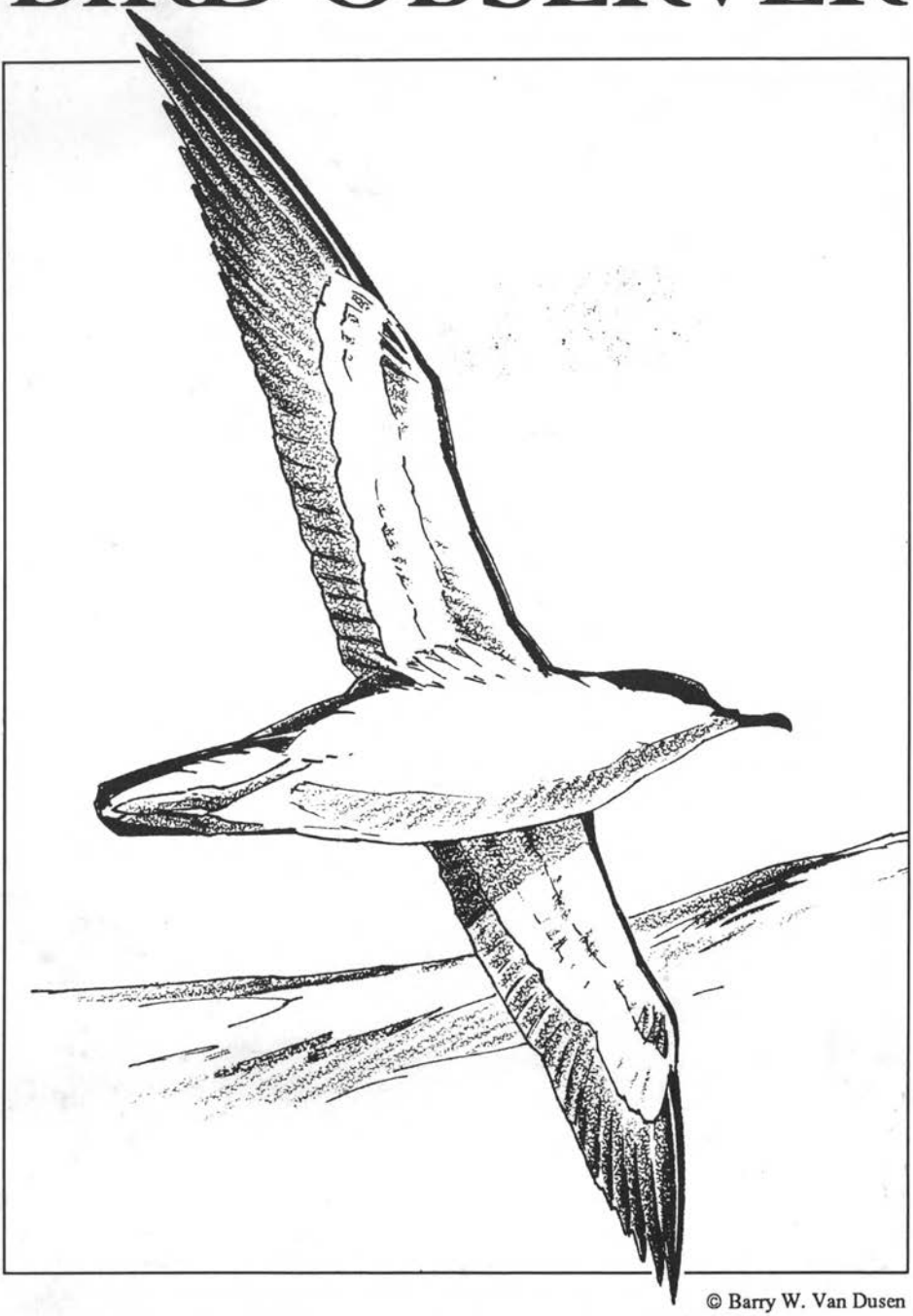
BIRD OBSERVER



© Barry W. Van Dusen

VOL. 20 NO. 4
AUGUST 1992

BIRD OBSERVER

• a bimonthly journal •

To enhance understanding, observation, and enjoyment of birds.

VOL. 20, NO. 4 AUGUST 1992

BIRD OBSERVER (USPS 369-850) is published bimonthly, COPYRIGHT © 1992 by Bird Observer of Eastern Massachusetts, Inc., 462 Trapelo Road, Belmont, MA 02178, a nonprofit, tax-exempt corporation under section 501 (c)(3) of the Internal Revenue Code. Gifts to Bird Observer will be greatly appreciated and are tax deductible.

POSTMASTER: Send address changes to
BIRD OBSERVER, 462 Trapelo Road, Belmont, MA 02178.

SUBSCRIPTIONS: $16 for 6 issues, $30 for two years in the U. S. Add $2.50 per year for Canada and foreign. Single copies $4.00. An Index to Volumes 1-11 is $3. Back issues: inquire as to price and availability.

CHANGES OF ADDRESS and subscription inquiries should be sent to
Bird Observer Subscriptions, P. O. Box 236, Arlington, MA 02174.

ADVERTISING: full page, $80; half page, $40; quarter page, $25. Send camera-ready copy to Bird Observer Advertising, P. O. Box 236, Arlington, MA 02174.

BIRD SIGHTINGS: Send reports of any given month in writing by the eighth of the next month to
Bird Sightings, Robert H. Stymeist, 98 Boylston Street, Watertown, MA 02172.

MATERIAL FOR PUBLICATION: *BIRD OBSERVER* welcomes for publication contributions of original articles, photographs, art work, field notes, and field studies. Please send these or other suggestions to the editor in chief:
Martha J. Steele, P. O. Box 236, Arlington, MA 02174.
Manuscripts should be typed double-spaced on one side only of 8.5-by-11-inch paper. Manuscripts longer than 15 typed pages (about 4500 words) may be shortened when edited. Use the current A.O.U. Check-List for bird names and sequence. Type tables on separate pages. Black-and-white photographs and graphics are best. Include author's or artist's name, address, and telephone number and information from which a brief biography can be prepared. Indicate whether an IBM-compatible 5.25-inch diskette containing the article in ASCII or Microsoft Word can be supplied. Scientific and technical articles are peer reviewed. Views expressed in *BIRD OBSERVER* are those of the authors and do not necessarily reflect an official position of Bird Observer of Eastern Massachusetts, Inc.

ISSN: 0893-4630

CONTENTS

MONHEGAN: ISLAND OF POSSIBILITIES . . . . . Scott Surner 180

HENSLOW'S SPARROW AND GRASSHOPPER SPARROW: A COMPARISON OF HABITAT USE IN FINGER LAKES NATIONAL FOREST, NEW YORK . . . . . Donald J. Smith and Charles R. Smith 187

NESTING SUCCESS OF EASTERN BLUEBIRDS IN MYLES STANDISH STATE FOREST . . . . . Josette Carter 196

SOME OBSERVATIONS ON THE BREEDING BEHAVIOR OF LEAST TERNS . . . . . Alan E. Strauss 202

BOOK REVIEW: *Flight Strategies of Migrating Hawks* by Paul Kerlinger . . . . . Paul M. Roberts 206

FIELD NOTES FROM HERE AND THERE
The Dance of the Ring-billed Gull . . . . . John C. Kricher 210

BIRD SIGHTINGS: MARCH 1992 SUMMARY 212

BIRD SIGHTINGS: APRIL 1992 SUMMARY 220

ABOUT THE COVER: Manx Shearwater 232

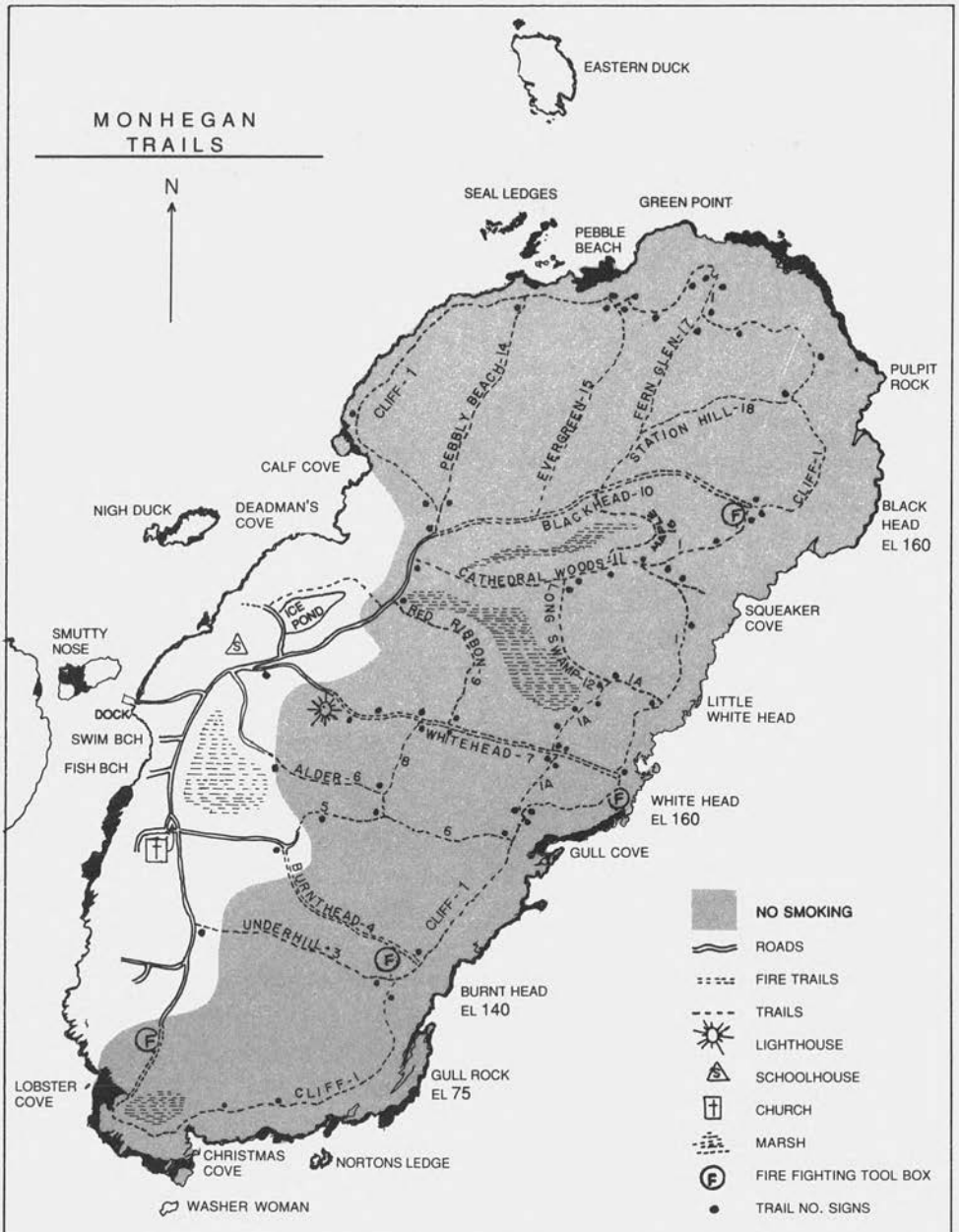
MEET OUR COVER ARTIST: Barry W. Van Dusen 233

AT A GLANCE . . . . . Wayne R. Petersen 234

Cover Illustration:
Manx Shearwater by Barry W. Van Dusen

1973-1992: TWENTY YEARS OF MEMORIES

In 1993 *Bird Observer* will celebrate twenty years of publication. For a special feature in the February issue, *Bird Observer* solicits from our readers descriptions of memorable birding experiences and unforgettable birds. Please take the time to write a paragraph about a birding moment of wonder, beauty, ecstasy, illumination, tragedy, or comedy that you enjoyed during the last twenty years in New England. Submissions should be sent to Martha Steele, Editor in Chief, *Bird Observer*, P. O. Box 236, Arlington, MA 02174, before November 1, 1992. We will make every effort to publish as many responses as possible.



NO SMOKING OR OUTDOOR FIRES IN THE RESTRICTED AREA.

TRAIL NUMBERS: The trails on the map are indicated by name and/or number. Trails are marked by small (2"-4") green wooden blocks with white numbers, usually on trees at eye level.
DISTANCES: The island is about 0.7 mile wide and 1.7 mile long. Trails on the map are not drawn to scale, and distances are sometimes distorted to emphasize direction.
Map courtesy of Monhegan Associates, Inc.

MONHEGAN: ISLAND OF POSSIBILITIES

by Scott Surner

If you like the idea of large concentrations of birds and a real possibility for finding rare and unusual species, all rolled into a scenic and relaxing atmosphere, then Monhegan Island is for you. Located roughly three-and-one-half hours north of the Massachusetts-Maine border and ten miles off the coast of Port Clyde, Maine, Monhegan's location and size make a perfect union for birders. Because Monhegan is ten miles out to sea, the only land mass around, and only a mile and three-quarters long by a half-mile wide, the birds in migration are often quite concentrated. If you hit the weather right, the birding can be spectacular.

The rarities that have graced Monhegan's shores would ignite any rare bird alert in our region: Magnificent Frigatebird, Bridled Tern, Swallow-tailed Kite, Gyrfalcon, Ivory Gull, Band-tailed Pigeon, Chuck-will's-widow, Rufous Hummingbird, Say's Phoebe, Northern Wheatear, Yellow-throated Warbler, Lazuli Bunting, Painted Bunting, Lark Bunting, Henslow's Sparrow, LeConte's Sparrow, and Shiny Cowbird. Some of the uncommon but regularly occurring species include Western Kingbird, Philadelphia Vireo, Blue Grosbeak, Dickcissel, Clay-colored Sparrow, Lark Sparrow, and Yellow-headed Blackbird, to name just a few.

The trip begins once you board the *Laura B* at Port Clyde (without your car) and head out on the hour-and-twenty-minute ride to the island. On the way out, look for Common Loon, Great Cormorant (check small islands), Greater and Sooty shearwaters, Northern Gannet, Common Eider, scoters, Oldsquaw, Osprey, Merlin and Peregrine Falcon (fall), Red-necked Phalarope (sometimes very numerous), and Black Guillemot. Once you arrive at Monhegan and disembark, the rest of your time on the island will be on foot, so make sure to bring comfortable footwear. After unloading your luggage and checking on your accommodations, you are finally ready to bird.

Although the island is small, its network of trails is over seventeen miles long. However, the best birding is in and around the village on the west side of the island. Thus, if you visit during migration, you will not have to wait long for results. Some spots to visit a number of times are the Ice Pond, Swim Beach, the Martins' feeding station, and the Lobster Cove area. The village has a nice habitat mix, ranging from small deciduous to large coniferous trees, thickets, large swampy meadows, and the two-acre Ice Pond. The best way to bird these areas is by simply taking your time and working your way from one area to another. Every morning is another roll of the dice in terms of where to start, but these spots are so close to each other, it takes only minutes to walk from one to another. When the island is jumping, it does not matter where you begin.

The Ice Pond is just that: up to 1974 it was used to harvest ice. Now it is a skating rink in winter and a great birding area in spring and fall. The pond and the surrounding area have produced large numbers of flycatchers, thrushes, kinglets, warblers, vireos, and sparrows. By scanning the back of the pond, you might come up with a Green-backed Heron, American Bittern, Wood Duck, Yellowlegs, or Solitary Sandpiper.

From the Ice Pond, work your way back to the village, and check the numerous thickets and small trees. On a spring trip just a couple of years ago, we found an Orange-crowned Warbler in the apple trees in front of the schoolhouse. The warbler stayed for over five hours. As you approach the swampy meadow on the east side of the road, scan the wires for flycatchers (Western Kingbirds have shown up in fall), swallows, and the odd sparrow. While scanning, check the marsh for herons, ducks, sparrows, and blackbirds, and keep scanning up the hill to the lighthouse area for Merlins and Peregrines (at times abundant in fall), as well as other hawks.

Continue along the road until you come to Swim Beach. The big attraction here is passerines feeding on the sand. When the tired and hungry hit the beach, they are easily approached. On a spring trip in May 1986, I had to back up several times in order to focus on a Cerulean Warbler that fed there for several days. In May 1992 Bay-breasted, Canada, and Magnolia warblers put on a nice show.

The next stop is the May and September getaway of Tom and Josephine Martin. Tom has been feeding and photographing birds on Monhegan for over thirty-five years, and over one hundred of his photographs have been printed in the *Master Guide to Birding*. Tom's feeding station is worth several visits during the course of the day. Some of the highlights have been Red-headed Woodpecker; large concentrations of Rose-breasted Grosbeaks; Blue Grosbeak; Lazuli and Indigo buntings; Dickcissel (fall and spring); Clay-colored, Vesper, Lark, Lincoln's, White-crowned, and Harris' sparrows; Bobolink; Yellow-headed and Rusty blackbirds; Shiny Cowbird; Orchard and Northern orioles (on the oranges); and assorted finches. Tom's feeders are located next to the Careless Navigator Restaurant, immediately south of Swim Beach.

After the Martins' feeding station, continue along the road toward Lobster Cove. Again, the birding anywhere through the village can be great. Once you near The Trailing Yew Inn, between the church and Underhill Trail, you will start to come upon stands of spruces. The area from this point on down to Lobster Cove offers the best chance in the village for both crossbill species, although they are nothing to count on. Lobster Cove is mainly a wide-open area. The habitat consists of small brushy thickets, sprinkled with tiny spruce trees, with a fairly extensive short grassy area ending at the rocky shoreline. Scopes are not generally needed on Monhegan, but this part of the island makes you glad you brought one along. Scan the ocean for loons, shearwaters, Northern

Gannets (almost guaranteed), both Great and Double-crested cormorants, Common Eiders, scoters, Red-necked Phalaropes, Laughing Gulls, Black-legged Kittiwakes, and the ever-numerous Black Guillemots.

Around the cove itself, large flocks of Eastern Kingbirds, Blue Jays, and Cedar Waxwings can be found foraging on the rocks, migrating overhead, or hanging like ornaments on a spruce tree. At low tide Spotted Sandpipers can be found, along with flycatchers and warblers on the rocks. Recent trips have provided great looks at Olive-sided and Yellow-bellied flycatchers; Eastern Kingbird; Yellow, Chestnut-sided, Yellow-rumped, Blackburnian, and Palm warblers;, and American Redstart. Just to the east of the cove lies a small grassy marsh. Even smaller now after a winter storm (1992), this area has been host to Marsh Wren, Dickcissel, Grasshopper Sparrow, and Sharp-tailed Sparrow. When you have completed your tour of Lobster Cove, head back to town and start over again.

If the birding should slow down a bit—and in the afternoon that is possible—get a map from your host or one of the merchants of the island, and head out to explore the rest of the island. Note the useful instructions and cautions on the back side of the map. The island's north and east sides offer panoramic views atop 160-foot cliffs, great places to watch Peregrine Falcons in the fall. The trails that follow the outskirts of the island are steep, so be careful. On the north side at low tide, harbor seals can usually be seen at—where else?—the Seal Ledges. The island's interior, with its cathedral forest made up of spruce and fir, hosts the same species you should come across in the village, with a few additions: Red-breasted Nuthatch, Brown Creeper, Winter Wren, Golden-crowned Kinglet, White-throated Sparrow, and maybe a few crossbills. If you are on the island during a full moon, a nighttime hike to the cliffs is a spectacular sight. The Burnt Head Trail is the easiest to take. (All trail signs are marked with numbers if not the name of the trail, and the map includes both.)

The best time to bird Monhegan is during the third and fourth weeks of May and all of September to Columbus Day. I have been leading trips there for the Hampshire Bird Club since 1984, and we have accumulated a list of over 190 species. I mentioned the types of birds that can be encountered, and over the years our club has witnessed some great migrations. Some of the weekend high counts have been 20 Peregrine Falcons, 5000 Red-necked Phalaropes, 70 Black Guillemots, 40 Yellow-bellied Sapsuckers, 80 Northern Flickers, 300 Red-breasted Nuthatches, 800 Golden-crowned Kinglets, 300 Ruby-crowned Kinglets, 30 Swainson's Thrushes, 4 Philadelphia Vireos (spring as well as fall), and 40 Red-eyed Vireos. We have seen 30 species of warblers, and their weekend totals have been just as impressive: 100 Northern Parulas, 50 Magnolias, 10,000 Yellowrumps, 50 Black-throated Greens, 250 Blackpolls, 125 Palm Warblers, 45 American Redstarts, and 25 Wilson's Warblers. We have also seen up to 5 Dickcissels and 4 Clay-colored Sparrows. This should tell you

Table 1. Amenities at Monhegan

Reservations for the inns and ferry are recommended. Reservations for groups should be made well in advance.

ACCOMMODATIONS

The Trailing Yew, Monhegan Island, Maine 04852
Room and board, and baggage transportation provided for the inn guests
Open mid-May through mid-October
Phone: 207-596-0440

Monhegan House, Monhegan Island, Maine 04852
Open mid-May through mid-October
Phone: 207-594-7983

Hitchcock House, Monhegan Island, Maine 04852
Rooms, efficiencies, and a cabin
Open year-round
Barbara Hitchcock
Phone: 207-594-8137

Shining Sails, Inc., Monhegan Island, Maine 04852
Rooms, efficiencies, and cottage rentals
Open year-round
Bill Baker and Amy Melenbacker
Phone: 207-596-0041

The Tribler Cottage, Monhegan Island, Maine 04852
Housekeeping apartments
Open year-round
Martha Yandle and Richard Farrell
Phone: 207-594-2445

FERRY

Monhegan Boat Line, *Laura B*
Captain James Barstow
P.O. Box 238, Port Clyde, Maine 04855
Call or write for ferry schedule.
Parking at Port Clyde is currently $3 per day.
Phone: 207-372-8848

LUGGAGE HANDLING

Monhegan Truckers Inc. (operated by Trigger Hitchcock)
They meet each boat from May through October.
Phone: 207-594-8137

what can happen when you hit the right weather patterns.

Monhegan is also a good place to take the nonbirder in your life. While you are birding, he or she can hike, read, photograph, paint, or just relax. Monhegan also lacks biting insects like mosquitos, midges, and black flies. Instead of the Big Three, Monhegan has a developing community of deer ticks, and yes, a few cases of Lyme Disease have been reported. The worst area for ticks is the grass around the lighthouse. If you stick to the trails and check yourself when changing clothes, you should not have a problem. As always, visiting birders should not trespass on private properties, so that future birders will be welcome to enjoy Monhegan's beauty and birds.

Table 1 shows a list of accommodations on Monhegan, the address and phone number for reservations on the *Laura B*, and a service on Monhegan to help you carry your luggage from the ferry dock to your accommodation. I recommend that you bring along a few items to ensure an enjoyable trip: (1) a good flashlight, because not all rooms in the inns have electricity, and streetlights . . . are you kidding?; (2) warm jacket, windbreaker, sweater, warm hat, and gloves (even though you may be there in late May or early fall, the weather can get pretty cold); (3) rain gear, if for no other reason than for the ride on the *Laura B*; (4) comfortable footwear, because you will be on your feet the entire time, and the trails can be wet and rocky; (5) spotting scope and camera (the birds and the scenery should use up a roll or two); and (6) a complete or partial food supply if you are renting an efficiency apartment; the island's General Store should carry whatever you may have forgotten. Some of the accommodations listed in Table 1 provide meals; check with your host when making reservations and plan accordingly.

For other accounts of birding in Monhegan during the summer and winter seasons, see *A Birder's Guide to the Coast of Maine* (1981) by Elizabeth and Jan Pierson, and *Bird Finding in New England* (1988) by Richard K. Walton.

To get to Monhegan from the Massachusetts-New Hampshire line, take Interstate 95 north to Portland. Once you near Portland, look for exit 6A, the exit for Interstate 295. Stay on Interstate 295, and you will run right back into Interstate 95 north again. Your next exit will be Bath/Brunswick (U.S. 1 north). Stay on Route 1 north until you come to the town of Thomaston. Go through Thomaston and look for State Route 131 south. Follow 131 south for about thirty minutes until you come to Port Clyde, where you will catch the *Laura B*. Good luck, and enjoy Monhegan!

SCOTT SURNER, the western Voice of Audubon, has been birding for sixteen years. He has birded all across North America, including arctic Canada. Scott is past president of the Hampshire Bird Club, and founder and compiler of the Quabbin Christmas Bird Count.

Bird Watcher's General Store

Featuring: The Amazing **AVIARIUM** In-House Window Birdfeeder. One-way mirrored plexiglass allows you to watch the birds for hours but they can't see you!
Come see this exceptional birdfeeder in action.

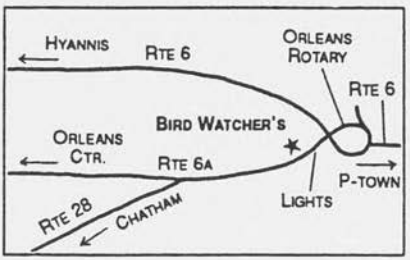
OTHER BIRD-LOVER ITEMS INCLUDE:

- Bird Mugs
- Bird Note Cards
- Bird Carvings
- Bird Field Guides
- Bird Books
- Bird Key Chains
- Bird Jewelry
- Bird Door Knockers
- Bird Telephone
- Bird Houses
- Bird Baths
- Bird Gift Wrap
- Bird T-Shirts
- Bird Photos
- Bird Prints
- Bird Calls
- Bird Recordings
- Bird Potholders
- Bird Towels
- Bird Carving Kits
- Bird Welcome Mats
- Bird Thermometers
- Bird Sun Catchers
- Bird Calendars
- Bird Pillows
- Bird Place Mats
- Bird Mobiles
- Bird Fountains
- Bird Bath Heaters
- Bird Switch Plates
- Bird Puzzles
- Bird Bookmarks

- **A complete line of Binoculars, Spotting Scopes and Tripods**
- **A children's section with birdhouse kits, beginner books,and other fun and educational items**

PLUS over 100 different types of bird feeders including Bluejay and Squirrel-proof feeders that work,GUARANTEED, plus ten different types of Bird Seed

GIFT CERTIFICATES & U.P.S. SHIPPING • OPEN YEAR ROUND



Bird Watcher's General Store
36 Route 6A • Orleans, MA 02653
(508) 255-6974
or
1-800-562-1512

HENSLOW'S SPARROW AND GRASSHOPPER SPARROW: A COMPARISON OF HABITAT USE IN FINGER LAKES NATIONAL FOREST, NEW YORK

by Donald J. Smith and Charles R. Smith

The Grasshopper Sparrow and Henslow's Sparrow are uncommon grassland sparrows that breed in scattered locations throughout New York. The New York State Breeding Bird Atlas reported them in fifteen and seven percent of the blocks surveyed, respectively (Andrle and Carroll 1988). Historically Grasshopper Sparrows have occurred in the Finger Lakes Region of New York since before 1909, being described as a "common summer resident" by Reed and Wright (1909). Interestingly, Reed and Wright did not list the Henslow's Sparrow in their report. The first report of Henslow's Sparrow from the Finger Lakes Region was in 1916, and by 1919 it was known to breed in at least four locations in the Cayuga Lake Basin (Wright 1919). Wright's comments indicate that the lack of records before this time may have been due to the failure of local ornithologists to detect it, not its absence from the area.

Qualitative accounts have mentioned frequent periods of decrease and increase in the abundance of the two sparrows in New York (*Kingbird* 1955-1989). This is not surprising since both species' populations are reported to fluctuate widely for reasons that are not understood (Hyde 1939; Wiens 1969; Zimmerman 1988). Data from U.S. Fish and Wildlife Service Breeding Bird Survey routes have shown that both birds are declining significantly in New York State and throughout the Northeast (Robbins et al. 1986; Smith 1989). Both species have been either Blue List or Blue List Special Concern species since 1974 (Tate and Tate 1982; Tate 1986) and New York State Species of Special Concern since the early 1980s. Since 1965 these species have declined throughout the state, with Henslow's Sparrow showing a steeper rate of decline than Grasshopper Sparrow. In 1987 Henslow's Sparrow was listed among migratory nongame birds of management concern by the U.S. Fish and Wildlife Service (Office of Migratory Bird Management 1987; Smith 1992).

Within its geographic range Henslow's Sparrow has been reported to nest in a variety of habitats containing tall, dense, grassy vegetation (Smith 1968). Hyde (1939) describes a variety of habitats where Henslow's Sparrow commonly occurs: upland weedy hayfields or pastures without shrubs, wet meadows, drier areas of salt marshes, grassy fields, and sedgy hillsides with recently planted pine seedlings. Graber (1968) found that their habitat was usually quite dense from twelve inches to twenty-four inches off the ground, and added that the species "has adapted to living in unmowed hayfields." In New York Peterson (1983) found them in large, ungrazed fields, often on hilltops, with a variety of moisture regimes and no woody invasion. Henslow's Sparrow

is not typically associated with grazed areas (Peterson 1983; Zimmerman 1988), although they often can survive quite well in lightly grazed pastures (Skinner 1975).

Wiens (1969), in his three-year study, had four Henslow's Sparrow territories in the first and third year and none in the second year. He found that Henslow's Sparrow territories had a low percent cover of forbs, dense vegetation, a high effective vegetation height, little bare ground or low vegetation, and no trees, posts, or fence lines.

Grasshopper Sparrow, as reported by Eaton (1914), inhabits meadows, clover fields, and weedy fields usually on drier ground than Henslow's Sparrow. Grasshopper Sparrow is most common on managed grassland in the presence of clump-forming vegetation, including alfalfa, red clover, and lespedeza (Smith 1968). This preference for clump-forming vegetation has been confirmed by Whitmore (1981) and Janes (1983). Wiens (1969) found that Grasshopper Sparrow territories frequently contained patches of bare ground and very short vegetation; posts; fence lines; and occasional trees. Johnston and Odum (1956) found the birds in fields with as much as ten percent shrub cover, although more detailed studies have found that percent cover of shrubs within territories is usually closer to one percent (Janes 1983; Whitmore 1981).

The effects of grazing on the Grasshopper Sparrow differ from area to area. In Arizona grazing excluded the birds (Bock and Webb 1984), but in West Virginia (Whitmore 1981), North Dakota (Kantrud 1981; Renken and Dinsmore 1987), Florida (Delany et al. 1985), and Missouri (Skinner 1975), moderate grazing never decreased and usually increased the density of Grasshopper Sparrows. This is consistent with the observation that Grasshopper Sparrows prefer fields with bunchgrass interspersed with open ground (Janes 1983). This habitat is found in Arizona only in ungrazed areas, because cattle quickly reduce the bunchgrass to below an acceptable density. In the eastern U. S. light grazing creates patches of shorter vegetation usually not present in ungrazed grasslands, encouraging Grasshopper Sparrows; but heavy grazing still can reduce the grass below an acceptable height and density, leading to the loss of the birds.

Because both Henslow's and Grasshopper sparrows are declining in the Northeast, a better understanding of land uses compatible with the needs of these grassland birds is necessary for conservation planning. The occurrence of both Grasshopper and Henslow's sparrows in Finger Lakes National Forest (FLNF) provided an opportunity to study these birds on regularly grazed and managed grassland in Seneca and Schuyler counties in the Finger Lakes Region of New York. Based on preliminary observations, we suspected that territories of Henslow's Sparrow would have taller vegetation and a smaller percent cover of goldenrod than those of Grasshopper Sparrow. We also suspected that Henslow's Sparrows might be found in larger pastures and pastures that had higher productivity (as defined below).

Study Area and Methods

FLNF is a 13,232-acre area managed for multiple uses including recreation, logging, and grazing. A diversity of habitats are maintained through grazing, mowing, controlled burning, and logging (Adkinson 1945; USFS 1986). Thirty-three areas totaling about 1838 acres are designated cattle pastures. These pastures vary in size from twenty to three hundred and ten acres, and each is completely fenced. Each year about 1800 beef and dairy cattle graze the pastures from May 15 until October 15. Each pasture is not pure grassland, because vegetation types within the fenced areas can include as much as thirty-six percent shrubland and forest, as well as frequent hedgerows. The pastures are stocked such that only sixty percent of the annual production of vegetation is consumed by the cattle (USFS 1986). This results in large areas of high grass that support populations of Eastern Meadowlark, Bobolink, Savannah Sparrow, Grasshopper Sparrow, and Henslow's Sparrow. As part of a comprehensive inventory of bird species diversity for FLNF, all thirty-three pastures were surveyed during the summer of 1989.

The territories of five Henslow's and eleven Grasshopper sparrows were visited from July 26 through August 3 to analyze vegetation. Observations on breeding territories were possible this late in the season due to the very wet months of May and June, which seemed to delay nesting, and the fact that the sparrows also have a protracted breeding season that normally extends into the month of August (Smith 1968; Robins 1971a, 1971b). Vegetation analysis used the following procedures. Two observers located singing, territorial male birds. One watched the bird while the other approached, causing it to fly. The original perch and the location where the flushed bird first landed were marked. With the original perch as the starting point, a fifty-meter tape was laid out in the direction the flushed bird flew. The height of the vegetation was measured at one-meter intervals along the tape. The percent cover of grass, goldenrod, sedge, and woody vegetation inside the square was visually estimated by two observers, always D.J. Smith and one other. The goldenrod and perennial stems also were counted.

Results

Grasshopper Sparrows were found in twenty-four of the thirty-three pastures, while Henslow's Sparrows were found in only five pastures. Henslow's Sparrow occurred together with Grasshopper Sparrow in three of the five pastures. The smallest pasture containing each species, or the minimum pasture size, was twenty-seven acres for Grasshopper Sparrow and seventy-four acres for Henslow's Sparrow. The discovery of Grasshopper Sparrow on a pasture of twenty-seven acres allows us to say little about the minimum area required, because this was the smallest pasture available in FLNF. The absence of Henslow's Sparrow in areas of less than seventy-four acres may be more meaningful, however, because eight smaller pastures representing a wide range

of productivity were surveyed, and none contained Henslow's Sparrow.

The average productivity rating for pastures containing Henslow's Sparrow was significantly lower than for pastures containing Grasshopper Sparrow. The average height of the vegetation on Henslow's Sparrow territories also was found to be significantly greater than vegetation height on Grasshopper Sparrow territories. Further analysis showed that the height of the vegetation on the territories was significantly positively correlated with the productivity rating of the pasture in which the territory was located, indicating that the greater the productivity index, the taller the vegetation.

The two species of sparrows did not seem to choose their breeding locations based on the time since the area was last mowed, because both species bred freely on pastures mowed from one to six years earlier (mowing dates from J. Fiske, pers. com.). For Henslow's Sparrow, two isolated territorial males and a colony of two or three territories were located in pastures mowed the previous year. The other two pastures containing birds were mowed in 1984 and 1985. Grasshopper Sparrows were found in pastures mowed last in 1978, and in pastures mowed every year during 1982-1988.

Discussion

The significantly different mean grass heights confirm that Henslow's Sparrow prefers taller vegetation. This result agrees with the findings of Skinner (1975) and Wiens (1969), who found Henslow's Sparrow inhabiting taller vegetation than Grasshopper Sparrow.

In Kansas Zimmerman (1988) found that Henslow's Sparrow did not breed in areas that were burned the preceding spring or moderately grazed the preceding summer. Based on this, he concluded that any practice that reduced the standing dead vegetation in a field could eliminate Henslow's Sparrow.

Our findings of Henslow's Sparrow in grazed pastures that were mowed the previous year differ from the observations of Zimmerman. The grazing intensities observed by Zimmerman may have been higher than those seen in our study, accounting for the absence of Henslow's Sparrow from his sites. The mowing discrepancy may be explained by one of two hypotheses. First, our later seasonal work gave the vegetation a chance to regrow and allowed the birds to move into these newly regrown areas after losing or raising their first brood. Robins (1971a) found that most Henslow's Sparrows in Michigan raise two or three broods, defend territories for as long as two months, and frequently change the location of their territories during the breeding season. A second hypothesis is that mowing during late July and August and removing the cattle in mid-October, as practiced in FLNF, allows time for vegetation to regrow partially before winter, possibly providing enough residual cover in spring to attract Henslow's Sparrows. Zimmerman's studies also were of the western subspecies of Henslow's Sparrow, which may differ in its habitat requirements than the

eastern form.

Kantrud (1981) found Grasshopper Sparrow densities to be low in hayfields mowed the previous year. Although we have no data on the relative densities of the birds in our study, the pattern of occurrence at FLNF does not indicate that time to last mowing is important in the choice of nesting location by Grasshopper Sparrow.

It is worth noting that two pastures containing thirty hectares (about seventy-four acres) of grassland were the smallest areas used by Henslow's Sparrow. This result corresponds directly with the observations of Zimmerman (1988) in Kansas, who recommends that management to encourage Henslow's Sparrow should be carried out on plots of at least thirty hectares. These values also fall within Samson's (1980) estimate of ten to one hundred hectares (24.7 to 247.1 acres) as the minimum area required to support a viable breeding population of Henslow's Sparrow. Peterson's (1983) study in Broome County, New York, found that Henslow's Sparrow occurrence was related to unobscured, visual distance to the horizon, a measure strongly correlated with grassland area. These apparent minimum area requirements are far from proven and may not hold for all regions where Henslow's Sparrow occurs. Older accounts reported about twelve pairs living in four hectares (9.9 acres) of dense grass in Pymatuning Swamp in northwestern Pennsylvania and four pairs in a field of only 3.6 hectares (8.9 acres) (Graber 1968). The indications from recent work that size is important in habitat choice by Henslow's Sparrow may be confounded by the fact that the species is declining. During periods of decline, a species is less likely to saturate the available habitats and may only occupy the highest quality sites (O'Connor 1981), giving an inaccurate impression of the range of habitats it may occupy at higher population densities.

Conservation Implications

The existing pasture management scheme, which has been in place for at least fifteen years, produces usable habitat for both Henslow's and Grasshopper sparrows in FLNF. This demonstrates a land use compatible with the needs of both Henslow's and Grasshopper sparrows. Maintenance mowing done in mid-August allows the birds to raise their first broods undisturbed, while still leaving enough time for regrowth to provide standing dead vegetation the following spring. Grazing is a cost-effective method for maintaining the early stage of succession required by these birds. The stocking rate of 0.05 to 0.10 head of cattle per acre permits vegetation to grow to the height preferred by Henslow's Sparrow and still maintains habitat suitable for Grasshopper Sparrow.

Ironically, the future of Henslow's and Grasshopper sparrows, and possibly other species of grassland birds, may be tied to the economics of the dairy industry. In New York State the dairy industry continues to decline. The number of dairy cows in the state has dropped from 915,000 in 1981 to 775,000 in 1991,

contributing to an overall decline in the total number of cattle in the state from 1,831,000 to 1,550,000 head over the same time period. With this decline has come a decrease in demand for pasturage in FLNF and a decrease in total area of land under pasture throughout the state from 845,341 acres in 1981 to 730,296 acres in 1990 (NYASS 1991). The fees paid by the Hector Grazing Association for grazing rights help pay for the cost of managing FLNF (USFS 1986). If the number of cattle and corresponding income from fees are reduced, some important management decisions will have to be made. Presently, grazing keeps the pastures in an early successional stage. With a loss of grazing, more frequent mowing will be necessary to maintain the grassland. This will put additional stress on the budget and limited manpower and may not create the same habitat structure that results from grazing. In the end, some pastures may need to be abandoned and allowed to grow up. With the 1976 mandate of the National Forest Management Act to preserve diversity in national forests (Bean 1983), managers face the challenge of maintaining a viable population of Henslow's Sparrows in FLNF.

Our study characterizes habitats that may support breeding populations of Henslow's Sparrow in the context of an agricultural landscape. Productivity and minimum pasture size do not necessarily predict the presence or absence of Henslow's Sparrow, which is not surprising given its reputation for irregular occurrence (Peterson 1983; Robins 1971a; Wiens 1969), but these variables can help managers begin to identify potential breeding sites.

The large number of pastures containing Grasshopper Sparrow and the number of individuals observed indicate that the species currently is doing well in FLNF. The present management regime does not seem to be in conflict with this species. Their requirements of less productive land and smaller minimum area, coupled with their relative abundance, seem to assure their persistence. In spite of this, a loss of grazing still could have a negative effect on the Grasshopper Sparrow, because some authors report an absence of Grasshopper Sparrows on ungrazed or idle pasture (Skinner 1975). Absence of grazing could reduce habitat suitability, leading to a reduction in the density of Grasshopper Sparrows. Another effect of a reduction in the demand for pasturage could be a decision to allow some of the pastures to revert to trees and shrubs, also reducing the size of the Grasshopper Sparrow population in FLNF. Despite these potential decreases in numbers, we feel that by preserving suitable areas of grassland for Henslow's Sparrow, Grasshopper Sparrow should remain because such areas usually can provide habitat for both species. In this way, by managing for the rarer Henslow's Sparrow, both of these New York State Species of Special Concern should remain part of FNLF's diverse avifauna.

Additional field studies at other sites are essential to achieve a more comprehensive understanding of the habitat requirements of Henslow's and Grasshopper sparrows in the Northeast. Active management of grassland

habitats will be necessary to maintain areas suitable for these sparrows and other grassland birds. Otherwise, the processes of commercial land development and ecological succession will gradually eliminate grasslands from the landscape. Carefully managed grazing, such as in FLNF, is a viable, cost-effective management option for providing habitat for Henslow's and Grasshopper sparrows. In the absence of field studies and active management, continued recognition of the precarious status of Henslow's and Grasshopper sparrows through various state and federal "listing" exercises will do little for their conservation.

References

Adkinson, L.B. 1945. *Community Use of Pastures on Hill Lands—The Hector Land Use Adjustment Project in Southern New York.* U.S. Dept. of Agriculture, Bur. of Agric. Econ. and Soil Conserv. Serv. Upper Darby, PA.

Andrle, R.F., and J.R. Carroll. 1988. *The Atlas of Breeding Birds in New York State.* Ithaca, N.Y.: Cornell University Press.

Bean, M.J. 1983. *The Evolution of National Wildlife Law.* New York: Praeger.

Bock, C.E., and B. Webb. 1984. Birds as Grazing Indicator Species in Southeastern Arizona, *J. Wildl. Manage.* 48(3):1045-1049.

Delany, M.F., H.M. Stevenson, and R. McCracken. 1985. Distribution, Abundance, and Habitat of the Florida Grasshopper Sparrow, *J. Wildl. Manage.* 49:626-631.

Eaton, E.H. 1914. *Birds of New York, Part 2*, Albany, N.Y.: University of the State of New York.

Graber, J.W. 1968. *Passerherbulus henslowii henslowii* Western Henslow's Sparrow, In *Life Histories of North American Cardinals, Grosbeaks, Buntings, Towhees, Finches, Sparrows and Allies*, ed. O.L. Austin, Jr. U.S. National Museum Bulletin No. 237, part 2, Washington, D.C.

Hyde, A.S. 1939. The Life History of Henslow's Sparrow *(Passerherbulus henslowii)*, Mus. Zool. Univ. Mich. Misc. Publ. No. 41.

Janes, J.W. 1983. Status, Distribution and Habitat Selection of Grasshopper Sparrows in Morrow County, Oregon, *Murrelet* 64:51-54.

Johnston, D.W., and E.P. Odum. 1956. Breeding Bird Populations in Relation to Plant Succession on the Piedmont of Georgia, *Ecology* 38:171-174.

Kantrud, H.A. 1981. Grazing Intensity Effects on the Breeding Avifauna of North Dakota Native Grasslands, *Can. Field Nat.* 95:404-417.

Kingbird. 1955-1989. Regional Reports for Region 3: Finger Lakes.

New York Agricultural Statistics Service (NYASS). 1991. New York Agricultural Statistics 1990-1991, New York State Dept. of Agric. and Markets, Division of Statistics, Albany, N.Y.

Office of Migratory Bird Management. 1987. *Migratory Nongame Birds of Management Concern in the United States: The 1987 List*, U.S. Fish and Wildlife Service, Washington, D.C.

O'Connor, R.J. 1981. Habitat Correlates of Bird Distribution in British Census Plots, *Studies in Avian Biology* 6:533-537.

Peterson, A. 1983. Observations on Habitat Selection by Henslow's Sparrow in Broome County, New York, *Kingbird* 33:155-164.

Reed, H.D., and A.H. Wright. 1909. The Vertebrates of the Cayuga Lake Basin, N.Y., *Proc. Amer. Phil. Soc.* 48(193): 370-459.

Renken, R.B., and J.J. Dinsmore. 1987. Nongame Bird Communities on Managed Grasslands in North Dakota, *Can. Field Nat.* 101: 551-557.

Robbins, C.S., D. Bystrak, and P.H. Geissler. 1986. *The Breeding Bird Survey: Its First Fifteen Years, 1965-1979*, U.S. Dept. Interior, Fish and Wildlife Service, Resource Publication 157, Washington, D.C.

Robins, J.D. 1971a. A Study of Henslow's Sparrow in Michigan, *Wilson's Bull.* 88(1): 39-48.

_____. 1971b. Differential Niche Utilization in a Grassland Sparrow, *Ecology* 52:1065-1070.

Samson, F.B. 1980. Island Biogeography and the Conservation of Nongame Birds, *Trans. N. Amer. Wildl. and Natu. Res. Conf.* 45:245-251.

Skinner, R.M. 1975. Grassland Use Patterns and Prairie Bird Populations in Missouri, In *Prairie: A Multiple View*, ed. M.K. Wali. Grand Forks: Univ. of North Dakota Press.

Smith, C.R. 1989. *An Analysis of New York State Breeding Bird Surveys 1966-1985*, Final Project Report, Contract No. C001667, New York State Department of Environmental Conservation.

_____. 1992. Henslow's Sparrow, *Ammodramus henslowii*. In *Migratory Nongame Birds of Management Concern in the Northeast*, eds. K.J. Schneider and D.M. Pence. Newton Corner, MA: U.S. Fish and Wildlife Service.

Smith, W.P. 1968. Eastern Henslow's Sparrow, In *Life Histories of North American Cardinals, Grosbeaks, Buntings, Towhees, Finches, Sparrows and Allies*, ed. O.L. Austin, Jr. U.S. National Museum Bulletin No. 237, part 2, Washington, D.C.

Tate, J. 1986. The Blue List for 1986, *American Birds* 40:227-236.

Tate, J., and Tate, J. 1982. The Blue List for 1982, *American Birds* 35:126-135.

U.S. Forest Service (USFS). 1986. *Land and Resource Management Plan: Finger Lakes National Forest*, USDA, Forest Service.

Whitmore, R.C. 1981. Structural Characteristics of Grasshopper Sparrow Habitat, *J. Wildl. Manage.* 45(3):811-814.

Wiens, J.A. 1969. An Approach to the Study of Ecological Relationships Among Grassland Birds, *Ornithol. Monogr.* 8.

Wright, A.H. 1919. Henslow's Sparrow in New York and Virginia, *Auk* 36:574-575.

Zimmerman, J.L. 1988. Breeding Season Habitat Selection by the Henslow's Sparrow *(Ammodramus henslowii)* in Kansas, *Wilson Bull.* 100(1):17-24.

DONALD J. SMITH graduated with honors from Cornell University in 1990. He is currently a graduate student at the University of Arizona, Tucson. **CHARLES R. SMITH** is a naturalist and conservationist who teaches at the Department of Natural Resources at Cornell University. He has been involved in studies of New York birds for nearly twenty years and serves as an advisor to several state and federal agencies on management and conservation of nongame birds. The authors would like to acknowledge the kind and enthusiastic assistance of the staff of the U.S. Forest Service, Finger Lakes National Forest. Elizabeth Domingue O'Neill provided valuable and dedicated assistance in the collection of field data. Financial support for this research was provided by an award from the Office of Resident Instruction, College of Agriculture and Life Sciences, Cornell University, to D. Smith, and through Hatch Project No. NYC-171401, U.S. Department of Agriculture, to C. Smith.

NESTING SUCCESS OF EASTERN BLUEBIRDS IN MYLES STANDISH STATE FOREST

by Josette Carter

As we approach our study plot, a small blue and russet thrush drops from its perch high atop one of the many electric power cables that slice through the forest. The bird alights at the entrance hole of box 32A. It is the only active nest remaining in the hushed, hot days of early August. It has been a good year for the bluebirds. With the successful fledging of this late brood, 1991 will mark the second most successful breeding season we have recorded in Myles Standish State Forest in recent years.

Photo by D. C. Twitchell

The pine barrens of Myles Standish State Forest (MSSF) (Figure 1) have historically attracted one of the most concentrated populations of nesting Eastern Bluebirds *(Sialia sialis)* in southeastern Massachusetts. Frequent forest fires sweeping through the 14,600-acre tract over the centuries have created open grassy, pine-oak woods with standing dead tree habitats that have traditionally lured cavity-nesting bluebirds. Unable to excavate their own nest cavities, bluebirds seek out the abandoned nest holes of Common Flickers, and Hairy and Downy woodpeckers to lay their eggs. In pre-Columbian times similar openings in the forest, created by fires or high winds, were probably the principal source of nesting habitat for the bluebird in New England (*sensu* Conner and Adkinsson 1974).

Within the past fifteen years, however, the number of forest fires in the MSSF pine barrens has decreased dramatically, and with it the number of natural nesting cavities available to bluebirds. The absence of fire's regenerative role in creating new nest sites, as older trees decay and fall, is thought to be a

major factor in bluebird declines noted in the MSSF area in the late 1970s and early 1980s.

Concern over the future of the Eastern Bluebird populations in and around MSSF brought Trevor Lloyd-Evans of Manomet Bird Observatory (MBO) and Dick Turner of the Massachusetts Division of Fisheries and Wildlife together in 1984 to launch a conservation management project promoting the protection and long-term viability of bluebird populations in MSSF and Plymouth County.

Each spring Dick Turner distributes thirty to forty nest boxes throughout the upland game management area of MSSF to attract bluebirds and other secondary cavity nesters, including Tree Swallows. An MBO field research team closely monitors the boxes each season, collecting data on nesting locations selected by bluebirds, first and last dates of egg-laying, seasonal nest success, and nest box use by other avian species. Whenever possible, bluebird nestlings are color-banded to help facilitate tracking of the resident population and assess the degree of site faithfulness evidenced by MSSF-reared birds in returning to the forest to nest in subsequent years.

Eastern Bluebirds typically raise two broods over most of their range, three broods in central portions where densities are highest, and one brood in Canada (Peakall 1970). Early in the nesting season a female may build nests in several cavities before selecting one in which to deposit her four to five eggs (Pinkowski 1974; Peakall 1970). In northern latitudes clutch sizes tend to be smaller, and throughout the range there is a tendency to lay fewer eggs as the season progresses (Peakall 1970). In eastern Massachusetts females customarily incubate their eggs for thirteen to fifteen days (Smith 1984). During the critical

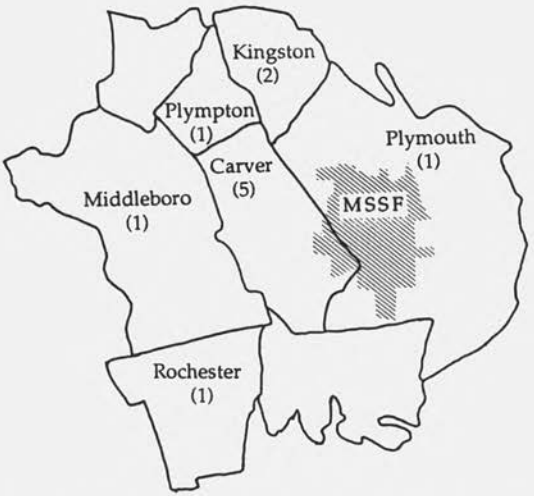


Figure 1. Number of Eastern Bluebird nesting locations reported in Plymouth County, 1991.

incubation and nestling periods, bluebird adults depend on a constant supply of insects to feed both themselves and their young.

Since the project was initiated in 1984, we have observed eighty-four bluebird nesting attempts in boxes placed in the MSSF upland game management area (Table 1). A total of 121 bluebirds have successfully fledged from boxes within the preserve. The number of hatched young that have survived to the time of fledging each breeding season has on average increased over study years from a low of six in 1985 to a peak of thirty-two in 1988. Recent years, 1988-1991, have been years of greatest productivity.

Tree Swallows, often found nesting in close association with bluebirds, have occupied the majority of boxes in MSSF each year. Eastern Bluebirds, the second most common nester, have seasonally claimed between fourteen and forty percent of the potential nest sites.

We have found no correlation between the percentage of boxes occupied by bluebirds each breeding season and the number of fledged young produced annually. In 1985, for example, forty percent of the boxes in MSSF contained bluebird nesting materials at some point during the nesting cycle, but the number of nestlings that survived to fledging was relatively low when compared with other years when bluebirds used fewer boxes.

Among the apparent causes of failed nests in MSSF are extreme weather conditions, blowfly larvae *(Apaula sialia)* infestations, predation, vandalism, and competition for nest sites from House Wrens and possibly Tree Swallows. Heat stress was implicated in the death of at least one brood in 1984 (Smith 1984).

Table 1. Eastern Bluebird nesting success, Myles Standish State Forest. 1984-1991

Year	Number of Nests	Number Successful	Number Fledged
1984	8	4	9
1985	13	6	6
1986	9	4	8
1987	11	2	6
1988	9	9	32
1989	11	6	21
1990	10	5	14
1991	13	8	25
Total	84	44	121

Most bluebird nest failures have occurred early in the season, when the compounding effects of prolonged rains and cold temperatures have resulted in delaying nesting, nest desertion, or starvation. On average, the greatest number of hatched young in MSSF has survived in years when cumulative rainfall, April through July, was lowest.

An infestation of blowfly larvae, small blood-sucking nest parasites that attach themselves to nestlings slowly sapping their reserves, was believed to be the primary cause of mortality of six, and possibly seven, bluebird young in 1988. Blowfly larvae were found in several nests again in 1990 and 1991, but had less damaging effects and did not result in any known fatalities. On one occasion when larvae were removed from a nestling and pine nesting materials, the entire brood consisting of three young successfully fledged the nest.

Evidence of predation within the study area has been minimal, and cowbird parasitism or competition from cavity-nesting European Starlings or House Sparrows has not been observed. In three instances broken eggs have been found on the ground directly below nest box entrance holes, but the source(s) of damage are unknown.

Although vandalism has not been an ongoing problem in MSSF, five bluebird nestlings were killed in the project's first year when an off-road vehicle drove over three pole-mounted nest boxes. Twenty-two percent of the bluebird young hatched that year were killed in this single destructive act (Smith 1984)

Given the limited number of observer hours, it has been difficult to determine the full extent of Tree Swallow and Eastern Bluebird aggressive interactions and possible competition for nest sites. Bluebird nesting materials have been found buried beneath several active Tree Swallow nests in the last eight years, but these nests may have already been abandoned by bluebirds. Additional competition exerted by House Wrens for nesting sites has been more severe in some years than in other years. As many as seventy-four percent of the boxes erected in 1991 contained the twiggy nesting materials of House Wrens at some point during the nesting cycle.

The good news coming from our research is that some bluebirds fledged from nest boxes in MSSF are returning to breed. In 1991 two bluebirds wearing color bands, one female and one male banded as nestlings in previous seasons, paired with unmarked birds in the study area.

The presence of a stable or expanding bluebird population in MSSF and scattered reports of nesting bluebirds from the surrounding communities indicate that the Eastern Bluebird is becoming reestablished in Plymouth County. Regional recolonization efforts are also being enhanced by private land owners, including several local cranberry growers, many of whom maintain bluebird boxes and trails. Active bluebird nesting locations in Plymouth County from which we received reports in 1991 are indicated in Figure 1.

The observatory welcomes reports of marked and unmarked bluebirds from

birders and others interested in the survival of Eastern Bluebirds in southeastern Massachusetts. Such information will enable us to better evaluate the extent of suitable bluebird habitat in Plymouth County beyond state forest boundaries.

A slide program is now being prepared on the MSSF Bluebird Project. For further details write or call Manomet Bird Observatory, P.O. Box 1770, Manomet, MA 02345, telephone 508-224-6521.

References

Connor, R.N. and C.S. Adkisson. 1974. Eastern Bluebird Nesting in Clearcuts, *J. Wildl. Manage.* 38:934-935.

Peakall, D.B. 1970. The Eastern Bluebird: Its Breeding Season, Clutch Size, and Nesting Success, *The Living Bird* 9:239-255.

Pinkowski, B.C. 1974. A Comparative Study of the Behavioral and Breeding Ecology of the Eastern Bluebird (*Sialia sialis*). Ph.D. Dissertation, Wayne State University, Detroit, Michigan.

Smith, S. 1984. MBO Special Report: A Study of the Eastern Bluebird in Plymouth County, Massachusetts.

JOSETTE CARTER, a staff scientist at Manomet Bird Observatory (MBO), works in both the Landbird and Shorebird programs. She has a special interest in migrant species on the decline in the northeast. Josette recently authored the Upland Sandpiper species account in the *Migratory Nongame Birds of Management Concern in the Northeast*, a joint project of the Natural Heritage Program and the U.S. Fish and Wildlife Service.

The Myles Standish State Forest Bluebird Project is directed by Trevor Lloyd-Evans of MBO's Landbird Program with funding provided by the membership. The many long hours of field work required to conduct this study were generously donated by D. Blais, Kim Pinto, Jim Kowalsky, Scott Smith, and D.J. Sweetser.

Solar Sipper

Three Wild Bird Products In One!

" Because birds need a drink of water too".

First, it's the **SOLAR SIPPER**, the cold weather wild bird watering device. It uses the power of the winter sun as well as air insulation to extend the time water remains liquid in freezing temperatures. Second, by removing the solar top, it's a summer wild bird waterer. Third, again with the top off, it's a convenient all season tray feeder. It is environmentally safe and makes a perfect gift. An available mounting bracket is useful for elevated installations near windows or doors.

Solar Black	$19.95
+ Mounting Bracket	$29.95
Berry Red	$22.95
+ Mounting Bracket	$32.95
Mounting Bracket	$14.95

Add $4.00 Shipping

MA residents add 5% sales tax. Allow 4-6 weeks delivery.

30 day money-back guarantee.

Approved by The National Audubon Society™ Made in USA

Happy Bird Corporation

P.O. Box 86, Weston, MA 02193-0001 (617) 899-7804

SOME OBSERVATIONS ON THE BREEDING BEHAVIOR OF LEAST TERNS

by Alan E. Strauss

During the summer of 1991 I participated as a volunteer in a program to monitor the behavior of Piping Plovers and Least Terns, both endangered species, in Rhode Island. The program at Goosewing Beach in Little Compton started in 1990 and was a joint effort between the Nature Conservancy of Rhode Island and the Lloyd Center for Environmental Studies in North Dartmouth. Peter Johnston, from the Lloyd Center, served as warden. The overall study was initiated in 1986 under the federal Piping Plover Recovery Program and the Rhode Island Natural Heritage Program. Volunteers help maintain the roped-off areas and reset displaced stakes and signs. In the course of my volunteer work, I studied the behavior of Least Terns throughout their breeding cycle. My data are descriptive, and only after my field work did I consult reference material to compare my observations with those already published.

Ecologically Goosewing Beach comprises three zones: open ocean, a line of dunes, and a salt pond (Quicksand Pond) located behind the dunes. Beach grass covers both the dunes and area just behind the dunes. The nesting area contained scattered small pebbles and cobbles, as well as dried vegetation and broken shells. Burroughs (1966) determined that Least Terns require a pebble substrate for egg camouflage and sparse vegetation to provide chick shelter. The terns occupied the base of the dunes and along the edge of the salt pond, the same areas used by Piping Plovers.

Least Terns arrived by about mid-May and began nesting by the beginning of June. Mating typically involved the male catching a fish and bringing it to the female. The male would wave the fish from side to side in front of the female and walk around her, pacing back and forth. Following this ritual, he would mount the female, copulate, and give her the fish (although sometimes the male would eat the fish). This type of behavior, called courtship feeding, has been previously reported for Least Tern (Haddon and Knight 1983). The nest consisted of a shallow depression in the sand, made presumably by the female. No lining or nest material was added to the shallow nest. Two eggs per clutch is typical across the United States (Houde 1977; Hays 1980; FWS 1983). The well-camouflaged eggs are off-white with dark gray-to-black speckles. Egg size ranges from 23.8 to 31.2 millimeters (Hardy 1957).

One bird would usually remain on the nest while the other member of the pair would stand nearby or forage for fish. Captured fish appeared to be sand lance, which are slender, silvery green, and slightly longer than an inch. The incubating bird would fly off its nest if a human or dog came too close.

The first young were hatched from early to mid-June. Incubation normally

requires nineteen to twenty-five days (Nature Conservancy, undated). Hatchlings are covered with yellow-brown down and have a dark yellow bill and yellowish legs and feet. Young terns are at first quite similar in appearance to Piping Plover chicks, but they develop much more rapidly and attain a slightly upright stance and the ability to waddle within a few days. I observed one tern chick immediately after hatching, and it walked weakly and hid among a tangle of dried seaweed. An adult always remained near the chick and would drive off Herring Gulls, even if they just flew over the general vicinity of the newborn chick. The chick was fed two fish per half-hour.

Juvenile Least Terns are gray-brown in overall appearance and have a dark bill. Wings are short but have the characteristic black outer primaries. The mantle of juvenile birds has distinct feathers with dark edges forming V-shaped patterns. The crown is streaked brown, with the beginning of an eye stripe. As juveniles age, they become more like adults in plumage. The bill turns yellow with dark smudges; the crown is streaked with dark gray; the eye stripe is more distinct; and the upperparts are pale gray. When immatures are seen in flight, they have a noticeably dark area on the leading edge of the wings, giving them almost the look of a Black Tern in molt. However, the trailing edge of the inner wing is light in color, and their flight is swift with quick wingbeats. The last part of the bird to attain adult plumage is the forecrown, which eventually becomes black but is often flecked with white. Leg color slowly changes from fleshy brown to yellow-brown to solid yellow, typical of a full adult.

Feeding behavior of young Least Terns at Goosewing Beach was variable and quite interesting. At times one or two adults with fish would land next to a young tern, and the young bird would maintain a hunched posture and show no apparent interest in the food. Eventually, the adults would fly off. At other times one adult with a fish would walk toward a young tern, which would seem to back away, opening and closing its mouth several times. A second adult with a fish would also approach the young tern, which would again back away. One of the adults might then fly off, and the other consume the fish; thus the young bird would not feed at all. At other times, however, one adult would fly in with a fish, pass it to the other adult, who then presented it to the juvenile, which was typically hunched in the beach grass. At still other times, one adult would fly in and give a fish directly to the juvenile, which would readily ingest it. The adult terns were generally silent unless they had a fish, in which case they would constantly make a harsh kip, kip, kip sound. This call was also made when a human or dog was nearby.

Juvenile birds typically fed in the salt pond, hovering and swooping down to catch fish in a manner quite similar to adult feeding behavior. Fish captured by juveniles appeared considerably smaller than those taken by adults (which fished in the open ocean), but may have been adequate to satiate the young birds. Perhaps this is why the immatures seemed to be uninterested in accepting

a larger fish from an adult.

Between July and August I counted approximately sixty Least Terns including about ten young. Using Litwin's conversion factor of 0.9, this total would equal about fifty-four pairs (Litwin 1983). The last nesting took place around mid-July, at which time six nests were established. A large storm with high winds and surf caused the destruction of all but one of these late nests, which was still present on August 7. Birds sometimes renest after storm damage (Jernigan et al. 1978), but it was late in the breeding season for this to occur. Between August 7 and 10, the egg in the remaining nest hatched. The chick spent most of its time hidden among dried vegetation, a behavior that may provide both protection from discovery and from too much sunlight (Blodget 1978). Adults were seen feeding this chick.

One juvenile tern was seen being preyed upon by a Great Black-backed Gull. Other potentially predatory species include Black-crowned Night-Heron, American Crow, Northern Harrier, American Kestrel, and various gulls (Nature Conservancy, undated).

I visited Goosewing Beach several days following Hurricane Bob and found only a few terns and one Piping Plover. Least Terns were seen flying over the dunes the day after the hurricane.

Least Tern nesting success is threatened by natural predators, human encroachment, and severe weather. Above-average rainfall and harsh weather conditions can account for many nest losses (Grover and Knopf 1982). Apparently, the bird protection program has contributed to the increase of breeding pairs of Least Tern in Massachusetts from over one thousand terns in 1974 to over twenty-five hundred in 1990 (Blodget 1992). It is crucial to maintain suitable and protected nesting areas for these birds because their breeding success can be so tenuous.

References

Blodget, B. 1978. The Effects of Off-Road Vehicles on Least Terns and Other Shorebirds, University of Massachusetts, National Park Service Report No. 26.

Blodget, B. 1992. Personal Communication.

Burroughs, J.R. 1966. A Study of the Breeding Biology of Least Terns on Nantucket Island, Master's Thesis, University of Massachusetts-Amherst.

FWS. 1983. Marine Birds of the Southeastern United States and Gulf of Mexico, Part III: Charadriiformes: 599-635, Fish and Wildlife Service Observations.

Grover, P.B. and F.L. Knopf. 1982. Habitat Requirements and Breeding Success of Charadriiform Birds Nesting at the Salt Plains National Wildlife Refuge, Oklahoma, *Journal of Field Ornithology*, 53:139-148.

Haddon, P.C. and R.C. Knight. 1983. A Guide to Little Tern Conservation. Royal Society for the Protection of Birds.

Hardy, J.W. 1957. The Least Tern in the Mississippi Valley, Michigan State University, Biological Service 1:1-60.

Hays, M.B. 1980. Breeding Biology of the Least Tern, *Sterna albifrons*, on the Gulf Coast of Mississippi. Master's Thesis, Mississippi State University.

Houde, P. 1977. Low Productivity of Terns of Hicks Island, 1975. *Proceedings of the Linnean Society*, 73:49-57.

Jernigan, L., R. Soots, J. Parnell, and T. Quay. 1978. Nesting Habits and Breeding Populations of Least Tern Colonies in North Carolina. University of North Carolina Sea Grant Publ.

Litwin, S. 1983. Long Island Least Tern and Piping Plover Survey, Seatuck Research Program, Cornell University and NY State Department of Environmental Conservation.

Nature Conservancy. Undated. Element Stewardship Abstract for *Sterna antillarum*, Least Tern. The Nature Conservancy, Arlington, VA.

ALAN E. STRAUSS is currently studying nesting species. He would like to thank Colleen Shaw and Griff Venator for their help.

Fall Workshop

Fall Warblers — a workshop for confused birders

Consistently, fall warblers puzzle, confound, and demoralize birders. Their indistinct and confusing plumages, animated behavior, and often irregular appearance make them among the most challenging of birds to study and identify.

In this workshop, field identification, behavior of fall warblers, and fall warbler migration will all be described in the context of a New England setting. An early fall field trip should offer the possibility of seeing a variety of fall migrants.

Seminar: Friday, September 11, 1992 (7:30-9:30 P.M.).
Field Trip: Sunday, September 13, 1992 (Essex County).
Cost: $35.

This workshop is cosponsored by *Bird Observer* and the Needham Bird Club and will be presented by Wayne R. Petersen. The seminar session will be held in Needham, MA, from 7:30-9:30 P.M. Directions to the seminar will be sent to registrants. Details about the Sunday field trip will be announced at the Friday evening meeting. If you have questions, please call 617-666-8934 (evenings). Preregistration is required.

To register, send your name, address, and phone numbers with your check (payable to *Bird Observer*) to Bird Observer Workshops, c/o H. D'Entremont, 45 Montrose Street, Somerville, MA 02143.

BOOK REVIEW: *FLIGHT STRATEGIES OF MIGRATING HAWKS*

by Paul M. Roberts

Flight Strategies of Migrating Hawks by Paul Kerlinger. 1989. Chicago: University of Chicago Press. 375 pages. $19.95 paperback.

A Broad-winged Hawk and a Peregrine Falcon are about to be released in Maine. Both are migrating to South America. You must bet the ranch on which bird will cross the Rio Grande first. You would put it all on the Peregrine, right? Not if you had read this book.

How many miles can hawks fly in one day? How fast do they fly? How high? How far away can you see them? How do they know where to go? How do they orient themselves? If you have ever asked yourself one of these questions, the likelihood is that you could not find a good answer. Until now.

Flight Strategies of Migrating Hawks not only provides answers to these questions; it provides much, much more than the seemingly arcane title implies. *Flight Strategies* is only the second significant monograph on hawk migration in North America. Donald Heintzelman's groundbreaking *Autumn Hawk Flights*, published in 1975, was the first. Heintzelman documented what was then known about North American hawk migration in terms of the calendar of migration, migration routes, and the means of migration. He also wrote extensively about hawkwatch sites, where most of his data were obtained. Paul Kerlinger, who is director of the Cape May Bird Observatory and director of research for the New Jersey Audubon Society, focuses on what is known about flight behavior.

Flight Strategies of Migrating Hawks works on two levels. On one level it is the most intellectually ambitious and challenging monograph ever published on hawk migration. On this level it is global in scope and application. On a second level it is a quantitative natural history of North American hawk migration, laden with valuable data that previously could be found only in obscure sources inaccessible to the average birder.

Kerlinger indicates in his preface that he cannot achieve the objective implicit in his title. He later explains that we do not have adequate empirical data to construct valid theories on flight strategy. However, he documents what is known and sets the agenda for research in the 1990s.

The book is divided into thirteen chapters. The first chapter, "Ecology and Geography of Hawk Migration," concludes that of 285 falconiforms worldwide, 53.4 percent are nonmigratory, 8.4 percent are irruptives, 31.9 percent are partial migrants, and only 6.3 percent are complete migrants (i.e., where ninety percent or more of the individuals leave the breeding range during the nonbreeding season). It then surveys what is known about differential migration by population, age, and gender. It is quickly clear how incredibly little we know about hawks period, much less their migration and flight strategies.

The second chapter, "Methods of Studying Migrating Hawks," is probably the most controversial. Reviewing the two most common methods of studying hawk migration, hawkwatch counts and banding, Kerlinger concludes that both are of *little* scientific value in analyzing hawk behavior (italics mine). This has earned him some anticipated brickbats, but it should not discourage people from reading this book or counting migrants. Kerlinger also provides a thorough review of other techniques, including radar, that can be used to study migration.

The third chapter looks at the natural selection of flight strategies, while the fourth chapter is a classic primer on the structure of the atmosphere that should be read by everyone interested in bird migration.

The remaining chapters examine major aspects of flight behavior: flight mechanics; flight direction (the roles of wind, topography, and geography); altitude of flight and visibility of migrants; flocking behavior; water crossing behavior; flight speed; and daily flight distance. Each chapter opens with a discussion of theory on the topic and then examines the empirical data. Much of the data Kerlinger cites are from his own graduate and postgraduate field research, which often involved some of the best-known authorities on bird migration, such as Ken Able and S.A. Gauthreaux. Massachusetts birders are fortunate in that most of this research involved our common migrants, such as the Broad-winged Hawk and Sharp-shinned Hawk.

Kerlinger's data challenge hawkwatching's conventional wisdom time and again. For example, many hawkwatchers believe that falcons spend most of their migratory time in powered flight. Kerlinger shows that virtually all hawks, including falcons, spend most of their migration in gliding flight (which by his definition includes soaring), not in powered flight. He also examines the widely accepted theory of wind drift, which assumes that migrant hawks can be driven off course, or drifted, by strong winds. This theory is used to explain high counts at some locations and the wide variation in totals at hawkwatch sites from year to year. Kerlinger concludes that wind drift is minimal at best and irrelevant to hawk migration counts.

Kerlinger shows that, contrary to popular opinion, east and southeast winds are much more favorable to migrating hawks using thermals in the fall than are west winds (Wachusett Mountain in Princeton, Massachusetts, has reported some significant flights on southeast winds). Citing studies conducted by the New England Hawk Watch (now the NorthEast Hawk Watch), he also shows that migrant hawks in New England have generally been seen at altitudes between fifteen hundred and three thousand feet above ground level, which is much lower than many hawkwatchers thought was the case. (However, research elsewhere shows hawks soaring to more than six thousand feet above ground level.)

The visibility of migrants is critical to hawk counts. One study coauthored by Kerlinger found that few North American hawks were difficult to see with

the naked eye when flying directly overhead at an altitude less than 950 feet above ground level. However, against a cloudless sky, Sharpshins and kestrels became difficult to see with the naked eye when only thirteen to sixteen hundred feet directly overhead. Broad-winged Hawks became very difficult to see with 7x binoculars when they were directly overhead at only thirty-five hundred feet. Flocks of several hundred Broadwings were difficult to see when directly overhead at sixty-four hundred feet. In fact, birds at that altitude could easily pass unnoticed. These data may surprise many hawkwatchers who believe their powers of observation are far greater than what Kerlinger describes here.

Kerlinger also examines the "noon lull" theory, only here he lands firmly on the side of orthodoxy. Many sites have reported fewer hawks during midday. Citing radar studies that show that most hawks achieve maximum altitude between the hours of 11:00 A.M. and 1:00 P.M., Kerlinger concludes that hawks relying on thermal lift may indeed be flying beyond the limits of human vision during the seeming "noon lulls." (Wachusett observers might question why they do not seem to experience noon lulls.)

Hawkwatchers often question how quickly birds are moving. Kerlinger's limited research on selected North American species shows that the average ground speed for hawks using orographic lift varies from twenty-four to thirty-five miles per hour, depending on the species. Hawks gliding out of thermals, however, can achieve air speeds averaging from forty-two to forty-nine miles per hour. Ground speeds may be somewhat higher, depending on weather conditions.

Kerlinger shows that most hawks should be able to average around 100 miles a day over a thirty-day migration period. He speculates that Broadwings should be able to fly as far as 250 miles in up to ten hours a day. However, several much more powerful radio-tagged Peregrine Falcons averaged only 115 miles per day, achieving a maximum of 206 miles in a single day. (This does not include the Greenland Peregrine, but shows why you should perhaps bet on the Broadwing to reach Mexico before the Peregrine.)

Regrettably, Kerlinger concludes that the professional research establishment is not likely to pursue study of hawk migration strategies because of academic fashion and the economics of raptor research. Nevertheless, he plots a road map for those who want to add to our knowledge of hawk migration, passing the torch to amateur hawkwatchers. On a crowded day on Wachusett, who is timing how long an individual bird remains in a thermal, in a glide between thermals, or in view? Who at Bolton Flats is counting the number of birds and species in individual kettles? Who on Mount Watatic is recording how the birds use the ridge versus the mountain? Who in West Newbury is recording the flight attitude of hawks coming out of thermals? Who is reporting full crops? Hawks feeding in flight? Age? Sex? Kerlinger shows how hawkwatching can be much more than counting, and how amateurs can make

significant contributions to our understanding of hawk migration.

In his criticism of the scientific value of hawk migration counts, Kerlinger challenges the large and growing body of amateurs to think more deeply about what they are doing, why they are doing it, and how they can make their investment of time and effort even more meaningful for understanding and protecting these incredible birds.

Wherever you hawkwatch, this book will immeasurably enhance your hawkwatching experience. This book also provides new insights for those whose interests are limited to the more general subject of bird migration.

My criticisms of this book are few. When Kerlinger is critical of the scientific value of hawk migration counts, he appears to be using a very narrow definition of the word "scientific." I cannot disagree with anything he says about the limitations of hawk counts, but his discussion is incomplete and therefore misleading. The book is also fraught with statistics that could deter a casual reader. This book is directed to a technically astute audience, e.g., professional biologists. Do not let this dissuade you: most of his data and discussions and all his conclusions are in clear, succinct English.

Do not purchase this book for its impressive color photographs; there are none. There are a modest number of functional black-and-white photographs and line drawings, and numerous charts and graphs.

The good news is that this book is a classic that any hawkwatcher must read and will refer to time and again. The bad news is that there is every reason to believe it may be decades before we see the next significant monograph on hawk migration.

PAUL M. ROBERTS of Medford has been an active hawkwatcher for almost twenty years. Paul founded the Eastern Massachusetts Hawk Watch in 1976, and at various times led that organization as well as the New England Hawk Watch and the Hawk Migration Association of North America. He lectures and gives introductory courses on hawk migration and identification to diverse audiences throughout New England. Paul would like the readers of this review to know that he contributed some very minor data for this book and that he reviewed portions of the text in manuscript form for Dr. Kerlinger. Neither involvement materially influenced this review.

The Dance of the Ring-billed Gull

On December 26, 1991, from 12:20 to 12:45 P.M., I observed six Ring-billed Gulls engaged in a curious form of feeding behavior. The gulls were part of a large wintering population at Lake Merritt in Oakland, California. Each of the six individuals observed was an adult in winter plumage. All were in close proximity to one another on a grassy slope, part of the park bordering the lake, and all acted quite habituated to humans. They seemed utterly unperturbed by joggers, walkers, and other pedestrians, including me.

Each of the six gulls seemed to be defending a tiny territory on the grassy slope. The average distance from one gull to another was about ten to fifteen feet. A gull would react aggressively if another gull began approaching it. Each of the gulls periodically engaged in what I can only describe as a dance, rapidly tapping the ground with both feet, legs churning, the bird remaining in a stationary position. As the dance proceeded, each of the gulls appeared to stare intently at the ground around its feet. After the leg churning-foot tapping, which required about ten to fifteen seconds, the gull would continue to stare at the ground. Never moving from its location, it would then resume its dance, or it would strike quickly with its bill at the ground.

The objects of the gulls' attention were large earthworms. I observed each of the six gulls capture at least one worm, and some of the gulls caught several in the approximately twenty-five minutes during which I observed them. The worms appeared to be about six to nine inches in length. My guess is that the vibrations created by the rapid tapping of a gull's feet were detected by worms, causing them to come briefly to the surface, though why foot-tapping should inspire such annelid behavior is quite unknown to me. Perhaps it sounds like rain. The gulls presumably located the worms by vision, and I watched as worms were captured, extracted, and swallowed in about one to two seconds. Ring-billed Gulls are known to devour earthworms (Bent, A.C. 1963. *Life Histories of North American Gulls and Terns*. New York: Dover, Inc.), but the foot-tapping behavior that I witnessed is not widely reported (Richard Stallcup, pers. com.).

It is interesting to note that humans are just as smart as Ring-billed Gulls. Charles Kuralt, noted CBS correspondent who has made a career of reporting on the minutia of American society, writes in his recent book (Kuralt, C. 1990. *A Life on the Road*. New York: Ivy Books) about something called "worm grunting," an art practiced in a place called Sopchoppy on the Florida panhandle. Kuralt describes the process as follows: "You go out into the woods and pound a hardwood stake into the ground, preferably using a heavy truck

spring to do the pounding. Then, you rub the truck spring sensually, but with a certain pressure, across the top of the stake. This sets up a vibration in the ground which you can feel in the soles of your feet. Earthworms must find the vibration disagreeable, for to escape it, they wriggle to the surface; whereupon, you pick up the worms and go fishing." To me that still seems like a lot of work. Perhaps the good people of Sopchoppy could just try dancing.

John C. Kricher, Norton

VOLUNTEERS NEEDED FOR FALL HAWK WATCH

While some hawks, such as Osprey, Bald Eagle, and Peregrine Falcon, are increasing in numbers, recent hawkwatch data suggest that many species, such as the Northern Harrier, Sharp-shinned Hawk, Broad-winged Hawk, and American Kestrel, may be significantly decreasing in the Northeast. Hawk migration counts are our best means of learning what is happening. The Eastern Massachusetts Hawk Watch (EMHW) can use ***your*** help counting hawks this fall. Coordinated hawk watches will be held at Wachusett Mountain in Princeton from September 1 through October 12, and throughout the region on the weekends of September 12-13, 19-20, 26-27, and October 24-25. We also seek reports from hawkwatchers anywhere in eastern Massachusetts on any fall date. If you would like more information on participating in a hawk watch, or on submitting reports of what you see, contact: Paul M. Roberts, 254 Arlington Street, Medford, Massachusetts 02155 (or telephone 617-483-4263 after 8:00 P.M.).

If you would like a copy of the *Fall 1991 EMHW Report*, complete information on the Fall 1992 watch, and a copy of the newly revised flier, "Where and When to Watch Hawks in Eastern Massachusetts," please write Paul Roberts at the address given above and include a check for $2 (made out to EMHW) to defray costs.

Jim Brett, curator of the world-famous Hawk Mountain Sanctuary and author of a field guide on hawk identification, will be the guest speaker at the annual meeting of the EMHW on Friday, September 11. The meeting, which begins at 7:30 P.M., will be held at the Nature Center of Massachusetts Audubon's Drumlin Farm Sanctuary in Lincoln. The public is invited, free of charge. Refreshments will be provided. For more information, call 617-483-4263 after 8:00 P.M.

BIRD SIGHTINGS
MARCH 1992
SUMMARY

by George W. Gove, Marjorie W. Rines, and Robert H. Stymeist

March was a cold month in eastern Massachusetts, with frequent rain and snow, and often cloudy. The temperature averaged 35.4 degrees, 3.0 degrees below normal. The high temperature was 61 degrees on March 5, and the low temperature was 9 degrees on March 1. Rain totaled 3.59 inches, with measurable amounts falling on thirteen days and traces of rain noted on nine additional days. Snowfall totaled 10.8 inches, 3.5 inches more than normal. This was the first month with more than average snowfall since February 1990. The highest one-day snowfall was 5.4 inches on March 19, which was also the heaviest snowfall of the season. The total for the winter now stands at 21.0 inches, 18.2 inches less than average.

R. H. S.

LOONS THROUGH DUCKS

An **Arctic/Pacific Loon** was found in North Truro on March 16. The following was taken from notes submitted by Kyle Jones:

> Followed up March 16 report of an Arctic/Pacific Loon, arriving at Head of the Meadow Beach at 7 A.M. Scanned with binocular and scope and noted a darker loon about three-quarters of a mile north near the National Seashore bathhouse. Walked there and darker bird popped up in front. Immediately recognized it as an Arctic/Pacific Loon by the unbroken vertical light-dark border on the neck, the prominent chin strap, and medium horizontal bill. A small area of fine vertical striping was evident on the sides at the base of the neck. A few white spots were present on the otherwise dark gray back. The bird was making short dives within 20 meters of the beach and progressing southward. I took several photographs of what may prove to be dubious quality. No flank patch was observed at any time.

Red-necked Grebe numbers were building along the South Shore, and 260 Horned Grebes were reported from Eastham. Migration was underway with Double-crested Cormorants moving in at the end of the month, as well as egrets, herons, and ibises. Great Blue Herons were at their nesting rookery in Westboro. A Bar-headed Goose was present with Canada Geese on Plum Island, and Snow Geese were moving in. The Boston Harbor Take A Second Look (TASL) project censused 2244 Brant among other waterfowl. A male Green-winged Teal of the Eurasian form was noted at Plum Island, and Blue-winged Teals appeared at month's end. A male Eurasian Wigeon was present at the Billington Sea in Plymouth, and two males were noted in Chatham. There was one report of King Eider, and Harlequin Ducks were at their usual locations. G. W. G.

Arctic/Pacific Loon			
16-17; 29	North Truro; P'town	1; 1	B. Delabio + v. o.; E. Nielsen
Common Loon			
22	P.I., Plymouth	6, 9	J. Berry#, M. Lynch#
Pied-billed Grebe			
7, 8	Arlington, Plymouth	1, 1	L. Taylor, G. d'Entremont
26	Clinton	1	R. Bradbury
Horned Grebe			
2	Cotuit	6	P. Trimble
20	Eastham	260	M. Rines
28	Scituate, Westport	15, 5	G. d'Entremont, J. Hoye
29	Boston Harbor	38	TASL

DATE	LOCATION	NUMBER	OBSERVERS	MARCH 1992
Red-necked Grebe				
3, 18	Nahant, N. Scituate	2, 34	T. Aversa	
20, 30; 30	Hull; Cohasset	65, 137; 22	R. Abrams	
Northern Gannet				
20, 22	Eastham, Rockport	4, 1 ad	M. Rines, M. + T. Gooley	
Great Cormorant				
14	Lakeville, New Bedford	6, 11	G. d'Entremont	
17	N. Truro	90	K. Jones	
22, 28	N. Scituate, Magnolia	40, 27	M. Lynch#, J. Berry	
28	S. Dartmouth	24	J. Hoye	
Double-crested Cormorant				
2, 27	Falmouth, Arlington	2, 14	M. Lynch#, M. Rines	
28, 29	Hull, Newburyport	15, 2	G. d'Entremont, W. Petersen#	
Great Blue Heron				
2, 22	Cotuit, Westport	4, 6	P. Trimble, G. d'Entremont	
25, 29	W. Roxbury, Westboro	5, 22 (18 nests)	T. Aversa, M. Lynch#	
Great Egret				
26-28, 28	Manchester, DWWS	1, 1	H. Weissberg + v. o., R. Campbell	
Snowy Egret				
26-28	Manchester	3	H. Weissberg + v. o.	
Little Blue Heron				
28	Manchester	1	H. Wiggin + M. Argue	
Black-crowned Night-Heron				
thr	Boston	4	T. Aversa + v. o.	
Glossy Ibis				
16, 18	S. Dart. (Allens Pd)	1	G. + J. Fernandez + v. o.	
Mute Swan				
1, 8	Falmouth, N. Scituate	16, 23	M. Lynch#, G. d'Entremont	
14, 22	New Bedford, Westport	23, 30	G. d'Entremont	
Bar-headed Goose (exotic)				
21-31	P.I.	1	W. Drew# + v. o.	
Snow Goose				
14, 22	New Bedford, Concord	1, 1	G. d'Entremont, J. Center	
21, 29	Newburyport	4, 9	H. Wiggin, v. o.	
Brant				
1	S. Dart. (Allens Pd)	150	LCES (J. Hill)	
14, 22	Rockport, Plymouth	7, 230	J. Berry#, M. Lynch#	
29	Boston Harbor	2244	TASL	
Canada Goose				
thr	S. Dart. (Allens Pd), P.I.	746 max, 445 max	LCES (J. Hill), W. Drew#	
Wood Duck				
3	Lynn, Wenham	3, 6	T. Aversa, N. Nash	
14, 19	Lakeville, Wayland	4, 3 pr	G. d'Entremont, S. Arena	
20, 29	W. Newbury, Bolton	15, 36	R. Heil, M. Lynch#	
31	E. Middleboro	5 pr	K. Anderson	
Green-winged Teal				
thr	P.I.	190 max 3/30	W. Drew#	
1, 29	Falmouth, Bolton	4, 28	M. Lynch#	
4, 28	W. Roxbury, Concord	10, 12	T. Aversa, S. Perkins#	
Green-winged Teal, Eurasian form				
21	P.I.	1 m	R. Heil	
American Black Duck				
thr	P.I.	650 max 3/17	W. Drew#	
22, 23	Plymouth, S. Dart. (Allens Pd)	300, 227	M. Lynch#, LCES (J. Hill)	
29, 30	Boston Harbor, W. Newbury	1014, 160	TASL, R. Heil	
Northern Pintail				
thr	P.I.	48 max 3/21	R. Heil + v. o.	
14, 17	Melrose, W. Newbury	2, 6	P. + F. Vale, R. Heil	
28, 29	Acton, Bolton	9, 7	S. Perkins#, M. Lynch#	
Blue-winged Teal				
1, 21	Nantucket, P.I.	1, 1 m	R. Abrams#, R. Heil	
24, 28	Newburyport, DWWS	1 m, 2	T. Aversa, G. d'Entremont	
Northern Shoveler				
1-3	Boston	1 m (from Dec)	K. Hudson	
1-14	New Bedford	2 m	v. o.	
Gadwall				
thr, 1	Boston, Sandwich	2, 4	K. Hudson, M. Lynch#	
8, 14	DWWS, P.I.	34, 28	G. d'Entremont, W. Petersen	
22, 28	Gloucester, Sudbury	2, 3	M. + T. Gooley, S. Perkins#	
Eurasian Wigeon				
thr	Plymouth	1 m	v. o.	
29	Chatham	2 m	B. Nikula	

DATE	LOCATION	NUMBER	OBSERVERS
American Wigeon			
thr	Plymouth	50 max	v. o.
1, 14	Falmouth, New Bedford	28, 15	M. Lynch#, G. d'Entremont
29	Chatham	39	B. Nikula
Canvasback			
1, 2	Falmouth, Cotuit	120, 430	M. Lynch#, P. Trimble
14, 17	Lakeville, Wachusett Res.	125, 8	G. d'Entremont, R. Bradbury
Redhead			
1-14	New Bedford	pr	v. o.
Ring-necked Duck			
14, 20	Bridgewater, W. Newbury	4, 82	G. d'Entremont#, R. Heil
26, 29	S. Hanson, Wachusett Res.	125, 105	W. Petersen, M. Lynch#
Greater Scaup			
2, 14	Squantum, Lakeville	400, 200	R. Abrams#
Lesser Scaup			
1	Boston, Falmouth	2, 9	T. Aversa, M. Lynch#
8-18	Plymouth	7-9	v. o.
21, 22	W. Newbury, Westport	2 pr, 3	R. Heil, G. d'Entremont
Common Eider			
1, 22	Sandwich, Plymouth	330, 900	M. Lynch#
29	Boston Harbor	3991	TASL
King Eider			
22	Manomet	1 subad m	M. Lynch#
Harlequin Duck			
14; 18, 29	Rockport; N. Scituate	2 m + 1 f; 5 m, 1 m	R. Heil; T. Aversa
29	Boston Harbor	1	TASL
Oldsquaw			
8	Newburyport	100	P. + F. Vale
Common Goldeneye			
thr	Newburyport	350 max	S. Perkins# + v. o.
2, 22	Cotuit, Plymouth	350, 105	P. Trimble, M. Lynch#
29	Boston Harbor	507	TASL
Barrow's Goldeneye			
3, 14	Newburyport	1 f, 1 m	T. Aversa, W. Petersen
Bufflehead			
2, 28	Cotuit, Wakefield	450, 35	P. Trimble, P. + F. Vale
29	Boston Harbor	953	TASL
Hooded Merganser			
thr	Boston, Melrose	8 max 3/3, 14 max 3/14	K. Hudson, P. + F. Vale
1, 8	Falmouth, GMNWR	40, 14	M. Lynch#, J. Hoye
12, 20	Plymouth, W. Newbury	6, 42	J. Hoye, R. Heil
Common Merganser			
thr	GMNWR	80	v. o.
7, 13; 20-29	Arlington; W. Newbury	115, 160; 200	L. Taylor; H. Wiggin + v. o.
23, 29	Norton, Wachusett Res.	30, 46	J. Kricher, M. Lynch#
Red-breasted Merganser			
thr	Arlington	19 max 3/6	M. Rines
2, 22	Cotuit, Plymouth	160, 180	P. Trimble, M. Lynch#
29	Boston Harbor	1711	TASL
Ruddy Duck			
28, 29	W. Newbury, Wachusett Res.	1, 1 m	H. Wiggin#, M. Lynch#

VULTURES THROUGH ALCIDS

A **Black Vulture** was seen in Plymouth on March 1, and Turkey Vultures were reported throughout the month. Ospreys were in Westport by March 28, and Bald Eagles were reported from their usual haunts. There were 14 reports of Cooper's Hawk. Peregrine Falcons were noted at four locations, and a **Gyrfalcon** was at Plum Island from March 1 to 5. Early Lesser Golden-Plovers were noted in Newburyport beginning on March 14, and Piping Plovers were on schedule. An early Pectoral Sandpiper was noted in Newburyport on March 14. Common Black-headed Gull reports included 14 adults in Winthrop, and a Lesser Black-backed Gull was seen at an offshore location. Reported alcids included **Common** and Thick-billed **murres**, Black Guillemots in breeding plumage, and an **Atlantic Puffin** found dead in Wellfleet. G. W. G.

Black Vulture			
1	Plymouth	1	B. Nikula#
Turkey Vulture			
thr	Randolph	19 max 3/31	N. Smith + v. o.
28, 29	Westport, W. Newbury	5, 5	J. Hoye#, W. Petersen#

Reports of 1 or 2 from 14 locations.

DATE	LOCATION	NUMBER	OBSERVERS
Osprey			
28, 30	Westport, Millis	5, 1	J. Hoye#, P. Iarrobino
Bald Eagle			
1, 14; 22	Newburyport	1, 3	BBC (I. Giriunas), W. Petersen
7, 15	Lakeville, Quabbin (G40)	1 imm, 1 imm	W. Petersen, M. Lynch#
18, 26	Lakeville, Lincoln	1 imm, 1 imm	K. Holmes, W. Harrington
22	Newbury	1 imm	M. + T. Gooley
Northern Harrier			
thr	Newburyport area	1 m + 5 f max 3/21	R. Heil + v. o.
4, 25	E. Middleboro, W. Roxbury	1, 2	K. Anderson, T. Aversa
Sharp-shinned Hawk			
thr	Nantucket	1	E. Andrews
3, 30	Wenham, Boston	1, 1	N. Nash, T. Aversa
1-29	Reports of 1 or 2 from 7 locations.		
Cooper's Hawk			
4, 12	E. Middleboro, Newton	1, 1	K. Anderson, J. Hoye
25, 29	Watertown, W. Newbury	1 ad, 1	R. Stymeist, W. Petersen#
5-26	Reports of individuals from 10 locations.		
Northern Goshawk			
8-25, 14	E. Middleboro, Lakeville	pr, 1 ad	K. Anderson, R. Abrams#
17, 24	Holliston, Boxford	1 ad, 1 ad	T. Aversa
18	Sudbury	1 ad	H. Parker
Red-shouldered Hawk			
thr	E. Middleboro	pr	K. Anderson
13, 14	N. Middleboro, Lakeville	1, 1 ad	K. Holmes, R. Abrams#
8, 29	DWWS, W. Newbury	1 imm, 1 ad	G. d'Entremont#, W. Petersen#
Red-tailed Hawk			
thr	Boston (F. Pk), Saugus	pr at nest, 1 or 2	T. Aversa, J. Berry
16	Rt. 495 (Taunton-Franklin)	9	K. Anderson
21	Rt. 495 (Lawrence-Westboro)	7	J. Berry#
29	Bolton, Ipswich	4, 3	M. Lynch#, J. Berry
Rough-legged Hawk			
4-23	Halifax-Middleboro	1 or 2	v. o.
8, 22	DWWS, P.I.	1 dk, 2 dk	G. d'Entremont, J. Berry#
29	W. Newbury	1	W. Petersen#
American Kestrel			
3, 7	E. Boston, Middleboro	pr, 3	T. Aversa, BBC (D. Davis)
8, 22-31	Milford, Millis	pr, 5 max	J. Hoye, P. Iarrobino
24, 29	P.I., Bolton	3, 2	T. Aversa, M. Lynch#
Merlin			
13, 15	Provincetown, Nantucket	1, 1	K. Jones, E. Andrews
23, 29-31	Halifax, Boston	1, 1 imm	K. Anderson, K. Hudson
Peregrine Falcon			
thr	Boston	pr	K. Hudson
8	New Bedford	1 ad m	J. Gordon#
23, 30	S. Dart. (Allens Pd), P.I.	1, 1	LCES (J. Hill), K. Disney#
Gyrfalcon			
1-5	Newburyport	1	H. Weissberg + v. o.
Ruffed Grouse			
15, 21	Quabbin (G40), (G41)	3, 3	M. Lynch#
Wild Turkey			
15, 21	Barre, Petersham	46, 40	M. Lynch#
18	Boxford	2	J. Brown
Virginia Rail			
thr, 1	W. Roxbury, Newburyport	2, 1	T. Aversa, R. Heil
American Coot			
thr	Plymouth	175 max 3/28	G. d'Entremont# + v. o.
1	Brookline	1	K. Hudson
Lesser Golden-Plover			
14, 21, 29	Newburyport	1, 1, 2	W. Petersen, R. Heil, W. Petersen
Piping Plover			
21, 27	Hyannis, Nantucket	1, 1	H. Barbour, J. Andrews
21, 24	Eastham (2 locations)	2, 2	D. Reid
28	Westport	1 b	A. Hirschkop#
Killdeer			
1	Nantucket, Newburyport	2, 1	R. Abrams#, BBC (I. Giriunas)
7, 14	Middleboro, Wakefield	2, 7	W. Petersen#, P. + F. Vale
28, 30	Acton, Newbury	25, 18	S. Perkins#, R. Heil
5-31	Reports of 1-11 individuals from 18 locations.		
American Oystercatcher			
22	Nantucket	1	B. Cowan

DATE	LOCATION	NUMBER	OBSERVERS
Greater Yellowlegs			
21, 29	W. Newbury	1, 2	BBC (J. Center), v. o.
Sanderling			
22	Westport, Salisbury	75, 2	G. d'Entremont#, T. + M. Gooley
Pectoral Sandpiper			
14, 24	Newburyport, Plumbush	1, 2	BBC (W. Drummond), T. Aversa
29	Newburyport	2	W. Petersen#
Purple Sandpiper			
14	Boston, Rockport	65, 5	J. Nove, J. Berry#
20, 22	N. Scituate, Salisbury	300, 50	R. Abrams, T. + M. Gooley
22, 29	Westport, Boston Harbor	5, 107	G. d'Entremont, TASL
Dunlin			
14, 29	Newburyport	35, 40	W. Petersen, v. o.
22, 29	Westport, Boston Harbor	85, 62	G. d'Entremont, TASL
Common Snipe			
14, 29	Newbury	2, 5	H. Wiggin#, W. Petersen#
American Woodcock			
1, 4-31	Ipswich, Wayland	1, 5 max 3/24	J. Berry, S. Arena
5, 6-31	Framingham, W. Newbury	3, 6 max	G. Gove, R. Heil
7-31	Reports of 1-6 individuals from 9 locations.		
Common Black-headed Gull			
1-21	Newburyport	1 ad + 1 imm	v. o.
3, 25	Winthrop, Wollaston	14 ad, 1 ad	T. Aversa
Ring-billed Gull			
21	Newburyport	800	R. Heil
Iceland Gull			
thr	Newburyport-P.I., Provincetown	15 max 3/7, 4 max 3/25	v. o., K. Jones
3	Quincy, Barre	2 ad, 1 (1W)	R. Abrams, R. Bradbury
18, 25	N. Scituate, Worcester	1, 1 (1W)	T. Aversa, R. Bradbury
Lesser Black-backed Gull			
1	Nantucket Sound	1 ad	R. Abrams
Glaucous Gull			
10, 18	Newburyport, Salisbury	1, 1	N. Nash, N. + H. Ober
Common Murre			
29	Provincetown (R.P.)	4	E. Nielsen#
Thick-billed Murre			
22, 23	Eastham, Wellfleet	1 oiled, 1 dead	K. Jones
Black Guillemot			
14, 28	Rockport, Magnolia	1 br pl, 1 br pl	J. Berry
22	Gloucester, Rockport	1 br pl, 1 br pl	T. + M. Gooley
18, 29	N. Scituate, Nahant	2 (1 br pl), 2	T. Aversa, TASL
Atlantic Puffin			
10	Wellfleet	1 dead	K. Jones

OWLS THROUGH FINCHES

Snowy Owls were well represented with as many as six noted on one day each on Plum Island and at Logan Airport, and five were tallied on the Boston Harbor TASL census on March 29. At Logan Airport Norman Smith banded three Snowys during the month, and retrapped another bird he banded there in January 1986. This is only the fourth recapture for Norman and represented the oldest. Other Snowy Owls were found in Provincetown, Fall River, Westport, and on Nantucket. A visit to Georges Island in Boston Harbor on March 14 found two Snowy Owls, a Barn Owl, and a Short-eared Owl. A Northern Saw-whet Owl was discovered midmonth at Gethsemane Cemetery in West Roxbury, where it remained through the end of the month. At Mount Auburn Cemetery in Cambridge, a pair of Great Horned Owls were on a nest until it was disrupted, probably by raccoons, on March 9. A red phase and a grey phase Eastern Screech-Owl were also easily seen at Mount Auburn about 300 feet away from the Great Horned Owl nest.

Red-bellied Woodpeckers were noted from seven locations, and a Yellow-bellied Sapsucker was found in Acoaxet on March 22. The first Eastern Phoebes were reported after March 26 following two days of southerly winds. Tree Swallows were a little hardier, showing up after the first southwesterly winds on the 14th; much larger flocks were noted by month's end. Eastern Bluebirds were widespread, with an exceptionally high count of 55 individuals noted from Sutton on March 3. A large flock of American Robins was noted in West Newbury on March 20, but very few other significant migrants were noted. Several large flocks of Cedar Waxwings were observed throughout our area, and **Bohemian Waxwings** were noted from West Newbury and Lincoln.

Fox Sparrows were on the move, with several scattered reports, especially after midmonth. A **Lark Sparrow** was discovered on March 11 in West Roxbury, where it remained through the end of the month. A Dickcissel made a brief visit to a Brookline feeder, and as many as five Vesper Sparrows were tallied from

Middleboro.

Blackbirds were on the move, with large flocks of redwings and grackles noted. A **Yellow-headed Blackbird** was found on the last day of the month in Marion.

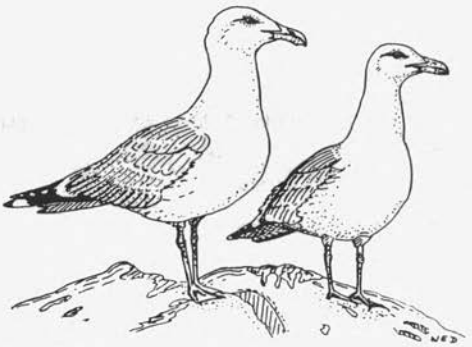
A few winter finches were noted, mostly from central Massachusetts, and good feeder birds included a Yellow-breasted Chat in Gloucester. R. H. S.

Barn Owl			
14	Boston H. (Georges I.)	1	J. Nove#
Eastern Screech-Owl			
thr, 7-21	Mt. A., Salem	1 red + 1 grey, 1 red	v. o., I. Lynch#
16, 22-29	W. Roxbury, Ipswich	1, 1	T. Aversa#, J. Berry
Great Horned Owl			
1-9, 27-31	Mt. A.	pr on nest, 2	J. Heywood#, v. o.
21	Milton, Holliston	2, 1	R. Abrams, J. Hoye
28, 29	Boston (F.Pk), W. Newbury	1, 1	T. Aversa, G. d'Entremont
30	Wayland	1	S. Arena
Snowy Owl			
thr	Boston (Logan Airport)	6 max 3/24, 3 b	N. Smith
thr, 5	P.I., Westport	6 max, 1	v. o., M. Boucher
2, 14	Boston H. (Raccoon I., Georges I.)	1, 2	R. Abrams, J. Nove#
9, 19	P'town (R.P.), Fall River	1, 1	D. Sealy, K. Masse
13, 19	Nantucket (2 locations)	1, 1	F. Reed, G. Frost
29	Boston Harbor	5	TASL (M. Hall)
Long-eared Owl			
8	Hamilton	1	J. Berry
Short-eared Owl			
14	Boston H. (Georges I.)	1	J. Nove#
Northern Saw-whet Owl			
17-31	W. Roxbury	1	T. Aversa + v. o.
Belted Kingfisher			
22	Wayland, Westport	1, 1	S. Perkins#, G. d'Entremont
Red-bellied Woodpecker			
thr, 1	Medford, Milton	1 f, 1 f	M. Rines, J. Sloan
15, 20	Ashland, Newbury	1, 1	G. Jorgensen, D. Loring
22, 28	W. Newbury, Ipswich	1, 1 f	H. Weissberg, H. Wiggin#
31	Boston (F.Pk)	1	T. Aversa
Yellow-bellied Sapsucker			
22	Acoaxet	1	E. Salmela#
Hairy Woodpecker			
9, 21	N. Middleboro, Ipswich	3, 2	K. Holmes, H. Wiggin#
Pileated Woodpecker			
14, 21	Topsfield, Quabbin (G41)	1, 1	H. Wiggin#, M. Lynch#
22	Boxford	2	P. + F. Vale
Eastern Phoebe			
27	Boxford, E. Middleboro	1, 1	J. Brown#, K. Anderson
28, 29	GMNWR, Quabbin (G35)	1, 1	BBC (B. Wicks), M. Lynch#
29, 30	Westboro, Lincoln	1, 1	M. Lynch#, R. Walton
30	Mt. A., Wenham	1, 1	M. Rines, N. Nash
Horned Lark			
thr	Newburyport area	150 max 3/2	M. Boucher + v. o.
Tree Swallow			
14, 15	Plymouth, E. Middleboro	2, 2	R. Abrams#, K. Holmes
26	Millis, S. Hanson	30, 6	P. Iarrobino, W. Petersen
27, 28	Wayland, Sudbury-Concord	2, 40	S. Arena, S. Perkins#
28, 31	GMNWR, Westboro	100, 20	BBC (B. Wicks), E. Taylor
American Crow			
4, 7	Halifax, Wakefield	100, 100	K. Anderson, P. + F. Vale
14	Middleboro	350	R. Abrams#
Fish Crow			
thr, 5	Brookline, E. Middleboro	1, 1	H. Wiggin, K. Anderson
9, 11	Boston (F.Pk), Roslindale	1, 1	T. Aversa
17, 18-24	Peabody, Norton	2, 9 max	R. Heil, J. Kricher
28, 29	S. Dartmouth, Braintree	1, 1	J. Hoye#, G. d'Entremont#
Common Raven			
14, 15	S. Athol, Quabbin (G40)	1, 1	M. Rines#, M. Lynch#
Red-breasted Nuthatch			
15, 21	Quabbin (G40), (G41)	5, 6	M. Lynch#
Brown Creeper			
15	Quabbin (G40)	4	M. Lynch#

DATE	LOCATION	NUMBER	OBSERVERS
Carolina Wren			
thr	E. Middleboro, Natick	2, 1	K. Anderson, E. Taylor
thr	Ipswich, Nantucket	1, 1	J. Berry, E. Andrews
3, 8	Holliston, Sturbridge	1, 1	J. Hoye, M. Lynch#
15, 20	Worcester, Hanover	2, 4	R. Bradbury, R. Abrams
20, 21	W. Newbury, Malden	3, 1	R. Heil, P. + F. Vale
22	S. Dartmouth, Westport	7, 5	G. d'Entremont#
House Wren			
20	Hanover	1	R. Abrams
Winter Wren			
15, 20	Malden, W. Newbury	1, 1	P. + F. Vale, R. Heil
Golden-crowned Kinglet			
18, 21	Plymouth, Quabbin (G40)	7, 25	T. Aversa, J. Hoye#
Eastern Bluebird			
thr	Millis, Wayland	5 max, 7 max	P. Iarrobino, S. Arena
3, 4	Sutton, E. Middleboro	**55**, 2	B. Murphy, P. Anderson
8, 15	Brookfield, Ashland	3, 12	M. Lynch#, G. Jorgensen
17	Norfolk, Medfield	3, 4	P. Iarrobino, T. Aversa
21, 22	Ipswich (IRWS), Marlboro	2, 6	BBC (J. Center), D. Guilford
29, 31	Bolton Flats, Westboro	2, 2	M. Lynch#, E. Taylor
Hermit Thrush			
20	W. Newbury	1	R. Heil
American Robin			
8, 20	Spencer, W. Newbury	100+, 380	M. Lynch#, R. Heil
Brown Thrasher			
21-23	Nantucket	1	P. Whitten
Bohemian Waxwing			
1, 17	W. Newbury, Lincoln	1, 1	R. Heil, F. Gray#
Cedar Waxwing			
thr, 7	Wayland, Middleboro	25 max, 60	S. Arena, W. Petersen#
13-31, 17	Taunton, Waltham	100 max, 32	G. d'Entremont, S. Arena
22, 28	Brookfield, Wakefield	175, 70	H. Ober#, P. + F. Vale
29	Bolton Flats	30	M. Lynch#
Northern Shrike			
thr, 9	P.I., Eastham (F.H.)	2 max, 1	R. Abrams + v. o., K. Jones
8	Belmont, Salisbury	1, 1	BBC (S. Sanders), W. Petersen#
9, 12	Middleboro, DWWS	1, 1	M. Boucher, A. Hirschkopf#
22, 25	Sudbury, W. Roxbury	1, 1	J. Center, T. Aversa
25, 26	Milton (F.M.), Millis	1, 1	T. Aversa#, P. Iarrobino
29	Bolton Flats	1	M. Lynch#
Orange-crowned Warbler			
15	Malden	1	P. + F. Vale
Yellow-rumped Warbler			
thr, 1	Wayland, Falmouth	4 max 3/31, 5	S. Arena, M. Lynch#
20, 22	W. Newbury, S. Dartmouth	9, 5	R. Heil, G. d'Entremont#
Pine Warbler			
1, 2	Middleboro, Nantucket	2, 2	J. McEntee#, E. Andrews
Yellow-breasted Chat			
thr	E. Gloucester	1	J. Mann + v. o.
Dickcissel			
30	Brookline	1	H. Wiggin#
Rufous-sided Towhee			
22	S. Dartmouth	3	G. d'Entremont#
American Tree Sparrow			
thr	Wayland, Nantucket	15 max, 6 max	S. Arena, E. Andrews
7, 8	Randolph, W. Bridgewater	15, 25	G. d'Entremont, S. Arena
9, 29	Middleboro, Bolton Flats	12, 14	M. Boucher, M. Lynch#
Chipping Sparrow			
6, 25	W. Newbury, Worcester	1, 1	R. Heil, M. Lynch#
Field Sparrow			
4, 17	W. Roxbury, Holliston	4, 9	T. Aversa
21, 27	Boxford, E. Middleboro	1, 1	H. Wiggin#, K. Anderson
28	Westport	1	J. Hoye#
Vesper Sparrow			
4	Middleboro	5	T. Aversa#
Lark Sparrow			
11-31	W. Roxbury	1	T. Aversa + v. o.
Savannah Sparrow			
4	W. Roxbury, Middleboro	4, 10	T. Aversa
Seaside Sparrow			
21	Newburyport	2	R. Heil

DATE	LOCATION	NUMBER	OBSERVERS	MARCH 1992
Fox Sparrow				
1-20, 13-27	Belmont, Holliston	1, 1	M. Rines, J. Hoye	
20, 21	Squantum, Petersham	1, 4	M. Rines, M. Lynch#	
21, 25	Ipswich (IRWS), W. Roxbury	1, 2	BBC (J. Center), T. Aversa	
Song Sparrow				
thr, 29	Nantucket, Bolton Flats	12 max, 16	E. Andrews, M. Lynch#	
Swamp Sparrow				
thr, 9	Nantucket, Middleboro	2, 3	E. Andrews, M. Boucher	
22	S. Dartmouth	1	G. d'Entremont#	
White-throated Sparrow				
21, 22	Milton, Brookline	30, 11	R. Abrams, H. Wiggin#	
Snow Bunting				
1	P.I.	1	BBC (I. Giriunas)	
blackbirds				
15-31	Worcester (BMB)	10,000+	M. Lynch#	
Red-winged Blackbird				
thr, 4	Nantucket, Middleboro	50+, 1350	E. Andrews, T. Aversa	
11, 12	W. Roxbury, DWWS	300, 120	T. Aversa, J. Hoye	
Eastern Meadowlark				
thr, 1	DWWS, Duxbury	60 max, 6	v. o., F. Bygate#	
4, 20	Middleboro, Eastham (F.H.)	33, 15	T. Aversa, M. Rines	
22	P.I.	6	J. Berry#	
Yellow-headed Blackbird				
31	Marion	1	J. Farnham	
Rusty Blackbird				
1, 9	W. Roxbury, Middleboro	3, 1	J. Hoye, M. Boucher	
13, 15	Cambridge (F.P.), Barre	1, 1	M. Rines, M. Lynch#	
18, 22	Wenham, Wayland	2, 30	N. Nash, S. Perkins#	
29	Ipswich	2 m	J. Berry	
Common Grackle				
thr	Nantucket	21 max 3/19	E. Andrews	
8, 8-31	Sturbridge, Framingham	6, 800	M. Lynch#, E. Taylor	
15	Barre, Bolton Flats	40+, 200	M. Lynch#, R. Bradbury	
23	E. Middleboro	widespread 10-25 flocks	K. Anderson	
Brown-headed Cowbird				
10	Halifax	100	K. Anderson	
Purple Finch				
thr, 1	Millis, E. Middleboro	6 max, 3	P. Iarrobino, K. Anderson	
15-31, 20	Boxford, W. Newbury	24 max, 36	J. Brown#, R. Heil	
21, 22	Nantucket, Brookfield	1, 18+	E. Andrews, N. Ober#	
24, 25	Hanson, W. Roxbury	5, 1 m	W. Petersen, T. Aversa	
29	Ipswich, Bolton Flats	1, 9	J. Berry, M. Lynch#	
Pine Siskin				
6, 7-9	W. Newbury, Nantucket	3, 1	R. Heil, E. Andrews#	
13-31, 14	Boxford, Worcester	9 max, 1	J. Brown#, R. Bradbury	
19-21, 21	Millis, Marblehead	2, 2	P. Iarrobino, I. Lynch#	
21	Quabbin (G41), Petersham	2, 22	M. Lynch#	
American Goldfinch				
thr	Boxford	40	J. Brown#	
Evening Grosbeak				
8, 14	Spencer, Petersham	2, 51	M. Lynch#, M. Rines#	
15	Quabbin (G40)	16	M. Lynch#	

BIRD SIGHTINGS
APRIL 1992
SUMMARY



by Glenn d'Entremont, Marjorie W. Rines, and Robert H. Stymeist

April 1992 was a very poor migration month, with only three days of southwest winds: the 9th, 14th, and 21st. It was cold and dry, with more sunshine than usual. Foliage was delayed due to the cold weather and the long periods of easterly winds, especially the last half of the month, when fog was frequent and east or northeast winds were noted nearly every day from April 16-28. The temperature averaged 46.4 degrees, 2.3 degrees below normal, making this the second cold month in a row. The high mark was 76 degrees on April 23, the low was 31 degrees on April 13 and 14. Rainfall totaled 2.34 inches, 1.39 inches less than average. A total of 1.0 inch of snow fell, bringing the total for the season to 22.0 inches, 18.2 inches less than normal.

R. H. S.

LOONS THROUGH RAPTORS

Over **2,200** Red-throated Loons were officially counted in Nantucket on the 29th, twice any previous state high count. The observers noted that the total number present may have been closer to 4,000 birds on April 19, when they first reported rafts all along the south shore of Nantucket. The **Arctic/Pacific Loon**, first noted January 3 at Race Point in Provincetown, was last seen on April 24. Five Pied-billed Grebes were tallied on Plum Island on April 14, and in Boston, at Forest Hills Cemetery, a pair of Pied-billed Grebes were calling near a small reed island on the pond within 15 feet of shore. Off Hull as many as 277 Red-necked Grebes were counted early in the month, with many in breeding plumage. Following a strong easterly wind on April 11, over 2,000 Northern Gannets were noted off Provincetown.

Great Blue Herons, rare breeders in Plymouth County, established a new colony in Lakeville, where 4 nests were observed. A Tricolored Heron was found at Fort Hill in Eastham where it remained for eight days. In Essex County 107 Glossy Ibis were tallied in the Ipswich area on April 26.

Three adult **Tundra Swans** were observed flying over Norfolk on April 1, and Snow Geese were also moving early in the month. A **Tufted Duck** was found on White Island Pond in Plymouth on April 19, where it remained through April 26. It was a much better spring for Northern Shoveler reports, with 14 individuals noted compared with just 4 last April.

Ospreys were fairly well established in the Westport area early in the month: 125 individuals were tallied there on April 5. Hurricane Bob and the 1991 Halloween storm did a lot of damage to the nesting platforms on the east branch of the Westport River. Many of the birds were perched on the ground next to the damaged nests. On the west branch all the nests were occupied except one that was tipped due to the storm. Good numbers of accipiters were reported from a wide area, and Northern Goshawks were found nesting in a few areas. The total of 568 Broad-winged Hawks at Wachusett Mountain April 23 was almost twice the previously reported high for Broadwings in eastern Massachusetts in the spring. The previous high was 299 birds at Wachusett on April 23, 1988. Many Merlins were seen on Plum Island. On the 26th, a Merlin flew under a car in hot pursuit of a Mourning Dove. The birders in the car could "feel" the birds flopping around, and then the dove escaped, chased by the Merlin. The flight of 244 American Kestrels at Plum Island on April 23 was the third highest American Kestrel count ever reported in Massachusetts. The Peregrine Falcons were again nesting on the Custom House in Boston, establishing the sixth year of nesting in the city. R. H. S.

Red-throated Loon			
thr, 8	P'town, Orleans	15 max 4/12, 9	G. d'Entremont + v. o., T. Aversa
12, 14	Westport, Eastham	25, 148	R. Abrams, K. Jones
26, 29	P.I., Nantucket	9, **2200**	M. Lynch, B. Perkins
Common Loon			
thr, 4	P'town, P.I.	80 max 4/18, 12	K. Jones + v. o., BBC (G. Gove)
12, 19	Cape Cod Bay, Danvers	154, 5	M. Gooley, J. Brown
25, 26	Clinton, Lakeville	6, 2	M. Lynch, W. Petersen

DATE	LOCATION	NUMBER	OBSERVERS
Arctic/Pacific Loon (from January)			
1-24	Provincetown (R.P.)	1 or 2	v. o.
Pied-billed Grebe			
4, 11	Bolton, Hanson	1, 1	H. Merriman, W. Petersen
14, 15	P.I., Wayland	5, 1	W. Drew, S. Arena
15, 16	Plympton, Lincoln	1, 1	K. Anderson, C. Leahy
18, 25	Milton, Clinton	1, 2	G. d'Entremont, M. Lynch
25, 25-30	Holden, Boston	1, pr calling	M. Lynch, R. Stymeist + v. o.
Horned Grebe			
4	P.I., Hull	4, 42	BBC (G. Gove), R. Abrams
5, 19	S. Dartmouth, Marblehead	5, 2	M. Boucher, J. Brown
25; 26	Boylston; Winthrop, Revere	2; 2, 3	R. Bradbury; R. Stymeist
Red-necked Grebe			
4	Hull, Gloucester	277, 26	R. Abrams, S. Arena
4, 8	P.I., P'town (R.P.)	2, 6	BBC (G. Gove), K. Jones
14, 19	Winthrop, Cambridge (F.P.)	36, 1	T. Aversa, S. Perkins
20, 25	Whitinsville, Plymouth	1, 5	R. Bradbury, G. d'Entremont
Northern Gannet			
thr, 8	P.I., 3-21 miles off Hull	12 max, 150	v. o., R. Abrams
12	Provincetown, Cape Cod Bay	2,000+, 16	T. Raymond, M. Gooley
25	Plymouth	2+	G. d'Entremont
Great Cormorant			
3, 4	Lakeville, Gloucester	12, 9	R. Abrams, S. Arena
5, 12	Newburyport, Outer Cape Cod	2 imm, 19	J. Berry, BBC (R. Stymeist)
12, 25	Provincetown, Plymouth	25, 11	G. d'Entremont
Double-crested Cormorant			
4, 18	Newburyport	1, 155	BBC (G. Gove), BBC (S. Moore)
26	Newburyport	2500	BBC (S.Charette)
7, 14, 25	Clinton	1, 3, 241	R. Bradbury, H. Merriman, M. Lynch
12, 21	Outer Cape Cod, Mashpee	25, 20	BBC (R. Stymeist), P. Trimble
25, 26	S. Boston, Mystic Lakes	375, 60	M. Hay, L. Taylor
American Bittern			
2-23, 14	Nantucket, Bolton	1, 1	E. Andrews, R. Bradbury
18-20	P.I./Newburyport	4 max 4/18	BBC (S. Moore) + v. o.
28	E. Middleboro	1	K. Anderson
Great Blue Heron			
thr	P.I., Mt. A.	4 or 5, 1 or 2	v. o.
1, 19	Norfolk, Worcester	34 nests, 6	B. Cassie, M. Lynch
26, 30	Lakeville, Westboro	4 nests, 18	W. Petersen, E. Taylor
Great Egret			
2, 5	GMNWR, Westport	1, 8	S. Perkins, R. Stymeist
18, 20	Newburyport/P.I., Rowley	21, 2	BBC (S. Moore), J. Brown
20	Ipswich/Essex	7	S. Perkins
Snowy Egret			
4, 19	Hull, Quincy	5, 10	R. Abrams, E. Taylor
20	P.I., Rowley	9, 12	W. Drew, J. Brown
20, 21	Ipswich/Essex, Mashpee	20, 3	S. Perkins, P. Trimble
Little Blue Heron			
8, 25; 20	Squantum; Essex	1, 1; 3	K. Ryan, G. d'Entremont; S. Sweet
25, 26	Dorchester, Westport	1, 1	G. d'Entremont, M. Boucher
Tricolored Heron			
5-12	Eastham (F.H.)	1	S. Perkins + v. o.
Cattle Egret			
22, 26	Ipswich	2, 7	T. Young, M. Lynch
23	Wenham	2	C. Leahy
Green-backed Heron			
11, 28	S. Dartmouth, Boston	1, 1	T. Raymond, K. Hudson
30	Lakeville	1	K. Holmes
Black-crowned Night-Heron			
20, 21	E. Boston, Mashpee	37, 2	L. Rogers, P. Trimble
18, 26	P.I.	1, 5	M. Argue, M. Lynch
22, 30	Ipswich, S. Dartmouth	2, 1	T. Young, M. Boucher
Glossy Ibis			
8-30, 12	Squantum, Middleboro	26 max, 4	D. Brown + v. o., T. Cameron
14-30, 16	E. Boston, Revere	20 max, 8-10	L. Rogers + v. o., J. Berry
22-23, 24	Southboro, Concord (N.A.C.)	2, 1	D. Greenberg, S. Perkins
16-30	Essex/Ipswich	107 max 4/26	M. Lynch + v. o.
Mute Swan			
5	Westport, New Bedford	72, 22	R. Stymeist
Tundra Swan			
1	Norfolk	3	B. Cassie

DATE	LOCATION	NUMBER	OBSERVERS
Snow Goose			
1, 4	Sudbury, Middleboro	230, 85	S. Perkins, A. Hirschkop
4, 5	Newburyport/P.I., Salisbury	202, 360	BBC (G. Gove), P. Roberts
20, 21	Ipswich, N. Monomoy	1, 1	J. Hoye, B. Nikula
Brant			
11, 18	Squantum, P.I./Newburyport	500, 115	G. d'Entremont, BBC (S. Moore)
18, 19	Duxbury, Plymouth	350, 100	W. Petersen, K. Anderson
19, 26	Quincy, E. Boston (B.I.)	300, 160	E. Taylor, R. Stymeist
Canada Goose			
thr	P.I.	220 max 4/6	W. Drew
Wood Duck			
thr	E. Middleboro, GMNWR	10 max, 35 max	K. Anderson, S. Perkins
8, 9-10	W. Bridgewater, Mt. A.	22, 1-4	G. d'Entremont, v. o.
11, 12	Petersham, Bolton	5, 50	BBC (M. Lynch), M. Lynch
12	Sudbury, N. Dartmouth	14, 2 pr	S. Perkins, M. Boucher
12, 18	Wayland, Millis	12, 5	BBC (S. Arena), P. Iarrobino
Green-winged Teal			
thr	W. Bridgewater, Wayland	75 max, 40 max	W. Petersen, S. Perkins
thr, 1	P.I., W. Roxbury	72 max 4/14, 35	W. Drew, T. Aversa
1-24, 12	Arlington Res., Bolton	24 max 4/18, 60+	M. Rines, M. Lynch
12, 27	Sudbury, W. Harwich	180, 40+	S. Perkins, B. Nikula
21, 26	Middleboro, E. Boston	200, 28	T. Aversa, R. Stymeist
American Black Duck			
thr, 5	P.I., Westport	260 max 4/6, 375	W. Drew, R. Stymeist
Northern Pintail			
8, 12	W. Bridgewater, Bolton	7, 2	G. d'Entremont, M. Lynch
14	P.I., GMNWR	20, 1	W. Drew, S. Perkins
Blue-winged Teal			
5-26, 8	P.I./Newbyp't, W. Bridgewater	10 max, 6	v. o., G. d'Entremont
7-14, 18	GMNWR, Middleboro	1 or 2, 10	S. Perkins, W. Petersen
18, 18-20	Ipswich, Arlington Res.	6, pr	J. Brown, M. Rines
19, 19-28	Essex, S. Dartmouth	2, 4-6	M. Rines, K. Holmes + v. o.
20, 22	Bolton, Truro	2, pr	R. Bradbury, T. Aversa
Northern Shoveler			
1, 3-20	Norfolk, Arlington Res.	pr, 1 f	B. Cassie, M. Rines + v. o.
12	S. Dartmouth, Westport	1 m, pr	M. Boucher, T. Cameron
14, 20	E. Boston, P.I.	1 m, 2	T. Aversa, W. Petersen
20-26, 26	Bolton, ONWR	3 max 4/26, 2	M. Lynch + v. o., M. Lynch
Gadwall			
thr, 7-21	P.I., Boston	46 max 4/6, 2	W. Drew, K. Hudson
9, 11	Norfolk, Wayland	pr, 3	B. Cassie, S. Perkins
12	S. Dartmouth	13	M. Boucher
Eurasian Wigeon			
20, 21-26	Newburyport, Hyannis	1 m, 1 m	E. Nielsen, R. Pease
American Wigeon			
1-20, 1-24	P.I., Arlington Res.	44 max, 44 max	W. Drew, v. o.
8, 10	W. Bridgewater, Wakefield	2, 7	G. d'Entremont, P. + F. Vale
12	Eastham, Sudbury	2, 2	G. d'Entremont, S. Perkins
18, 19	Middleboro, Wareham	3, 4	W. Petersen, K. Anderson
Canvasback			
3, 4	Lakeville, Randolph	45, 7	R. Abrams, G. d'Entremont
Tufted Duck			
19-26	Plymouth	1	S. + L. Arena + v. o.
Ring-necked Duck			
1-27	Marlboro (Ft. Meadow)	28 max 4/7	R. Graefe
1-24, 2-14	Arlington Res., GMNWR	12 max, 36 max	M. Rines, S. Perkins
1-26, 3	W. Newbury, Lakeville	50 max, 10	v. o., R. Abrams
11, 25	S. Hanson, Petersham	80, 61	W. Petersen, M. Lynch
12, 18	Clinton, Ipswich (IRWS)	95, 10	R. Bradbury, J. Brown
23, 25	Milton, Plymouth	2, 2 m	R. Abrams, G. d'Entremont
Greater Scaup			
1, 3	Clinton, Lakeville	4, 245	R. Bradbury, R. Abrams
4, 5	Randolph, Newburyport	23, 50+	G. d'Entremont, J. Berry
12, 25	Orleans, GMNWR	25, 5	BBC (R. Stymeist), BBC (S. Hepburn)
Lesser Scaup			
3, 4	Lakeville, W. Newbury	3 m, 3	R. Abrams, M. Argue
10-20, 17	GMNWR, Lynn	6 max, 6	S. Perkins, I. Lynch
19, 25	Plymouth, Clinton	20, 2	S. Arena, M. Lynch
Common Eider			
4	Gloucester, P.I.	45, 90	S. Arena, BBC (G. Gove)
12	Outer Cape, Cape Cod Bay	220, 300	BBC (R. Stymeist), M. Gooley
26	Squantum	15	G. d'Entremont

DATE	LOCATION	NUMBER	OBSERVERS
Oldsquaw			
thr, 12	Newburyport, Cape Cod Bay	500 max 4/4, 140 v. o., M. Gooley	
Black Scoter			
3, 8	Hull, Orleans	14, 65	M. Rines, T. Aversa
12, 25	Provincetown, Plymouth	20, 10	BBC (R. Stymeist), G. d'Entremont
Surf Scoter			
12, 25	Provincetown, Plymouth	20, 50	BBC (R. Stymeist), G. d'Entremont
26	Revere	300+	R. Stymeist
White-winged Scoter			
4, 26	P.I.	9, 11	M. Lynch
12	P'town, Cape Cod Bay	5, 850+	BBC (R. Stymeist), M. Gooley
Common Goldeneye			
4, 26	Newburyport	250+, 4	M. Lynch, BBC (S. Charette)
4, 11	Gloucester, Petersham	30, 19	S. Arena, BBC (M. Lynch)
18-19	Squantum	1 imm	G. d'Entremont
Bufflehead			
thr, 10	P.I., Wakefield	18 max 4/6, 48	W. Drew, P. + F. Vale
12, 15	Clinton, Plympton	8, 5	R. Bradbury, K. Anderson
Hooded Merganser			
4	Randolph, Middleboro	1, 1	G. d'Entremont
7, 9-25	Boston, Mt. A.	4, 8 max	K. Hudson, S. Perkins + v. o.
14, 19	Arlington Res., Petersham	2 f, 7	T. Aversa, M. Lynch
21, 23	Middleboro, Bolton	3 f, 1 f	T. Aversa, H. Merriman
Common Merganser			
thr	W. Newbury, GMNWR	40 max, 62 max	J. Berry + v. o., S. Perkins + v. o.
4, 10	Randolph, Sherborn	35, 20	G. d'Entremont, E. Taylor
18, 19	Norton, New Braintree	16, 14	J. Kricher, M. Lynch
20, 25	Bolton, Rutland	8, 25	M. Hall, M. Lynch
Red-breasted Merganser			
3, 5	Hull, Westport River	85, 330	M. Rines, R. Stymeist
12	Cape Code Bay, P'town	1500+, 750	M. Gooley, BBC (R. Stymeist)
14	P.I.	169	W. Drew
Ruddy Duck			
8-18, 12	Milton, Wellesley	1, 1	P. Fitzgerald + v. o., C. Quinlan
14-28, 14	Arlington Res., Milton	3 max, 2	T. Aversa + v. o., G. d'Entremont
Turkey Vulture			
thr, 3	Randolph, Nantucket	26 max 4/10, 1	N. Smith, E. Andrews
5	S. Dartmouth, Lynnfield	6, 7	M. Boucher, P. + F. Vale
11, 14	Barre, Boston	23, 4	M. Lynch, K. Hudson
14, 15	Plymouth, Halifax	6, 3	P. Trimble, K. Anderson
Osprey			
thr	Nantucket, P.I.	1 or 2, 1	E. Andrews, v. o.
3, 5	Lakeville, Westport	2, 126	R. Abrams, R. Stymeist
5, 19	Barnstable, Wareham	3, 2	H. Ferguson, K. Anderson
21, 23	Mashpee, Millis	6, 2	P. Trimble, P. Iarrobino
Reports of 8 individuals from 7 locations.			
Bald Eagle			
4, 26	Newburyport, E. Boston (B.I.)	1 imm, 1 imm	S. Arena, R. Stymeist
6, 19	P.I., West Newbury	1, 1	EMHW
Northern Harrier			
2	Auburn	1 m	M. Murphy
4, 7	Halifax, W. Roxbury	4, 2	K. Anderson, T. Aversa
11	Sudbury	1 m	V. Laux
12, 14	Provincetown, P.I.	3, 7	BBC (R. Stymeist), W. Drew
18, 25, 29	DWWS, Wayland, Canton	1 m + 1 f, 1, 1 m	W. Petersen, S. Perkins, T. Aversa
Sharp-shinned Hawk			
22, 26	Provincetown, Boxford	8, 3	T. Aversa, R. Stymeist
23	Wachusett Mt., Worcester, P.I.	11, 11, 12	EMHW
Reports of individuals from 15 locations.			
Cooper's Hawk			
5, 23	Boxford, Wachusett Mt.	3, 2	J. Berry, EMHW
Reports of individuals from 12 locations.			
Northern Goshawk			
thr	Holliston, Boxford	pr on nest, 1	T. Aversa, v. o.
thr, 6	Middleboro, Foxboro	pr on nest, 1	K. Anderson, B. Cassie
18, 25	P'town, GMNWR	1 imm, 1	B. Nikula, BBC (S. Hepburn)
Red-shouldered Hawk			
thr	Sherborn	3 including pr on nest	E. Taylor
thr	Boxford, E. Middleboro	1, 2 or 3	v. o., K. Anderson
4, 5	Bolton, Easton	1, 1	R. Bradbury, K. Ryan
12	S. Dartmouth, Harvard	pr, 1	M. Boucher, M. Lynch
24, 26	Petersham, Lakeville	1, 2	M. Lynch, W. Petersen

DATE	LOCATION	NUMBER	OBSERVERS	APRIL 1992
Broad-winged Hawk				
15; 19, 24	Milton; Petersham	1; 1	N. Smith; M. Lynch	
23	Lincoln, Wachusett Mt.	1, **568**	W. Petersen, EMHW	
26, 27; 28, 29	Boxford; Worcester	1; 1	J. Brown; M. Lynch	
28, 30	Lakeville, Wakefield	2, 1	K. Holmes, P. + F. Vale	
Red-tailed Hawk				
thr	Sherborn, Framingham; Mt. A.	5, 2; 1 or 2	E. Taylor; v. o.	
6, 12	E. Middleboro, Wayland	pr, 6	K. Anderson, BBC (S. Arena)	
12; 25	Bolton, Harvard; Boston	2, 5; 3	M. Lynch; BBC (R. Stymeist)	
American Kestrel				
thr	Millis, Boston	8 max 4/26, 1 or 2	P. Iarrobino, K. Hudson	
8, 10, 23	P.I.	17, 21, **244**	EMHW	
12	Wakefield, Harvard	3, 5	P. + F. Vale, M. Lynch	
12, 16	Gloucester, E. Middleboro	7, 10	J. Hoye, K. Anderson	
19, 22	New Braintree, Falmouth	9, 4	M. Lynch, P. Trimble	
23, 26	P.I., Hatchville	43 in 1 hour, 6	J. Hoye, P. Trimble	
Merlin				
thr, 7	Boston, Wayland	1, 1	K. Hudson, S. Perkins	
4, 23, 29	P.I.	4, 11, 3	H. Wiggin, EMHW, W. Drew	
9, 15, 28	Mt. Auburn	1	v. o.	
14, 25	S. Boston, Lincoln	1 f, 1	K. Ryan, S. Perkins	
25	Middleboro	1	D. Briggs	
Peregrine Falcon				
thr; 8, 21	Boston; N. Monomoy	2; 1	v. o.; B. Nikula	
13, 22	P'town (R.P.), Chatham	1, 1	K. Jones	
25, 30	GMNWR, S. Monomoy	1, 1 or 2	BBC (S. Hepburn), B. Nikula	

GALLIFORMES THROUGH CORVIDS

A Wild Turkey was seen flying over Route 128 in Waltham, a surprise for two lucky observers. Turkeys seem to be doing well in Essex County with good numbers noted from Boxford.

A Common Moorhen was found in Middleboro, the only record for the month. A **Sandhill Crane** was noted from Rowley, and another bird was found in Middleboro.

Five Lesser Golden-Plovers were present in Newburyport from April 4-19, and others were found in West Bridgewater and Squantum. Over 30 American Oystercatchers were tallied on North Monomoy, and 3 birds were found at Logan Airport in Boston Harbor, the most northerly spot for breeding in Massachusetts.

Upland Sandpiper reports continue to decrease, but the encouraging news is that they seem to be doing well at Logan Airport. A Long-billed Dowitcher was well described and heard calling in Newburyport on April 18. Good numbers of Common Snipe were present, with concentrations in Concord, Bolton, and Newbury. A pelagic trip in Cape Cod Bay on the 14th yielded four Red Phalaropes.

One or two Little Gulls and 1 or 2 Common Black-headed Gulls were found in Newburyport Harbor, and 300 Bonaparte's Gulls were still present in Lynn as late as April 26. Lesser Black-backed Gulls were noted in North Truro and Middleboro. Caspian Terns were noted late in the month in three coastal locations.

Provincetown played host to good numbers of alcids until midmonth. Over 500 Razorbills were there on the 12th, along with 6 each of **Common** and Thick-billed **murres**.

Mount Auburn Cemetery birders unable to find passerines enjoyed two Eastern Screech-Owls and two Great Horned Owls. At Logan Airport, six Snowy Owls were present on April 1, and one was still there at month's end. Short-eared Owls were noted from six locations, and Long-eared Owls were found in Lexington and in Dorchester.

An early Whip-poor-will was found at Fort Hill in Eastham, and another was found at Nantucket on the 29th. Interestingly, no Whip-poor-wills were found at Myles Standish State Forest despite attempts to find them.

The first passerine movement was noted after the 26th when the first Chimney Swifts, Ruby-throated Hummingbirds, and Eastern Kingbirds were reported. As many as 50 Fish Crows were counted early in the month in Middleboro, and five pair were seen nest-building at Mount Auburn. Common Ravens were noted from Boxford and Centerville.

R. H. S.

Ruffed Grouse			
4, 15	Milton, Boxford	2, 4	G. d'Entremont, T. Aversa
29	Canton (F.M.)	6	T. Aversa
Reports of single birds from 5 locations.			
Wild Turkey			
4, 11	Sterling, Petersham	4, 3	H. Merriman, BBC (M. Lynch)
12, 13-18	Boxford, Carlisle	10, 2 or 3	J. Berry, K. Harte
23, 26	Waltham, Sherborn	1, 1	J. Kricher#, E. Taylor
Virginia Rail			
thr	Wayland, W. Roxbury	1 or 2, 3 max	J. Hoye + v. o., T. Aversa

DATE	LOCATION	NUMBER	OBSERVERS
Virginia Rail (continued)			
4, 16	Ipswich, Bolton Flats	1, 1	J. Berry, J. Hoye
19, 23	Salem, Milford	1, 1	J. Brown, T. Aversa
Common Moorhen			
26	Middleboro	1	R. Abrams
American Coot			
7-14, 11-26	GMNWR, Milford	1, 1	S. Perkins, R. Bradbury
17, 18	Lynn, S. Hanson	1, 1	I. Lynch, W. Petersen
25	Plymouth	20	G. d'Entremont
Sandhill Crane			
17-18, 30	Rowley, Middleboro	1, 1	D. Chickering + v. o., W. Evill
Black-bellied Plover			
12	Chatham, Westport	6, 10	BBC (R. Stymeist), R. Abrams
20	Newburyport	2	S. Perkins
Lesser Golden-Plover			
4-19, 8	Newburyport	5 max 4/19	v. o.
8	W. Bridgewater	3	G. d'Entremont
18	Squantum	1	D. Brown
Piping Plover			
4-20, 5	P.I., S. Dartmouth	1 or 2, 5	v. o., M. Boucher
5	Barnstable, Westport	5, 1	H. Ferguson, M. Rines
14, 21	Dartmouth, N. Monomoy	4, 6	W. Kerr, B. Nikula
Killdeer			
4	Newburyport/P.I., Halifax	20, 20	BBC (G. Gove), K. Anderson
12, 21	Bolton, Falmouth	26, 2 nests	M. Lynch, P. Trimble
American Oystercatcher			
10, 12	N. Monomoy, Chatham	30+, 2	B. Nikula, BBC (R. Stymeist)
15, 26	Boston (Logan), Eastham	3, 6	N. Smith, K. Jones
Greater Yellowlegs			
1, 4	S. Dartmouth, Hull	2, 1	M. Boucher, R. Abrams
4, 26	Newburyport/P.I.	3, 200+	BBC (G. Gove), BBC (S. Charette)
5, 18	Quincy, Eastham (F.H.)	1, 20	R. Abrams, G. Gove
21, 24	Middleboro, Lancaster	24, 5	T. Aversa, R. Bradbury
26, 28	Squantum, Halifax	56, 30	G. d'Entremont, K. Anderson
Lesser Yellowlegs			
12	S. Dartmouth	2	M. Boucher
21	Squantum	1	R. Abrams
21, 26	Newburyport	1, 3	M. Rines, BBC (S. Charette)
Willet			
24, 26	Eastham, Newburyport	1, 1	K. Jones, M. Lynch
30	Chatham, S. Dartmouth	6, 2	B. Nikula, K. Holmes
Spotted Sandpiper			
23, 26	Wayland, Newburyport	1, 1	G. Gove, M. Lynch
28	E. Middleboro	1	K. Anderson
Upland Sandpiper			
13, 15	Nantucket, Boston (Logan)	1, 2	K. Beattie, N. Smith
21, 24	Halifax, Falmouth	2, 7	K. Anderson, P. Trimble
Sanderling			
26	Lynn	140	R. Stymeist
Least Sandpiper			
4, 27	Newbury, S. Dartmouth	2, 1	H. Wiggin, M. Boucher
Pectoral Sandpiper			
4-26	Newburyport	18 max 4/18	v. o.
4, 12	Bolton, Halifax	1, 12	R. Bradbury, K. Anderson
11, 18	Middleboro	5, 14	W. Petersen
Purple Sandpiper			
20, 26	P.I.	2, 8	J. Brown, BBC (S. Charette)
Dunlin			
4-26	Newburyport	80 max 4/26	v. o.
12	Westport	125	R. Abrams
19, 22	GMNWR, S. Dartmouth	3, 12	D. Hart, K. Holmes
Short-billed Dowitcher			
18, 26	Newburyport	1, 3	BBC (S. Moore), M. Lynch
Long-billed Dowitcher			
18	Newburyport	1 br pl	H. Wiggin
Common Snipe			
4, 5	Bolton, S. Dartmouth	50+, 9	R. Bradbury, M. Boucher
12, 19	Truro, New Braintree	15, 15	G. d'Entremont, M. Lynch
20, 21	Newbury, Middleboro	70, 76	S. Arena, T. Aversa
21-25, 26	Concord, Topsfield	60, 9	S. Perkins, R. Stymeist

DATE	LOCATION	NUMBER	OBSERVERS
American Woodcock			
9, 12	IRWS, Princeton	2, 2	J. Brown, R. Bradbury
21, 28	Plymouth (Myles Standish SF)	12, 9	G. d'Entremont
Red Phalarope			
12	Cape Cod Bay	4 W pl	M. Gooley
Laughing Gull			
7, 8	S. Wellfleet, Orleans	6, 12	K. Jones, T. Aversa
12, 19	S. Dartmouth, Nantucket	1, 2	M. Boucher, E. Andrews
Little Gull			
20-26	Newburyport	1 or 2	S. Perkins + v. o.
Common Black-headed Gull			
4, 21	Newburyport	2, 1	BBC (G. Gove), M. Rines
Bonaparte's Gull			
thr, 8	Newburyport, off Scituate	75 max 4/26, 3	v. o., R. Abrams
18, 26	Squantum, Lynn	1 imm, 300+	G. d'Entremont, R. Stymeist
Iceland Gull			
thr	P'town/Truro, Newburyport	11 max 4/13, 1 or 2	K. Jones, v. o.
2, 10	Norfolk, Boston Harbor	1 1W, 1 3W	B. Cassie, R. Abrams
11, 23	Middleboro, Quincy	1 imm, 1 1W	W. Petersen, G. d'Entremont
29	New Bedford	1	D. Zimberlin
Lesser Black-backed Gull			
11, 18	Middleboro, N. Truro	1 ad, 1 1S	W. Petersen, K. Jones
Glaucous Gull			
8, 10	Boston Harbor, off Nahant	1 ad, 1 ad	R. Abrams
12, 15	Provincetown, Newburyport	1, 1	BBC (R. Stymeist), M. Argue
26	Nantucket	1	E. Andrews
Black-legged Kittiwake			
12	Cape Cod Bay	6	M. Gooley
Caspian Tern			
23	Plymouth, Provincetown	1, 1	R. Holmes, K. Jones
24, 25	Squantum	4, 1	M. Rines, E. Cutler
Common Murre			
12	P'town (R.P.), Cape Cod Bay	6, 2	BBC (R. Stymeist), M. Gooley
Thick-billed Murre			
7, 12	P'town (R.P.)	6, 1	R. Abrams, G. d'Entremont
8, 12	Boston Harbor, Cape Cod Bay	1, 1	R. Abrams, M. Gooley
Razorbill			
12	Provincetown, Cape Cod Bay	500, 55	T. Raymond, M. Gooley
Black Guillemot			
4, 8	Gloucester, off Scituate	16, 6	W. Petersen, R. Abrams
9	Provincetown (R.P.)	1	K. Jones
Eastern Screech-Owl			
thr, 8	Mt. A., Easton	1 or 2, 1	v. o., K. Ryan
Great Horned Owl			
thr	Eastham, Mt. A.	pr + 1 yg, 2	T. Aversa, v. o.
thr	Salisbury, Falmouth	n + 2 yg, 1 ad + 1 yg	T. Goodridge, P. Trimble
5, 18	Randolph, Brookline	2, 2	G. d'Entremont, R. Stymeist
Snowy Owl			
1, 24	Nantucket (2 locations)	1, 1	E. Andrews
1, 30; 8	Boston (Logan); P'town	6, 2; 1	N. Smith; K. Jones
10, 21	Quincy, P.I.	1, 1	J. Donahue, M. Rines
Barred Owl			
thr, 19	Boxford, Petersham	1 or 2, 1	v. o., M. Lynch
22, 26	Easton, Lakeville	1, 1	K. Ryan, W. Petersen
Long-eared Owl			
7, 15	Dorchester, Lexington	1 injured, 1	fide T. French, N. Floyd
Short-eared Owl			
5, 15	W. Roxbury, P.I.	1, 1	E. Salmela, T. Aversa
18	Boston (Logan), Middleboro	1, 1	N. Smith, W. Petersen
19, 20	Essex, E. Boston (B.I.)	1, 1	J. Soucy, L. Rogers
29	P.I.	1	W. Drew
Northern Saw-whet Owl			
1, 28	W. Roxbury, Plymouth	1, 1	T. Aversa, G. d'Entremont
Whip-poor-will			
19, 29	Eastham (F.H.), Nantucket	1 f, 1	K. Jones, R. Morcom
Chimney Swift			
26, 27	Milford, Easton	26, 12	R. Bradbury, K. Ryan
21-30	Reports of individuals from 8 locations.		
Ruby-throated Hummingbird			
26	Mt. A.	1	v. o.

DATE	LOCATION	NUMBER	OBSERVERS
Belted Kingfisher			
thr, 4	Mt. A., Sherborn	2, 4	v. o., E. Taylor
24, 28	New Braintree, E. Middleboro	pr at n, 2 pr	M. Lynch, K. Anderson
Red-bellied Woodpecker			
thr, 1-16	Medford, Boston (F.Pk)	1 f, pr	M. Rines, T. Aversa
10-30, 25	S. Dartmouth, Boston	1, pr	K. Holmes, BBC (R. Stymeist)
16-30	Braintree	1 m	G. d'Entremont + v. o.
26-28, 29	Nantucket, Worcester	1 m, 1 m	E. Andrews, M. Lynch
Yellow-bellied Sapsucker			
8, 10	Lincoln, Boston (F.Pk)	1 m, 1 m	S. Holbrook, T. Aversa
12	Provincetown, Saugus	2, 1 m	B. Nikula, P. + F. Vale
14-21	Reports of 1 or 2 individuals from 7 locations.		
Hairy Woodpecker			
thr	Mt. A., Boxford	1, 3	v. o., J. Brown
2, 12	Worcester (BMB), Wayland	2, 4	M. Lynch, BBC (S. Arena)
Pileated Woodpecker			
thr, 4	Boxford, Milton	1 or 2, 2	v. o., G. d'Entremont
12, 19	Bolton Flats, Petersham	pr, 1	M. Lynch
22, 27	Lincoln (DFWS), Topsfield	1, 1	W. Petersen, K. Disney
Eastern Phoebe			
thr	Mt. A.	16 max 4/8	J. Heywood + v. o.
6, 12	Waltham	6, 11	L. Taylor
11, 12	Petersham, Wayland	6, 9	BBC (M. Lynch), BBC (S. Arena)
14, 18	Bolton Flats, Brookline	10, 27	H. Merriman, R. Stymeist
18	Arlington, P.I./Newburyport	8, 22	M. Rines, BBC (S. Moore)
19	Boxford, New Braintree	6, 19	G. d'Entremont, M. Lynch
thr	Reports of 57 individuals from 24 locations.		
Eastern Kingbird			
25, 28	Nantucket, S. Dartmouth	1, 1	J. Stroup, K. Holmes
29	Provincetown	1	K. Jones
Horned Lark			
12	Provincetown, Wellfleet	6, 3	BBC (R. Stymeist)
21, 26	Falmouth, P.I.	8, 2	P. Trimble, M. Lynch
Purple Martin			
9, 18	Provincetown, P.I.	1 m, 10	K. Jones, BBC (S. Moore)
18, 19	Halifax, Salem	3, 2	W. Petersen, J. Brown
Tree Swallow			
1, 17	Wayland	36, 175	S. Arena
2, 14	GMNWR	80, 500+	S. Perkins
3, 4	Arlington Res., Boston	15, 1	M. Rines, K. Hudson
5	N. Middleboro, Nantucket	3, 10	K. Holmes, J. Husted
10, 17	Wakefield, Concord	3, 500	P. + F. Vale, S. Perkins
19, 25	New Braintree, Clinton	40+, 350+	M. Lynch
Northern Rough-winged Swallow			
8, 17	Milton, Concord	4, 2	P. Fitzgerald, S. Perkins
24	Hardwick, Milton	2, 25	M. Lynch, R. Abrams
24	S. Dartmouth, Arlington	2, 4	K. Holmes, M. Rines
28, 29	Boston, Ipswich	2, 4	K. Hudson, J. Berry
Bank Swallow			
10	off Hull	2	R. Abrams
12	Middleboro, Sudbury	1, 2	R. Abrams, S. Perkins
14, 18	GMNWR, Clinton	1, 1	S. Perkins, R. Bradbury
23	Millis	11 nests	P. Iarrobino
24	New Braintree	3	M. Lynch
Cliff Swallow			
4	GMNWR	1	J. Center
Barn Swallow			
4, 7	GMNWR, Falmouth	2, 1	J. Center, W. Mills
10	Provincetown, Fairhaven	3, 2	M. Rines, M. Boucher
11, 14	S. Hanson, Wayland	1, 2	W. Petersen, S. Arena
14, 16	Bolton Flats, Rowley	1, 1	H. Merriman, J. Brown
16-30	General arrival.		
Fish Crow			
thr	Middleboro, Mt. A.	50 max 4/4, 5 pr	G. d'Entremont + v. o., v. o.
thr, 19	Millis, Essex	7 max 4/27, 1	P. Iarrobino, M. Rines
10, 23	S. Dartmouth, Norton	2, 1	K. Holmes, J. Kricher
25	GMNWR	1	BBC (S. Hepburn)
Common Raven			
5, 19	**Boxford**, Petersham	1, 1	J. Brown, M. Lynch
23	**Centerville**	1	R. Pease
24	Wachusett Mt.	1	G. Gove

PARIDS THROUGH FINCHES

Up to six Winter Wrens were reported from Boxford, and four in Provincetown were most certainly migrants. A large mixed flock of kinglets was at Provincetown on April 26. A healthy number of gnatcatchers were at Boxford, while Eastern Bluebirds were widely reported from all sections except Cape Cod. Hermit Thrushes were well reported, but only one Wood Thrush was noted. Six hundred robins were in New Braintree on April 19, while Brown Thrashers arrived around April 25. Four American Pipits were reported, and moderate flocks of Cedar Waxwings were seen. A Loggerhead Shrike was photographed at Bolton Flats on April 6.

Migration seemed delayed in eastern Massachusetts. The only vireo species reported was the Solitary Vireo. Twelve species of warblers were reported, compared with thirteen and eighteen in 1991 and 1990, respectively. One warbler was the Yellow-breasted Chat, a wintering bird that left by midmonth. Early reports included a Blue-winged Warbler at GMNWR on April 20 and a Worm-eating Warbler at West Roxbury on April 29. Other warblers arrived in lower than normal numbers.

Two **Summer Tanager** reports were received, one from Yarmouthport and the other at Nantucket. Rufous-sided Towhees arrived during the last week. A single American Tree Sparrow found on April 26 was late. Field Sparrow numbers increased impressively throughout the month at Broad Meadow Brook Wildlife Sanctuary, with 16 reported by month's end. The West Roxbury **Lark Sparrow** was last reported on April 4. A count of 150 Savannah Sparrows was recorded in Middleboro. A Grasshopper Sparrow in Newton on April 30 was about two weeks early. One **Dark-eyed "Oregon" Junco** was seen in Wenham on April 21.

A male **Yellow-headed Blackbird** was present in Marion most of the month. Encouraging reports included a high of 34 Purple Finches present on April 3 in Boxford. Eight Red Crossbills briefly appeared in the Newburyport area. G. d'E.

Tufted Titmouse			
12, 28	Boxford, Worcester (BMB)	25+, 19	J. Berry, M. Lynch#
Red-breasted Nuthatch			
thr, 5	Mt. A., Ipswich	4 max, 1	v.o., J. Berry
12, 21	Brookline, Boxford	1 f, 1	H. Wiggin, J. Brown#
23, 26	P'town, Lakeville	1, 1	P. Trimble, W. Petersen
White-breasted Nuthatch			
12	Boxford State Forest	20	J. Berry
Brown Creeper			
thr	Boxford, Milton	7 max, 4 max	v. o., G. d'Entremont
Reports of 10 individuals from 6 locations.			
Carolina Wren			
Reports of 18 individuals from 11 locations.			
House Wren			
16-18, 26	Salem, Holliston	1, 1	I. Lynch#, J. Hoye
27, 29	Mt. A., Worcester (BMB)	1, 2	v. o., M. Lynch#
Winter Wren			
thr, 8	Boxford, Mt. A.	6 max, 2	v. o.
19, 23	Worcester, Sharon	1, 2 m	M. Lynch#, B. Cassie
24, 26	Wachusett Mt., P'town	4, 4	J. Gordon#, B. Nikula#
Marsh Wren			
29	Milton (Fowl Meadow)	1	T. Aversa
Golden-crowned Kinglet			
11; 12, 26	Petersham; P'town	28; 20, 75+	BBC (M. Lynch); B. Nikula#
19, 26	Waltham, P.I.	31, 10	L. Taylor, M. Lynch#
Ruby-crowned Kinglet			
13-30, 24	Mt. A., Milton	50 max 4/24, 15	v. o., R. Abrams
26, 28	Provincetown, Boxford	75+, 53	B. Nikula#, T. Aversa
Blue-gray Gnatcatcher			
23	Holliston, P'town	2, 2	T. Aversa, P. Trimble
25, 28	Mt. A., Boxford	2, 9	P. Trimble, T. Aversa
26, 29	Waltham	3, 3	L. Taylor
Eastern Bluebird			
thr, 14-30	Millis, Worcester (BMB)	5 max, 7 max	P. Iarrobino, M. Lynch#
12, 20	ONWR, Sherborn	3, 6	M. Lynch#, E. Taylor
Reports of one pair and single birds from several locations.			
Hermit Thrush			
9-30, 19	Mt. A., Petersham	10 max 4/12, 7	v. o., M. Lynch#
25	Boston, Plymouth	4, 5	BBC (R. Stymeist), G. d'Entremont#
Reports of 22 individuals from 14 locations.			
Wood Thrush			
24	Wayland	1	S. Arena

DATE	LOCATION	NUMBER	OBSERVERS	APRIL 1992
American Robin				
4, 12; 19	E. Middleboro; New Braintree	150, 150; 600+	K. Anderson; M. Lynch#	
11, 12, 12	Petersham, Bolton, Harvard	30, 50, 60	M. Lynch#	
Gray Catbird				
12, 18	P.I., Brookline	1, 1	T. Young, R. Stymeist#	
23, 26	Milton, Milford	1, 1	R. Abrams, R. Bradbury	
Brown Thrasher				
28; 28, 29	Plymouth (MSSF); BMB	3; 10, 3	G. d'Entremont; M. Lynch#	
23-30	Reports of one or two individuals (10 total) from 8 locations.			
American Pipit				
4, 20	P.I., Ipswich	1, 1	BBC (G. Gove), S. Perkins#	
21, 26	Newbury, P.I.	1, 1	K. Disney#, M. Lynch#	
Cedar Waxwing				
6, 17-23	Middleboro, Hopkinton	100, 45 max	FCBC (M. Murphy), G. Gove	
19, 23	New Braintree, Milton	40+, 200	M. Lynch#, R. Abrams	
shrike species				
7	Boston (Fens)	1	K. Hudson	
Loggerhead Shrike				
6	Bolton Flats	1 ph	C. Quinlan	
Solitary Vireo				
21-30, 24	Mt. A., Milton	3, 4	v. o., R. Abrams	
28	Clinton, Worcester (BMB)	1, 2	H. Merriman, M. Lynch#	
Blue-winged Warbler				
20	GMNWR	1	A. Bennett	
Northern Parula				
23	Milton	1	R. Abrams	
Yellow Warbler				
26, 27	Milford, Easton	2, 3	R. Bradbury, K. Ryan	
29	Milton (Fowl Meadow)	2 m	T. Aversa	
Yellow-rumped Warbler				
thr, 12	Wayland, P'town	45 max 4/24, 50	S. Arena, B. Nikula#	
25	Holden, GMNWR	17, 33	M. Lynch#, BBC (S. Hepburn)	
Black-throated Green Warbler				
26, 28	Boston (F.Pk), Clinton	1, 1	J. Young, H. Merriman	
28, 29	Worcester (BMB), Dover	1, 3	M. Lynch#, P. Hallowell	
Pine Warbler				
19, 21	Plymouth, Mashpee	15, 8	S. Arena, P. Trimble	
23, 24	P'town, Otis Air Force Base	16, 20	P. Trimble, P. Trimble	
Palm Warbler				
10-30, 10-30	Boston (F.Pk), Mt. A.	12 max, 10 max	T. Aversa, v.o.	
12, 28	Sudbury, Boxford	10, 17	S. Perkins#, T. Aversa	
23, 26, 29	Waltham	7, 14, 15	L. Taylor	
Black-and-white Warbler				
23	Mt. A., Milton, P'town	3, 2, 2	v. o., R. Abrams, P. Trimble	
23, 30	Cambridge, E. Middleboro	2, 2	M. Boucher, K. Anderson	
Worm-eating Warbler				
29	West Roxbury	1	T. Aversa	
Northern Waterthrush				
21, 23	Dover, Holliston	1, 5	P. Hallowell, T. Aversa	
26, 28	Northbridge, E. Middleboro	1, 2 m	R. Bradbury, K. Anderson	
Louisiana Waterthrush				
15-30, 18	Boxford, Braintree	3 max, 1	v. o., G. d'Entremont#	
20, 29	Bolton Flats, Worcester (BMB)	1, 1	M. Hall, M. Lynch#	
Yellow-breasted Chat				
1-16	East Gloucester	1 m	J. Mann	
Summer Tanager				
26-28, 25	Yarmouthport, Nantucket	1, 1	J. Weld + v. o., fide E. Andrews	
Rose-breasted Grosbeak				
28, 29	Worcester (BMB)	1, 1	M. Lynch#	
Indigo Bunting				
26-30	Woods Hole	1	P. Trimble	
Rufous-sided Towhee				
2, 8	S. Dartmouth, Squantum	1, 1 f	K. Holmes, K. Ryan	
28, 29	Plymouth (MSSF), Worcester (BMB) 12, 9		G. d'Entremont#, M. Lynch#	
	Reports of one to three individuals (17 total) from 13 locations.			
American Tree Sparrow				
7, 19	West Roxbury, Hardwick	18, 30+	T. Aversa, M. Lynch#	
20, 26	Bolton Flats, Dorchester	10, 1	M. Hall, G. d'Entremont	
Chipping Sparrow				
16-30, 19	Mt. A., Nantucket	10 max, 15-20	v. o., E. Andrews#	
27, 30	Rochester, Otis Air Force Base	10, 20	M. Boucher, P. Trimble	

DATE	LOCATION	NUMBER	OBSERVERS
Field Sparrow			
thr, 4	Worcester (BMB), Millis	16 max 4/29, 2	M. Lynch#, P. Iarrobino
12, 24	Wellfleet, Wayland	6, 5	BBC (R. Stymeist), S. Arena
Vesper Sparrow			
4, 12	Rowley, Wellfleet	1, 3	H. Wiggin#, BBC (R. Stymeist)
14-20, 24	Wayland, New Braintree	1, 1	S. Arena, M. Lynch#
Lark Sparrow			
1-4	West Roxbury (Gethsemane Cemetery)	1	v. o.
Savannah Sparrow			
thr, 18	West Roxbury, Middleboro	54 max 4/29, 150	T. Aversa, W. Petersen
24, 26	Wayland, Bolton Flats	75, 40	S. Arena, K. Griffis
"Ipswich" Savannah Sparrow			
8	Orleans (Nauset)	1	T. Aversa
Grasshopper Sparrow			
30	Newton	1	J. Hepburn#
Fox Sparrow			
1-19	Reports of 1-4 individuals (30 total) from 18 locations.		
Song Sparrow			
8	Squantum	50-60	K. Ryan
Swamp Sparrow			
6, 12	Millis, Wayland	2, 5	P. Iarrobino, BBC (S. Arena)
28, 29	Worcester (BMB), GMNWR	4, 6	M. Lynch#, BBC (S. Hepburn)
White-throated Sparrow			
thr	Mt. A.	20 max 4/29	v. o.
Dark-eyed Junco			
8, 9	Squantum, Brookline	75, 25	K. Ryan, H. Wiggin
11, 19	Petersham	48, 50+	BBC (M. Lynch), M. Lynch#
Dark-eyed "Oregon" Junco			
21	Wenham	1	N. Nash
Lapland Longspur			
19	Bolton	1 f	M. Rines
Bobolink			
30	Bolton	3	R. Bradbury
Red-winged Blackbird			
12, 19	Bolton Flats, New Braintree	400+, 150+	M. Lynch#, M. Lynch#
Eastern Meadowlark			
4, 5	Nantucket, S. Dart. (Allens Pd)	1, 2	E. Andrews#, M. Boucher#
11, 18	Bolton, Essex	1, 10	R. Bradbury, T. Young
Rusty Blackbird			
4, 10	Wayland, Wakefield	25, 10	S. Perkins#, P. + F. Vale
13-28	Westwood	10-15	E. Nielsen#
13, 19	Millis, Boxford (C.P.)	3, 3	P. Iarrobino, G.d'Entremont#
Yellow-headed Blackbird			
1-24	Marion	1 ad m	J. Farnham + v. o.
Common Grackle			
thr, 19	Framingham, New Braintree	300 (roost), 200+	E. Taylor, M. Lynch#
Brown-headed Cowbird			
11, 19	Petersham, New Braintree	25+, 40+	BBC (M. Lynch), M. Lynch#
Purple Finch			
thr, 11	Boxford, Petersham	34 max 4/3, 8	v. o., BBC (M. Lynch)
12, 19	Bolton Flats, Wayland	12, 12	M. Lynch#, S. Perkins#
Red Crossbill			
18	Plum Island	8	BBC (S. Moore)
Pine Siskin			
thr, 11	Boxford, Petersham	9 max, 15+	v. o., BBC (M. Lynch)
Evening Grosbeak			
11, 19	Petersham, Boxford (C.P.)	11, 2	BBC (M. Lynch), G. d'Entremont

LIST OF ABBREVIATIONS

ad	adult
alt	alternate
b	banded
br	breeding
dk	dark (phase)
f	female
fl	fledged
imm	immature
ind	individuals
juv	juvenile
loc	location
lt	light (phase)
m	male
max	maximum
mi	mile
migr	migrating
n	nesting
ph	photographed
pl	plumage
pr	pair
S	summer (1S = first summer)
thr	throughout
v.o.	various observers
W	winter (2W = second winter)
w/	with
yg	young
#	additional observers
A.A.	Arnold Arboretum
A.P.	Andrews Point, Rockport
B.	Beach
B.I.	Belle Isle, E. Boston
B.R.	Bass Rocks, Gloucester
Buzz.	Buzzards Bay
C.	Canyon
Cambr.	Cambridge
C.B.	Crane Beach, Ipswich
Corp. B.	Corporation Beach, Dennis
C.P.	Crooked Pond, Boxford
E.P.	Eastern Point, Gloucester
F.E.	First Encounter Beach, Eastham
F.H.	Fort Hill, Eastham
F.M.	Fowl Meadow
F.P.	Fresh Pond, Cambridge
F.Pk	Franklin Park, Boston
F.S.F.	Federation State Forest
G40	Gate 40, Quabbin
G45	Gate 45, Quabbin
H.	Harbor
I.	Island
L.	Ledge
M.V.	Martha's Vineyard
Mt.A.	Mount Auburn Cemetery, Cambridge
N.A.C.	Nine Acre Corner, Concord
Nant.	Nantucket
Newbypt	Newburyport
P.I.	Plum Island
Pd	Pond
P'town	Provincetown
Quab.	Quabbin
Res.	Reservoir
R.P.	Race Point, Provincetown
S. Dart.	South Dartmouth
S.F.	State Forest
S.N.	Sandy Neck, Barnstable
S.P.	State Park
Stellw.	Stellwagen Bank
Worc.	Worcester
BBC	Brookline Bird Club
BMB	Broad Meadow Brook, Worcester
BOEM	Bird Observer of Eastern Massachusetts
CBC	Christmas Bird Count
CCBC	Cape Cod Bird Club
DFWS	Drumlin Farm Wildlife Sanctuary
DLSP	Demarest Lloyd State Park
DWWS	Daniel Webster Wildlife Sanctuary
EMHW	Eastern Massachusetts Hawk Watch
FCBC	Felix Cutler Bird Club
GMNWR	Great Meadows National Wildlife Refuge
IRWS	Ipswich River Wildlife Sanctuary
LCES	Lloyd Center for Environmental Studies
MARC	Massachusetts Avian Records Committee
MAS	Massachusetts Audubon Society
MBO	Manomet Bird Observatory
MDFW	MA Division of Fisheries and Wildlife
MNWS	Marblehead Neck Wildlife Sanctuary
MSSF	Myles Standish State Forest
NBC	Needham Bird Club
NEHW	New England Hawk Watch
ONWR	Oxbow National Wildlife Refuge
PRNWR	Parker River National Wildlife Refuge
SRV	Sudbury River Valley
SSBC	South Shore Bird Club
TASL	Take A Second Look Harbor Census
USFWS	US Fish and Wildlife Service
WBWS	Wellfleet Bay Wildlife Sanctuary
WMWS	Wachusett Meadow Wildlife Sanctuary

ABOUT THE COVER: MANX SHEARWATER

Manx Shearwaters *(Puffinus puffinus)* are an increasingly common sight off the Massachusetts coast, particularly in the fall. Bobbing on the ocean surface like black-and-white corks, or scaling over wave troughs, these small procellarids may be seen singly or in small groups, often in the company of Greater Shearwaters and other pelagic birds. They are easily distinguished from Sooty, Greater, and Cory's shearwaters by their smaller size, uniform black dorsal coloration, and gleaming white underparts. They may be separated from the more southern Audubon's Shearwater by their gliding and banking flight, interspersed with periodic bursts of flapping. Audubon's Shearwaters typically have a lower and more fluttering flight. Adults and immatures are similar in appearance. The Manx Shearwater is part of a complex and difficult taxonomic cluster of eight "forms," which are variously considered distinct species or subspecies by different scientists. The birds seen in Massachusetts are generally considered members of the subspecies, *P. p. puffinus*.

Manx Shearwaters are pelagic most of the year, concentrating in the Atlantic Ocean off South America in winter, and returning to their breeding grounds in the North Atlantic from March to May. They have remarkable navigational abilities. For example, one bird released in Boston returned to its colony in Wales, three thousand miles away, thirteen days later! The bulk of the population breeds on islands in the North Atlantic, especially in Great Britain and Iceland, and as far south as the Azores. Recently, however, Manx Shearwaters have expanded their range to Newfoundland. In 1973 a single nesting was also confirmed on Penikese Island at the end of the Elizabeth Island chain south of Martha's Vineyard, Massachusetts. The Newfoundland colony has been especially well documented and was founded initially by young birds from colonies in Wales.

Manx Shearwaters usually breed on small islands, in two- to six-foot burrows, either in rocky crevices of cliffs or in burrows excavated in peat or soft soil. Pairs are only marginally territorial, tenaciously defending only their burrows. These disputes, however, often end in fights. They are monogamous and often mate for life. Like most long-lived, colonially-nesting pelagic species, these small shearwaters characteristically exhibit delayed maturation, not usually breeding until their fifth or sixth year of life. Once mature, they may breed for a decade or more, and have actually been recorded living more than thirty-five years. They are gregarious during the breeding season, often forming large aggregations near their colony at dusk. The males prospect for burrows and then advertise vocally from the burrows. The vocalizations of these shearwaters are bizarre, being variously reported as "crowing, cooing, and screaming noises," as well as "screams, gurgles, and cackles." The vocalizations are mostly nocturnal and are given less frequently on moonlit nights, possibly to

lessen the threat from predatory gulls. Masters of graceful flight at sea, Manx Shearwaters are clumsy on land, sometimes stumbling along using their beak and wings to help them get to their burrows or to flight launching sites.

Courtship in this species is not well known; however, courtship feeding has been observed. The single egg is white and incubated by both parents for about seven weeks, with parental shifts lasting an average of six days. Both parents feed the chick at night, with a day or two between feedings. The parent birds forage up to several hundred miles from the colony. They feed while hovering over or swimming at the surface, or by making shallow dives. They frequently flap their half-open wings and paddle with their feet while chasing prey underwater. They have a well-developed sense of smell that may help them locate food. They feed the young bird mostly partially digested fish and oil. The adults also feed on small crustaceans, squid, and floating offal. The chicks weigh up to twice the weight of the adult by the end of seven or eight weeks, at which time they are gradually fed less until they are finally abandoned. The chicks then move to the mouth of the burrow, exercise their wings, and eventually fledge on their own at an age of about ten weeks.

The major predators of Manx Shearwaters are large gull species, but some colonies have been exterminated by introduced rats. Nevertheless, they appear to be expanding their range. Regular sightings of the Manx Shearwater in Massachusetts waters began in the early 1950s, and they have been increasing in frequency since then. They are commonly sighted on Stellwagen Bank, east of Boston, from July through September, where up to two hundred have been reported in a single day. If their range expansion continues, they may become an even more common sight for Massachusetts birdwatchers. W. E. Davis, Jr.

MEET OUR COVER ARTIST

Bird Observer subscribers are now familiar with Barry Van Dusen's superb artwork. Barry has been an independent professional artist for nearly fifteen years. He continues to garner national recognition for his work. For the second year in a row, his artwork will be included in the important international show, "Birds in Art," at the Leigh Yawkey Woodson Art Museum in Wausau, Wisconsin. This year's piece is titled "Among the Hickory Buds: American Redstart." Closer to home, Barry's work will be included in the exhibit, Birds of the Coast, to be held at the Massachusetts Audubon Society's South Shore Regional Center in Marshfield, Massachusetts, from September 4-30, 1992. For exhibit hours, call 617-837-9400. For future scheduled exhibits or additional information, Barry can be reached at 13 Radford Road, Princeton, Massachusetts 01541.

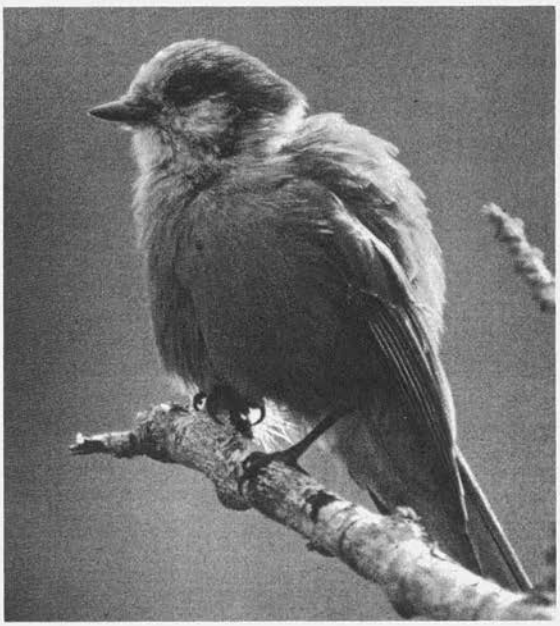
M. Steele

The most immediate problem in identifying June's mystery photograph lies in placing the bird into its correct family. Big-headed, small-billed, and seemingly uniform in its coloration, the bird appears to offer little in the way of distinctive field marks. The most outstanding plumage characteristics are the obviously pale cheek, forehead, and collar behind the neck, and the presence of a dark cap and nape, including an extension of dark coloration onto the side of the face behind the pale cheek.

The appearance of the head and bill are actually sufficient to identify the bird. Clearly, the bill's pointed shape eliminates seed-eating birds, and it is too stout to be a warbler's. The absence of a hooked tip to the bill means that flycatchers and shrikes can also be eliminated as possibilities. The fact that the pictured bird does not belong to any of these large families leaves few other viable identification possibilities.

As a point of fact, no other North American species possesses the combination of white cheeks, dark nape, light forehead, and small pointed bill than the Gray Jay *(Perisoreus canadensis)* in adult plumage. Gray Jays exhibit considerable geographical variation in the extent of dark coloration on the crown, nape, and underparts. Individuals from southern Rocky Mountain populations, for example, have notably whiter heads than birds from Alaska, which possess more extensively dark caps and napes, and which tend to be whiter below than other races. Regardless of the subspecies involved, the general pattern of the head, the shape of the bill, and the soft, fluffy appearance to the plumage all serve to identify the Gray Jay in the photograph.

The bird in the picture was photographed in Alaska by Simon Perkins.



AT A GLANCE

Photo by Wayne R. Petersen

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

BIRD OBSERVER (USPS 369-850)
462 TRAPELO ROAD
BELMONT, MA 02178

SECOND CLASS POSTAGE PAID AT BOSTON, MA

CONTENTS

MONHEGAN: ISLAND OF POSSIBILITIES . . . . . Scott Surner 180

HENSLOW'S SPARROW AND GRASSHOPPER SPARROW: A COMPARISON OF HABITAT USE IN FINGER LAKES NATIONAL FOREST, NEW YORK . . . . . Donald J. Smith and Charles R. Smith 187

NESTING SUCCESS OF EASTERN BLUEBIRDS IN MYLES STANDISH STATE FOREST . . . . . Josette Carter 196

SOME OBSERVATIONS ON THE BREEDING BEHAVIOR OF LEAST TERNS . . . . . Alan E. Strauss 202

BOOK REVIEW: *Flight Strategies of Migrating Hawks* by Paul Kerlinger . . . . . Paul M. Roberts 206

FIELD NOTES FROM HERE AND THERE
The Dance of the Ring-billed Gull . . . . . John C. Kricher 210

BIRD SIGHTINGS: MARCH 1992 SUMMARY 212

BIRD SIGHTINGS: APRIL 1992 SUMMARY 220

ABOUT THE COVER: Manx Shearwater 232

MEET OUR COVER ARTIST: Barry W. Van Dusen 233

AT A GLANCE . . . . . Wayne R. Petersen 234

Cover Illustration:
Manx Shearwater by Barry W. Van Dusen