.

#### CHRISTMAS SUBSCRIPTION SPECIALS



Do you have a birding friend who is not a subscriber and who would enjoy Bird Observer throughout 1974? Why not give him/her a subscription for Christmas? To make it easy, here are special gift rates for current subscribers only, when ordered at the same time.

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## WHAT IS A BIRD SPECIES?

J. T. Leverich, Cambridge

In the April, 1973, edition of The Auk, the A. O. U. Committee on Classification and nomenclature published a supplement to the Check-list of North American Birds (1957, fifth edition), altering the taxonomic classification and the official name(s) of many birds. In the following 32 cases, only the English common name was changed:

<u>Old common name</u>	<u>New English name</u>
1. Fulmar	Northern Fulmar
2. Pale-footed Shearwater	Flesh-footed Shearwater
3. Slender-billed Shearwater	Short-tailed Shearwater
4. Leach's Petrel	Leach's Storm Petrel
5. Wilson's Petrel	Wilson's Storm Petrel
and nine other analogous changes within the family Hydrobatidae.	
15. Common Egret	Great Egret
16. Wood Ibis	Wood Stork
17. American Widgeon	American Wigeon
18. European Widgeon	European Wigeon
19. Shoveler	Northern Shoveler
20. Common Scoter	Black Scoter
21. Gray Sea Eagle	White-tailed Eagle
22. Pigeon Hawk	Merlin
23. Sparrow Hawk	American Kestrel
24. Harlequin Quail	Montezuma Quail
25. Upland Plover	Upland Sandpiper
26. Knot	Red Knot
27. Common Bushtit	Bushtit
28. Catbird	Gray Catbird
29. Robin	American Robin
30. Parula Warbler	Northern Parula
31. Yellowthroat	Common Yellowthroat
32. Mexican Junco	Yellow-eyed Junco

The above alterations were made for various reasons, but mostly to bring American terminology into greater conformity with already established international usage. None of these changes has any biological significance.

A change in the Latin name for a bird is significant inasmuch as it ordinarily reflects a shift in the biological classification of the bird. Fifty percent of these alterations have to do with the merging of one genus in another, or with the placement of a species within a different subfamily. Readers are advised that a reprint of the Auk article, with covers, is available for \$1.25 from: Treasurer, A. O. U., P. O. Box 23447, Anchorage, Ky. 40223.

Most readers will undoubtedly be primarily interested in those taxonomic modifications affecting the species status of certain birds -- in the vernacular, the "lumpings" and "splittings." To appreciate fully the nature of these alterations, one must have a suitable grounding in the modern theory of what a species is. This article and the ones to follow attempt to present this theory in laymen's terms.

### Definition of a Species

A species is an evolved or irreversibly evolving aggregate of natural populations, actually or potentially freely interbreeding, genotypically distinctive as a group, and reproductively isolated from all other species.<sup>1</sup>

We shall examine the various components of this definition in detail; but before doing so, let me hasten to emphasize that a species is NOT a "kind" of bird. Naturalists from 1750 to 1900 tended to think of species in such a fashion. To them, a species was a sort of abstract conglomeration of morphological characteristics,<sup>2</sup> epitomized by one particular bird (the type specimen) preserved in a certain museum collection. Other individuals were to be classed in the same species if they did not differ materially from the type specimen. Earlier taxonomists sometimes discarded variant individuals from their collections as "confusing."<sup>3</sup> Whenever an individual differed drastically from the type specimen, it was inevitably described as a new species. (Most geographic sub-

species and color phases were originally described as separate species. Linnaeus originally described the male mallard as Anas boschas and the female as Anas platyrhynchos!

All in all, the classification system was too finely divided by modern standards, which is why each recent updating of the Check-list tends to show many more "lumpings" than "splittings."

Let us return to the more modern "biological species concept."

1. A species consists of one or more populations, each of which always displays considerable variation among its constituent individuals. Individual variation may be continuous, e.g., darker and lighter brown sparrows within one population, together with individuals of all intermediate hues. Similarly, the American population of the human species contains light blondes and dark brunettes together with all intermediate colorations. Again, individual variation may also be basically discontinuous, allowing the biologist to divide a given freely interbreeding population into distinct sub-classes. Reddish Egrets (Dichromanassa rufescens) appear in an all-white phase and in a dark rusty phase. There are no pink Reddish Egrets.

Discontinuous individual variation within a given population is known as polymorphism. It is of no greater biological significance than is the occurrence of blue or brown eyes among humans. There are three cases of newly-recognized polymorphism in the current Check-list Supplement. (Cf. Category I.)

2. A species consists of natural populations. The class of all toy poodles does not form a species, not even a subspecies, regardless of how well-marked and superbly pedigreed each such dog may be. Reason: the class does not form a natural population. Breed characteristics can only be maintained by an ever-vigilant segregation of all toy poodles from the other members of their natural population (the class of all house dogs) left to their own devices, toy poodles would speedily mongrelize the breed out of existence. (To reiterate, toy poodles manifestly form a distinct identifiable "kind" of dog; they do not form a species.)

Cage-birds (e.g., budgerigars) are sometimes artificially segregated and bred for particular characteristics.

3. A species is genotypically distinctive: or in laymen's language, a species communally shares a distinctive set of genes.

Biologists now recognize that a gene (locus) is a certain delimited section of a DNA-strand within the nucleic acid of a chromosome. Each gene is responsible for the manufacture or assembling of a certain biochemical, or a class of such biochemicals. In turn, each such biochemical participates in a series of life-process reactions. As a result, alteration of a single gene typically produces a wide variety of changes in the animal's characteristics, a phenomenon known as pleiotropy. These changes may be morphological, physiological, or even ethological (affecting instinctual behavior). A distinctive gene pool is usually recognizable on the basis of morphological characteristics alone, but not always. Pairs of species which are so similar morphologically as to confuse the ornithologist, causing him to overlook one of the pair for some time are known as sibling species.

There are three newly recognized sibling species pairs in the current Check-list Supplement. (Cf. Category II.)

4. A species is reproductively isolated, or irreversibly evolving toward that state.

The behavior of birds in captivity gives no evidence as to reproductive isolation. Little Egrets (Egretta garzetta) have repeatedly been hybridized with the Black-crowned Night Heron (Nycticorax nycticorax) in Japan. This proves nothing. In delimiting species the ornithologist is concerned not with whether or not two birds can hybridize; rather, he tries to discover whether they do so in the wild. In fact, today's ornithologist distinguishes between free and limited hybridization!

One currently accepted decisive test is that of random mating: if mates are chosen randomly from members of either of "two populations" with no decided preference being shown for a mate from the bird's own group, then in fact there is only one (intergrading) population under consideration, and the two bird "types" form a single species (however different they may appear to be). There are six cases of species merger in the current Supplement which fit this description. (Cf. Category III.)

5. A species consists of actually or potentially freely interbreeding populations. (Herein lie some of the thornier questions of classification.)

The Eastern Henslow's Sparrow (Passerherbulus henslowii susurrans) at one time bred in an area geographically isolated from the range of the Western Henslow's Sparrow (P. h. henslowii). Subspecific differences doubtless evolved during this time. They now meet and intermingle completely in central New York. This present case is now clear-cut: these are two geographical subspecies comprising a single species.

But what shall the taxonomist say of other populations which are geographically isolated from their nearest relatives? The easy way out would be to class all such geographic isolates as separate species, at least until such time as the birds themselves provide incontrovertible evidence to the contrary. This "solution" has two major flaws:

a. It leads to massive confusion in other branches of biology less directly concerned with taxonomic niceties, particularly certain areas having to do with ecological principles.

b. It seriously under-represents the advanced state of modern ornithology. The subjective judgments of today's scientist are by no means uninformed or arbitrary.

Hence, given a pair of closely related but geographically isolated populations, today's ornithologist tries to decide if they would freely interbreed were they to be brought into contact. When the decision is in the affirmative, the two populations are classed as one species, and where both groups were formerly recognized as species, the more recently described group must be demoted to the level of a subspecies of the other. There are seven cases which fit this description in the current Supplement. (Cf. Category IV.)

#### Specific changes in the current Supplement.

##### Category I: Polymorphism

1. The Great White Heron is now considered the white morph (white phase) corresponding to the blue morph Ward's Heron. Together they form a subspecies (Ardea herodias occidentalis) of the Great Blue Heron. Within the U.S., this population from the Florida Keys is the only one displaying the white morph. It also occurs, however, throughout the Caribbean.

2. The Blue Goose is the dark morph of the white phase Lesser Snow Goose. Together they form a subspecies (Chen caerulescens caerulescens) of the Snow Goose. Although the English name "Snow Goose" is retained, the Latin name for the species must be changed to Chen caerulescens (formerly the name for the Blue Goose), since this name is older than Chen hyperborea.

3. The Black-eared Bushtit is now considered a morph of the Common Bushtit. All forms will henceforth bear the English name "Bushtit." Within the U.S., the black-eared form is the only morph occurring within its population, which thus is also a subspecies (Psaltriparus minimis lloydi). Other Mexican subspecies display both morphs.

##### Category II: Sibling Species

4. Thayer's Gull (Larus thayeri) is split from the Herring Gull (Larus argentatus).

5. Traill's Flycatcher is split into two species:

a. Willow Flycatcher (Empidonax trailli), with vocalization "fitz-bew." This species includes all of the western population E. t. brewsteri and certain members of the population known as E. t. trailli. It breeds in somewhat open habitats.

b. Alder Flycatcher (Empidonax alnorum), with vocalization "fee-bee-o." All of these birds were formerly thought to have been members of the Eastern population Empidonax trailli trailli. It breeds in the boreal forests of Eastern United States, Canada and Alaska.

These two species may occasionally hybridize.

6. The Great-tailed Grackle (Cassidix mexicanus), which is the light-eyed form ranging from western Louisiana into Mexico, is split from the Boat-tailed Grackle (Cassidix major), which ranges from eastern Texas east and up the Atlantic seaboard.

Category III: Zone of massive hybridization, with random mating.

7. Green-winged Teal (Anas carolinensis) + Common Teal (Anas crecca) = Green-winged Teal (Anas crecca). The hybrid zone is in Alaska.

8. Red-tailed Hawk + Harlan's Hawk = Red-tailed Hawk (Buteo jamaicensis).

9. Yellow-shafted Flicker + Red-shafted Flicker + Gilded Flicker = Common Flicker (Colaptes auratus).

Where the first two of these former species meet, the wing-color passes smoothly from yellow through gold, orange and salmon to reddish.

10. Myrtle Warbler + Audubon's Warbler = Yellow-rumped Warbler (Dendroica coronata).

11. Baltimore Oriole + Bullock's Oriole = Northern Oriole (Icterus galbula).

12. White-winged Junco + Slate-colored Junco + Oregon Junco + Guadalupe Junco = Dark-eyed Junco (Junco hyemalis).

A study is under way to determine if the Gray-headed Junco (Junco caniceps) should be included in this grouping.

Category IV: Demotion of geographical isolates.

13. Bahama Honeycreeper is now to be a subspecies of the Bananaquit (Coereba flaveola).

14. San Lucas Robin is demoted to a subspecies of the American Robin (Turdus migratorius).

15. Socorro Warbler (=Olive-backed Warbler) becomes a subspecies of the Tropical Parula (Parula pitiauyumi).

16. McGregor's House Finch and Guadalupe House Finch become subspecies of the House Finch (Carpodacus mexicanus).

17. Ipswich Sparrow is now a subspecies of the Savannah Sparrow (Passerculus princeps).

18. Dusky Seaside Sparrow and Cape Sable Sparrow become subspecies of the Seaside Sparrow (Ammospiza maritima).

19. Baird's Junco becomes a subspecies of the Yellow-eyed Junco (Junco phaeonotus).

Category V: Unclassified

20. The game bird known in this country as the Chukar was imported from stock in Asia. Its A. O. U. Latin name was Alectoris graeca, which is the proper name for the Rock Partridge of Europe. Foreign ornithologists have now separated the Asiatic birds into a new species, called the Chukar (Alectoris chukar), for reasons unknown to me. The Check-list Supplement follows suit.

Readers are warned that the present changes in species status as detailed in the current Check-list Supplement may be no more than the tip of an iceberg. I have been able to identify 7 potential "splittings" and in excess of 14 "lumpings", which may be made before the sixth edition of the Check-list is published. Those eager to anticipate the future are urged to buy

Mayr, Ernst and Lester L. Short, Species Taxa of North American Birds, Publications of the Nuttall Ornithological Club No. 9 (Cambridge, 1970),

which is available from the Museum of Comparative Zoology for \$4.00.

In closing, I would like to emphasize that I am an amateur in all areas of biology. Corrections of the above material by professionals and well-informed amateurs would be appreciated. Follow-up articles on polymorphism, sibling species, isolating mechanisms and hybridization, and isolate subspecies are under consideration. Suggestions from the readers would be welcomed.

#### FOOTNOTES

1. The species definition is basically that of A. E. Emerson, "Taxonomic Categories and Population Genetics," *Ent. News* 56 (1945), with various minor modifications suggested by points made in more recent literature.
2. Morphological characteristics are, roughly, those characteristics which remain obvious in preserved museum specimens -- study-skins, skeletons, or even eggs! Thayer's Gull (*Larus thayeri*) was originally distinguished from other gulls on the basis of an unusual egg coloration.
3. So says Ernst Mayr, former curator of the Museum of Comparative Zoology in his book *Animal Species and Evolution* (Cambridge, Harvard University Press, 1963, p. 139).
4. See Footnote 2.
5. Physiological characteristics are those relating to the life processes of the individual, e.g., blood type, susceptibility to disease or injury, allergenic reactions, "normal" temperature, tolerance to external heat or cold, etc.
6. R. S. Palmer, *Handbook of North American Birds*, Vol. 1 (New Haven: Yale University Press, 1962), p. 463.

#### SO WHAT DO WE COUNT?

I'm sure this question is raised whenever the AOU Check-list is revised. I'm also sure every lister has pondered the matter, not only as a beginner but time and again as his proficiency in the sport grows.

Of course, organizations such as ABA have specific rules as to what one can list. But where does that leave the millions of other birders who have never heard of ABA or of any other formal organization? As for me, I'll count any species, race, or morph that can be reliably identified through field marks, voice, or habitat.

For most birders, listing is as personal as choosing a brand of toothpaste. I feel we should not become preoccupied with the fine points of taxonomy, but rather with what we are able to recognize in the field. Sir Arthur Conan Doyle must have been a good birder, and I am sure Sherlock Holmes could have distinguished an Oregon Junco from a Slate-colored.

That is not to say that Mr. Leverich's excellent review should be taken lightly -- to the contrary, it should be most carefully studied. For only by doing so will a birder gain an appreciation and understanding of what he is looking at.

Yet, if everyone were to lump the two largest herons in North America, we would never know the relative abundance and distribution of the Great Blues and the Great Whites; also, we would not be aware of how many Common (Eurasian) Teals cross the Atlantic to North America; and we would not be so keen to appreciate the subtle differences of the Red-shafted, Yellow-shafted, and Gilded Flickers.

All of these birds will stay on my personal life list. And to me that's the name of the game -- PERSONAL.

L.J.R.

## AUTUMN BIRDING AT GREAT MEADOWS

Peter Alden, Cambridge

As the swamp maples start turning red and the water level subsides, Great Meadows plays host to an increasing variety of fall migrant birds.

Conditions have changed there often in recent years and shall continue to change in the future. In the late fifties and early sixties, the area was certainly one of the top freshwater marshes in the state, both in the quality of habitat and in the numbers of birds. In those years, it was an expanse of tall cattails, broken here and there by small patches of water, with some exposed mud flats in the autumn.

An unusual winter in the late sixties greatly changed the character of the meadows. Today the cattails have been reduced to a fifth of their former number, and even these are off in corners accessible only to muskrats. The dikes which allowed one to penetrate into the heart of the marshes are now flanked mainly by vast amounts of open water, most of which is too deep to be used by wading birds. In the shallower areas, the American Lotus has formed masses, and on open areas the beautiful weed known as Purple Loosestrife now predominates. In some years, when the water level is quite low due to lack of rain or the refuge personnel's efforts, a superb shorebird habitat is formed.

The first birds to indicate the beginning of the fall migration are the red-wings, which begin to flock during the summer. By August, a number of Least and Semipalmated Sandpapers scamper on the mud and even on the buildup of duckweed, algae, and scum next to the main dike. Here these birds are surprisingly tame, providing one of your best chances to photograph "peep." Also in August, many swallows start coming to roost at selected areas of cattails. They sleep on stems and branches over the water, giving them an out in case of nocturnal visits by flightless predators. In the evening at this time of year, you may also hear the delicate "pink" note of Bobolinks as they join the redwing flights. Don't expect to see any spring-plumaged males, however, since these birds have usually moulted before leaving the fields for the marshes.

The shorebirds are certainly of much interest to the lister, though the casual birder dreads the thought that there is more than one kind of sandpiper and shudders to think that some day he will have to identify them. Great Meadows is one of the most reliable spots in the state for Pectoral Sandpiper, which is found with the smaller peeps on the mud. The other specialty is Stilt Sandpiper, which in several past autumns has been present during September in numbers up to a dozen. Dunlin are sometimes common in late September and early October, occurring along with occasional White-rumped Sandpipers. Other shorebirds that are usually present include: Semipalmated Plover (a few), Killdeer (often common), Snipe, Spotted and Solitary Sandpipers, and both Yellowlegs.

In the good shorebird years, particularly in early September if broad expanses of mud are available, you could be rewarded with such unusual inland sights as flocks of Golden Plover (up to 75!), odd Black-bellied Plovers, a few Western Sandpipers and very rarely a Baird's, occasional Dowitchers, and a fair chance for either Wilson's or Northern Phalarope.

Ducks are restricted pretty much to dabblers, since the water is too shallow for most divers. Yet Pied-billed Grebe, Ruddy Duck, and Hooded Merganser do occur fairly regularly. The nesting pairs and young of the Black, Mallard, and Wood Duck families are augmented by other birds from elsewhere, the collection building up into the hundreds. The chief feature of autumn is the state's largest inland concentration of American Wigeon, numbering over a thousand at times. These are joined by several pairs of Gadwall, as well as occasional strays.

Great Meadows is no Mt. Tom for hawks, but many species can be seen by birders who visit repeatedly. Back in the good old days when the marsh was truly extensive, Marsh Hawks were common and conspicuous, but today only an occasional migrant comes by and then doesn't stay long. Broad-winged and Red-tailed Hawks sometimes nest in the vicinity and can be seen much more often than the Red-shouldered, whose fortunes have nosedived in the Sudbury Valley. Ospreys continue to be regular migrants and often stay around the refuge, providing a good show. Bald Eagles are noted perhaps once a year, but they pass by and don't linger. Merlins (formerly called Pigeon Hawks) are noted occasionally in the fall, while American Kestrels (Sparrow Hawks) are somewhat more common. Since the Merlin follows the migration of shorebirds, a year with many Dunlin, for instance, should also be a good year for this hawk.

Herons continue to use the meadows during migration, despite the catastrophic decline in the habitat. Fifteen years ago, summer days could be counted on to produce a number of pairs of both American and Least Bittern. But today the Least is absent and the American rarer than before. Black-crowned Night Herons, Great Blues, Greens, and an occasional egret stop by in the fall. The Great Blues sometimes number around a dozen, which is impressive.

Rails have long been of interest, and again we find that breeding Soras and Virginias have dropped considerably, though there may be an increase in Common Gallinules. But the King Rail, which apparently bred regularly in the fifties, is no longer to be seen. Yet, in August and September, a good migration of Soras and Virginias still takes place, and Great Meadows is the easiest place in the state to see these birds. Often, they walk right out of the reeds onto the mud flats -- but never too far. This action is readily seen just before dusk, when half a dozen rails may be watched on the left side of the dike about a hundred yards from the parking lot. I receive many reports of Yellow Rails in the autumn, but it seems strange that there could be so many aberrant Yellow Rails lacking the white wing patches! The Common Gallinules are difficult to miss in the fall, and again Great Meadows rates as one of the easiest places to see them.

There are several passerines of note that may be found at the meadows. Long-billed Marsh-Wrens still breed, though in smaller numbers than before. At this time of year they can be induced into view among patches of cattails beside the dikes, particularly if you are alone. Short-billed Marsh-Wrens are now extremely rare. Swamp Sparrows, which are permanent residents, are noted all fall, along with the ubiquitous Song Sparrow in many habitats. Savannah Sparrows can be seen on the main dike about half way out, and Sharp-tailed Sparrows are found occasionally in migration. Be careful not to call an immature Swamp a Lincoln's, or an emigrant Sharp-tailed a LeConte's!

The above remarks apply to the original section of the refuge in Concord, between the Old North Bridge and the Bedford line, which is reached off Monson Road. The newer additions to the refuge are not so productive nor accessible. Perhaps if dikes, impoundments, and the like are funded for places like the Sudbury meadows, they too will be worth many visits. One way to see these other sections is to rent a canoe from the South Bridge Boathouse in Concord, on Main Street at the Sudbury River Bridge.

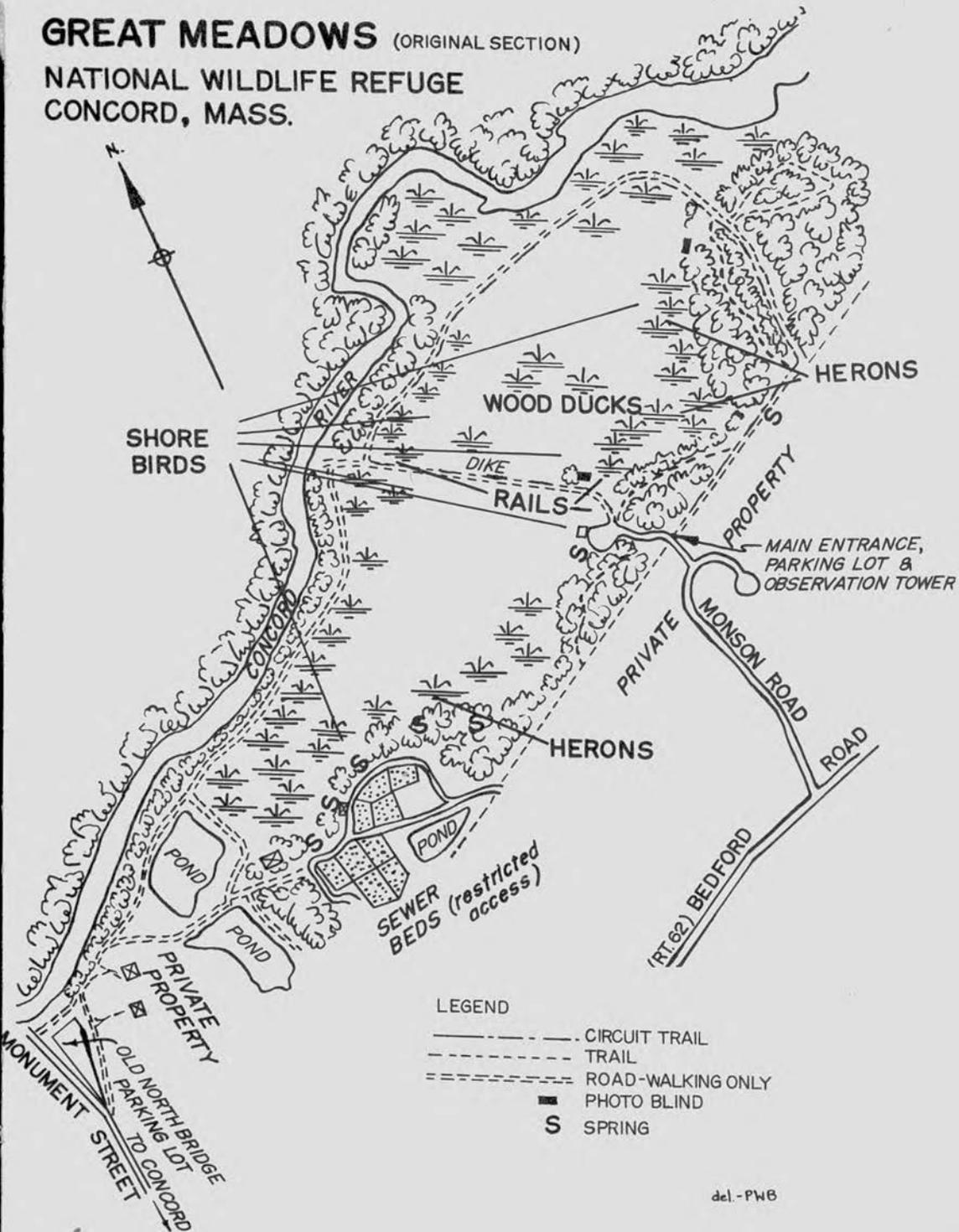
Any significant sightings should be reported in writing with pertinent details to: Refuge Manager, GMNWR, 191 Sudbury Road, Concord, Massachusetts 01742 and the Massachusetts Audubon Society, Lincoln, Massachusetts 01773 (marked to the attention of Ruth Emery, James Baird, or Peter Alden). Outstanding rarities that might require verification should be telephoned to MAS at 259-9500 (ask for Mr. Baird or Mr. Alden). A checklist for Great Meadows (including 209 species seen since 1944) is available at the refuge parking lot or from the manager.



An abundant fall migrant is the Semipalmated Sandpiper. This photograph was taken at Great Meadows by L. J. Robinson with a 2,000-mm. lens.

# GREAT MEADOWS (ORIGINAL SECTION)

NATIONAL WILDLIFE REFUGE  
CONCORD, MASS.



del. - PWB

## GREAT MEADOWS NATIONAL WILDLIFE REFUGE

There are four National Wildlife Refuges in Massachusetts: Great Meadows in Concord, Monomoy in Chatham, Parker River in Newburyport, and Thacher Island in Rockport. The latter three are coastal, while Great Meadows is inland, along the Sudbury and Concord rivers.

Great Meadows is unusual in that it is about 10 miles long and varies greatly in width, according to the width of the river floodplain, which generally defines the refuge boundaries. In some areas along the river the refuge is only about 20 feet across. It extends into seven towns: Sudbury, Wayland, Lincoln, Concord, Bedford, Carlisle, and Billerica. Eventually, it will include most of the floodplain marshes along the Sudbury and Concord rivers, when acquisition is complete.

At present, ownership is scattered and includes about 2,700 acres of the ultimate 4,000 acres approved for acquisition. Most of the refuge was purchased with funds derived from the sale of migratory waterfowl hunting stamps (over \$614,000), and it was set aside as a resting, nesting, and feeding area for waterfowl. Great Meadows Refuge originated as the result of a donation by Samuel Hoar of Concord, when in 1944 he deeded more than 250 acres of land to the U. S. Government.

These meadows were the livelihood of the early settlers of Concord, for they reaped a rich harvest of hay every year to enable their livestock to survive the harsh winters. In 1775, after the battle at the Old North Bridge, the Minutemen took a short cut across the meadows to intercept the retreating British troops at Merriam's Corner and to harass them back to Charlestown.

In the early 1960's, expansion of the refuge began on the approved 4,000 acres. Due to funding restrictions, land acquisition has progressed slowly, but ultimately the refuge will serve to preserve and protect the riverside marshes, which are so fragile and vulnerable to the ravages of man. Anyone can destroy a marsh but no one can make one.

After the hurricane of 1938, few dead trees remained standing in eastern Massachusetts to serve as nesting sites for Wood Ducks. A few years later, Wood Duck numbers dropped dangerously low. It was then that Great Meadows became the center of cooperative efforts to save the Wood Duck in eastern Massachusetts. Wooden nest boxes were erected on the meadows to simulate natural tree cavities, and the Wood Ducks accepted them for nesting, resulting in a population rally that brought them back to the large numbers found here at present.

The refuge has always been one of the better, if not the best, inland birding area in Massachusetts. William Brewster lived just across the river, a stone's throw from the meadows, and Ludlow Griscom frequently visited the refuge, assimilating the knowledge that elevated him in the ranks of naturalists. One of Griscom's favorite places was in an area now within the refuge between Route 20 and Pelham Island Road, Wayland. This site, along with Broad Meadows in Sudbury and Wayland, is given extensive coverage in his excellent book The Birds of Concord.

Access to most of the refuge is only by boat along the two rivers, because most of the land surrounding the refuge is privately owned. The distance between the north and south ends of the refuge is about 14 miles, but in Concord about four miles separate the two largest tracts.

There are few areas along the river where a boat may be launched. The best place is the Bedford boat launch off Route 225 by the bridge. A canoe can be put in the water at the Monument Street bridge in Concord, and a boat at the Route 20 bridge in Wayland. The South Bridge Boathouse on Route 62 in Concord rents boats and canoes.

There is only one area on the refuge developed for public use: the original meadows off Monsen Road which is off Route 62 about 1.5 miles out of Concord Center towards Bedford. Where Monsen Road begins to curve to the right, turn left down a dirt road between two houses to get to the parking area inside the refuge.

At the parking lot there is an observation tower, a leaflet dispenser and about 1.5 miles of interpretive trails to enjoy. If you cross the dike, turn right at the far

side and continue around to the log cabin where nearby there are primitive restroom facilities and a short Loop Trail. Continue down the road through the woods until you reach the old abandoned railroad bed where you turn right. Proceed along the railroad bed until you reach the entrance road once more. A new modern comfort station by the entrance road should be completed this spring. The Spring Trail begins and ends at the parking area and takes about ten minutes to walk.

Birding at the meadows is best in the late summer and fall. During the late summer, water levels are lowered to encourage shorebirds to stop by on their migration. Many excellent inland sightings of shorebirds have been made at the meadows in the past few years, such as Wilson's and Northern Phalarope, Hudsonian Godwit, Ruddy Turnstone, Golden and Black-bellied Plover, Stilt, White-rumped, Baird's and Western Sandpiper, and many others. Since 1970, two Bald Eagles, a Peregrine Falcon, a Sandhill Crane, a Le Conte's Sparrow and a European Wigeon have also been observed. During the fall, waterfowl by the thousands may be seen, particularly Canada Goose, American Widgeon, and Green-winged Teal. After sundown, hundreds of waterfowl may be seen coming in to roost.

Regulations governing public use of the refuge are posted. Disturbance of wildlife or habitat is prohibited, and pets must be kept on a leash. Alcoholic beverages are likewise forbidden, and visitors must remain on existing roads and trails. The refuge is open to the public during daylight hours.

Additional specific information may be obtained by writing, telephoning, or visiting the office.

Berlin Heck  
Acting Refuge Manager

LESSER BLACK-BACKED GULL  
(Larus fuscus graellsii)\*

A sub-adult was first found at Nauset (Eastham) on August 17, 1973, by the undersigned, who later showed it to Carl Goodrich, Bradford Blodget, and Blair Nikula. Wallace Bailey, Jeff Harris, and Vernon Laux were able to see the bird on the evening of the 17th.

This Lesser Black-backed Gull appeared to be entering into its third winter plumage. It had a slightly broken tail band (actually smudges on the ends of some of the rectrices), while the middle wing coverts and some of the under-wing linings were brownish, in sharp contrast to the slaty gray color of the back and parts of the mantle. The head had considerable freckling, especially on the crown. An eye ring was not visible. The bill appeared slightly shorter than that of surrounding Herring Gulls, being orange-yellow with a pale orange spot, immediately behind which was a black smudge. The dull pinkish legs were lighter than those of adjacent Black-backs, shading to pale straw-yellow on the backs near the joints.

Overall, the size was that of the Herring Gulls, being much less than that of the Great Black-backs. The mantle color was much darker than the Herrings but not nearly as deep as the Great Black-backs.

This bird was studied for over an hour from a distance of 300 feet through a 20-power telescope. The weather was cloudy and cool with a 15 m.p.h. northeast breeze. It rained all day on the 15th.

I believe this is only the second published record for Massachusetts, despite the recent increase in sightings throughout the Northeast. The other Massachusetts record was for September 14, 1971, when an adult (also of the race L. f. graellsii) was seen at Monomoy Point by Robert Clem and Wallace Bailey.

Wayne R. Petersen  
Abington, Mass.

\* Larus fuscus graellsii is the British and western European race of Lesser Black-backed Gull, recognized in adult plumage by a pale gray mantle and wings relative to the Scandinavian race L. f. fuscus, which is often as dark as the Great Black-backed Gull. -- ED.

THE BIRD OBSERVER SUMMARY FOR JULY

The month of July was very hot for the first couple of weeks, and precipitation, while widespread, was heavy only in the southeastern sections of the state. From midmonth on, temperatures were more nearly normal, however, rain shower activity persisted in varying degrees all over Massachusetts.

Birding in July was highlighted by several interesting breeding records, a first Atlantic Coast record, and a well-represented shorebird migration. A paucity of reports of breeding birds makes this group difficult to review.

Most remarkable of the Massachusetts nesting records was the finding of an active Manx Shearwater nest on Penikese Island in the Elizabeth Islands. A newborn chick found in a burrow on July 23rd established a first North American breeding record for this species. More on this remarkable discovery will follow in a later issue.

A first Massachusetts nesting for the Fish Crow took place in urban West Roxbury this summer. Two active nests were located, thus establishing long-overdue, positive, breeding evidence.

On the elusive side were the established nestings of Barn Owls in Sandwich and Henslow's Sparrows in Leicester.

Certainly, one of the most bizarre field records of the decade was the discovery and capture of a Red-billed Tropicbird in Providence, Rhode Island. The exhausted bird was caught alive while it was sitting on the tenth floor window sill of the Rhode Island Hospital Trust Bank Building. It found its way first to Alfred Hawkes of the Rhode Island Audubon Society and finally to James Baird at Drumlin Farm in Lincoln. The bird died on July 4th and has been preserved for the state collection of Rhode Island birds. It constitutes the first confirmed report on the eastern coast of the United States.

Among the shorebirds, two very early Long-billed Dowitchers were noted, as were a number of uncommon species such as American Oystercatcher, Ruff, Avocet and Wilson's Phalarope. As with the nesting birds, a lack of reports from the key shorebird areas makes a more complete summary impossible.

A Northern Skua, well-studied from a boat off Chatham, is just one more record in the growing file of records for this species in northeastern offshore waters. While Royal Terns were represented by seven reports, they were distinctly absent from their traditional outer Cape Cod beaches. The continuing fade-out of the Black Skimmer at the northern limit of its range was evidenced by only two reports all month.

Again, a Chuck-will's Widow remained throughout the month on Chappaquiddick Island! While nesting has been suspected, it is always difficult to prove for such an elusive species.

R.H.S.

Common Loon:			
thr.	Monomoy	max. 16	J.Harris
Red-throated Loon:			
8;19,20	Manomet; Monomoy	2;1	J.Loughlin; J.Harris
Pied-billed Grebe:			
23	P.I.	5(3 yg.on ad.back)	BBC(G.Soucy)
17	P.I.	4 families	W.Petersen
Greater Shearwater:			
1	Barnstable, Wellfleet	1,1	R.Pease#, W.Bailey
22	Chatham(Pollock's Rip)	40-50	W.Harrington#
Sooty Shearwater:			
1,4	Barnstable, Provincetown	1,1	P.Martin#, H.D'Entremont#
Manx Shearwater:			
23	Penikese Island	1 chick at burrow	G.Ben David
25	Barnstable(Sandy Neck)	1	R.Pease
Wilson's Storm Petrel:			
4,22	Boston Harbor, Chatham(P.Rip)	220,1000	D.Brown#, W.Harrington#
Gannet:			
1,21	Barnstable, Eastham	2,1	R.Pease, B.Nikula#

Great Blue Heron:			
20,25	Eastham,P.I.	5,5	v.o.,M&A Argue
Green Heron:			
thr.	P.I.	max. 8(23rd)	v.o.
Cattle Egret:			
8,10-15	Ipswich,S.Dartmouth	1,12	J.Loughlin,PBC(P.Regan)
Great Egret:			
thr.,1	P.I.,Westport	1-3,2	v.o.,E.Morrier
5,22	Fall River,Squantum	1,1	R.Langley#,J.O'Regan
Snowy Egret:			
thr.	P.I.	max. 100	v.o.
Louisiana Heron:			
23	P.I.	1	D.Brown
Black-crowned Night Heron:			
12,23	Cambridge,P.I.	20,20	R.Stymeist,BBC(G.Soucy)
28	Eastham	64+	W.Petersen
Yellow-crowned Night Heron:			
10	Eastham(Coast Guard Beach)	1	W.Bailey#
Least Bittern:			
thr.	P.I.	1	v.o.
American Bittern:			
23	P.I.	1	BBC(G.Soucy)
Glossy Ibis:			
thr.,8-31	P.I.,Halifax	max. 40,15	v.o.,D.Briggs#
2,4	Manomet,Duxbury	3,14	T.Lloyd-Evans,D.Gray
6,28	Squantum,S.Westport	6,2	A.Agush,Tuckerman
Gadwall:			
thr.	P.I.	max. 15	v.o.
17	P.I.	2 f. & yg.	W.Petersen
Pintail:			
thr.	P.I.	max. 12	v.o.
Green-winged Teal:			
thr.	P.I.	max. 24	v.o.
Blue-winged Teal:			
thr.	P.I.	max. 12	v.o.
Baldpate:			
17	P.I.	5	W.Petersen
Northern Shoveler:			
thr.,18	Monomoy,N.Quincy	max. 12,1	J.Harris,W.Cornwell
Wood Duck:			
thr.	W.Roxbury,Concord(GMNWR)	1f.&4yg.,2f.&8yg.	F.Atwood,E.Taylor
4,28	P.I.	1f.&4yg., 9 yg.	J.Berry
Common Eider:			
1	Chatham	1	R.Pease
White-winged Scoter:			
17,28,30	Chatham,P.I.,Ipswich	1,2,5	B.Nikula#,J.Berry,R.Dwellely
Surf Scoter:			
thr.	Eastham(Coast Guard Beach)	2	B.Nikula#
Ruddy Duck:			
thr.	P.I.	max. 4	v.o.
Goshawk:			
8	Groton	1	B.O'Hara
Cooper's Hawk:			
5	Middleboro	1	D.Briggs
Broad-winged Hawk:			
thr.	Sherborn(Broadmoor)	1	E.Taylor
Marsh Hawk:			
22	Monomoy	1	R.Pease
Osprey:			
3,28	Barnstable,Manomet	3,1	R.Pease,J.Loughlin
Ruffed Grouse:			
6,10	Hingham,Sandwich	1,1	C.Clark,R.Pease
Clapper Rail:			
9-10	Eastham	1	B.Nikula#
Virginia Rail:			
thr.,28	W.Roxbury,P.I.	3-5,2	F.Atwood,J.Berry
Sora:			
13,21,28	W.Roxbury,Concord(GMNWR),P.I.	1,1,1	F.Atwood,E.Taylor,J.Berry

Common Gallinule:		
thr.	P.I.	max. 12 v.o.
12,21	W.Harwich,Concord(GMNWR)	1,2 B.Nikula,BBC(E.Taylor)
American Oystercatcher:		
thr.	Monomoy	3 v.o.
Semipalmated Plover:		
9,23,31	Plymouth,P.I.,Squantum	2,12,20 Carmichaels,G.Soucy#,D.Brown#
Piping Plover:		
2,10	P.I.,Plymouth Beach	6,2 chicks BBC(G.Soucy),Carmichaels
Golden Plover:		
15	P.I.	2 G.Soucy#
Black-bellied Plover:		
thr.,31	P.I.,Squantum	1-5,34 v.o.,D.Brown#
Ruddy Turnstone:		
thr.	P.I.	1-4 v.o.
American Woodcock:		
1,2,30	Rowley,Canton,Manomet	2,1,1 J.Clancy,E.Morrier,T.Lloyd-Evans
Whimbrel:		
thr.	P.I.,Monomoy	2,max. 6 G.Soucy#,v.o.
21,29	Wellfleet(WBWS),Barnstable	7,2 R.Stymeist#,H.D'Entremont#
Upland Sandpiper:		
thr.	Newburyport	max. 3 v.o.
Solitary Sandpiper:		
1,15	Middleboro,Halifax	1,2 D.Briggs
21,29	Concord(GMNWR),Eastham	1,5 BBC(E.Taylor),W.Petersen
Willet:		
4	P.I.	1 J.Berry
8,22	Monomoy	5,1 W.Harrington,BBC(R.Stymeist)
Greater Yellowlegs:		
thr.	P.I.	max. 75+ v.o.
Lesser Yellowlegs:		
thr.,17	P.I.	max. 75,125+ v.o.,W.Petersen
Red Knot:		
9,22	Plymouth,Chatham	2,150 Carmichaels,W.Harrington
23	P.I.,Scituate	95,300 BBC(G.Soucy),C.Clark
Pectoral Sandpiper:		
thr.,29	P.I.,Chatham(North Beach)	1-2,31 v.o.,F.Atwood
White-rumped Sandpiper:		
8,22,25	Squantum,Chatham,P.I.	3,2,1 D.Brown,W.Cornwell,M&A Argue
Least Sandpiper:		
thr.	P.I.	max. 100+ v.o.
Dunlin:		
21,22	P.I.,Monomoy	1,1 L.Robinson,BBC(R.Stymeist)
Short-billed Dowitcher:		
thr., 8	P.I.,Squantum	max. 1000,250 v.o.,D.Brown
Long-billed Dowitcher:		
17	P.I.	2 ad. in breeding plumage W.Petersen,R.Forster
Stilt Sandpiper:		
thr.,17	P.I.	max. 8,14 v.o.,W.Petersen
26,29	Monomoy,Rowley	2,2 W.Petersen,M&A Argue
Semipalmated Sandpiper:		
thr.	P.I.	max. 5000 M&A Argue
Western Sandpiper:		
9,21	Eastham(Coast Guard Beach)	1,1 B.Blodget,B.Nikula
27	Eastham(Coast Guard Beach)	1 W.Petersen
Marbled Godwit:		
18,21	Newburyport	2,2 M.Gardler,J.Baird
Hudsonian Godwit:		
thr.	Monomoy,P.I.	max.60,max.40 J.Loughlin#,D.Crompton & v.o.
Ruff:		
1-17,29	P.I.,Newburyport,P.I.	1-2,1 v.o.,H.L.Jodrey#
12	Eastham	1 B.Nikula
Sanderling:		
16,31	P.I.,Plymouth Beach	50,1000+ BBC(S.Garrett),Carmichaels
Avocet:		
25	Eastham(Coast Guard Beach)	1 W.Petersen,C.Goodrich,v.o.
29-30	Barnstable(Sandy Neck)	1 W.Drummond#,H.D'Entremont#

Wilson's Phalarope:				
6,25-29	Monomoy, Eastham	1,1		V.Laux,B.Blodget & v.o.
Northern Phalarope:				
30	Ipswich Bay	50		R.Dwellely#
Parasitic Jaeger:				
4,22	Barnstable,Monomoy	1,1		R.Pease,W.Harrington
26,29	Monomoy,Chatham	1,1		W.Petersen,J.Loughlin
Northern Skua:				
22	Chatham(Pollock's Rip)	1		W.Harrington#
Black-headed Gull:				
6	Monomoy,Newburyport	1,1		V.Laux & v.o.,R.Forster
26	Monomoy	1 sub-adult		W.Petersen
Little Gull:				
17	P.I.	3		W.Petersen
Forster's Tern:				
29	Eastham(Coast Guard Beach)	1		B.Nikula
Arctic Tern:				
21,22	P.I.,Monomoy	2,3		L.Robinson,BBC(R.Stymeist)
22,27	Chatham,Eastham	1,1		W.Cornwell,R.Pease
Roseate Tern:				
1,4	Chatham,Ipswich	2,9		R.Emery#,M.McClellan
Royal Tern:				
14-22	Plymouth Beach	4 dates,max.	5 (15th)	Carmichaels & v.o.
16,20	Sandwich,Eastham	1,1		R.Pease,G.Soucy#
Black Tern:				
2,23,29	Plymouth Beach	1,1,3		P.Fox#,P.Donahue,Carmichaels
4,22,29	Sandwich,Chatham,Dennis	1,1,2		R.Pease,R.Stymeist#,R.Pease
Black Skimmer:				
13-15,29	Plymouth Beach,P.I.	1,1		J.Garton## Carmichaels,G.Soucy
Monk Parakeet:				
25	Middleboro	2		N.Hill
Mourning Dove:				
21	Sandwich	300+		R.Stymeist,R.Pease
Screech Owl:				
thr.	Sherborn(Broadmoor)	2		E.Taylor
Yellow-billed Cuckoo:				
2;8	Milton(FM);Manomet,Littleton	1;1,1		E.Morrier;J.Loughlin,J.Baird
21,22	Sandwich,Dorchester	1,1		R.Stymeist,J.O'Regan
Black-billed Cuckoo:				
4,5	W.Newbury,Burlington	5,1		S.Garrett,H.D'Entremont
6,7,8	Sandwich,Bedford,Sherborn	1,3,2		R.Pease,F.Atwood,E.Taylor
Barn Owl:				
thr.	Sandwich	4 yg.banded in nest		T.Lloyd-Evans
Saw-whet Owl:				
9	Winchester	1		M.McClellan
Chuck-will's Widow:				
thr.	Chappaquiddick Island(M.V.)	1		E. M. Sears
Whip-poor-will:				
1-15	Sherborn	3		E.Taylor
5,7	Foxboro,W.Roxbury	1,1		H.D'Entremont,M.Bagley
Ruby-throated Hummingbird:				
3	Sandwich	1		R.Pease
Pileated Woodpecker:				
1,12	Annisquam,Weston	1,2		H.Wiggin,D.Peebles
Eastern Kingbird:				
23	P.I.	25		BBC(G.Soucy)
Great-crested Flycatcher:				
thr.	Roslindale(Stony Brook)	6+		F.Atwood
Eastern Phoebe:				
4,13	Sherborn,W.Roxbury	5,1		E.Taylor,F.Atwood
Willow Flycatcher:				
4,7-31	Brookfield,W.Roxbury	1,5		T.Leverich#,F.Atwood
16,18	P.I.	1,1		BBC(S.Garrett),M.Gardler
Tree Swallow:				
thr.	P.I.	max. 600+	(9th)	BBC(E.Pyburn)
Bank Swallow:				
2	Middleboro,P.I.	80+,15		D.Briggs#,BBC(G.Soucy)

Rough-winged Swallow:			
5	Hingham	1	C.Clark
Purple Martin:			
thr.,16	Middleboro,E.Middleboro	8 pr.,35 pr.	R.Maxim,W.Wiksten
Fish Crow:			
14,27	W.Roxbury	2pr.(1 yg.fledged,3 yg.fledged)	F.Atwood
Red-breasted Nuthatch:			
8,20	Groton,Dedham	2,1	R.O'Hara,F.Atwood
Brown Creeper:			
7,8	W.Roxbury,Groton	2,2	F.Atwood,R.O'Hara
Carolina Wren:			
8	Newton	1	D.Howard
Long-billed Marsh Wren:			
21,23	Concord(GMNWR),P.I.	10,12	BBC(E.Taylor),BBC(G.Soucy)
Gray Catbird:			
thr.	Manomet	44(banded)	M.B.O.Staff
Hermit Thrush:			
18	Plymouth	3(singing)	R.Langley,C.Clark
Eastern Bluebird:			
thr.	Sherborn	9(2 broods)	E.Taylor
1,14	Falmouth,Roslindale	5,1	R.Pease#,F.Atwood
18	Plymouth	2	R.Langley#
Cedar Waxwing:			
8	Groton	20	R.O'Hara#
White-eyed Vireo:			
thr.,4	Manomet,W.Newbury	1(banded),2	M.B.O.Staff,J.Berry
Blue-winged Warbler:			
4,7,8	W.Newbury,Plymouth,Groton	3,2,1	J.Berry,J.Loughlin,R.O'Hara
Nashville Warbler:			
19,25	Brookline,P.I.	1,1	A.Agush,M&A Argue
Northern Parula:			
1	Harwich	1	R.Pease
Yellow Warbler:			
thr.	W.Roxbury	20	F.Atwood
Chestnut-sided Warbler:			
8	Sandwich	1	R.Pease
Pine Warbler:			
1;8	Falmouth,Wellfleet;Groton	2,1;6	R.Stymeist#,P.Martin#;A.Agush#
Prairie Warbler:			
1,4	Falmouth,W.Newbury	1,3	R.Pease,J.Berry
Canada Warbler:			
8	Groton	1	A.Agush#
Bobolink:			
2	P.I.	1	BBC(G.Soucy)
Scarlet Tanager:			
thr.	Sherborn(Broadmoor)	15	E.Taylor
Rose-breasted Grosbeak:			
2,27	Milton(FM),W.Roxbury	9,5	E.Morrier,F.Atwood
Indigo Bunting:			
thr.	W.Roxbury	6	F.Atwood
House Finch:			
5,8,21	Wollaston,Groton,W.Roxbury	3,1,6	R.Emery,R.O'Hara#,F.Atwood
Pine Siskin:			
23	Lexington	1	Mrs.P.Reed & v.o.
Savannah Sparrow:			
29,31	Chatham,Squantum	25,6	F.Atwood,D.Brown#
Grasshopper Sparrow:			
1,28	Falmouth,Worcester	5,2	R.Pease#,J.Clancy
Henslow's Sparrow:			
thr.	Leicester(Worc.Airport)	2+	F.McMenemy & v.o.
30	Leicester(Worc.Airport)	4(2 in nearby field)	W.Petersen,C.Goodrich
White-throated Sparrow:			
4	W.Newbury	2	J.Berry

THE BIRD OBSERVER SUMMARY FOR AUGUST

The month of August found the shorebird migration at its peak and land birds were also beginning to move. A Manx Shearwater chick was fledged on Penikese Island. An outstanding count of 3500 Wilson's Storm Petrels was found off Chatham. The increasing reports of Yellow-crowned Night Herons were encouraging, however, only a lone Least Bittern was reported. Limited reports of hawks were highlighted by two Turkey Vultures in Dedham. An immature Yellow Rail came aboard a fishing boat at Little George's Bank on August 24th and remained there for three days until docking at Vineyard Haven, Martha's Vineyard. The bird was taken to Felix Neck Audubon Sanctuary on August 27th. Attempts to feed the bird in captivity failed; it was banded, photographed and released. Reports of shorebirds reflected a good migration and included a large number of Golden Plover, Red Knot, several Whimbrel, Willet, Baird's and early Buff-breasted Sandpipers. Two Marbled Godwits were also reported and a Ruff was found in Newburyport.

A Lesser Black-backed Gull was identified on Coast Guard Beach, Eastham, and an excellent report is included in this issue.

A Gull-billed Tern was found in the salt pans at Plum Island early in the month where it continued into September. Forster's Terns were reported in unusual numbers this year, in comparison with previous years. Good counts of Black Terns were also reported. Black Skimmers, on the other hand, were discouragingly scarce. An interesting report of three different songs from the same Alder Flycatcher was notable. Warbler reports were headlined by two Cerulean and one Kentucky Warbler. Two Yellow-headed Blackbirds were seen, and two out-of-season Red Crossbills were found on Martha's Vineyard.

The Henslow's Sparrows successfully nested at Leicester. Early Lark and Clay-colored Sparrows rounded out an eventful month of birding.

Cory's Shearwater:

24	Tuckernuck I., Chilmark(M.V.)	10,4	R.Veit, A.Keith
29&30	Chilmark(M.V.)	20+	A.Keith, R.Sargent
Greater Shearwater:			
4,11	off Eastham, off Rockport	200+, 20	W.Petersen#, BBC(H.L.Jodrey)
13,20	off Chatham, Plymouth	75+, 1	W.Petersen#, H&D Carmichael
Sooty Shearwater:			
13	off Chatham	1	W.Harrington#
Manx Shearwater:			
6,13	off Chatham	1,1	W.Harrington#
16	Penikese I.	1 chick	P.Garrey
Leach's Storm Petrel:			
12,13	off Chatham	2,3-4	W.Harrington, W.Petersen
Wilson's Storm Petrel:			
12&13	off Chatham	<u>3500</u>	W.Harrington, W.Petersen
Gannet:			
11,22	off Rockport, Barnstable	2,3	BBC(H.L.Jodrey), W.Petersen
Double-crested Cormorant:			
16,29	Squantum, P.I.	150+, 150+	E.Morrier, H.Bates#
Great Blue Heron:			
26	Eastham(F.H.)	40+	W.Petersen
Little Blue Heron:			
1,8	P.I., Monomoy	1 imm., 1	M.Gardler, J.Harris & v.o.
13,22	Tuckernuck I., Barnstable	2, 1 imm.	R.Veit, W.Petersen
Cattle Egret:			
23,27-31	Barnstable, Edgartown(M.V.)	1, 1	R.Pease, S.Whiting#
Great Egret:			
thr., 18-31	Eastham, P.I.	1, 1	v.o., v.o.
5,17	Hingham, Squantum	1, 1	C.Clark, A.Agush
22,25	Wellfleet, Westport	1, 2	B.Nikula#, BBC(S.Grinley)
Snowy Egret:			
thr.	P.I.	max.250(18th)	D.Alexander & v.o.
Louisiana Heron:			
1-8,15	Monomoy, Eastham	1, 1	v.o., W.Petersen# & v.o.
22,23-31	Barnstable, Chappaquiddick I.	1, 4	W.Petersen, E.M.Sears#
Black-crowned Night Heron:			
thr., 6	Eastham, Squantum	96(at most), 14	B.Blodget & v.o., E.Morrier

Yellow-crowned Night Heron:			
thr.	Centerville, Monomoy	1, 1-2	V. Laux, J. Harris & v.o.
thr.	Tuckernuck I., Chappaquiddick I.	1, 2	R. Veit, E. M. Sears#
thr.	Eastham, Wellfleet, Truro	1, 1, 1	v.o., v.o., J. Young
4&26	S. Dartmouth	1	P. Regan
Least Bittern:			
16-29	P. I.	1	v.o.
American Bittern:			
18, 20	Monomoy	1 (uncommon)	R. Stymeist#, W. Petersen#
Glossy Ibis:			
thr., 2-31	P. I., Concord (GMNWR)	2-15, 1-7	v.o., v.o.
6-11, 8-31	Squantum, Eastham	3-4, 1	E. Morrier, W. Petersen#
11, 25	Monomoy, Chappaquiddick I.	3, 1	J. Harris & v.o., R. Sargent#
25	Westport	1	BBC (S. Grinley)
Mute Swan:			
26	Chilmark (M.V.)	229	A. Keith
Black Duck:			
20	Monomoy	300+	W. Petersen#
Gadwall:			
20	Monomoy	25+	W. Petersen#
Blue-winged Teal:			
31	Martha's Vineyard	250+	A. Keith#
Northern Shoveler:			
20	Monomoy	12+	W. Petersen#
Wood Duck:			
14	Barnstable	7	R. Pease
Ring-necked Duck:			
15	Brookline	1	A. Agush
Bufflehead:			
11	P. I.	1	D. Fisher# & v.o.
Surf Scoter:			
20	Monomoy	1	W. Petersen#
Hooded Merganser:			
4&5, 26-28	Cambridge (Mt. A.), Edgartown (M.V.)	1,	A. Agush & v.o., G. Ben David#
Turkey Vulture:			
17	Dedham	2	V. Sprong#
Red-shouldered Hawk:			
25	Plymouth	1	SSBC (S. Higginbotham)
Marsh Hawk:			
20	Monomoy	6	W. Petersen#
Osprey:			
25	Westport	10	BBC (S. Grinley)
Ruffed Grouse:			
17	W. Roxbury	1	J. Pickup
King Rail:			
24	P. I.	1	BBC (H. Weissberg)
Clapper Rail:			
1	Eastham	1	W. Petersen
Virginia Rail:			
5, 18	Monomoy, Concord (GMNWR)	1, 8	B. Nikula#, A. Agush
Sora:			
19, 20	Concord (GMNWR), Monomoy	3, 1	L. DeGiacomo#, W. Petersen#
Yellow Rail:			
28	off Edgartown (M.V.)	1	R. Sargent, G. Ben David, A. Keith
Common Gallinule:			
thr.	Monomoy	1	W. Petersen
American Oystercatcher:			
thr.	Monomoy, Chappaquiddick I.	3-5 (5th), 3	v.o., M. Sears#
Semipalmated Plover:			
1; 5, 22	Scituate; Monomoy, Barnstable	800; 500, 600	J. Nichols#; W. Petersen#
Piping Plover:			
18	Monomoy	55	R. Stymeist#
Killdeer:			
7, 20	S. Dartmouth, Monomoy	14, 1 (uncommon)	R. Emery#, W. Petersen#
Golden Plover:			
16, 20	Penikese I., Monomoy	1, 1	E. Garrey#, W. Petersen#
22	P. I., Duxbury	37, 13	N. Claflin#, M. B. O. Staff

Black-bellied Plover:			
22,25	Plymouth,Duxbury	350,700	M.B.O.Staff
Ruddy Turnstone:			
16,19	P.I.,Ipswich	200+,300+	M&A Argue,J.Berry
Common Snipe:			
26	Concord(GMNWR)	10	L.Robinson
Whimbrel:			
5,13	Monomoy,Tuckernuck I.	10,11	BBC(H.D'Entremont),R.Veit
Upland Sandpiper:			
25,30	Katama(M.V.),Newburyport	4,2	E.Chalif#,F.Atwood
Spotted Sandpiper:			
16	Penikese I.	30+	E.Garrey#
Solitary Sandpiper:			
2-26	Concord(GMNWR)	1	v.o.
20	Monomoy,Winchester	1,1	W.Petersen#,M.McClellan
Willet:			
7-24	Plymouth	1-6	Carmichaels & v.o.
15-31	Eastham	1-5	W.Petersen# & v.o.
20,28	Ipswich,Monomoy	2,5	J.Berry,R.Pease#
Greater Yellowlegs:			
23	Duxbury	100	M.B.O.Staff
Red Knot:			
1,19	Scituate(Third Cliff)	2000+,300	J.Nichols#,C.Clark#
7,22;22	Plymouth Beach;P.I.	1000+,200;200	Carmichaels;S.Swaebe#
Pectoral Sandpiper:			
5-31	Concord(GMNWR)	max. 30(26th)	L.Robinson & v.o.
5,20	W.Newbury,Monomoy	24,20	R.Stymeist#,W.Petersen#
White-rumped Sandpiper:			
22	Plymouth Beach	<u>90</u>	B.Sorrie#
Baird's Sandpiper:			
14,18	Monomoy,Tuckernuck	1,1	W.Bailey,R.Veit
19,28	Scituate,Duxbury	1,1	C.Clark,M.B.O.Staff
28-31	P.I.	1-2	v.o.
Short-billed Dowitcher:			
5,12	Monomoy,Eastham	500,500	R.Pease#,W.Petersen#
Long-billed Dowitcher:			
16,18	Tuckernuck I.,P.I.	1,2	R.Veit,P.Butler#
Stilt Sandpiper:			
thr.	P.I.,Monomoy	max.40(11th),max.20	R.Stymeist#&v.o.,J.Harris#&v.o.
Semipalmated Sandpiper:			
4,6	Barnstable,Plymouth	1700+,5500+	BBC(H.D'Entremont),M.B.O.Staff
Western Sandpiper:			
thr.	Eastham,Monomoy,Wellfleet	maxs.33,15+,5	v.o.
30	Duxbury Beach	20	M.B.O.Staff
Buff-breasted Sandpiper:			
21,23-31	Tuckernuck I.,Eastham	1,1-4	R.Veit,v.o.
14-30,23	P.I./Newburyport,Plymouth	1-4,1	v.o.,Carmichaels
Marbled Godwit:			
12,14	Eastham,Monomoy	2,1	W.Petersen#,W.Bailey
Hudsonian Godwit:			
thr.	Monomoy,P.I.	max.95(5th),max.60(16th)	W.Petersen#&v.o.,M&A Argue&v.o.
Ruff:			
1	Newburyport	1	M.Gardler
Sanderling:			
12,23	Plymouth,Duxbury	1000+,800	R.Stymeist#,M.B.O.Staff
Red Phalarope:			
8-31,11	Nauset,off Rockport	max. 2,5	W.Petersen#,BBC(H.L.Jodrey)
12,13;28	off Chatham;Monomoy	1,1;1	W.Harrington;M&A Argue
Wilson's Phalarope:			
5,8;7,23	Monomoy;Nauset	1-2;1,1	W.Petersen#;v.o.
11 on	P.I.	8	v.o.
23,24	Wellfleet(WBWS)	1,1	B.Nikula & v.o.
Northern Phalarope:			
6,11	off Chatham,off Rockport	200,235	W.Petersen#,BBC(H.L.Jodrey)
13;14,19	Plymouth Beach;P.I.	40;5,4	M.B.O.Staff;M.Gardler,D.Alexander
Pomarine Jaeger:			
9,15	Plymouth Beach,Barnstable	1,1	Carmichaels,R.Pease
29	Vineyard Sound	1 ad.	A.Keith,R.Sargent

Parasitic Jaeger:			
13,23,25	Barnstable	singles	R.Pease
16-24	Tuckernuck I.	2-20	R.Veit
22	Manomet Point, Plymouth Beach	7,15	J.Loughlin, B.Harrington
Great Black-backed Gull:			
18	Eastham (C.Guard Bch.), Monomoy	2500, 3000	BBC (R.Stymeist)
Lesser Black-backed Gull:			
16-17	Nauset (Coast Guard Beach)	1 (sub adult)	W.Petersen & C.Goodrich & v.o.
Black-headed Gull:			
5,28	Monomoy	1,1	W.Petersen#, R.Pease#
Laughing Gull:			
4&5	Chatham	25	BBC (H.D'Entremont)
10,14	Winthrop, Squantum	4,30	M&A Argue, D.Brown#
12,18	Hingham, Monomoy	2,30	C.Clark, BBC (R.Stymeist)
31	Edgartown (M.V.)	5	A.Keith#
Bonaparte's Gull:			
6	Newburyport	50	BBC (S.Garrett)
21,22	Plymouth Beach	1,2	H.D'Entremont, Carmichaels
Little Gull:			
12,16,29	P.I., Newburyport	1,1,1	G.Soucy#, fide M&A Argue, J.Baring
Black-legged Kittiwake:			
15,18,23	Sandwich/Barnstable	1,1,2	R.Pease
19,21	Manomet, Tuckernuck I.	1 imm., 1	M.B.O.Staff, R.Veit
22	Barnstable	5 imm.	W.Petersen#
Gull-billed Tern:			
5 on	P.I., Newburyport	1	J.Baird# & v.o.
Forster's Tern:			
12 on	Newburyport, Plymouth Beach	max.3, max.4	v.o.
22	Wellfleet (WBWS)	1	V.Laux
thr.	Nauset, Monomoy	max.7 (30th), max.5	v.o.
Common Tern:			
4,21	S.Dartmouth, Plymouth Beach	10-12 (4yg.), 1000	P.Regan, H.D'Entremont#
18,23	Monomoy, Wellfleet (WBWS)	400, 24+	BBC (R.Stymeist), Holdridge
Arctic Tern:			
12,18	Plymouth Bh., Monomoy, W.Glouc.	1;1,1	R.Stymeist#; R.Pease#, H.Wiggin
Roseate Tern:			
7	Westport (Gooseberry Neck)	100	R.Emery#
16,25	P.I., Plymouth Beach	35,92	Argues, SSBC (S.Higginbotham)
Least Tern:			
4,18	S.Dartmouth, Eastham	6-8, 10	P.Regan, BBC (R.Stymeist)
Royal Tern:			
11,12	Squantum, off Chatham	1,1	E.Morrier, W.Harrington#
19-27,20	Plymouth Beach, Monomoy	1-2,1	Carmichaels, J.Harris#
Black Tern:			
9-23;5,28	Barnstable; Monomoy	max. 27;1,1	R.Pease#
20	Plymouth	1-2	Carmichaels#
21,29	Nauset Beach	2,1	H.D'Entremont, Argues
Black Skimmer:			
-4,8	P.I., Monomoy		R.Hauselman, J.Loughlin
24-25,24	Plymouth Beach, Duxbury Beach	1,1	SSBC (S.Higginbotham)#, M.B.O.Staff
Mourning Dove:			
19	Medfield	150	E.Taylor
Yellow-billed Cuckoo:			
5,20	Hingham, Monomoy	1,1	C.Clark, W.Petersen#
Black-billed Cuckoo:			
thr.,6	Annisquam, Sandwich	1,1	H.Wiggin, R.Pease
thr.,18	W.Roxbury, Concord (GMNWR)	1,3	F.Atwood, A.Agush
9,16	Milton (F.M.), Westminster	1,1	A.Agush, B.Blodget
Screech Owl:			
27,29	S.Dartmouth, Annisquam	1,1	P.Regan#, H.Wiggin
23	Monomoy	1	J.Harris#
24	Oak Bluffs-Seuqueconteket (M.V.)	2	M.Hancock#
Whip-poor-Will:			
28,30	Westminster, Eastham	1,1	B.Blodget, W.Petersen
Common Nighthawk:			
24,26	Weston, Newton	30-40, 14	L.Robinson, G.Walsh
Ruby-throated Hummingbird:			
5-29,28	Sandwich, Carlisle	max.2,1	R.Pease, C.Carbone

Common Flicker:			
thr.	W.Roxbury	20-25	F.Atwood
Eastern Kingbird:			
thr.,19	W.Roxbury,Topsfield(IRWS)	22-50	F.Atwood#,J.Berry
Great-crested Flycatcher:			
thr.	W.Roxbury	11	F.Atwood,v.o.
27	Tewksbury	2	M.Wilson
Yellow-bellied Flycatcher:			
thr.	Manomet,S.Dartmouth	10(banded),1(banded)	M.B.O.Staff,P.Regan#
18,20,22	P.I.,Monomoy,Sandwich	1,1,1	R.Forster,W.Petersen#,R.Pease
Willow Flycatcher:			
4,12	W.Roxbury,Sandwich	1,1	F.Atwood,R.Pease
Alder Flycatcher:			
4	Brookfield	2	R.Stymeist,R.Veit,P.Polshek
	(interesting report of three different songs from one bird!)		
Least Flycatcher:			
thr.	Manomet	7(banded)	M.B.O.Staff
Eastern Wood Pewee:			
thr.	Manomet	3(banded)	M.B.O.Staff
Olive-sided Flycatcher:			
3	Acton	1	J.Baird
Tree Swallow:			
5	Natick(Broadmoor)	young fledged	E.Taylor
22,25	Barnstable,P.I.	300,1500+	W.Petersen,R.Stymeist
Rough-winged Swallow:			
4	Brookfield	2	R.Veit,R.Stymeist
Cliff Swallow:			
18	P.I.	1	BBC(I.Giriunas)
Purple Martin:			
20,25	Monomoy,P.I.	1(uncommon),25	W.Petersen#,R.Stymeist
Fish Crow:			
thr.	West Roxbury	30	F.Atwood,v.o.
Black-capped Chickadee:			
thr.	Manomet	37(banded)	M.B.O.Staff
Red-breasted Nuthatch:			
20,24-29	Eastham,W.Roxbury	1,1-3	W.Petersen,F.Atwood
Brown Creeper:			
25	Chilmark(M.V.)	1	A.Keith
House Wren:			
20	Sherborn	young fledged	E.Taylor
Carolina Wren:			
thr.	Plymouth,S.Dartmouth	1(banded),1(banded)	M.B.O.Staff,P.Regan#
19,27	Sandwich,Chilmark(M.V.)	1,1	R.Pease,E.Chalif#
Short-billed Marsh Wren:			
1,22-25	Concord,P.I.	1,1	P.Regan,S.Garrett# & v.o.
Gray Catbird:			
thr.	Manomet,Plymouth	220(banded),64(banded)	M.B.O.Staff
American Robin:			
thr.	Manomet	55(banded)	M.B.O.Staff
Wood Thrush:			
thr.	Manomet,S.Dartmouth	4(banded),5(banded)	M.B.O.Staff,P.Regan#
Hermit Thrush:			
21	Sandwich	1	R.Pease
Swainson's Thrush:			
thr.	Manomet	2(banded)	M.B.O.Staff
27	Tewksbury	2	M.Wilson
Eastern Bluebird:			
thr.	W.Roxbury,Sherborn	4,9	F.Atwood,E.Taylor
Blue-gray Gnatcatcher:			
24,25	Manomet,Chilmark(M.V.)	1,1	M.B.O.Staff,A.Keith
27,30	Duxbury,P.I.	1,1	M.B.O.Staff,H.Weissberg
Ruby-crowned Kinglet:			
24,25	Tuckernuck I.,P.I.	1,1	M.LaFarge,R.Stymeist
Loggerhead Shrike:			
19,28	P.I.,Edgartown(M.V.)	1,1	S&J Harrison,A.Keith#
White-eyed Vireo:			
thr.	Manomet	6(banded)	M.B.O.Staff
26,27	Sandwich,Chilmark(M.V.)	1,1	R.Pease,E.Chalif#

Yellow-throated Vireo:				
5,25	Boxford,P.I.		3,1	A.Agush#,H.Wiggin#
Solitary Vireo:				
thr.	Manomet		1(banded)	M.B.O.Staff
Philadelphia Vireo:				
21,26	P.I.,Sandwich		2,1	M.McClellan,R.Pease
30,31	P.I.,Chappaquiddick I.(M.V.)		1,1	H.Weissberg,A.Keith#
Black-and-white Warbler:				
thr.	Manomet,Plymouth	51(banded),29(banded)		M.B.O.Staff
Golden-winged Warbler:				
5,20	W.Newbury,Tuckernuck I.		1,1	J.Leverich#,R.Veit
Blue-winged Warbler:				
thr.	Manomet,S.Dartmouth	11(banded),23(banded)		M.B.O.Staff,H.Atkinson#
5,24	W.Newbury,Gloucester(E.P.)		2,3	R.Stymeist#,H.Wiggin#
Tennessee Warbler:				
thr.,30	Manomet,P.I.		1(banded),1	M.B.O.Staff,F.Atwood
Nashville Warbler:				
thr.	Manomet		6(banded)	M.B.O.Staff
Cape May Warbler:				
20,26	Monomoy,P.I.		10,6	W.Harrington#,R.Stymeist
29	Annisquam		15	H.Wiggin#
Black-throated Blue Warbler:				
24	Gloucester(E.P.)		1	H.Wiggin#
Cerulean Warbler:				
thr.,25	S.Dartmouth,W.Roxbury		1(banded),1	H.Atkinson#,F.Atwood
Blackburnian Warbler:				
thr.	Manomet		1(banded)	M.B.O.Staff
Yellow-throated Warbler:				
12	Nantucket		1	N.Claflin
Chestnut-sided Warbler:				
thr.	Manomet,S.Dartmouth	4(banded),4(banded)		M.B.O.Staff,H.Atkinson#
Bay-breasted Warbler:				
thr.	Manomet		17(banded)	M.B.O.Staff
20,22	Monomoy,Barnstable		2,1	W.Petersen#,W.Petersen
Blackpoll Warbler:				
24,27	Gloucester(E.P.),Sandwich		1,1	H.Wiggin#,R.Pease
Pine Warbler:				
26	P.I.		1	BBC(H.Weissberg)
Prairie Warbler:				
20,23	Monomoy,Squantum		1,2	W.Harrington#,E.Morrier
Ovenbird:				
thr.	Manomet,Plymouth	18(banded),15(banded)		M.B.O.Staff
Northern Waterthrush:				
thr.	Manomet,S.Dartmouth	16(banded),7(banded)		M.B.O.Staff,H.Atkinson#
Kentucky Warbler:				
24	Chatham(Morris I.)		1	B.Nikula,V.Laux
Mourning Warbler:				
thr.	Manomet		1(banded)	M.B.O.Staff
Common Yellowthroat:				
thr.	Manomet,Plymouth	54(banded),28(banded)		M.B.O.Staff
Yellow-breasted Chat:				
thr.	Manomet		4(banded)	M.B.O.Staff
Wilson's Warbler:				
thr.,26	Manomet,W.Roxbury		2(banded),2	M.B.O.Staff,F.Atwood
Canada Warbler:				
thr.,24	Manomet,Gloucester(E.P.)	10(banded),3		M.B.O.Staff,H.Wiggin#
American Redstart:				
thr.	Manomet,S.Dartmouth	32(banded),10(banded)		M.B.O.Staff,H.Atkinson#
Bobolink:				
29,31	Annisquam,Martha's Vineyard	10,500		H.Wiggin,A.Keith#
Yellow-headed Blackbird:				
14-19,20	Truro,W.Tisbury(M.V.)		1,1	W.Petersen# & v.o.,E.Chalif#&v.o.
Orchard Oriole:				
thr.	Woods Hole		2	P.Garrey
Northern Oriole:				
thr.	Manomet,Plymouth	16(banded),8(banded)		M.B.O.Staff
21-28	W.Roxbury	29-34		F.Atwood
25-27	S.Dartmouth	30		P.Regan

Cardinal:			
25	P.I.(Hellcat)	1	R.Stymeist
Rose-breasted Grosbeak:			
thr.	W.Roxbury	15-20	F.Atwood,v.o.
Indigo Bunting:			
thr.	Manomet	2(banded)	M.B.O.Staff
House Finch:			
thr.,26	Wollaston,P.I.	11,1	R.Emery,BBC(H.Weissberg)
Red Crossbill:			
23	Chilmark(M.V.)	2+	E.Chalif
Rufous-sided Towhee:			
thr.	Manomet,Plymouth	19(banded),7(banded)	M.B.O.Staff
Grasshopper Sparrow:			
8	Falmouth(CWA)	13	R.Pease
Henslow's Sparrow:			
1-15	Leicester(Worc.Airport)	1-5(max.4th)	R.Stymeist#,v.o.
Sharp-tailed Sparrow:			
25	Newburyport,Westport	20+,3	J.Berry,BBC(S.Grinley)
Seaside Sparrow:			
thr.	Manomet	1(banded)	M.B.O.Staff
4,7	Chatham,S.Dartmouth	1,7	H.D'Entremont,R.Emery#
Vesper Sparrow:			
18,24	P.I.,Wellfleet	1,6	BBC(I.Giriunas),W.Petersen#
Lark Sparrow:			
27	Monomoy	1	J.Harris,v.o.
Dark-eyed Junco:			
22	Weston	1	L.Robinson
Clay-colored Sparrow:			
31	Monomoy	1	W.Bailey,R.Pease
Song Sparrow:			
thr.	Manomet	22(banded)	M.B.O.Staff

S.P.G.

#### THAYER'S GULL (Larus thayeri)

J. T. Leverich, Cambridge

Now that Thayer's Gull has been officially added to the A. O. U. Check-list, Massachusetts birders will have even more incentive to watch for it. Most Thayer's Gulls winter on the Pacific coast. The species is thus decidedly rare in this state, but it may prove to be of regular occurrence. However, field identification is definitely difficult! Only those birders completely familiar with our more common winter gulls should attempt to call it. Field reports submitted to BIRD OBSERVER should be fully documented, detailing exactly which field-marks were seen, what the visibility conditions were, whether comparison birds from closely related species were present, etc.

Diagnostic field marks of the adult Thayer's Gull are as follows:

1. GENERAL PATTERN: a white-bodied gray-winged gull, rather like an intermediate between a Herring Gull and the darker race of the Iceland Gull (i.e., the subspecies referred to as Kumlien's Gull).
2. SIZE: slightly larger than Kumlien's Gull, slightly smaller than the Herring Gull.
3. EYE-RING: reddish-purple, as in all races of the Iceland Gull.
4. EYE (IRIS): dark brown, usually mottled in appearance.
5. MANTLE: light gray -- the same shade as in the Herring Gull, that is, definitely darker than the pearly gray of the Iceland and Glaucous Gulls.
6. WING-TIPS: black with white spots ("mirrors"). Compared with the Herring Gull, Thayer's usually shows less black in the wing-tips, and its mirrors are correspondingly larger.

WARNING! There is much individual and geographic variation in both Thayer's Gull and Kumlien's Gull. Many Kumlien's Gulls and all individuals of the eastern (Greenland) subspecies of the Iceland Gull have clear yellow irises. Other Kumlien's, however, have considerable brown mottling of the iris. These same individuals have the darkest wing-tips (very dark gray, but never black). Such birds are identical to the lightest individuals of Larus thayeri, except for mantle coloration. Personally, I would not want to identify a "confusing" individual, displaying the above pattern, unless the bird were in hand, so that various confirmatory quantitative measurements could be made. As a rule of thumb, Thayer's Gull should not be called UNLESS THERE IS BLACK IN THE WING-TIPS.

Past reports of Thayer's Gull in Massachusetts are concentrated in or near the month of February, when the population of white-winged gulls reaches its peak. The specific localities mentioned were: the north end of Plum Island; Gloucester Harbor, especially near the sea wall at Eastern Point; and Brace's Cove, Gloucester. REFERENCE: Neal G. Smith, Evolution of Some Arctic Gulls (Larus): An Experimental Study of Isolating Mechanisms, Ornithological Monographs No. 4, 1966, which is available from the A. O. U. for \$2.50.

This volume, by the way, is surely one of the finest speciation studies ever written. The monograph may be viewed as a proof that Thayer's Gull forms a separate and distinct species. In support of this thesis, Smith spent three summers in the Canadian Arctic studying a complex of four closely related gull species (Herring, Kumlien's, Thayer's and Glaucous). He marshalls an imposing array of ecological, morphological and behavioral differences, each of which may (and probably does) serve as a mechanism for insuring the reproductive isolation of these four species.

The most celebrated section of the monograph reports a fascinating series of experiments in which the eye-ring color of various birds was altered to that of a different species. (Smith also "altered" the iris color of certain dark-eyed birds by painting huge new "eye-rings" on the head, so that part of the white head-feathering might serve as a (fake) light iris.) The experiments were performed on both sexes separately and were repeated at different stages of the reproductive cycle. Smith's conclusions are most interesting:

1. It is the female gull that initiates the pair-bond, and she invariably chooses a mate with an eye-head pattern identical to her own. In this first stage of the breeding cycle, if the males are "altered," then the female will pair-bond with the wrong species. An "altered" female, however, will correctly identify (unaltered) conspecific males. This and other evidence suggests to Smith that the female is fixated on the eye-head pattern of her own parents, rather than being in any sense "conscious" of her own appearance. Males consent to any pair-bond situation, whether appropriate or not.
2. Once the pair-bond is formed, no alteration of the male's appearance will cause the female to reject him.

However, if the male is bonded to a female with an (apparently) incorrect eye-head pattern, then he will fail to reach breeding readiness. His gonads will not develop, and he will remain unable to copulate. Such a male, persistently unresponsive to the female's mating overtures, will after a few days be discarded, and the pair-bond will be ruptured.

3. Alteration of either sex when performed after the pair-bond has been cemented by several successful copulations has no effect on the pair.

Smith's monograph is a strictly scientific contribution to the professional literature. The author is careful, however, to explain all technical jargon as it is introduced. Statistical tables and charts abound, and mathematical uninitiates can easily subsist on very thorough verbal explanations. This study contains the only reliable set of illustrations of Thayer's Gull that I have been able to locate.\*

If you have never tried reading any technical ornithological literature, Smith's monograph is a fine piece to start with.

\* There is also a drawing of Larus thayeri on page 95 of Fisher, James, and Roger Tory Peterson, World of Birds, Crescent Books, revised edition. - Ed.

## Abbreviations

ad.	adult
imm.	immature
m.	male
f.	female
max.	maximum
thr.	throughout
v.o.	various observers
#	additional observers
ABC	Allen Bird Club
BBC	Brookline Bird Club
CCBC	Cape Cod Bird Club
FBC	Forbush Bird Club
FCBC	Felix Cutler Bird Club
NVBC	Nashoba Valley Bird Club
PBC	Paskamansett Bird Club
SSBC	South Shore Bird Club
CWA	Crane Wildlife Area
GMNWR	Great Meadows Nat'l. Wildlife Refuge
IRWS	Ipswich River Wildlife Sanctuary
MBO	Manomet Bird Observatory
MNWS	Marblehead Neck Wildlife Sanctuary
WBWS	Wellfleet Bay Wildlife Sanctuary
A.A.	Arnold Arboretum
A.P.	Andrews Point
E.P.	Eastern Point
F.H.	Fort Hill, Eastham
F.M.	Fowl Meadow, Milton
Mt.A	Mt. Auburn Cemetery
M.V.	Martha's Vineyard
P.I.	Plum Island

### THE 74TH CHRISTMAS COUNT

Interest in the annual bird census (this year scheduled nationally for dates between Saturday, December 15th and Tuesday, January 1st) continues to grow each year. To many birders the Christmas Count is as traditional as the Christmas Tree or Plum Pudding.

Last year's census was no exception, and a total of 1,013 counts were published in American Birds. All but seven were from the United States and Canada, the others being from Mexico (2), Guatemala, British Honduras, El Salvador, Puerto Rico, and the U.S. Virgin Islands. In all, over 15,000 participants recorded 71,183,807 individuals representing 911 species!

In Massachusetts there were counts in Athol, Buzzards Bay, Cape Cod, Central Berkshire, Concord, Marshfield, Martha's Vineyard, Millis, Nantucket, New Bedford, Newburyport, Northampton, Northern Berkshire, Quincy, Springfield, Taunton, Westminster and Worcester. For the second year, the new Greater Boston Count will replace the Belmont and Jamaica Plain counts of previous years.

If you would like to join the Boston Count (Sunday, December 16th) or any other one, contact the undersigned at 54 Banks St., Cambridge, Mass. 02138.

Robert H. Stymeist



## 1974 TOURS

BELIZE . . . PANAMA . . . COSTA  
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KONG, TAIWAN AND JAPAN . . .  
TRINIDAD . . . WASHINGTON . . .  
JAMAICA . . . GALAPAGOS . . .  
ECUADOR AND PERU . . . ALASKA  
. . . ARGENTINA . . . MEXICO . . .  
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We take pride in the recommendations of veterans of our previous tours. For example, the following from Dr. Robert Pittell of Ft. Lauderdale, Florida:

*"I've been on several organized tours in the past and yours far and away surpassed the others for showing the birds and showing them well. Virtually all the birds were seen by all the group and really seen to one's satisfaction for good lifelist identification. The leadership was superb and the group was most congenial and eager."*

If you have an enthusiastic interest in birds, there is no better way to see them than on one of our tours.

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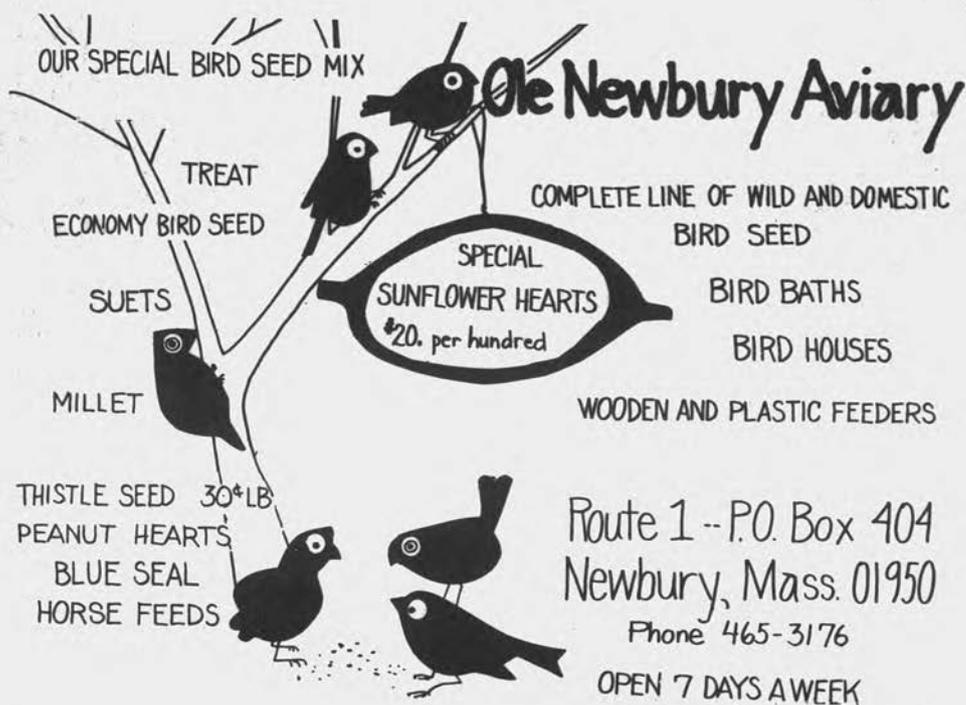
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