

Bird Observer

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HOT BIRDS



On June 29, Tom Wetmore reported a **Red Phalarope** at Bill Forward Pool, Parker River National Wildlife Refuge, Plum Island. It was seen daily for the next week. Steve Arena took the photograph above.



On July 2, Steve Arena reported a **Ruff** at Bill Forward Pool. It remained for a day. He captured the bird in flight above.

TABLE OF CONTENTS

BIRDING MORRIS ISLAND AND VICINITY, CHATHAM, MASSACHUSETTS	
	<i>Ryan Schain</i> 213
WINTER QUARTERS AND MIGRATION ROUTES OF COMMON AND ROSEATE TERNS REVEALED BY TRACKING WITH GEOLOCATORS	
	<i>Ian C. T. Nisbet and Carolyn S. Mostello</i> 222
RESPECTING BIRDS, PEOPLE, AND HISTORY AT MOUNT AUBURN CEMETERY	
	<i>Dave Barnett and Regina Harrison</i> 232
PHOTO ESSAY	
Mount Auburn Cemetery	240
FIELD NOTES	
Another Instance of Play Behavior in Black Vultures	
	<i>William E. Davis, Jr.</i> 242
Anhingas Play with Sticks and Other Plant Debris	
	<i>William E. Davis, Jr.</i> 244
MUSINGS FROM THE BLIND BIRDER	
Birding Paraphernalia	<i>Martha Steele</i> 246
GLEANINGS	
Getting from Point A to Point B	<i>David M. Larson</i> 248
ABOUT BOOKS	
Table Scraps To Zick Dough	<i>Mark Lynch</i> 250
BIRD SIGHTINGS	
March/April 2015	256
ABOUT THE COVER: Common Yellowthroat	<i>William E. Davis, Jr.</i> 267
ABOUT THE COVER ARTIST: Barry Van Dusen	268
AT A GLANCE	
June 2015	<i>Wayne R. Petersen</i> 269

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Birding Morris Island and Vicinity, Chatham, Massachusetts

Ryan Schain

Chatham, Massachusetts, is one of the paramount birding locations in Massachusetts. Monomoy National Wildlife Refuge (North and South Monomoy and Morris islands), South Beach, Pleasant Bay, incredible thickets, and an amazing system of creeks and estuaries are situated within the town limits. Though this article will focus solely on Morris Island, the other locations are all quite fun and can be rewarding.

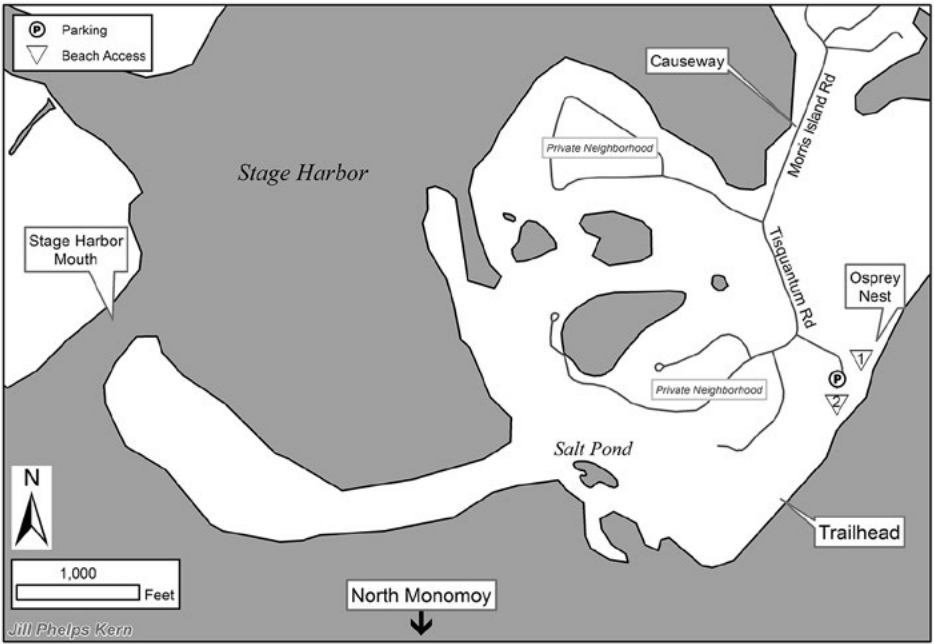


Morris Island and its surrounding habitat are underrated and underbirded, and the number of mega-rarities that slip through undetected is surely astronomical. Given its geography and potential as a migrant trap, Morris Island is a location where nearly anything is possible. Morris Island is fun in every season. It is one of the few places in the state where 60-plus species counts are possible twelve months of the year, with triple-digit totals possible in spring and fall. In recent years we've seen Townsend's Solitaire, Loggerhead Shrike, White Ibis, Mississippi Kites, Western Kingbirds, American White and Brown pelicans, and Sandhill Cranes. Locally rare birds such as Hudsonian and Marbled godwits, Black Skimmers, Yellow-breasted Chats, and Dickcissels can be found with some regularity. It should be noted, however, that Morris Island is hit or miss. Given its geography, the island and surrounding area is a productive migrant trap. On some days, birds are everywhere. On other days, birds can be quite scarce. I hope this article will convince you to bird the area more often and help you find good birds once you get there.

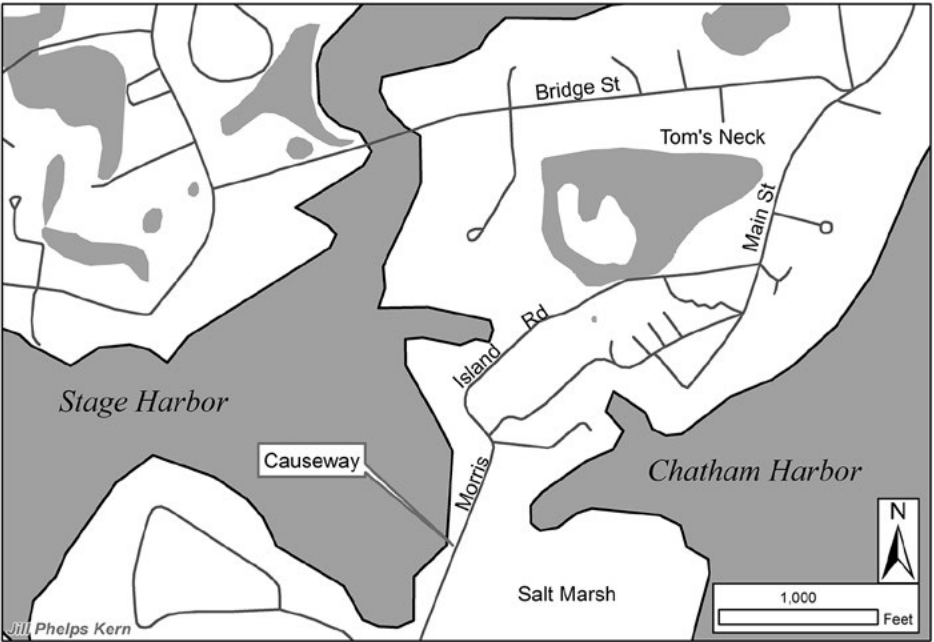
Morris Island

Morris Island is located south of the Chatham Lighthouse in East Chatham. Follow Main Street until it turns into Morris Island Road. When you come to a fork in the road, make a right turn to stay on Morris Island Road. This will take you past Tom's Neck and across the Morris Island Causeway, both of which I will touch on later. Continue straight on Morris Island Road (which becomes Tisquantum Road after you cross the causeway) and drive up a hill. At the top of the hill you will see the entrance to Monomoy NWR on the left, Wiki's Way. Drive through the open, brown metal gate and park in any of the parking spots. Occasionally the Monomoy Island ferry captain will approach your vehicle as you are parking and inquire as to your business on the refuge. In the busy vacation season—late June through late August—this company tries to monopolize the parking lot for its ferry customers, sometimes telling visitors the parking lot is for ferry passengers only. This is not even remotely true. Ignore him and park anyway.

Now that you have parked, do not rush down to the water. The thickets, trees, and edges of the parking lot often hold excellent birds. Check every inch of the parking



Morris Island.



Causeway and Tom's Neck



Townsend's Solitaire. All photographs by Ryan Schain.

area, including the small medians between parking spaces. The pines along the visitors center often hold a nice mixed flock in the fall. In September, for example, Philadelphia Vireos and Yellow-bellied Flycatchers are often quite easy here. On a late September afternoon in 2010, for example, a brief pishing session in the parking lot rewarded me with a Lark Sparrow and a White-eyed Vireo in the same binocular field.

Once you have tapped out the parking lot, you have two possible routes down to the beach. The first route is a short, rocky trail near the entrance gate. This trail ends on a small platform with stairs, which overlooks the beach and marsh to the north. Ospreys breed in this marsh, and the platform is a nice spot to observe them. The marsh itself is great to explore; in the past, it has produced Clapper Rails and Saltmarsh, Nelson's, and Seaside sparrows. In winter, this marsh is one of the better places in Chatham to find Eastern Meadowlarks and Ipswich Savannah Sparrows. In the spring and summer, the marsh is a great spot for wading birds; check it carefully for Little Blue Herons and Tricolored Herons. The marsh is also one of the better places in Chatham for large flocks of Canada Geese, which should be checked carefully for Cackling and others during migration. Finally, Savannah Sparrows and sometimes Prairie Warblers breed in the dunes and bushes on the edges of the marsh; both often sing in great light just off the observation platform. Sea watching from the platform can be rewarding, as you can see across the spit to the ocean. Gannets, jaegers, Razorbills, and several species of shearwaters are possible here in appropriate seasons.

The second route down to the water is past the restrooms and the refuge volunteer dorms. It follows a boardwalk past a set of birdfeeders. If the feeders have seed in them, this is a great spot during migration to see birds such as Lincoln Sparrows, Swamp Sparrows, Indigo Buntings, Eastern Towhees, and rarely, Clay-colored and



Long-tailed Duck

Vesper sparrows. Past the feeders, the boardwalk continues, with offshoots to two overlook areas. On clear days you can see over Chatham Harbor to South Beach from these overlooks. Scanning the beach and water in the cove can be rewarding, with numerous sea ducks possible in all seasons, as well as shorebirds on South Beach. This southern cove of Chatham Harbor often holds the largest concentration of summering sea ducks in the state, including all three scoter species, Common Eiders, Long-tailed Ducks, and a handful of Red-breasted Mergansers.

Once past the overlooks, you will reach a long staircase. Walk down this staircase—leave your shoes halfway down if you would like them back after the tide comes in—to the beach. Birding any farther than the stairs is difficult during mid-to-late incoming or high tides because the beach is usually totally submerged. If the tide is low enough and you have reached the beach, start walking southwest, or to the right if you are facing the water. The walk is pleasant and safe when you have checked the Chatham Stage Harbor tide chart in advance and figured out how many hours you will have before high water eliminates the beach and the return route. At a mid-outgoing tide, you will probably have around four hours; at low tide you will have a couple of hours; when the tide starts to rise, be aware of how quickly it comes in. Plan accordingly!

As you continue down the beach, watch for Least and Spotted sandpipers just off the stairs during migration. In a quarter mile or less, you will come to an unmarked opening in the dunes on your right; continue past this private property and you will reach a refuge trail sign with an arrow pointing right. Taking this trail brings you into what I refer to as the maritime forest. The maritime forest trail loops through a stand of pines and thickets with breeding Pine Warblers and Eastern Towhees. The forest can hold quite a few migrants during migration, and both crossbill species turn up during incursion years. During spring and fall migration, pay careful attention to the few



Seaside Sparrow

groves of deciduous trees mixed into the pine grove, as these usually hold the largest flocks of mixed species.

Follow the signs to stay on the refuge, and you will reach the salt pond. This is your best shot for dabbling ducks on the island. I've had Blue- and Green-winged teals, Northern Pintail, and others here. When it is not dry, the pond often has both yellowlegs species and other shorebirds. Green Herons and Killdeer often wander around the pond's edges, and Tree Swallows nest in the surrounding boxes.

Once you have walked around the pond, walk along the trail back out to the beach and head southwest. The beach will come to a corner, around which you should continue. This corner is one of the better spots to witness morning flight on the island, as reorienting migrants often rocket off North Monomoy back to the mainland. In fall, you can get Dickcissels here if you know their flatulent flight call. At the lower tides, the spartina grasses along this stretch hold breeding Saltmarsh Sparrows in the spring and summer. This area is also good to check for Seaside Sparrows in spring and fall migration, and Nelson's Sparrows in fall. Once you have checked the spartina, look across the water. This is the best location on Morris Island to scan North Monomoy Island. Starting in late June, Hudsonian and sometimes Marbled godwits are usually easy pickups here. Large flocks of peeps are also present, though difficult to identify unless it is an exceptionally clear day. While scanning North Monomoy, keep an eye out for herons. The island has a large colony of wading birds; you may pick out a Glossy Ibis or, if you are lucky, a Yellow-crowned Night Heron.

After you have scanned North Monomoy, continue down the beach. At lower tides, you will come to Morris Island's best mudflats. Though shorebird numbers will not compare to South Beach or North Monomoy, there are often decent flocks here. Both godwits, Whimbrels, American Oystercatchers, and large flocks of peeps are possible here. Given that you will be so close to the birds, make sure to check every peep for



White-eyed Vireo

rarities like Red-necked Stint and Curlew Sandpiper! Continue down the beach, and you will walk past large dunes on your right. These dunes often have breeding Horned Larks and occasionally a Bank Swallow colony. If you decide to walk to the end of the beach—approximately two miles—you will reach the mouth of Stage Harbor. The harbor mouth can be a great spot for Common, Roseate, Forster’s and sometimes Arctic terns, and the harbor itself can hold a Barrow’s Goldeneye or two, as well as a large flock of Canada Geese.

You have two options when walking back to your vehicle. One is to go back in the direction you came. Often the birds on the way back, especially flocks of shorebirds, are completely different from the flocks you saw on the walk out. The second option is to walk back along Stage Harbor. There are often small flocks of peeps here, and this habitat is your best bet for species like Buff-breasted and Pectoral sandpipers. After about a half mile or less of walking, there is a cut-through trail back to the beach, where you can continue to the main stairs.

Outside of the refuge parking area, the neighborhoods on the island can be exceptionally birdy and include some of the best habitat on the island. That being said, the streets in these neighborhoods are private ways, not public ones. You should bird along these streets only with permission of the residents.

Morris Island Causeway

Just down the hill from Morris Island is the causeway. This area offers what may possibly be your best shot at a mega-rare bird in the area. The causeway’s scrubby habitat has attracted many rare birds, including Western Kingbirds, Loggerhead Shrikes, and once a Eurasian (!) Kestrel. Parking is legal along the entire length of



Willet

the causeway. Though there are no restricted areas for walking, the habitat is sensitive and should not be trampled. There are several open areas near the hill up to Morris Island where you can access the habitat just off the causeway. Walk out through these openings toward the ocean (not the cove), and walk along the edge of the pines and bushes. The Morris Island causeway is best in the fall, especially in mid- to late-October, when massive flocks of Yellow-rumped Warblers, sometimes numbering in the hundreds, descend on the cedars along the road. Often other species are mixed into the smorgasbord, so check these flocks carefully. During birdy fall days on the causeway, Orange-crowned Warblers are likely, sometimes with several present. The surrounding thickets and berry bushes often hold hidden gems, including White-eyed Vireos and Yellow-breasted Chats. Virtually any Massachusetts passerine is possible here during fall migration.

Once you pass the trees and bushes, both sides of the Morris Island causeway include salt marsh habitat. Clapper Rails have been documented here in past years, though they are not annual. Little Blue and Tricolored herons have been seen here, so check any large mixed flocks of Snowy and Great egrets. American Oystercatchers and Willets are often present on the west side of the causeway, often with a nice assortment of dabbling and sea ducks.

Tom's Neck

After you have birded Morris Island and the causeway, continue down Morris Island Road away from the island. You will round a corner and, in a quarter mile or less, come to Tom's Neck. Tom's Neck is a large plot of conservation land that stretches between Morris Island Road and Bridge Street. There is one loop trail in Tom's Neck,



Osprey

and parking is legal on the road. Look for the Chatham Conservation Lands sign, and walk right in from there. During wet weeks and high tides, Tom's Neck can be flooded and inaccessible. If you walk the trail, high boots are often necessary due to water and mud.

Before entering Tom's Neck, bird the massive thickets on the road in front of the trail. As with the causeway, this area is best during fall migration. These thickets often hold decent numbers of birds, including specialty migrants like Philadelphia Vireos and Yellow-breasted Chats. During spring and summer, Willow Flycatchers and Northern Bobwhites breed in Tom's Neck, and from the road you can usually hear them singing. The trail has several small groves of trees and excellent thickets. The height of the thickets makes it difficult to see birds; however, the caliber of the habitat makes this walk worthwhile.

Winter: December to February

Winter in the Morris Island area can be exciting and rewarding. Half-hardys such as Gray Catbirds, Hermit Thrushes, and Eastern Towhees are present here all winter, with rarer winter species like Yellow-breasted Chats and Brown Thrashers possible. During incursion years by winter finches, the large groves of pine trees in the area can attract good-sized crossbill flocks, and large flocks of redpolls often forage in the dunes. Given the area's geography, virtually any winter finch is possible as a flyover during big years, and Bohemian Waxwings are more than possible. Check thickets on the island and causeway carefully, as late warblers such as Ovenbirds can sometimes be present well into December.

Sea watching can be quite entertaining, with flocks of Razorbills, Black-legged Kittiwakes, and Northern Gannets all probable. Sea ducks, loons, and grebes are all common here, and a concentrated effort can occasionally produce a Dovekie or late Manx Shearwater (into late December).

Spring Migration: March to May

Though in my opinion, spring migration in the Morris Island area is less productive than fall migration, spring on Morris Island can be fun. On decent migration

days there is a definite and noticeable morning flight at dawn; however, finding a flight line for the majority of the birds can be difficult, as there really is not a concentrated flight area. Cover the maritime forest trail and dunes thoroughly, and look for large flocks of sea ducks that remain in the cove. Sea watching isn't as productive as later in the summer and fall, though you may get Parasitic Jaegers in late May. Watch for Black Skimmers in late spring because they breed on Monomoy, and from Morris Island you may occasionally see them feeding.

Breeding Season: June and July

Morris Island holds a typical assortment of Cape Cod's breeding birds. Aside from the usual suspects, local specialties include Willow Flycatchers, Prairie Warblers (not annual), Killdeer, Piping Plovers, American Oystercatchers, Least Terns, and Green Herons (not annual).

Autumn shorebird migration is just beginning, so carefully check the North Monomoy flats for flocks of shorebirds, which often include a handful of Hudsonian Godwits. You can see seabirds, most likely Sooty Shearwaters, from shore. Great, Cory's, and Manx shearwaters are also possible here in June and July, though usually outnumbered by Sooties. You can see Parasitic Jaegers in decent numbers on some days, though they are usually more visible from nearby Chatham Light.

Fall Migration: August to November

Fall migration is my favorite season to bird the Morris Island area. On good migration days, the island can be dripping with migrants, with virtually every inch of habitat holding mixed flocks. Nearly all Massachusetts passerine birds are possible here in fall, and the island produces mega-rarities with some regularity. Shorebird migration peaks between late July and late August, with thousands of birds often visible on North Monomoy. September is one of the better months for sea watching, with four shearwaters, jaegers, and Wilson's Storm Petrels all possible.

eBird

The Morris Island area is covered by three eBird hotspots. The URLs for specific hot spot pages are:

Monomoy NWR—Morris Island: <http://ebird.org/ebird/hotspot/L270936>

Morris Island Causeway, Chatham: <http://ebird.org/ebird/hotspot/L711450>

Tom's Neck Conservation Land: <http://ebird.org/ebird/hotspot/L1072688> 🐦

***Ryan Schain** was born and raised in Monmouth County, New Jersey, on the Jersey shore. He began birding around age five or six and spent his adolescent years birding on Sandy Hook in Raritan Bay. In 2005 at age 18, Ryan moved to Boston for college, where he has lived ever since. When he is not birding urban Boston migrant traps, Ryan is birding around his parents' house in Chatham on Cape Cod. His favorite local patches are the Fenway in Boston and Morris Island in Chatham.*

Winter Quarters and Migration Routes of Common and Roseate Terns Revealed by Tracking with Geolocators

Ian C. T. Nisbet and Carolyn S. Mostello



Fig. 1. A Common Tern with a geolocator mounted on its leg. The geolocator was attached to a custom-made plastic leg flag using marine epoxy adhesive, and secured with two loops of dental floss sealed with superglue. The light sensor is the small white rectangle. The small white flag was placed on the right leg so that the bird could be located if it returned but had lost the geolocator assembly during the winter. (Photograph by C. S. Mostello).

In recent years the study of bird migration has been revolutionized by the development and use of miniaturized tracking devices. It is now possible to track individual birds wherever they go, across mountains and deserts, through the night, and far out at sea. As yet, satellite transmitters and GPS receivers can be used only on large birds; the only devices available to remotely track small birds that cover great distances are light level geolocators, which use changes in light intensity to determine locations. Geolocators were originally developed by the British Antarctic Survey for tracking albatrosses, but their engineers progressively made them smaller so that they can now be used on small birds of many species. In recent years they have been used to track, among others, Veeries (Heckscher et al. 2011; Hobson and Kardynal 2015), Northern Wheatears (Bairlein et al. 2012), Black Swifts (Beason et al. 2012), Ovenbirds (Hallworth et al. 2015), and—most recently—Blackpoll Warblers on their autumn migration across the ocean from New England to the West Indies (DeLuca et al. 2015).

Geolocators

Geolocators contain a clock and a light sensor that records light intensity every two minutes. By plotting the changes in light intensity, the times of sunrise and sunset on each day can be determined. The time of sunrise or sunset identifies the longitude, and the length of day or night on any specific date identifies the latitude. Geolocators also contain a battery and a computer chip that can store data for up to two years. When the data are downloaded, they provide a record of the location of the bird twice each day throughout the study period.

Despite their utility, geolocators have two major disadvantages. The first is that they store but do not transmit data, so each marked bird must be recaptured in order to download the stored location data. The second is that the location estimates are imprecise. Cloudy weather and other factors that reduce the intensity of light reaching the geolocator lead to errors in the estimated times of sunrise and sunset, and hence errors in the derived estimates of latitude and longitude. In our work with terns, uncertainty in estimates of longitude is typically about $\pm 1^\circ$, or about ± 100 kilometers in the east-west direction at the Equator and ± 60 – 70 kilometers at mid-latitudes (Mostello et al. 2014).

Uncertainty in estimates of latitude is greater than in estimates of longitude, and increases progressively at dates close to the spring and autumn equinoxes and at latitudes close to the Equator. At the equinoxes, day length is the same everywhere on Earth and latitude cannot be estimated at all; close to the Equator, day length varies very little with latitude, so that estimates of latitude may be inaccurate by 10° (± 1000 km) or more. If a bird remains at the same location for weeks or months, statistical averaging allows that location to be determined fairly precisely. When a bird is traveling, errors in individual fixes can be large and the exact track cannot be determined.

Tracking Common and Roseate Terns

During the 45 years we have studied and conserved the Common and Roseate terns that breed in Massachusetts, we have been repeatedly frustrated by the paucity of data on these birds in their winter quarters, where they spend about half the year. Until 2007, most information about the migrations and wintering areas of both species had been gleaned from banding recoveries, which were few and scattered, and whose occurrence usually depended on the unlikely combination of a bird dying in an accessible place and being found by an interested person. Band recovery data had indicated that both species migrate through the West Indies to winter on the north and east coasts of South America (Nisbet 1984, 2002), but little was known about dates and routes of migration or the precise locations of stopover and wintering sites. Information was particularly sparse for the Roseate Tern, which had rarely been encountered anywhere in South America, so that it had been almost impossible to devise conservation measures for this endangered species on its winter range.

When geolocators small enough to be carried by terns became available in 2007, we obtained 20 geolocators, weighing 1.5 grams each, from the British Antarctic

Area	Stopovers			Common Terms			Roseate Terns		
	Coordinates	Autumn	Spring	Winter	Autumn	Spring	Autumn	Spring	Winter
A. Cape Cod	41–42° N, 70–71° W	11			6				
B. Cape Hatteras	34–36° N, 74–76° W	4	3						
C. NE Caribbean	18–20° N, 64–71° W	3	0		6		5		
D. NW Venezuela/Aruba	12–13° N, 68–71° W	1	0	1	1		1		
E. Trinidad	10–11° N, 61° W	4	0		0		0		
F. Suriname	6–7° N, 54–56° W	5	0	1	4		0		1
G. French Guiana	5–6° N, 51–52° W	2	0		0		0		
Brazil:									
H. Pará	1° S, 46–49° W	4	4	1	4		4		1
I. Maranhão	3–4° S, 42–45° W	3	1		2		0		
J. Céara/Rio Grande do Norte	4–5° S, 37–40° W	1	1		0		0		
K. Alagoas/Sergipe/Bahia	10–17° S, 36–39° W	3	2	2					4
L. Espírito Santo	19–21° S, 40–41° W	3	1	2					
M. Lagoa do Peixe	30–34° S, 50–53° W			3					
N. NE Argentina	36–40° S, 57–58° W			1					

Table 1. Stopover and wintering areas of 11 Common and 6 Roseate Terns. Each entry for a stopover area indicates the number of birds that stopped there. Zero indicates that one or more birds passed through the area without stopping. NE Caribbean includes Haiti, the Dominican Republic, Puerto Rico and the Virgin Islands. The only Common Tern that reached Argentina spent part of the winter at the Lagoa do Peixe and alternated between these locations; it is included in this table for area N. Two Roseate Terns that spent the early part of the winter in area K moved to area J in February (Figure 2); they are included in this table for area K.

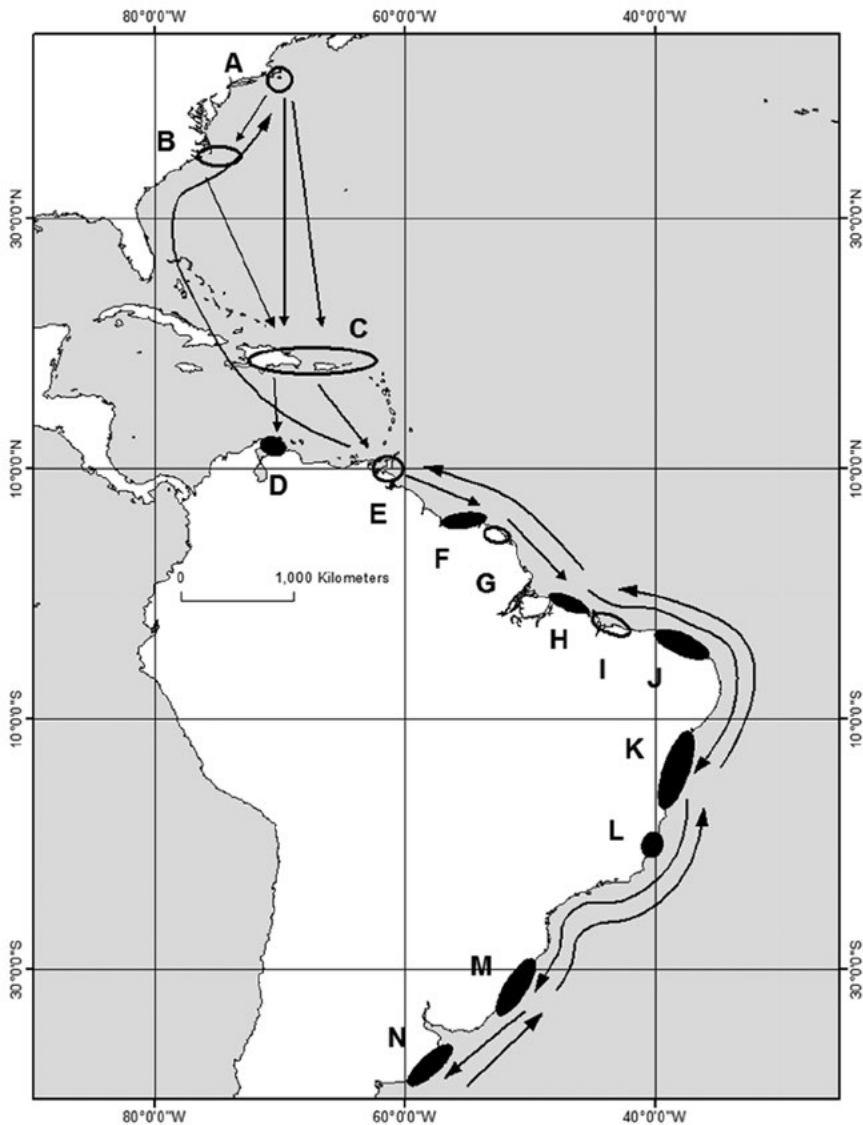


Fig. 2. Migration routes and winter quarters of Common and Roseate terns. The main areas used for stopovers and wintering are marked with letters keyed to those in Table 1. Filled areas include locations used for long periods during the winter. Within each marked area, each bird usually stayed within a small range of longitudes and latitudes.

Survey and attached them to custom-made plastic leg flags (Figure 1). We put the devices on 10 adults of each species that we caught on nests at Bird Island, Marion, Massachusetts. In 2008 we found six Common Terns and four Roseates that returned, retrieved nine geolocators, and obtained valuable data from seven of them. However, we were concerned at the low rates of return—40% for Roseate Terns and 60% for Commons, versus 83% and 90% expected, respectively, based on average survival rates for each species (Nisbet 2002; Spendelov et al. 2008). We decided to discontinue the study until smaller devices were developed. In 2009, geolocators weighing only 1.0 gram became available, and we repeated the study, attaching devices to 10 more adults of each species. Combining the results of the two years, we retrapped 13 of 20 Common Terns and nine of 20 Roseate Terns, and obtained useful data from 11 Commons and six Roseates.

After downloading and analyzing the stored data using software supplied by the British Antarctic Survey, we were confronted by a huge volume of data: 11,084 paired estimates of latitude and longitude. To date, we have published three papers in scientific journals (Nisbet et al. 2011a, 2011b; Mostello et al. 2014), and we are planning at least one more. Ours was one of the first two studies to use geolocators to track terns, the other being the groundbreaking work on the migration of Arctic Terns from Greenland to the Antarctic and back (Egevang et al. 2010).

Winter Quarters

Our tracking results revealed that Roseate Terns spent the winter at three locations on the north and east coasts of South America, spanning about 4,000 kilometers of coastline from Suriname to eastern Brazil (Table 1, Figure 2). Common Terns wintered over an even wider area, extending along about 8,000 kilometers of coastline from northwest Venezuela to northeast Argentina (Table 1, Figure 2). Despite the enormous scatter of these birds during the winter, each returned to Bird Island and nested within a few meters of its previous year's location.

All the birds that wintered on the north coast of South America could be located fairly precisely—within 20–120 kilometers—depending on length of stay. Because the coast runs from west to east, the locations could be determined from longitudes alone despite proximity to the Equator. The Common Terns that wintered in southern Brazil and northeastern Argentina (areas M and N in Figure 2) could be located with similar precision using both latitude and longitude data. The locations of birds that wintered in eastern Brazil north of 20° S (areas K and L) were determined less precisely, because latitude estimates were unreliable and longitude estimates could correspond to a fairly wide range of locations as the coast runs from north-northeast to south-southwest.

All our birds appeared to have been stationary for weeks or months during the winter, because estimates of both latitude and longitude were stable over these long periods, within the expected range of errors. However, six of the nine birds that wintered in eastern Brazil shifted from one stable location to another once or twice during the winter, based on consistent shifts in average longitude by 1–3°. Three Common Terns moved from eastern to southern Brazil (areas K and L to area M) late in

the season but spent most of the winter in eastern Brazil (Figure 2). Another Common Tern moved twice from area M in southern Brazil to and from area N in northeastern Argentina. Two Roseate Terns moved from eastern Brazil (area K) to the north coast in February (area J).

Most of these wintering locations had been known or suspected from previous banding recoveries or field studies (Hays et al. 1997, 1999), although it was surprising to find that one Common Tern spent the entire winter as far west as northwest Venezuela (area D, Figure 2). It was also surprising that only one of our 11 Common Terns traveled as far south as northeast Argentina (area N), because this is an area of major winter concentration for the species (Sapoznikow et al. 2002); many Common Terns banded there have been found nesting at Bird Island and other locations in the northeastern United States (Figure 2).

Geolocators on four birds—one Roseate, three Commons—stopped collecting data between January and March, but the remaining 13 devices yielded detailed information on the time the birds spent in their winter quarters. The five Roseate Terns for which we had data spent five or six months (156–186 days) at their wintering sites, much longer than at their breeding sites (73–111 days) or their combined staging and breeding periods in North America (about 120–140 days). The eight Common Terns for which we had data were much more variable in their timing, spending three to eight months (87–235 days) in their winter quarters (Table 1). For six of these birds, length of residency in the winter quarters exceeded that in North America.

Migration Routes and Stopover Sites

We obtained a wealth of new information on migration routes and stopover locations (Table 1, Figure 2). All 17 birds of both species spent most or all of the postbreeding period around Cape Cod and the Islands (area A) from late June or July until they departed on southward migration in August–October. All then made long, direct flights across the western North Atlantic Ocean to the West Indies, most of them making landfall in the vicinity of Puerto Rico or the Dominican Republic. Common Terns made this crossing in two to three days, whereas Roseates traveled faster, completing the flight in one and half to two days.

In addition to Cape Cod, Roseate Terns used three major staging areas in autumn (Table 1, Figure 2): the northeastern Caribbean (area C, mainly in Puerto Rico or the Virgin Islands), a small area in northwest Suriname (area F), and a small stretch of coast in northern Pará, Brazil (area H). All the Roseate Terns that passed through these areas either stopped over for periods of 5–24 days or remained for the entire winter (one each in Suriname and Pará; Table 1).

The behavior of Common Terns was much more variable. Four birds staged in the vicinity of Cape Hatteras (area B) before crossing to the West Indies, and only three of the 11 birds stopped over in the northeastern Caribbean. Common Terns then used at least seven distinct stopover areas along the north coast of South America (Table 1).

On spring migration, there were few stopovers (Table 1, Figure 2). All the Roseates and four of the Commons that spent the winter on the east coast of South America staged in northern Pará (area H), at exactly the same locations they used in the autumn; none of these birds stopped again anywhere in South America (Table 1).

All the birds retraced their autumn migrations along the north coast of South America as far as the eastern Caribbean, but most then followed spring tracks farther to the west of their autumn tracks. Ten Common Terns continued west-northwest across Hispaniola or eastern Cuba, northwest through the Bahamas and then northeast, parallel to the North American coast but well out to sea, close to or outside the edge of the continental shelf, until they reached Cape Cod. One Common Tern differed from all the others in retracing its autumn route, flying from Venezuela through the eastern Caribbean and then directly north to Cape Cod, without passing west of longitude 71° W.

Three Common Terns stopped near Cape Hatteras (area B, Figure 2) for a few days, although they appeared to spend most of this time at sea, sometimes far from shore. Otherwise, none of the Common Terns stopped anywhere for more than a day, although five birds traveled slowly and spent several days moving through the Bahamas.

Three Roseate Terns stopped over in Puerto Rico or the Dominican Republic (area C, Figure 2) for 8–11 days on spring migration, but their subsequent behavior was unexpected. They traveled slowly and erratically over the North Atlantic Ocean, arrived at Bird Island later than usual, were underweight when we trapped them, and did not acquire mates. It seems likely that their spring migration was impaired by the geolocators, although there was no sign that their autumn migration had been affected. We do not understand the difference.

Timing of Migration

The dates of migration included several surprises. The seven female Common Terns all left Cape Cod on southward migration between August 1 and 22 (Nisbet et al. 2011b); one of these birds stopped over at Cape Hatteras and did not leave North America until late September. The other six females then traveled quite fast: five reached Suriname and four reached Brazil before the end of August; four arrived in their final winter quarters (one in Suriname and three in Brazil) between August 21 and September 10. This early migration was unexpected, because Common Terns remain abundant around Cape Cod until mid-September, with significant numbers remaining through October and small numbers into November. Also, adult Common Terns provide prolonged post-fledging parental care: juveniles are accompanied and fed by their parents throughout August and into early September. Our results suggest that after the females leave, males stay behind to care for the juveniles. The four male Common Terns departed over a nearly two-month span between August 12 and October 4; we do not know if they were accompanied by juveniles at the time of departure.

The autumn migrations of the seven Common Terns that did not migrate directly to winter quarters were extremely varied in their timing. Some birds made prolonged



Common Tern. (Photograph by Sandy Selesky).

stays in staging areas, for example: 48 days at Cape Hatteras, 23 days in Puerto Rico, 61 days at Aruba, 49 days in Suriname, and—the same bird—49 days in French Guiana. Arrival dates in the winter quarters ranged from September 30 to December 17. One female that had reached Bahía, Brazil (area K) on September 6 stayed there until November 23, then arrived at her final wintering site at Lagoa do Peixe, Brazil (area M), on November 29 (Table 1). Roseate Terns were much less varied in their timing. They started south between August 28 and September 14 and reached their wintering sites between October 3 and November 2.

Spring migration was faster and more tightly scheduled. All the Roseate Terns left their winter quarters between April 7 and 23, and all but two Common Terns left between April 1 and 12. The exceptions were one Common Tern that moved to its staging site at Pará in March and left there on April 22, and one that left its wintering site in Venezuela on April 26. Most of the Common Terns traveled extremely rapidly, with transit times to Cape Cod as short as eight and nine days from Brazil, seven days from Venezuela, and six days from Suriname. Birds that started from Brazil and Suriname flew far west of a direct line to Cape Cod, so their average travel speeds must have been in the range of 500–800 kilometers per day, including time spent feeding and resting. The Roseate Terns also traveled rapidly west as far as the Caribbean, but three of them delayed on the final leg of their journey. All birds of both species spent 5–15 days in the vicinity of Cape Cod before settling at Bird Island, but it was not clear if they used this as a staging area as they did in the autumn.

Contributions to Conservation

The primary goal of our study was to help devise measures to conserve both species of tern by gaining more knowledge about their locations and behavior away from the breeding area, where most mortality is thought to occur (Nisbet 2002, 2014). This knowledge was especially needed for the Roseate Tern, an endangered species that

was declining for unknown reasons when we planned the study. Most of the locations where our Roseates wintered remained undiscovered, and nothing was known about their ecology or limiting factors in the winter quarters.

Although we obtained data for only six Roseates, the results added enormously to our knowledge of the species. We identified four major areas used for both wintering and migratory stopovers—the northeastern Caribbean from the Dominican Republic to the Virgin Islands, the northwest coast of Suriname, a small area in northern Brazil, and a larger area on the east coast of Brazil (areas C, F, H and K)—and the dates when they were present. This information is already being used to plan focused field studies— spearheaded by the Canadian Wildlife Service—to study Roseates in those areas.

Many factors that may affect Roseate Terns—and Common Terns—have been identified, including overexploitation of fisheries, offshore oil development, pollution, degradation of mangroves and coral reefs, and development of coastlines for recreation and building of vacation homes (Mostello et al. 2014). We hope that focused field studies in the places we have identified as important for these species will help to determine if and how terns are being impacted. For example, all of the birds in our study used Cape Cod for long periods in autumn, confirming earlier indications that Cape Cod is a major staging area for both Common and Roseate Terns. Studies are currently under way to determine if and how recreational activities on Cape Cod are affecting terns there, to serve as the basis for conservation measures. We hope that our study of migration routes and winter quarters will serve in the same way as the first step toward conservation actions in places outside North America where terns concentrate.✈

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Respecting Birds, People, and History at Mount Auburn Cemetery

Dave Barnett and Regina Harrison



Great Blue Heron at Halcyon Lake, early spring 2015. (All photographs courtesy of Mount Auburn Cemetery)

Mount Auburn Cemetery has served as a valuable habitat for wildlife since long before its founding in 1831, and conservation has been a concern for the Cemetery's management as far back as 1870, when Mount Auburn's Trustees established a Committee on Birds and inaugurated a program to plant trees and fruit-bearing shrubs that would attract birds. In the last two decades, with the increased awareness of Mount Auburn's ecological uniqueness in the greater Boston area and the growing environmental sensitivity throughout society, more and more attention has been directed at managing the grounds as a natural resource and wildlife habitat. Mount Auburn today represents a tremendous natural resource, providing a diversity of plant and animal habitats containing food, water, shelter, and living space; in 2002 the cemetery was designated as one of the 79 Important Bird Areas (IBA) in Massachusetts by the Massachusetts Audubon Society. The landscape includes open parklike areas with large swaths of grass such as the area surrounding Willow Pond, woodland settings with significant understory vegetation, and wetland zones with opportunities for aquatic species. Mount Auburn's three major water bodies—Halcyon Lake, Auburn

Lake, and Willow Pond—attract a wide array of wildlife including birds, mammals, and amphibians. While past landscaping and horticultural design and management have created this naturalistic richness, there are opportunities to enhance existing habitat and create new types of habitat at the Cemetery. Our goal is to provide a wide diversity of vegetation offering nesting, protection, and food resources, in a manner that fits within our historic landscape preservation mission, does not conflict with our obligations to the families of those interred here, and will be sustainable long into the future.

In 1990, the Cemetery embarked on its first comprehensive planning process, resulting in 1993's Master Plan. The horticultural directives that emerged from the Master Plan were to: maintain the then-current high level of plant species diversity; continue to plant trees and shrubs that support desirable wildlife populations; increase the amount of brushy, shrub undergrowth to diversify the canopy height and attract a greater variety of birds; maintain some less manicured areas consistent with Cemetery operations to allow for the natural senescence of woody plant material and serve as shelter for wildlife; maintain areas along pond edges for shrubs and small trees to serve as perching and feeding sites for birds; maintain areas of cover and open areas with emergent and other aquatic vegetation by ponds; and maintain the health of the vernal pool in Consecration Dell and the water quality of all other water bodies. These directives have grown in scope and emphasis in the Cemetery's subsequent yearly planning and budgeting, particularly as we have recognized our importance as a unique oasis for migrating birds and a sanctuary for winter residents and summer breeding populations.

Much of Mount Auburn's recent work on habitat enhancement has been made possible by funding from the Anthony J. & Mildred D. Ruggiero Memorial Trust established in 1994 to support wildlife habitat and educational programs at Mount Auburn. Through the generous support of the Trust (which funds 75% of a project) and the matching support of other foundations and individuals, Mount Auburn has been able to implement a number of major habitat enhancement projects. In December 2013, the Ruggiero Trust awarded the Friends of Mount Auburn Cemetery a grant of \$92,000 to support the creation of a Wildlife Action Plan. With this funding, Mount Auburn brought together a "dream team" of ten professionals—landscape architects, environmental engineers, hydrologists, ecologists, ornithologists, and herpetologists—for a three-day workshop in June 2014. Represented organizations included the Massachusetts Audubon Society, Grassroots Wildlife Conservation, Halvorson Design Partnership, New England Environmental, Patrick Cullina Horticultural Design & Consulting, and Larry Weaner Landscape Associates, as well as independent experts. Each day included tours of different sites, group discussions, and one-on-one sessions. The range of discussion topics included the needs of specific types of wildlife for specific types of habitat, the impact of climate change on bird migration and habitats, the management of water quality in the ponds, and the aesthetic challenge of successful placement of naturalistic landscapes amid more formally designed ones in an active cemetery. The results of this workshop have generated a Wildlife Action Plan, in progress now, to guide our future efforts.

What follows below is a selection of areas where habitat management work has already been conducted and will be continued in the future. Each of these areas is important to one or more of Mount Auburn's bird communities, from breeding species to spring migrants to fall migrants to winter residents to aquatic birds, and represents a variety of habitat resource types. Many birders are undoubtedly familiar with these areas, but may not be aware of their history. We also hope that as work proceeds under the Wildlife Action Plan, this article will help explain some of what birders might see on the grounds in the future. Every effort will be made to minimize impacts on birds and other wildlife, but some disruption may be inevitable for human visitors.

Auburn Lake

In 1998, Auburn Lake (also known as Spectacle Pond by many) was the first of Mount Auburn's three ponds to be dredged to improve its health and habitat value, as well as its aesthetics. Over the decades since the creation of the pond in the 1850s, organic matter and sediment had accumulated to the point where Auburn Lake was only about two feet deep in its center and appeared to be largely mudflats during summer drought periods. Working with the direction and support of the Watertown Conservation Commission, the water was drained through a carefully designed filtration system into the Charles River, and a backhoe with a 70-foot reach was used to remove several feet of sediment. A number of shallow emergent zones were left along the pond's perimeter and planted with wetland species such as bulrushes, sweet flag, and pickerelweed, to provide habitat for a broader diversity of wildlife. In addition, five large Norway maple trees were removed from the steep slope around the north basin and a new understory of native shrubs and groundcovers was planted. A mated pair of Wood Ducks took up residence in Auburn Lake during the first spring after dredging and planting, and since then Green Herons, Great Blue Herons, and many other species of birds, turtles, and amphibians have enjoyed the improved habitat over the years.

Although conditions are vastly improved at Auburn Lake, they can be made better. The northern end of the lake, near the Gardner Mausoleum, is lacking in aquatic vegetation. Mount Auburn plans to install a biofiltration aquatic plant shelf, which will provide the three benefits of filtering storm water before it enters Auburn Lake, adding habitat biodiversity, and improving the aesthetic appearance of the area. During the course of the Wildlife Action Plan charrette, the bird specialists on the team observed that Mount Auburn currently does not include any running water features. Birds, especially migrants, are attracted to the sound of running water, so a running water feature would be of great benefit to birds and the birders who could rely on finding birds there. The steep slope and natural storm water drainage patterns at the northern end of Auburn Lake create an ideal location for the development of a constructed mountain stream. A recirculating pump will ensure consistent flow, and a pedestrian bridge in the current roadway will provide excellent observation opportunities.

Consecration Dell

Unlike the rest of the Cemetery, where intensive horticultural management has maintained the landscape over the decades, the 4.2 acres of Consecration Dell's natural



Planting of native species after removal of non-native species around a hillside tomb on the western slope of Consecration Dell, 1998.



Consecration Dell, same hillside tomb as previous photo, 2011.

valley had been minimally managed from the 1890s until 1997. During this time, invasive Norway maple had become co-dominant with the native red oak in the forest canopy. In woodlands where these maples become established, there is a conspicuous absence of understory vegetation. This condition further complicated matters in the Dell, where the steepness of its slopes had led to severe soil erosion problems. Work to restore the Dell to a more natural state began in 1997 with the planting of native species along the banks of the pool. The Dell was—and is—ecologically significant in part because of its resident population of spotted salamanders, one of the few in eastern Massachusetts. Our goal was to enhance the area aesthetically while also respecting the habitat requirements of the salamanders, which breed each spring in the vernal pool. The spotted salamander population has been carefully monitored each year, and it has been gratifying to note its overall success.

Since 1997, we have gradually expanded our woodland restoration efforts onto the slopes surrounding the pool, planting native New England species of trees, shrubs, ferns, and other groundcovers. With each phase of the woodland restoration, the first step has been to remove the Norway maples and other non-native species, such as Japanese yews and Japanese barberries, and replace them with native species ranging from sassafras and striped maple to mountain laurel, Christmas fern, and Solomon's seal. In 2003, several hundred seedlings of Norway maple, along with a number of mature trees, were removed from the southern slopes of the Dell. Over 400 new trees and shrubs were installed on the slopes where the invasive trees were removed, and more than 3,400 herbaceous plantings created carpets of ferns and woodland wildflowers, which are lush and vibrant today. As all of these plantings have matured, including many that provide nuts, seeds and fruits that are attractive to a wide variety of birds and to the insects that birds feed upon, the rebuilt understory vegetation has provided shelter and nesting materials. Visitors also may have noticed that unlike most other areas of the Cemetery, deadwood, whether standing or fallen, is allowed to remain in place as much as possible to provide additional food and shelter resources. Not only is this important for a wide variety of birds and invertebrates, but this practice is also aesthetically harmonious with the naturalistic woodland character of the Dell.

Our overall objective has been to make Consecration Dell a better natural habitat for birds and an ecologically sound plant community that will be sustainable long into the future, and we feel secure that we have made great strides toward reaching that goal. Future work will include additional plantings on the highest slopes of the Dell, to stabilize the soil in that area and to extend the prime habitat further upslope. In the course of this work we will improve the condition of the rustic walking paths that traverse the steep slopes. This will be a welcome improvement for some visitors who have avoided the paths out of safety concerns for exposed roots and washed out paving material.

Halcyon Lake

Throughout most of the Cemetery's history, the area around Halcyon Lake had an open, formal character, which included large expanses of turf running to the water's edge. In spring of 1999, several large native trees (oaks and tupelos) and small



Aquatic plants being installed at Willow Pond's emergent shelf, 2005.



Emergent shelf at Willow Pond, 2015.

ornamentals (dogwoods and crab apples) were planted around the lake. The invasive yellow iris along the entire lake edge was taken out, and hydraulic dredging to clear out decades of muck was done in summer 1999. Since then, a filtration system has kept algae and scum at bay, and plantings along the eastern edge of the lake have matured into an aquatic shelf providing useful habitat for birds and amphibians. However there is a lot of room for improvement, and future plans include more intensive invasive species control, replanting of the aquatic shelf, a new biofiltration system to further improve water quality, and, potentially, the addition of a floating island which would add places to hide for small fish and amphibians as well as safe resting sites for turtles and water birds.

Narcissus Path and Beech Avenue Wildlife Corridor

In an effort to provide continuity between habitat zones, the Narcissus Path and Beech Avenue wildlife corridor was the first step in knitting together a series of wildlife refuges that have historically been somewhat segregated. Its southern end lies only 350 feet from the entrance to Consecration Dell. At its northern end lies Indian Ridge, a long (one third of a mile) stretch of semi-wild landscape that also has been targeted for habitat replanting in the future. In the angle between these two ridges lies Auburn Lake, with its nearly five-acre basin of diverse wildlife habitat. More than 3,900 plants, including several new varieties of hollies, were installed in an area covering about one acre. The plant list was chosen with the primary objective of offering food resources and protective cover to birds, butterflies and other insects, and many small animals. This project was completed in 2013, with ongoing maintenance.

Wildflower Meadow at Washington Tower

The wildflower meadow at Washington Tower represents a plant community that has become scarce in Massachusetts due to development, fragmentation of farmland, pollution, and competition from invasive plants. Created in 2007 with the installation of almost 10,000 grasses, herbaceous perennials, and shrubs, the meadow benefits many species of butterflies, insects, and small mammals and also contains a seep, a small water feature that is attractive to these animals. Although it is not a large enough habitat to benefit grassland birds, it offers food sources to many other species, including hummingbirds. The wildflower meadow has been quite successful and will need only refinements of the plant species present and some renovation of the seep into a more attractive feature.

Willow Pond

In 2004-2005, the Cemetery completed the installation of a butterfly garden and a wetland emergent zone habitat at Willow Pond. A hydro-rake was used to remove invasive aquatic weeds and accumulated organic debris from the bottom of the pond. A shallow underwater shelf with aquatic plantings was then constructed to provide wildlife habitat and also to act as a biofiltration system at the point where significant water and sediment flow into the pond during major rain events. As at Halcyon Lake and Auburn Lake, these efforts did result in increased habitat for birds, fish, amphibians and invertebrates, but some significant types of habitat were absent throughout most of

the pond, particularly cover for tadpoles and frogs. An added complication came in the fall of 2014, when heavy rains caused flooding in our storm water drainage system that washed away much of Willow Pond's biofiltration system. Visitors may have noticed that the traditional turtle basking area at the north end of the pond has vanished, a casualty of the flooding. We will take advantage of this opportunity to rebuild a more extensive aquatic shelf with a viewing platform for visitors, and will also investigate adding floating islands to the main body of the pond. In addition to adding habitat resources, the vegetation on floating islands helps improve water quality as the root system filters nutrients out of the water.

These areas represent the major, highly visible projects at Mount Auburn over the past couple of decades, but there have been and will continue to be other, less immediately obvious habitat enhancement projects throughout the Cemetery. One substantial challenge we face is that one of the most valuable habitats for the breeding bird populations of Massachusetts is shrubland, characterized by multiple dense layers of woody vegetation from ground level to up to twenty feet high. Shrublands are by their nature ephemeral, typically occurring as transitional or early successional habitat following some disturbance to an area and preceding the establishment of woodland, and the general populace sees them as unkempt or unmanaged landscapes. While we are able to maintain some areas of the Cemetery in a naturalistic state, such as Consecration Dell, we have a responsibility to our clients and their families and to our mission of preservation of the historic landscape that constrains us from letting nature take its course throughout the grounds. However, we are exploring the possibility of creating managed shrublands with a mix of flowering and fruiting plant species that would mimic the structure of a shrubland, even if it does not mirror the typical species found in a natural Massachusetts shrubland.

Other future areas for improvement include Alice's Fountain, a small water feature constructed in the 1860s in an area that had been wet bog and is now a naturalistic pool with a drip fountain feature. The pool could be expanded into a larger vernal pool for additional salamander habitat and provide an important connector between Consecration Dell and Willow Pond, while also helping with our storm water management. And we will also be watching climate change closely, adjusting our plant species selections throughout the Cemetery in order to ensure that there will be food availability for long-distance migrants when they arrive in profound need of sustenance.

Mount Auburn has a long and illustrious history in the birding community, and we are looking forward to continuing that relationship in our collaboration with Mass Audubon now and in future Citizen Science projects that will help collect and disseminate data on the abundance and distribution of birds throughout the year. Please stop by the Visitors Center or check our website (www.mountauburn.org) regularly for updates on all of these projects as well as our future initiatives. 🐦

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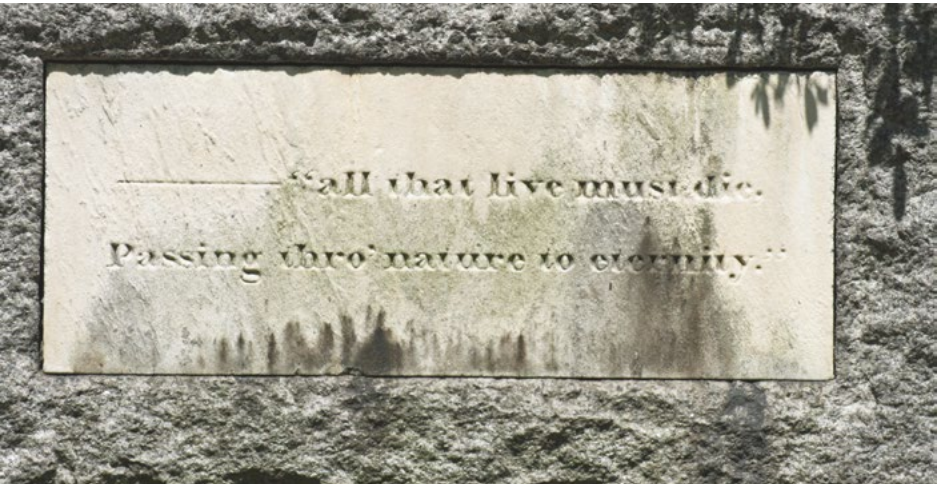
PHOTO ESSAY

Mount Auburn Cemetery

All photos courtesy of Mount Auburn Cemetery



American Robins take every advantage of the features of Mount Auburn's landscape.



Epitaph from Shakespeare's *Hamlet* on a hillside tomb.



An unusual visitor, this Saw-whet Owl appeared briefly at Mount Auburn in 2008.



Red-tailed Hawk, one of a long-term resident pair at the Cemetery.



Mount Auburn Cemetery provides an excellent training ground for young birders.

FIELD NOTES

Another Instance of Play Behavior in Black Vultures

William E. Davis, Jr.

In a previous “Field Note” I reported on observations of two subadult Black Vultures (*Coragyps atratus*) making daredevil rushes to the snout of an alligator to grab a stick and retreat. I suggested it was practice foraging behavior and thus an example of play (Davis 2013). On March 7, 2015, at about 10:15 am, I was again on Anhinga Trail in Everglades National Park in South Florida, and at the same spot where I made my previous observations. I watched Black Vultures play with a laminated fish identification sheet that had presumably been dropped onto the mud below the boardwalk rail. Initially, a single subadult bird approached the card and played with it. In the following minutes three other subadult vultures joined in, with up to three birds involved at one time (Figure 1). Finally, two adults joined the fun and played with the card. Hence at least 6 of the 14 congregated vultures were involved in playing with the card. During approximately 15 minutes of observation, the card had been moved six feet. I returned 45 minutes later to find the card had been moved an additional eight feet, presumably by the playing vultures.

The play included standing on the card and pecking at it (Figure 2), putting the beak under the card and raising it (Figure 3), standing on the card and bending it up with the beak by grasping the card’s edge (Figure 4), sometimes until the card was vertical (Figure 5), and picking the card up by its edge and tossing it (Figure 6).

In young birds, play often mimics adult behavior, such as fighting or foraging, and occurs in a broad spectrum of birds (Fagen 1981). Further, it has been suggested that such play is a way of developing and practicing skills necessary for adult survival (Kilham 1974). So, what skills are being developed or practiced by the play behavior of the vultures in this instance? The fact that two adults joined in the card playing casts some doubt on the idea that the play was strictly for skill development. But the play does resemble the feeding methods used by Black Vultures: pecking at small scraps on the ground or on the carcass, pulling out pieces of muscle or viscera, and tearing off pieces of tendon and skin (Buckley 1999). While observing the vultures playing with the card, I also saw one bird pull at grass roots and another pick up a stick and toss it in the air. Hence some sort of play behavior may be common in Black Vultures, and although probably rooted in skill development, there may be an aspect of something analogous to pleasure in their play. 🐦

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Ted Davis thanks John Kricher for reading an earlier draft of the manuscript.



Fig. 1. Black Vultures and laminated fish identification sheet. (All photographs by the author).



Fig. 2. Black Vulture standing on card and pecking at it.



Fig. 3. Black Vulture putting beak under the card and raising it.



Fig. 4. Black Vulture standing on the card and bending it.



Fig. 5. Black Vulture bending the card vertically.



Fig. 6. Black Vulture picking up card by its edge and tossing it.

Aningas Play with Sticks and Other Plant Debris

William E. Davis, Jr.

While walking along Anhinga Trail in Everglades National Park, South Florida, on April 8, 2015, about 11:30 am, my attention was drawn to two Aningas (*Anhinga anhinga*). The two were facing in the same direction, were close together, and both had vegetable material in their bills (Figure 1). As I watched, they tossed the vegetation into the air and caught it. Over the next 10 minutes they repeatedly did these maneuvers and on several occasions one bird passed vegetation to the other bird. Most of the vegetation involved was flaccid plant debris (Figure 2) but on at least one occasion they used a stick (Figure 3, far bird). The following day I observed another presumed subadult Anhinga—it was wet and the subtleties of the feather patterns were problematic—come out of the water with a 4-inch piece of bark, which the bird tossed and caught. This second observation on April 9 was at the Big Cyprus Bend Boardwalk of Fakahatchee Strand State Park, over 100 miles from Anhinga Trail, so undoubtedly of a third individual.

The Aningas on Anhinga Trail were both in female plumage, but young Aningas of both sexes have such plumage. These birds were juveniles or subadults with no fine barring on their tails, gray rather than white secondaries, and substantial brown on the neck (Sibley 2000). Aningas do not attain definitive plumage until their third year (Frederick and Siegel-Causey 2000).

Play, including practice foraging, is widespread in birds (Fagen 1981) though rare in many families, such as herons (Davis 2001). Aningas forage for fish and impale prey on their bill. They typically shake the impaled fish off their bill, toss it into the air, and then catch and swallow it headfirst. It seems likely that the Anhinga stick-tossing and catching is play that mimics adult foraging behavior and is involved in developing and practicing skills crucial for survival, as suggested by Kilham (1974) for woodpeckers. The tossing of sticks by Aningas has been previously reported by Stevenson and Anderson (1994), but their observations were of young birds several weeks old and unable to fly. The birds I observed were substantially older and fledged.

The passing of vegetation from one Anhinga to another also has an analogue in adult Anhinga behavior. In courtship, males may pass twigs to the female, and the male also feeds the female on nest (Allen 1961). Pre-copulatory behavior includes mutual twig offerings. It seems possible that the play I witnessed may again be practice of adult behavior. 🐦

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Ted Davis thanks John Kricher for reading an earlier draft of the manuscript.



Fig. 1. Anhingas with vegetable material in their bills. (All photographs by the author).



Fig. 2. Anhingas passing flaccid plant debris.



Fig. 3. Anhinga tossing a stick.

MUSINGS FROM THE BLIND BIRDER

Birding Paraphernalia

Martha Steele

Being a blind birder, I usually do not bring anything with me when I go birding, given that I can no longer see well enough with binoculars to locate a bird, never mind actually see something with enough detail to identify the bird. My walk out the door only requires that I have appropriate clothing given the weather conditions and a heightened attention to bird songs or other vocalizations. Occasionally, I may bring along a tape recorder to record songs or field notes that I do not want to forget.

But for some birders, the checklist they walk out the door with may not be just a list of their local birds – they may also have a checklist of all the accessories they want for their day of birding. Many of us may ask ourselves as we prepare to go birding: Have I got my binoculars? My scope? My tripod? My cell phone? My charger for the cell phone? My camera? My zoom lens for the camera? My memory card for the camera? My Internet-accessing device? My Global Positioning System (GPS) device? My screech owl and other bird song tapes? My printouts from the Massbird listserv with addresses to chase a particular bird?

It is of course not surprising that birders can take advantage of new technology or devices to enhance their birding enjoyment. Digital cameras, for example, have long supplanted cameras with film that must be processed at your local photography store. It is nonetheless amusing to me sometimes to watch others, such as my husband, load up before heading out to bird. Sometimes, one trip to the car is not enough, and many times, he needs assistance opening the door, as his hands and shoulders are occupied by his various birding accessories.

With all of these devices to think about, the act of going birding can turn into a nerve-wracking experience, especially if you are running late. Well, you may be running late because it has taken much more time than you expected to pull all your stuff together. Have you ever backed the car out of the driveway, only to realize that you forgot something very important, such as the attachment to your smart phone that allows you to take terrific photos through your spotting scope? You have to go back and find that attachment, thereby further delaying your start, for which you are slightly annoyed. But if you do not realize until 30 minutes later, as you approach your first birding destination of the day, that you forgot something you really wanted to have, it may be more than a little annoyance and obsession that can quickly detract from the excursion.

Okay, so let us say that you successfully left the house without forgetting anything. The next challenge is keeping track of all of one's accessories, the loss of any one of them potentially causing unbridled panic. When you have more things to keep track of, there is a higher probability of misplacing an item when your attention is drawn to a cool bird. Who among us has not placed something on the roof of a car and driven off

completely oblivious to whatever was on the roof? Who among us has not misplaced our smart phone and frantically searched every nook and cranny of the car (maybe four or five times over), the pockets of every piece of clothing, the ground you were just walking over before you finally find the (expletive) thing? Who among us has not gotten word of a great bird a mile away, scrambled to grab everything, and later discovered that something was lost in the mad dash to the bird?

Have you ever impulsively concluded that the loss of a particular device may be good riddance? I confess that I have, as I am technologically challenged, and if my device does not work, especially when it must work, I am inclined to throw the thing in the ocean, or into a tree if an ocean is not available (I know my husband will smile when he reads this). I love these devices when they work; I have no patience and cannot stand them when they do not.

Having a number of devices to deal with can require excellent coordination and deft hands in the field. Watching someone swiftly and smoothly switch from binoculars to camera to smart phone to scope and back again can be a thing of beauty. But not all of us are so fortunate. We may see a bird we want to photograph, but wait, the camera is not turned on nor is the correct lens attached. Worst yet, the fingers may be cold, and they cannot work fast enough to properly set up the camera. Once ready, you need to go back to the binoculars to re-locate the bird. With luck, you do, and once again, you switch to the camera slung on your shoulders. But now, your fingers are so cold, you cannot find the correct button to push, further delaying the photo opportunity.

All I can say is that I am glad I do not have to worry about a myriad of different pieces of equipment when I go birding. I would surely lose or break my share of equipment, especially given my vision issues. I am perfectly content with simply concentrating on listening to the birds. Listening to birds, by the way, is made possible for me by one of the greatest technological devices of all, the cochlear implant. It is the one device I will never forget. 🐦

Martha Steele, a former editor of Bird Observer, has been progressively losing vision due to retinitis pigmentosa and is legally blind. Thanks to a cochlear implant, she is now learning to identify birds from their songs and calls. Martha lives with her husband, Bob Stymeist, in Arlington.

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GLEANINGS

Getting from Point A to Point B

David M. Larson



Rock Pigeon. Photograph by Martin Cathrae (CC BY-SA 2.0).

The natural world is a messy place to get around in. Vegetation, rocks, and water bodies are all obstacles if you are flying around low. And then you have to deal with man-made obstructions. Surprisingly, for all we know about bird migration, we know little about short-range navigation in birds and how they deal with obstacles. How does a Cooper's Hawk blast through a forest at top speed on a hunting run? How do Barn Swallows land on a power line? Do these birds plot their courses far ahead as they fly or do they rapidly adapt to obstacles in their path?

Williams and Biewener (2015) have begun to tease out some of these questions of flight strategy by studying Rock Pigeons (*Columba livia*) flying along a corridor from one perch, through an array of vertical posts, to another perch. Distances between the posts were adjusted from 13–26 centimeters (5.1–10.2 inches), corresponding to 20–40% of the birds' wingspans. The pigeons successfully traversed the barrier of posts in more than 95% of attempts, although adjusting the gaps to less than 13 centimeters greatly increased refusals by the birds. Flight dynamics were recorded with high-speed digital video as the birds flew through the barriers. In order to analyze flight parameters from the recordings, small infrared light-emitting diodes powered by a harness battery pack were affixed to the birds on the head, back, and at two places on each wing (near the tip and at the wrist). These light sources, undetectable by the birds but clearly detectable on the video recordings, provided spatial information for computerized analysis of the videos.

The authors also monitored approach speed of the birds and found that they flew more slowly when approaching smaller gaps, suggesting that the birds were more cautious. Apparently they take more time to assess their response to tighter flight restrictions.

While one might suspect that the birds would adopt a variety of responses to the challenge of flying past these vertical posts, in fact the authors found two stereotypical postures: “folded”—wings folded up and in, similar to a non-flying wing posture, and “paused”—wings lifted and paused at the top of the flight upstroke. The predominant wing posture for narrow gaps was with the wings folded, but when the gaps were wider, birds often used the paused posture. The paused posture has the advantage of less interruption of the normal wingbeat, a quicker return to normal flight dynamics, and less loss of height during passage through the barrier. The more complicated folded response resulted in longer disruption of normal wingbeat and more loss of altitude during traversal. Interestingly, there was little difference in the width of the profile of the birds in the two postures.

Since the paused posture is more efficient, why do the birds switch from paused to folded postures when confronted with narrower gaps? Minor collisions with posts were more common when the gaps were smaller, some due to minor miscalculations during last-second flight corrections to aim for the midpoint between posts. Mathematical modeling of the effects of brushing the posts during traversal suggests a benefit of the folded wing response in passing through small gaps—the minor collisions apparently produce smaller perturbations in the aerodynamics of the bird than in the paused response. This discrepancy could be due to the collision being closer to the center axis of the bird in the folded posture and effects being magnified when the collision is at the wing tips in paused posture.

It appears that these birds are able to detect the relative gap size between vertical posts, adjust their flight path toward the centerline between the posts, abort if the gap is too narrow, and adopt one of two wing posture responses based on the size of the gap. While the paused posture is more efficient in terms of shorter interruption of normal flight and less loss of height, the folded posture is desirable in the case of accidental contact. Hence, the birds traversing narrower gaps used a folded wing posture, trading flight efficiency for stability in case of collision. 🐦

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David M. Larson, PhD, is the Science and Education Coordinator at Mass Audubon's Joppa Flats Education Center in Newburyport, the Director of Mass Audubon's Birder's Certificate Program and the Certificate Program in Bird Ecology (a course for naturalist guides in Belize), a domestic and international tour leader, Vice President of the Nuttall Ornithological Club, and a member of the editorial staff of Bird Observer.

ABOUT BOOKS

Table Scraps To Zick Dough

Mark Lynch

Feeding Wild Birds In America: Culture, Commerce & Conservation.

Paul J. Baicich, Margaret A. Barker, and Carrol L. Henderson. 2015.

College Station, Texas: Texas A&M University Press.

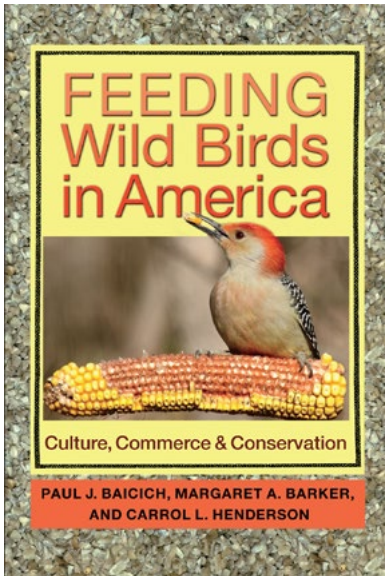
“Feed the birds, tuppence a bag” (Song lyric from *Mary Poppins* (1964))

“Feed me!” (Audrey Jr., the ravenous plant in *Little Shop of Horrors* (1960))

Today birdfeeding is a popular pastime and for some an obsession. It is often a person’s first introduction to watching wildlife, which can then evolve into the slightly more neurotic obsession called birding. Some of the most common questions asked about birds by the non-birding public are what to feed them and what kinds of feeders to use. Some of the “best” birds on many life lists have been ticked at feeders. My “life” Gray Jay, Varied Thrush, Western Tanager, and numerous other species were seen at feeders. Birdfeeding has been the focus of several citizen science projects like Project FeederWatch. There have even been some who have suggested that the plethora of bird feeders in America may have changed some species ranges. Certain non-avian creatures like black bears have taken full advantage of this ubiquitous food handout and have learned to expect it in suburban neighborhoods. In certain areas of New England, State Fish and Wildlife officials now recommend taking bird feeders down in summer to prevent bears from hanging around yards, destroying feeders, and scaring neighbors. Birdfeeding has become big business. Once you get a feeder and see the first birds close up and personal, you are hooked. From then on it’s a never-ending series of trips to the hardware store or local bird business for countless bags of seed and feeder upgrades. Today birdfeeding is as American as Homer Simpson’s craving for doughnuts.

So it comes as a surprise that there was not a thorough *history* of birdfeeding until *Feeding Wild Birds in America* was published. It definitely surprised well-known birding and conservation writer Paul Baicich. He was asked to give a talk on the history of birdfeeding for the annual meeting of Wild Bird Centers of America and was shocked to find only one article previously written about the subject. He enlisted the help of Margaret A. Barker, writer and educator and former coordinator of Cornell’s Project FeederWatch, and Carroll L. Henderson, longtime supervisor of Minnesota’s Nongame Wildlife Program in the Department of Natural Resources. Together they have produced one of the most surprising, entertaining, and beautiful histories of birds and people. It is a story that will be a revelation to readers.

Birdfeeding as we know it is a twentieth century phenomenon. Before that time, feeding birds was a pretty basic and spontaneous event. People, particularly in rural areas, would sometimes toss out table scraps or sweep out waste seed from the barn



and enjoy watching what came to the unexpected bounty. This included Henry David Thoreau in *Walden* (1854): “In the course of the winter I threw out half a bushel of ears of sweet corn, which had not got ripe, on the snow-crust by my door, and was amused by watching the motions of the various animals which were baited by it.” (p. 5, *Feeding Wild Birds In America*)

Judging by this description, it is safe to assume that Thoreau was also feeding squirrels, a frustrating feeding tradition still with us today.

One of the brilliant strategies of *Feeding Wild Birds In America* is that the authors place the evolution of birdfeeding into the larger social and political milieu of America at different eras. Before the end of the nineteenth century, most Americans looked upon birds simply as a resource. Birds were for harvesting, mostly for

food, but also their feathers and bodies were used in the millinery trade. The rise of the bird protection movement, including the birth of the Audubon Society, was a reaction to the horrible excesses of this market-gunning era. It eventually coincided with the beginning of the Progressive Era, and with the election of Teddy Roosevelt America had a president who kept a White House “list” and pushed for conservation.

This was also the era of fascinating ornithologists and bird lovers whose publications brought to a wide audience the revolutionary idea that you could actually enjoy birds that weren’t on your plate. Florence A. Merriam (Bailey), a founder of the bird protection movement, was an early promoter of feeding birds. Her classic, *Birds through an Opera Glass*, was one of the first popular field identification guides. Natural historian and ornithologist Frank M. Chapman edited *Bird Lore* magazine beginning in 1899. This became associated with the National Audubon Society and often featured articles that promoted feeding birds. An associate of Chapman, Mabel Osgood Wright, wrote *Birdcraft* (1895), a popular book that offered ideas on how and when to feed birds.

Birdfeeding at this time was still mostly a winter activity. The “winter feeding stations” or “bird tables” were simple D.I.Y. affairs with a pole stuck in the ground and a flat plank nailed on top to hold seed. Later developments included putting a ridge on the bird table to prevent seed from blowing off and making a hole in which to attach a tree bough, often a conifer. This gave the birds a perch, and the bough could hold seed.

Baicich et al. identify several conceptual stages in the evolution of birdfeeding. The first was seeing it as an act of kindness. The feeling was that birds were having a tough time in winter, and our feathered friends could use our help. This was at a time when there was an important change in societal attitudes that condemned rampant cruelty toward animals. These attitudes initially concerned abuse of domestic animals

but evolved to include wild animals like birds. With the publication of Edward Howe Forbush's classic *Useful Birds and Their Protection* and similar books came the realization that birds could be useful in the control of pests. It became important to preserve birds not only because they needed our help, but because they could also help us. There were good birds and bad birds. Visual beauty and a mellifluous song were a plus because those qualities gave us pleasure. If the bird didn't eat crop or human pests or did not have a sweet song or look "pretty," then it was put in the bad bird category. These included all black birds like crows, grackles, and starlings and almost all raptors because they fed on good birds. You wanted only good birds at your feeders. At this time there were many community birdfeeding areas, where towns would set aside a location specifically for feeding birds, and bird clubs would help keep these areas stocked with food. Roger Tory Peterson as a youth helped maintain a community feeding area. Only much later was birdfeeding seen as something to enjoy or for study.

With the rise in interest in feeding wild birds came the evolution of the birdfeeding business. This started simply enough with enterprising enthusiasts selling plans and kits for basic feeders and advertising in various bird-friendly magazines. Soon people in the grain and feed business saw the opportunity to make extra cash from those "bird people" by marketing seed and feeders to them. Much of the early bird food for home use was simply mixes also used for poultry. Everyone was searching for that special feed that would attract the most "good" birds. Mabel Osgood Wright even recommended "Spratt's Dog and Puppy Biscuits" as the treat that would bring the birds in. The first hopper feeders were nothing more than scaled down poultry feeders, often marketed by the same companies. Knauf and Tesch, the forerunner of the Kaytee Company, began as a grain elevator business that served folks in east central Wisconsin. It soon found that birdfeeding enthusiasts were beating a path to its door for products geared for feeding wild birds, and these products led to this company's national expansion.

Suet feeding began when people with no in-home refrigeration noticed that birds were attracted to the fat on the meat they were storing outdoors in winter. The preferred suet in those early days was beef kidney fat. Typically it was simply nailed to a branch, sometimes with some chicken wire over it, or stuffed in a hole in a tree. Later, people would melt the fat and pour that over conifer branches.

Sometimes, global politics affected trends in American birdfeeding. After the Spanish-American War, America suddenly had access to cheap products from the Philippines, and coconuts appeared on America markets. Suddenly many birdfeeding articles started recommending coconuts as great bird feeders and suet holders. Some of the more unusual feeds for birds have long histories. Mealworms were recommended as bird food as far back as 1902, but they did not become popular with the birdfeeding public until the 1990s.

This is just part of the fascinating history found in *Feeding Wild Birds in America*. The book is profusely illustrated with interesting old magazine illustrations of birdfeeding and ads for seeds and feeders. One of my favorites is a two-page full color spread of birds at a feeder in winter painted by Roger Tory Peterson for the January 15,

1945, issue of *Life* magazine. Near the end of *Feeding Wild Birds in America* there is a collection of personal birdfeeding recipes “then and now” going all the way back to 1888 and including such modern avian gourmet treats as Julie Zickefoose’s new and improved (2010) Zick Dough. It is tempting to try one of the older recipes and see what it attracts nowadays.

Feeding Wild Birds in America is an important and vastly entertaining addition to the greater history of human society and wildlife. Most of us know how to feed birds, but this is the first book that tells us where that passion came from and how it evolved.

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Help MassWildlife Count Turkeys Through August

Sportsmen and women, birders, landowners, and other wildlife enthusiasts are encouraged to assist with this year’s Wild Turkey Brood Survey. MassWildlife conducts a survey from June through August each year to evaluate turkey brood numbers. “The brood survey serves as a long-term index of reproduction,” explains Dave Scarpitti, MassWildlife Turkey Project Leader. “It helps us determine productivity and allows us to compare long-term reproductive success, while providing some estimation of fall harvest potential.” Turkey nesting success can vary annually in response to weather conditions, predator populations, and habitat characteristics. Scarpitti also points out that citizen involvement in this survey is a cost-effective means of gathering useful data, and he encourages all interested people to participate. A turkey brood survey form is available at <http://www.mass.gov/eea/agencies/dfg/dfw/fish-wildlife-plants/turkey-brood-survey.html>. Be sure to look carefully when counting turkey broods, the very small poults may be difficult to see in tall grass or brush. Multiple sightings of the same brood can also be noted. MassWildlife is interested in turkey brood observations from all regions of the state, from rural and/or developed areas. The survey period ends August 31. Completed forms should be mailed to: Brood Survey, DFW Field Headquarters, 1 Rabbit Hill Road, Westborough, MA 01581.

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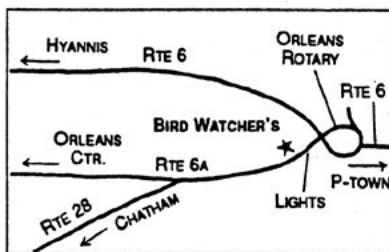
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BIRD SIGHTINGS

March/April 2015

Seth Kellogg, Marjorie W. Rines, and Robert H. Stymeist

March started with a continuation of the snows of February. On March 1 Boston received nearly four more inches of snow, the South Shore and Cape Cod got six more inches, and parts of Bristol County reported eight inches. This was a heavy snow causing multiple roof collapses throughout the region. On March 15 2.9 inches of snow fell in Boston and with that we set the record for the snowiest winter with 108.6 inches, one inch more than the previous record set in 1995-96. The deep freeze continued in March, causing many harbors to become clogged with ice. In Plymouth Harbor the ice was six to eight inches thick and even the Coast Guard cutter *Pendant* got stuck in Boston Harbor while breaking ice.

April had no snow and the temperature averaged 48° in Boston, which is normal for the month. The high was 69° on April 13 and the low was 30° on the first. Rainfall totaled 2.28 inches in Boston, 1.46 inches below normal. Most of this fell on Patriot's Day, which is also the day of the Boston Marathon, and was undoubtedly appreciated by the runners.

R. Stymeist

WATERFOWL THROUGH ALCIDS

A **Ross's Goose** was discovered at the University of Massachusetts campus in Amherst on April 1 and stayed a single day. This is the second Ross's Goose for the winter in western Massachusetts, the other having been a bird at Turners Falls in December. The only **Cackling Geese** reported during the period were also in western Massachusetts, all in the first two days of the month. The **Tufted Duck** that spent most of February on Nantucket lingered through the middle of April, and a different Tufted Duck was discovered in Lowell on March 26, moving down the Merrimack River to Salisbury by April 10. **White-faced Ibis** is now annual in Essex County, and this year's bird arrived unusually early on April 6.

April was an exciting time on the outer Cape, starting with the sighting of a **Crested Caracara** in Chatham on April 5. Sadly it was not seen again. There are only two previous sightings of Caracara in Massachusetts. The first was an individual seen by many people at the Cumberland Farm fields in Halifax in January 1999. Although this sighting was initially rejected by the Massachusetts Avian Records Committee based on questionable origin, it was reevaluated in 2008 as additional evidence became available of extralimital occurrence. The second sighting was in West Tisbury in May 2007.

The second piece of excitement was the sighting of two **Swallow-tailed Kites** on April 12 by two experienced hawkwatchers. If that weren't enough, the next day the same two people spotted four kites together, and there were additional sightings of singles on April 16 and 18. Although Swallow-tailed Kites have become increasingly common as spring migrants through Massachusetts, particularly on Cape Cod and the Islands, most of these sightings have been in May and early June, and a total of four kites is unprecedented.

Sandhill Cranes have been breeding in New Marlborough since 2006, but still remain uncommon in the rest of the state. Reports for the period were unusually high, including birds in Worthington that have been regular since 2013, and may be breeding in that area as well.

Black-headed Gulls are always a nice find, but are exceptionally rare inland, so the discovery of one at the Meadow Street fields in Amherst on April 6 was exciting, and enjoyed by many.

M. Rines

Greater White-fronted Goose				4/28	Bolton Flats	110	J. Hoye#
3/13-23	Plymouth	1	G. Gove	Eurasian Green-winged Teal			
3/30	Amherst	1	J. Drucker	3/29	W. Harwich	1	M. Malin
4/2-6	Lancaster	1	M. Lynch#	4/10	Concord (NAC)	1	S. Perkins#
4/3-20	Chatham	1	P. Swenson#	4/24	Plymouth	1	L. Waters
4/4-10	Topsfield	1	J. Griffin	Eurasian Green-winged Teal x Green-			
4/7-12	Hadley	1	J. Drucker	4/7	Ipswich	2	R. Heil
Snow Goose				4/25	Concord	1	D. Sibley
3/18	Eastham (F.E.)	27	E. Hoopes	Canvasback			
3/29	Pittsfield	100	T. Collins	3/1	Nantucket	78	T. Pastuszak
3/29	Bolton Flats	117	B. Black#	3/4	Falmouth	2	M. Malin
3/31	Turners Falls	290	M. Lynch	4/11	S. Dart. (A.Pd)	1	P. Champlin
4/3	Holyoke	125	T. Gagnon	Redhead			
4/11	Newbury	40	B. Colby	3/4	Westport	1	P. Champlin
Ross's Goose				3/10-14	Cheshire	2	J. Pierce
4/1-2	Amherst	1	J. Drucker	Ring-necked Duck			
Brant				3/29	Groveland	92	J. Berry#
3/13	Swampscott	40	D. Williams	3/30	Waltham	70	J. Forbes
3/13	Manomet	23	G. Gove#	4/3	Quabog IBA	118	M. Lynch#
4/4	W. Gloucester	30	J. Nelson	4/7	Turners Falls	375	J. Rose
4/8	P.I.	100	S. McGrath#	4/10	W. Bridgewater	75	S. Arena
Cackling Goose				4/12	IRWS	55	BBC (J. Center)
4/1	Agawam	1	F. Bowrys	4/19	Lincoln	40	J. Forbes
4/2	Turners Falls	1	J. Drucker	Tufted Duck			
4/2	Northampton	2	L. Therrien	3/1-4/12	Nantucket	1	T. Pastuszak#
Wood Duck				3/26-27	Lowell	1	m ph S. Sullivan#
3/25	Waltham	40	R. Stymeist	3/29-4/10	Merrimack R.	1	v.o.
4/2	Bolton Flats	141	M. Lynch#	Greater Scaup			
4/2	GMNWR	47	K. Dia#	3/3	Ipswich (C.B.)	6	J. Berry#
4/3	Sunderland	115	A. Richards	3/16	Acoaxet	192	M. Lynch#
4/5	New Braintree	59	M. Lynch#	3/25	Hadley	5	P. Yeskie
Gadwall				4/15	S. Monomoy	12	D. Clapp#
3/7	Gloucester	6	M. Lynch#	4/18	Waltham	8	J. Forbes
3/16	P.I.	7	R. Heil	4/27	S. Quabbin	2	L. Therrien
3/16	Acoaxet	17	M. Lynch#	Lesser Scaup			
4/15	S. Monomoy	8	D. Clapp#	4/3	Hadley	6	L. Therrien
4/16	Hadley	2	S. Surner	4/11	Quabog IBA	2	M. Lynch#
Eurasian Wigeon				4/12	Arlington Res.	2	K. Hartel#
3/22-31	Nantucket	2	R. Ouren#	4/15	S. Monomoy	12	D. Clapp#
3/31-4/6	Sandwich	1	P. Crosson#	4/17	Pittsfield (Pont.)	14	J. Pierce
4/18-19	Salisbury	1	M. Goetschkes#	4/25	Gloucester (E.P.)	3	J. Nelson
American Wigeon				King Eider			
3/1	Westport	24	P. Champlin	3/2	Ipswich (C.B.)	1	J. MacDougall
3/29	Plymouth	5	S. van der Veen	3/8	Gloucester	2	BBC (I. Giriunas)
4/10	Cumb. Farms	23	S. Arena	4/2	Weymouth	1	S. Avery
4/21	Ipswich	10	J. Berry	Common Eider			
4/27	P.I.	16	BBC (D. Williams)	3/4	Gloucester	150	J. Berry
Blue-winged Teal				3/8	P'town	525	B. Nikula
3/31	Duxbury B.	1	R. Bowes	3/16	Acoaxet	343	M. Lynch#
4/5	DWWS	3	J. Hoye#	Harlequin Duck			
4/7	Newbury	4	R. Heil	3/7	Rockport	31	M. Lynch#
4/9	Longmeadow	2	M. Moore	3/10	Dennis (Corp. B.)	3	D. Clapp#
4/15	S. Monomoy	6	D. Clapp#	3/13	Manomet	11	G. Gove#
Northern Shoveler				3/21	P'town	1	L. Waters#
4/3	Sunderland	4	A. Richards	4/26	Nantucket	1	E. Rudden
4/4	Hadley	6	F. Bowrys	Surf Scoter			
4/15	S. Monomoy	16	D. Clapp#	3/4	Gloucester	40	J. Berry
4/18	Salisbury	13	S. McGrath	3/16	Westport	21	M. Lynch#
4/19	S. Dart. (A.Pd)	6	P. Champlin	White-winged Scoter			
Northern Pintail				3/3	Ipswich (C.B.)	50	J. Berry#
3/11	Northampton	7	B. Emily	3/7	Gloucester	44	M. Lynch#
3/16	Acoaxet	9	M. Lynch#	3/8	P'town (R.P.)	960	M. Anderson
4/9	P.I.	16	T. Wetmore	3/21	Eastham (F.E.)	800	I. Davies#
4/10	Cumb. Farms	8	S. Arena	4/17	Cheshire	3	J. Pierce
4/15	S. Monomoy	8	D. Clapp#	Black Scoter			
Green-winged Teal				3/3	Ipswich (C.B.)	350	J. Berry#
3/4, 25	Waltham	1, 6	J. Forbes	3/7	Rockport	195	M. Lynch#
4/thr	W. Harwich	70	B. Nikula	4/4	Plymouth B.	64	P. + F. Vale
4/3	Sunderland	53	A. Richards	4/27	P.I.	39	D. Williams
4/6	Lancaster	168	M. Lynch#	Long-tailed Duck			
4/7	Newbury	150	R. Heil	3/6	Springfield	1	A. & L. Richardson
4/11	Concord (NAC)	125	MAS (D. Swain)	4/13	Cheshire	1	J. Pierce

Long-tailed Duck (continued)				Horned Grebe			
4/17	Pittsfield (Pont.)	3	J. Pierce	3/16	P.I.	5 dead	B. Cassie
4/27	Stockbridge	3	R. Wendell	3/21	P'town H.	18	B. Nikula
4/27	Pittsfield (Onota)	2	R. Wendell	4/26	Westport	38	M. Lynch#
4/27	P.I.	175	BBC (D. Williams)	Red-necked Grebe			
Bufflehead				3/8	P'town (R.P.)	144	M. Anderson
3/29	Groveland	4	J. Berry#	4/6	Winthrop	27	G. Gove#
4/4	Wachusett Res.	10	M. Lynch#	4/24	Pittsfield (Onota)	7	J. Pierce
4/5	Turners Falls	11	T. Gagnon	4/25	Pittsfield (Pont.)	10	H. Powell
4/25	Wakefield	8	P. + F. Vale	Manx Shearwater			
4/26	Westport	51	M. Lynch#	4/6	Revere B.	7	S. Riley
4/27	P.I.	9	D. Williams	4/11	P'town	1	B. Nikula
Common Goldeneye				4/11	Stellwagen	1	J. Sender#
3/16	Westport	149	M. Lynch#	Northern Gannet			
3/16	Falmouth	72	M. Malin	4/9, 18	P'town	185, 325	B. Nikula
3/22	Chatham	60	L. Waters	4/22	P.I.	25	U. Goodine#
4/4	GMNWR	15	BBC (J. Center)	4/26	Stellwagen	150	K. Hartel
4/4	Wachusett Res.	21	M. Lynch#	Double-crested Cormorant			
4/10	Lakeville	40	S. Arena	3/25	Dorchester	30	P. Peterson
4/29	P.I.	1	T. Wetmore	4/12	P.I.	70	T. Wetmore
Barrow's Goldeneye				4/22	Mt Shatterack	88	T. Swochak
3/16	Newbypt H.	1	R. Heil	4/30	Medford	40	M. Rines
4/3	Winthrop	1	M. Badger#	Great Cormorant			
Hooded Merganser				3/11	Amesbury	13	J. Berry#
3/21	Quabog IBA	32	M. Lynch#	3/16	Salisbury	7	R. Heil
3/26	GMNWR	14	K. Dia#	3/16	Acoaxet	32	M. Lynch#
3/29	Groveland	16	J. Berry#	4/22	Concord	1	C. Winstanley
4/10	Arlington Res.	20	K. Hartel	American Bittern			
4/24	Chatham	13	J. Trimble#	4/5	Northampton	2	R. Clark
Common Merganser				4/12	P.I.	2	P. + F. Vale
4/5	Waltham	60	J. Forbes	4/26	Cumington	2	L. Therrien
4/7	Wenham	42	R. Heil	Great Blue Heron			
4/7	Southwick	325	S. Kellogg	4/3	Methuen	28	E. Parker
4/9	Westboro	48	S. Miller	4/11	Quabog IBA	18 nests	M. Lynch#
4/10	Woburn (HP)	233	M. Rines	4/12	W. Newbury	40	J. Berry#
4/11	Quabog IBA	72	M. Lynch#	4/18	W. Newbury	31 n	D. Williams
Red-breasted Merganser				Great Egret			
3/4	Gloucester	50	J. Berry	3/25	Dorchester	1	P. Peterson
3/16	Acoaxet	37	M. Lynch#	3/28	Hatfield	1	S. Tomlinson
3/31	Hadley	6	L. Therrien	4/4	W. Gloucester	8	J. Nelson
4/26	P'town	200	B. Nikula	4/7	Essex	19	R. Heil
Ruddy Duck				4/14	E. Boston (B.I.)	6	P. Peterson
4/17	Westfield	6	D. Schell	Snowy Egret			
4/17	Stockbridge	25	G. Ward	4/1	Scituate	1	J. Feeney
4/17	Richmond	17	G. Ward	4/1	W. Dennis	1	P. Trull
4/17	Cheshire	17	J. Pierce	4/14	E. Boston (B.I.)	3	P. Peterson
4/30	Chestnut Hill	5	S. Simpson	4/25	Ipswich	15	P. + F. Vale
Northern Bobwhite				Little Blue Heron			
4/11	Yarmouth	1	E. Hoopes	4/13	E. Boston (B.I.)	1	P. Peterson
4/16	Chatham	1	R. Schain	4/15	DWWS	1	G. Gove#
Ring-necked Pheasant				4/16	Gloucester	1	C. Haines
4/2	Fall River	1	L. Abbey	4/18	W. Harwich	1	M. Malin
4/11	Rockport	1	B. Harris	4/23	Mashpee	1	K. Fiske
4/14	Newbypt.	1	J. Hoye#	Tricolored Heron			
4/26	Westport	1	M. Lynch#	4/25	Falmouth	1	M. Schanbacher#
Red-throated Loon				Green Heron			
3/1, 4/11	P'town	22, 650	B. Nikula	4/15	Arlington Res.	1	C. Gras
3/31	Duxbury B.	15	R. Bowes	4/17	Worc. (BMB)	1	B. Robo
4/13	Woburn (HP)	1	K. Sweadner	4/18	P.I.	1	S. McGrath#
4/26	Westport	4	M. Lynch#	4/22	Dartmouth	1	A. + D. Morgan
Pacific Loon				4/22	Mashpee	1	K. Fiske
3/15, 4/18	P'town	1, 1	Flood, Nikula	Black-crowned Night-Heron			
Common Loon				3/29	Dorchester	6	P. Peterson
3/1	Westport	12	P. Champlin	4/4	Plymouth	5	P. + F. Vale
3/3	Ipswich (C.B.)	12	J. Berry#	4/5	Milton	18	P. Peterson
3/7	Gloucester	17	M. Lynch#	4/20	Watertown	14	A. Gurka#
4/18	P'town	60	B. Nikula	4/25	Camb. (Alewife)	10	Z. Weber#
4/21	Wachusett Res.	6	M. Lynch#	Yellow-crowned Night-Heron			
Pied-billed Grebe				4/20	Gloucester	1 ad ph	fide R. Heil
3/29	Georgetown	1	D. + B. Fox	Glossy Ibis			
4/8	Carlisle	2	J. Center	4/2	DWWS	10	S. Maguire
4/19	Konkapot IBA	2	M. Lynch#	4/11	W. Bridgewater	30	J. Center

Glossy Ibis (continued)			4/29	Ware R. IBA	10	M. Lynch#
4/12	Concord	11		Rough-legged Hawk		
4/14	W. Bridgewater	34		3/6	Cumb. Farms	3 MAS (K. Rawdon)
4/18	W. Harwich	6	W. Mumford#	3/11	Westport	1 P. Champlin
4/23	Sheffield	3	J. Pierce	3/15	Rowley	1 J. Berry#
4/24	Cumb. Farms	19	L. Waters	3/24	Lee	1 G. Hurley
4/30	Rowley	100	P. + F. Vale	3/29	Plymouth	1 S. van der Veen
4/30	E. Boston (B.L.)	13	P. Peterson	3/31	Saugus	1 P. Peterson
White-faced Ibis				4/2	Bolton Flats	1 M. Lynch#
4/6-30	Essex to P.I.	1	v.o.	4/2	Barre Falls	1 Hawkcount (DG)
Black Vulture				4/3	P.I.	2 K. Elwell
3/27	Worcester	2	J. Lawson	Golden Eagle		
3/31	P.I.	2	Hawkcount (TM)	3/25	Mt. Wachusett	1 B. Harris
4/4	Palmer	2	S. Motyl	4/13	Royalston	1 D. Small
4/10	Millbury	3	A. Marble	4/16	Barre Falls	1 Hawkcount (DS)
4/19	Sheffield	4	M. Lynch#	Crested Caracara		
Turkey Vulture				4/5	Chatham	1 ph P. Zuckerman
3/16	Acoaxet	10	M. Lynch#	Virginia Rail		
3/25	Mt. Wachusett	38	B. Harris	4/18	Burlington	5 M. Rines
3/29	N. Andover	23	D. + B. Fox	4/27	Lexington (DM)	3 M. Rines
3/31, 4/11	P.I.	90, 63	Hawkcount (TM)	4/29	Bolton Flats	3 A. Marble
3/31	S. Peabody	15	R. Heil	4/30	Wenham	2 J. Berry
4/19	Sheffield	11	M. Lynch#	Sora		
Osprey				4/18	Woburn (HP)	1 J. Forbes#
3/9	Orleans	1	M. Lowe	4/19	Lenox	1 G. Hurley
3/31	S. Peabody	3	R. Heil	4/22	Harwichport	1 B. Nikula
4/2-29	Barre Falls	52	Hawkcount (DS)	4/29	Bolton Flats	1 A. Marble
4/3-25	P.I.	59	Hawkcount (PR)	4/30	Wenham	1 J. Berry
4/26	Westport	26	nests M. Lynch#	American Coot		
Swallow-tailed Kite				3/18	Brookline	2 P. Peterson
4/12, 13	S. Truro	2, 4	M. Brokenshire#	3/25	Woburn (HP)	5 D. Williams
4/16	Wellfleet	1	S. Pamet	4/2	Sudbury	1 P. Sowizral#
4/18	Truro	1	B. Nikula	4/14	Jamaica Plain	1 M. Barber
Bald Eagle				4/28	Plymouth	1 B. Hodson
3/1	Westport	3	P. Champlin	Sandhill Crane		
3/2	Salisbury	4	T. McElligott	3/27	Lowell	1 J. Keeley
4/2-29	Barre Falls	15	Hawkcount (DS)	3/29	Burrage WMA	2 P. McGovern#
4/3	Quabog IBA	5	M. Lynch#	3/29	Cumb. Farms	2 E. LeBlanc#
4/11	GMNWR	3	J. Forbes	3/31	S. Peabody	3 R. Heil
4/12	P.I.	4	J. Keeley#	4/4	Newbury	3 J. Hoye#
Northern Harrier				4/5	DWWS	1 J. Hoye#
3/22	Saugus	2	S. Zende#	4/11	Newbury	4 MAS (D. Swain)
3/31	P.I.	11	Hawkcount (TM)	4/12	Worthington	3 B. Bieda
4/1-26	P.I.	92	Hawkcount (PR)	4/13	Gill	1 J. Smith
4/15	P.I.	14	Hawkcount (TM)	4/14	Ipswich	1 N. Dubrow
Sharp-shinned Hawk				4/15	Montague	1 J. Rose
4/4-29	Barre Falls	27	Hawkcount (DS)	4/18	N. Truro	1 B. Nikula#
4/5-25	P.I.	37	Hawkcount (PR)	4/18	Concord	1 J. Keyes
4/24	P.I.	2	D. Chickering	4/19	Hadley	1 S. Surner
4/27	Woburn (HP)	2	D. Fruguglietti#	4/26	E. Bridgewater	1 E. Giles
Cooper's Hawk				Black-bellied Plover		
4/11-26	P.I.	12	Hawkcount (PR)	4/13	Duxbury B.	3 R. Bowes
4/18	Boxford (C.P.)	2	J. Berry#	4/15	S. Monomoy	66 D. Clapp#
Northern Goshawk				4/24	Edgartown	20 P. Gilmore
3/13	Windsor	1	M. Moore	4/29	Duxbury B.	21 R. Bowes
3/31	P.I.	1	Hawkcount (TM)	Piping Plover		
4/5	Groveland	1	J. Berry#	3/15	Duxbury B.	1 R. Bowes
4/19	Amherst	1	K. Weir	3/29	Westport	7 P. Champlin
4/24	Salisbury	1	S. McGrath	4/3	P.I.	18 K. Hojnacki
Red-shouldered Hawk				4/3	Winthrop	8 R. Stymeist
3/29	Westport	3	P. Champlin	4/15	S. Monomoy	15 D. Clapp#
3/31	S. Peabody	5	R. Heil	4/29	Duxbury B.	12 R. Bowes
4/2	Barre Falls	3	Hawkcount (DG)	Killdeer		
4/12	New Marlboro	3	M. Lynch#	3/5	Hadley	1 J. Rose
4/12	Rehoboth	4	K. Bartels	3/8	Westport	1 P. Champlin
Broad-winged Hawk				4/7	Ipswich	23 R. Heil
4/4-29	Barre Falls	267	Hawkcount (DS)	4/9	Westminster	28 T. Pirro
4/12	Groveland	1	M. Brengle#	4/10	Hadley	102 K. Yakola
4/12	IRWS	1	BBC (J. Center)	4/10	Cumb. Farms	25 S. Arena
4/16	Barre Falls	85	Hawkcount (DG)	American Oystercatcher		
4/22	Mt Tom	163	T. Gagnon	3/20	Falmouth	1 M. Keleher
4/22	Mt Shatterack	159	T. Swochak	3/27	Edgartown	1 P. Gilmore

American Oystercatcher (continued)			4/16	Orleans	410	P. Trull	
3/28	Oak Bluffs	2	P. Gilmore	4/19	P.I.	60	J. Berry#
3/29	Osterville	6	J. Hoye#	4/21	Ipswich (C.B.)	48	J. Berry
3/31	Winthrop	3	P. + F. Vale	4/24	Edgartown	80	P. Gilmore
4/10	Chatham	6	M. Faherty	Short-billed Dowitcher			
4/24	Winthrop	10	P. + F. Vale	4/22	Nantucket	1	K. Blackshaw#
Spotted Sandpiper				4/24	Edgartown	1	P. Gilmore
4/12	Newton	1	H. Miller	Wilson's Snipe			
4/15	Boston (Fens)	1	R. Schain	3/23	Fairhaven	5	G. Gove#
4/19	Sheffield	1	M. Lynch#	4/4	W. Bridgewater	30	J. Carlisle
4/25	Cambr. (Alewife)	1	Z. Weber#	4/7	Essex	67	J. Berry
4/27	Ipswich	1	J. Berry	4/8	Newbury	40	J. Spencer
Solitary Sandpiper				4/10	Hadley	71	K. Yakola
4/16	Sudbury	1	B. Black#	4/10	Cumb. Farms	160	S. Arena
4/19	Mashpee	1	K. Fiske	4/12	Concord	23	M. Rines
4/20	Bolton Flats	2	J. Hoye#	4/15	W. Harwich	13	B. Nikula
4/25	Worcester	1	S. LaBree#	American Woodcock			
4/28	W. Roxbury (MP)	1	P. Peterson	3/27	Burlington	10	M. Rines
Greater Yellowlegs				3/31	Newburyport	10	M. Watson
3/29	Duxbury	1	R. Bowes	4/3	Cambr. (Alewife)	10	R. Stymeist#
3/31	Acton	1	D. Swain	Wilson's Phalarope			
4/15	W. Harwich	64	B. Nikula	4/29	Rowley	2	J. Berry
4/27	Newbypt H.	22	P. + F. Vale	Black-legged Kittiwake			
4/29	Ipswich	28	J. Berry	3/1	Stellwagen	15	M. Brengle#
4/30	E. Boston (B.I.)	14	P. Peterson	3/29	P'town	10	B. Nikula
Willet				Bonaparte's Gull			
4/22	Westport	1	P. Champlin	3/28	Agawam	1	A. Robblee
4/24	Chatham (MI)	1	B. Harris	4/10	Turners Falls	1	A. Richards
4/24	Winthrop	1	P. + F. Vale	4/10	Cheshire	1	G. Hurley
4/25	Duxbury B.	1	R. Bowes	4/10	Hadley	3	K. Yakola
4/29	Ipswich	7	J. Berry	4/13	Westboro	3	T. Spahr
Lesser Yellowlegs				4/17	Turners Falls	3	A. Richards
4/11	W. Harwich	1	B. Nikula	4/18	S. Quabbin	3	L. Therrien
4/18	Topsfield	1	D. Williams	4/18, 30	P'town	175, 250	B. Nikula
4/19	Amherst	2	E. Rubinstein	Black-headed Gull			
4/22	Wayland	1	B. Harris	3/11	Nantucket	2	R. Ouren#
Upland Sandpiper				3/22	N. Truro	1	P. Flood
4/18	Westover	2	S. Motyl	3/31	P.I.	1	D. Williams
4/23	Topsfield	1	D. Williams	4/6	Amherst	1 ph	K. Yakola
4/25	Bedford	1	P. + F. Vale	Laughing Gull			
4/28	Eastham (F.H.)	1	B. Murtha	3/23	Plymouth	1	R. Bowes
Whimbrel				3/24	Dennis	1	P. Flood
4/21	P.I.	1	T. Mara#	4/4	Plymouth	10	P. + F. Vale
4/26	S. Dart. (A.Pd)	3	E. Nielsen	4/26	P'town	700	B. Nikula
4/26	Westport	3	M. Lynch#	Mew Gull			
Ruddy Turnstone				3/1-16	Swampscott/Lynn	1	J. Keeley
4/3	Revere B.	1	P. Peterson	Iceland Gull			
4/24	Edgartown	1	P. Gilmore	3/7	Gloucester	49	M. Lynch#
4/28	Duxbury B.	1	R. Bowes	3/9	Northampton	3	L. Therrien
4/30	Winthrop B.	1	P. Peterson	3/15	Fitchburg	3	T. Pirro
Sanderling				3/16	Turners Falls	5	J. Smith
3/29	W. Dennis	12	J. Hoye#	4/4	Boston (Deer I.)	64	J. Offermann
3/31	P.I.	25	J. Nelson	4/5	Wilmington	5	S. Sullivan
4/21	Ipswich (C.B.)	28	J. Berry	4/26	P'town	25	B. Nikula
4/24	Edgartown	20	P. Gilmore	Lesser Black-backed Gull			
4/26	Westport	10	M. Lynch#	thr	Reports of indiv. from 10 locations		
Least Sandpiper				4/11	Nantucket	30	G. Andrews
4/11	W. Harwich	1	B. Nikula	4/28	Duxbury B.	3	R. Bowes
4/18	Essex	1	E. Nielsen	4/29	P'town	10	B. Nikula
4/26	Westport	2	M. Lynch#	Herring x Lesser Black-backed Gull			
4/26	S. Dart. (A.Pd)	2	E. Nielsen	3/29	N. Truro	1 ad	B. Nikula
4/30	E. Boston (B.I.)	4	P. Peterson	Glaucous Gull			
Pectoral Sandpiper				3/8	Gloucester	2	BBC (I. Giriunas)
4/8	S. Dart. (A.Pd)	1	N. Sylvia	3/9	Northampton	1	J. Drucker
4/9	Ipswich	1	S. Hedman	3/15	Revere B.	2	V. Zollo
4/18	Newbury	2	D. Oliver#	4/2	Turners Falls	1	J. Drucker
4/26	W. Harwich	1	P. Kyle	4/10	Nahant	2	L. Pruvacek
Purple Sandpiper				Caspian Tern			
3/14	Swampscott	10	D. Swain#	4/17-26	Burrage WMA	1	J. Young
3/16	Acoaxet	6	M. Lynch#	4/20	Pittsfield (Onota)	1	J. Pierce
4/11	P.I.	6	T. Wetmore	4/23	Newbypt H.	1	S. Sullivan
Dunlin				4/27	Plymouth H.	1	G. Gove#
3/15, 4/28	Duxbury B.	88, 187	R. Bowes	4/30	Duxbury B.	2	R. Bowes

Common Tern				3/1	Gloucester H.	1	M. Brengle#
4/20	Pittsfield (Pont.)	1	G. Hurley	3/15	P'town (R.P.)	15	P. Flood
4/30	Marion	1	K. Hiller	3/16	P.I.	10 dead	B. Cassie
4/30	Vineyard Sound	21	B. Porter	3/31	Winthrop B.	2 dead	S. Riley
Forster's Tern					Razorbill		
4/18	Newbypt H.	1	E. Nielsen	3/1	Stellwagen	450	M. Brengle#
Dovekie				3/1, 29	P'town (R.P.)	537, 525	P. Flood
3/8	P'town (R.P.)	3	M. Anderson	3/3	Newbury	8	S. Riley
Common Murre				3/8	P.I.	400	T. Wetmore
3/1	P'town (R.P.)	4	P. Flood		Black Guillemot		
3/1	Stellwagen	16	M. Brengle#	3/1	Stellwagen	2	M. Brengle#
4/27	Stellwagen	7	J. Sender#	3/28	P'town	3	L. Waters
Thick-billed Murre					Atlantic Puffin		
3/1	Stellwagen	1	M. Brengle#	3/1	Stellwagen	3	M. Brengle#

OWLS THROUGH FINCHES

Great Horned Owls were on nests and the first young were noted by the second week of April. Snowy Owls were reported from eleven locations with four individuals noted in the Saugus marshes on March 29. The dark phase **Gyr Falcon** that had been frequenting New Hampshire, then Maine, then New Hampshire again finally made two brief visits to Salisbury on March 4 and 18. At Lot #1 on Plum Island hawkwatchers recorded great numbers of migrating Merlins and American Kestrels.

The **Black-backed Woodpecker** discovered January 6 at the Forest Hills Cemetery in Jamaica Plain continued in the area, expanding to nearby Franklin Park and was last seen on April 19. Red-headed Woodpeckers were found in Fitchburg and in Sterling.

Migration was rather lackluster until some warmer weather came in from April 11 through April 15 when good numbers of Hermit Thrush and Palm, Pine, and Yellow-rumped warblers were counted. A total of 14 species of warblers were noted in April highlighted by reports of **Yellow-throated Warblers** in Carlisle and Arlington. A cold front came through on April 16 with cool northwesterly winds and birds seemed stalled with just light movement until a southwesterly flow on April 28 brought a mini wave of birds in the final days of the month. In Provincetown over 80 Yellow-rumped Warblers were counted and similar high counts were noted in several locations.

There was a moderate incursion of **Bohemian Waxwings** all around the state with the jackpot in the Gardner area with as many as 300 individuals present. Other high counts were noted in Leominster, Sheffield, Windsor, and New Salem. Common Redpolls were noted in fair numbers in March and a Hoary Redpoll was reported in Falmouth. Two Red Crossbills were banded at the Plum Island banding station on April 23.

Finally this past winter was one of the coldest and the snowiest on record and may have badly affected the population of Carolina Wrens; this species has had a history of up and down populations when there is a severe winter. In recent years they have been increasing significantly with relatively mild winters, it will be interesting to see the results of next winter's Christmas Bird Count and compare it with the all time high counts of this past CBC. I for one have already missed hearing more than a very few this spring.

R. Stymeist

Great Horned Owl				4/18	S. Quabbin	6	M. Lynch#
3/29	W. Boxford	pr n	J. Berry#	4/29	Lincoln	3	M. Rines
4/3	Methuen	pr n	E. Parker	Eastern Phoebe			
4/7	Jamaica Plain	ad + 1 yg	R. Mayer	3/6	Ayer	1	M. Morris
4/11	Quabog IBA	ad + 3 yg	M. Lynch#	4/3	E. Boston (B.I.)	3	P. Peterson
4/26	N. Andover	ad + 2 yg	C. Gibson	4/3	Ipswich	4	J. Berry
Snowy Owl				4/9	Templeton	12	T. Pirro
thr	P.I.	1-2	v.o.	4/11	Quabog IBA	42	M. Lynch#
3/1	P'town	1	D. Ludlow#	4/19	P.I.	8	J. Berry#
3/13	Westport	3	N. Sylvia	Eastern Kingbird			
3/15	Gloucester	1	C. Haines	4/22	Mashpee	1	K. Fiske
3/18	Dennis	1	E. Hoopes	4/22	Wayland	1	B. Harris
3/23	S. Boston	1	D. Scott	4/22	Boston (F.Pk)	1	P. Peterson
3/24, 4/28	Duxbury B.	3, 1	R. Bowes	4/23	Arlington Res.	1	M. Rines
3/27	Edgartown	1	N. Papian	Northern Shrike			
3/29	Orleans	1	C. Thompson	3/10-19	Windsor	1	T. Gagnon
3/29	Saugus	4	S. Zende#	3/18	Adams	1	J. Jones
4/3	Mashpee	2	K. Fiske#	3/28	Rowe	1	C. Hyttinen
Barred Owl				3/29-4/7	Carlisle	1	S. Heinrich
4/10	E. Falmouth	pr n	R. Galat	White-eyed Vireo			
4/26	Topsfield	2	P. Brown	4/24	Falmouth	1	K. Fiske
Short-eared Owl				Blue-headed Vireo			
3/13	Salisbury	1	W. Tatro	4/16	Quabbin (G40)	2	J. Hoye#
3/29	Saugus	1	S. Riley	4/18	Boxford (C.P.)	3	J. Berry#
4/3	P.I.	1	K. Elwell	4/22	P'town	2	B. Nikula
4/11	E. Boston (B.I.)	1	P. Peterson	4/26	Ipswich	2	J. Berry#
Northern Saw-whet Owl				4/29	Newton	3	P. Gilmore
3/13	Charlemont	1	E. Ryba	Warbling Vireo			
4/3	P.I.	1	B. Murphy#	4/26	Newton	1	A. Gurka
Eastern Whip-poor-will				4/30	E. Boston (B.I.)	1	P. Peterson
4/26	Falmouth	1	M. Malin	Fish Crow			
Chimney Swift				3/16	Newburyport	18	R. Heil
4/10	Northbridge	2	B. Milke	3/24	W. Roxbury (MP)	7	P. Peterson
4/18	Upton	2	T. Murray	3/31	N. Reading	15	P. + F. Vale
4/21	Worcester	2	R. Cavalieros	Common Raven			
4/30	GMNWR	6	A. Bragg#	3/20	Canton	pr n	W. Johnston
4/30	Woburn (HP)	7	D. Fruguglietti#	4/thr	Woburn	pr n	M. Rines
Ruby-throated Hummingbird				4/18	Waltham	pr n	J. Marino
4/19	Newton	1	P. Gilmore	Horned Lark			
4/23	Holden	1	fide K. Mills	3/2	Cheshire	82	J. Pierce
4/24	Sandwich	1	J. Ghadban	3/5	Hadley	300	J. Rose
4/29	Ipswich	2	E. Parker	3/29	Saugus	70	S. Zende#
American Kestrel				4/1	Acton	25	J. Forbes
3/24	Medford	pr	J. Layman	4/5	Hardwick	19	M. Lynch#
3/29	Somerville	pr	P. Bain	4/13	E. Bridgewater	40	J. Carlisle
4/1-28	P.I.	233	Hawkcount (PR)	Purple Martin			
4/4-29	Barre Falls	30	Hawkcount (DS)	4/5	DWWS	1	J. Hoye#
4/7	Hanscom	21	M. Rines	4/11	P.I.	1	C. Jackson#
4/11, 12	P.I.	81, 58	Hawkcount (CJ)	4/12	Mashpee	4	M. Keleher
Merlin				4/12	Rehoboth	4	R. Marr
4/3-25	P.I.	37	Hawkcount (PR)	4/20	Pittsfield (Onota)	1	J. Pierce
4/11	P.I.	21	Hawkcount (CJ)	4/26	Nantucket	1	R. Ouren#
4/11-29	Barre Falls	6	Hawkcount (DS)	Tree Swallow			
Gyrfalcon				3/15	Wayland	8	B. Black
3/4, 18	Salisbury	1	Graham, Grinley	3/24	Clinton	3	B. Kamp
Peregrine Falcon				3/27	Quabog IBA	2117	M. Lynch#
3/thr	Watertown	pr n	v.o.	4/3	Salisbury	40	S. Riley
3/4	Cambridge	pr	J. Guion	4/14	P.I.	150	R. Heil
3/12	Woburn	pr	M. Rines	Northern Rough-winged Swallow			
3/23	Worcester	pr	B. Mulhearn	4/4	Weston	2	J. Forbes
Red-headed Woodpecker				4/14	Nahant	4	L. Pivacek
4/7	Fitchburg	1	M. Neufell	4/26	Wayland	5	G. Long
4/19-30	Sterling	1	M. Paine	4/28	W. Roxbury (MP)	3	P. Peterson
Yellow-bellied Sapsucker				Bank Swallow			
4/7	Belmont	3	R. Stymeist#	4/19	Sheffield	2	M. Lynch#
4/12	New Marlboro	8	M. Lynch#	4/24	Arlington Res.	1	J. Forbes
4/18	S. Quabbin	13	M. Lynch#	Cliff Swallow			
4/19	Sandisfield	14	M. Lynch#	4/24	Arlington Res.	1	J. Forbes
Black-backed Woodpecker				4/26	Cummington	1	L. Therrien
3/1-4/19	Jamaica Plain	1	v.o.	Barn Swallow			
Pileated Woodpecker				4/4	W. Boylston	1	J. Gahagan
4/13	Hamilton	3	J. Berry#	4/5	Berkley	1	J. Eckerson#

Barn Swallow (continued)			4/14	P.I.	1	R. Heil
4/21	P.I.	100	4/18	Rehoboth	1	L. Abbey
4/24	Orange	20		Bohemian Waxwing		
Red-breasted Nuthatch			3/1-12	Windsor	130 max	v.o.
4/12	P.I.	6	3/1	N. Truro	23	B. Nikula
4/18	Gloucester	3	3/1	Dalton	9	J. Drucker
4/19	MSSF	5	3/1-13	Waltham	3	J. Forbes
4/25	Ware R. IBA	4	3/5	Nantucket	12	T. Pastuszak
Brown Creeper			3/10	Northampton	40	G. LeBaron
4/12	Groveland	4	3/15-4/5	Gardner	297 max	T. Pirro
4/18	Gloucester	6	3/17	Adams	14	J. Smith
4/18	Boxford (C.P.)	7	3/22	New Salem	65	A. Griffiths
4/21	Milton	4	3/23	Cheshire	50	J. Pierce
4/26	Ipswich	6	3/24	Belchertown	20	D. Griffiths
4/29	Ware R. IBA	8	3/29	Truro	35	J. Young
House Wren			4/2	Wellfleet	25	J. Hill
4/15	Concord	1	4/3	Williamstown	18	C. Jones
4/16	W. Newbury	1	4/5	Leominster	150	T. Pirro
4/19	Newton	2	4/10	Sheffield	150	R. Wendell
4/23	Arlington Res.	1	4/30	P'town	2	B. Nikula#
4/25	Gloucester (E.P.)	2		Lapland Longspur		
Winter Wren			3/5	Hadley	3	J. Rose
4/9	Templeton	2	3/10	Newbury	8	R. Heil
4/12	New Marlboro	3	4/24	Chatham (MI)	1	B. Harris
4/18	Boxford (C.P.)	2		Snow Bunting		
4/19	P.I.	2	J. Berry#	3/16	P.I.	29
4/22	P'town	2	B. Nikula	3/20	Northampton	63
4/22	Wompatuck SP	2	P. Gilmore#	3/21	Duxbury B.	38
Marsh Wren			3/24	S. Peabody	12	R. Heil
4/27	P.I.	2	BBC (D. Williams)	3/31	Winthrop B.	15
Blue-gray Gnatcatcher				Ovenbird		
4/11	Edgartown	1	N. Papian	4/22	Dighton	1
4/15	IRWS	4	J. Nelson	4/22	S. Hamilton	1
4/18	Wayland	6	G. Long	4/22	Wompatuck SP	2
4/23	Woburn (HP)	5	M. Rines	4/22	P'town	1
4/26	Topsfield	7	P. Brown	4/30	Medford	1
4/30	GMNWR	6	A. Bragg#		Louisiana Waterthrush	
Golden-crowned Kinglet			4/15	Wompatuck SP	1	P. Edmundson
4/7	Chestnut Hill	10	P. Peterson	4/16	Sharon	1
4/7	P.I.	35	T. Wetmore	4/18	Spencer	4
4/8	Winchester	10	R. LaFontaine	4/19	Sandisfield	5
4/10	Lincoln	7	M. Rines	4/21	Petersham	1
4/14	P.I.	7	R. Heil	4/25	Newton	1
Ruby-crowned Kinglet			4/29	Quabbin (G22)	2	J. Hoye#
4/7	Westboro	1	J. Lawson		Northern Waterthrush	
4/18	Boxford (C.P.)	9	J. Berry#	4/22	Brookline	1
4/18	Carlisle	12	A. Ankers	4/22	Hamilton	1
4/19	P.I.	10	T. Wetmore	4/22	Wompatuck SP	2
4/25	Ware R. IBA	13	M. Lynch#	4/24	Hamilton	3
4/29	P'town	7	B. Nikula	4/30	Wenham	7
Eastern Bluebird				Blue-winged Warbler		
3/15	Rehoboth	24	K. Bartels	4/27	Westport	1
4/13	DFWS	10	P. Sowizral		Black-and-white Warbler	
Hermit Thrush			4/18	Canton	1	N. Block
4/3	Nahant	2	L. Pivacek	4/18	W. Bridgewater	1
4/10	Medford	2	M. Rines#	4/22	P'town	2
4/14	P.I.	26	R. Heil	4/22	Wompatuck SP	1
4/14	E. Boston (B.I.)	4	P. Peterson	4/24	Hamilton	1
4/18	Boxford (C.P.)	4	J. Nelson	4/26	Lexington	1
4/25	Ware R. IBA	5	M. Lynch#		Common Yellowthroat	
Gray Catbird			4/20	Watertown	1	A. Gurka#
4/20	Watertown	1	A. Gurka#	4/23	Needham	1
4/23	Westwood	1	E. Nielsen	4/26	Westport	1
4/25	Middleboro	1	K. Anderson		Northern Parula	
Brown Thrasher			4/22	Brewster	1	S. Finnegan
4/11	Quabog IBA	1	M. Lynch#		Yellow Warbler	
4/14	Salisbury	1	S. McGrath#	4/22	Newton	2
4/17	Westboro	2	J. Lawson	4/26	Newton	4
4/26	P.I.	2	F. Vale	4/30	GMNWR	2
American Pipit				Palm Warbler		
3/24	Sheffield	11	K. Schopp	4/4	Newton	1
4/9	Ipswich	12	S. Hedman	4/8	Medford	3

Palm Warbler (continued)			4/6	E. Boston	23	P. Peterson
4/14	P.I.	17	4/10	Belchertown	12	E. Dalton
4/16	Dracut	15	4/12	P.I.	10	T. Wetmore
4/24	W. Newbury	20	4/12	Boston (Fens)	18	R. Stymeist
4/25	Ipswich	18		Swamp Sparrow		
4/29	P'town	12	4/6	Winthrop	5	P. Peterson
Pine Warbler			4/11	Boston (Fens)	6	B. Mayer
4/8	Winchester	2	4/20	Bolton Flats	6	J. Hoye#
4/10	Woburn (HP)	4	4/29	Ware R. IBA	19	M. Lynch#
4/18	Boxford (C.P.)	15	4/30	GMNWR	16	A. Bragg#
4/22	P'town	36		White-crowned Sparrow		
4/26	Ipswich	17	thr	Nantucket	3 max	T. Pastuszak
4/29	Ware R. IBA	42	3/24	Essex	1	N. Dubrow
Yellow-rumped Warbler			3/29	Saugus	1	S. Zende#
3/17	Framingham	1	4/26	E. Bridgewater	2	J. Carlisle
4/14	Newton	2		Dark-eyed Junco		
4/18	Wayland	28	4/29	P.I.	4	T. Wetmore
4/25	Ipswich	37	4/30	Ipswich	4	J. Berry
4/26	Arlington Res.	74		Scarlet Tanager		
4/29	P'town	80	4/25	Canton	1	D. Albeck
Yellow-throated Warbler				Rose-breasted Grosbeak		
4/18	Carlisle	1	4/24	Chatham (MI)	2	B. Harris
4/19-21	Arlington Res.	1	4/30	Lincoln	1	G. Loud
Prairie Warbler				Indigo Bunting		
4/22	Fairhaven	1	4/17	Nahant	1	L. Pivacek
Black-throated Green Warbler			4/21	Orleans	1	E. Hilliar
4/29	Ware R. IBA	1	4/21	Rochester	1	M. LaBranche
4/30	Arlington Res.	1	4/24	Worcester	1	B. Kamp
4/30	Chestnut Hill	1		Eastern Meadowlark		
Eastern Towhee			4/1	P.I.	1	MAS (B. Gette)
4/10	Tewksbury	2	4/3	Hanscom	2	M. Rines
4/18	S. Quabbin	8	4/4	Boxboro	1	S. Miller
4/19	P.I.	17	4/7	Ipswich	4	J. Hoye#
4/29	Ware R. IBA	14	4/9	Essex	1	S. Hedman
American Tree Sparrow			4/12	Newbury	2	P. + F. Vale
3/3	E. Boston (B.I.)	25	4/18	P.I.	2	T. Wetmore
3/16	P.I.	32	4/25	Worcester	3	S. LaBree#
4/26	Wilmington	1	4/26	Cumb. Farms	2	J. Carlisle
4/27	Ipswich	1	4/29	Bedford	4	G. Gove#
Chipping Sparrow				Yellow-headed Blackbird		
3/1	Westwood	1	3/3-10	Cumb. Farms	1	D. MacKinnon#
3/7	Woburn (HP)	1	3/10-11	Chatham	1	L. Karr
4/16	Groveland	13		Rusty Blackbird		
4/18	S. Quabbin	43	4/4	GMNWR	18	BBC (J. Center)
4/26	Ipswich	15	4/10	Pittsfield	54	G. Hurlay
Clay-colored Sparrow			4/11	W. Bridgewater	11	J. Carlisle
3/1-4/8	Belchertown	1	4/13	Brookline	24	T. Bradford
4/29	P'town	1	4/15	Lexington	15	M. Rines
Field Sparrow			4/22	Westboro	18	S. Arena
3/25	Burlington	1	4/22	Hamilton	46	J. Berry
4/13	Charlestown	2		Orchard Oriole		
4/14	Northbridge	2	4/25	GMNWR	1 f	D. Swain#
4/17	Millbury	5		Baltimore Oriole		
4/18	S. Quabbin	4	4/29	Boston (A.A.)	1	M. Salett
4/25	W. Tisbury	3		Purple Finch		
Vesper Sparrow			4/5	W. Bridgewater	11	J. Carlisle
4/11	Concord	1	4/14	P.I.	19	R. Heil
4/12	Tyringham	3	4/26	Stoughton	9	A. Johnston
4/16	Orange	1	4/28	Burlington	11	J. Mullen#
4/22	Lancaster	2	4/29	Mt.A.	18	BBC (D. Hursh)
4/27	P.I.	1	4/29	Ware R. IBA	14	M. Lynch#
4/28	Canton	1		Red Crossbill		
Savannah Sparrow			4/11	Rockport	1	B. Harris
4/7	Belmont	4	4/23	P.I.	2 b	B. Flemer#
4/7	Westboro	6		Common Redpoll		
4/22	P.I.	15	3/1	Quincy	40	M. Salett
4/28	Canton	30	3/2	Cheshire	61	J. Pierce
4/30	Wenham	35	3/3	Everett	32	R. Stymeist
Grasshopper Sparrow			3/15	Woburn (HP)	30	J. Kovner#
4/16	Tisbury	1	3/21	Shrewsbury	103	J. Lawson
Fox Sparrow			3/21	Truro	35	I. Davies#
4/6	Lexington (DM)	23	3/26	P.I.	50	T. Wetmore

Common Redpoll (continued)				3/25	Mt. Wachusett	12	B. Harris
4/5	W. Concord	12	A. Joslin	4/12	Norwell	12	C. Patterson
4/24	Worcester	1	D. Grant	4/24	Leyden	20	M. Lynch#
Hoary Redpoll				4/29	P'town	1	B. Nikula
3/21-29	Falmouth	1	M. Schanbacher	Evening Grosbeak			
Pine Siskin				4/19	Windsor	2	K. Yakola
3/16	Turners Falls	100	J. Smith	4/24	Chesterfield	1	L. Therrien
3/16	Boston (A.A.)	10	P. Peterson				

U.S. HOUSE OF REPRESENTATIVES VS. MBTA

Birding Community E-Bulletin July 2015

In June 2015, the Birding Community E-Bulletin described the announcement of intent from the U.S. Fish and Wildlife Service to strengthen implementation of the Migratory Bird Treaty Act (MBTA) in order to address some new “incidental takes” from some oil pit, power line, communications towers, and other potential hazards. The report indicated that comments were to be due by July 27th:

<http://refugeassociation.org/?p=12013/#proposed>

In what seemed to be by many as a reaction to this proposal, the U.S. House of Representatives passed and sent to the Senate an appropriations bill for Commerce, Justice, Science, and Related Agencies (CJS), HR 2578, which contained a rider. This rider, presented by Congressman Duncan (R-3-SC), amendment 347, would defund enforcement of the MBTA by the Department of Justice for one year.

Bird conservationists around the country were stunned and outraged, prompting a flood of letters, calls, and e-mails to the Senate to make sure the rider would not be part of the Senate companion bill.

While the Senate struck the anti-MBTA rider from its initial consideration of the CJS appropriations bill, there is still a chance that it could reemerge. Congressman Duncan has been trying to get a similar amendment through the House Interior Appropriations bill.

You can get more information from the Ornithology Exchange, here:

http://ornithologyexchange.org/articles/_/community/gop-trying-to-block-enforcement-of-migratory-bird-treaty-act-via-appropriations-bills-r204

Archive: <http://refugeassociation.org/2015/07/the-birding-community-e-bulletin-july-2015/>

ABBREVIATIONS FOR BIRD SIGHTINGS

Taxonomic order is based on AOU checklist, Seventh edition, up to the 53rd Supplement, as published in *Auk* 129 (3): 573-88 (2012) (see <<http://checklist.aou.org/>>).

Locations		Newbypt	Newburyport
Location-#	MAS Breeding Bird Atlas Block	ONWR	Oxbow National Wildlife Refuge
A.A.	Arnold Arboretum, Boston	PG	Public Garden, Boston
ABC	Allen Bird Club	P.I.	Plum Island
A.P.	Andrews Point, Rockport	Pd	Pond
A.Pd	Allens Pond, S. Dartmouth	POP	Point of Pines, Revere
B.	Beach	PR	Pinnacle Rock, Malden
Barre F.D.	Barre Falls Dam	P'town	Provincetown
B.I.	Belle Isle, E. Boston	Pont.	Pontoosuc Lake, Lanesboro
B.R.	Bass Rocks, Gloucester	R.P.	Race Point, Provincetown
BBC	Brookline Bird Club	Res.	Reservoir
BMB	Broad Meadow Brook, Worcester	RKG	Rose Kennedy Greenway, Boston
BNC	Boston Nature Center, Mattapan	S.B.	South Beach, Chatham
C.B.	Crane Beach, Ipswich	S.N.	Sandy Neck, Barnstable
CGB	Coast Guard Beach, Eastham	SRV	Sudbury River Valley
C.P.	Crooked Pond, Boxford	SSBC	South Shore Bird Club
Cambr.	Cambridge	TASL	Take A Second Look, Boston Harbor Census
CCBC	Cape Cod Bird Club	WBWS	Wellfleet Bay WS
Corp. B.	Corporation Beach, Dennis	WE	World's End, Hingham
Cumb. Farms	Cumberland Farms, Middleboro	WMWS	Wachusett Meadow WS
DFWS	Drumlin Farm Wildlife Sanctuary	Wompatuck SP	Hingham, Cohasset, Scituate, Norwell
DWMA	Delaney WMA, Stow, Bolton, Harvard	Worc.	Worcester
DWWS	Daniel Webster WS		
E.P.	Eastern Point, Gloucester	Other Abbreviations	
F.E.	First Encounter Beach, Eastham	ad	adult
F.H.	Fort Hill, 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	fide	on the authority of
H.	Harbor	fl	fledgling
H.P.	Halibut Point, Rockport	imm	immature
HP	Horn Pond, Woburn	juv	juvenile
HRWMA	High Ridge WMA, Gardner	lt	light (morph)
I.	Island	m	male
IRWS	Ipswich River WS	max	maximum
L.	Ledge	migr	migrating
MAS	Mass Audubon	n	nesting
MP	Millennium Park, W. Roxbury	ph	photographed
M.V.	Martha's Vineyard	pl	plumage
MBWMA	Martin Burns WMA, Newbury	pr	pair
MI	Morris Island	S	summer (1S = 1st summer)
MNWS	Marblehead Neck WS	v.o.	various observers
MSSF	Myles Standish State Forest, Plymouth	W	winter (2W = second winter)
Mt.A.	Mount Auburn Cemetery, Cambr.	yg	young
NAC	Nine Acre Corner, Concord	#	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 email. 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 email submission, visit: <<http://www.birdobserver.org/Sightings/>>.

Species on the Review List of the Massachusetts Avian Records Committee, as well as species unusual as to place, time, or known nesting status in Massachusetts, should be reported promptly to the Massachusetts Avian Records Committee, c/o Matt Garvey, 137 Beaconsfield Rd. #5, Brookline MA 02445, or by email to <mattgarvey@gmail.com>.

ABOUT THE COVER

Common Yellowthroat

The Common Yellowthroat (*Geothlypis trichas*) is an abundant warbler of thickets whose *wichity-wichity-wichity* song is a familiar sound in spring. Males are easily identified by the black mask, which is set off from the olive crown by a band of white. Their upperparts are olive, and their underparts are bright yellow except for the grayish-olive belly, which separates the yellow throat and undertail. Lacking the mask and white band, females are otherwise similar to males but have drabber underparts. In juvenile females, the yellow is muted. Juvenile males have an indistinct mask.

The Common Yellowthroat is a widely distributed species, breeding in all of the United States except Hawaii, and in all of the Canadian Provinces. Most populations are migratory, although there are resident populations in the southeastern United States, California, and Mexico. They winter in Texas, south Florida, and Mexico; in Central America as far south as Panama; and in the Bahamas and Greater Antilles. In Massachusetts the Common Yellowthroat is considered a common to very common breeder and a very common migrant; it is occasional in winter. Migrants arrive in May and leave from late August through September, although a few may linger.

The taxonomic picture of subspecies of the Common Yellowthroat is muddled due to individual variation in size and plumage, winter range overlap between subspecies, and clinal variation where subspecies are in contact. However, 13 subspecies are generally recognized in this widespread species. The subspecies *G. t. trichas* is found over much of the eastern half of North America. Common Yellowthroats are closely related to other *Geothlypis* species such as Kentucky Warbler (*G. Formosa*).

Common Yellowthroats are usually monogamous, but females dally with other males, which may explain the male's close following (mate guarding) of his mate, a common behavior in the species. They usually produce two broods per season. The male has two songs, a perch song—*wichity-wichity-wichity*—and a flight song, which is a three-part complex song incorporating part of the perch song. Males sing the perch song during spring migration throughout the breeding cycle. The flight song accompanies tail bobbing and wings quivering while the males ascend up to 30 feet above the ground. The song presumably serves as both territorial advertisement and mate attraction. Territorial defense involves *tchat* calls, chases, wing and tail flicking, and occasionally grappling. Females may defend their territory against other females.

Common Yellowthroats occupy a variety of habitats with thick vegetation, from wetlands to undergrowth in pine forests—basically any scrub or thicket environment. The female builds the nest, a well-hidden bulky cup of grass, leaves, and other plant materials; it is lined with fine grass. The usual clutch is four creamy eggs blotched with dark colors. Only the female develops a brood patch, and she alone incubates the eggs for the 12 days to hatching and broods the chicks. The male may bring food to the female during incubation. The young are altricial—nearly naked and helpless; their eyes are closed. By day eight post-hatching, the chicks are able to leave the nest and

can fly when they are three weeks old. Both parents feed the young for the five weeks to independence.

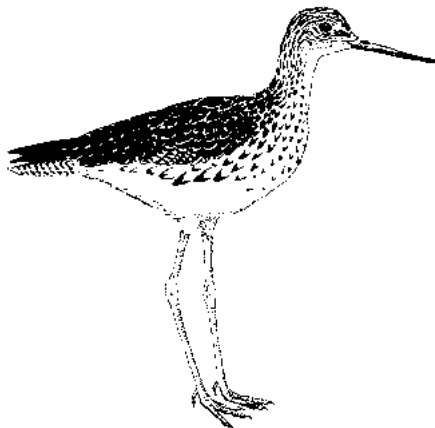
Common Yellowthroats forage mainly in low vegetation and on the ground, gleaning leaves and bark. They also hover-glean and hawk flying insects. They have even been recorded foraging at army ant swarms in Mexico. Their diet includes spiders and a broad spectrum of insects: adult beetles, flies, moths, ants, termites, wasps, bees, and a variety of insect larvae—almost anything that crawls or flies.

Common Yellowthroats are often heavily parasitized by cowbirds. In one study nearly half of the Yellowthroat nests contained cowbird eggs. But Yellowthroats often build new nest layers over cowbird eggs or abandon a parasitized nest. As nocturnal migrants, Common Yellowthroats are susceptible to tower strikes. Habitat alteration on their wintering ground may be a problem. Breeding Bird Survey data suggest steady or slightly decreasing population numbers, but the vast breeding area of the species plus land-use policies that encourage early successional growth suitable for Common Yellowthroats bode well for these warblers. 🐦

William E. Davis, Jr.

About the Cover Artist: Barry Van Dusen

Once again, *Bird Observer* offers a painting by the artist who has created many of our covers, Barry Van Dusen. Barry, who lives in Princeton, Massachusetts, is well known in the birding world. Barry has illustrated several nature books and pocket guides, and his articles and paintings have been featured in *Birding*, *Bird Watcher's Digest*, and *Yankee Magazine* as well as *Bird Observer*. Barry's interest in nature subjects began in 1982 with an association with the Massachusetts Audubon Society. He has been influenced by the work of European wildlife artists and has adopted their methodology of direct field sketching. Barry teaches workshops at various locations in Massachusetts. For more information, visit Barry's website at <www.barryvandusen.com>. 🐦



GREATER YELLOWLEGS BY GEORGE WEST

AT A GLANCE

June 2015



STEPHANIE ELLIS

This month's puzzler offers a combination of challenges, due mainly to extreme lighting conditions, more obvious in the online colored version of the photo than in this black and white mystery bird. To identify this seemingly ambiguous bird, try to imagine the image as being simply solid gray or black. Try to ignore the dark wing-linings, dark cap, and whitish or pale undertail coverts.

Seeing only the bird's profile, we are left with a fairly hefty, long-winged bird with pointed primaries, apparently buffy or off-white underparts, and a relatively short and dark rounded tail. The bill appears to be stout, blunt, dark-tipped, and deep (from top to bottom). That the bird is obviously flying over a coastal beach is another useful clue. Perhaps even more important, the beach is snow-covered. While seemingly irrelevant at first, the snow in the picture goes a long way to explaining the ambiguous appearance of the mystery bird; the extreme lighting conditions caused by the snow are largely responsible for the unusual appearance of this mystery species.

Returning to the suggestion of picturing the bird as uniform gray or black (i.e., like a silhouette), it should not be too hard to imagine the bird as a gull, especially since it is flying over a winter beach. Strong reflected light off the brightly illuminated snow accentuates the contrast between the bird's dark wing linings and the rest of the underwings. The tail appears similarly dark due to the reflected light from the snow. The appearance of a dark cap, a feature that gives the bird the superficial appearance

of a Great Shearwater, is due to the shadowing effect produced by strong light coming off the snow on the ventral surface of the bird. A close look at the colored version online also reveals the pink color of the bird's legs and the bicolored bill, which are characteristic of a first-cycle Herring Gull. Indeed, the mystery photograph is nothing more than a unique photograph of a young Herring Gull (*Larus argentatus*) taken under extreme lighting conditions. The ultimate value of this photograph is the way it shows how unusual lighting conditions can influence our perception of even the most common species.

Herring Gulls, abundant year-round residents in Massachusetts, breed at a number of coastal and offshore island locations. They are also locally common inland wherever refuse or extensive open water occurs. Stephanie Ellis captured this unusual image of a young Herring Gull in Orleans in February 2015. 🐦

Wayne R. Petersen



BALTIMORE ORIOLE BUILDING A NEST BY SANDY SELESKY

AT A GLANCE



WAYNE PETERSEN

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

Bird Observer Online!

Bird Observer has a new website: <http://birdobserver.org> !

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TABLE OF CONTENTS

BIRDING MORRIS ISLAND AND VICINITY, CHATHAM, MASSACHUSETTS	<i>Ryan Schain</i>	213
WINTER QUARTERS AND MIGRATION ROUTES OF COMMON AND ROSEATE TERNS REVEALED BY TRACKING WITH GEOLOCATORS	<i>Ian C. T. Nisbet and Carolyn S. Mostello</i>	222
RESPECTING BIRDS, PEOPLE, AND HISTORY AT MOUNT AUBURN CEMETERY	<i>Dave Barnett and Regina Harrison</i>	232
PHOTO ESSAY Mount Auburn Cemetery		240
FIELD NOTES Another Instance of Play Behavior in Black Vultures	<i>William E. Davis, Jr.</i>	242
Anhingas Play with Sticks and Other Plant Debris	<i>William E. Davis, Jr.</i>	244
MUSINGS FROM THE BLIND BIRDER Birding Paraphernalia	<i>Martha Steele</i>	246
GLEANINGS Getting from Point A to Point B	<i>David M. Larson</i>	248
ABOUT BOOKS Table Scraps To Zick Dough	<i>Mark Lynch</i>	250
BIRD SIGHTINGS March/April 2015		256
ABOUT THE COVER: Common Yellowthroat	<i>William E. Davis, Jr.</i>	267
ABOUT THE COVER ARTIST: Barry Van Dusen		268
AT A GLANCE June 2015	<i>Wayne R. Petersen</i>	269

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