Bird Observer

VOLUME 35, NUMBER 6

DECEMBER 2007



HOT BIRDS



On October 28, 2007, two groups (including Steve Blanchard and Dave Fischi) found a **Gray Jay** (right) on the summit of Mount Watatic. This bird was seen and photographed by many over the following month, including Bruce deGraaf, who got this great flight shot on November 9th (© Bruce deGraaf, 2007).



Blair Nikula was amazed to discover an immature **Scissor-tailed Flycatcher** (right) perching on wires in North Truro on November 11, 2007, a year almost to the day since he saw and photographed one in the same location!

On October 24, 2007, Lanny McDowell and Allan Keith discovered this **Townsend's Solitaire** (left) at Gay Head on Martha's Vineyard, and Lanny was able to obtain several photographs.



It was a busy fall for vagrant western hummers (see article on page 355), including this **Rufous Hummingbird** (left), banded by Sue Finnegan and photographed by Dan Berard, in Eastham on November 16th.





Vern Laux spotted a **Western Kingbird** (left) at the Crane Wildlife Management Area in Falmouth on November 18, 2007. It was still there on November 22 for Peter Trimble's camera.

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WINTER THICK-BILLED AND COMMON MURRES BY GEORGE C. WEST

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A bimonthly journal — to enhance understanding, observation, and enjoyment of birds **VOL. 35, NO. 6 DECEMBER 2007**

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SUBSCRIPTIONS: \$21 for 6 issues, \$40 for two years (U.S. addresses). Inquire about foreign subscriptions. Single copies \$4.00, see http://massbird.org/birdobserver/subscribe.htm.

CHANGES OF ADDRESS and subscription inquiries should be sent to: Bird Observer Subscriptions, P.O. Box 236, Arlington, MA 02476-0003, or e-mail to John Marsh at <jmarsh@jocama.com>.

ADVERTISING: full page, \$100; half page, \$55; quarter page, \$35. Send camera-ready copy to Bird Observer Advertising, P.O. Box 236, Arlington, MA 02476-0003.

MATERIAL FOR PUBLICATION: BIRD OBSERVER welcomes submissions of original articles, photographs, art work, field notes, and field studies. Scientific articles will be peer-reviewed. Please send submissions to the Editor by e-mail: Paul Fitzgerald cpaulf-1@comcast.net>. Please DO NOT embed graphics in word processing documents. Include author's or artist's name, address, and telephone number and information from which a brief biography can be prepared.

POSTMASTER: Send address changes to BIRD OBSERVER, P.O. Box 236, Arlington, MA 02476-0003. PERIODICALS CLASS POSTAGE PAID AT BOSTON, MA.

BIRD OBSERVER (USPS 369-850) is published bimonthly, COPYRIGHT © 2007 by Bird Observer of Eastern Massachusetts, Inc., 462 Trapelo Road, Belmont, MA 02478, 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. ISSN: 0893-463

Winter Birding in Hull

Paul Fitzgerald

Introduction

The town of Hull, Massachusetts, is situated entirely on a narrow, L-shaped peninsula extending north from the coastal intersection of Hingham and Cohasset. This peninsula, less than a few hundred feet across at many points, forms the southern bracket of Boston Harbor.



Generally speaking, Hull is not high on the list of land-birding destinations. It's an overdeveloped and densely populated little town, with more than 12,000 residents shoehorned into a Lilliputian three square miles of total land area. The town boasts very little open space, of which not more than a few acres could be charitably described as wooded. Whatever thickets remained twenty years ago have all but disappeared. The former Hull landfill, a good spot for sparrows and other grassland birds, is now strictly off-limits since the construction there of a large wind turbine.

Once upon a time, Hull must have been a great migrant funnel, and indeed some fine spring hawkwatching can still be enjoyed from the Fort Revere hilltop, near where the crooked arm of the peninsula turns an abrupt ninety degrees west. It should also be pointed out that the recently acquired trust land of the Weir River Watershed Association is just five minutes from the Hingham rotary on Route 3A. It's well worth a detour if only to pay homage to the folks who labored to save Hull's last vestige of woodland overlooking the Weir River estuary. You can bet your tax base this property wouldn't have lasted much longer before developers plowed it under for tract housing.

Hull's principal and obvious appeal for birders lies in its maritime exposure: open ocean to the east, Boston's outer harbor to the north, and the relative calm of Hingham Bay to the west, with each direction affording many excellent vantage points. Logically, the focus here is on winter ducks and seabirds, which means Hull is a place to bird mainly from November to mid-April.

It would be an exercise in redundancy to list all the possible — or even likely — sea duck and seabird species to be seen from the various vantage points around Hull during the winter months. Some species (Common Eider, Red-breasted Merganser, Common Goldeneye, and the scoters, for example) can reliably be seen in any direction at any time. Bufflehead, Brant, and Long-tailed Ducks (by day) are predictable in Hingham Bay but can virtually disappear when the inner harbor freezes. Some species (Black Guillemot, Purple Sandpiper, Ruddy Turnstone, and Great Cormorant) are probable in just one or two locations, while others (loons and grebes in particular) vary more dramatically in number intra-seasonally. Finally, other species such as Northern Gannet and various gulls and shorebirds, while annual, are strictly hit-or-miss.



DOROTHY GRAASKAMP

This guide is not so much about what to look for as where to look from, how to get there, and where to park. As with most coastal towns in Massachusetts, Hull's ubiquitous and hostile no-parking signs are aimed squarely at summer visitors. Strictly speaking, the ordinances are in force year-round, but for twenty winters my blanket

disregard for the beach parking rules has gone totally unacknowledged. Having said that, *caveat emptor*.

All of the routes described in this guide are indicated on the accompanying maps, and all, except for a few of the smaller side trip and connector streets, are labeled by name. Significant vantage points are indicated with boldfaced numbers (#) in the text and on the maps.



Common Loon by Sandy Selesky

How To Get There

From Route 3: Take Exit 14, Route 228 (Nantasket-Rockland). Stay on Route 228 east for about 15 minutes. Turn right onto Jerusalem Road, and follow this until you reach the end of Strait's Pond on your left. Turn left onto the Forest Ave. Extension. After just a few feet this becomes Atlantic Ave. as you enter the town of Hull.

Route 3A from the north: Bear left at the Hingham Rotary onto Summer Street. (This is your first right at the rotary if approaching on Route 3A from the south.) After three quarters of a mile, the road splits. Stay straight for another mile on Rockland Street, and turn right onto Jerusalem Road and follow this until you reach the end of Strait's Pond on your left. Turn left onto the Forest Ave. Extension. After just a few feet this becomes Atlantic Ave. as you enter the town of Hull.

Strait's Pond

Just a few paces down Atlantic Avenue from the Cohasset line, the town of Hull comes close to being an island. Here, only a scant fifty yards separate the eastern end of Strait's Pond from the open ocean. There's a small pull-off next to the low seawall (1). It's not much of a parking space but you're unlikely to have any competition. The spot affords you a long look west down Strait's Pond, which typically holds a variety of ducks until it freezes: notably Ruddy Ducks (as many as 200 last winter) and Hooded Mergansers. On the ocean side, there's a bit of a cove here with some large rock outcroppings a few hundred yards offshore. These rocks are the most reliable spot in Hull for Purple Sandpipers, as well as for a few Double-crested Cormorants mixed in with a few dozen Great Cormorants.

Continue north on Atlantic Ave. about 1000 feet, and bear right up Summit Ave. Follow Summit as it climbs and loops back around to the right. This will put the ocean on your left. Just before Summit jogs right and back down the hill, there's a narrow, grassy public egress on the left leading to a fifty-foot bluff (2). This is one of the best ocean vantage points on the South Shore.

After returning to the bottom of Summit Ave., turn right again on Atlantic. About a half mile on your left you'll come to a small dirt parking area where you'll get a different look at Strait's Pond (3). This spot is worth checking since many dabbling ducks and other water birds tend to stay in the back corner on the Cohasset side. You

can't see this corner from your first stop and there is very little access from the other side.

Mead Avenue

Continue a short distance on Atlantic Ave., and take your second right up Mead Ave. Just after it bends to the left there's a rocky overlook on the right with enough room to pull your car off the road. This is another outstanding elevated vantage point (4). In the early spring, migratory Red-necked Grebes have tended to stage here not too far off shore. A Western Grebe has occurred with them at least once in recent memory. Up the coast to your left is another large rock formation (Long Beach Rock) and another chance for Purple Sandpiper.

Nantasket Beach

Continue on Mead Ave. (it turns into Valley Beach at some point . . . but who cares?) back to Atlantic Ave. Turn right, head about seven hundred feet over and down the hill, and turn right on Nantasket Ave. Quickly watch for the entrance on the right to the Nantasket Beach parking lot. From this, the southern end of the lot, you can scan the other side of Long Beach Rock. If you haven't seen Purple Sandpipers by this point, you're probably out of luck in Hull.

At this point (5) you have an unobstructed view of the ocean and roughly two and a half miles down Nantasket Beach. Turn right onto Nantasket Ave. when you exit the parking lot. For the next half to three-quarters of a mile there are numerous lots where you can pull over and view the beach and ocean from the sea wall. About a thousand feet after Nantasket Ave. jogs left away from the beach you'll pass a small "park" with the Hull veterans memorial. Take your second right after that onto Revere Street. This will bring you to Beach Ave. Take a left and stop at any points along Beach Ave. where egresses cut through the dunes (6). This stretch of beach tends to have far fewer people and dogs in winter than the southern end, so you have a better chance of finding Sanderlings here. This was a very *good* chance just a few years ago but as this species sadly hurtles toward oblivion, the odds are dropping fast.



Brown Booby photographed on Nantasket Beach by Marc Quigley in the summer of 2005, using a cell phone — not to be expected as a regular visitor

After about half a mile, before Beach Ave. dead-ends, turn left on Adams Street. Take the first available right and cut over two blocks to A Street. Turn right on A and then left on the continuation of Beach Ave., again stopping along the way at the various beach access points. Turn left on K Street back to Nantasket Ave., and turn right. In another half-mile, the road begins to bend to the left. Cut straight across the bend and head up the hill on Beacon Road, which climbs up and to the right. After you pass Winthrop Ave. on the left, take your next left (actually still Beacon Road). Take your next right on Holbrook Ave., which will take you down to the miniscule Point Allerton Park on the right (7).

Point Allerton

There's a sign here that reads "No Parking Except Occupants or Guests." (I've always thought of myself as a welcome guest.) Until recently you could walk out on the cyclopean seawall here to the extreme tip of Point Allerton and the best mainland view of the entrance to Boston Harbor. Unfortunately, the seawall is now blocked by a chain-link fence, but this stop is still worthwhile for the view of the northern end of Nantasket Beach.

Continue on Holbrook Ave. (now Point Allerton Ave.) for about 100 yards. On the right is what appears to be a grassy driveway blocked by granite posts. It's a public egress invitingly labeled "DEP File No. SE35-1001" which leads to the seawall and a breathtaking view of Boston Light, the Brewsters, and the outer harbor (8).

Historically, Common Eiders would often gather in rafts of five thousand or more birds off Point Allerton. Those numbers are a thing of the past, but Common Eiders are still by far the most abundant duck in these waters in winter, and on a good day more than a thousand birds can still be counted from this one spot. As recently as 2003, an eider flock estimated at 3500 was observed off Great Brewster Island.



From this spot you are also almost certain to see Black Guillemots, and

Common Eider by Sandy Selesky

occasionally, Razorbills, or Thick-billed or Common murres. In clear conditions, Northern Gannets and Black-legged Kittiwakes are a good bet on the horizon.

The appropriately named Shag Rocks off to the right are white with guano, and Great Cormorants sometimes congregate here in large numbers.

Nantasket Roads

Point Allerton Ave. soon reconnects with Nantasket Ave. You'll pass a small uneventful lagoon on your left before crossing the narrowest isthmus in Hull. You can cut over to the yacht club parking lot for a good view of Hingham Bay or stay to the right on Nantasket Ave. where you'll soon come to a large gravel lot on the right along the seawall. From this spot (9) you can check the Stoney Beach cove which is not visible from Point Allerton. Here is where you will typically start to see good numbers of Common Goldeneyes. Continue to hug the coast and bear right off Nantasket Ave onto Harbor View Road. This climbs up to a high bluff (10) which offers a spectacular (albeit chain-link-obstructed) view of the strait of water called Nantasket Roads, which runs between Hull and Georges Island. This water reliably holds anywhere from fifty to a few hundred Surf Scoters, with a few Black Scoters mixed in with them.

Harbor View Road then loops back down to Nantasket Ave. Turn right and then take your second right onto Main Street. Take the third right off Main Street onto Town Way, and at the end turn right on Channel Street. This is a short dead end but there's a staircase up the seawall to your left, which gives you another excellent, unobstructed view (11) of Nantasket Roads and Georges Island. The shallow cove here is visible only from this location.

Hull Gut

Return to Main Street, turn right, and head to the Hull Gut (12), the narrow channel between Hull and Peddocks Island. This general area, particularly on the bay side and on the high school football field, is the best place in Hull to find Brant. This is also virtually the only spot in town where Snow Buntings seem to occur with any regularity, sometimes flocking between the mainland and Peddocks. Harbor seals can routinely be seen feeding in the strong current in the Gut.

A Note on the Boston Harbor Clean-up and the Hull Gut Duck Flight:

Our winter duck and seabird numbers have changed, and ironically, in some cases declined dramatically, over the past ten years with the clean-up of Boston Harbor. Long gone are the counts of five thousand Common Eiders rafting off Hull's Point Allerton; the once epic eider flight at dusk through the Hull Gut has dwindled to a non-event with the cessation of nutrient-rich sewage outflow at the Nut Island treatment plant in Quincy. Bonaparte's Gulls that once swirled in clouds over the Deer Island outflow are still regular around Hull in winter but in very small numbers. An excellent resource for information on long-term trends in our winter seabird numbers can be found in *Bird Observer*, vol. 33, no. 6, "Take a Second Look: 25 Years and Counting," by Maury Hall and Soheil Zendeh.

Hingham Bay

Leaving Hull Gut, you can check the bay side from the commuter boat parking lot on weekends (13). Take your second right off Main Street onto Highland Ave. This will take you up through a residential neighborhood with outstanding elevated views of Hingham Bay. All of your viewing will be between houses, but this is an older neighborhood with large lots and many of the vistas are quite broad. As Highland Ave. bends sharply left, you can pull over near the guardrail at the turn and scope the large expanse of Hingham Bay between Hull and Bumpkin Island (14). This area normally holds feeding flocks of Long-tailed Ducks. This is where you will also begin seeing large numbers of Buffleheads as long as the bay remains ice-free.

Turn right off Highland Ave. onto Mt. Pleasant Ave. and right again on James Ave. This leads to a large concrete pier with a 180-degree view of Hingham Bay (15).

Head back out to Spring Street, and turn right. Opposite the Hull Cemetery turn right onto the causeway out to Spinnaker Island. (It was renamed Spinnaker Island

when condominiums were built on top of the old Nike missile facility there. The developers felt the new name would have greater buyer appeal than the original "Hog Island.") At the far end of the causeway there's a space just before the guardhouse where you can pull over (16). To the right, unless they are completely ice-covered, the outermost docks almost always host Ruddy Turnstones.

Return to the main road, and turn right; it will soon reconnect with



Long-tailed Ducks by David Larson

Nantasket Ave. Follow this into the section of alphabet streets, and turn right on J Street. This will take you to Sunset Ave, which hugs the bay until A Street. At this point there's another boat club with docks (17) that occasionally hold Ruddy Turnstones when they're not at Spinnaker Island.

Take A Street back out to Nantasket Ave. Turn right, and then take the fifth right onto Lynn Ave. and follow this to Newport Road. This way skirts a high sea wall that obscures your view of the water, but the nimble can scramble up one of the cement buttresses for a look. On the left, you'll pass a weed-clogged watercourse known to virtually no one outside the department of public works as the Brockton Circle Flood Canal. It's one of those oddball habitats where you might spend five minutes trolling for a shrike, a Swamp Sparrow, or a shoveler.

On your right, five or so streets after the canal, there's a pull-off at the entrance to a raised causeway that runs between the cove on your right and a salt marsh on your left, in the shadow of three radio towers. The salt marsh typically holds American Black Ducks, and it's one of only two places in Hull where you'd expect to find a Great Blue Heron. On the bay side (**18**) the cove is a favorite spot for Horned Grebes (thirty on a recent survey). Farther out, towards Bumpkin Island, is the one place around Hull where flocks of scaup still seem to occur with any regularity.

Continue on Newport Rd. as it bends around the marsh, and turn right on Nantasket Road (that's *Road*, not Avenue). Follow your nose here as you circumnavigate a narrow peninsula called Sunset Point. On the southern return side (Edgewater Road) there are several elevated open views of the narrow channel between Hull and Hingham's crown jewel, World's End (**19**).

Follow Edgewater back out to the main thoroughfare, Nantasket Ave., and turn right. After about a third of a mile, bear right onto George Washington Boulevard. On your right, opposite the historic Paragon Park carousel, you can turn off and drive to the very end of a long pier (20). This spot rarely produces more than the usual suspects, but it's the only good view you'll have of this little bay.

Turn right and stay on George Washington Boulevard until you reach the Weir River causeway. The best place to stop here is on the left, at the new center for the

Weir River Watershed Association (21). You can view up and down the "river" from the bridge. Before wrapping up, take a few minutes to walk the trails that the association has constructed on the land adjacent to the center.

To get back to Route 3A north, continue straight until you reach the Hingham rotary. Here you can continue north or south on 3A, or take 3A south to Route 228, where you can turn right and head back to Route 3. \checkmark

Paul Fitzgerald is a resident of Hingham and estimates that he has completed all or the majority of the route described in this guide at least fifty times.

From MassWildlife: Who is Studying Barred Owls?

Based on current sighting reports, a large incursion of Barred Owls is occurring this year in the region. Little is known about these unpredictable periodic winter incursions, but a collaborative effort between MassWildlife, Tufts University's Cummings School of Veterinary Medicine, and MassAudubon may be helpful in attempting to understand seasonal movements of Barred Owls.

Barred Owls found dead as well as injured owls received by licensed wildlife rehabilitators will be examined at the veterinary school's wildlife clinic in North Grafton by staff from the three cooperating groups. Owls will be weighed, measured, aged, sexed, and examined to determine the cause of death, body condition (fat reserves), and stomach contents. The data collected will be used to understand more about periodic irruptions of Barred Owls.

MassWildlife and the other cooperators are seeking assistance in acquiring as many Barred Owl specimens from this season's incursion as is possible to examine. "Injured owls may lawfully be picked up by members of the public and should be delivered to a licensed wildlife rehabilitator," said Dr. Tom French, MassWildlife's Assistant Director of Natural Heritage and Endangered Species. A listing of "rehabbers" can be found on the MassWildlife website in the Wildlife area at: <http://www.mass.gov/dfwele/dfw/wildlife/rehab/wildlife_rehab.htm>.

French asked that, if at all possible, carcasses of Barred Owls should be directly delivered to the Tufts Wildlife Clinic in North Grafton. "It is technically unlawful for the public to pick up dead owls," said French, "but this is generally sanctioned if the dead bird is delivered directly to a state or federal wildlife agency, wildlife rehabilitator, nature center, university, or similar organization." Direct authorization can be provided to any individual from an appropriate state or federal wildlife agency employee by phone. The Wildlife Clinic at Tufts Cummings School of Veterinary Medicine is located off Westboro Road (Route 30) in North Grafton. Phone is 508-839-7918. For directions to the campus and wildlife clinic hours of operation go to: http://www.tufts.edu/vet>.

Second Breeding Record for Lesser Black-backed Gull (*Larus fuscus*) in North America

Julie C. Ellis, Ph.D., Mary Caswell Stoddard, L. William Clark

Lesser Black-backed Gulls (*Larus fuscus*), originally from northern and western Europe, have undergone a considerable range expansion during the past fifty years. The first record of a Lesser Black-backed Gull in North America was in coastal New Jersey in 1934 (Edwards 1935). Records of this species in North America increased slowly from 1950 through the mid-1970s, then increased substantially thereafter (Post and Lewis 1995). By 1994, Lesser Black-backed Gulls had been reported in all thirty-one states east of the Mississippi except for West Virginia (Post and Lewis 1995). Numbers approaching 500 birds occur in certain migratory staging areas in eastern U.S. (B. Etter, pers. comm.), yet no breeding had been observed on the East Coast.

The previously published observation of a breeding Lesser Black-backed Gull in North America was in Juneau, Alaska on 12 June 1993 (vanVliet et al. 1993). In this record, a Lesser Black-backed Gull was observed with a Herring Gull (*Larus argentatus*) at a nest with two eggs in the middle of a small mixed Herring and Glaucous-winged (*Larus glaucescens*) gull colony. The authors re-visited the site six weeks after the initial observation and found egg shell fragments and dried egg shell membranes near the nest along with both members of the pair. They did not locate any evidence of juvenile birds at or near the nest.

In the afternoon of May 29, 2007, we observed a Lesser Black-backed Gull with a Herring Gull near a nest with two eggs in a Herring Gull sub-colony on Appledore Island (42° 58'N; 70° 37'W) in the Isles of Shoals archipelago, located approximately 10 km. from the coast of New Hampshire in the Gulf of Maine. After quickly constructing an observation blind the following day, we observed the pair every day from May 30 to August 3. Breeding behaviors were recorded during incubation, hatching, and pre-fledging stages. On June 22, two chicks were observed at the nest.



Lesser Black-backed x Herring Gull pair (left) and the surviving chick (right). Both images from video stills shot by David Brown, courtesy of the Cornell Laboratory of Ornithology.

Both chicks survived until the week of July 30, when the chicks moved behind the boulders surrounding the nest and were only occasionally visible. During this week, only one of the chicks was observed being fed by the parents, so we assumed that the second chick had died. On August 2 we approached the nest and found a fresh carcass nearby that appeared to be the second chick; we then banded the surviving chick. Further details on this discovery will be published in an upcoming article in the journal *North American Birds.*

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Julie C. Ellis, Ph.D., directs the Seabird Ecological Assessment Network (SEANET) at the Cummings School of Veterinary Medicine, Tufts University. Mary Caswell Stoddard is a senior at Yale University in the Department of Ecology and Evolutionary Biology. L. William Clark is a retired Secondary School Educator and a volunteer with the Appledore gull banding project for three years. The authors are grateful to the staff of the Shoals Marine Laboratory and to Cornell Lab of Ornithology for their assistance and support of this project. Funding for Stoddard's undergraduate research project on behavior of the pair was funded by a Research Experience for Undergraduates (REU) award from the National Science Foundation to the Shoals Marine Lab.



LESSER BLACK-BACKED GULL BY DAVID LARSON

Bird Banding on Appledore Island

Carol Tashjian

Appledore Island rises steeply from the sea off Portsmouth, New Hampshire. Crowned by a jagged, rusting World War II observation tower and a former Coast Guard station, it is now home to the Appledore Island Migration Banding Station.

The boat trip to Appledore lasts an hour, but it takes you into a different world. Volunteer aides at the banding station live on bird time for two or three days, minding the nets from sunrise until sunset. It is a memorable experience.

After dropping their gear in one of the bunkhouses, volunteers head for the banding station where a licensed bander is working at a long bench and several paper bags are waiting to be unpacked. If one of the bags is jumping around with a sound like popping corn, it probably contains a red-eyed vireo — they are very active birds.

The day begins in the pre-dawn dark as volunteers and banders scramble to open the nets before sunrise. Then the banders climb to a high point on the island to record the day's wind direction and velocity, and cloud cover. Birds are active by now, and people are already calling out their sightings.

The nets are visited at least once every twenty minutes from sunrise to sunset – every 10 minutes if the sun is on the nets – to ensure the birds do not get overheated.

Volunteers quickly discover that mist nets entangle not only birds, but also buttons, zippers, Velcro closures, earrings, and watches. Because the nets are easy to tear and expensive to replace, the entrapped and abashed are directed to remain still and call for help, and they soon learn to keep a little distance between themselves and the nets.

The station has nine nets, each with four levels of horizontal pockets. When a bird flies into the fine and nearly invisible mesh, it drops to the bottom of the pocket below and waits (usually docilely) to be removed. An experienced bander can free a bird in less than a minute, unless it has struggled and become badly tangled.

The banders are skilled in teaching newcomers the delicate business of disentangling a bird. With the bird grasped gently but securely around its back, they begin by freeing the feet first (the long, thin toes tend to grab the net) and then the legs, then the bird is turned onto its stomach and the wings are freed, one at a time. The neck is freed next, and finally the mesh is carefully tugged over the bird's head.

At this point some birds will begin to peck at their liberator, who simply takes out a lunch bag, pops the bird inside, folds down the top of the bag, and secures it with a clothespin. Larger birds, like catbirds and orioles, go into cylindrical cloth bags that close with a drawstring.

Back at the station a licensed bander opens each bag and takes out the bird, holding the index and middle fingers like a harness over the bird's shoulders in what



Birds awaiting processing. Photograph by Andy Thiede.

is called the "bander's grip." Most birds are quiet while held in this way and can be manipulated as needed.

The bander then examines the bird and calls out the information to be recorded in the day's log. This includes (but is not limited to) time, location where the bird was captured, species, age, sex, weight in grams, and whether it has been banded before. Body fat is measured by blowing on the breast feathers and under the wings. This parts the feathers to expose red muscle and deposits of yellow fat.

From the collected data, a bander can determine whether the bird is an adult or a juvenile (juveniles have thinner skulls and may have more pointed tail feathers) and also its general health. The more fat, the better the bird's condition and the sooner it may be able to continue its migration. Volunteer aides

weigh each bird by placing it headfirst in a handmade conical container. A typical warbler weighs between nine and thirteen grams, or about as much as eight raisins.

More than 90 percent of the birds netted at Appledore are juveniles. Of these small first-time migrants, more than 70 percent will perish during migration. However, a bird that survives its first year may live for several more. Many songbirds are known to have lived eight, ten, or even twelve years.

As dusk approaches, the team furls the nets, one person at each end, swinging them in circles so the fine mesh folds upon itself into a long, narrow, shaggy band. Birds are still active at dusk, and as they work, the team members continually call out the species they see.

Then it's back to the banding station to record the species collected from the nets, the number of birds of each species and the total number of birds collected, plus all the other species birders have identified on the island that day.

On one autumn Sunday in 2006, when a front was passing through, keeping the birds feeding close to the ground, the station captured fifty-eight birds. The birds came in waves, mostly early and late in the day, with an almost dead quiet during early afternoon. However, the numbers can be much higher: on May 28, 2005, a record 585 birds were banded at Appledore. Species included Blue-winged, Black-and-white, Magnolia, Nashville, Wilson's, and Blackpoll warblers, Black-Throated Gray Warbler (not usually found east of the Rockies), Common Yellowthroat,







Black-throated Blue (upper left), Chestnutsided (upper right), and Blue-winged (lower left) warblers at the Appledore Island Bird Migration Station. Photographs by Andy Thiede.

American Redstart, Red-Eyed, Warbling, and Philadelphia vireos, Yellow-Bellied and Traill's (Willow or Alder) flycatchers, Baltimore Oriole, Gray Catbird, and Veery.

Birders stop by the station to report unusual sightings, and a constant stream of visitors come to see wild birds from a distance of just a few feet. The banders teach constantly, holding up the birds so they can be seen clearly and pointing out the field marks that identify the species. Sometimes a visitor is allowed to help release a bird.

The Appledore Island Bird Migration Station is open for six weeks in the spring and six in the fall, closing the third or fourth week of September. It operates in collaboration with the Shoals Marine Laboratory, which is managed by Cornell University and the University of New Hampshire.

To learn more about Appledore Island, visit the banding station's web site at <http://www.sml.cornell.edu/sml_research_birdbanding.html>.

If you would like to know more about volunteering at the Bird Migration Banding Station, contact Dr. Sara Morris at morriss@canisius.edu. If you are accepted, there is a \$100 fee per night for room and board. \checkmark

Carol Tashjian grew up in a birding family that was also interested in ecology and land preservation. Birding has been a lifelong interest that includes observations in North and Central America, Europe, Africa, Australia, Israel, India, and Bhutan. The trip to Appledore Island Migration Banding Station described in this article took place in late September, 2006. She thanks Dr. Sara R. Morris of Cornell University for her thoughtful comments on this article.

Mass Audubon and Cape Wind

Simon Perkins, Taber Allison, and Paul Fitzgerald

Introduction

Not since the construction of the Seabrook Nuclear Power Plant in the 1970s has an energy project in New England generated as much controversy and debate as has a proposal by Cape Wind Associates http://www.capewind.org> to build a wind farm on Horseshoe Shoal in Nantucket Sound.

If it wins final federal and state approval, the Cape Wind project — scheduled to begin construction in 2010 — will be the first offshore wind farm in the United States and one of the largest in the world: 130 turbines will be arranged in a grid covering an area of twenty-five square miles (roughly the size of Manhattan), and each turbine will stand 440 feet above sea level (135 feet taller than the Statue of Liberty). This massive array will be capable of generating up to 420 megawatts of power, and on average enough electricity to meet three quarters of the rapidly growing needs of Cape Cod and the islands. Annually, the wind farm is expected to offset nearly a million tons of carbon dioxide and the consumption of 113 million gallons of oil.

Unlike the Seabrook protests, which centered on public safety and the long-term concern of nuclear waste disposal, opposition to the Cape Wind project has raised a variety of concerns, including: threats to wildlife, interference with shipping lanes, and more obliquely, degradation of the aesthetic and natural character of Nantucket Sound. Interference with shipping and aviation is unlikely to be a decisive factor in the project's future, and proponents flatly reject aesthetics as a pivotal issue. The wind farm's potential effects on the region's birds however, have been a matter of concern on both sides of the debate.

The prospect of a broad array of forty-story windmills in Nantucket Sound raises legitimate fears of significant avian impact, through direct collision, avoidance (i.e., disruption of migratory patterns and breeding behavior), and through the alteration of habitat such as mussel beds, a critical food source for wintering ducks. Of particular concern is the potential harm to three categories of birds: nesting terns, nocturnal passerine migrants, and enormous numbers of wintering Common Eiders, Long-tailed Ducks, all three species of scoters, and other waterfowl.

Mass Audubon Wildlife Surveys

In August of 2002, Mass Audubon's Division of Conservation Science and Ecological Management began a study, to gather current, comprehensive data on bird numbers and activity in Nantucket Sound. This information would serve as the basis for Mass Audubon's official position on Cape Wind. From the summer of 2002 through March 2006, Mass Audubon staff and volunteers conducted more than 100 daytime boat and plane surveys of Nantucket Sound. This effort was designed with two primary goals: 1) to determine the abundance and distribution of winter waterfowl in Nantucket Sound, and of Common and Roseate Terns during the



This map indicates the location of the proposed Cape Wind project site in Nantucket Sound and other related features such as the primary tern colonies in the region and the fixed plane and boat survey routes followed during Mass Audubon's avian surveys. Map by Giancarlo Sadoti, Mass Audubon.

breeding season and the fall staging period; and 2) to observe and document the behavior of birds (e.g., traveling, actively feeding, sitting/resting) as well as the average heights at which the birds fly relative to the Rotor Swept Zone (75 ft – 440 ft).

For a complete description of project methodologies and results, visit <http://www.massaudubon.org>.

Following are some of the key conclusions of the surveys:

- Terns showed a strong preference for the shallow margins of Nantucket Sound, but to some extent they used all of it.
- Horseshoe Shoals does not appear to be a primary feeding site for terns in summer or fall. However, it may be an important rest and refueling point for newly arrived local breeding residents, and/or as a stop-over point for spring migrants bound for colonies farther north.
- Eiders and scoters showed a strong preference for a relatively few discrete areas within the Sound, including Horseshoe Shoals (2003) and Muskeget Channel (2004), while other species were more widely dispersed.
- The clustered distribution of certain species was presumed to be correlated to the distribution of food (e.g., mollusk beds, sandlance). Birds shift with their food sources on a yearly, monthly, weekly, and even daily basis.

- November/December 2004 surveys found immense numbers of Black Scoters in the southwest corner of the study area, suggesting that in some years Nantucket Sound may be a critical stopover for this species in southbound migration.
- Relatively low numbers of Long-tailed Ducks are attributable to the welldocumented fact that most of them leave the Sound during the day and return at dusk.
- The significant inter-annual variation in tern and waterfowl distribution and abundance underscores the importance of multiyear studies to detecting changes over time.

Mass Audubon has provided the data from all their avian surveys to Cape Wind and to the Minerals Management Service as part of the environmental risk analysis of the Cape Wind project.



This aerial photo of Common Eiders and Black Scoters feeding in the southwest quadrant of Nantucket Sound was taken during one of Mass Audubon's winter waterfowl surveys. These individuals represented a small fraction of the hundreds of thousands of ducks that were present in that area during the survey period. Photo by Simon Perkins.

Mass Audubon's Cape Wind Challenge

In March 2006, Mass Audubon issued a two-part "challenge" to Cape Wind and the federal permitting agencies, the Minerals Management Service and the U.S. Army Corps of Engineers. In this challenge, Mass Audubon outlined the conditions that, if met, would lead Mass Audubon to support the Cape Wind project. The Cape Wind Challenge described the results of Mass Audubon's analysis of its avian survey data, data available from the applicant, and observed impacts of offshore wind farms in Europe. As a result of this analysis Mass Audubon offered a preliminary conclusion that the project would not pose a significant threat to avian species. The organization, however, identified three remaining and critical data gaps that needed to be addressed.

- Nighttime distribution of Long-tailed Ducks in Nantucket Sound. (Mass Audubon has initiated a satellite telemetry project to track the species' movements and roosting behavior in the Sound at night.)
- Late summer and fall movements of endangered Roseate Terns and Piping Plovers across Horseshoe Shoals and the Sound.
- At least one more year of radar data collected during the spring and fall migration periods.

The Challenge also identified the need to adopt an adaptive management and mitigation plan based on rigorous monitoring before and after construction, compensation for the project's use of public "lands," and the articulation of enforceable procedures for decommissioning. For the full text of the challenge, visit <htp://www.massaudubon.org>. If the conditions are met, and the three remaining data gaps are filled with a finding of no significant threat, Mass Audubon will support the Cape Wind project.

Permitting decisions for the Cape Wind project must be considered in the context of the clear, imminent, and far greater danger of rapid global climate change. The collapse of the polar ecosystems and the obliteration of coastal nesting colonies by rising sea levels threaten far more harm to wildlife than any wind turbine project. These global threats demand the development of clean, renewable energy sources. Cape Wind has become a national test case for offshore wind energy, and in the Cape Wind Challenge we articulate the need to get it right.

Simon Perkins is a Field Ornithologist for Mass Audubon and the project coordinator for the avian research for the Cape Wind environmental review process. Taber Allison is Mass Audubon's Vice President for Conservation Science and Ecological Management. Paul Fitzgerald participated in fifteen of the aerial surveys and drafted the initial conversion of the project slide presentation to narrative text.



COMMON EIDERS BY GEORGE C. WEST

In the Beginning Was the List

John Nelson

I'd been birding a while before I could bring myself to tell people I was a birder. A lifelong jock, reared in a culture that considered birdwatching a kind of gateway drug that would lead to harder stuff — butterflies, quilts, a newfound interest in *Oprah* — I was reluctant to announce that I'd joined the ranks of Mr. Peepers and Miss Jane Hathaway from *The Beverly Hillbillies*. I feared that my new avocation would be seen as proof of midlife crisis, incipient senility, or declining virility. This fear was not groundless. When I outed myself as a birder at a high school reunion, one old chum promptly asked, or stated, "Are you or are you not gay?" Undaunted, I've reached the point where I unapologetically identify myself to the world as a birder. When I do so, I'm usually confronted with this question: "Do you keep a list?" The question may be a polite conversational gambit or an attempt to gauge the degree to which lunacy has progressed. I'm often tempted to respond: "Of course I keep a list. I'm not the Rain Man. How else will I remember which birds I've seen?" Instead, I smile and say "yes" and, if prodded, list the lists I keep.

The idea that there's some intrinsic, perhaps hazardous link between birding and making lists is not only a widespread notion among civilians but also a perennial sore tooth in the literature by and about birders. The gravest danger in listing, it seems, is that the list will lead to the chase, then to the stalk, then to monomaniacal twitching, until eventually the list-mad birder loses all sight of what made birding appealing in the first place — the beauty, the grace, the heartiness, and the fascinating behavior of birds. The infamous "list ticker" wants to have seen birds more than he wants to see them. As Ned Brinkley notes in an article on "trash birds," he may degenerate to the point where even a prized rarity, having been seen, immediately drops into the category of trash bird: "For all I care, the thing could go extinct; I'm done with it" (Brinkley, 2004, p. 410). To avoid such a fate, some birders boast of keeping no lists at all, as if mere neglect of record-keeping might sustain a more profound aesthetic appreciation of avian life. In truth I've met few birders who are just joyless listers, though a tour in Brazil did include one British birder who, having glimpsed a bird, would spend the next seven minutes elaborately recording the glimpse on some sort of hand-held electronic device. Whether birds gave him pleasure, I cannot say, but his fixation on data entry certainly came at the expense of attention to other birds as well as flowers, landscapes, mammals, his companions, and his charming wife.

Indeed, a primary pitfall of list-obsession is that it can impair relationships with other creatures. The most common problem is spousal abuse or neglect. "I have a rival in every bird" (Obmascik, 2004, p. 27), complained Audubon's wife Lucy, a sentiment echoed by Mark Cocker in *Birders: Tales of a Tribe*: "The problematic relationship isn't usually to the boss, but to your spouse, if you have one at all" (Cocker, 2001, p. 125). List-craziness may lead to a cavalier attitude toward private property, blatant rudeness toward other birders, or utter disregard for the welfare of the birds themselves. Moral de-evolution may go wing-and-wing with deterioration of social

skills. Cocker complains of "parasitic twitchers" who scorn the principle of reciprocity and wait for reports to come in instead of birding their own patches (p. 132). And Ned Brinkley, exploring the "dark sentiments" of birding, fixes on the "I've got mine" *schadenfreude* of a birder who hopes "that a visiting rarity will depart an area before other birders have seen it" (Brinkley, 2004, p. 410). Without some self-restraint the lister may become little more than a stalker or a brute.

Ironically, the desire to build a big list may also diminish rather than refine birding skills in the field. In The Complete Birder Jack Connor describes stereotypical listers who follow the leader everywhere, depend on the leader to find every bird, and record every ID without hesitation: "They hardly look at the birds. All they really need is a pen and piece of paper" (Connor, 1988, p. 244). And, in an article for Living Bird, Pete Dunne cites the case of a birder who says, "I got a quick look at the bird. Not enough to satisfy but more than enough to clinch the identification," but in fact means, "I got a fleeting look at a bird flying dead away into the sun. Somebody else said it was a Curlew Sandpiper" (Dunne, 2002, p. 46). At worst, this kind of sloppy accounting may progress to willing self-deception about the identity of birds seen, deceit in communicating with fellow birders, and reports of fictitious birds. "Always," a poet once said, "the unseen bird is sweeter" — a sweet sentiment but no excuse for ticking off birds that aren't there. One might argue that to blame this moral bankruptcy on listing, or birding, is to confuse cause and effect. He who fudges, hedges, rationalizes, and confabulates while listing birds would probably fudge, hedge, rationalize and confabulate if he weren't a birder at all.

Listing does have its defenders, such as the author of *Life List*, Chris Dunford, who says in effect that we list because we can't help ourselves. It's our nature. "A birder's impulse is to identify and list. I think this impulse reflects a need to stalk and catch that underlies my civilized upbringing. Like all primordial tendencies, it is a fact of life to be controlled but never fully denied" (Dunford, 2006, p. 186). Or, as Diane Ackerman puts it in *An Alchemy of Mind*, "We are the animals who point and name" (Ackerman, 2004, p. 17). Native Americans may or may not have kept mental life lists, but, as Joseph Kastner explains in *A World of Watchers*, they were attentive and resourceful in naming, distinguishing between, and, in some cases, pursuing the various birds they observed. To the Malecite tribe of New Brunswick, the Spotted Sandpiper was *nan a-mik-tcus* ("rocks its rump"), while the Spruce Grouse was *ses-e-ga-ti g-hes* ("bird that picks at the buds of evergreens and weeps") — a reference to the red skin around its eyes (Kastner, 1986, p. 6).

Taking a different tack, Jack Connor makes a persuasive case that the most dedicated keepers of records are usually those birders who are most knowledgeable about birds, most careful in their observations, most devoted to serious study of bird behavior and population trends, and most useful in gathering scientific information. It's the non-listers, Connor says, who can't tell you about the status of regional breeders or the peak migration period for each species (Connor, 1988, p. 244). For many birders, the initial focus on identifying and listing is part of a natural development that ultimately leads to a lifelong commitment to birds and their preservation. A list may be the measure of a purely personal goal, or it may be a form

of scientific data. I could go on at length about why I enjoy taking part in the Massachusetts Breeding Bird Atlas and why I view the project as worthwhile, though it probably won't add to my life list, but the end result will include a number of lists, compiled from many other lists. It's fair to say that we wouldn't have a coherent system for naming and classifying species — a means to organize our knowledge of birds and all other organisms — if Carolus Linnaeus had not spent a lot of his time making lists. No lists, no science.

There are a multitude of reasons why a given list could be challenged as arbitrary, ephemeral, frivolous, or, at the least, something short of a precise scientific record: (1) Many lists are based on political boundaries — states, nations, property (e.g. yard lists) — that have little correlation with natural or ecological territories. I'll never comprehend, for instance, how North America can exclude Mexico, or Panama. (2) Species may be lumped, split, or erased (e.g. exotics no longer considered established) from a list while the birder watches a Red Sox game or lies sleeping on the couch. (3) A list may lump, without distinction, birds that were seen well — and accurately identified — with birds that were seen by the birder but identified by a tour leader, birds that require a "better look desired" asterisk, birds that were counted retroactively, birds that are temporarily classified within a taxonomic tangle, or birds that the observer would never be able to identify without help if he saw them again in the field. (4) Long lists often do not signify birding skill but rather the leisure, financial wherewithal, and inclination to travel widely. In his account of a trip to Churchill, Manitoba, Chris Dunford recalls a sign he found in a diner there: "I know where to find a Boreal Owl. For \$50 I'll take you to see it" (Dunford, 2006, p. 186). (5) Advances in field guides, optics, and technology have, as Mark Cocker points out, made twitching almost as easy as train-spotting, so that birders can fatten their lists with little basic knowledge of birds (Cocker, 2001, p. 124). (6) The exact numbers on one's lists, even if scrupulously recorded, are unlikely to offer much deathbed consolation, any more than a dying person is apt to find solace in a track record of success in a (equally list-driven) fantasy football league.

Imagine your life list put on trial, before a mean-spirited judge adhering to strict rules of evidence. Would you need to raise Johnnie Cochran from the dead?

One could be disheartened by the arbitrariness of lists, but most birders I know simply carry on with full awareness that any list-driven birding quest, much less a lifetime of such quests, carries a taint of absurdity, as does much of life. After seeing hundreds, millions of Tropical Kingbirds on a trip to South America, and coming to dismiss them as trash birds, I can hardly deny the foolishness of chasing one at World's End the day I returned home, but the bird was there, along with a host of happy birding comrades, and the chase was fun. After all, we have to chase something — a point driven home by Jack Connor's poignant story of a birder who laments, "Now that I've seen the Connecticut Warbler, what the hell am I going to chase for the rest of my life?" (Connor, 1988, p. 132). Some birders embrace the absurdity, finding motivation and sport in such quixotic ventures as Bob Stymeist's search for a Carolina Wren in each of the Commonwealth's 361 municipalities. With a little imagination one can concoct a chase — or a sit — to suit any taste. Even my wife

Mary, a resolute non-lister and proud of it, takes pleasure in befuddling her cruiseonly-vacations colleagues with tales of our bird-seeking travels to such Shangri-las as the Brownsville dump and a waste treatment plant in Trinidad.

Birding doesn't turn innocent people into listers; it merely presents a realm in which those prone to make lists can freely indulge themselves. Go back 600 years and you'll find thirty-seven bird species recorded in Chaucer's *The Parlement of Foules*. Go back further, 5000 years, to the ancient Sumerians and the earliest known examples of human writing, on cuneiform seals, and you'll find lists of birds — as well as what may be the first written attempts to describe bird songs — among the lists of laws, real estate transactions, and agricultural holdings. Humans, birders or not, have long kept lists and lists of their lists, entire books of lists, websites of lists, with links to other sites with lists. Certain birders may have been, in Kastner's words, "born with the urge to make lists" (Kastner, 1986, p. 18), but they weren't necessarily born to list birds.

In grammar school I studied or made lists of Top 40 songs, NFL wide receivers ("ends," we called them then), and far-flung islands I hoped to visit one day. Later I kept lists of novels by magical realists, best songs by female rhythm & blues vocalists, and movies I intended to rent from Netflix. Since I've been birding I've added lists of irresistible bird names (See-see Partridge, Bulo Burti Boubou), birds named after women (Goldie's Lorikeet, Princess Stephanie's Astrapia), curious ornithological adjectives (plumbeous, carunculated — my spellchecker detests these words), and wonderful collective nouns for birds (pitying of doves, unkindness of ravens). Now, when people ask me what I do for fun, I proudly say, "Yes indeed I'm a birder." But first I was a lister.

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John Nelson, of Gloucester, is the author of Cultivating Judgment, a book on critical thinking. "Twitcher's Temptation," his initial article for Bird Observer, has recently been reprinted in the British journal Essex Birding. His short story "The Money Bird," about a birding guide in Thailand, will appear in an upcoming issue of The Snowy Egret.

Carrying on the Fernandez Legacy in the Westport River and Allens Pond

David C. Cole

In a previous issue of *Bird Observer*, Wayne Petersen presented a moving eulogy to Gil and Jo Fernandez for their monumental efforts to restore and sustain the Ospreys nesting in the Westport River and Allens Pond. The purpose of this article is to provide reassurances that the baton has not been dropped. Their legacy is continuing on the southern coast of Massachusetts.

As he approached his four-score and tenth year, and after Jo's passing, Gil was no longer physically able to scamper up the ladder to band a new Osprey fledgling or repair a collapsing platform. Still, he was reluctant to pass on the responsibility to less knowledgeable and possibly less dedicated souls. After participating in several of Gil's Osprey talks, walks, and banding sessions, sponsored by the Paskamansett Bird Club, I urged Gil to let me help him with the work. He always said he would get back to me, but never did. (This summer, when going through his Osprey files at the request of the Allens Pond Sanctuary, I found a slip of paper with my name and phone number on it, and a note: "wants to help with Osprey.")



Newly hatched Osprey chick awaiting siblings. Photograph by the author.

However, the special god that watches over Ospreys provided an alternative path. At an October 2001 party, hosted by Ted Raymond to welcome Gina Purtell as the new Director of the Allens Pond Wildlife Sanctuary, I met Alan Poole, a sometime resident of a cottage on Allens Pond and the author of *Osprey: A Natural and Unnatural History*. He offered to help me get started when I told him of my interest in helping to care for the local Osprey population. Because of his prior research on the local population, which was prominently featured in his book, he was able to obtain a crucial permit from the Massachusetts Division of Fisheries and Wildlife to visit the Westport nests and band the fledglings.

In the spring of 2002, Alan and I invested in an ancient Sturdee skiff with an ailing motor, and he began to teach me about Ospreys. Establishing the identity of the approximately ninety nest platforms was our first major hurdle. Gil and Jo had put numbers on the platforms, but they appeared to reflect the sequence of their establishment rather than location, and in many cases the numbers were missing. Gil and Jo had known the nests so well, as I now do after six years of monitoring, that they didn't need the numbers. But as the new guy on the block I had a terrible time figuring out whether a nest that had one fledgling in July was the same one that had

two small chicks in May and four eggs in April. It took two years of repeated visits, to obtain GPS coordinates, and put new tags on each platform. Only then could we establish a clear, reliable system of identification that was not dependent on one person's memory.

For the 2002 and 2003 breeding seasons we focused on getting the nest identification system working and doing what monitoring we could on the active nests. We kept track of numbers of eggs, hatchlings and fledglings in each nest, and the overall measures of fledglings per active nest and per successful nest. We decided not to do any banding because I was not qualified and Alan was not always available at the critical times. We also felt that information on migration paths and nesting locations of returning birds was already known or could be better obtained through other means. Our records for those first two years are not very reliable.

In preparation for the 2004 season, the Massachusetts Audubon Society and its Allens Pond Wildlife Sanctuary, with



Young birder visiting a nest. Photograph by the author.

Gil's blessing, agreed to assume responsibility for monitoring the Ospreys in the Westport River and Allens Pond. MassAudubon hired an intern to assist me with the activity and we both continued to rely on Alan Poole for guidance and help with nest visits. By then we had maps showing the location of each nest. Also, I had learned many of the intricate configurations of the Westport River Estuary and how best to approach each nest to avoid grounding or having to wade through waist-deep channels.

Since the 2004 season MassAudubon has employed an intern for the April-July breeding season. Nest visits have become more regular and systematic, and record-keeping is computerized. Breeding results for the past four years are shown in the following table.

	2004	2005	2006	2007
Nests surveyed	84	87	93	98
Active nests	73	73	74	80
Successful nests	51	54	31	62
Eggs laid		212	206	232
Eggs hatched		121	109	145
Birds fledged	96	105	48	130
Eggs/active nest		2.90	2.8	2.9
Hatchlings/active nest		1.66	1.5	1.8
Fledglings/active nest	1.32	1.44	0.65	1.6
Fledglings/successful nest	1.88	1.94	1.55	2.1
Successful/active nests	0.70	0.74	0.42	0.8

Osprey Breeding Results for the Westport Area 2004-2007

Increases in the number of nests surveyed and active are attributable mainly to new platforms that have been set up in Allens Pond. It is clear from the table that 2006 was a very bad year for the local Osprey population, whereas 2007 was a very good year; while June 2006 was cold and rainy, June 2007 was just the opposite. Young chicks are most vulnerable to adverse weather during their first month and their parents have difficulty catching fish in rainy and foggy conditions and silt-laden waters.

Some New Directions

Gil and Jo took upon themselves most of the responsibility for building and putting up new platforms, maintaining old ones, monitoring breeding activity, banding fledglings, and reporting the results. We have sought to broaden local participation and support for this important program. In 2006 the Allens Pond Sanctuary launched the *Adopt an Osprey Platform* program, inviting local residents to contribute \$100 per year to help support the Osprey program. In the first year more than 50 adoptions were registered and many adopters pledged to continue their support for five years.

Additionally, the Sanctuary has organized work teams to do nest repairs in the fall and early spring, and in 2006 the local branch of Massachusetts Waterfowlers, Inc. contributed \$7500 for materials. Several riverside residents have taken it upon themselves to build new platforms to replace those knocked down by winter ice.

The Westport River Watershed Alliance (WRWA) has been cooperating with the Allens Pond Sanctuary on many aspects of the Osprey program. It has made its motorboat and a boat operator available for both the monitoring and platform maintenance activities, and for the past two years the two organizations have presented evening programs to inform people about the history of the local Osprey colony and the results of the latest breeding season. These programs have attracted several hundred people and resulted in new platform adoptions. Local newspapers carry frequent articles with dramatic pictures of the Osprey

The WRWA published the book, *Fishhawk*, written by Gil Fernandez, with drawings by Betsey MacDonald, in 1997, and put out a second edition last winter shortly before Gil's death. Characteristically, Gil contributed the money to the WRWA for that second printing. This year the WRWA is sponsoring Betsey MacDonald as an "Artist in Residence" so that she can devote the year to painting scenes of the Westport River and its Osprey.

The WRWA also supports the Watershed Education Program, which provides environmental education to about 3000 students from kindergarten through high school in the Westport school system. One of its most important components is the



Fledgling. Photograph by the author.

"Feathery Focus" program for all third graders, which uses birds to teach about nature and the environment. Several of the fifteen class sessions are devoted to the Osprey. Gina Purtell, Director of the Allens Pond Sanctuary, originally designed this program.

Despite all this public outreach and education relating to the Westport area Ospreys, some local citizens oppose efforts to continue the Osprey program. The main source seems to be some fishermen who see the Osprey as consuming part of their potential catch. They also condemn cormorants, but nothing much can be done to control cormorants. However, setting up platforms helps increase the Osprey population, so they have requested that limits be set on the number of platforms. This same issue arose a decade ago, and Gil Fernandez appeared before the Westport Conservation Commission to explain that the Ospreys really had minimal impact on the local fish population. He also wrote two charming letters to the Commission in support of his case.

In the fall of 2006, after local newspapers carried positive lead articles about the work of a dozen local citizens in repairing the Osprey platforms, arguments were made to the Conservation Commission as to whether or not this work needed advance Commission approval. In the winter, Gina Purtell appeared before the Commission to report on the program and request a determination that the repair work did not require prior permitting. The Commission, on a split vote, did make that determination but also stipulated that the number of platforms should not be increased without a prior Commission approval. So the work can continue as long as there are no additional platforms within the Town of Westport. This does not apply to Allens Pond itself, which is in the Town of Dartmouth.

Plans for the future

With the help of Rob Bierregaard, who monitors the Ospreys on Martha's Vineyard, we plan to attach satellite transmitters to at least two adult male Ospreys from the Westport breeding population in the coming year, to monitor their movement during the breeding season as well as in migration. We decided on adult males because they do most of the fishing during the critical months from May through July, and they are much likelier to survive the fall migration with its high fledgling mortality.

We intend to use the migratory tracking maps and Google-Earth in classrooms to expose students to the wonders of bird migration. Once we determine where these birds go for the winter, we hope to establish contact with schools in nearby communities and build continuing relationships. When the birds return to the Westport area in the spring, the students should have a stronger sense of connection and appreciation for the wonderful creatures that Gil and Jo Fernandez bequeathed to this community.

David Cole shifted his focus a decade ago from solving world development problems to preserving the local environment around the Westport River. He is currently President of the Westport River Watershed Alliance, Chair of the Town of Westport's Estuaries Committee, and an active volunteer with the Allens Pond Wildlife Sanctuary

FIELD NOTES

Bird News

Lanny McDowell

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A few weeks ago in this column I wrote that other than by contributing photos, I had not ever reported an unusual bird sighting to the Massachusetts Avian Records Committee, the authority for such matters in our state.

That is about to change. Anyone in New England and beyond can claim the Red Sox World Series sweep as their own. This writer claims a rare avian visitor as his own, which, of course, it is not. My feeder, my back yard, my bedroom window, but that's about it. The bird flew literally thousands of miles outside of its normal range to get here.

Here is the saga.

I woke up pre-dawn on October 23. One of our two hummingbird feeders hangs from an autumn olive just outside the east-facing bedroom windows, and I glimpsed the silhouette of a hummer arriving and sipping.

I could not see the visitor in any detail, but I was cautiously excited, because any hummingbird found this time of year has an even chance of not being a Ruby-throated, our typical eastern nester and migrant.

Almost two years ago, around Thanksgiving, Marjorie Rogers of West Tisbury hosted a very late fall hummer. A few Island birders went to observe and photograph this bird in the hopes that it would be determined to be either a very late record Rubythroated or, better yet, a western vagrant.

We sent off the photos to people who study hummingbirds. Both the experts and our local birders were either noncommittal or divided as to the species identity.

The reason for the uncertainties is that there is a western counterpart for the Ruby-throated Hummingbird: the very similar Black-chinned Hummingbird. First-year birds and adult females of both species are very hard to tell apart. Only the adult males, which sport very bright gorgets (patches of feathers on their throats) are distinctive. Even these must be well-seen in good light.

So what species showed up at my feeder this year? I knew from two years ago what I needed to look for in order to identify which species I was looking at. Then I engaged some experts to help me distinguish between the two species by sending them pertinent photos.

In comparing the two species you can observe and evaluate the following: the length and shape of the bill; the overall color of the head and back plumage; the shape





Images of the Black-chinned Hummingbird taken by the author (upper left and right) and by Master Bander Sue Finnegan (lower left)

of the tail feathers; the length of the tail relative to the length of the wings with the bird at rest; the pattern and coloration of the feathering of the bird's face; any distinctive chin or throat feathers; and how much the bird pumps its tail up and down as it hovers.

Aside from the gorget colors of the male birds, all of these comparison features can be variable or overlapping to the extent that any one feature is not enough to assure a correct identification. Unfortunately, even if you compare all of those features, the sum of the parts may not be definitive enough to make the call.

There is one other comparison feature which in my opinion can actually be used to separate Ruby-throated from Black-chinned: the overall shape of the folded wing and, in particular, the shape of the longest flight feathers and, even more particularly, the shape of the end of the last (and longest) primary.

In the Ruby-throated the folded wing tapers to a point and the longest primary feather itself is relatively pointed. In the Black-chinned the sides of the folded wing are either parallel to each other or they bulge slightly toward the outer end; the last primary tips are rounded, as the whole wing tip curves upward. The look is referred to as clublike, rather than pointed.

The bird that fortuitously arrived at my feeder has the rounded tenth primary tip and a few emergent black and violet gorget feathers. The consensus of the experts I consulted, from Boston to Alabama, is that these features make our Vineyard bird a Black-chinned, which should turn out to be the third record for the state. The first recorded was found in a Cohasset greenhouse back in November 1979. The second official sighting was last August. That bird came to Sue Finnegan's feeders in Brewster. She happens to be a trained and licensed hummingbird trapper and bander. What luck, for all concerned. She came over to measure and band the West Tisbury bird last weekend.

Our Black-chinned bird weighed in at four grams. Sue measured and photographed the wing length and the tail length. She also looked at tiny striations on the bill through a loupe to determine approximate age. Then she used a straw in her mouth to gently blow back the breast feathers to assess how much fat (flying fuel) the bird had stored beneath its skin.

By the way, during the breeding season you could expect to find a Black-chinned as far north as Washington state, but only as far east as central Texas. This was all such a thrill.

My unsolicited advice is to keep clean and fresh hummingbird feeders up late in the fall and to pay a lot of attention to any hummer that shows up after the middle of September. \checkmark

A Different Duck Hawk

David Larson

In mid-October, Susan and I were paddling our kayaks out in the beaver swamp that constitutes most of our front yard. As we made our way among the drowned trees we flushed a few Mallards and then three Wood Ducks, but when we glided into view of the open end of the pond, the water erupted with puddle ducks. With Mallards, Black Ducks, and Green-winged Teal flying left and right, one bird stood out. As if on cue, an adult Cooper's Hawk made a dash at one of the teal. This particularly acrobatic duck evaded the attack. We estimated that there were some fifty Mallards, ten American Black Ducks, twenty-five Green-winged Teal, and one hungry hawk in the melee.

Some of the larger ducks and most of the teal settled back down in the flooded brush beyond the pond, and the Cooper's Hawk looped around and settled in a nearby swamp white oak. We waited quietly to see what might happen next.

After about five minutes, the hawk took off and flew low over the flooded brush. This provocation was apparently too much for six of the teal, who made the mistake of jumping up to escape. The hawk hit one squarely some fifteen feet from the ground, and predator and prey settled down out of sight.

We decided to not risk interrupting the hawk's meal by further investigation; we stifled our curiosity and paddled away. About forty-five minutes later we spotted a Cooper's Hawk with an extremely full crop heading south from the swamp.

While the *Birds of North America* account on Cooper's Hawk does not mention waterfowl as a prey item, A. C. Bent's *Life Histories of North American Birds of Prey* notes: "Among the wild birds mentioned in the food of Cooper's Hawk are teal and young of other ducks" While even a small duck seems a large and unwieldy prey item for a Cooper's Hawk, a quick look at *The Sibley Guide to Birds* reveals average weights of 450g for the hawk and only 350g for the teal. *The Birds of North America* listing does include the following substantial avian prey items: "various poultry, Ringnecked Pheasant (*Phasianus colchicus*), Ruffed Grouse (*Bonasa umbellus*), Bobwhite Quail (*Colinus virginianus*), Least Bittern (*Ixobrychus exilis*), American Crow (*Corvus brachyrhynchos*), Rock Pigeon, . . ." so a Green-winged Teal seems not such a stretch.

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News From MassWildlife

Brooding Over Turkeys – Turkey brood survey forms have been recently tabulated by Jim Cardoza, MassWildlife's Turkey Project Leader. Brood surveys are one way biologists assess the number of young that are recruited (added) into the population. "Calculations show that this year's hatch was higher than last year," said Cardoza. "What is interesting about this season's information is that it appears that the higher hatch is the result of re-nesting." Few broods (hens and their young poults) were seen in June, compared with many more broods reported in July, a strong indication that early nests failed and the hens re-nested. Cardoza was also pleased with the number of forms sent in by interested members of the public. Approximately 350 brood survey forms were submitted, a record figure, with the vast majority from Bay State citizens. For more information on turkey brood surveys and how they are used by biologists, Cardoza recommends reading an article he wrote for *Massachusetts Wildlife* magazine in 2006 (Vol. LVI, No. 1) "Brooding over brood counts". Check the turkey pages in the Wildlife area of www.mass.gov/masswildlife.

Laughing Gulls, Skimmers and Terns, Oh My! – MassWildlife met with cooperators from around the state at Cape Cod Community College to compile numbers of coastal waterbirds nesting in the state during the 2007 season. Preliminary figures are as follows: Roseate Tern, 1730 pairs; Common Tern, 14,988 pairs; Arctic Tern, 3 pairs; Least Tern, 3139 pairs; Black Skimmer, 4 pairs; and Laughing Gull, 1515 pairs. Numbers were similar to last year for all species with the exception of the Least Tern, which increased by 20 percent.

ABOUT BOOKS

(Insert Overused Bob Dylan Quote Here)

Mark Lynch

Birds and Wind Farms: Risk Assessment and Mitigation. Edited by Manuela de Lucas, Guyonne F.E. Janss, and Miguel Ferrer. 2007. Quercus. Madrid, Spain.

"When we look at potential locations for windmills, all of northern Quebec is basically the Saudi Arabia of wind power." Claude Martel, Quebec Director of the Sierra Club of Canada, interviewed by Nick Say. [<http://newsisaconversation.blogspot.com/2007/01/quotes-ofday.html>; accessed 12/9/2007]

"Pray look better, sir . . . those things yonder are no giants, but windmills." Miguel de Cervantes, *Don Quixote*.

I confess that I have been on the fence about Cape Wind's offshore project in Nantucket Sound. On the one hand, there is little doubt that our dependence on foreign oil and humanity's ever growing "carbon footprint" has us drunkenly speeding down a bad road to a very precipitous cliff. Now everyone is getting on the renewable energy bandwagon, including the oil companies, a sure sign that the situation is pretty grim. Wind farms have now become big businesses that wear their "green credentials" proudly. The *Daily Show* lampooned those opposed to the Cape Wind project as ignorant and effete rich boobs, concerned more about their view of the bay than the state of the earth.

Personally, I am less concerned about aesthetics than the effect of those spinning blades on the numerous waterfowl that overwinter in or migrate through the sound. Visions of Eider julienne and Oldsquaw tartar plague me. But what is the basis of my concern? Are there published studies that indicate the risks to birds posed by wind farms? Thanks to *Birds and Wind Farms*, the answer is now a qualified "yes." "Qualified," because after reading the fifteen scientific papers in this collection, one can only conclude there is still too much to learn.

As Jose Mesegeur states in the preface, wind is an ancient source of energy, and windmills have been around for hundreds of years. But those beloved rickety symbols of old Holland were relatively small. They turned very slowly and therefore probably had only negligible effects on the local avifauna. In contrast, the massive and dense arrays of turbines used in modern wind energy projects can have disastrous effects on birds:

"Rotating speeds are nowadays relatively high (typically some 30 rpm for a 600 kW machine), and therefore tip blade speeds are also relatively high (a typical value is 80 m/s). Because of these high velocities, birds have little or no possibility of surviving after an impact with the rotating blade of a wind turbine. Other negative



impacts do affect the birds directly (visual and sound impact, habitat loss) but these could be more important than direct mortality." (p. 18)

People disagree vigorously on the various issues: the siting of wind farms, their real effect on the environment, their aesthetic impact, and how much energy they actually generate. Until now, most of these emotional debates have produced more heat than light. For examples of two extremely different points of view, visit <htp://www.capewind.org> for an unabashedly sunny view of wind power, then go to <htp://batr.net/cohoctonwindwatch> for a much harsher view of wind farm projects. On the first site, wind farms are described as the saviors of the planet, while the other accuses them of being a colossal scam that destroys what it promises to save.

Birds and Wind Farms deals only with one specific concern in this ongoing debate: the effect on bird populations and possible ways to mitigate that effect.

One problem in gathering information is that most papers on this subject have not been published in peer-reviewed scientific journals. Until *Birds and Wind Farms*, no one had attempted to bring together the soundest research on this topic. De Lucas et al. have gathered fifteen papers from five European countries and the United States. Some of these papers give a historical perspective on the bird and wind farm problem. Others describe attempts to survey the effects of established wind farms on bird populations. Finally, several papers suggest improvements in methodologies for assessment of bird mortality at wind farms and discuss possible solutions as well. The editors do not take sides, but simply present what information is known.

I cannot summarize everything in these fifteen papers. Like other scientific compendiums, there is much complex information, which concerned persons should read for themselves. What I will do is offer some general conclusions.

First and foremost, predicting the effects of a proposed wind farm on birds, a complex task, varies from one location to the next. As Vincenzo Penteriani writes on his Introduction:

Moreover, in most of the studies presented here, there is evidence that this type of human-induced mortality also has temporal, spatial, and taxonomic components. Particularly important are changes in mortality according to season, site (e.g., off-shore, mountain ridge, migration corridor), species (large and medium vs. small-size), life history features (migrant, resident species) and the type or timing of bird activity (e.g., nocturnal migrations, movements from and to feeding areas). (p. 23)

Yes, "some" birds are certainly killed by wind farms. But according to the papers in this book, the extent of mortality varies tremendously from one site to the next. As can be imagined, most bird mortality studies have focused on larger species like raptors, sea ducks, gulls, and terns. The Altamont Pass Wind Resource Area (APWRA) has a significant problem with Golden Eagle and other raptor mortality. (See "The Altamount Pass Wind Resource Area's Effect on Birds: a Case History" by Thelander and Smallwood). Yet the paper on the Blyth Harbor Wind Farm in Northumberland, UK, (Lawrence et al.) indicates that this facility appears to have only a very small impact on local populations of gulls, cormorants, and shorebirds. A problem is that procedures for the evaluation of bird mortality are different in each paper. Even at any one site, some species may be more prone to collisions with the turbines, while others may co-exist unharmed. To complicate matters further, very little is currently known about how wind farms affect migratory passerines. This lack of knowledge may be due simply to the difficulties of looking for the tiny remains of dead songbirds.

It's not just birds that are affected by wind farms. Early studies show that bats can also be affected (see "Wind Turbine Collision Research in the United States" by Sterner, Orloff, and Spiegel as well as "Effects of wind turbines on Birds and Bats in Southwestern Minnesota, U.S.A." by Higgins, Osborn and Naugle). So far, evidence for the effect on bats seems to be small, but few people have looked at this problem.

Although sighting is crucial, the criteria for evaluating a site's impact on bird populations are not well understood. There is no consensus on how to minimize risk other than to avoid migratory bottlenecks or areas where large numbers of birds feed. Mortality is not the only consideration when planning a wind farm. Certain wind farms or arrays of turbines may act like barriers, forcing birds to change their routes to feeding areas, thus creating a more complex and long-term problem for certain species (see "Collision Risks for Diving Ducks at Semi-offshore Wind Farms in Freshwater Lakes: a Case Study" by Dirksen, Spaans, and Winden). Even if one wind farm site seems to have a minimal impact on local bird populations, many more wind farms are in the works. We still have no idea of the cumulative effect of a large number of wind farms.

There are proposed solutions to the avian mortality problem. The paper, "Use of Data to Develop Mitigation Measures for Wind Power Development Impact on Birds" by Jackson et al. of Western EcoSystems Technology, Inc., offers a complete analysis of what is known of about proposed solutions. From the *Abstract*:

Techniques that have been evaluated for their potential to reduce avian mortality at wind turbines include painting turbine blades to make them more visible, installing anti-perching devices to deter avian use of the turbines, enclosing nacelles, use of tubular towers, elimination of guy wires to support wind plant structures, and the use of unlighted turbines. Changing the height and rotorswept areas of turbines also may affect collision mortality rates. Careful siting of wind plants as well as micrositing of turbines and other structures within wind plants to avoid major bird use areas may also mitigate impact. If unacceptable avian mortality occurs at wind plants already in operation, impacts may be mitigated by reducing raptor prey densities within the wind plant to discourage use and by enhancing habitats away from the wind plant. Although many mitigation measures have been proposed, many have not been adequately tested or have only been tested on a small scale basis. (p. 241)

It appears that one of the best solutions to the collision problem is to design wind farms to be in "bird-free" zones. We cannot be sure these measures will work,

however, because of a lack of hard data. Alarmingly, even when mitigation procedures are recommended at a site with a well-known problem, there has been resistance to implement those changes. As Thelander and Smallwood write in their abstract of "The Altamount Pass Wind Resource Area's Effects on Birds: a Case History,"

Still, however, no comprehensive protection measures or management programs are in place that will significantly reduce these fatalities, despite years of research and widespread acknowledgement of the problem. (p. 25)

It should come as no surprise that once a wind farm is up and running, it is very difficult to change it or shut it down. Careful planning must to be done *before* construction to ensure that the siting and design of the wind farm will have a minimal impact on birds. At the moment, this seems to be difficult if not impossible because so much is not known. A lack of data may explain why the reader is left with such an unsatisfactory feeling after reading this book. For now, we know little about the effects of wind farms on birds. In only a very few cases has research begun to uncover how wind turbines will affect birds.

The use of wind farms as part of a mix of renewable energy sources need not be seen as a Hobson's choice, at least not yet. There are many issues of concern, however, and bird mortality is just one. In an ideal world, the next five to ten years would be devoted to studying many of the ideas discussed in these papers and to determining what works and what doesn't, including schemes for monitoring bird mortality. As with all tall manmade structures like skyscrapers, and radio and microwave towers, there will be some bird mortality from wind turbines. How much is too much is a question each of us will have to consider. In the meantime, we can all hope there will be more books like *Birds and Wind Farms* to help us make informed choices.



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U.S. Fish and Wildlife Service Seeks Comment on Proposal to Allow Falconers to Remove and Possess Migratory Peregrine Falcons from the Wild

The U.S. Fish and Wildlife Service released today [11/13/2007] for public comment a Draft Environmental Assessment and Management Plan that proposes to allow the limited removal and possession of migrant first-year "Northern" (predominantly Arctic subspecies) Peregrine Falcons from the wild for use in falconry. The falcons could be captured in areas and at times where their removal would have no significant impact on the population.

There are three recognized subspecies of Peregrine Falcons in North America: the Arctic Peregrine which nests in Alaska, northern Canada and Greenland and migrates south to Central and South America; the American Peregrine which nests in parts of southern Canada, Alaska, and the conterminous United States, some of which migrate south; and the non-migratory Peale's Peregrine which resides on the Pacific coast from Alaska to Oregon.

In the Draft Environmental Assessment (DEA), the Service considers six alternatives for the removal and possession of migrant Peregrine Falcons in the United States.

The preferred alternative is to annually allow removal of up to 105 first-year Peregrine Falcons split evenly between males and females, between September 20 and October 20, from southern Georgia, Florida, and the Gulf of Mexico coastal area, and expand authorization in Alaska to include migrants and fledged young of all subspecies. Because both American and Arctic Peregrines nest in Alaska, the DEA considers take of nestlings, recently fledged young, and migrants there. However, take in Alaska is factored into the alternatives that allow take of migratory first-year Peregrines elsewhere in the United States. The Service has concluded that any take that may be allowed is unlikely to negatively affect populations of Peregrine Falcons in North America or Greenland.

The majority of Peregrine Falcons that migrate from North America to Central and South America (mostly Arctic and northern American Peregrines) pass along the Atlantic coast and over the Gulf of Mexico. However, many other Peregrines in the eastern U.S. and southeastern Canada do not migrate far south. It is this difference in migration that allows the Service to consider take of migrants. The alternatives that would allow take of migrants are restricted so as to protect the continuing recovery of the eastern U.S. and southeastern Canada American Peregrine Falcon population.

Copies of the DEA and Draft Management Plan can be obtained from the U.S. Fish and Wildlife Service Division of Migratory Bird Management, 4401 North Fairfax Drive, Mail Stop 4107, Arlington, VA 22203-1610. Written comments on the DEA can be sent to the same address, noting Attention - Migrant Peregrine EA. The Draft EA also is available at <http://www.fws.gov/migratorybirds/>. Comments on the DEA also may be submitted electronically via the Division of Migratory Bird Management web site at <http://www.fws.gov/migratorybirds/>, where a link for comments is available. The due date for comments is February 11, 2008.

BIRD SIGHTINGS

July/August 2007

Marjorie W. Rines, Seth Kellogg, Robert H. Stymeist, and Jeremiah R. Trimble

July was cool, with a lot of rain. In Boston the temperature averaged 72.9° , 1.0° below normal. The high was 92° on July 26 and 27; the low was 56° on July 2. Rainfall totaled 5.26 inches in Boston, 2.20 inches above the average for July, with measurable amounts falling on twelve days. The most rain in any day came on July 28 when 2.32 inches were recorded.

August was the second driest since records were first kept in 1892, with just 0.66 of an inch recorded in Boston. Measurable rain fell on only five days. Several birders remarked on the absence of mosquitoes and greenhead flies while birding during the period. The temperature averaged 72.7° , 0.4° below normal. There were six days when the temperature reached 90° or more, and the high of 96° in Boston on August 25 tied the record for that date set in 1948. *R. Stymeist*

WATERFOWL THROUGH ALCIDS

A few Brant lingering along the North Shore through the summer included two birds in Rockport on July 7 and a single bird on Plum Island on July 17. Great Meadows NWR, one of the best breeding locales for Wood Ducks in the state, produced a maximum of seventy-eight adults and forty-two juveniles during the period, although in eclipse plumage these cryptic ducks can be difficult to spot and count accurately. The count of up to 110 Gadwalls from Plum Island during July and August was typical of that location during the last few years. Lingering or uncommon breeding dabbling ducks reported during July and August included American Wigeon on Plum Island and Great Meadows, both potential sites for breeding. Up to nine Bluewinged Teal were counted during the period on Plum Island, a traditional breeding site for this uncommon Massachusetts breeder. A boat trip on August 19 discovered four Blue-winged Teal on Nantucket Shoals. While offshore movement of this species is not uncommon, it is rarely documented and is therefore worth noting. A Northern Pintail spent the month of August in Woburn, but with no evidence of breeding. Green-winged Teal were confirmed breeding on Plum Island, where eighteen adults and eight juveniles were recorded on July 8. Because Ringnecked Ducks are rare in Massachusetts during the summer months and have been documented breeding on only three occasions, a single bird at Cumberland Farms on July 15 was very unusual. Four Ring-necks at the end of August in Cambridge were exceptionally early for fall migration of this species. Common Eider and all three species of scoter summered at a number of localities throughout coastal Massachusetts. Typically much less common as a summer visitor and therefore worthy of mention was the Long-tailed Duck that spent much of July in Chatham. As it remains an uncommon breeder in the state, it is always worthwhile to note locations of summering (or potentially breeding) Hooded Mergansers. This year a number of towns in western Massachusetts hosted decent numbers during mid-July as is typical, while farther east at Great Meadows NWR, three were observed on July 17. A Ruddy Duck kept the Northern Pintail company in Woburn for a week in mid-July.

Three Red-throated Loons were observed on July 14 in Provincetown Harbor, and a single first summer bird was recorded in Nahant on July 24. An adult and juvenile Pied-billed Grebe were seen on August 31 at Plum Island, traditionally the best breeding site for this species in

the state (as with most freshwater marsh breeders). A Horned Grebe at South Quabbin was unusual for its seasonality and inland locality, as was a Red-necked Grebe in Nahant on July 24.

This reporting period was highlighted most prominently by two pelagic trips south of Nantucket to the Continental Shelf, both organized by the Brookline Bird Club. While these trips did not produce large numbers of seabirds, they did well on diversity and produced some mega-rarities. On the August 25 trip a Little (Macaronesian) Shearwater (Puffinus assimilis baroli) was seen and photographed, arguably one of the most notable pelagic bird records ever for the state. This diminutive shearwater has been recorded in North America on only two prior occasions, in the late 1800s, when specimens were collected. One, discovered at Sable Island, Nova Scotia, on September 1, 1896, has been verified as "Macaronesian" Shearwater. The other specimen was found dead at Sullivan's Island, South Carolina, in August 1883, but it has recently been examined and may in fact be an Audubon's Shearwater. Other sight records may be correct but to date have not been accepted as such. The taxonomy of the Little Shearwater group is currently cloudy, and further work is needed to establish the relationships among the three subspecies of Little Shearwater (P. a. assimilis, P. a. baroli, and P. a. boydi) and other small "black and white" shearwaters, namely Audubon's Shearwater. "Macaronesian" Shearwater is considered by some to be a full species, not just a subspecies of Little Shearwater. Thanks to advancements in digital photography, this individual was documented by many of the lucky observers on board.

This same trip produced a number of other great pelagic species including a **Bandrumped Storm-Petrel** and three **Audubon's Shearwaters**. A trip that went out a week earlier discovered a single **White-faced Storm-Petrel** as well as a very impressive seventeen **Audubon's Shearwaters** at Hydrographer Canyon! Combined with a number of **Bridled Terns** reported from this area, the ocean south of Nantucket produced some incredible sightings this period!

On July 15 a **Brown Pelican** was reported just outside Hyannis Harbor. As many as six Least Bitterns were observed on Plum Island during July and August. This is the best location in the state to see this rare Massachusetts breeder. Although uncommon in Essex County, certain species of heron such as Little Blue Heron, Tricolored Heron, and Cattle Egret tend to be even rarer on Cape Cod. Singles of all three of these species were reported from Chatham on Cape Cod during this period. Yellow-crowned Night-Herons, primarily immature birds, were reported from a number of North Shore locations as well as a single bird on the South Shore and two birds in Eastham on Cape Cod, a traditional locality for this species.

The only report of Black Vulture for the period came, as usual, from Sheffield. The only King Rail report came from Plum Island, where it was observed from July 29 through at least August 4. Soras were discovered at a number of sites including Plum Island, but a pair with one young in Petersham was particularly interesting. A **Purple Gallinule** at Nantucket on August 10 was an exciting find. On July 4, the pair of **Sandhill Cranes** that had been documented as breeding in New Braintree was observed with one young. We hope that this is the beginning of a breeding trend in Massachusetts!

Piping Plovers seemed to do well in the state this season. As many as sixty were counted at South Beach in Chatham during the period, and Crane's Beach held at least nineteen fledglings during August. Three adults and a juvenile American Oystercatcher in Salem and a single bird at Plum Island were evidence of the continued expansion of this species north of Boston. There were a number of very exciting shorebird records this season. Topping the list was the fifth state record of **Black-tailed Godwit** at South Beach in Chatham on July 24. To

the dismay of many, this bird could not be refound after the initial observation. After six **Black-necked Stilts** were discovered in June, a single bird in Eastham perhaps did not generate the excitement it should have! The Newburyport area, traditionally an excellent location for Hudsonian Godwit during fall migration, produced only one or two birds and continued a decline in reports from Essex County. One interesting sighting of this species involved a flock of forty-plus birds migrating over Nantucket Shoals. The following day, a flock of forty-plus Hudsonian Godwits was discovered at Brigantine NWR in southern New Jersey, one of the highest recent counts for that state. It seems likely that this was the same flock observed on Nantucket Shoals.

Two of the more cryptic shorebird highlights involved variations on a common species, Dunlin. The first worth mentioning was a bird seen well and photographed on South Beach on July 29 and identified as an "arctica" Dunlin (*Calidris alpina arctica*), a subspecies of Dunlin that breeds in northeastern Greenland and winters in northern Africa. This subspecies is a rare vagrant to the United States. Although they require detailed examination, certain subspecies of Dunlin, and indeed other subspecies of birds, are identifiable in the field, and we encourage Massachusetts birders to be on the lookout for such taxa and report these sightings with descriptions and photographs. The "arctica" subspecies of Dunlin is characterized by its overall small size and shorter bill as well as a smaller dark patch on the belly, limited streaking on the chest and neck, and upperparts that are somewhat duller than those of our typical Dunlin (*Calidris alpina hudsonia*). There is one confirmed record for Massachusetts, a specimen collected at Monomoy on August 11, 1900, as well as a few possible sight records. Interestingly, there is another specimen from Monomoy (August 1936) identified as the nominate subspecies of Dunlin, which breeds in Europe.

The other interesting bird was a hybrid peep seen very well by a few observers, also on South Beach. They noted a definitive white rump, which, combined with the overall look of the bird, would likely clinch White-rumped Sandpiper as one of the parents. The size and structure of the bird has led most to conclude that a Dunlin was the other parent. Complicating matters was the note from one observer, who thought he observed palmations between the bird's toes, which would suggest Western Sandpiper as a parent (among North American peeps only Western and Semipalmated sandpipers have palmations between the toes). Rounding out the list of rare shorebirds at South Beach was a **Curlew Sandpiper**, which lingered for much of the month of August.

Two **Sabine's Gulls** were reported during the period while an unseasonable Black-legged Kittiwake was reported on July 22 from Rockport. As mentioned earlier, **Bridled Terns** were discovered on a pelagic trip to the shelf edge south of Nantucket on July 21. Two birds, an adult and a first year, were noted on Nantucket Shoals, while a single first-summer bird was discovered at Hydrographer Canyon. **Sandwich Terns**, typically the least common of the large southern terns, were well reported from around Cape Cod with as many as five individuals noted. The small colony of Black Skimmers on Minimoy yielded thirteen adults and two juveniles on August 9. Not surprisingly, the only alcid report of the period was of two Black Guillemots on July 7 in Rockport.



BEACH SCENE BY WILLIAM E. DAVIS, JR.

Brant				8/27	HRWMA	3	T. Pirro
7/7	Rockport	2	J. Berry#	Common Me	rganser	<u> </u>	
7/17	P.I.	1	R. Heil	7/4	Ware	$\frac{2}{10}$ ad	M. Lynch#
8/22	Kevere B.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	R. Cressman	8/2	Longmeadow	18	S. Svec
0/31 Wood Duals	E. Gloucester	1 I W	R. Hell	8/4	Agawani Quabhin Dh	30 2 imm	5. Kenogg
thr	GMNWR 78 a	d 42 juy m	W USEWS	0/12 Red_breasted	Quaddill FK Merganser	5 111111	M. Lynch#
8/4	Longmeadow	50	S Kellogg	7/6	P'town (R P)	2	B Zaida#
8/5	S Egremont	66	M Lynch#	7/8	PI	1	R Heil#
8/16	Rutland	61	M. Lynch#	7/14	Duxbury B.	3	R. Bowes
8/16	Salisbury	26	J. Hully	7/15	N. Truro	3	B. Nikula
8/26	Southwick	35	S. Kellogg	7/24	Nahant	1	R. Heil
8/30	Wakefield	53	F. Vale	Ruddy Duck			
Gadwall				7/18-25	Woburn (HP)	1 m	M. Rines
thr	P.I.	110 max	R. Heil	Ring-necked	Pheasant		
American Wig	geon		~	7/7	Spencer	1m	M. Lynch#
7/8, 24	P.I.	3, 2	Smith, Heil	8/30	Ipswich	1	R. Heil
7/21	GMNWR	4	J. Dekker	Ruffed Grous	se i	2	T. D.
8/11, 17	Wakefield	1 f, 1 m	P. + F. Vale	113	Gardner	3	I. Pirro
8/24	Marston Mills	1	M. Kelener	7/4	S. Quabbin	2	L. Inerrien
American Bia		25 mar 9/	24	7/15	Ashburnham	1 1 ad 1 2	I. Pirro
7/28	F.I.	55 max 8/	d'Entremont	7/15	S Ambarst	1 au+5y	g M. Lynch#
8/18	Weebusett Dec	0 U.	M Lynch#	Wild Turkey	5. Annerst	3	J. 110ye#
8/19	Δ_{coaxet}	6	M Lynch#	7/4	Bolton Elats	$1 f \pm 5 v \sigma$	S Sutton
8/19	E Boston (B I)	14	S Zendeh	7/4	Stoughton	$ad + 5 v \sigma^{2}$	d'Entremont
8/29	Chatham (S B)	7 MAS	S (D. Berard)	7/7	Spencer	8+nr + 11x	g M Lynch#
Blue-winged	Feal	, 1011 1	(D. Berurd)	8/12	Belmont	19	J. Forbes
thr	P.I.	9 max	v.o.	8/12	Ouabbin Pk	12	M. Lvnch#
8/4, 25	Longmeadow	2	S. Kellogg	8/14	Mattapoisett	2 ad + 2	25 vg F. Smith
8/19	Nantucket Sh.	4 B	BC (R. Heil)	8/25	Longmeadow	7	S. Kellogg
8/23	GMNWR	29USFWS	(McGourty)	8/26	Halifax	13	J. Sweeney
8/26	Sterling	1	K. Bourinot	Northern Bob	owhite		-
8/26	Hadley	5	C. Gentes	8/12	WBWS	7	D. Berard
Northern Pinta	ail			8/19	Mashpee	2	M. Keleher
7/31-8/31	Woburn (HP)	1	M. Rines	Red-throated	Loon		-
Green-winged	Teal		D T T T	7/14	P'town H.	3	B. Nikula
7/8	P.I.	18 ad, 8 ju	IV R. Heil#	7//24	Nahant	1 15	R. Heil
8/13	Salisbury	2	T. Bronson	Common Loc	on DI	10	D II.'1#
8/17	Egremont	12	G. Hurley		P.I.	18 max	K. Hell#
8/19	Mashnaa	12	M. Lynch#	7/10	Ashburnham	0 ad, 1	uv C. Caron
8/19	CMNWP	0USEWS	M. Kelener	7/10	M Truro	2 au	I. PIITO P. Nikula
Ring-necked I	Juck	9031 W 3	(St. Sauver)	7/20	S. Quabbin	24	I Therrien
7/15	Cumb Farms	1	I Sweeney	7/25 8/10	Duybury B	3 1	R Bowes
8/21-30	Cambr (FP)	$\frac{1}{3}$ m 1 f	C McKav#	8/12	Quabbin Pk	7 ad	M Lynch#
Common Eide	er	5 111, 1 1	e. menuy#	8/18	Wachusett Res	2 ad+1	vg M Lynch#
thr	P.I.	63 max	R. Heil	Pied-billed G	rehe	2 44 1 1	, g <u>D</u> ,
thr	Chatham (S.B.)	50 MAS	S (D. Berard)	7/17	GMNWR	1USFW	S (McGourty)
7/7	Cape Ann	150+	J. Berry#	8/4	Longmeadow	1	S. Kellogg
7/24	Naĥant	70	R. Heil	8/31	P.I.	1 ad, 1	juv R. Heil
8/19	Acoaxet	21	M. Lynch#	Horned Greb	e		
8/20	Stellwagen	21 f	I. Nisbet	8/16	S. Quabbin	1	L. Therrien
8/26	Duxbury B.	53	R. Bowes	Red-necked (Grebe		B I I I
Surf Scoter	$(\mathbf{D}_{\mathbf{D}}_{\mathbf{D}_{\mathbf{D}}}}}}}}}}$	7	DIL	//24	Nahant	1	R. Heil
//3	Chatham (S.B.)	/	B. Harris	Northern Full	mar Laffrian I	2	MAC (Laman)
8/19	Cuttubunk	1 ad m	M. Lyncn#	//9 Comi's Shoom	Jenries L.	2 .	MAS (Larson)
0/25 White winged	Scoter	3	C. Buckley		Montucket Sh	32	PRC (P Hail)
thr	DI	7 max	P Heil	8/10	Nantucket Sh	32	BBC (R. Heil)
7/3	Chatham (S B)	7	B Harris	8/25	Hydrographer	3	BBC (R. Heil)
8/5	Lynn B	3	M Iliff	Greater Shear	rwater	5	bbe (it. field)
8/10	Inswich (C.B.)	1 imm m	J. Berry	thr	Stellwagen	300 max 8	/20 v.o.
Black Scoter	-Ferrier (61-1)			thr	Jeffries L.	55 max	MAS (Larson)
7/3	Chatham (S.B.)	1 m	B. Harris	7/14, 8/12	5 m NE of Tru	ro100, 880	B. Nikula
7/17	Gloucester	8	B. + S. Ross	7/30	Jeffries L.	55	MAS (Larson)
7/31	P.I.	46	R. Heil	8/6	Rockport (A.P.	.) 21	R. Heil
8/1	Duxbury B.	1	R. Bowes	8/19	Nantucket Sh.	83	BBC (R. Heil)
8/5	Lynn B.	9	M. Iliff	8/25	Hydrographer	41	BBC (R. Heil)
Long-tailed D	uck	1.6.344		Sooty Shearw	vater	00	
1/5-22 Hoodad Ma	Chatham (S.B.)	IT MAS	(D. Berard)	$\frac{\text{nr}}{7/0}$ 20	Stellwagen	80 max	V.O.
7/3	Belchertown	11	I Therrier	7/19, 30	N Truro	5, 0 10:	B Milarlo
7/13	Northampton	5	B Hart	7/14 8/12	5 m NE of Ten	10+	B. Nikula B. Nikula
7/13	Lenox	9	R Laubach	7/14, 0/12	P'town	40	B Nikula
7/14	Plainfield	5	S. Kellogo	7/16 8/6	Rockport (A P	1, 12	R Heil
7/17	GMNWR	3USFWS	(McGourty)	7/21. 8/25	Nantucket Sh	28, 1	BBC (R. Heil)
8/13	Salisbury	4	T. Bronson	, 5/20		, -	- (
	•						

Manx Shearw	ater			8/19	E. Boston (B.I.) 65	S	. Zendeh
7/9, 30	Jeffries L.	3, 5	MAS (Larson)	8/24	Eastham (CGB) 20+	MAS (D	. Berard)
7/14, 8/10, 7/14, 8/12	5 m NE of Trure	2, 0, 3	B. Nikula B. Nikula	0/20 Little Blue H	Longineadow	1	J. Ca	ivanaugn
7/16. 8/6	Rockport (A.P.)	2, 21	R. Heil	7/22	Manchester	14		J. Hove#
7/21, 8/19	Nantucket Sh.	4, 12	BBC (R. Heil)	7/27	Scituate	1	MAS (C	Galluzzo)
7/22, 8/7	P.I.	2, 2	R. Heil	7/30	Nantucket	1	S	. Langer
8/20	Stellwagen	20+	I. Nisbet	8/12	Salisbury	2 a	d .	J. Berry#
Little (Macar	onesian) Shearw	vater *	DDC (D II-i)	8/21	P.I. Castion	1 a	d, 2 juv	R. Heil
0/23 10 Audubon's S	hoorwotor *	an. 1 pn	BBC (R. Hell)	8/20	N Monomov	1 11	MAS (D	. Lyncn#
7/21 8/19	Hydrographer	3 17	BBC (R Heil)	Tricolored He	eron	1	MAS (D	. Deraiu)
8/25	Veatch's Canyor	1 3	BBC (R. Heil)	7/1-8/17	N. Monomoy	1-2	, 1	B. Harris
Wilson's Store	m-Petrel		· · · ·	7/2	Thompson I.	1	BBC (P.	Stevens)
thr	Stellwagen	300 max	v.o.	7/16	P.I.	1 a	d	R. Heil
7/9, 8/13	Jeffries L.	530, 442	MAS (Larson)	7/22	Manchester	1	1 D C	J. Hoye#
7/14, 8/3	P town 5 m NE of Trum	40, 35	B. Nikula P. Nikula	//24-31	Salisbury Chatham (S.B.)			Secatore#
7/14, 0/12	$\frac{1}{2}$ Rockport (A P)	40	D. INIKUIA R Heil	0/J Cattle Egret	Chathann (S.D.	, 1	MAS (L	J. Clapp)
7/21, 8/25	Hydrographer	950, 415	BBC (R. Heil)	7/15	Ipswich	1]	J. Nelson
White-faced	Storm-Petrel *	, -		7/29	Chatham (S.B.)) 1	A. Fa	rnsworth
8/19	Hydrographer	1	BBC (R. Heil)	Green Heron		_		
Leach's Storm	n-Petrel			7/12	Newbury j	pr + 5 y	g v	J. Berry
1/21 Bond rumpor	Hydrographer	1	BBC (R. Heil)	7/14	Mashpee	25	M.	. Keleher
8/25	Hydrographer	1	BBC (R. Heil)	8/5	S Egremont		d+3 immN	J. Delly
Northern Gan	net	1	DDC (R. Hell)	8/10	Hatfield	6	IT IIIIII	Bowrys
7/2	P'town (R.P.)	1	B. Zajda	8/12	Salisbury	ğ		J. Berry#
7/7	Stellwagen	3SSBC	C (M. Emmons)	8/16	Rutland	2 a	d+2 immM	M. Lynch
7/21	Nantucket Sh.	2 suba	dBBC (R. Heil)	8/17	Lexington	6]	M. Rines
7/30	Jeffries L.	6	MAS (Larson)	8/25	Longmeadow	6	S.	Kellogg
8/6	Rockport (A.P.)	25 2 subs	dPPC (P. Heil)	Black-crowne	d Night-Heron	27		D 11-11#
Brown Pelica	n (no details) *	2 Suba	UDDC (K. Hell)	7/8	r.1. Manchester	26		I Hove#
7/15	Hvannis H.	1	J. Huckamever	7/14	Mashpee	6	M	. Keleher
Double-creste	d Čormorant			7/21	Pittsfield	1		N. Mole
7/7	Cape Ann	100s of p	r n J. Berry#	7/22	Chatham (S.B.)) 3	MAS (D	. Berard)
7/22	Acoaxet	119	M. Lynch#	8/4	Lenox	1	R.	Laubach
8/21	Nahant Chatham (S. P.)	330+	R. Heil	8/9	GMNWR	20	SFWS (M	cGourty)
8/21	Chatham (S.B.)	210 × M	AS (D. Berard) R Heil	0/1/ Vellow_crowr	wakefield	2 a	J P.	+ r. vale
8/30	N Monomov	300+ M	AS (D Berard)	7/8	PI	1 iı	ıv IF	Smith#
Great Cormor	ant	2001 11	(D) Denura)	7/12-8/4	MNWS	1 a	d D. Not	ble + v.o.
7/7	Rockport	2 imm	J. Berry#	7/19	IRWS	1	MAS (S.	Santino)
8/20	P'town	2	I. Nisbet	8/19	Salisbury	1 ii	nm S	S. Ricker
8/29	Chatham (MI)	l imm	B. Harris	8/23	Eastham	2	D	D. Clapp
American Bitt	Dearfield	1	LI Allen	8/31 Glossy Ibis	Duxbury	1 11	nm R.	Bowes#
7/10	HRWMA	1	C Caron	7/1-8/10	РI	137 n	nax	R Heil
7/28	P.I.	1	L. Ferraresso	7/7	Duxbury B.	5	F	R. Bowes
8/4	GMNWR	1	J. Forbes	7/8	Manchester	217		J. Hoye#
8/23	S. Amherst	1	B. Zajda	7/15	Amherst	2		H. Allen
Least Bittern	DI			7/16	Cheshire	2	1440 (6	B. Wood
7/0	P.I. Marchfield	6 max	C Nime	7/28 8/0	CMNWP	4 3 6	MAS (C	Januzzo)
8/4	GMNWR	2	M Lynch#	8/7	Dalton	1	C	Blagdon
Great Blue He	eron	2	Mi. Lynenii	8/26	Halifax	2	J.	Sweenev
7/4	Ware	11 yg	M. Lynch#	Black Vulture	•			
7/17	P.I.	26	R. Heil	8/5	Sheffield	3	М	. Lynch#
7/18	GMNWR	22	S. Perkins#	Turkey Vultur	re	~	м	17.1.1
8/14	Sunderland Easthorn (CCP)	101 201 M	A. Kichards	7/20 8/5	Springfield	5	M. D	E Volo
8/25	Sandwich	28 C	CBC (Keleher)	8/7	PI	6	r	R Heil
Great Egret	Sundwich	20 0		8/16	Becket	16	R.	Laubach
thr	P.I.	195 max	8/10 R. Heil	Osprey				
7/18-8/9	GMNWR	7 max	USGS	7/1	P.I.	9 a	d, 3 juv	R. Heil
7/28	Agawam	4	H. Allen	7/8	Quincy	3 a	d, 3 juv	J. Poggi
8/10	Salisbury	140	J. Hully M. Lunah#	7/14	Southwisk	1/	M.	. Kelener
8/19	E Boston (B I)	20	S Zendeh	7/22	Westnort	рг т 2 у 57	^g м	J vnch#
8/25	Longmeadow	-ĕ	S. Kellogg	8/19	Acoaxet	25	M	Lynch#
Snowy Egret			88	Bald Eagle				<i>,</i>
thr	P.I.	475 max	8/10 R. Heil	7/4	Ware	1 ii	nm M	. Lynch#
7/18, 8/30	GMNWR	4, 2	S. Perkins#	7/26	P.I.	1 ju		B. Harris
8/1	IN. MONOMOY	30 15	B. Nikula M. Malin#	8/3 8/5	Sheffield	1 a	a R d P	$\pm E Vala$
8/11	Revere	24	P + F Vale	8/14	Norfolk	1 1 1	u P.º mm 7	τ Γ. vale Γ Yeager
8/12	Salisbury	230	J. Berrv#	8/19	Leicester	1 ii	nm M	. Lynch#
	2			-			=	.

g J. Berry M. Keleher J. Berry d+3 immM. Lynch F. Bowrys J. Berry# l+2 immM. Lynch M. Rines S. Kellogg R. Heil# J. Hoye# M. Keleher N. Mole MAS (D. Berard) R. Laubach SFWS (McGourty) P. + F. Vale J. P. Smith# v D. Noble + v.o. MAS (S. Santino) m S. Ricker D. Clapp m R. Bowes# R. Heil ax R. Bowes J. Hoye# H. Allen B. Wood MAS (Galluzzo) v.o. C. Blagdon J. Sweeney M. Lynch# M. Keleher P. + F. Vale R. Heil R. Laubach v R. Heil v J. Poggi M. Keleher S. Ricker M. Lynch# M. Lynch# l, 3 juv l, 3 juv M. Lynch# B. Harris m v R. Messer P. + F. Vale T. Yeager m M. Lynch# m

S. Zendeh

Bald Eagle (co	ontinued)	1 0	Chi 1	King Rail	DI	1	D II.'I.
8/24 8/26	W. Newbury Wachusett Res	I D	M Lynch#	//29-8/4 Virginia Rail	P.I.	1	R. Heil $+$ v.o.
Northern Harr	ier	1 au	Ivi. Lyncii#	thr	P.I.	4 max	v.o.
7/22	N. Wellfleet	1	B. Nikula	7/3	Deerfield	3	H. Allen
7/27	Scituate	1 MA	S (Galluzzo)	7/26	Ipswich	3	J. Berry
8/thr	Chatham (S.B.)	1-3	V.O.	8/5	Lee	3	M. Lynch#
8/14	Duxbury B.	11	R. Bowes	8/12 Sora	Burlington	8	M. Rines
8/19	r.i. Duxbury B	2 f 1 imn	n R Bowes	thr	РI	1	V O
8/24	Eastham (CGB)	2 MAS	(D. Berard)	7/5	Westminster	1-2	C. Caron
8/30	N. Monomoy	4 MAS	(D. Berard)	7/14	Petersham p	r + 1 yg	M. Lynch#
8/30	Duxbury B.	2 juv	R. Bowes	7/14	Ipswich	1	J. Berry
Sharp-shinned	Hawk	3.4	I N Borry	7/17-8/20	GMNWR	1	V.O. N Mole
7/7	Belchertown		L Therrien	Purple Gallin	nile	1	IN. MOIE
7/12	N. Quabbin	1	L. Therrien	8/10	Nantucket	1	fide E. Ray
7/13	Lenox	1	R. Laubach	Common Moo	orhen	_	
8/5	P.I. Narthfield	1 3	S. McGrath#	7/26	Lenox	5	G. Hurley
8/12	Ouabbin Pk	1 3 imm	F. BOWFYS	Sandhill Cra	P.I. no	1	v.o.
8/26	Wachusett Res.	3	M. Lynch#	7/4	New Marlborop	r + 1 vg	S. Mullen
8/26	Worcester	1	M. Lynch#	Black-bellied	Plover	10	
Cooper's Haw	k .		D G	thr	P.I.	70 max	8/21 R. Heil
7/8	Boston (AA) I	ad + 4 yg	R. Stymeist	thr	Chatham (S.B.)	950 max	8/13 V.O.
8/20	Framingham	3 iuv	C leffery	8/4	Wachusett Res	400 max	M Lynch#
8/20	Lexington	3	M. Rines	8/19	Acoaxet	19	M. Lynch#
8/21	P.I.	2 juv	R. Heil	8/24	Eastham (CGB)	100+ M	IAS (D. Berard)
Northern Gosh	nawk	1 D	G1 · 1 ·	8/25	Sandwich	32 0	CBC (Keleher)
7/15	Groveland		. Chickering	American Gol	Iden-Plover	1	D Homio
8/5	S Amberst	1	P + F Vale	8/26 29	Chatham (S B)	12	D. Hallis Nikula Berard
8/12	Quabbin Pk	$\frac{1}{2}$ ad	M. Lynch#	8/27	Hadley	1 ad	C. Gentes
Red-shouldere	ed Hawk		2	Semipalmated	l Plover		
7/thr	E. Middleboropr	+ 4 yg	K. Anderson	thr	P.I.	1140 max	8/31 R. Heil
//0 8/thr	Sheffield	1	R. Laubach	thr	Chatham (S.B.)	1900 max	8/4 V.O.
8/5	Grevlock	5 yg	R Laubach	7/28	Hadley	2560 max 15	C Gentes
8/5	Hopkinton	i	P. + F. Vale	8/10	Ipswich (C.B.)	2500+	J. Berry
8/12	Manomet	1 juv	B. Gordon	8/11	Nahant	600	L. Pivacek
8/12	Wompatuck SP	2 G.	d'Entremont	8/18	W. Falmouth	300	J. Spendelow
8/15 Broad winged	Petersham	1	M. Lynch#	8/25 Dining Dlover	Lexington	30+	P. + F. vale
thr	Lexington r	or n	M Rines	thr	Chatham (SB)	60 max	vo
7/1	Barre	2	H. Allen	thr	P.I.	24 max	v.o.
7/4	Ware	2	M. Lynch#	thr	Duxbury B.	12 max	R. Bowes
7/7	Spencer	2	M. Lynch#	7/21	S. Dartmouth	2 ad, 6	b juv L. Day
7/17	Belchertown	$\frac{2}{3}$	I Therrien	7/22	Scituate	1 + 2 yg	MAS (Galluzzo)
7/21	Leominster	2	J. Dekker	8/thr	Ipswich (C.B.)	19 fl	F. Ingelfinger#
8/12	Quabbin Pk	2 imm	M. Lynch#	Killdeer	1 . ,		0 0
8/27	Waltham	3	J. Forbes	7/30	Hatfield	68	H. McQueen
American Kes	Amberst	1	H Allen	8/4	GMNWR	05 116USE	C. Gentes
7/1	Worcester	2	M. Lynch#	8/11	Athol	12	T. Pirro
7/14	Concord	2 ad +3 ju	v S. Perkins	8/26	Grafton	56	M. Lynch#
7/15	S. Carver	1 m	K. Anderson	American Oy	stercatcher		-
7/21	Quabbin Pk	l imm	M. Lynch#	thr	Chatham (S.B.)	75 max	V.O.
8/19	Williamstown	1	R Laubach	7/1	r.i. N Falmouth	4 ad	I Nishet
8/19	Leicester	4	M. Lynch#	7/24	Salem	3 ad, 1	l juv P. Brown
8/21	Mt.A.	1	R. Stymeist	8/19	Fairhaven	4 SSE	3Č (J. Sweeney)
8/27	HRWMA	1	T. Pirro	8/23	Cuttyhunk	4	C. Buckley
Nierlin 8/7 30	рī	1 1	P Heil	8/23 Black-necked	Winthrop B.	3	R. Cressman
8/13	Hatfield	1, 1	F. Bowrys	8/24	Eastham (CGB)	1 N	IAS (D. Berard)
8/18	Revere	î	P. + F. Vale	Spotted Sandy	piper	1 10	li ilo (Di Deluid)
8/19	Hadley	2	C. Gentes	7/8	Duxbury B.	11	R. Bowes
8/24	Eastham (CGB)	1 MAS	(D. Berard)	8/9	GMNWR	39USF	WS (McGourty)
8/24 8/25	Burlington	1	P + F Vale	8/23	Hadley	10	S. Kellogg
8/28	Leicester	1	M. Lynch#	8/26	Grafton	13	M. Lynch#
Peregrine Falc	con		<u> </u>	Solitary Sand	piper		_
7/22-8/31	P.I.	1-3	R. Heil	7/18, 27	Sudbury	3, 11	B. Harris
8/24 8/26	Agawam Wachusett Res 1	∠ ad⊥1 imm	5. Svec M Lynch#	8/2	GMNWR	121185	U. Gentes
8/28	Leicester	2 ad	M. Lynch#	8/11	Athol	7	T. Pirro
			, , , , , , , , , , , , , , , , , , , ,			-	

0/17	piper (continued)				8/14-31	P.I.	33	max
8/1/	Lexington	7		M. Rines	8/28	Ipswich (C.B.)	2	
8/17	Egremont	10		G. Hurley	8/30	Lexington	1	
8/20	Lexington	10		M. Rines	Least Sandpip	Chatham (CD)	600	
8/20	Gration	18		M. Lynch#	7/10-8/13	CMNWP	102	max
6/20 Greater Vellov	vlegs	5		J. Sweeney	7/21-8/31	PI	430	max
thr	PI	100 r	max	8/17 R Heil#	8/8	Scituate	229	шал
7/14-8/31	Duxbury B.	31 1	max	R. Bowes	8/17-31	Lexington	77	max
7/16-8/31	Chatham (S.B.)	220 1	max	8/4 B. Nikula	8/19	Acoaxet	238	
8/19	E. Boston (B.I.)	41		S. Zendeh	8/22	Hadley	- 98	
8/27	ONWR	16		S. Sutton	White-rumped	Sandpiper		
8/30	Lexington	9		M. Rines	7/27-8/31	P.I.	240	max
Willet	(\mathbf{D}, \mathbf{u})	417			7/29-8/31	Chatham (S.B.)	75	max
thr	Chatnam (S.B.)	$\frac{41/1}{206}$	max	V.O.	8/2	GMINWK Bayara B	12	17
thr	F.I. Duybury B	2001	max	P Bowes	0/4, 10 8/11	Nahant	12,	1/
7/15	WBWS	78	пал	D Clann#	8/15	S Monomov	115	
8/8	Scituate	12		S. Maguire#	8/29	Halifax	3	
Lesser Yellow	legs			bringanen	Baird's Sandp	iper	0	
thr	P.I.	290 ı	max	R. Heil	7/28-8/31	P.I.	3	max
7/15-8/31	GMNWR	41 ı	max	ISFWS	8/12	WBWS	2	
7/15-8/31	N. Monomoy	50 1	max	V.O.	8/19	Lexington	2	
7/17, 31	Newbypt	790, 6	500	R. Heil	8/21	GMNWR	2	
7/28	Hadley	15		C. Gentes	8/23	Hadley	2	
8/26 Whimherel	Grafton	15		M. Lynch#	8/25	Longmeadow	1	
thr	Chatham (S.P.)	20.	mov	VO	8/20 Pectoral Sanda	Gration	3	
7/12	N Monomov	201	пал	B Harris	7/3_8/31	Chatham (S B)	0	may
7/17-8/28	PI	12 1	max	D. Hallis	7/17-8/31	GMNWR	8	max
7/25-8/30	Duxbury B.	11 1	max	R. Bowes	7/20-8/31	P.I.	4	max
7/27	Plymouth	5		P. O'Neill	7/28	Hatfield	7	
7/30	Nantucket	15		C. Jackson	7/30	Cumb. Farms	5	
Black-tailed (Godwit (details s	ubmit	ted)	*	8/20	Lexington	8	
7/24	Chatham (S.B.)	1		J. Offermann	8/26	Halifax	4	
Hudsonian Go	dwit	~			8/26	Grafton	4	
thr	Chatham (S.B.)	64 1	max	V.O.	Dunlin	(\mathbf{D}, \mathbf{D})	0	
//12	N. Monomoy	25	h	B. Harris	1/3-8/4	Chatham (S.B.)	8	max
8/3-18	Feed	1-4	2	V.O. I Nelson	7/0-8/31	P.I. Duybury B	1-	-2
8/25	Nantucket Sh	401	mior	BBC (R Heil)	8/1	N Monomov	1	
Marbled Gody	vit	401	ingi	bbe (R. Hell)	Arctica Dunli	14. Mononoy	1	
7/thr	N. Monomoy	1		B. Harris	7/29	Chatham (S.B.)	1	
7/22-8/31	Chatham (S.B.)	1-5	5	v.o.	White-rumped	Sandpiper X Du	ınlin	
8/9	PI	2		I. Giriunas	7/20 8/18	Chatham (S.B.)	1.	1
0, 2	1.1.	_			1129, 0/10		,	
8/23-30	Duxbury B.	ī		R. Bowes	Curlew Sand	piper	Ĺ	
8/23-30 Ruddy Turnsto	Duxbury B.	1		R. Bowes	Curlew Sandy 8/9-26	piper Chatham (S.B.)	1	В. Н
8/23-30 Ruddy Turnsto thr	Duxbury B. one Chatham (S.B.)	1 150 i	max	R. Bowes v.o.	Curlew Sandy 8/9-26 Stilt Sandpipe	chatham (S.B.)	1	B. H
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21 8/20	Duxbury B. one Chatham (S.B.) P.I. Duxbury P	1 150 1 29 1	max	R. Bowes v.o. v.o.	Curlew Sandy 8/9-26 Stilt Sandpiper 7/15 7/16	piper Chatham (S.B.) GMNWR Chatham (S.B.)	1 2 1	B. H BE
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/30	Duxbury B. one Chatham (S.B.) P.I. Duxbury B. Hatfield	1 150 1 29 1 155 1	max max max	R. Bowes v.o. v.o. R. Bowes	Curlew Sandy 8/9-26 Stilt Sandpipe: 7/15 7/16 7/27	piper Chatham (S.B.) GMNWR Chatham (S.B.)	1 2 1	B. H BI
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/30 8/23	Duxbury B. one Chatham (S.B.) P.I. Duxbury B. Hatfield Rockport (H.P.)	1 150 r 29 r 155 r 1 5 r	max max max	R. Bowes v.o. v.o. R. Bowes H. McQueen I Berry	Curlew Sandy 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31	piper Chatham (S.B.) GMNWR Chatham (S.B.) Scituate PI	1 2 1 1	B. H BH M max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/30 8/23 Red Knot	Duxbury B. one Chatham (S.B.) P.I. Duxbury B. Hatfield Rockport (H.P.)	1 150 r 29 r 155 r 1 5 j	max max max juv	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry	Curlew Sandy 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12	piper Chatham (S.B.) GMNWR Chatham (S.B.) Scituate P.I. WBWS	1 2 1 11 11	B. H BI M max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/30 8/23 Red Knot 7/3-8/13	Duxbury B. one Chatham (S.B.) P.I. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.)	150 1 29 1 155 1 1 5 j 1300 1	max max max juv max	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o.	Curlew Sandy 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted	piper Chatham (S.B.) GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper	1 2 1 11 11 1	B. H BI M max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/30 8/23 Red Knot 7/3-8/13 7/8-8/14	Duxbury B. one Chatham (S.B.) P.I. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B.	1 150 r 29 r 155 r 1 5 j 1300 r 14 r	max max max juv max max	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes	Curlew Sandy 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31	piper Chatham (S.B.) GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I.	1 2 1 11 11 1 1-	B. H BI Max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31	Duxbury B. nne Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. P.I.	1 150 r 29 r 155 r 1 5 j 1300 r 14 r 7 r	max max juv max max max	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o.	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 Short-billed D	piper Chatham (S.B.) r GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher	1 2 1 11 11 1-	B. H BI Max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/21-8/30 7/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/9	Duxbury B. one Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy	1 150 r 29 r 155 r 1 5 j 1300 r 14 r 7 r 198	max max juv max max max	R. Bowes v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/28-8/31 8/12 Buff-breasted 7/28-8/31 Short-billed D 7/3-8/31	piper Chatham (S.B.) GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.)	1 2 1 11 11 1- 5400	B. H BI max -2 max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/9 8/24	Duxbury B. one Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy Eastham (CGB)	1 150 r 29 r 155 r 1 5 j 1300 r 14 r 7 r 198 2	max max juv max max max M	R. Bowes v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard)	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 Short-billed D 7/3-8/31 7/8-8/31	piper Chatham (S.B.) r GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I.	1 2 1 11 11 1- 5400 716	B. H BF max -2 max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/21-8/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/9 8/24 Sanderling	Duxbury B. ne Chatham (S.B.) P.I. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. P.I. Minimoy Eastham (CGB)	1 150 r 29 r 155 r 1 5 j 1300 r 14 r 7 r 198 2	max max juv max max max M	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard)	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 Short-billed D 7/3-8/31 7/8-8/31 7/12	piper Chatham (S.B.) GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy	1 2 1 11 1 1 1 - 5400 716 550	B. H BF Max -2 max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/21-8/30 7/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/9 8/24 Sanderling thr 7/14 8/21	Duxbury B. me Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B.	1 150 r 29 r 155 r 1 155 r 1300 r 14 r 7 r 198 2 1800 r 543 r	max max juv max max max M max	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) v.o. P. Bower	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 7/3-8/31 7/12 7/14-8/31 7/14-8/31	piper Chatham (S.B.) GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Nawburt	1 2 1 11 11 1- 5400 716 550 300	B. H BI Max -2 max max 450
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/9 8/24 Sanderling thr 7/14-8/31 7/14-8/31	Duxbury B. one Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. PI	1 150 r 29 r 155 r 1 5 j 1300 r 14 r 7 r 198 2 1800 r 543 r 220 r	max max juv max max max M max max	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) v.o. R. Bowes P. Heil	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 7/8-8/31 7/18-8/31 7/14-8/31 7/14-8/31 7/17, 31 7/17, 31	piper Chatham (S.B.) r GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWP	1 2 1 11 11 1- 5400 716 550 300 500,	B. H BF Max -2 max max 450 3
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/21-8/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/24 Sanderling thr 7/14-8/31 7/16-8/31 7/16-8/31	Duxbury B. me Chatham (S.B.) P.I. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. P.I. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. P.I. Beyere B	1 150 r 29 r 155 r 1 5 j 1300 r 14 r 198 2 1800 r 543 r 220 r 48	max max juv max max max M max max max max 131	R. Bowes v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) v.o. R. Bowes R. Heil P + F Vale	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/28-8/31 8/12 Buff-breasted 7/28-8/31 Short-billed D 7/3-8/31 7/18-8/31 7/14-8/31 7/17, 31 7/18, 28 7/29, 8/18	piper Chatham (S.B.) r GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWR Revere B	1 2 1 11 11 1- 5400 716 550 300 500, 1,	B. H BF max -2 max 450 3 56
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/21-8/30 7/3-8/13 7/8-8/14 7/28-8/31 8/9 8/24 Sanderling thr 7/14-8/31 7/16-8/31 7/29, 8/18 7/29	Duxbury B. ne Chatham (S.B.) P.I. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. P.I. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. P.I. Revere B. Lynn B.	1 150 r 29 r 155 r 155 r 1 5 j 1300 r 14 r 7 r 198 20 r 48, 1 982	max max juv max max max M max max max 131	R. Bowes v.o. V.O. R. Bowes H. McQueen J. Berry V.O. R. Bowes v.O. B. Harris AS (D. Berard) v.O. R. Bowes R. Heil P. + F. Vale L. Pivacek	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 Short-billed D 7/3-8/31 7/18-8/31 7/14-8/31 7/17, 31 7/18, 28 7/29, 8/18 7/30	piper Chatham (S.B.) r GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWR Revere B. Nantucket	1 2 1 11 1 1 1 1 5400 716 550 300 500, 1, 6, 45	B. H BI Max -2 max 450 3 56
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/9 8/24 Sanderling thr 7/14-8/31 7/14-8/31 7/29, 8/18 7/29 Semipalmated	Duxbury B. me Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. PI. Revere B. Lynn B. Sandpiper	1 150 r 29 r 155 r 155 r 155 r 155 r 1300 r 14 r 7 r 198 220 r 48, 1 982	max max juv max max M max max max 131	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) v.o. R. Bowes R. Heirl P. + F. Vale L. Pivacek	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 7/3-8/31 7/14-8/31 7/14-8/31 7/14.28 7/14.28 7/29,8/18 7/30 Long-billed D	piper Chatham (S.B.) r GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWR Revere B. Nantucket owitcher	1 2 1 11 1 1 1 5400 716 550 300 500, 1, 6, 45	B. H BF Max -2 max 450 3 56
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/9 8/24 Sanderling thr 7/14-8/31 7/14-8/31 7/19, 8/18 7/29 Semipalmated 7/16-8/31	Duxbury B. me Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. PI. Revere B. Lynn B. Sandpiper Chatham (S.B.)	1 150 r 29 r 155 r 1 5 j 1300 r 14 r 7 r 198 2 1800 r 543 r 220 r 48, 1 982 7500 r	max max juv max max M max max 131 max	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) v.o. R. Bowes R. Heil P. + F. Vale L. Pivacek v.o.	Curlew Sand 8/9-26 Still Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 7/8-8/31 7/14-8/31 7/14-8/31 7/17, 31 7/18, 28 7/29, 8/18 7/30 Long-billed D 7/8-8/31	piper Chatham (S.B.) GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWR Revere B. Nantucket owitcher P.I.	1 2 1 1 11 1 1 5400 716 550 300 500, 1, 6, 45 4	B. H BF Max -2 max max 450 3 56 max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/21-8/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 7/8-8/31 7/16-8/31 7/16-8/31 7/16-8/31 7/16-8/31	Duxbury B. me Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. PI. Revere B. Lynn B. Sandpiper Chatham (S.B.) Duxbury B.	1 150 r 29 r 155 r 1 5 j 1300 r 14 r 7 r 198 2 1800 r 543 r 220 r 48, 1 982 7500 r 3306 r	max max juv max max max max 131 max max	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) v.o. R. Bowes R. Heil P. + F. Vale L. Pivacek v.o. R. Bowes	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 7/18-8/31 7/14-8/31 7/14-8/31 7/14-8/31 7/17, 31 7/18, 28 7/29, 8/18 7/30 Long-billed D 7/8-8/31 7/8-8/31	piper Chatham (S.B.) r GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWR Revere B. Nantucket owitcher P.I. Minimoy	1 2 1 1 1 1 1 1 1 5 5 00, 5 500, 1, 6, 4 5 4 1	B. H BF Max -2 max max 450 3 56 max
8/23-30 Ruddy Turnste thr 7/15-8/30 7/21-8/30 7/21-8/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/9 8/24 Sanderling thr 7/16-8/31 7/29, 8/18 7/29 Semipalmated 7/16-8/31 7/21-8/31 7/22-8/31	Duxbury B. me Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. PI. Revere B. Lynn B. Sandpiper Chatham (S.B.) Duxbury B. PI. Duxbury B. PI.	ī 150 r 29 r 155 r 1 5 j 1300 r 14 r 7 r 198 2 1800 r 543 r 220 r 48, r 982 7500 r 3306 r 3150 r	max max juv max max max max 131 max max max	R. Bowes v.o. V.O. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) V.O. R. Bowes R. Heil P. + F. Vale L. Pivacek v.o. R. Bowes R. Heil	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 Short-billed D 7/3-8/31 7/12-8/31 7/14-8/31 7/14-8/31 7/17, 31 7/18, 28 7/29, 8/18 7/30 Long-billed D 7/8-8/31 7/28-7/29 8/5-8/9	piper Chatham (S.B.) r GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWR Revere B. Nantucket owitcher P.I. Minimoy N. Monomoy	1 2 1 1 1 1 1 1 1 1 1 1 5500 716 5500, 300 5500, 1, 6, 45 4 1 1	B. H BF Max -2 max max 450 3 56 max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/21-8/30 7/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/9 8/24 Sanderling thr 7/14-8/31 7/16-8/31 7/29, 8/18 7/12-8/31 7/22-8/31 7/28-8/31	Duxbury B. me Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. PI. Revere B. Lynn B. Sandpiper Chatham (S.B.) Duxbury B. PI. GMNWR	1 150 r 29 r 155 r 1 5 j 1300 r 14 r 7 r 198 2 1800 r 543 r 220 r 1800 r 543 r 200 r 48, 1 982 7500 r 3150 r 61 r	max max juv max max max max max 131 max max max max max	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) v.o. R. Bowes R. Heil P. + F. Vale L. Pivacek v.o. R. Bowes R. Heil V.o. R. Bowes R. Heil V.o.	Curlew Sand, 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 Short-billed D 7/3-8/31 7/14-8/31 7/14-8/31 7/17, 31 7/18, 28 7/29, 8/18 7/30 Long-billed D 7/8-8/31 7/28-7/29 8/5-8/9 Dowitcher spe	piper Chatham (S.B.) GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWR Revere B. Nantucket owitcher P.I. Minimoy N. Monomoy cies	1 2 1 1 1 1 1 1 1 1 1 1 5500 3000 716 5500 3000 716 5500 3000 716 45 4 1 1	B. H BF Max -2 max 450 3 56 max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/21-8/30 7/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/9 8/24 Sanderling thr 7/14-8/31 7/14-8/31 7/16-8/31 7/29, 8/18 7/21-8/31 7/22-8/31 7/28-8/31 7/28-8/31 7/28-8/31 7/28-8/31	Duxbury B. one Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. PI. Revere B. Lynn B. Sandpiper Chatham (S.B.) Duxbury B. PI. GMNWR Hadley	1 150 r 29 r 29 r 155 r 1 5 j 1300 r 14 r 7 r 198 2 1800 r 543 r 200 r 48, 1 982 7500 r 3306 r 61 r 36 c 61 r 36 c	max max juv max max max max max 131 max max max	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) v.o. R. Bowes R. Heil P. + F. Vale L. Pivacek v.o. R. Bowes R. Heil USFWS C. Gentes	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 7/12-8/31 7/18-8/31 7/14-8/31 7/14-8/31 7/14-8/31 7/18, 28 7/29, 8/18 7/30 Long-billed D 7/8-8/31 7/28-7/29 8/5-8/9 Dowitcher spe 8/20	piper Chatham (S.B.) GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWR Revere B. Nantucket owitcher P.I. Minimoy N. Monomoy cies Bolton Flats	1 2 1 1 1 1 1 1 1 5 5 4 0 3 00 5 500, 1, 6, 5 5 0 300 5 500, 1, 6, 4 1 1 1 2 2	B. H BI Max 2 max max 450 3 56 max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/21-8/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 7/8-8/31 7/16-8/31 7/16-8/31 7/16-8/31 7/16-8/31 7/12-8/31 7/12-8/31 7/22-8/31 7/29, 8/11 7/29, 8/11 7/29, 8/11	Duxbury B. me Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. PI. Revere B. Lynn B. Sandpiper Chatham (S.B.) Duxbury B. PI. GMNWR Hadley Nahant	ī 150 r 29 r 155 r 1 5 j 1300 r 5 j 1300 r 14 r 7 r 198 2 1800 r 543 r 982 7500 r 3306 r 3150 r 61 r 36 s 800 r 16 s 800 r 16 s 16 s	max max juv max max max max 131 max max max max 1580	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) V.O. R. Bowes R. Heil P. + F. Vale L. Pivacek v.o. R. Bowes R. Heil USFWS C. Gentes L. Pivacek	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 7/18-8/31 7/14-8/31 7/14-8/31 7/14-8/31 7/14-8/31 7/17, 31 7/18, 28 7/29, 8/18 7/30 Long-billed D 7/8-8/31 7/28-7/29 8/5-8/9 Dowitcher spe 8/20 Wilson's Snip	piper Chatham (S.B.) r GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWR Revere B. Nantucket owitcher P.I. Minimoy N. Monomoy cies Bolton Flats	1 2 1 1 1 1 1 1 1 1 5400 716 550 300 550, 1, 6, 45 4 1 1 2 2	B. H BI Max -2 max max 450 3 56 max
8/23-30 Ruddy Turnste thr 7/15-8/30 7/21-8/30 7/21-8/30 7/21-8/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/9 8/24 Sanderling thr 7/16-8/31 7/29, 8/18 7/29, 8/18 7/28-8/31 7/28-8/31 7/28-8/31 7/28-8/31 7/28-8/31 7/28-8/31 7/29, 8/11 7/31 8/25	Duxbury B. me Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. PI. Revere B. Lynn B. Sandpiper Chatham (S.B.) Duxbury B. PI. GMNWR Hadley Nahant I Newbypt H. Samperst	ī 1 1 1 1 1 1 1 1 1 1 1 1 1	max max juv max max max max 131 max max max max max 1580	R. Bowes v.o. V.O. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) V.O. R. Bowes R. Heil P. + F. Vale L. Pivacek V.O. R. Bowes R. Heil USFWS C. Gentes L. Pivacek R. Heil	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 Short-billed D 7/3-8/31 7/14-8/31 7/14-8/31 7/14-8/31 7/17, 31 7/18, 28 7/29, 8/18 7/30 Long-billed D 7/8-8/31 7/28-7/29 8/5-8/9 Dowitcher spe 8/20 Wilson's Snip 8/7 8/23	piper Chatham (S.B.) r GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWR Revere B. Nantucket owitcher P.I. Minimoy N. Monomoy cies Bolton Flats e P.I. CGMNWP	1 2 1 1 1 1 1 1 1 5500 716 550 716 5500 716 5500 716 5500 716 45 4 1 1 2 2 2	B. H BF Mmax -2 max max 450 3 56 max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/9 8/24 Sanderling thr 7/14-8/31 7/16-8/31 7/29, 8/18 7/29 Semipalmated 7/16-8/31 7/28-8/31 7/29-8/14 7/31 7/21-8/30 7/11-8/31 7/12-8/31 7/16-8/31 7/29-8/14 7/16-8/31 7/21-8/30 7/16-8/31 7/21-8/30 7/16-8/31 7/21-8/30 7/16-8/31 7/21-8/30 7/16-8/31 7/21-8/30 7/16-8/31 7/21-8/31 7/21-8/31 7/21-8/31 7/21-8/31 7/21-8/31 7/21-8/31 7/21-8/31 7/21-8/31 7/21-8/31 7/21-8/31 7/21-8/31 7/22-8/31 7/28-8/31	Duxbury B. me Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. PI. Revere B. Lynn B. Sandpiper Chatham (S.B.) Duxbury B. PI. GMNWR Hadley Nahant I Newbypt H. Amherst Direr	1 150 r 29 r 155 r 155 r 155 r 150 r 151 r 1300 r 14 r 7 r 1980 r 1800 r 48, 1 982 7500 r 3306 r 3305 r 61 r 3600 8800, 1 88000 8	max max juv max max max max max max max max max max	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) v.o. R. Bowes R. Heil P. + F. Vale L. Pivacek v.o. R. Bowes R. Heil USFWS C. Gentes L. Pivacek R. Heil L. Hoffman	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 Short-billed D 7/3-8/31 7/14-8/31 7/14-8/31 7/18, 28 7/29, 8/18 7/30 Long-billed D 7/8-8/31 7/28-7/29 8/5-8/9 Dowitcher spe 8/20 Wilson's Snip 8/7 8/23 8/23 8/26	piper Chatham (S.B.) r GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWR Revere B. Nantucket owitcher P.I. Minimoy N. Monomoy cies Bolton Flats e P.I. GMNWR Halifax	1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 5400 716 500, 716 500, 1, 6, 45 4 1 1 1 2 2 2 2 3	B. H BF Max -2 max 450 3 56 max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/21-8/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/9 8/24 Sanderling thr 7/14-8/31 7/14-8/31 7/29, 8/18 7/29, 8/18 7/29, 8/11 7/28-8/31 7/29, 8/11 7/31 8/25 Western Sandj 7/16-8/31	Duxbury B. me Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. PI. Revere B. Lynn B. Sandpiper Chatham (S.B.) Duxbury B. PI. GMNWR Hadley Nahant I. Mewbypt H. Amherst piper Chatham (S.B.)	1 150 r 29 r 155 r 155 r 155 r 155 r 155 r 1300 r 14 r 7 r 198 2 1800 r 48, 1 982 7500 r 3306 r 61 r 360, 1 8800, 1 8800, 3	max max juv max max max max max max max max max max	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) v.o. R. Bowes R. Heil P. + F. Vale L. Pivacek v.o. R. Bowes R. Heil USFWS C. Gentes L. Pivacek R. Heil L. Pivacek	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 7/128-8/31 7/14-8/31 7/14-8/31 7/14.28 7/29, 8/18 7/30 Long-billed D 7/8-8/31 7/128-7/29 8/5-8/9 Dowitcher spe 8/20 Wilson's Snip 8/7 8/23 8/26 8/26	piper Chatham (S.B.) CMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWR Revere B. Nantucket owitcher P.I. Minimoy N. Monomoy cies Bolton Flats P.I. GMNWR Halifax Sterling	1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	B. H BF Max -2 max -2 max -2 max -2 -2 max -2 -3 -56 max
8/23-30 Ruddy Turnsto thr 7/15-8/30 7/21-8/30 7/21-8/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 7/8-8/14 7/28-8/31 7/28-8/31 7/16-8/31 7/16-8/31 7/16-8/31 7/22-8/31 7/22-8/31 7/28-8/31 7/28-8/31 7/29, 8/11 7/28 7/29, 8/11 7/31 8/25 Western Sandj 7/16-8/31 7/25	Duxbury B. me Chatham (S.B.) PI. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. PI. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. PI. Revere B. Lynn B. Sandpiper Chatham (S.B.) Duxbury B. PI. GMNWR Hadley Nahant Newbypt H. Amherst Diper Chatham (S.B.) Duxbury B. PI. Sandpiper Chatham (S.B.) Duxbury B. Duxbury B. PI. Sandpiper Chatham (S.B.) Duxbury B. Duxbury B. Duxbury B. PI. Chatham (S.B.) Duxbury B. Duxbury B.	1 150 r 29 r 155 r 1 15 r 1	max max max max max max max max max max	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) D. Berard) P. + F. Vale L. Pivacek V.o. R. Bowes R. Heil USFWS C. Gentes L. Pivacek R. Heil L. Hoffman v.o. R. Bowes	Curlew Sand &/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 &/12 Buff-breasted 7/28-8/31 Short-billed D 7/3-8/31 7/14-8/31 7/14-8/31 7/14-8/31 7/14-8/31 7/17, 31 7/18, 28 7/29, 8/18 7/30 Long-billed D 7/8-8/31 7/28-7/29 &/5-8/9 Dowitcher spe &/20 Wilson's Snipe &/2 &/23 &/26 American Woo	piper Chatham (S.B.) r GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWR Revere B. Nantucket owitcher P.I. Minimoy N. Monomoy cies Bolton Flats P.I. GMNWR Halifax Sterling Jdcock	1 2 1 1 1 1 1 1 1 1 1 1 1 5500 3000 5500, 1, 6, 45 4 1 1 2 2 2 3 1	B. H BI Max -2 max 450 3 56 max
8/23-30 Ruddy Turnste thr 7/15-8/30 7/21-8/30 7/21-8/30 8/23 Red Knot 7/3-8/13 7/8-8/14 7/28-8/31 8/9 8/24 Sanderling thr 7/14-8/31 7/29, 8/18 7/29, 8/18 7/29, 8/11 7/21-8/31 7/29, 8/11 7/25 Western Sandj 7/16-8/31 7/25	Duxbury B. me Chatham (S.B.) P.I. Duxbury B. Hatfield Rockport (H.P.) Chatham (S.B.) Duxbury B. P.I. Minimoy Eastham (CGB) Chatham (S.B.) Duxbury B. P.I. Revere B. Lynn B. Sandpiper Chatham (S.B.) Duxbury B. P.I. GMNWR Hadley Nahant I Newbypt H. Amherst Siper Chatham (S.B.) Duxbury B. P.I. Sandpiper Chatham (S.B.) Duxbury B. P.I. Sandpiper Chatham (S.B.) Duxbury B. P.I. Sandpiper Chatham (S.B.) Duxbury B. Nahant I Newbypt H. Amherst Siper Chatham (S.B.) Duxbury B. Nahucket	1 150 r 29 r 155 r 155 r 155 r 1300 r 14 r 7 r 1982 1800 r 543 r 220 r 48, 1 982 7500 r 3150 r 61 r 3306 r 3150 r 61 r 8000 8 8 31 r 2 2	max max max max max max max max max max	R. Bowes v.o. v.o. R. Bowes H. McQueen J. Berry v.o. R. Bowes v.o. B. Harris AS (D. Berard) O. R. Bowes R. Heil P. + F. Vale L. Pivacek v.o. R. Bowes R. Heil USFWS C. Gentes L. Pivacek R. Heil L. Pivacek R. Heil L. Hoffman v.o. R. Bowes E. Ray	Curlew Sand 8/9-26 Stilt Sandpipe 7/15 7/16 7/27 7/28-8/31 8/12 Buff-breasted 7/28-8/31 Short-billed D 7/3-8/31 7/14-8/31 7/14-8/31 7/14-8/31 7/18, 28 7/29, 8/18 7/30 Long-billed D 7/8-8/31 7/18-7/29 8/5-8/9 Dowitcher spe 8/20 Wilson's Snip 8/7 8/26 American Woo 7/6	piper Chatham (S.B.) r GMNWR Chatham (S.B.) Scituate P.I. WBWS Sandpiper P.I. owitcher Chatham (S.B.) P.I. N. Monomoy Duxbury B. Newbypt GMNWR Revere B. Nantucket owitcher P.I. Minimoy N. Monomoy cies Bolton Flats P.I. GMNWR Halifax Sterling odcock Amherst	1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	B. H BF Max -2 max 450 3 56 max

R. Heil

J. Berry

v.o.

v.o.

M. Rines

USFWS

S. Maguire# M. Rines

M. Lynch# C. Gentes

P. + F. Vale

L. Pivacek

J. Sweeney

M. Lynch#

B. Harris

v.o. D. Berard C. Cook C. Floyd C. Gentes C. Gentes

v.o.

v.o.

v.o.

v.o.

USFWS

C. Gentes

J. Sweeney M. Rines

J. Sweeney

M. Lynch#

R. Bowes B. Harris

M. Iliff

Iliff, Brown

G. Hirth#

v.o. D. Berard

v.o.

v o R. Heil#

B. Harris

R. Bowes

R. Heil Collins, Cook P. + F. Vale E. Ray

R. Heil#

B. Harris

B. Harris

S. Sutton

R. Heil B. Cassie J. Sweeney K. Bourinot

H. Allen

1 B. Harrington + v.o.

BBC (I. Giriunas)

MAS (Galluzzo)

75 max v.o. 3USFWS (St. Sauver)

R. Heil

Wilson's Phala	arope			Least Tern			
7/3	P.I.	1 m	B. Zajda	thr	P.I.	90 max	7/1 R. Heil
8/11-12 Red period P	Chatham (S.B.)	1	B. Nikula#	thr	Chatham (S.B.)	200 max	MAS (Berard)
Red-necked Pl	Nantucket Sh	140	PPC (P Heil)	7/10 8/28	P town (R.P.)	40	B. Zajua
8/23	Minimov	4	B Harris	7/22 8/25	Sandwich	40,60 C	CBC (Keleher)
8/25	Hydrographer	3+	BBC (R. Heil)	Caspian Tern		10,00 C	ebe (Reference)
8/27	Jeffries L.	8	MAS (Larson)	7/3	Plymouth B.	1	J. Fenton
8/27	Stellwagen	4	J. Berry#	7/29	P.Í.	1	S. Grinley#
Red Phalarope				Black Tern			
8/19	Nantucket Sh.	75	BBC (R. Heil)	7/11-8/30	Duxbury B.	8 max	R. Bowes
8/25 Dhalanana ana	Hydrographer	8	BBC (R. Heil)	7/15, 8/4	P'town	3,4	B. Nikula
Phalarope spe	Nontualist Sh	5.	PPC (D. Hail)	//30	Nantucket	11	E. Kay
8/25	Hydrographer	3+ 8+	BBC (R. Heil)	0/17 8/17 8/31	F.I. Minimov	35 75	R Harris
Pomarine Iaes	riyulographer	0+	DDC (R. Hell)	8/19	Hydrographer	33,75	BBC (R Heil)
7/14	5 m NE of Trurc	2	B. Nikula	8/25	W. Falmouth	15	L Nisbet
8/4	Stellwagen	1	N. Bonomo#	Roseate Tern			
8/25	Muskeget Ch.	1	BBC (R. Heil)	7/17, 8/21	P.I.	6, 65	R. Heil
Parasitic Jaege	er			7/22, 8/29	Chatham (S.B.)	5,100 M	AS (D. Berard)
7/14	P'town	2	B. Nikula	7/30	Nantucket	272	E. Ray
8/12	5 m NE of Trurc		B. Nikula	8/5	Sandwich	40	J. Hoye#
8/26	Chatham (S.B.)	I C	B. Nikula#	8/17	Minimoy	125	B. Harris
8/28 Long toiled Io	P'town	6+	B. Nikula#	8/25	W. Falmouth	150	I. Nisbet
ZOIIg-tailed Ja	Nantucket Sh	1.15	BBC (R. Heil)	0/20 Common Terr	FIOWI	220	I. INISDEL#
8/19	Nantucket Sh	1 inv	BBC (R. Heil)	7/17 8/10	рт	140 570	R Heil
Jaeger species	Nantueket 511.	i juv	bbe (R. Hell)	7/22, 8/28	Sandwich	20, 600	M. Keleher
7/12	N. Truro	1	B. Nikula	7/22, 8/28	P'town	650, 8800	Nikula, Nisbet
8/19	Nantucket Sh.	3	BBC (R. Heil)	7/22, 8/29	Chatham (S.B.)	5000, 1200	MAS (Berard)
Laughing Gul	l			8/13	S. Monomoy	1000+	M. Keleher#
thr	Chatham (S.B.)	100 max	V.O.	8/17	Minimoy 3	3,000	B. Harris
7/3	N. Truro	250+	B. Nikula	8/22	Manomet	900	I. Davies
7/8, 8/26	Duxbury B.	11, 150	R. Bowes	8/23	Duxbury B.	450	R. Bowes
//24	Nahant	29	K. Heil	8/25	W. Falmouth	2500	I. Nisbet
8/18	Revere B	139	$P \pm F$ Vale	0/31 Arctic Tern	E. Gloucester	300	K. Hell
8/28	Inswich (C B)	85	I. + I. valu	7/4	Chatham (S.B.)	2	B Nikula
Little Gull	ipswieli (C.D.)	0.5	J. Delly	7/7	Minimov	11 max	B Harris
7/14-8/11	P.I.	1-2 1S	V.O.	7/15, 22	P'town	2 1S, 6	1S B. Nikula
8/15	Newbypt H.	1	MAS (Larson)	8/5	Sandwich	1 ad	J. Hoye#
8/17	Nahant	1 ad	L. Pivacek	Forster's Tern			
Black-headed	Gull			7/1-18	P.I.	1 1S	v.o.
7/17-8/24	Newbypt	1 ad	R. Heil $+$ v.o.	7/7	Minimoy	1 15	B. Harris
Bonaparte's G	ull	225	D II.I	//10	Duxbury B.	1	D. Clapp#
unr 7/25	P.I. P'town	323 max	R. Hell P. Nikulo	8/18	W. Faimouth	1	J. Spendelow
7/29	Chatham (S B)	8 25	M Iliff#	8/26	Chatham (S B)	3	B Nikula#
7/31	Newbypt H.	700	R. Heil	8/28	Ipswich (C.B.)	í	J. Berry
8/2	Longmeadow	7	S. Svec	8/31	E. Gloucester	1 iuv	R. Heil
8/11	Revere B.	435+	P. + F. Vale	Royal Tern		J ***	
8/17	Nahant	800	L. Pivacek	7/6	P'town (R.P.)	2 ad	B. Zajda#
8/18, 26	Wachusett Res.	2, 1	M. Lynch#	7/20	S. Monomoy	1	B. Harris
Lesser Black-	backed Gull	6	D MILL	8/17	Minimoy	1	B. Harris
$\frac{1}{7}$	Chatham (S.B.)	6 max	B. Nikula D. Niluila	Sandwich Ter	n D'4	1	al D Milada
//18 8/1	N Monomov	1 23	B. Nikula B. Nikula	8/5	P town P'town	1 Dasic	рі В. Мікша I Цоуе#
8/4	Stellwagen	1 15	N Bonomo#	8/5	Chatham (S B)	1 MA	S (W Petersen)
8/15	S. Monomov	10	B. Harris	8/5	Sandwich	1	J. Hove#
8/20	P'town	3+ ad	I. Nisbet	8/17-31	Minimoy	1 ph	B. Harris
Sabine's Gull				Black Skimme	er	r	
8/11	Stellwagen	1 ad pł	n D. Berard#	8/9	Minimoy	13 ad +	2 juv B. Harris
8/20	P'town	1 ad [–]	I. Nisbet	8/19	Acoaxet	1	M. Lynch#
Black-legged	Kittiwake	1	E 17.1	Black Guillen	10t	2	I D
1122 Pridled Term	*	1	F. Vale	111	коскрогt	2	J. Berry#
7/21	Nantucket Sh 1	ad 1 1vr	BBC (R. Heil)				
7/21	Hydrographer	1 1S	BBC (R. Heil)				

DOVES THROUGH FINCHES

A pair of **White-winged Doves** appeared at a feeder in Orleans in June and lingered through the third week of July. The Common Nighthawk migration met expectations in the central and western parts of the state but disappointed birders in the eastern part, perhaps because of the decline in insects due to the drought. The only Whip-poor-wills reported were from the western part of the state.

The beginning of fall migration started out slowly, with lower-than-normal numbers of Olive-sided and Yellow-bellied flycatchers. A favorite of many birders is the post-breeding build-up of swallows, in particular on Plum Island, and with numbers peaking at 200,000 in mid-August, this year did not disappoint.

Sedge Wrens reported from Brookfield and Amherst were originally reported in June and were probably breeders, excellent additions to the state's Breeding Bird Atlas (BBA). A breeding bird survey at Mount Greylock yielded an impressive twenty-five Swainson's Thrushes, a species that breeds only in coniferous forests in the Berkshires. This survey also tallied twenty-five Blackpoll Warblers, which breed only at higher elevations on Greylock.

Although the end of August usually brings reports of migrant warblers, this year's fall migration got off to a poor start. Sadly, not a single Golden-winged Warbler was reported in this period or in June, underscoring the decline of this species in Massachusetts. Other uncommon and local breeders, Cerulean, Worm-eating, and Mourning warblers, were poorly reported, even though reports in June suggested these species were holding their own. Four Yellow-breasted Chats were banded at Manomet in the last few days of August, suggesting that these are more common in migration than the single sight record would suggest.

A male **Summer Tanager** on July 25 was enigmatic, probably a nonbreeder wandering north. **Clay-colored Sparrow**, long-awaited as a breeder in the state, was finally confirmed this year at Massachusetts Military Reservation, where five males were discovered singing, at least two with mates. Grasshopper Sparrows were reported from likely breeding locations, all in the western part of the state. The only report of Seaside Sparrow was from Plum Island, one of the very few breeding locations in Massachusetts. Dark-eyed Juncos at Mount Watatic were breeders, but an individual that lingered through the period in Waltham was far from its known breeding territory.

Both species of crossbill were discovered during the Mount Greylock survey, but these are enigmatic wanderers, and breeding cannot be inferred. Evening Grosbeaks were reported in typical numbers from the central and western parts of the state. *M. Rines*

White-winge	d Dove *			Eastern Scre	ech-Owl		
7/1-21	Orleans	2 ph	S. Weeks	7/31	Worcester	1	M. Lynch#
Yellow-billed	Cuckoo			8/7	Chatham	1	P. Gaines
7/1	Agawam	2	S. Kellogg	8/10	Southwick	3	S. Svec
7/2	Halifax	1	J. Sweeney	8/14	Worcester	1	M. Lynch#
7/3	Stoughton	1 yg	A. Johnston	8/15	Burlington	1	J. Mullen#
7/4	Lancaster	1	S. Sutton	8/22-23	Mt.A.	3	R. Stymeist#
7/5	P.I.	1	S. McGrath	8/27	W. Springfield	3	J. Zepko
7/13	Ashburnham	1	C. Caron	Great Horne	d Owl		
7/27	P.I.	1	B. Harris	7/12	Newbury	1	S. McGrath#
8/8	Southwick	1	S. Kellogg	7/15	Leicester	2 imm	M. Lynch#
Black-billed (Cuckoo		00	7/27	Scituate	1 N	AAS (Galluzzo)
7/3	Gardner	1	T. Pirro	8/9	Medford	1	P. Devaney#
7/7	Spencer	6	M. Lynch#	8/24	Ipswich	1	J. Berry
7/13	Ashburnham	1	C. Čaron	8/26	W. Gloucester	2	J. Nelson
7/14	Petersham	3	M. Lynch#	8/31	Wayland	2	J. Hoye#
7/22	Becket	1	R. Laubach	Barred Owl	•		
7/29	P.I.	1	BBC (R. Heil)	7/6	Sheffield	1	R. Laubach
8/22	S. Quabbin	1	J. Smith	7/6	Andover	1	J. Berry
8/28	Hinsdale	1	D. Monk	7/12	N. Quabbin	2	L. Therrien

Barred Owl (c	continued)			Willow Flyc	atcher	-	
7/14	Gardner	1	T. Pirro	thr	Burlington Daltan Flata	5 m max	M. Rines
8/10 Northern Saw	whet Owl	1	S. Svec	7/17	PI	10	S. Sutton R Heil
7/3	Natick	1	I Hove#	7/26	Lenox	4	G Hurley
Common Nigl	nthawk	-	0.11090	7/27	Bolton Flats	9	S. Sutton
8/10	Gloucester	1	S. McGrath	8/19	Acoaxet	5	M. Lynch#
8/15	W. Groton	2	L. Wiggs	Least Flycat	cher		
8/19, 24	Leicester	2, 153	M. Lynch#	7/1	Brookfield	5	M. Lynch#
8/23, 26	Natick	2, 30	D. Gibson	7/1	Quabbin (G10)	7	SSBC (GdE)
8/28 21	Northampton	656 141	T. PIITO	7/14	Petersham	9	M. Lynch#
8/28 31	Leicester	402 267	M Lynch#	Great Creste	ed Flycatcher	0	WI. Lynch#
8/28	Grafton	145+	J. Liller	7/3	Manchester	6	J. Berry
8/29	Belchertown	213	L. Therrien	7/4	Westminster	6	C. Caron
Whip-poor-wi	11			7/14	ONWR	5+	D. Furbish#
7/15	Montague	2	H. Allen	7/27	Ipswich	8	J. Berry
8/15, 27	Southwick	2, 1	S. Kellogg	8/12	DWWS	5	D. Furbish#
Chimney Swit	t Datas Flata	120.	0.0.4	8/19	Mashpee	4	M. Keleher
8/20	Bolton Flats	130+	S. Sutton	Eastern Kin	gbird	61 may 9/	21 D Hail
8/20	Mt A	55	R Stymeist#	7/2	F.I. Worcester	16	M Lynch#
8/31	Northampton	150	T Gagnon	7/29	Leicester	22	M Lynch#
Ruby-throated	Hummingbird	150	1. Gugnon	8/18	Wakefield	10	$P_{r} + F_{r}$ Vale
8/15	Florence	10	T. Gagnon	8/19	Mashpee	11	M. Keleher
8/19	Mashpee	8	M. Keleher	8/20	Bolton Flats	22	S. Sutton
8/20	Lexington	11	M. Rines	White-eyed	Vireo		
8/25	Northampton	10	B. Zajda	7/22	Westport	1	M. Lynch#
Red-bellied W	oodpecker			8/19	Acoaxet	1	M. Lynch#
7/4	Stoughton	2 G	d'Entremont	Yellow-thro	ated Vireo	2	SEDC (CHE)
///	Spencer	1 ad + 2 yg	M. Lyncn#	//1	Quabbin (G10)	2	SSBC (GdE)
7/15-6/15	Mt A	2	D Stymoist	7/15	Blackstone	3	M Lynch#
Yellow-bellied	Sansucker	5	R. Stymeist	7/21	Quabbin Pk	7	M Lynch#
7/1	Ouabbin (G10)	14	SSBC (GdE)	8/14	S. Quabbin	4	L. Therrien
7/4	Hardwick	13	M. Lynch#	Blue-headed	l Vireo		
7/4	Westminster	4	C. Čaron	7/1	Quabbin (G10)	3	SSBC (GdE)
7/11	Fitchburg	4	C. Caron	7/4	Lancaster	2	S. Sutton
7/14	Petersham	8	M. Lynch#	7/7	Ashburnham	6	C. Caron
Hairy Woodpe	ecker			7/14	Petersham	7	M. Lynch#
7/1	Quabbin (G10)	4	SSBC (GdE)	8/5	Quabbin Pk	3	P. + F. Vale
7/14	Detershom	0	J. Berry M. Lynch#	8/28 Worbling Vi	MIN W S	1	L. Ferraresso
8/19	Mashnee	4	M Keleher	7/8	Worcester	18	M Lynch#
Pileated Wood	Inecker	4	WI. IXCICITCI	7/21	Winchester	10	M Rines
7/4	Hardwick	4	M. Lvnch#	8/29	Woburn (HP)	8	M. Rines
8/5	Quabbin Pk	2	P. + F. Vale	Philadelphia	i Vireo		
8/5	Lee	3	M. Lynch#	8/25	Northampton	1	B. Zajda
8/27	HRWMA	2	T. Pirro	8/28	MNWS	1	D. Noble#
8/31	Concord	3	P. Cozza	8/31	Burlington	1	M. Rines
Olive-sided Fl	ycatcher	1	ТСанта	8/31 Ded and V	P.I.	1	O. Spalding
8/15-22	Northampton	1	I. Gagnon	Red-eyed V	Ouchhin (C10)	61	SSPC (CdE)
8/10	Amberst	1	F Bowrys	7/3	Westminster	18	C Caron
8/19	PI	1	I Miller#	7/4	Hardwick	71	M Lynch#
8/20	Windsor	2	B. Wood	7/4	Westminster	23	C. Caron
Eastern Wood	-Pewee			7/6	Andover	17	J. Berry
7/3	Westminster	11	C. Caron	7/14	Petersham	95	M. Lynch#
7/4	Hardwick	12	M. Lynch#	7/21	Quabbin Pk	49	M. Lynch#
7/14	Petersham	18	M. Lynch#	8/15	Petersham	21	M. Lynch#
8/thr	Ipswich m	ax 11 m 8/6	J. Berry	Fish Crow	DI	7	DEAL
8/15 Vallow ballier	S. Quabbin	12	L. Therrien	כו <i>ן</i> בור	Plymouth	10	D. Furbish
8/22	Cambridge	1 dead	H Provine	7/14	Mashnee	10	M Keleber
8/25	Northampton	1	B Zaida	7/28	Longmeadow	2	S Kellogg
8/27	Southwick	1	S Kellogg	8/3	W Gloucester	õ	S Hedman#
Acadian Flyca	tcher	1	5. Re 11055	8/10-20	Westford	5	S. Sutton
7/1	Quabbin (G8)	1	SSBC (GdE)	Common Ra	aven		
7/1-28	Salem	pr n	J. Berry#	7/4	Groveland	2 I	D. Chickering
7/14	Mashpee	- 3	M. Keleher	7/4	Rowley	2	J. Berry
7/21	Quabbin Pk	1 ad+2y	g M. Lynch#	7/7	Southwick	2	S. Kellogg
Alder Flycatcl	Diainfi 11	2	C 17 11	7/10	Sudbury	2	B. Harris
7/14	Fiamineld Burlington	$\frac{2}{1}$	5. Kellogg	8/3	Backet	2	P Loubook
8/1	Amherst 2	4 u - 1 juv	F Bowrys	8/10	Gloucester	1 ad 1 imm	S McGrath
8/5	Lee	5	M. Lvnch#	8/12	Ouabbin Pk	3	M. Lvnch#
8/7	P.I.	1	R. Heil	8/25	Leicester	2	M. Lynch#

Horned Lark	(1 1 (0 D)	20		7/7	Southwick	3	S. Kellogg
thr	Chatham (S.B.)	20 max	V.O.	7/8	Mt. Watatic	3	C. Caron
7/29	Monomov	1 au, 1	M Iliff#	7/29	Grevlock	3	R Laubach
Purple Martin	monomoj			8/6	Ipswich	1	J. Berry
tĥr	P.I.	33 max	R. Heil	Sedge Wren	I		2
7/27	Scituate	1 N	MAS (Galluzzo)	7/1	Brookfield	1	M. Lynch#
2//31	Salisbury	10	D. Chickering	7/22-8/5 March Wran	Amherst	I	H. Allen $+$ v.o.
8/14	Mashnee	$1 \mod 2$	inv M Keleher	thr	PI	25 ma	x vo
Tree Swallow	mushpee	1 111 40, 2	juv in recent	7/7	Deerfield	1	H. Allen
thr	P.I. 200	,000 max	8/17 R. Heil	7/25	Ipswich	5	J. Berry
7/22, 8/19	Acoaxet	240, 3100) M. Lynch#	7/28	Wakefield	3	P. + F. Vale
7/26	Belchertown	325	L. Therrien	8/1	Burlington	14	M. Rines
8/15	Duxbury B 1	000 5000	J. Berry	8/4 8/5	GIVIN W K	5	M. Lynch#
8/19	Mashpee	475	M. Keleher	8/5	Mashpee	6	M. Keleher
8/25	Northampton	1000+	B. Zajda	Golden-crown	ned Kinglet		
8/25	Sandwich	500 C	CCBC (Keleher)	7/7	S. Quabbin	9	L. Therrien
Northern Roug	gh-winged Swallo	0W	M. T	Blue-gray Gn	atcatcher	4	C D
7/2	Inswich	15+ pr.p	M. Lyncn#	7/1	Natick	47	G. Dysart M. Lynch#
7/8	Adams	10	H Allen	7/22	Groveland	3	D Chickering
8/4	Acton	15+	M. Lynch#	8/5	Quabbin Pk	2	P. + F. Vale
8/30	W. Springfield	35	J. Žepko	8/13	Northfield	4	F. Bowrys
Bank Swallow	0 1 1	500	0 17 11	8/14	S. Quabbin	7	L. Therrien
112 רוד	Southwick	500	S. Kellogg	8/1/	CMNWP	5	MAS (Galluzzo)
7/10	Inswich (C B)	$\frac{24}{30+}$	I Berry	8/23	Woburn (HP)	3	M Rines
7/16	Duxbury B.	50+	D. Clapp#	8/30	Manomet	10+	I. Davies#
7/29	Monomoy	27	A. Farnsworth	Eastern Blueb	pird		
8/17	P.I.	350+	R. Heil	7/6	Andover	8	J. Berry
8/20 Cliff Swallow	Hadley	100	C. Gentes	7/1	Bolton Flats	57	S. Sutton
7/11	Haverhill	1+ n	D Larson	8/18	Wachusett Res	6	M Lynch#
8/5	Lee	1	M. Lynch#	8/19	Granville	18	S. Kellogg
8/19	E. Boston (B.I.)	4	S. Zendeh	8/23	Southwick	12	S. Kellogg
8/19	GMNWR	1	A. Ankers#	Veery			
8/24	Northampton	2	T. Gagnon	7/1	Quabbin (G10)	31	SSBC (GdE)
0/31 Barn Swallow	DWWS	3	D. Fulbisli	7/3	Manchester	8	I. FIIIO I. Berry
7/22	Westport	118+	M. Lynch#	7/3	Westminster	14	C. Caron
7/28	Sutton	133	M. Lynch#	7/4	Hardwick	32	M. Lynch#
8/13	Chatham (S.B.)	50	M. Keleher#	7/4	Lancaster	10	S. Šutton
8/17	P.I.	300+	R. Heil	7/4	Ware	13	M. Lynch#
8/19	Pittsfield	100+	T Collins	7/0	Spencer	27	M Lynch#
Red-breasted	Nuthatch	100	1. Comins	8/15	Petersham	2	M Lynch#
7/4	Hardwick	16	M. Lynch#	Swainson's T	hrush	_	
7/7	Ashburnham	6	T. Pirro	7/16	Greylock	25	C. Quinlan
7/8	Mt. Watatic	17	C. Caron	Hermit Thrus	h	11	
//14 8/10	Mashnee	12	M. Lyncn# M. Keleber	7/1	Quabbin (G10)	11	SSBC (GdE)
8/30	Manomet	5+	I Davies#	7/3	Manchester	5	I Berry
8/31	S. Quabbin	6	L. Therrien	7/4	Westminster	6	C. Caron
Brown Creepe	r			7/7	Ashburnham	15	T. Pirro
7/4	Hardwick	4	M. Lynch#	7/8	Mt. Watatic	6	C. Caron
7/8	Ashburnham	5	M. Lynch#	7/14	Concord	5	S Perkins
7/13	Inswich	1 m	I Berry	Wood Thrush	Concord	5	5. I CIKIIIS
7/24	Plymouth	1	K. Doyon	7/4	Hardwick	31	M. Lynch#
Carolina Wren	1		~ ~~~	7/6	Andover	12	J. Berry
7/4	Stoughton	6	G. d'Entremont	7/8	Worcester	20	M. Lynch#
7/15	Westport	15	M. Lynch#	7/13	ONWR	10 ^{7 m}	J. Berry D. Furbish#
8/19	Mashpee	9	M Keleher	7/14	Concord	7	S Perkins
8/21	Woburn (HP)	6	M. Rines	7/15	Blackstone	ģ	M. Lynch#
House Wren				7/15	Leicester	10	M. Lynch#
7/3	Gardner	5	T. Pirro	7/19	Ipswich	3 m	J. Berry
///	Spencer	10	M. Lynch#	8/2/	HKWMA	2	T. Pirro
7/22	Acoaxet	8	M Lynch#	7/8	Worcester	160+	M Lynch#
8/21	Woburn (HP)	ž	M. Rines	7/24	Mt.A.	128	R. Stymeist
8/30	Lexington	14	M. Rines	8/20	Bolton Flats	4480	S. Sutton
Winter Wren	Outhin (C10)	1		8/21	P.I.	109	R. Heil
7/3	Quaddin (G10) Manchester	1 1 m	I Barry	0/30 Gray Cathird	wakeneld	230+	F. vale
7/3-4	Westminster	2	C Caron	7/4	Stoughton	26	G. d'Entremont
··- ·		-	2. 64.01				

Gray Catbird	(continued)			7/14	Petersham	23	M. Lynch#
7/7	Spencer	84	M. Lynch#	7/17	Essex	6 m	J. Berry
8/19	Mashnee	61	M Keleher	Blackburni	an Warbler	10+	I. Davies#
8/21	P.I.	117	R. Heil	7/1	Ouabbin (G10)	6	SSBC (GdE)
Brown Thrash	er			7/4	Hardwick	2	M. Lynch#
7/7	Deerfield	3	H. Allen	7/7	Ashburnham	2	T. Pirro
7/10	Ipswich (C.B.)	8	J. Berry	7/8	Mt. Watatic	10	C. Caron
7/16	Leominster	5	S. Sutton	//14 Dine Worbl	Petersham	2	M. Lynch#
8/21	PI	28	R Heil	7/3	Manchester	8	I Berry
Cedar Waxwir	1.1. 1g	20	it. Hen	7/4	Ware	12	M. Lynch#
8/5	Sheffield	40	M. Lynch#	7/4	Hardwick	33	M. Lynch#
8/18	Wakefield	40+	P. + F. Vale	7/7	Spencer	11	M. Lynch#
8/19	Mashpee	43	M. Keleher	7/14	Petersham	36	M. Lynch#
8/19	S. Amnerst Bolton Elete	125	B. Zajda	8/10	Essex	5 m	J. Berry M. Kalabar
8/20	W Warren	34	B Zaida	Prairie War	bler	15	wi. Kelenei
8/21	P.I.	115	R. Heil	7/3	Westminster	5	C. Caron
8/26	Leicester	68	M. Lynch#	7/4	Lancaster	6+	S. Sutton
8/27	HRWMA	50	T. Pirro	7/7	Spencer	12	M. Lynch#
Blue-winged	Warbler	•	TT NC11	7/8	Worcester	7	M. Lynch#
7/1	Newton	2 1 ad 1 2	H. Miller	7/14	Petersham	87	M. Lynch#
8/7	Newbury	1 a + 3	yg M. Lynch#	8/17	Scituate	1	MAS (Galluzzo)
8/19	Mashpee	3	M. Keleher	Blackpoll V	Warbler	1	
8/28	Lexington	2	M. Rines	7/16	Greylock	25	C. Quinlan
8/31	P.I.	1	R. Heil	Cerulean W	Varbler		
Nashville War	bler			8/5	Quabbin Pk	1 m	F. Vale
7/3	Westminster	2	C. Caron	Black-and-	white Warbler	2	T Dirmo
8/18	Newton	5	I. PIITO I. Reid	7/3	Hardwick	3	I. PIITO M. Lynch#
8/23	Cuttyhunk	1 m	C Buckley	7/7	Ashburnham	5	T Pirro
Northern Paru	la		et Buenney	7/7	Spencer	9	M. Lynch#
8/12	Nahant	1	J. Hoye#	7/8	Mt. Watatic	4	C. Čaron
8/12	Medford	1	M. Rines#	7/14	Petersham	11	M. Lynch#
8/28 Vallary Warhl	Lexington	1	M. Rines	8/21	P.I.	2	R. Heil
7/7	Spencer	22	M Lynch#	American f	PI	10 ms	w 8/21 R Heil
7/17. 8/31	P.I.	38.1	R. Heil	7/1	Ouabbin (G10)	5	SSBC (GdE)
7/22	Westport	14	M. Lynch#	7/1	Leicester	8	M. Lynch#
8/5	Sheffield	14	M. Lynch#	7/2	Ipswich	5	J. Berry
8/5	Lee	11	M. Lynch#	7/4	Hardwick	31	M. Lynch#
8/5	Burlington	14	M. Rines	7/4	Ware	26	M. Lynch#
6/30 Chestnut-sider	d Warbler	2	M. Kines	8/21	Woburn (HP)	3	D. Furdish# M. Rines
7/1	Ouabbin (G10)	33	SSBC (GdE)	Worm-eatir	ng Warbler	5	WI. KINCS
7/4	Ware	16	M. Lynch#	7/1	Agawam	1	S. Kellogg
7/4	S. Quabbin	32	L. Therrien	Ovenbird	0		00
7/4	Hardwick	41	M. Lynch#	7/1	Quabbin (G10)	27	SSBC (GdE)
7/4	Lancaster	25+	S. Sutton	7/3	Manchester	13	J. Berry
8/28	MNWS	28	IVI. Lynch#	7/3	Hardwick	32	I. PIITO M. Lynch#
8/30	Lexington	1	M Rines	7/4	Ware	18	M Lynch#
Magnolia War	bler	-		7/4	Westminster	19	C. Caron
Ť/7	Ashburnham	5	T. Pirro	7/6	Andover	13 m	J. Berry
7/8	Mt. Watatic	2	C. Caron	7/6	Ashburnham	15	C. Caron
8/29 Plast threater	Woburn (HP)	1	M. Rines	//8	Mt. Watatic	3/	C. Caron
7/1	Ousbbin (G10)	22	SSBC (GdF)	8/26	Wachusett Res	20	M Lynch#
7/4	Westminster	$\frac{22}{26}$	C. Caron	Northern W	Vaterthrush	1	WI. Lyncin
7/4	Hardwick	8	M. Lynch#	7/6	Ashburnham	5	C. Caron
7/7	Ashburnham	6	T. Pirro	7/11	Becket	2	R. Laubach
7/8	Mt. Watatic	5	C. Caron	8/5	MNWS	2	M. Iliff
7/14	Petersham	13	M. Lynch#	8/19	Mashpee	1	M. Keleher
Vellow-rumpe	d Warbler	0	R. Laubach	8/21	P.I. Southwick	1	S Kellogg
7/1	Quabbin (G10)	1	SSBC (GdE)	8/30	Medford	1	R LaFontaine
7/3	Gardner	2	T. Pirro	Louisiana V	Waterthrush	-	
7/4	Ware	9	M. Lynch#	7/1	Quabbin (G10)	1	SSBC (GdE)
7/7	Ashburnham	6	T. Pirro	7/4	Ware	1 ad	+2 yg M. Lynch#
7/8	Mt. Watatic	9	C. Caron	7/4	Lancaster	1	S. Sutton
8/23	Cuttybunk	8 2	C Buckley	7/12	N Quabbin	4	5. Kellogg
Black-throated	Green Warbler	2	C. DUCKIEY	7/12	Blackstone	∠ 1 ad	+2 vg M Lvnch#
7/1	Quabbin (G10)	21	SSBC (GdE)	8/9	Westfield	1	J. Hutchison
7/7	Ashburnham	12	T. Pirro	-			
7/8	Mt. Watatic	13	C. Caron				

Mourning War	bler			7/22	Acoaxet	22	M. Lynch#
8/21	Woburn (HP)	1	M. Rines	7/29	Monomoy	10	M. Iliff#
8/28 Common Valle	Northfield	1	F. Bowrys	8/23	Cuttyhunk	15	C. Buckley
Common Yello	Ownhain (C10)	27	SCDC (CJE)	8/23 Sanida San	Duxbury B.	15	R. Bowes
7/1	Quabbin (G10)	27	SSBC (GdE)	Seaside Spa	ITOW DI	1.	S. Crinlar#
7/4	Ware	40	M Lynch#	Swomp Spor	P.I.	1+	S. Grinley#
7/4	Ashburnham	21	T Dirro		Spancar	16	M Lunch#
רור	Spancar	21 45	M Lynch#	רור	Ashburnham	10	T Dirro
7/10	Inswich	20	I Berry	7/26	Inswich	13	I. FIIIO I. Berry
7/14	Mashpee	15	M Keleher	8/1	Burlington	32	M Rines
8/20	Lexington	15	M Rines	8/5	Lee	18	M Lynch#
8/21	PI	38	R Heil	White-throa	ted Sparrow	10	ivi. Lynen#
Wilson's Warh	ler	50	it. nen	7/3	Gardner	1	T Pirro
8/29	Manomet	1 h	I Davies#	7/7	Ashburnham	7	T Pirro
8/29	Woburn (HP)	1	M. Rines	Dark-eved J	unco	,	1.1110
8/30	Medford	1	R. LaFontaine	7/8	Mt. Watatic	16	C. Caron
Canada Warble	er			7/17.8/2	0 Waltham	ĩ	J. Forbes
7/6	Ashburnham	4	C. Caron	Rose-breaste	ed Grosbeak		
7/8	Mt. Watatic	1	C. Caron	7/1	Leicester	5	M. Lynch#
7/25	Ipswich	1 f	J. Berry	7/1	Quabbin (G10)	9	SSBC (GdE)
8/19	S. Amherst	1	B. Zajda	7/4	Hardwick	9	M. Lynch#
8/20	Lexington	1	M. Rines	7/7	Spencer	9	M. Lynch#
8/21	Manomet	1 b	I. Davies	8/5	Burlington	5	M. Rines
8/31	Belchertown	1	L. Therrien	8/12	DWWS	3	D. Furbish#
8/31	S. Quabbin	1	L. Therrien	8/30	Lexington	7	M. Rines
Yellow-breaste	ed Chat			Indigo Bunt	ing		
8/20	Easthampton	1	B. Bieda	7/4	Stoughton	4	G. d'Entremont
8/28-30	Manomet	4 b	fide I. Davies#	7/7	Spencer	13	M. Lynch#
Summer Tana	nger			7/9	Ashburnham	5	C. Caron
7/25	Salem	1 m	J. Berry	7/15	Blackstone	11	M. Lynch#
Scarlet Tanage	r			8/15	Deerfield	12	F. Bowrys
7/1	Quabbin (G10)	14	SSBC (GdE)	8/25	Northampton	14	B. Zajda
113	Westminster	12	C. Caron	8/30 Dolo 101	Lexington	4	M. Rines
7/4	Hardwick	21	M. Lyncn#	Bobolink	DI	22	D 11.1
//8	Mt. watatic	6	C. Caron	thr 7/1	P.I.	33 max	K. Hell
7/15	Ipswich Determinen	10	J. Berry	7/1	Wanaaatan	/0+	M. Lynch#
7/14	Petersnam	19	M. Lynch#	7/12	Worcester Damian	40+	M. Lynch#
8/12	Quaddin PK	17	T Proventiag	//12 9/5	Kowley	30+ 25	J. Berry
8/12	Laisastar	2	1. Brownrigg	8/3	DWWG	23	D Euchish#
8/19 Eastern Toucha	Leicester	2	M. Lynch#	8/12	Dww5 Northematon	561	D. Furbish#
Zastern Towne	Ouebbin (G10)	34	SSBC (CdE)	8/20	Rolton Elete	J01 46	1. Gagnon
7/1	Manchester	54 16	I Borry	8/20	ONWP	21	S. Sutton
713	Uardwick	22	M Lynch#	8/20	Wohurn (UD)	21	M Dines
7/10	Inswich (C B)	20	I Berry	Red-winged	Blackbird	32	WI. KINCS
7/11	Fitchburg	14	C Caron	7/27	Bolton Flate	118	S Sutton
7/20	Leicester	21	M Lynch#	8/24	Marshfield	1000	D Furbish
8/12	Womnatuck SP	19	G d'Entremont	8/25	Northampton	500+	B Zaida
8/19	Mashnee	18	M Keleher	8/26	Grafton	121	I Liller
8/21	PI	23 ad 1	16 juv R Heil	Eastern Mea	adowlark	121	J. Emer
Chipping Spar	row	20 uu, 1	to juv it. men	thr	P.I.	pr	R. Heil#
7/15	Blackstone	102	M. Lynch#	7/1	Leicester	5	M. Lynch#
8/19	Mashpee	109	M. Keleher	7/1	Amherst	6	H. Allen
Field Sparrow	r			7/7	Halifax	Ž	J. Sweenev
7/2	Ashburnham	3	C. Caron	7/7	Cumb. Farms	2	D. Furbish
7/4	Lancaster	3	S. Sutton	Common G	rackle		
7/8	Worcester	6	M. Lynch#	8/13	Ipswich	500+	J. Berry
7/15	Blackstone	9	M. Lynch#	8/17	Ŵakefield	250+	P. + F. Vale
7/21	Wakefield	4 pr	P. + F. Vale	8/24	Marshfield	4000	D. Furbish
7/29	P.I.	2	P. + F. Vale	8/26	Leicester	318	M. Lynch#
8/19	Mashpee	2	M. Keleher	8/27	ONWR	753	S. Sutton
Clay-colored S	Sparrow			Brown-head	led Cowbird		
7/thr	Sandwich	2 pr +	3 m P. Trimble	7/2	Plympton	220	D. Furbish
Savannah Spa	row			7/8	Worcester	46	M. Lynch#
7/1	Marlboro	10+	T. Spahr	8/1	Melrose	45	D. + I. Jewell
//1	Leicester	28	M. Lynch#	Orchard Ori	ole	2	C PE
//15	Blackstone	12	M. Lynch#	7/4	Stoughton	3	G. d'Entremont
1/29	Nionomoy	15	M. IIIII#	//14	Masnpee	5	M. Keleher
0/21 Creasharran C	Г.1.	3	K. Hell	1/15	Hamax Incurich	4	J. Sweeney
Grassnopper S	parrow Eolla	1	A Marritt	//1/	ipswich	pr + 3 yg	J. Berry
7/21	Pittefield	2	A. Mela	7/17	г.1. Northemptor	$\frac{2}{2}$ Juv	T Gamer
8/4-7	Deerfield	1	D Make	8/7	Cumb Forme	∠ 5	D Euchich
0/4-/ Saltmarch Sho	rn-tailed Sporrow	, 1	D. Mako	0// Baltimora O	Cumo. Famils	5	D. FUIDISII
thr	PI	30 may	VO	7/3	Manchester	16	I Rerry
7/15	N Monomov	25	B Nikula	7/11	Fitchhurg	12	C Caron
7/16. 8/13	Chatham (S.B.)	10, 25	M. Keleher#	7/13	Ipswich	15	J. Berry
		~,			T		

Red Crossbill			
C. Quinlan			
-			
C. Quinlan			
S. Mardis			
SSBC (GdE)			
T. Mongeon			
C. Caron			
T. Mongeon			

ABBREVIATIONS FOR BIRD SIGHTINGS

Taxonomic order is based on AOU checklist, Seventh edition, 42nd, 43rd, 44th, 45th, 46th, and 47th Supplements, as published in *The Auk* 117: 847-58 (2000); 119:897-906 (2002); 120:923-32 (2003); 121:985-95 (2004); 122:1026-31 (2005); 123:926-936 (2006) (see http://www.aou.org/checklist/index.php3).

ABC	Allen Bird Club	ONWR	Oxbow National Wildlife Refuge
A.P.	Andrews Point, Rockport	P.I.	Plum Island
A.Pd	Allens Pond, S. Dartmouth	Pd	Pond
B.	Beach	P'town	Provincetown
Barre FD	Barre Falls Dam,	Pont.	Pontoosuc Lake, Lanesboro
	Barre, Rutland	R.P.	Race Point, Provincetown
B.I.	Belle Isle, E. Boston	Res.	Reservoir
B.R.	Bass Rocks, Gloucester	S. Dart.	South Dartmouth
BBC	Brookline Bird Club	S.B.	South Beach, Chatham
BMB	Broad Meadow Brook, Worcester	S.N.	Sandy Neck, Barnstable
C.B.	Crane Beach, Ipswich	SRV	Sudbury River Valley
CGB	Coast Guard Beach, Eastham	SSBC	South Shore Bird Club
C.P.	Crooked Pond, Boxford	TASL	Take A Second Look
Cambr.	Cambridge		Boston Harbor Census
CCBC	Cape Cod Bird Club	WBWS	Wellfleet Bay WS
Cumb. Farms	Cûmberland Farms,	WMWS	Wachusett Meadow WS
	Middleboro	Wompatuck SP	Hingham, Cohassett,
DFWS	Drumlin Farm Wildlife Sanctuary	<u>,</u>	Scituate, and Norwell
DWMA	Delaney WMA	Worc.	Worcester
	Stow, Bolton, Harvard		
DWWS	Daniel Webster WS	Other Abbreviations	
E.P.	Eastern Point, Gloucester	ad	adult
EMHW	Eastern Mass. Hawk Watch	alt	alternate
F.E.	First Encounter Beach, Eastham	b	banded
F.P.	Fresh Pond, Cambridge	br	breeding
F.Pk	Franklin Park, Boston	dk	dark (morph)
G40	Gate 40, Quabbin Res.	f	female
GMNWR	Great Meadows NWR	fl	fledgling
Н.	Harbor	imm	immature
H.P.	Halibut Point, Rockport	juv	juvenile
HRWMA	High Ridge WMA, Gardner	lt	light (morph)
I.	Island	m	male
IRWS	Ipswich River WS	max	maximum
L.	Ledge	migr	migrating
M.V.	Martha's Vineyard	n	nesting
MAS	Mass. Audubon Society	ph	photographed
MBWMA	Martin Burns WMA, Newbury	pl	plumage
MNWS	Marblehead Neck WS	pr	pair
MSSF	Myles Standish State	8	summer $(1S = 1st summer)$
	Forest, Plymouth	v.o.	various observers
Mt.A.	Mt. Auburn Cemetery, Cambr.	w	winter $(2W = second winter)$
NAC	Nine Acre Corner, Concord	yg	young
Newbypt	Newburyport	Ŧ	additional observers

HOW TO CONTRIBUTE BIRD SIGHTINGS TO BIRD OBSERVER

Sightings for any given month must be reported in writing by the eighth of the following month, and may be submitted by postal mail or e-mail. Send written reports to Bird Sightings, Robert H. Stymeist, 36 Lewis Avenue, Arlington, MA 02474-3206. Include name and phone number of observer, common name of species, date of sighting, location, number of birds, other observer(s), and information on age, sex, and morph (where relevant). For instructions on e-mail submission, visit: http://massbird.org/birdobserver/sightings/.

Species on the Review List of the Massachusetts Avian Records Committee (indicated by an asterisk [*] in the Bird Reports), as well as species unusual as to place, time, or known nesting status in Massachusetts, should be reported promptly to the Massachusetts Avian Records Committee, c/o Marjorie Rines, Massachusetts Audubon Society, South Great Road, Lincoln, MA 01773, or by e-mail to <marj@mrines.com>.

Banking On Nature 2006 Released

Since 1997, the USFWS has released *Banking on Nature* reports that attempt to estimate the economic benefits to local communities that result from National Wildlife Refuge visitation.

The latest report, the fourth in this series and a study approaching almost 400 pages, was released in the last days of November. This *Banking on Nature* report announced that recreational use on National Wildlife Refuges generated almost \$1.7 billion in total economic activity during fiscal year 2006. As a result of this spending, almost 27,000 private sector jobs were sustained and \$542.8 million in employment income was generated.

The report also revealed that recreational spending on refuges generated nearly \$185.3 million in tax revenue at the local, county, state, and federal level. In addition, it demonstrated that about 87 percent of refuge visitors traveled from outside their local area to visit refuges.

About 82 percent of total expenditures came from non-consumptive recreation (activities other than hunting and fishing) on National Wildlife Refuges. Fishing accounted for 12 percent of total expenditures, while hunting accounted for 6 percent. For the first time, birding as an activity, both for area residents and non-residents, was separated out in the *Banking on Nature* report for at least 66 of the 80 sample refuges that received specific examination.

Due to a lack of specific birding data for all refuges, birding impacts were not extrapolated nationwide. One would hope that this initial look into birding in *Banking on Nature* would be expanded and examined more closely in future studies in the series.

Still, in an overview on the role of birding (p. 352-54), the newly released study charted sample high-volume birding visitation (i.e., refuges with more than 50,000 birding visitors per year) and high-expenditure birding NWRs (i.e., refuges with local birding expenditures of over \$1 million per year). The study also pointed out that "quality birding is an outgrowth of the Refuge System's national and international role in conserving quality habitat. In fact, one-third of all Important Bird Areas (IBAs) in the Unites States are located on National Wildlife Refuges . . . illustrating the key role that refuges play in attracting both birds and bird enthusiasts."

For a copy of the full report, see: http://www.fws.gov/refuges/pdfs/BankingonNature2006_1123.pdf>.

[From the *Birding Community E-bulletin*, December 2007, distributed through the generous support of Steiner Binoculars as a service to active and concerned birders, those dedicated to the joys of birding and the protection of birds and their habitats. You can access an archive of past E-bulletins on the website of the National Wildlife Refuge Association (NWRA): http://www.refugenet.org/birding/5.html.]

Arctic Wings Wins National Outdoor Book Award

Arctic Wings, Birds of the Arctic National Wildlife Refuge, has won a National Outdoor Book Award in Design and Artistic Merit.

The National Outdoor Book Awards (NOBA) is the outdoor world's largest and most prestigious book award program. It is a non-profit, educational program, sponsored by the NOBA Foundation, Association of Outdoor Recreation and Education, and Idaho State University. The purpose of the awards is to recognize and encourage outstanding writing and publishing.

According to Award judges, "*Arctic Wings* establishes a new benchmark in the art and literature of the Arctic National Wildlife Refuge. This is not only a book of exceptional photography, but it also includes solid and factual information, along with a series of essays by noted biologists and conservationists. Topping off this stylish, impressively designed book is an included CD of the birdsongs of the refuge."



Arctic Wings, a joint project by The Mountaineers Books and Manomet Center for Conservation Sciences, is a celebration in word and image of the birds that have journeyed to the Refuge and back every year since time immemorial. Edited by Arctic Refuge Scientist Stephen Brown and with a Foreword by Jimmy Carter, this book of over 200 color images from award-winning nature photographers Subhankar Banerjee, Steven Kazlowski, Michio Hoshino, Arthur Morris, Mark Wilson, and Hugh Rose shares an intense drama of birth and renewal. Through essays by noted biologists and conservationists including David Allen Sibley, Debbie Miller, Mark Wilson, Robert Thompson, Sarah James, and Kenn Kaufman, *Arctic Wings* reveals the vital importance of the Arctic National Wildlife Refuge to world bird populations and the consequences of allowing oil exploration within its boundaries. All of us, no matter where we live, are connected to these northernmost breeders. A bird perched in our backyard during the winter, or a flock passing overhead, may represent some of these amazing Arctic travelers.

In sharing the news of this sought-after award, Publisher Helen Cherullo of The Mountaineers Books expressed her "great appreciation to all who made this book extraordinary."

Winter Waterfowl Feeding Site Survey

Every five years, the Massachusetts Division of Fisheries and Wildlife (MassWildlife) conducts a winter waterfowl survey of sites where people feed wild ducks and geese. Because feeding locations can change from survey to survey, MassWildlife is asking interested citizens to report sites where waterfowl are being fed in winter. Please provide the town name, specific location/address, date, and number of ducks and/or geese seen, preferably by species. The survey period will officially run from January 7 to January 25, 2008. Results may be reported by letter to H. Heusmann, MassWildlife, One Rabbit Hill Rd., Westboro, MA 01568, by phone 508-389-6321 or fax 508-389-7890 or e-mail h.heusmann@state.ma.us.

While the feeding of wildlife is discouraged, there is no state law or regulation that prohibits feeding (though some municipalities do restrict or prohibit feeding) and the feeding of ducks on some sites has been going on for decades. MassWildlife's surveys were begun 35 years ago.

The survey is conducted in January and includes sites in urban, suburban, and rural areas on fresh, brackish, and salt water. Feeding may be done regularly by an individual or may be in the form of handouts from various visitors. Feeding sites range from municipal parks where many visitors come to feed ducks to ducks at back-yard bird feeders scavenging on spilled seed or ducks coming for handouts thrown out someone's back door. The survey is state-wide.

Mallards are by far the most common duck at feeding sites, and many rely on artificial feeding to survive the winter, but other ducks may be observed as well. American Black Ducks are common, and Wood Ducks, pintails, Gadwalls, wigeons, and Hooded Mergansers are seen. Increasingly, Canada Geese occur at feeding sites, and their presence is often the impetus for towns and cities to pass bylaws prohibiting feeding.

A report on this survey compared to past information will be posted at the completion of the survey.



WATERFOWL BY DAVID LARSON

ABOUT THE COVER

Rough-legged Hawk

Rough-legged Hawks (Buteo lagopus) are winter visitors to our region from Arctic and subarctic breeding grounds. The species name, *lagopus*, is from the Greek meaning "hare-footed" and refers to the feathered legs that give the species its common name. Rough-legged Hawks are rather lanky buteos that soar with wings on a slight dihedral. They frequently hover but have shorter tails than the superficially similar Northern Harrier. The species is highly polymorphic, with dark- and whitemorph birds. The species is also sexually dimorphic, with females larger and heavier than males and having different plumage. Juvenile birds differ in plumage from adults. White-morph birds have an underwing pattern that is predominately white with black tips to the primaries and wrists, dark bellies, and white tails with a dark band near the tip. Juveniles have all-dark bellies, adults less so. Adult females have more brown in their wings than males or juveniles. Light-morph birds show significant white at the base of the tail from above; dark-morph birds do not. Dark-morph birds from below appear similar to white-morph birds except for the all-dark bodies and wings from body to wrist. Subtle plumage variations among sexes, morphs, and age classes make identification somewhat confusing. Light-morph birds outnumber darkmorph birds. Three subspecies are sometimes recognized world-wide, but only B. l. sanctijohannis breeds in North America.

Rough-legged Hawks breed in the Arctic and subarctic around the world. In North America, they breed from the Aleutians and northern Alaska east through northern Canada and the Canadian Arctic islands to Labrador. They winter from southern British Columbia east across Canada to Newfoundland and throughout most of the United States except for the southeast. In New England the species is irruptive and varies from a rare to fairly common winter resident or migrant. As with most irruptive species, major incursions are thought to occur in response to depleted food resources in the north. These hawks are birds of open areas such as the salt marshes of Plum Island or the moors of Nantucket and Martha's Vineyard.

Rough-legged Hawks are monogamous and may retain mates for more than one season. Their nesting habitat includes Arctic and subarctic boreal forest, forest/tundra ecotone, or tundra. Courtship flights involve soaring and high circling, making whistling and hissing sounds. Also, the male may fold his wings, stoop down, and then climb steeply into a stall. They nest on cliffs and may nest close to Peregrine Falcons, Gyrfalcons, or ravens but do not tolerate the presence of other Rough-legged Hawks. This tolerance for other species may be due to the paucity of suitable cliffnesting locations.

The bulky nest is constructed by the female from sticks, mostly brought to her by the male. The nest, which sometimes contains bones, is lined with material such as feathers, grasses, and fur. The clutch is highly variable, depending on food availability, two to three in poor years and five to seven in good. The eggs are pale greenish or bluish, spotted, or blotched with darker colors. The female has a brood patch and does most of the incubation, the male brooding only while the female hunts or gathers nest material. The male feeds the female most of the time, often passing prey in midair. The young hatch after about a month and are helpless at hatching but can hold their heads up after about six hours. They do little except feed for the first ten days or so, but by two to three weeks of age they can rip food apart and feed themselves. The female broods them for about three weeks, and their first flight is about a month after hatching. The young are accompanied by the adults for two to four weeks. The female aids the male in hunting as the chicks mature.

In breeding, Rough-legged Hawks forage mostly on open tundra and bogs. They hunt either from perches such as haystacks or trees or from the air. They soar or use flapping-gliding flight, hovering and pouncing on prey. They usually carry prey to a perch before eating. It has been suggested that Rough-legged Hawks can visibly detect vole urine and feces, which are visible in ultraviolet light, and thus find high prey abundance areas. On the breeding grounds they prey primarily on lemmings and voles and in winter on mice, voles, and shrews. They will take birds and larger mammals such as ground squirrels and rabbits. They may feed on carrion when the ground is covered with snow. They are opportunistic foragers, taking whatever prey is most abundant.

During nesting, Rough-legged Hawks are preved upon by jaegers, foxes, bears, and wolves, but severe weather is probably a more important factor in population regulation. Because of its remote breeding grounds, the species is poorly studied, but the little data available show no evidence of population decline.

William E. Davis, Jr.

Paul Donahue

Paul Donahue is a bird artist, bird recordist, environmental activist, and tree climber. He has been painting and drawing birds since he began watching them during his early teens. While Paul occasionally draws in pen and ink, most of his work is done in acrylics and watercolor. His favorite subjects are shorebirds, raptors, and tropical birds. Paul spends his time in Maine, California, and South America. He made his first trip to South America in 1972 and has since spent much time in the tropics, particularly in the rainforests of the western Amazon Basin. There Paul birds, paints, tape-records, and leads natural history trips. Since 1988 his time in the tropics has been concentrated in the rainforest canopy, where he and his wife, Teresa Wood, have constructed two canopy walkways and dozens of observation platforms. They have taught over two thousand people to climb safely into the forest canopy on ropes.

AT A GLANCE

October 2007



WAYNE R. PETERSEN

This month's mystery species, shown in flight, is a large, long-winged bird. Because of its webbed feet, it would appear to be a seabird, or some species of waterfowl. The bird's large size, combined with its long extended neck, pointed bill, and prominent foot extension beyond its short tail are all important identification clues.

In Massachusetts there are very few regularly occurring species that exhibit this distinctive combination of features. Although there are Bay State records for Blackbrowed Albatross and Yellow-nosed Albatross (see *Bird Observer* Vol. 35: 289–90), these Southern Hemisphere species are so rare in our waters that a birding encounter is highly unlikely. Nonetheless, to remove any doubts about the mystery species, the unhooked and pointed bill, long neck, and prominent foot extension should remove all albatross species as identification candidates, despite the fact that the long pointed wings might suggest those of a large member of the Order Procellariiformes.

Given the pure white coloration of the flying bird's underparts, neck, and throat, the only remaining options are Northern Gannet or a species of loon in nonbreeding plumage. The coloration and pattern of the underwings, combined with the pure white underparts and short tail with the feet extending prominently beyond it, at once

eliminate a gannet as a possibility. Gannets have long pointed tails, and a bird mature enough to be pure white below would also exhibit extensive black primaries sharply set off against otherwise white wings.

Having established that the mystery bird is a flying loon, identification is straightforward. The very large and prominent feet at once suggest a Common Loon. When this feature is combined with the bird's heavy-headed appearance, almost as though it had jowls, and its dark partial neck collar, the identity of the bird is confirmed as a Common Loon (*Gavia immer*) in nonbreeding plumage. A Red-throated Loon would have less obvious foot extension and smaller feet, a slimmer neck and finer bill, and typically a more blended light gray appearance to the top of the head rather than the very dark contrasting pattern shown by the bird in the photograph.

Listed as a species of special concern in Massachusetts, the Common Loon is a rare and local breeder on large lakes in central and western Massachusetts, with Quabbin Reservoir supporting the largest breeding population. The species is also common in winter along the coast and is, as well, a spring and fall coastal migrant with lesser numbers occurring inland. Small numbers of immature nonbreeding birds are also regularly seen in salt water in summer, especially in Buzzards Bay and elsewhere off Cape Cod. Wayne Petersen photographed this migrating Common Loon at Sandy Neck Beach in Barnstable.

Wayne R. Petersen

News From USFWS

The U.S. Fish and Wildlife Service recently released the complete 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. The report serves as the baseline for examining how Americans are spending their time and money outdoors.

The National Survey of Fishing, Hunting, and Wildlife-Associated Recreation has been conducted every five years since 1955 and is one of the nation's most important wildlife-related recreation databases. It is considered to be the definitive source of information concerning participation and expenditures associated with hunting, fishing, and other forms of wildlife-related recreation nationwide.

The 2006 Survey shows that 87.5 million U.S. residents 16 years and older participated in wildlife-related recreation – a six percent increase from 2001. The number of hunters and anglers fell from 37.8 million in 2001 to 33.9 million in 2006. The most recent survey also showed an eight percent increase in the number of wildlife-watchers since 2001 but little change in total expenditures for that activity. This report provides a broader and more in-depth look at the data than the Preliminary Findings report issued in May 2007.

The full Survey – and additional reports and earlier Surveys – can be downloaded at: http://federalasst.fws.gov/surveys/surveys.html>.

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

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