Bird Observer

VOLUME 42, NUMBER 6

DECEMBER 2014



HOT BIRDS



On October 28 Peter DeGennaro spotted a female **Painted Bunting** at the Evergreen Cemetery in Brighton, MA. He took the photograph on the left.

Throughout October and November, **Yellow-headed Blackbirds**, associating with a flock of European Starlings and Brown-headed Cowbirds, have been moving between Seabrook, NH, and Salisbury, MA. Bob Stymeist took the photograph on the right.





On November 8, Alice Morgan reported an immature **Golden Eagle** perched in a tree on the eastern point of West Island, Fairhaven. Steven Whitebread took the photograph to the left during a South Shore Bird Club trip led by Jim Sweeney.

On November 4, Hector Galbraith reported a **Townsend's Solitaire** at Halibut Point State Park in Rockport. Suzanne Sullivan took the photograph on the right.



CONTENTS

BIRDING THE CHARLES RIVER IN WAL	гнам, Newton, and Watertown	
	Jason Forbes	337
Eighteenth Report of the Massaci	HUSETTS AVIAN RECORDS COMMITTEE	
Matthew P. Garvey, Jer	emiah R. Trimble, and Marshall J. Iliff	347
Chasing Shearwaters	Dave Wiley	358
Рното Essay		
Tagging Shearwaters	Dave Wiley and Anne-Marie Runfola	364
A YOUNG BIRDER'S SUMMER Jeremiah Sullive		366
Introducing the Massachusetts Y	OUNG BIRDERS CLUB	
	Jonathan Eckerson	372
Musings from the Blind Birder		
Taking Steps for Bird Conserva	ntion Martha Steele	374
GLEANINGS		
Bugging the Birds: Tracking In	dividuals through Migration	
	David M. Larson	377
About Books		
A List for the Listers	Mark Lynch	380
BIRD SIGHTINGS		
July/August 2014		387
ABOUT THE COVER: Cooper's Hawk William E. Davis		399
ABOUT THE COVER ARTIST: Barry Va	n Dusen	400
At a Glance	Wayne R. Petersen	401

ANNOUNCEMENT OF PRICE INCREASE

Bird Observer last had a price increase in 1996. Since then production costs have risen substantially, in particular for printing and postage. In order to maintain the magazine's financial viability, a price increase is necessary. Starting with Volume 43 (2015), new one-year subscription and renewal rates for *Bird Observer* will increase to \$25.00. The two-year rate will increase to \$48.00.



Bird Observer

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Birding the Charles River in Waltham, Newton, and Watertown

Jason Forbes

Barrow's Goldeneye, Iceland and Lesser Blackbacked gulls, Great Cormorants, and more. A good winter day's birding on the coast? Nope, the Charles River in downtown Waltham. Although known more for its industrial history, this downtown area has a surprising amount of good habitat for year-round birding.



The main part of this article covers three sections of the river: the bike path, the Moody Street area, and Forest Grove. Each section can be reasonably covered in 40 minutes to an hour (thoroughly in about twice that) and involves about a mile of walking. In addition, short comments follow on other parts of the river from Watertown Square to Norumbega in Newton. Except for parts of Forest Grove, all paths are fairly level and mostly paved. Although there are no facilities, there are plenty of stores and restaurants on River and Moody streets.

As winter is the best season for birding the river, the main focus will be on that time of year. There are plenty of good birds at other seasons, but if a season is not mentioned, assume it is winter.

Waltham Bike Path

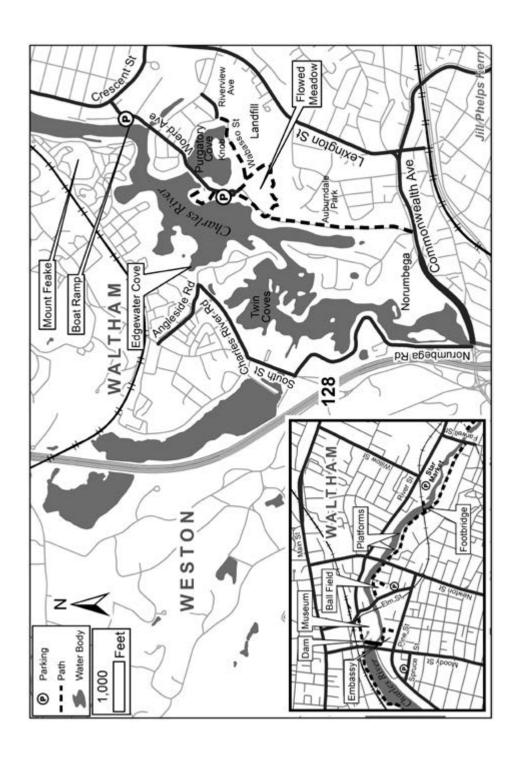
eBird Hotspot, Charles River Bike Path—Waltham: http://ebird.org/ebird/hotspot/L838161>

The bike path in Waltham runs from Farwell Street on the Waltham-Newton-Watertown line to Elm Street. It is probably the best area year-round, with excellent birding in winter, decent numbers of migrants in spring and fall, and just enough interesting breeders in summer.

Because it is just downstream from the Moody Street dam, this part of the river basically never freezes. In cold winters, it may be the only open water around. This leads to large numbers of ducks and other waterbirds. The main flocks are of Hooded and Common mergansers and Ring-necked Ducks, but there are almost always other birds mixed in. Regular in small numbers are American Coot, Common Goldeneye, Bufflehead, and Lesser Scaup. Less expected are Greater Scaup, Red-breasted Merganser, Barrow's Goldeneye, and various dabbling ducks.

The easiest access point is from the Shaw's supermarket parking lot on River Street. Take Main Street in Waltham (Route 20) to Willow Street and enter the parking lot at the end of Willow. Go to the right as you pull in and park. Scan the gulls that are often loafing in the parking lot

Iceland and Lesser Black-backed have both been seen here, although they generally prefer Moody Street—and keep an eye and ear out



for Fish Crows. For several years they were regular, but have become much scarcer recently, apparently because the nearby restaurants have generated less food waste.

Walk over to the railing by the waterfall and scan through the Mallards and Canada Geese that hang out at the Bleachery spillway. Other dabblers and American Coots occasionally mix in, and the diving ducks drift down as far as the waterfall. In spring 2011, a Greater White-fronted Goose hung around for about two months.

Start down the trail and cross the Mary Early footbridge to the south side of the river. At this point, it should be noted that this is a downtown area with some "features" of a downtown area. I've never had any issues, but occasional items make the police log in the local paper. Always be aware of your surroundings and don't rush out to any of the overlooks or side paths without checking them carefully first. Evening and early morning visits may not be the best idea. It's also worth mentioning that the path can be difficult in snowy winters, with parts being untouched and too deep to walk through and the other parts being slick and icy.

Scan in both directions from the bridge—don't worry if the birds are far away, there are closer views ahead. In dry summers, small mudflats can appear toward the waterfall and attract a few sandpipers, but only rarely. Once you are across the water, the brush along the edge of the old railroad bridge is worth a check. Flocks of passerines like it, and I've seen quite a few warblers there. Although not necessarily recommended, there is an obscure path that climbs up and gives views of the back edges of the trees.

Start along the bike path and head downriver. After passing a few willows and a bench, the path opens onto a large field with another bench next to a waterfall. The field can have sparrows, and the trees—both those along the river and the pines along the path—can have migrants. As the edge closes in on the bike path, there's a small opening that overlooks the river. This view generally doesn't have many birds. In summer, however, there are several interesting damselflies including blue-fronted dancer, and butterflies in the area include harvester.

Just beyond the field, a footpath leads through the wooded area on the left. It's occasionally flooded or otherwise inaccessible, but it can be the best spot on the river for spring migrants, and Spotted Sandpipers frequent the banks here in summer. Once you rejoin the bike path, you can continue down to Farwell Street and then on to the Bridge Street section, or turn back. The short distance to Farwell is not generally productive.

Return to the Mary Early Bridge and walk upriver to the west. After passing under the railroad bridge, you will see a bench with an open view. In addition to scanning through any ducks in the open, look for cormorants on the stumps in the water and make sure to check under the willows on the far shore for Wood Ducks. Also check the tops of the trees for raptors. Bald Eagles and Red-shouldered Hawks have been seen here.

Continue along the path. The pines on the left and the weedy spot behind them often have good land birds. Walk out to the wooden platform that overlooks the river

and scan. Night-herons often can be found in summer on the big logs on the opposite side, and in winter at least one Great Blue Heron stakes out the reedy spot to the left. The trees adjacent to the platform should be checked as well; surprises have included a wintering Gray Catbird and migrant Orchard Orioles and Bobolinks.

A few feet farther down the path/bike trail is a small, grassy opening, where a few sparrows are often found. There is a view of the water that isn't great, but it's always worth a check. An icy edge often develops on the far shore in winter where mergansers and gulls may stop to loaf. The vegetation along both sides of the path can be quite productive as well.

A second platform a few yards farther on offers good views down to the Newton Street Bridge, and many ducks hang out here. It's worth a few minutes to see what drifts by; note that the skittish birds tend to swim off as you walk out, so approach carefully. Whenever you find a flock of Ring-necks, check them thoroughly for scaup and rarer birds; a Tufted Duck made a one-day appearance in 2010. Again, check the dead trees for cormorants and herons and scan through the vegetation for Wood Ducks.

Also scan through the House Sparrows that congregate just before Newton Street. Generally it's just them and a mockingbird, but you never know. Continue to the other side of Newton Street (watch out, as many cars ignore the crosswalk) and scan at the first opening. In some years, Northern Rough-winged Swallows have nested in cracks on the side of the bridge.

Up at the baseball field, check for geese on the field and falcons on the light poles. There are a couple spots with open views of the water. If the Ring-necks and goldeneyes are not farther down, they are likely to be here, as are many of the mergansers. Recently for several years, one or two Barrow's Goldeneyes made January visits. The opposite shore is another spot favored by herons, and dabbling ducks like to hide along the edge.

Summer breeders can be found all along the path and include large numbers of Warbling Vireos, Baltimore Orioles, Eastern Kingbirds, and Yellow Warblers. Besides the nesting Rough-wings, Tree and Barn swallows patrol regularly, along with Chimney Swifts.

From here, there are three options: follow the marked path over to Pine Street and the small park by the Museum of Industry; take a shortcut to Moody Street; or turn around and retrace your steps back to the Shaw's parking lot. We'll take the shortcut to Moody Street by following Elm Street to the right, re-crossing the river to the north side, and crossing the old train tracks just past the car wash.

Moody Street, Waltham eBird Hotspot, Riverwalk Park: http://ebird.org/ebird/hotspot/L1343542

After crossing the train tracks and walking past the old factory buildings (now artist workspaces, housing, and the Museum of Industry, which is well worth a brief visit), you will reach the Moody Street dam. Check through the ducks and gulls on the



Iceland Gull at Moody Street, Waltham. (All photographs by the author).

east side, watching for night-herons in summer, and then cross Moody Street and start down the path.

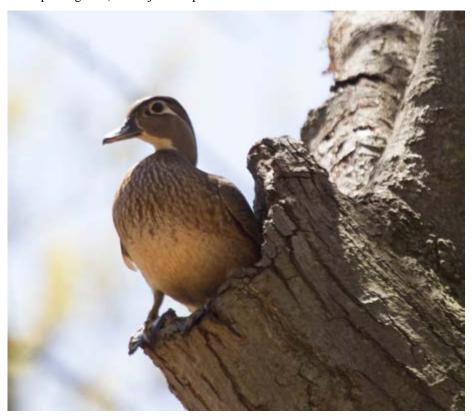
This part of the river does freeze but generally produces some of the better showings of gulls in the area. Lots of Mallards and Canada Geese hang around as well, and often one or two better ducks can be found among them. Several of the trees along the path can be loaded with fruit and will attract a midwinter flock of waxwings (and, once, a Pine Grosbeak). Raptors that hunt the river include Peregrine Falcons and Bald Eagles.

This is a simple walk; just follow the path to Prospect Street and stop when you see birds. Gulls are spread over the entire river. They're mostly Ring-billed with a moderate number of Herring and a few Great Black-backed, but Iceland has been close to annual. One Lesser Black-backed showed up for several winters, and in 2000 a Black-headed Gull made a brief appearance down at the end of Prospect Street.

One problem here is that you're generally looking into the sun. If the birds are toward the Moody Street side (and it's not too windy), taking the path in front of Cronin's Landing on the other side of the river can be worth the effort. If you do, make sure to check the feeders behind the hair salon right next to Cronin's, the only feeders around where geese outnumber the sparrows.

If you want to start here, two-hour parking can generally be found on Crescent Street, and there's always the lot off Spruce Street if you don't mind paying. Don't ignore birds in the yards as you walk to and from your car. I've seen a Bald Eagle in the trees and sometimes the chickadee and titmouse flocks will contain something more interesting.

To get back to Shaw's, either backtrack to the train tracks or return on the south side, cross Moody, and follow the path down to the Embassy Parking Lot. If you have a few minutes, the small park across the bridge may hold something unusual on occasion. Walk up the parking lot to Pine Street and follow that to Elm Street (there should be blue heron tracks painted on the ground). You can cut around the ball field (note that there's parking here) and rejoin the path.



Wood Duck at Flowed Meadow

Purgatory Cove and Forest Grove, Waltham and Newton eBird Hotspot, Forest Grove Reservation: http://ebird.org/ebird/hotspot/L636930

This stretch of river—part of the Lakes District because of the slow movement of the water—covers a wider range of habitat and is generally good spring through fall and not bad in winter. Forest Grove is a catchall name for several parcels of land including the DCR property along the river in Waltham and the Flowed Meadow Conservation Area, Auburndale Park, and Lyons Park, all in Newton.

Driving now, follow Moody Street to Crescent Street (either end) to Woerd Avenue. Almost immediately thereafter, turn into a small parking lot and boat ramp on the right. Give this a quick check, and if you have time in spring, the short trail that runs from here to the watch factory parking lot is worth a few minutes. When the river is frozen, gulls sometimes come here, and some ducks are around when the water is open. Late one year a Great Egret was seen in the vegetation by Mount Feake Cemetery.

Continue down Woerd Avenue until it becomes Forest Grove Road, and then continue to the circle at the end. Park here, or along the road if you're more interested in scanning the cove.

Purgatory Cove, which is on the left as you drive in, attracts good numbers of dabbling ducks and a few divers. Wood Ducks can number close to 100 in fall, and Green-winged and Blue-winged teal are regular along with American Wigeon. Green Herons and Black-crowned Night-Herons are expected in fall, and flocks of swallows can appear overhead in spring and fall. On occasion, mud flats develop and several species of sandpipers appear, although recent dredging has at least temporarily kept the water levels up. Check the trees along the road for migrant warblers and other passerines.

Just beyond the cove, there is a gate on the other side of the road. Walk through this gate and find a short trail that loops around a small hill. A few migrants can be found on top of the hill. As the trail follows the edge of the river, check all along for waterbirds, especially at the point. Scaup, Ruddy and Ring-necked ducks, Buffleheads, and more are regular in season, as are good numbers of Pied-billed Grebes and American Coots. There can easily be as many Wood Ducks on the far shore as there are on the cove. If the river is frozen, this spot often has some roosting gulls, which have included Iceland and Lesser Black-backed. Residents on the far side feed the ducks, so even if the river freezes, at least a few geese and Mallards will remain all winter. Be careful as you walk on the hill itself, as the path is steep and narrow, and leaves and sand can make it slippery.

A trail runs on the cove side along the edge back toward the parking circle. Great Horned Owls have been found in the pines and have likely nested there in the past. The far end has additional angles for viewing the cove and often turns up something not seen from the road.

At the parking circle, the trail continues beyond the gate. A short distance down the trail is a pump house with a view of a marshy area on the left. Good birds here have included Wilson's Snipe. One year, Yellow-throated Vireos nested in the trees above the path. The small cove on the right stays open because of the pumped water and often has a mass of ducks in winter.

As you move on, the path splits. The right side stays a bit closer to the edge of the river, although views are limited. Just before the paths rejoin, there is a large rock, which—with caution—can be climbed for better views. More ducks may be present here.

The path arrives at Auburndale Park and continues onto Commonwealth Avenue, or "Comm Ave." I generally don't walk beyond the park, but it's not too far and can add another bird or two, and from there, you can easily continue to Norumbega Park. If you turn around at Auburndale Park, take the other side of the split trail and then an immediate right into the woods of Flowed Meadow. Lots of birds use the woods here, which is worth exploring. Blue-gray Gnatcatchers nest and Yellow-throated Vireos likely did so one year. Spring migrants can be plentiful.

Several paths extend through Flowed Meadow. The woods border the marsh that was visible by the pump house. Unless I have lots of time, I generally stay as close to the marsh as I can. The path is narrow with tall, thick vegetation, and it can be hard to see anything, but one can hear Swamp Sparrows and Willow Flycatchers, and one spring a Yellow-breasted Chat was singing along the edge of the marsh. The trails that lead away from the marsh edge may be a bit more open and are worth exploring as time permits.

Eventually, the path goes to the left and crosses the marsh. Winter Wrens have been regular in winter, and I've heard Virginia Rails in the past. At this writing, there is a fallen tree along the edge that is large enough to walk on and can offer a slightly more open view.

Continue through the woods and up the hill. Take a right and go down to the edge of the landfill. Carefully check the edge—stay away if work is being done, as rocks occasionally spill down the hill—and along the back corner of the cove.

The path becomes Wabasso Road, which is labeled on maps but not accessible to cars. It leads to Riverview Avenue in Newton. Turn around and start back. An opening on the right leads to an area known as the Knob, which is a small hill on the edge of the cove. It's worth poking around, for anything in the trees and for another angle on the cove.

After checking the Knob, continue back along the path. There's a small picnic area that leads to another open view of the cove. The path ends back at the circle at the end of Forest Grove Road; just be quiet as you pass the two houses.

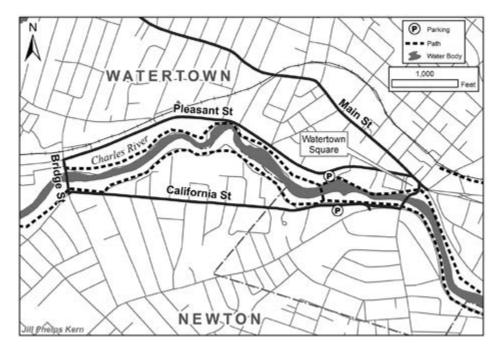
That covers the main sections of the river, but the following areas are also worth exploring.

Watertown Square

eBird Hotspot, Charles River Bike Path—Watertown Square: http://ebird.org/ebird/hotspot/L856171>

The stretch from Watertown Square west to Bridge Street is generally fairly open, with a good bit of vegetation along the edge of the water. Because it is quite similar to the Shaw's to Elm Street stretch in Waltham, I rarely go this far east.

In winter, you can park at the DCR lot on Pleasant Street and walk the north side of the river west to Bridge Street, cross over, and come back on the south side; parking is also available along California Street at all times of the year. Birding is quite similar



to the Waltham stretch of the bike path. Lots of Mallards gather near the first bridge, which should be scanned for other dabbling ducks. Walking along the north side, you will pass several wooden overlooks. The winter birds: mergansers, ring-necks, and goldeneyes, can be found along this stretch. They move around a lot (in fact, all the way up to Elm Street), so check in both directions. Summer birds include many orioles, kingbirds, and Yellow Warblers.

On the other (east) side of the square, the path continues along Charles River Road and similar to other sections.

Bridge Street, Watertown

If instead of turning back at Bridge Street you cross over and continue west (on the south side of the river), you enter a wooded section just beyond the Meredith Building on the corner of California Street. This section extends upstream to Farwell and North Streets. There seem to be fewer birds on the water along here, but the trees can be productive in migration. If you want to walk just this section, there's an access point from the far corner of the Stop & Shop parking lot on River Street.

Norumbega, Newton

Norumbega is divided into two parts: the park and the boating parking lot. The park is accessed from Comm Ave, just before the Marriott hotel. I haven't explored it much, but it should be productive at least for spring and fall migrants. The boating parking lot has more ducks and gulls. To reach it from Forest Grove, take a right turn on either Rumford Avenue or Riverview Avenue and then a right onto Lexington Street

at the lights. Follow to Comm Ave, turning right. Take the Interstate 95-128 on-ramp and immediately bear right (before getting on the highway). The parking lot is to the right.

After checking the parking lot, continue straight down the road. Carefully pull over and scan as you pass EPOCH and then again after going around the bend. This area can have lots of dabbling ducks including Gadwalls, Green-winged Teal, and Northern Shovelers. The Eurasian Teal that has spent several recent winters at Newton City Hall dropped in here once for a couple days.

Twin Coves, Waltham

These two coves offer more views of the river and attract decent numbers of birds. Coots and Pied-billed Grebes are attracted to the coves, especially in fall, and dabbling ducks have included Northern Shoveler. To reach the coves, follow Norumbega Road to South Street. There is a small pond directly across South Street that generally has nothing of interest, but a Northern Pintail was mixed in with a large flock of Ringnecked Ducks one winter day, so it's worth a quick look. Take a right and then another right onto Charles River Road at the Charlesbank apartments. Pull over at the coves and scan. You can walk between the coves if you want, although scanning from the car is usually sufficient.

Continue down the road. If there were lots of birds on the far side of the river at Forest Grove, take a right onto Angleside Road and you'll pass Edgewater Cove. There's no good place to park and get out in this residential area, so a quick scan from inside the car is probably all that you can do.

Mount Feake Cemetery, Waltham eBird Hotspot, Mount Feake Cemetery: http://ebird.org/ebird/hotspot/L264641

Mount Feake lies on the other side of the river from Prospect Street toward Forest Grove. It's another spot I haven't really explored, but it should be worth a drive in (and probably a walk in spring). Be careful about parking and walking. In the past, walkers were discouraged, but walking seems more acceptable now.

These areas show the potential for good urban birding and can make anything from a quick stop to a full day rewarding. There are similar spots all along the Charles River, so find the nearest one to you and go explore.

Jason Forbes, a lifelong resident of Waltham, has been birding the Charles intensively since 1998. He'd rather be birding than driving, and is slowly approaching 300 species within his local area of Waltham, Lexington, and adjacent towns. He would like to thank David and Dennis Oliver and John Hines for showing him many of the places described here, and many others for reports, field time, and advice.

Eighteenth Report of the Massachusetts Avian Records Committee

Matthew P. Garvey, Jeremiah R. Trimble, and Marshall J. Iliff

The eighteenth report of the Massachusetts Avian Records Committee (hereafter MARC or the committee) covers the evaluation of 85 records involving 36 species or subspecies. Seventy-eight records were accepted, an acceptance rate of 92%. All accepted records in this report were accepted unanimously on the first round of voting unless noted otherwise.

We present few details in this report. Much more information for each species treated here, including the full packet of evidence for each record considered by the committee, is or soon will be available on the MARC website: http://www.maavianrecords.com. While still a work in progress, our ultimate goal is a website with detailed species accounts including key facts and evidence for every record we've treated. So when you find that Virginia's Warbler, you can go to our website and determine right away that yours is the first—and if not, you can find all the details of prior accepted records.

As we discussed in last year's report, the committee agreed in 2013 that MARC will consider certain records accepted once they are accepted in eBird—which means the eBird regional reviewer has reviewed and accepted the record—so long as such records are accompanied by a photograph, audio recording, or video (Garvey and Iliff 2013). The committee accepted 43 of the records in this report through the new procedure, each of which is denoted as "eB" below. In general the committee was pleased with the new procedure, including the secretary's reduced workload for record processing and vote tabulation. At the 2014 annual meeting the MARC expanded the list of species that can go through the procedure. As one MARC member quipped, it may be the perfect marriage of two of the state's most hated birding institutions!

While this year's report features no state firsts in terms of species, there was a first subspecies record, a European Sandwich Tern (*Thalasseus sandvicensis sandvicensis*). Some authorities recognize European and American Sandwich Terns as separate species, e.g. Sangster et al. (2011). When split, the North American species is typically known as Cabot's Tern (*T. acuflavida*) and includes two subspecies: northern birds (subspecies *acuflavida*) with a black bill and yellow tip; and a southern form, Cayenne Tern (subspecies *eurygnatha*) with a yellow bill. Separation of *acuflavida* and *sandvicensis* is difficult, especially in adult plumage, and best addressed by Garner et al. (2007). Fortunately, Jeff Spendelow was able to read "British Trust" and the band number. He inquired, and it turns out the bird was banded as a chick in 2002 on Coquet Island, Northumberland, England. Characteristics such as crown pattern, bill size, and shape of the outer primary tips further supported the identification (Iliff 2013). Given that the British Ornithologists Union, along with most other similar committees, treats European Sandwich Tern as a separate species from our Cabot's, it certainly is possible the American Ornithologists Union will follow course and retroactively add a species to



European Sandwich Tern (Photograph by Keenan Yakola). Note the band!

the Massachusetts list. Indeed, this would be the first accepted record of the European sibling for North America, although there was a suggestive bird found in Chicago, Illinois in September 2010 (Neise 2011).

Additionally, there was a significant second record, a Pacific Golden-Plover (*Pluvialis fulva*) that popped onto Plymouth Beach late in the evening of July 20, 2013, just long enough to be photographed and filmed before winging its way south toward parts unknown. Other notable plovers covered in this report are the state's third Common Ringed Plover (*Charadrius*

hiaticula), just one of many great finds by Suzanne Sullivan on Plum Island of late, and a Northern Lapwing (*Vanellus vanellus*) at First Encounter Beach in Eastham on October 20, 2012, which finder Mark Faherty dubbed "the most quickly forgotten mega rarity in Massachusetts ornithological history." While the lapwing marked only the third state record when it was found, several more chaseable but as yet unreviewed lapwings followed quickly on its heels, including two found nearly simultaneously on Nantucket. Most if not all of these lapwings were likely part of a major weather event, the interaction of Hurricane Sandy marching northeast with a Rex block of high pressure over the north Atlantic blowing winds from east to west. This event brought at least 11 lapwings to northeast North America and 8 to the Azores in the weeks after Hurricane Sandy (Farnsworth et al. 2012).

This report also treats the Commonwealth's fourth Cassin's Kingbird (*Tyrannus vociferans*) and third accepted Lewis's Woodpecker (*Melanerpes lewis*).

Perhaps most significantly, we've finally tried to put some numbers and critical analysis behind the truly remarkable spate of western hummingbird records in recent decades, especially Allen's Hummingbird (*Selasphorus sasin*). As this report shows, it certainly is not tenable to presume a fall *Selasphorus* in the Northeast is a Rufous (*S. rufus*)—no fewer than six Allen's, five of which are treated here, have been banded and measured to confirm identity. An additional five birds in the report were accepted as Rufous/Allen's based on inconclusive evidence—even stellar photos don't always do the trick with that pair (see the accepted Rufous/Allen's Hummingbird #2012-112).

Other notable actions by the MARC include the addition of Eurasian Tree Sparrow (*Passer montanus*) to the Supplemental List, based on a fall 1995 record in Brighton that was reviewed but not accepted due to questionable provenance (Petersen 1997). A handful of records outside of this species' lone North American stronghold in the greater St. Louis area, including one in Cape May in March 2014 (Crewe 2014), convinced the Committee that it is at least plausible that the Brighton bird arrived by natural means.

The MARC also voted to re-review a number of MARC-accepted records—many of which were supported only by written submissions—based on additional knowledge that has accumulated over time suggesting that additional species or characters should be considered in evaluating these records. While the state list currently sits at 499—and could go higher if the Sandwich Tern is split and recent reports of Fea's Petrel (*Pterodroma feae*), Trindade Petrel (*Pterodroma arminjoniana*) or Zone-tailed Hawk (*Buteo albonotatus*) are accepted—there's a good possibility of some subtractions coming too. Stay tuned.

The 2013–14 roster of MARC voting members included Marshall J. Iliff (chair), Ian Davies, Trevor Lloyd-Evans, Mark Faherty, Blair Nikula, Wayne R. Petersen, Tim Spahr, Scott Surner, and Jeremiah R. Trimble. Iliff has completed his six-year term, much of which was served as chair. Iliff was a truly transformative leader who initiated and led many innovative efforts including additions to make the database and website more robust, a new way to work more efficiently by using eBird to review certain records, and urging more critical analysis and recognition of Massachusetts's vast historical record. His hard work and enthusiasm were a great inspiration to most members as well. (The authors note that only two of them are responsible for this expression of gratitude.) The committee elected Trimble to replace Iliff as chair and Ryan Schain to fill the vacated committee slot. Matt Garvey continues as secretary and Ryan Doherty continues as Webmaster.

In this truncated report, for each record of each species or taxon covered, we present basic statistics: the record number and where, when, and who submitted evidence. We also indicate whether the evidence provided was photographic (ph.), video (v.), audio (au.), or a written submission (†). As always, the committee strongly encourages written submissions even if there are photographs. When known, we try to credit the discoverer with an asterisk (*), especially if he or she has supplied evidence. The statistics in brackets for each species or taxon show the number of MARC-accepted records in this report, followed by the total number of MARC-accepted records for that species, followed by our estimate of total known records, often supplemented with a plus sign (+) when we know there are additional records but are not sure how many. We do not count or use a plus sign for 2012–2014 records that are currently in review. For a subspecies, the statistics refer to the species unless noted otherwise. Species not on the Review List do not receive a count.

Species taxonomy and nomenclature follow the seventh edition of the American Ornithologists' Union (AOU) *Check-list of North American Birds* (AOU 1998) and supplements (Chesser et al. 2009, Chesser et al. 2010, Chesser et al. 2011, Chesser et al. 2012, Chesser et al. 2013, Chesser et al. 2014). Subspecies group nomenclature follows taxonomy of *The Clements Checklist of Birds of the World* (Version 6.8), available at http://www.birds.cornell.edu/clementschecklist (Clements et al. 2013).

The list of species reviewed by the MARC (the Review List) is available at http://www.maavianrecords.com. Please check out the full Review List and send us any evidence of new or old records you may have—we're never too busy or distracted to appreciate photos or stories of the birds that keep surprising and delighting.

ACCEPTED RECORDS

Pacific Loon (Gavia pacifica) [1,20,20+]

2013-033: 1 adult at Beech Forest, Provincetown, *Barnstable*, 3/2/2013 to 3/11/2013 [ph. J. Offermann*]. eB.

Red-billed Tropicbird (*Phaethon aethereus*) [1,2,3+]

2012-108: 1 just w. of Oceanographer Canyon, 40.425, -68.25, 8/26/2013 [S. N. G. Howell*, ph. T. B. Johnson*, † ph. M. J. Iliff].

American White Pelican (*Pelecanus erythrorhynchos*) [1,11,20+]

2013-024 and 2013-026 (considered same bird): 1 at Lake Massapoag, Sharon, *Norfolk*, 5/30/2013 to 5/31/2013 [V. White*, ph. V. Zollo] and Spot Pond, Stoneham, *Middlesex*, 6/1/2013 [J. Restivo*]. eB. Note that one seen on Martha's Vineyard, 5/27/2013 [ph. L. McDowell], has yet to be reviewed and may also pertain to the same individual before it moved north.

White Ibis (*Eudocimus albus*) [1,4,20+]

2012-141: 1 immature at Allen's Pond, Westport, *Bristol*, 11/14/2012 to 11/15/2012 [ph. P. Champlin*, ph. D. Logan]. eB.

Mississippi Kite (*Ictinia mississippiensis*) [20,25,52+]

2011-056: 9 at Brievogel Ponds, East Falmouth, *Barnstable*, 5/29/2011 to 6/3/2011 [B. Porter*, ph. I. Davies, ph. B. Nikula, † M. Malin, † M. J. Iliff, †R. Schain]. eB.

2013-42: 2 at Pilgrim Heights, Truro, Barnstable, 5/27/2013 [ph. B. Nikula]. eB.

2013-43: 1 at Provincelands Visitors Center, Provincetown, *Barnstable*, 5/27/2013 [ph. B. Nikula]. eB.

2013-40: 7 at Pilgrim Heights, Truro, *Barnstable*, 6/1/2013 [ph. B. Nikula*, ph. J. Trimble*]. eB.

2013-41: 1 at Provincelands Visitors Center, Provincetown, *Barnstable*, 6/1/2013 [ph. B. Nikula*, ph. J. Trimble*]. eB.

Purple Gallinule (*Porphyrio martinicus*) [2,7,53+]

2013-44: 1 immature at Devils Dishful Pond, Peabody, *Essex*, 9/16/2013 to 10/14/2013 [ph. J. Lawson, ph. J. Offermann, P. Ruvido*]. eB.

2012-120: 1 immature at Stony Brook Wildlife Sanctuary, Norfolk, *Norfolk*, 10/7/2012 to 10/12/2012 [ph. J. Baur*, ph. M. J. Iliff, ph. R. Stymeist, ph. V. Zollo]. eB.

Pacific Golden-Plover (Pluvialis fulva) [1,2,2]

2013-013: 1 adult at Plymouth Beach, *Plymouth*, 7/20/2013 [ph. I. Davies, ph. M. J. Iliff*, ph. L. Seitz*, † au. T. Spahr*, ph. v. J. Trimble*]. Second state record and first for Plymouth; previous record from Plum Island, *Essex*.

Northern Lapwing (Vanellus vanellus) [1,3,9]

2012-100: 1 at First Encounter Beach, Eastham, *Barnstable*, 10/30/2012 [†M. Faherty*, ph. J. Trimble]. First *Barnstable* record.

Common Ringed Plover (*Charadrius hiaticula*) [1,3,3]

2013-015: 1 at Sandy Point, Ipswich, *Essex*, 5/20/2013 to 5/23/2013 [† ph. Suzanne Sullivan*, au. ph. J. Trimble].



Pacific Golden Plover, Plymouth Beach (Photograph by Luke Seitz)

Third state record and first for *Essex* (two previous records from South Beach/ Monomoy, *Barnstable*).

Red-necked Stint (Calidris ruficollis) [1,13,13]

2013-014: 1 at Sandy Point, Ipswich, *Essex*, 6/27/2013 to 6/28/2013 [ph. M. Bringle, † ph. Suzanne Sullivan*].

Franklin's Gull (Leucophaeus pipixcan) [1,12,28+]

2013-029: 1 adult at Bolton Flats, Bolton, *Worcester*, 5/29/2013 [ph. J. Lawson*, J. Johnson*]. eB.

Bridled Tern (Onychoprion anaethetus) [1,4,17+]

2012-034: 1 at Continental Shelf, west of Oceanographer Canyon (40.151599–68.379176), 8/25/2013 [S. N. G. Howell*, ph. M. J. Iliff, ph. T. B. Johnson]. eB.

Arctic Tern (Sterna paradisaea)

2013-032: 1 adult at Pontoosuc Lake, Pittsfield, *Berkshire*, 5/25/2013 [ph. M. Iliff]. First *Berkshire* record, eB.

Sandwich Tern (Eurasian) (*Thalasseus sandvicensis sandvicensis*) [1,1,1] [Statistics refer to subspecies only.]

2013-011: 1 adult at Chatham Beaches and Nauset Marsh, Eastham, *Barnstable*, 7/31/2013 to 9/5/2013 [ph. M. Faherty, ph. B. Nikula*, ph. J. Spendelow, ph. P. Trimble, ph. K. Yakola]. Banded as a chick in 2002 on Coquet Island, Northumberland, England. First state record for subspecies. A second Sandwich Tern with the same bird was unbanded and the subspecies identity was uncertain.

White-winged Dove (Zenaida asiatica) [1,13,30+]

2013-036: 1 at John F. Kennedy Presidential Library and Museum, South Boston, *Suffolk*, 12/21/2013 [M. Garvey*, ph. R. Schain]. First *Suffolk* record. eB.



Common Ringed Plover, Sandy Point. (Photograph by Suzanne Sullivan)

Ruby-throated Hummingbird (Archilochus colubris)

2012-143: 1 at Alder Ln., Falmouth, *Barnstable*, 10/31/2012 to 1/2/2013 [† ph. S. Finnegan, † I. Nisbet*].

2012-144: 1 at Haywood Ln., East Orleans, *Barnstable*, 12/16/2012 to 1/26/2013 [† ph. S. Finnegan].

These records represent the first confirmed January records for Massachusetts [an additional record from Falmouth (11/29/2012 - 1/18/2013) has not yet been reviewed].

Rufous Hummingbird (Selasphorus rufus) [6,25,25+]

2011-101: 1 at Little Harbor Rd., Wareham, *Plymouth*, 11/19/2011 to 11/24/2011 [† ph. S. Finnegan]. Hatch-year female.

2012-139: 1 at Thorne Rd., Eastham, *Barnstable*, 11/15/2012 [† ph. S. Finnegan]. Hatch-year male.

2012-137: 1 at Freeman Ave., Wellfleet, *Barnstable*, 12/20/2012 to 1/5/2013 [ph. D. Berard (eB 1/5/13), † ph. S. Finnegan]. Hatch-year female.

2013-016: 1 at Blueberry Pond Dr., Brewster, *Barnstable*, 10/30/2013 to 12/19/2013 [† ph. S. Finnegan*]. Hatch-year male.

2012-109: 1 at Nimrod St., Concord, *Middlesex*, 11/1/2013 to 1/24/2013 [† ph. S. Finnegan, ph. M. Rines]. Adult female.

2012-142: 1 at Thayer Ave., West Bridgewater, *Plymouth*, late Oct. 2012 to 12/15/2012 [ph. J. & P. Bennett*, † ph. S. Finnegan]. Adult female.

Allen's Hummingbird (Selasphorus sasin) [5,6,6]

2009-58: 1 at Nehoiden St., Harwichport, *Barnstable*, 10/1/2009 to 1/19/2010

[† ph. S. Finnegan, C. Omar*, ph. J. Trimble]. Second-year male. First record for *Barnstable*.

2009-57: 1 at Gilson Rd., Scituate, *Plymouth*, 10/23/2009 to 12/29/2009 [† ph. S. Finnegan, ph. J. Trimble] (3rd round, 8-1). Adult female. First record for *Plymouth*.

2010-85: 1 at Shay's St., Amherst, *Hampshire*, 12/16/2010 to 5/1/2011 [B. Doyle*, M. Doyle*, † ph. S. Surner]. Adult male. First record for *Hampshire*.

2012-110: 1 adult male at Airline Dr., Dennis, *Barnstable*, 3/24/2012 to 3/26/2012 [ph. C. McGibbons, ph. S.



Rufous/Allen's Hummingbird, Vineyard Haven. (Photograph by Lanny McDowell)

McGibbons*, † ph. S. Finnegan, ph. (specimen) J. Trimble]. Adult male. Second record for *Barnstable* and first spring record.

2012-111: 1 at Castle Hill Rd., Great Barrington, *Berkshire*, 10/25/2012 to 11/19/2012 [† ph. A. Hill, † G. Ward*]. Hatch-year male. First record for *Berkshire*.

Rufous/Allen's Hummingbird (Selasphorus rufus/sasin)

2012-145: 1 at Pochet, East Orleans, *Barnstable*, 8/14/2012 to 8/15/2012 [ph. C. Itzler].

2012-096: 3 at Padanaram, Dartmouth, *Bristol*, 10/11/2012 (third bird noticed 11/10/2012) to 12/10/2012 [† ph. G. Dennis].

2012-112: 1 at Pilot Hill, Vineyard Haven, *Dukes*, 11/29/2012 to 1/24/2013 [ph. L. McDowell, S. Stevens*, P. Uhlendorf*]. Based on apparent width and shape of rectrices evident in a superb suite of photos, five committee members voted to accept as Allen's on a third round ballot.

Calliope Hummingbird (Selasphorus calliope) [1,6,6]

2013-019: 1 at Hummock Pond Rd. Community Gardens, Madaket, *Nantucket*, 10/19/2013 to 10/22/2013 [ph. V. Laux*, S. Perkins*, R. Prum*, ph. E. Savetsky, ph. J. Trimble, P. Trimble*]. First *Nantucket* record.

Lewis's Woodpecker (Melanerpes lewis) [1,2,3]

2013-018: 1 at Arbor St., Lunenberg, *Worcester*, 5/27/2013 [ph. J. & R. Mills]. Second state record and first for *Worcester*.

Ash-throated Flycatcher (Myiarchus cinerascens) [4,18,26]

2011-075: 1 at Cuttyhunk Island, *Dukes*, 10/16/2011 [ph. M. Sylvia*]. eB

- 2011-076: 1 at Salisbury Beach State Park, Salisbury, *Essex*, 10/28/2011 to 11/4/2011 [ph. J. Fenton]. eB.
- 2011-078: 1 at King Farm, South Dartmouth, *Bristol*, 11/28/2011 to 1/11/2012 [ph. M. Boucher, ph. G. Dennis, B. King*, ph. Alice Morgan*]. eB.
- These 2011 records were part of a massive diaspora from the drought-stricken Southwest, which featured record-breaking numbers of Ash-throated among other species in the Northeast (Iliff et al. 2011).
- 2012-146: 1 at Squaw Rock Park, Squantum, *Norfolk*, 11/3/2012 to 11/5/2012 [ph. R. Doherty, ph. M. Iliff, M. McWade*, ph. L. Waters, ph. V. Zollo]. eB.

Cassin's Kingbird (Tyrannus vociferans) [1,4,4]

2011-99: 1 at Cherry Hill Reservoir, West Newbury, *Essex*, 11/25/2011 to 1/10/2012 [† J. Berry, ph. E. Nielsen, ph. J. Offermann, ph. B. Zaremba]. First record for *Essex*.

"yellow-bellied" Kingbird (Tyrannus sp.)

2013-028: 1 at North Sheep Pond Rd., Madaket, *Nantucket*, 5/17/2013 [† E. & G. Andrews*]. Any kingbird with a yellow belly is notable, especially in spring, but this couldn't be pinned down to species.

Cave Swallow (Petrochelidon fulva) [1,18,18+]

2013-023: 1 at Great Meadows, Concord, *Middlesex*, 5/27/2013 to 5/28/2013 [ph. C. and J. Winstanley*]. eB. Third spring record and first record for *Middlesex* County.

Mountain Bluebird (Sialia currucoides) [1,8,8]

2013-012: 1 male at Field Farm, Williamstown, *Berkshire*, 4/28/2013 to 5/2/2013 [† ph. I. Davies, G. Hurley*]. First record for *Berkshire*.

Townsend's Solitaire (Myadestes townsendi) [2,17,17+]

- 2011-068: 1 at Jackson Point, Madaket, *Nantucket*, 10/21/2011 to 10/22/2011 [ph. P. Trimble*, ph. V. Laux]. eB.
- 2012-147: 1 at Old Dewline Rd., Truro, *Barnstable*, 10/20/2012 to 10/21/2012 [P. Brown*, ph. J. Hoye, ph. R. Stymeist]. eB.

Varied Thrush (*Ixoreus naevius*) [1,11,11+]

2013-031: 1 at Randall Rd., Rochester, *Plymouth*, 2/17/2013 to 2/18/2013 [ph. Jennifer Kingman]. eB.

Yellow-rumped Warbler (Audubon's) (Setophaga coronata auduboni) [3,6,6+]

- 2012-095: 1 at High Head, Truro, *Barnstable*, 11/4/2012 to 11/12/2012 [ph. B. Nikula*, ph. J. Trimble]. eB.
 - 2012-148: 1 at Cuttyhunk Island, *Dukes*, 11/25/2012 [ph. I. Davies*]. eB.



Cassin's Kingbird, Cherry Hill Reservoir (Photograph by Erik Nielsen)

2012-094: 1 at Boston Public Garden, Boston, *Suffolk*, 11/29/2012 to 12/6/2012 [v. M. Garvey, G. Fabbri*, ph. M. Iliff, ph. R. Schain., ph. R. Stymeist*, ph. J. Trimble]. eB. First record of subspecies for *Suffolk*.

Townsend's Warbler (Setophaga townsendi) [2,15,17]

2013-027: 1 at Squam and Wauwinet Rd., Wauwinet, *Nantucket*, 5/5/2013 [ph. K. Blackshaw*]. eB.

2013-36: 1 at Valley View Circle, Amherst, *Hampshire*, 11/21/2013 [ph. B. Brooks*, † S. Surner]. First record for *Hampshire*.

Harris's Sparrow (Zonotrichia querula) [1,7,17+]

2013-021: 1 at Maple St., Wenham, Essex, 11/28/2013 to 3/16/2014 [† ph. B. Busby*]. eB.

Painted Bunting (*Passerina ciris*) [3,11,11+]

2011-100: 1 female/immature at Fort Hill, Eastham, Barnstable, 11/26/2011 to 11/27/2011 [† ph. E. Labato*]. eB.

2011-093: 1 female/immature at Shore Drive, Eastham, *Barnstable*, 12/18/2011 to 2/20/2012 [J. Sweeney*, V. Zollo*, ph. R. Schain, ph. J. Trimble]. eB.

2013-035: 1 at Pine Hills, Plymouth, *Plymouth*, 5/15/2013 to 5/16/2013 [ph. K. Doyon]. eB.

Bullock's Oriole (*Icterus bullockii*) [1,7,15+]

2013-38: 1 male at Carriage Dr., Chelmsford, 12/16/2013 to 1/20/2014 [ph. R. Schain, J. Smith*].

RECORDS NOT ACCEPTED

Swainson's Hawk (Buteo swainsoni)

2013-017: 1 at Hanscom Field, Concord, *Middlesex*, 5/18/2013 (2nd round, 0-9). Committee members cited the failure to rule out some even rarer species (e.g., Short-tailed Hawk) and some inconsistencies among the multiple reports that gave them pause accepting it, even though many agreed it probably was a Swainson's. This species is rare in spring in the Northeast, although there are a handful of well-documented records from April–June.

Rufous Hummingbird (Selasphorus rufus)

2012-145: 1 adult male at Pochet, East Orleans, *Barnstable*, 8/14/2012 to 8/15/2012 (3rd round, 5-4). Accepted as Rufous/Allen's (see accepted Rufous/Allen's Hummingbirds above 2012-145)

Allen's Hummingbird (Selasphorus sasin)

2012-112: 1 adult male at Pilot Hill, Vineyard Haven, *Dukes*, 11/29/2012 to 1/24/2013 (3rd round, 5-4). Accepted as Rufous/Allen's (see accepted Rufous/Allen's Hummingbirds above 2012-112).

Western Kingbird (Tyrannus verticalis)

2013-028: 1 at North Sheep Pond Rd., Madaket, *Nantucket*, 5/17/2013 (2nd round, 0-9). Accepted as "yellow-bellied" Kingbird.

Chestnut-collared Longspur (Calcarius ornatus)

2013-022: 1 at Nauset Heights, East Orleans, *Barnstable*, 6/15/2013 (3rd round, 5-4). A forthright submission that had the committee looking at specimens from 20 feet, sans binoculars, to mimic the observer's experience. Enough committee members felt uncomfortable that a Lapland Longspur (*Calcarius lapponica*) or perhaps even a Bobolink (*Dolichonyx oryzivorus*) could be ruled out given the distance, although the description and date were strongly suggestive of Chestnut-collared.

Western Tanager (Piranga ludoviciana)

2013-37: 1 at Indian Hill Rd., Chatham, *Barnstable*, 10/9/2013 (2nd round, 0-9). Committee members agreed the photos revealed a Scarlet Tanager (*Piranga olivacea*), albeit a rare individual with faint wing bars.

Lazuli Bunting (Passerina amoena)

2013-020: 1 at Honey Pot, Hadley, *Hampshire*, 10/2/2013 (2nd round, 4-5). A great excuse for the committee to study lots of skins, solicit expert opinions, and realize how difficult it can be to separate some Lazulis from Indigo Buntings (*Passerina cyanea*). Although well-photographed, the Committee felt the photos were inconclusive.

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Chasing Shearwaters

Dave Wiley

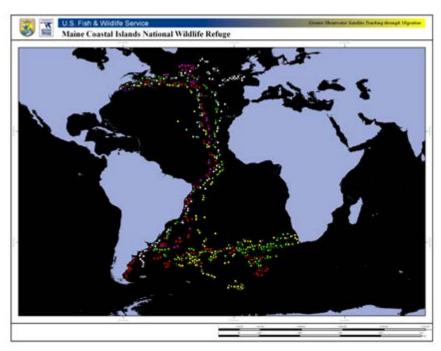


A Great Shearwater waits for a squid to be thrown. (Photo: SBNMS/Ari Friedlaender)

First, I have to admit that Great Shearwaters are my favorite seabird. Maybe it's because when I first moved to the Massachusetts coast, their distinct dark cap, white neck, and brown back made them one of the first pelagic birds I could identify. Second, for a kid from upstate New York raised with robins, crows, and deer, the sight of hundreds of Great Shearwaters—each with a four-foot wingspan—cavorting among 30 humpback whales is a sight that can only inspire awe. So for the past 30 years I have been studying whales (sorry, bird people). But Great Shearwaters have always remained close to my heart.

How can you not love a bird of perpetual summer? Leaving their remote breeding colonies in the South Atlantic's Tristan da Cunha archipelago in April, they make their way up the eastern side of the Atlantic Ocean and appear in the Stellwagen Bank National Marine Sanctuary (SBNMS) and the rest of the Gulf of Maine in May or June. By October and November they are traveling across the Atlantic to the African coast. They ride some good winds to Brazil and then head back to their breeding colonies. There, each pair tends a single, large white egg that hatches after approximately 55 days. Young are cared for by both parents, who forage by day and return to their nesting burrow at night.

In both the northern and southern hemispheres, shearwaters feed on small schooling fish, squid, or krill that they catch by diving through the surface and swimming underwater using their feet and wings for propulsion. Information from



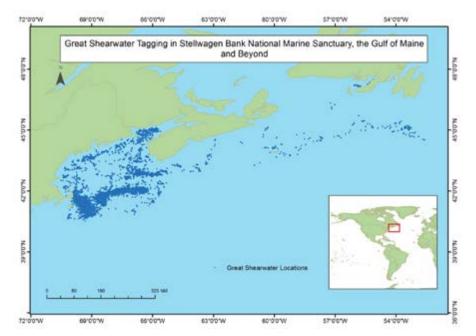
Great Shearwater World Map

two Great Shearwaters wearing time/depth recorders (TDRs) in the southern oceans suggest their feeding dives can reach 62 feet, but most dives were to depths of less than 6 feet. This must be a good system as Great Shearwaters are considered one of the most abundant birds on the planet with a population of around 15 million.

If this sounds like we know a lot about Great Shearwaters, we don't. Their open ocean life and remote breeding colonies make them tough customers when it comes to research, and what we do know comes from very small data sets.

The best way to investigate elusive marine life, such as whales and seabirds, is with technology. For the past 20 years I have been studying whales using computerized tags that track animal movements and behavior, so when I turned my attention to shearwaters I naturally thought of doing something similar with them.

Satellite tracking of bird movements is a proven technology. It involves attaching a Platform Terminal Transmitter (PTT) that sends messages to a constellation of the National Oceanic and Atmospheric Administration's (NOAA) polar satellites orbiting the planet. This system of satellites is called the Advanced Research and Global Observation System (ARGOS) and allows the tagged animal to be located anywhere in the world, a clear advantage if one wants to study animals like shearwaters whose habitat spans the open ocean of the northern and southern hemispheres. How accurately ARGOS can position the tag/animal depends on a number of factors, but it can be within 492 feet of the actual location. However, the knowledge that PTT tags would



Map of Great Shearwater summer (July–September) habitat use in 2013. Dark blue points are ARGOS derived bird locations. Areas of heaviest use were the Great South Channel and Eastern Georges Bank, but bird travels as far as Labrador and the Grand Banks. Map courtesy of NOAA/SBNMS.

be the most expeditious way to study shearwaters also revealed some immediate problems: 1) 20 years of using telemetry to study whales does not mean much when it comes to birds, and 2) unlike whales, birds can fly.

Fortunately, my problems were solved by meeting Linda Welch of the U.S. Fish and Wildlife Service and Andrew Allyn, a doctoral candidate at the University of Massachusetts at Amherst, who was studying shearwaters as part of his dissertation work. Linda has used satellite tags to track everything from eagles to razorbills, and Andrew has investigated seabirds from Maine to Alaska. With little encouragement and no money, they both agreed to fit our project into their busy schedules.

Our first year, 2012, ended with mixed results. On the plus side, Linda and Andrew excel at capturing shearwaters. They taught our team how to bait the birds using squid close to our sanctuary research vessel, and then to scoop the birds up with a net. Once captured, each bird was weighed to make sure it was large enough to carry a PTT. The basic rule is that a transmitter cannot exceed 3% of a bird's body weight. Since our tags weighed 28 grams, or slightly less than an ounce, a bird needed to weigh 950 grams—about two pounds—to be fitted with a transmitter.

Our first bird weighed in at 750 grams, the second was a bit less. Eleven birds and two days later we returned to port with the largest bird having weighed 880 grams. Not a single bird had been large enough to carry a transmitter. Later that summer, Linda

was able to deploy all the satellite tags on shearwaters captured off the coast of Maine and track them all the way to the southern hemisphere.

However, that did not mean that our time on the water had been a total loss. We had previously recruited Les Kaufman of Boston University to collaborate with us to examine the food habits of shearwaters through stable isotope analysis (SIA). SIA offers a quantitative way of examining food web interactions by looking at the isotopic signature contained in the small samples of blood and feathers that we had collected from each bird. From these we will eventually be able to make inferences about the birds' diet composition, trophic position, and food web interactions.

July 2013 found us back on the water, this time carrying 15-gram, or slightly more than half an ounce, solar charging PTTs made by Microwave Technology. The lighter tags meant we could place transmitters on birds as light as 500 grams—just about 1.1 pounds. Within two days, we had attached tags to 11 Great Shearwaters and released them to roam the Gulf of Maine.

I immediately became an ARGOS junkie, logging onto the data site daily to track the location of the birds, each named for a town that borders the Stellwagen Bank Sanctuary. Because tag longevity is largely determined by battery life, scientists typically pick a duty cycle that will have tags transmit for only a portion of the day. In that way, battery life is increased. The downside is that fewer transmissions result in fewer bird locations. Since our objective was to study fine scale habitat use in the Gulf of Maine, and the Sanctuary in particular, we chose to let our tags transmit continuously, providing the highest resolution data possible.

It quickly became obvious that when it comes to shearwaters, all parts of the Gulf of Maine are not created equal. In 2013, the animals were practically shunning the Sanctuary, a historic shearwater hot spot, and spending much of their time in the Great South Channel east of Chatham and Nantucket. Our research into sand lance in the Sanctuary provided a possible explanation for the birds' absence. Sand lance are a key food resource in the Sanctuary and our surveys, conducted in collaboration with the U.S. Geological Service, found very few of these fish in their traditional locations. It seemed that few sand lance equaled few shearwaters.

In October 2013, the last of our transmitters ceased functioning, leaving us with a unique data base and the need to expand our scientific collaboration. Kevin Powers of SBNMS joined the team to use state-space modeling techniques to investigate habitat use, while Josh Hatch and Kimberly Murray of the National Marine Fisheries Service's Northeast Fisheries Science Center used the same technique, combined with fisheries dependent data, to investigate patterns of bycatch in commercial fishing gear.

Kent Hatch of Long Island University's C.W. Post Campus joined us to investigate food habits using SIA from exhaled gas. SIA from feathers and blood samples provides feeding information dating back months and weeks respectively, whereas SIA from exhaled gases can provide information on what the birds have been eating in the last few days. In this way, we could get a continuum of feeding habits ranging from days to months.



A Great Shearwater breathes into a chamber for sampling exhaled gas. Gases are used to investigate food habits through Stable Isotope Analysis. (Photo: SBNMS/Anne-Marie Runfola)

In July of 2014 we were once again on the water and placed continuously transmitting solar PTTs on 12 new birds. These birds were the most robust of the past three years, with an average body weight of 942 grams, or about two pounds; and they immediately started using the Sanctuary, where our surveys were finding increased numbers of sand lance. In addition to our past suite of data, Kevin Powers began tracking the molt patterns of birds while Kent Hatch and his graduate student began digitizing wing shapes for use in computerized flight models and as an aid to standardizing our body mass data.

Travis Horton from the University of Canterbury in New Zealand joined the team, using our long-distance movement data to explore the secrets of bird navigation. Eleven of our twelve birds were still transmitting their location as of this writing in September 2014. The bird named Sandwich had already left the Gulf of Maine, flown past Africa, and was off the coast of Uruguay headed back for mating, nesting, and chick rearing on one of those remote Tristan Islands, repeating a cycle that has gone on for thousands of years. Birds Volgenau2 and Duxbury were following close behind.

Birds Brewster, Quincy, Wareham, and the others are still around the Gulf of Maine. These birds are probably juveniles staying longer to get extra time to feed, a pattern that also dates back through time.

While all would seem well in shearwater world, history tells us to be cautious. We all know the tragic story of another superabundant bird that bred in large colonies and laid only a single egg; and this year we "celebrate" the 100th year of Martha's passing—the last Passenger Pigeon.

While Great Shearwaters are abundant, each year tens of thousands are incidentally caught and killed in the world's commercial fishing gear. Since we

know so little about their social behavior, we do not know if those deaths reverberate through the reproductive ecology of the species. It has been suggested that Passenger Pigeons needed huge aggregations to successfully breed; given that Nightingale Island is home to approximately 5 million breeding pairs, the same might be true of Great Shearwaters.

Seabirds that nest in underground burrows are highly vulnerable to the introduction of rats or other non-native predators, and one can only imagine the results of such predators on an island with 5 million food morsels.

Plastic ingestion is also a potential issue. Each square kilometer of ocean can contain more than 13,000 pieces of floating plastic, and one study found that 95% of the Great Shearwaters sampled had plastic in their stomachs. The impact of such plastics ingestion is not known, but unlikely to be positive.

In addition, changes in prey type or abundance caused by climate change or commercial removal are wild cards of unknown potential, as are climate-induced changes to the wind patterns shearwaters depend on for movement across the oceans. If we and future generations are to be treated to the sight of shearwater flocks wheeling through the ocean, wing tips inches away from the waves, we will need to understand how these birds live and die.

If we are to maintain healthy oceans and viable ecosystems filled with an abundance of diverse species, we are going to need even more data about how the animals that fill our waters interact with each other and ourselves.

The mission of NOAA's Office of National Marine Sanctuaries, which includes the Stellwagen Bank National Marine Sanctuary, is to provide protection for our living resources while promoting compatible human use. Our science team and collaborators are committed to providing data that meet that mission.

Dr. Dave Wiley is the Research Coordinator for the National Oceanic and Atmospheric Administration's Stellwagen Bank National Marine Sanctuary. He is the recipient of numerous honors, including the U.S. Department of Commerce's Gold Medal for Scientific Leadership, the Society for Marine Mammalogy's award for Excellence in Scientific Communication, and an Ian Axford (Fulbright) Fellowship in Public Policy. His research has appeared in scientific journals ranging from Animal Behaviour to Conservation Biology.

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PHOTO ESSAY

Tagging Shearwaters

by Dave Wiley and Anne-Marie Runfola



Linda Welch (USFWS) attempts to net a Great Shearwater. (Photo: SBNMS/D. Wiley)



Linda Welch brings a Great Shearwater aboard the Stellwagen Bank National Marine Sanctuary's RHIB *LuNa* for transport back to the R/V *Auk*. (Photo: SBNMS/D. Wiley)



Andrew Allyn and Kevin Powers weigh a captured shearwater in a bag. (Photo: SBNMS/Anne-Marie Runfola)



D.Wiley, Peter Hong (Long Island University) and Andrew Allyn take wing measurements to be used for flight modeling and standardization of body mass data. (Photo: SBNMS/Anne-Marie Runfola)



Linda Welch (USFWS) attaches a 15 g solar PTT tag to the back of a Great Shearwater. (Photo: SBNMS/D. Wiley))



Anne-Marie Runfola (SBNMS) prepares to release a Great Shearwater. (Photo: Boston University Marine Program)



A Great Shearwater makes off with a piece of squid without being captured, a regular occurrence. (Photo: SBNMS/D. Wiley)

A Young Birder's Summer

Jeremiah Sullivan



Group under attack by seabirds at Eastern Egg Rock Island (Photograph by Gabriel Mapel)

This summer I was fortunate enough to participate in two summer programs for teens interested in pursuing their passion for birds: the Coastal Maine Bird Studies for Teens at National Audubon's Hog Island Camp in Bremen, Maine, and Cornell University's Young Birder's Event in Ithaca, New York. We hailed from Maine and California and Colorado, from Georgia and Massachusetts, and from Canada and Guatemala and India, but as teenage bird enthusiasts we shared the same wonder and fascination in the natural world.

At Hog Island we started our mornings with the Mystery of the Day, a three-question quiz. We received the answers during dinner, which we ate family style with the instructors and other campers. Afterward we attended lectures on bird conservation, bird migration, identifying female warblers (*Taking the Sexism Out of Birdwatching*), and the reintroduction of Atlantic Puffins to Eastern Egg Rock, which was given by Stephen Kress, the man who succeeded in turning the island from a gull colony into a thriving puffin and tern colony.

For brave souls, Hog Island offered the opportunity to record the dawn chorus, which required us to be outside by 4:15 am! I recorded Black-throated Green Warblers, Northern Parulas, and Song Sparrows, but my favorite recording was one of the most common "birds"—a red squirrel gnawing on a branch. Till then I had not appreciated

how greatly the shotgun microphone amplified sound. I could hear every bite! Later on we used our microphones to listen from over a thousand feet away to a thrush singing on the mainland.

One afternoon we participated in a birdbanding demonstration led by Sarah Morris, the secretary of the American Ornithologists Union and a licensed hummingbird bander. Calling birds into the nets with a playback recorder, we lured in Northern Parulas, Black-throated Green Warblers, and Golden-crowned Kinglets. At one point we nearly called in one of the Merlins that were nesting across from our cabin.

Naturally we spent plenty of time birding from the blueberry barrens on the mainland—where Vesper and Savannah Sparrows hopped among the exposed rocks and shrubs—to the island, with its Golden-crowned Kinglets, Red-breasted Nuthatches, and a handful of other conifer-loving species including Blackburnian Warblers. Boating Muscongus Bay yielded Great Blue Herons perched on the edges of rocky islands with Common Loons, harbor seals and ever-present Black Guillemots foraging just offshore. At one point we found a raft of sea ducks composed of all three scoters and the ubiquitous Common Eiders. The skies above were filled with Laughing, Herring, and Greater Black-backed gulls. Ospreys and Bald Eagles soared overhead, keeping their sharp eyes trained on the waters below in the hope of prey. But doubtless our biggest highlight was Eastern Egg Rock.

Landing on Eastern Egg Rock was amazing! We landed in small groups by dory. As we pulled onto the slick, seaweed-covered rocks among a cacophony of seabird calls, we were helped onto higher ground by the interns, who man the seven-acre island over the course of the summer. After a brief introduction we followed them up narrow trails that wound around the nests of terns and Laughing Gulls. Despite the best efforts of the nests' occupants, we made it to the research shed only slightly worse off than when we had started. Once at the shed we were split into two groups. One group went off to monitor the burrows of puffins and guillemots from the series of small, rectangular bird blinds that surrounded the island. My group remained to speak with the interns and watch the abundant seabirds.

While most of the other campers climbed up to bird from the research shed's roof, I and a few others helped repair a bench and talked to the interns for a little while. When we went up to the roof, we were completely unaware that a pair of Common Terns felt very possessive of what they considered to be their half. I walked over to the empty patch of roof, sat down, and threw both legs over the side. No sooner had I done this than the terns began to dive at me, again and again, until I finally retreated from their territory. After this incident, every time one of us stood up to use the scope, the birds began to harass us until we sat back down.

From our vantage point on the roof we enjoyed excellent eye-level looks at all the breeding seabirds and the local Song and Savannah sparrows, plus a distant view of a pair of Razorbills. Common, Arctic, and Roseate terns flew swiftly by us, intent on gathering food, returning to their nests or mobbing a potential predator. Atlantic Puffins and Black Guillemots, so at ease bobbing on the water, floundered awkwardly through the air to and from their burrows. The Laughing Gulls possessed a variety of calls

ranging from a short chuckle, to the long cackle from which they take their name, to what sounded almost like a mewl. They interacted affectionately with their mates, often tapping bills, preening each other, and calling softly.

After lunch the groups switched places. Now in a bird blind overlooking a pair of puffin and guillemot burrows, I was assigned to watch and record any activity around the nest site. Though my particular nests had little activity, it was amazing to watch puffins and guillemots loafing around on the rocks with a Spotted Sandpiper popping in and out of the grass next to me, and terns darting past me to reach their nests.

After bidding farewell to Eastern Egg Rock, we cruised back to Hog Island giddy with excitement, listening to the calls of gulls and terns fading steadily into the



The Queen Mary houses the Specimen Lab and Adult Campers (Photograph by Gabriel Mapel)

background. Although I would enjoy the remainder of my stay at Hog Island, nothing else equaled my time among the puffins.

Arriving at Cornell, I walked into the Lab of Ornithology and a lobby filled with fellow attendees and their families. After checking in, I was presented with a gift bag that included a tremendous gift from Zeiss, one of the event's sponsors: Zeiss Terra ED 8 x 42 binoculars!

Striking silhouettes of birds, like those in a *Peterson Field Guide*, are painted on the white lab walls except

these are all life-sized, from minute hummingbirds to a California Condor; a pair of Pyrrhuloxia flitted in a towering saguaro cactus. During mealtimes we had the pleasure of eating with professors and graduate students from different fields in the study of birds: ecology, biology, ornithology. The nightly lectures included bird conservation, graduate studies on bird migration, and breeding bird behavior.

One of the most popular activities was the tour of Cornell's specimen collection. After a short look in the preparation room, the genetics lab, and the collections of fish, amphibians, reptiles and mammals—which included a fetal dolphin surgically sliced in half—we arrived at the area everyone was most excited about: the collection of birds. With an hour to freely peruse the collection, we were like kids in a candy store, with everyone rushing from cabinet to cabinet, peeking inside in the hopes of finding a particular species, but more often than not, finding themselves distracted by a different one they had found, or one someone else found, or one someone else was looking for.

I started out going methodically from cabinet to cabinet with my friends Rahul, from Utah, and Eric, from Washington. I found my Southern Giant Petrel; Rahul found his Common Loon, rare in his home state; and Eric his Lyrebird, which proved to be a crowd favorite. Rahul and I were surprised by the size of our birds. The petrel was a





Rahul with Common Loon Specimen at Cornell Lab of Ornithology; Eric and Ornate Hawkeagle (Photographs by Jeremiah Sullivan)

full three feet in length and far stockier than the neighboring albatrosses I had the opportunity to handle.

The Common Loon that Rahul held was just as massive. They look so much smaller in the water, but outside of their preferred environment the loon's full size could be fully appreciated as well as how the breastbone—shaped like the keel of a ship—jutted out from the sizable body. We became more and more determined to see everything of our particular interest, including my Siberian Jay, a relative of our Gray Jays and similarly adapted to handle its demanding environment, Eric's Ornate Hawkeagle, and Rahul's Boat-billed Heron.

As on Hog Island, we recorded birdsong. We were listening to Black-throated Green Warblers, chickadees, White-breasted Nuthatches and other common birds on Hammond Hill, when our instructor, Matt Medler, heard a soft cooing sound. He immediately identified it as a Yellow-billed Cuckoo. We cautiously approached the bird, trying to get within recording range (the quiet cooing is often difficult to record from a distance) while also trying to avoid spooking it. Managing to get beneath the bird but unable to see it, we got some good recordings. From there, we went on to record Mourning Warbler, Winter Wren, and Common Yellowthroat, with particularly good views of the warblers.

We took the recordings to the Macaulay Library where workers demonstrated how they are categorized. They showed us the ideal range of vocalizations on a bar graph and how a recording can be edited to improve sound quality. Too high or too low vocalizations record poorly, becoming grainy or buzzy. Back at Hammond Hill we had some great species. Indigo Buntings were singing from atop pine trees and Eastern Towhees were foraging in the brush alongside the ubiquitous Common Yellowthroats, all of them under the shadow of a pair of Broadwinged Hawks.



Winter Wren at Hammond Hill State Forest (Photograph by Eric Heisey)

We followed a trail into open woodland. The stream that had been beside the path when we started our hike began to carve its way deeper and deeper into the earth. It wasn't long before it had formed a canvon at least 40 feet deep and 20 feet wide. The swiftly moving water reflected the dappled sunlight that penetrated the trees. We stopped at one point to roll over logs to reveal brightly colored red efts, eastern newts in their terrestrial phase of life. Since eastern newts are aquatic and do not do well with predatory fish, they rely on the poisonous efts' journey over land to colonize suitable habitats.

A short distance away, near the edge of the canyon, I found black and grey feathers with many white spots and some vertebrae lying on the ground. After a brief discussion we concluded the feathers were those of a guinea fowl, probably from one of the nearby farms. Since we could find no tracks, we decided the predator must have been a hawk or an owl.

Farther into the woods I spotted a Canada Warbler flitting a few feet off the ground among the trees and shrubs adjacent to the gorge. I sat down on a spit of land near the warbler. From my new blind I had excellent looks as the warbler foraged for caterpillars on the side of the canyon, sometimes actually dipping down to feed below me. I invited Eric, who practices photography, to join me as there was still plenty of room and good views. After getting some photos of the warbler, Eric excitedly pointed out a Winter Wren below us. The wren flew to a perch four feet from us at eye level and started singing right then and there! It stayed for at least a minute, giving me the best looks I have ever had of a Winter Wren.

We left Hammond Hill and birded all around Cayuga Lake. One spot yielded a family of Red-headed Woodpeckers, and another a Cerulean Warbler and a Yellow-throated Vireo. Closer to the water we saw a flock of Caspian Terns diving and making splashes so great that they reminded me of the Northern Gannets we get off the coast in winter. A pair of Upland Sandpipers cautiously foraged on a farmer's field.

Of all the locations we birded, nothing surpassed Montezuma National Wildlife Refuge. Located at the northern tip of Cayuga Lake, Montezuma is almost 11 square miles of wetlands with a huge diversity of marsh birds. We drove slowly into the

refuge, a cattail marsh on either side of us. We hadn't gone far before a flock of Caspian Terns lazily flew past us on the right, while to our left a pair of distant Sandhill Cranes flew farther afield, and a huge flock of Tree Swallows seethed on a bed of reeds.

Black Terns regularly flew overhead, and it wasn't long before someone spotted an American Bittern partially concealed in a stand of cattails bordering a pool to our right. Nearby, some Common Gallinules gave their laughing call from within the reeds. As I searched for the gallinules, a cry of "Least Bittern" sounded behind me. Turning around, I could see a single bird flying swiftly and directly over the left side of the marsh before diving to cover. Over the course of that part of the morning at least 10 other bitterns flew above us, some less than 20 feet above our heads!

As we moved forward the marsh began to cede ground to Black Lake on our left. In the lake, families of Common Gallinules and Pied-billed Grebes swam out in the open, the parents too preoccupied with feeding their chicks to care about our presence. On top of the ever-present muskrat lodges, families of American Coots and Canada Geese relaxed. Only a short distance down the path, eight Bald Eagles milled about, perching on muskrat lodges and dead stands of cattails, occasionally exerting themselves and soaring above the marsh. Beneath their shadows the fins of carp broke the water's surface frequently, and a look in the scope yielded a Trumpeter Swan sitting on the far shore. As on Eastern Egg Rock Island, the abundance of birdlife at Montezuma made a deep impression on me.

Cornell and Hog Island allowed me to see amazing birds in new and beautiful locations while introducing me to birders my age from across the globe. I am still in contact with many of these new friends. From the Cornell group, Rahul and I keep each other posted on our birding adventures; and Daniel, from Guatemala, and I have bunking rights at each other's homes should we ever travel nearby. The group from Hog Island exchanges emails regularly, and we've kept one another updated on our summer activities. Will, from California, has been helping to lead pelagic boat trips and Sam, from Massachusetts, told us about the Black Hawk and California Condor she saw on her trip to Arizona.

At home I would never have had the chance to experience many of the activities we participated in, and I know that I am not the only person who felt that the exposure to the recordings, specimens, field sites, and instructors further confirmed a desire to study and work in the field of ornithology.

Jeremiah Sullivan is a seventeen-year-old homeschooled junior from Byfield, Massachusetts. Along with spring and fall birdbanding on Plum Island, he regularly volunteers at Mass Audubon's Joppa Flats. He got his start birding with the Brookline Bird Club and Menotomy Bird Club. He looks forward to attending college where he will develop the skills to help him in a bird-related career.

Introducing the Massachusetts Young Birders Club

Jonathan Eckerson



The Massachusetts Young Birders Club (Photograph courtesy of the author)

The MYBC is a new club that was launched in February 2014. The real push for a young birders club in Massachusetts started after I found several other young birders through Flickr and we made a group there to share ideas and make plans. We tried to find more young birders interested in the idea and used the great resources that the Cornell Young Birders Network has to offer to fuel more ideas and plans.

In July we made our own website and had our first field trip to Mass Audubon's Daniel Webster sanctuary. Ten young birders attended and we had a great time afield. The weather was beautiful and we found some great birds, including Willow Flycatcher, Northern Waterthrush, and Cliff Swallow. We also had an adventurous bird-filled field trip to Cuttyhunk Island at the end of September. Some of the highlights from that trip included three species of falcons—Kestrel, Merlin, and Peregrine—along with Eastern Kingbird, Cape May Warbler, and much more. You can read more about fields trips on our website: http://massachusettsyoungbirders.weebly.com/

We now are planning more field trips, and are working to get more members and add learning and conservation opportunities to the benefit of joining. Our club's goals are:

- To bring together the young birders of Massachusetts in a friendly and supportive atmosphere.
- To host field trips to birding hotspots.
- To encourage learning opportunities through the website and in the field.

Some MYBC members

What has been special about starting the MYBC is that it has been a group project where many contributors got excited and jumped right in with website design, blog posts, and trip ideas. Here are brief biographies of the founding members.

Jonathan Eckerson is sixteen years old and lives in Dighton. He has always loved nature and the outdoors, but didn't become a serious birder until 2010. He has been birding actively ever since. He now goes birding almost every day, mostly around his house, and he tries to upload all of his sightings to eBird. Some of his special ornithological interests include migration, nocturnal flight calls, and Neotropical birds. He also loves nature photography and drawing and is working to get better at both.

Davey Walters is a fourteen-year-old who has been birding since he was an infant on his father's shoulders. To fuel his intense attraction to anything ornithological, he has curated a collection of more than 70 bird books. He also enjoys photography. "I am so blessed to have a very supportive family, and Lord willing, I hope to continue birding for fun and perhaps birding for work the rest of my life."

Miles Brengle started birding at the age of five and began to further follow his interest a few years later as he learned more and more about the birds around him. With the aid of a mentor who shared the same passion for birds, he quickly expanded his birding horizons and continues to do so. He enjoys birding in Maine often, in the boreal forest or at the seabird colonies along the coast. Miles has watched and photographed birds in several states. He looks forward to more travel adventures and the birds that come with them.

Liam Waters is an eighteen-year-old birder from Sharon. He has loved getting out in nature for almost all of his life, and has gone through phases of trying to learn to identify almost all the different categories of flora and fauna. Although he became interested in birds when he was eight, he didn't become a diehard birder until 2011 when he hit the ground running and hasn't stopped since. An avid eBirder since 2012, he loves knowing that all of his sightings are being used for science, as well as all the services that eBird provides for finding birds.

Evan Lipton is a nineteen-year-old birder and photographer from Milton. In addition to three years of birding in Massachusetts and the rest of New England, he has traveled to New Zealand and Australia. He has always been interested in all aspects of nature and has been drawing in pencil from a young age. He started birding at the age

of sixteen. He is also passionate about graphic design and teaching others about nature through leading walks, writing, and photography. His favorite aspect of the natural world is getting to know a place intimately, sitting in one spot for hours observing all of the creatures that use it. .

MUSINGS FROM THE BLIND BIRDER

Taking Steps for Bird Conservation

Martha Steele

This year marks the 25th year since I began birding. When I started birding, I could see birds but not hear them. Today, I can hear birds but not see most of them. The shift from birding by sight to birding by ear has reinforced my worldview to embrace what I do have rather than lament what I do not have. Just because I cannot see does not mean that I cannot enjoy birding, especially the company of those with whom I bird, or contribute to the conservation of birds. When I hear a bird sing, I often speak softly to the bird, creating my own personal connection. I think of its journeys and challenges, natural and man-made, that this specific individual faces during its lifetime, and I cannot help but be in awe. My awareness of bird vocalizations and habitats has heightened in the absence of vision and driven me to take small steps to help birds.

One of my personal heroes in the bird conservation world is Scott Weidensaul, who writes and speaks with passion and conviction informed by solid science on small steps that birders can take. Bob and I heard Scott talk about the Smithsonian Migratory Bird Center (SMBC) Bird Friendly certified coffee program, the gold-standard certification program for shade grown coffee. As a result, we switched our coffee to an SMBC certified brand (Birds & Beans) and started a buying group of about 40 households in our local area that now orders approximately 900 pounds of SMBC certified coffee a year. The benefits of this linkage between conservation and the marketplace have been documented in many scientific studies. *How Green is Your Coffee?*, a recent post on the Scientific American website, highlights how traditional coffee farms, such as those certified by SMBC, are helping to preserve biodiversity and have far less topsoil, infrastructure, and produce loss during severe weather events (Huizen and ClimateWire 2014). Our coffee group epitomizes the concept of "Think globally, act locally."

Participation in bird surveys, most notably the Christmas Bird Count (CBC), is another important contribution we make to bird conservation. Birding is somewhat unusual in the scientific world in that amateurs participating in bird censuses or reporting their sightings are vital contributors to better understanding bird population trends and distributions. The launch in 2002 of Cornell Laboratory of Ornithology's eBird has provided a central database not only for an individual birder to track his or her bird sightings in a system that is easy to query, but for researchers to mine the data for potential conservation interventions. Having a central electronic database with data on bird sightings that include dates, numbers, environmental conditions, and other variables can be a tremendous resource for conservationists worldwide, never mind helpful and fun to the individual birder.

There are other small steps that we can consider. Planting native species or fruiting trees in our lands or backyards will help birds. Organizations such as state fish and

wildlife agencies or land trusts have many resources available to help landowners develop land management practices designed to enhance and diversify habitat for birds. For example, Bob and I have property in northern Vermont that has about 110 acres of northern hardwood forest under a conservation easement with the Vermont Land Trust. Our forest management plan has a heavy emphasis on increasing bird diversity and habitat on the property. This can include creating small openings in the forest for such birds as the Black-throated Blue Warbler, or plantings along the forest edge to attract edge species, such as Mourning Warbler. Any piece of property anywhere, be it a small backyard or a large swath of land, can be planted with native trees or shrubs that benefit birds.

Support of nonprofit conservation organizations, particularly those focused on birds, is also worthy of consideration. Whether it is your local Massachusetts Audubon Society sanctuary (54 in Massachusetts) or program (e.g., Important Bird Areas), the Manomet Center for Conservation Sciences, or a national organization like the American Bird Conservancy (ABC), your support of your favorite organizations or bird conservation projects is a small step to help birds. I mention ABC because of its impressive track record on bird conservation. Given the highest rating possible four stars—by an independent charity rating service (Charity Navigator), ABC sees itself as "relentlessly driven to turn the dial positively for birds" (ABC 2013 Annual Report). It works to protect habitats for endangered species, enhance management practices of grassland habitat in the United States, advocate against use of pesticides that threaten birds, encourage cat owners to keep their cats indoors through their Cats Indoors Program, and promote its Bird Friendly Building Design program to reduce the number of birds killed by building collisions. Another major bird conservation effort is supported by the Boreal Songbird Initiative, which released a report calling for the protection of half the boreal forests of North America (2014). The report cited data showing that boreal bird species require expansive, landscape-scale habitat conservation in large, interconnected protected areas to maintain healthy populations.

When it often seems like we are being bombarded by negative or trivial news or information, we can easily convince ourselves that there is nothing we can do given the enormity of problems that need to be addressed. I beg to differ. Non-profit organizations focused on bird conservation have implemented many programs saving habitats for and lives of birds. Our little coffee buying group in the Arlington area is conserving acres of bird friendly habitat in coffee growing regions in the Americas. And our reports of bird sightings are helping scientists and conservationists alike to better understand bird ecology to make more informed conservation decisions.

So, the next time you step outside to look for birds, think about taking a small step or two to help our birds. Whether it is volunteerism or financial support, our collective positive steps are critical to our continued enjoyment of birds. Besides, it feels so good to help on an issue we all care very deeply about. Remember, "Think globally, act locally." Good birding!

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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.

STATE OF THE BIRDS: MIXED MESSAGE

Birding Community E-bulletin

Previous editions of the national "State of the Birds" report have had specific themes (e.g., public lands and waters, climate change, and birds on private lands). This year, the fifth report from the U.S. Committee of the North American Bird Conservation Initiative (NABCI), a 23-member partnership, is a little different.

This year's report, released last month, offers a comprehensive review of long-term trend data for U.S. birds. The report draws attention to a "Watch List" of 228 high-concern species as well as 33 common bird species in steep decline and in need of immediate conservation assistance.

At the same time, the report reveals that in areas where a strong conservation investment has been made, bird populations do recover which suggests that investments in monitoring, research, and smart land-management will pay for themselves.

The report and other information on this State of the Birds can be accessed from this page:< http://www.stateofthebirds.org/>

You may also wish to listen to a short and informative report from National Public Radio (9 September) on the report here: http://www.npr.org/2014/09/09/347131720/u-s-gets-middling-marks-on-2014-state-of-birds-report-card

http://refugeassociation.org/2014/10/the-birding-community-e-bulletin-october/

GLEANINGS

Bugging the Birds: Tracking Individuals Through Migration

David M. Larson



Wood Thrush (Photograph by Peter Oehlkers)

Marking birds in an attempt to determine their migratory dynamics has a long history in ornithology. However, classical techniques such as banding require marking large numbers of birds because the rates of band recovery are low. The recovery of bands is serendipitous; someone has to catch a bird or find it dead, read the band number, and report it. Needless to say, most passerine bands fall into the great abyss of lost data.

One newer technique, the use of geolocators, can provide long-term data sets on the location of migratory birds throughout an annual cycle. Geolocators are small devices that record light levels at set intervals. By establishing sunrise and sunset times, postprocessing allows calculation of day length and solar noon and midnight. Computer software allows estimation of latitude and longitude on a daily basis. The data from these tiny devices are not transmitted, so the birds must be captured twice—once to attach the geolocator and again to retrieve it. Most geolocators are attached

and recovered on the breeding grounds or the wintering grounds, since most species of migratory birds are site faithful for both locations. Since birds captured and fitted with geolocators can be identified to specific populations by location and genetic testing, the migration data can address more targeted questions about the migration networks of populations and the importance of specific habitats, migration routes, migratory stopover locations, and breeding and wintering sites.

In the first of the two papers addressed in this column, Stanley et al. (2014) employed geolocators attached to Wood Thrushes (*Hylocichla mustelina*) on their breeding territories in North America: northeast (north of Pennsylvania), central east (North Carolina to Pennsylvania), midwest (Indiana to Alabama and west), and southeast (South Carolina to Florida). Geolocators were also attached to birds captured on their wintering grounds in Central America, split into three zones: western (Mexico except the Yucatan), central (Yucatan, Belize, Guatemala, El Salvador, and western Honduras), and eastern (eastern Honduras, Nicaragua, and Costa Rica). The authors coupled location data from these birds with population estimates and habitat mapping of forest cover to assess threats to the rapidly declining Wood Thrush populations.

The authors found a reasonable level of connection between breeding and wintering locations. For instance, 91% of Wood Thrushes tracked from the northeast and central eastern breeding populations wintered in the eastern zone in Central America. For birds tracked from the southeastern or midwestern populations, 65% wintered in the central zone. Most birds tracked from wintering to breeding grounds followed the same pattern. Hence, as has been shown in several other species, Wood Thrushes show a leapfrog migration pattern, with northern breeders migrating beyond the wintering grounds of the southern breeders.

Migration routes differed in the fall and spring, with most northeastern breeders migrating south through Florida and Cuba (<83°W) and north on a trans-Gulf route (88-93°W). Other breeding populations tended to use the trans-Gulf route in both seasons, though all populations flying north tended to cross the Gulf to the west of where they had crossed in the fall. The importance of wintering fidelity to the health of these populations is highlighted by the fact that an estimated 56% of the species winters in the eastern zone in Central America, which contains only a third of the wintering habitat and is subject to considerable deforestation (0.4% lost per year recently). These data emphasize the importance of habitat preservation in the eastern wintering zone and in the relatively narrow spring migration corridor on the southern US Gulf coast.

In the second publication, Delmore and Irwin (2014) used geolocators to assess the influence of a migratory divide on interbreeding populations of another thrush. Migratory divides are contact areas between two populations that breed in overlapping ranges but migrate to wintering grounds using different routes. In this case, the authors studied two subspecies of Swainson's Thrushes: the coastal, russet-backed (*Catharus ustulatus ustulatus*) and the inland, olive-backed (*C. u. swainsoni*), which hybridize in western North America. The coastal population migrates along the West Coast to Mexico, Guatemala, and Honduras; the inland population migrates via east and central North America to Columbia and Venezuela. The migratory divide consists of the

inhospitable coastal mountains of the west and the deserts of the southwestern United States and central Mexico. Since migratory divides are thought to form a mechanism for speciation, the authors addressed the migratory patterns of birds from these populations throughout the year with particular attention to hybrid birds.

Thrushes were captured using song playback in the center of the hybridization zone on the breeding grounds in Canada; geolocators were attached using standard methods. Birds with attached geolocators captured during the following years provided location data for the annual cycle. The genotype of individual birds was assessed by DNA sequencing using genetic markers that distinguish the two parental genotypes and the hybrids. Blood samples for genotyping were collected only on recapture to minimize stress on the birds.

Not surprisingly, the two parental populations used the pathways and wintering locations as described above and as shown in previous studies from this research group. The birds genotyped as hybrids, however, showed a wide range of migratory pathways, including both parental routes and intermediate pathways. Some hybrids migrated in one parental pathway in the fall and the other in the spring; others carried out difficult migrations over inhospitable terrain. The hybrids also showed a tendency to winter in intermediate locations of possibly marginal quality.

These migratory behaviors of hybrid Swainson's Thrushes, especially the suboptimal migration routes and wintering locations, suggest selection pressures against hybridization in these populations. The dynamic and width of the hybridization zone indicates strong selection against hybrids and the maintenance of separate parental populations, despite considerable overlap of breeding range. This study helps to describe some of the potential selection pressures, although the high return rate of both parental and hybrids suggests that there are more selection pressures to be discovered.

Both of these research projects demonstrate the utility of geolocators to track the movements of individuals throughout an entire annual cycle.

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ABOUT BOOKS

A List for the Listers

Mark Lynch

David Callahan. 2014. *A History Of Birdwatching in 100 Objects*. London, United Kingdom: Bloomsbury Publishing Plc.

"Top five things I miss about Laura," Rob Gordon, played by John Cusack in the film *High Fidelity* (2000).

In the film High Fidelity, the character of Rob Gordon sees the world through lists. He manages a used record shop in a bad section of town that caters to obsessive music collectors. These record geeks share many personality quirks with birders you know. Rob recalls the history of his romantic failures through his "Big Top Five Most Memorable Break-ups in Chronological Order." When he invents a record label, it's called *Top Five Records*. Rob Gordon is just one example of a list maven. As a species, humans are certainly list-o-philes. We find lists endlessly fascinating. We make "to do" lists, argue over "favorite horror movie" lists, and look forward to David Letterman's famous Top Ten lists. A runaway best-seller beginning in 1977 was The Book of Lists, which contained such diverse lists as "famous people who died during sexual intercourse" and "worst places to hitchhike." Any list with "greatest" or "best" in the title, like a list of greatest American films, greatest French novels, best scary space monsters, best Twilight Zone episodes, greatest baseball shortstops (and so on) is sure to provoke endless arguments. Lists in the form of countdowns are always popular, popularity that accounts for the long run of Casey Kasem's American Top 40, which aired from 1970 until his retirement in 2009. The Internet has spawned countless sites like Buzzfeed that are dedicated to comical lists in one form or another, and social media now sends these lists all over the world.

Birders, being obsessive-compulsive types, are list makers par excellence. We keep year lists, life lists, yard lists, state lists, ABA area lists, world lists, big sit lists, and CBC lists. Many keep more arcane lists, and I personally know birders who keep lists of birds seen at Fenway Park, lists of birds heard in films, birds seen going to the bathroom, and birds seen while the birder was going to the bathroom. The list of bird lists is endless. Which begs the question, would there even be birding without listing?

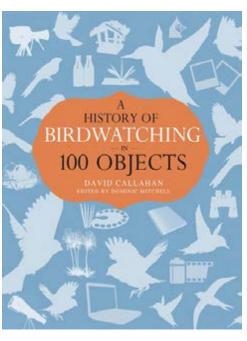
A History of Birdwatching in 100 Objects belongs to a genre of book currently popular in which the history of an area of interest is told through the examination of a well-curated list of objects, events or artworks. Sitting on my desk as I type is Chris West's A History of America in Thirty-Six Postage Stamps and Greil Marcus' The History of Rock 'n' Roll In Ten Songs. Readers are attracted to these kinds of books because:

It's interesting to see how short a list the author can come up with. I think Marcus' list is surely the most daring.

We want to see who or what the author left out that we think should have been included. Part of the fun of all these books is that they encourage us to create our own rival lists.

But when it comes right down to it, we just like lists. Which is why I made *this* list.

A History of Birdwatching in 100 Objects is a long list as these books go, and some of the subjects included seem only peripherally concerned with birding. The author, David Callahan, is a staff writer at Birdwatch magazine, which is published in Britain. A History of Birdwatching in 100 Objects was edited by Dominic Mitchell, a managing editor at *Birdwatch*. The list is presented chronologically with two pages dedicated to each object. The list is very Anglocentric. While describing William Turner's 1544 book solely dedicated to birds, Avium praecipuarum, quarum apud Plinium et Aristotelem mentio est, brevis et succincta historia, Callahan concludes, "It is with the publication of Turner's avian magnum opus, the first true bird book, that Britain can perhaps lay claim to being the birthplace of birding." (p. 21)



The book's list begins with a rock painting from Arhhem Land, Northern Territory, Australia, that dates to c. 45,000 BC and shows two birds that are likely ratites called Genyornis. This is one of the earliest known depictions of birds. In the first sections of *A History of Birdwatching in 100 Objects* Callahan is not concerned only with the popular modern avocation of birding, but with the basic act of humans watching birds for a variety of reasons. Historically people paid attention to birds originally because they were symbols of spirituality or objects of beauty, or they were destined for the table.

Books and periodicals are well represented in *A History of Birdwatching in 100 Objects*. Carolus Linnaeus' 1758 *Systema Naturae* clocks in at #11 on the list. Gilbert White's *The Natural History and Antiquities of Selborne* (1789) is #12. "*Selborne* was probably the first of an eventual myriad of natural history and birding memoirs, and certainly one of the most lyrical, accurate and detailed." (p. 35)

"Observations on the Brumal Retreat of the Swallow" by Thomas Forster (1808) is described as the first monograph on a bird species and therefore the direct ancestor of the current popular New Naturalist book series. Thomas Bewick, author and artist of the classic two-volume History of British Birds (1797), provides us with #13, an

18th-century wood carving knife. Bewick used these tools to create detailed woodblock prints to illustrate his books. America first enters the countdown at #18 with pig bristle paintbrushes, which stand for the artwork of John James Audubon and the publication of *The Birds of America*. Conspicuously absent from the books included in *A History of Birdwatching in 100 Objects* is the undisputed classic *Bill Oddie's Little Black Bird Book* (1982), which became a birding "must read" around the globe. Oddie is mentioned twice in Callahan's text and is even pictured, but his international classic is not. This slim volume was the first widely published description of the life of a hard-core birder that included true tales of unbridled obsession, rampant jealousy, inevitable miscalls, and tips for playing tricks on your birding friends. This book introduced many readers to terms like "twitching" and "ticking" and most importantly brought some sharp satirical humor to discussions about birding.

Many of the choices in *A History of Birdwatching in 100 Objects* are obvious but still interesting to read about. For example, #35 is a RSPB (Royal Society for the Protection of Birds) membership card from 1889, #43 is the first issue of the still going strong *British Birds* from 1907, and #65 is a YOC (Young Ornithologists' Club) badge from 1965. Several objects perfectly capture the particular quirky essence of British birding. Commercial wildlife recordings are represented at #75 by *Big Jake Calls the Waders* from 1980, one of the great oddball recordings for birders. Nancy's Café in the 1970s is #68. If you did not bird Cley Next The Sea at that time, you won't understand why this choice brings a smile to many older British birders. Nancy's Café, owned and operated by Nancy and John Gull, served up basic hot food to hungry birders, but best of all was a crucial center for relaying the latest information on what was being seen.

From a modern perspective, the "news service" available through Nancy's Café was rudimentary at best. Birders from around the country would call the widely known phone number and ask the oft-repeated question of the day, "Anything about?" A diary by the phone would detail the news, local and national, which—assuming the phone was answered (typically by a birding customer...than by the staff)—would then be read out to the caller. In peak periods, the person sitting closest to the phone would struggle to eat a meal while it was hot. (p.146)

A History of Birdwatching in 100 Objects is often best understood when the subject chosen is only obviously connected to the history of birding after reading the chapter. At first you may wonder why #23 policeman's notebook from 1840 is included, but you learn that the official "PNB" was the field notebook of choice of many early British birders because it was sturdy and fit in your pocket, and the paper was lined. Some of the object choices have only a tenuous connection to birding. An aeroplane ticket from 1911 is #45 and stands for the rise of international birding and ecotourism. Number 49 is a road sign from 1923 which is supposed to indicate the importance of the expansion of Britain's roads to the growth of country-wide birding. A television set from 1925 stands in for the plethora of nature programming that would appear on TV decades later. The reader is left feeling that some of the choices are a bit of a stretch and that the list has been padded to reach the magical 100 mark.

The object list from the twentieth century and beyond becomes increasingly concerned with gear and high tech. As expected, many objects from the digital revolution are included like an IBM PC (#77), Microsoft PowerPoint (#82), the first website (#83), the MP3 file (#87), and the iPhone (#96). Obviously cameras and optics are well represented, even though the gear chosen may seem like a product endorsement. An example is the Gitzo Mountaineer carbon fiber tripod (#86). That section reads like a catalog ad. The Kowa Prominar ED TD-1 spotting scope and digital camera (#93) excited birders when it first came out because it combined a scope and camera in one piece. When serious limitations were discovered, the manufacture of that scope ceased in 2009 because birders just weren't interested. So why include it on this allegedly narrow list? It becomes clear that the list could have been shortened to eighty-five or fewer choices. But what should be included is what makes lists like this great subjects for arguments and discussion.

(SPOILER ALERT: If you don't want to know how this book ends, stop reading.)

After all the preceding name brands, the choice for object #100 seems a bit of a cheat. It's titled Crystal Ball and attempts to predict what new gear birders will glom onto in the decades ahead, including Google's new and controversial glasses. If the reader is left feeling that he has just read too much about technology and not enough about birds, the list in *A History of Birdwatching in 100 Objects* simply reflects the state of the avocation today. To be considered a serious birder today, you do need a lot more expensive stuff than a pair of binoculars. Listing is paramount as always, and any invention that will get you to the next twitch faster is what many birders really care about. To his credit, David Callahan recognizes this often tiresome preoccupation with tech and ends his fascinating book with this suggestion.

It is also possible to imagine a reaction against the array of technology into analog birding, where expertise and skill are measured and respected by their ability to find and identify birds all by themselves, old school style. You know—what used to be called "birdwatching" (p. 211).

I'll put that on my list of things to do. 🐔

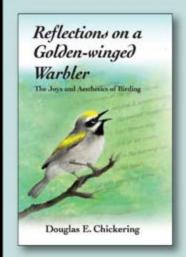
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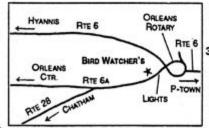
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BIRD SIGHTINGS

July/August 2014

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

July's high of 92° occurred on July 2 and again on July 8 and July 23. The average temperature was 74° which is typical for July. The big news was the first hurricane of the season; Arthur had 80 mph sustained winds as it turned northeast from the Outer Banks. A stalled cold front combined with the hurricane brought torrential rains to Rhode Island and southeastern Massachusetts for the Fourth of July holiday. Winds stayed active after Arthur passed with a series of powerful thunderstorms bringing heavy rain and a threat of tornadoes in some parts of the state. On July 28 the National Weather Service confirmed that a tornado touched down in Revere causing a path of destruction that was two miles long and a half mile wide. That same storm brought heavy damage to several western Massachusetts communities and flash flooding from Framingham to the North shore.

August was pleasant with an average temperature of 71° in Boston, one degree below average. The temperature only hit 90° on one day, August 27. This summer the temperature has topped 90° only on four days, well below last year when Boston had 17 days over 90°. Rainfall was recorded at 1.75 inches in Boston, 1.6 below the average of 3.35 inches for August.

R. Stymeist

WATERFOWL THROUGH ALCIDS

The Brookline Bird Club sponsors several pelagic trips during the course of the summer, and they rarely fail to produce exciting birds. The July trip was good, but no surprises. Highlights included a White-faced Storm-Petrel, eight Band-rumped Storm-Petrels, fourteen Audubon's Shearwaters, and two Long-tailed Jaegers. The August trip was eye-popping, with an amazing list of highlights: three Black-capped Petrels (of the handful of previous records two have been seen on previous BBC trips), one hundred Audubon's Shearwaters (a new record high for the state), a White-faced Storm-Petrel, eight Band-rumped Storm-Petrels, a Red-billed Tropicbird, a South Polar Skua, and two Long-tailed Jaegers.

On April 25 Bay State birders were stunned by the report of a **Zone-tailed Hawk** on Chappaquiddick Island. This was the first state record for Massachusetts, and only the third east of the Mississippi River. On June 1 a Zone-tail was photographed on Brier Island in Digby, Nova Scotia: the same bird or a different one? Then on July 8 one was photographed at the Cumberland Farm fields in Middleboro. How many Zone-tailed Hawks were on the east coast of North America? It seems hard to believe a single bird would range from Massachusetts to Nova Scotia and back again in two and a half months. The lack of other reports as it traveled would not be surprising as it could have been overlooked: Zone-tails are similar to Turkey Vultures in shape and flight style.

On June 19 two **American Avocets** were sighted in Ipswich and on June 21 presumably the same two were discovered on Plum Island. Both continued through July 26, and a single bird continued through August 6. Avocets are uncommon but regular fall visitors to the state, with only a handful of spring records and a single prior June report. Although they will often linger a few days, this visit of a month and a half is unprecedented. A **Curlew Sandpiper** was discovered on Nahant on August 21 but despite searching it could not be relocated after this.

A Sabine's Gull was observed foraging with a large flock of gulls and terns at Race Point in Provincetown on August 24. There were sightings of Black-headed Gull from three locations from Provincetown to Chatham, but it is unclear how many individuals were involved. Four Little Gulls at Hatches Harbor in Provincetown on July 27 was an excellent count. Gull-billed Tern is not even annual in the state so sightings of five or six individuals were unusual. One observer reported two Gull-bills from South Beach in Chatham and one of the same birds two days later on North Beach (also in Chatham); identification as the same bird was based on a broken feather. There was a six week span during which there were no sightings of Gull-bills on Plum Island, so the late August sighting is likely different from the ones reported in mid-July. The Mashpee sighting was intriguing in that it was a bird seen at a golf course – a rare inland sighting.

Last year a banded Sandwich Tern summered on outer Cape Cod, and the band indicated it was banded in England in 2002. In England the New World subspecies of Sandwich Tern ("Cabot's Tern") is considered a distinct species from the Old World "Eurasian" Sandwich Tern which had never before been recorded in North America. On July 11 of this year, a banded **Sandwich Tern** was photographed on Coast Guard Beach in Eastham. Although the band was not readable, it seems possible it was the same bird returning.

Black Skimmer is unusual north of Plymouth County, but there were a number of reports from this area including two in Squantum, two in Winthrop, two in Nahant, and up to five on Plum Island. Like many species, Black Skimmer may be expanding its range and these sightings may be prospecting adults or even possible breeders.

M. Rines

Brant				8/10	Falmouth	125	J. Tweedell#
7/21	P.I.	1	T. Pockette	Surf Scoter			
8/29	Chatham (N.B.)	2	C. Goodrich	7/7	Chatham	3	B. Nikula
Wood Duck				7/31	Eastham (CGB)	4	J. Collins#
8/8	Granville	36	M. Lynch#	White-winge			
8/8	Longmeadow	65	S. Kellogg	7/23	Chatham (MI)	11	B. Nikula
8/22	Belchertown	61	L. Therrien	7/28	N. Truro	14	J. Collins
8/28	GMNWR	90	J. Kovner#	8/10	Orleans	12	 A. Mindel
Gadwall				8/16	Wellfleet	10	W. Kuk#
7/20	Acoaxet	6	M. Lynch#	Black Scoter			
7/31	P.I.	26	R. Heil	7/5	N. Truro	15	J. Young
8/22	S. Monomoy	18	M. Faherty	7/7	Chatham	60	B. Nikula
American Wi				7/20	Westport	12	M. Lynch#
7/26	GMNWR	1	BBC (S. Martin)	8/17	Aquinnah	16	P. Edmundson
8/27	Lexington	1	M. Rines	8/19	P.I.	15	T. Wetmore
8/28	Marstons Mills	1	M. Malin#	Long-tailed l			
Blue-winged				7/5	Chatham	3	R. Schain
7/3, 8/28	P.I.	4, 3	T. Wetmore	Bufflehead			
8/5	Lenox	1	G. Hurley	7/23	Chatham	1	M. Faherty#
8/16	W. Roxbury (M		M. Kaufman	Hooded Mer			
8/29	Winthrop	1	R. Stymeist	8/17	Belchertown	3	L. Therrien
8/29	Longmeadow	6	S. Kellogg	8/23	Leicester	12	M. Lynch#
Northern Sho				8/29	Lexington	3	J. Forbes
8/29	P.I.	1	T. Wetmore	Common Me			
Northern Pint				7/19	Longmeadow	7	M. Moore
8/15	S. Monomoy	1	K. Yakola	7/20	Northampton	3	T. Gagnon
Green-winger	d Teal			8/8	Sandisfield	23	M. Lynch#
8/17	Yarmouth	1	E. Hoopes	Red-breasted			
8/22	S. Monomoy	11	M. Faherty	7/14	P'town	6	B. Nikula
8/23	P.I.	35	T. Wetmore	8/10	Chatham (S.B.)	2	T. Green#
Greater Scauj				8/24	Manomet	4	G. d'Entremont
8/23	S. Quabbin	1	L. Therrien	Ruddy Duck			
Common Eid				7/4	Jamaica Plain	1	T. Bradford
7/3	Orleans	63	B. Marsh	7/11	P.I.	1	T. Wetmore
7/3	Revere B. 28 a	id, 33 yg	R. Stymeist	Northern Bo			
7/20	Acoaxet	131	M. Lynch#	7/4	N. Truro	3	L. Waters#
8/3	P'town	40	D. Bates	7/5	Orleans	3	B. Marsh

Northern Bob	white (continued)		Red-billed T	ronichird		
7/17		R. Stymeist	8/23-24	S. of Nant.	1	BBC Pelagic
7/31		P. Kyle	Northern Gar			
Ruffed Grous		•		Rockport (A.P.)1	4, 91	0 R. Heil
7/5	Quabbin (G10)2 w/9		7/21, 8/14		230	B. Nikula
8/15	Winchendon-Roy.		8/14	Eastham (F.E.)	80	F. Atwood
8/18 Common Loc		W. Howes	8/16	P.I.	18	T. Wetmore
7/10	P.I. 20	R. Heil	7/22, 8/22	ed Cormorant	500	G. Nichol#
7/10	Wellfleet 10		8/9		3000	SSBC (GdE)
7/24	Chatham (N.B.) 30		8/31	Gloucester H.	120	J. Berry#
7/24	N. Truro 24		Great Cormo			,
8/12	Wachusett Res. 14		8/10	Westport	1	M. Lynch#
Pied-billed G			American Bi			
7/13	Jamaica Plain		7/1	P.I.	1	S. McGrath
7/20		T. Wetmore	7/27	GMNWR	1	J. Forbes
8/1	P	S. Kellogg L. Warfield#	8/15	S. Monomoy Carlisle	2	K. Yakola T. + D. Brownrigg
8/6 8/15		L. Warfield# K. Yakola	8/17 8/17	Washington	1	J. Pierce
8/31		L. Therrien	8/18	Northampton	1	T. Gagnon
Northern Fuli		2	Least Bittern		•	ii ougnon
8/24		D. Clapp	7/2	GMNWR	3	A. Bragg#
Black-cappe		• • •	7/3	P.I.	1	D. Adrien
8/23-24		BBC Pelagic	7/26	Wellfleet	2	S. Broker#
Cory's Sheary		120	Great Blue H		٠.	
	Rockport (A.P.)130,		7/19	GMNWR	24 23	M. Lynch#
7/12	Stellwagen 1500 N. Truro 2500, 390		7/29 8/28	P.I. Eastham (CGB)	22	D. Adrien M. Faherty#
	P'town 2000, 4000		Great Egret	Easthaili (COB)	22	IVI. I'allerty#
Great Shearw		D. Mikula	thr	P.I.	80	max v.o.
7/6, 8/30	E. of Chatham150, 2	B. Nikula#	8/3	Squantum	19	R. Stymeist
7/11	Tillies Bank 4350) K. Mueller	8/9	New Salem	6	B. Lafley
7/21, 8/17			8/10	Dartmouth	51	A. + D. Morgan
8/4	Stellwagen 44		8/11	Chatham	51	R. Schain
8/13	Rockport (A.P.). 760	R. Heil	8/25	Westport	83	M. Lynch#
Sooty Shearw	E. of Chatham 60, 15	D Nilado#	8/27 Snowy Egret	Hadley	6	J. Oliverio
7/6, 8/30 7/9	off Gloucester 30		thr	P.I.	260	max v.o.
7/11	Tillies Bank 235		8/3	Squantum	43	R. Stymeist
7/20, 8/23			8/11	Chatham	150	F. Atwood
7/21, 8/17		B. Nikula	8/12	Sterling	1	P. Morlock
8/4	Stellwagen 141	NOAA (Nikula)	Little Blue H			
Manx Shearw			8/3	Springfield		A. & L. Richardson
7/3		R. Stymeist	8/9	Gloucester	7	P. + F. Vale#
7/11, 8/13 7/19	Rockport (A.P.) 5, 40 S. of Nant. 23		8/11 8/11	Hadley WBWS	1 2	L. Therrien
7/21, 8/22			8/12	Longmeadow	1	M. Stone# M. Moore
7/27, 6/22	Stellwagen 30		8/26	Edgartown	2	S. Allen#
Audubon's S		, BBC (II CIITAINAS)	Green Heron		_	5.11
7/19	S. of Nant. 14	BBC Pelagic	7/12	WBWS	5	G. Poulos#
8/23-24	S. of Nant. 100) BBC Pelagic	7/19	Mashpee	6	M. Malin
Wilson's Stor			7/20	Westport	6	M. Lynch#
7/10	Stellwagen 420		8/1	Barnstable	6	S. Johnson#
7/11	Tillies Bank 350		8/2 8/15	Sterling	7 9	B. Kamp
7/19	E. of Chatham275, 2 Stellwagen 200		8/17	Cambr. (F.P.) W. Harwich	13	R. Stymeist A. Curtis
8/4	Stellwagen 118			ed Night-Heron	13	A. Curus
8/13	Rockport (A.P.).		7/21	Barnstable	52	E. Hoopes
	Storm-Petrel		8/16	Fairhaven	12	M. Lynch#
7/19	S. of Nant.	BBC Pelagic	8/16	Plymouth	15	H. Levesque#
8/23-24		BBC Pelagic	8/23	Nantucket	12	V. Laux#
Leach's Storn		77.34.11	8/26	Eastham	24	D. Clapp
7/11		K. Mueller		ned Night-Heron	1	W Tot
7/19 7/31		BBC Pelagic P. Trimble	7/9 7/17	Danvers Chatham	1 1	W. Tatro R. Schain
8/1	Chatham (S.B.)		7/17	WBWS	1	T. Green
8/23-24	S. of Nant. 47		8/6	Gloucester	1	C. Haines
	d Storm-Petrel	Č	8/9	Eastham (CGB)	3	M. Malin#
7/19	S. of Nant.	BBC Pelagic	8/14	Fairhaven	1	C. Longworth#
8/23		BBC Pelagic	8/23	P.I.	1	N. Landry
White-tailed		E * * * 1	Glossy Ibis	CMANUE	4.4	ъ.
8/26	Veatch Canyon	E.J. Hudson	7/21	GMNWR	11	D. Logan

	continued)			Sora			
7/25	WBWS	5	G. Poulos#	7/4	Southwick	2	S. Kellogg
8/5	Sterling	6	E. Kittredge	7/27	GMNWR	$\bar{2}$	J. Forbes
8/10	P.I.	42	S. Sullivan	8/26	P.I.	1	T. Walker#
8/20	DWWS	3	R. Stymeist	8/31	Concord	1	C. Cook
Black Vulture	e			Sandhill Cr	ane		
7/9	Lancaster	1	B. Mulhearn	7/16	Cumb. Farms	3	J. Carlisle#
7/21	Webster	1	R. Holden	7/24	Worthington	2	R. Stymeist
7/28	Bourne	1	J. McCumber#	Black-belli		. 1400	3.6.12 337 .
8/19 Tankan Valta	Westfield	6	T. Swochak		22 Chatham (S.B.)50		Malin, Waters
Turkey Vultu 7/11	Nantucket	13	G. Andrews	8/2 8/4	Ipswich (C.B.) Duxbury B.	36 89	M. Brengle#
8/6	P.I.	12	MAS (B. Gette)	8/8		220	R. Bowes J. Berry#
8/6	Barre	23	M. Lynch#	8/19	Revere B.	98	S. Zendeh#
8/8	Hadley	41	L. Therrien	8/26		250	B. Nikula
8/8	Sandisfield	28	M. Lynch#		Golden-Plover	250	D. Ttikulu
8/25	Acoaxet	27	M. Lynch#	7/24	Duxbury B.	1	R. Bowes
8/28	Mt. Wachusett	12	R. Chase	7/30	S. Monomoy	1	J. Sender#
Osprey				8/27	Eastham (CGB)	1	K. Schopp
7/1	Nantucket	10	V. Laux#	8/29	Chatham (N.B.)	1	C. Goodrich#
7/2	Mashpee	22	M. Keleher	8/31	P.I.	2	B. Harris#
7/20, 8/25	Westport	73	M. Lynch#	8/31	Hadley	1	L. Therrien
7/31	P.I.	13	R. Heil	Semipalma	ted Plover		
8/8	Yarmouth	11	R. Debenham		18 Ipswich (C.B.)1,		J. Berry#
Bald Eagle				7/26, 8/2		50	GdE, VdV
7/13	Wachusett Res.	3	K. Bourinot#	7/26		340	S. Whiting#
8/20	Mt. Wachusett	3	Hawkcount (SO)	8/2	Sterling	6	B. Kamp
Northern Hai			D. D1!!	8/10		100	S. Sullivan
7/11	Nantucket	4	D. Blatt#	8/14	Eastham (CGB)		M. Iliff#
8/1	Chappaquiddick	2	S. Whiting# Z. Alksnitis#	8/29 Dining Play	Chatham (N.B.)1	000	C. Goodrich#
8/9 8/22	Eastham (F.H.)	2 3	L. Waters#	Piping Plov 7/3	Vineyard Haven	22	C. Heald
8/23	Chatham (S.B.) P.I.	5	T. Wetmore	7/3	Revere B.	35	R. Stymeist
8/31	Rowley	3	S. Riley	7/16	Ipswich (C.B.)	20	J. Berry#
Sharp-shinne		3	b. Italey	7/26	Plymouth B.	14	SSBC (GdE)
7/28	WBWS	ad, 2 yg	B. Lagasse	7/29	Chatham	47	B. Lagasse
8/1	Quabbin Pk	pr, 1 yg		8/3	Ipswich (C.B.)	19	J. Berry
8/15	Winchendon-Ro		M. Lynch#	8/12		, 59 juv	USFWS
8/19-29	Mt. Wachusett	31	Hawkcount (SO)	Killdeer		, 3	
Cooper's Hav	wk			8/1	Concord	31	R. Stymeist
7/1	Nantucket	2	V. Laux#	8/31	DFWS	22	P. Sowizral
8/6	Harwich	3	F. Atwood	8/31	Waltham	26	C. Cook
8/16	Fairhaven	3	M. Lynch#		Dystercatcher		
8/21	WBWS	4	T. Hurley	7/4	Gloucester	1	J. Barber
8/30	P.I.	3	J. Keeley#	7/12	Chatham (S.B.)	23	M. Malin T. Wetmore
Northern Gos		1	M. T	7/14 7/22	P.I.	1	
8/8 8/24	Sandisfield	1 ad 1			D II 22 . 1		
8/24 8/28	S. Quabbin		I Th		Boston H.33 ad,	18 yg	R. Stymeist
			L. Therrien	7/31	Winthrop	18 yg 15	R. Stymeist P. Peterson
	Mt. Wachusett	1	L. Therrien R. Chase	7/31 8/8	Winthrop W. Tisbury	18 yg 15 19	R. Stymeist P. Peterson S. Whiting#
	red Hawk	1	R. Chase	7/31 8/8 8/9	Winthrop W. Tisbury Nantucket	18 yg 15 19 18	R. Stymeist P. Peterson S. Whiting# V. Laux#
8/8	ed Hawk GMNWR	1 2	R. Chase J. Forbes	7/31 8/8 8/9 8/22	Winthrop W. Tisbury Nantucket Chatham	18 yg 15 19 18 34	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill#
8/8 8/24	red Hawk GMNWR Mt. Wachusett	1	R. Chase	7/31 8/8 8/9 8/22 8/29	Winthrop W. Tisbury Nantucket Chatham Marblehead	18 yg 15 19 18	R. Stymeist P. Peterson S. Whiting# V. Laux#
8/8	red Hawk GMNWR Mt. Wachusett d Hawk	1 2 2	R. Chase J. Forbes B. Rusnica	7/31 8/8 8/9 8/22	Winthrop W. Tisbury Nantucket Chatham Marblehead	18 yg 15 19 18 34	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill#
8/8 8/24 Broad-winge	red Hawk GMNWR Mt. Wachusett	1 2 2	R. Chase J. Forbes	7/31 8/8 8/9 8/22 8/29 American A	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I.	18 yg 15 19 18 34 3	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist
8/8 8/24 Broad-winge 7/18	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro	1 2 2 2 2 2 2 2 7 2	R. Chase J. Forbes B. Rusnica M. Lynch#	7/31 8/8 8/9 8/22 8/29 American A 7/1-26	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. 5 P.I.	18 yg 15 19 18 34 3	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth	1 2 2 2 2 2 2 7	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch#	7/31 8/8 8/9 8/22 8/29 American A 7/1-26 7/27-8/6 Spotted San 7/13	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. 5 P.I.	18 yg 15 19 18 34 3	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5 8/19-29	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth Mt. Wachusett	1 2 2 2 2 9y. 8 7 2 2 60	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch# J. Nelson	7/31 8/8 8/9 8/22 8/29 American A 7/1-26 7/27-8/6 Spotted San 7/13 7/20	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. 5 P.I. ndpiper	18 yg 15 19 18 34 3 2 1	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist v.o. v.o. K. Bourinot# J. Forbes
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5 8/19-29 8/29	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth Mt. Wachusett Mt. Wachusett	1 2 2 2 2 9y. 8 7 2 2 60 27	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch# J. Nelson M. Malin Hawkcount (SO) Hawkcount (RC)	7/31 8/8 8/9 8/22 8/29 American A 7/1-26 7/27-8/6 Spotted San 7/13 7/20 7/25	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. 5 P.I. ndpiper Wachusett Res. Acton Westport	18 yg 15 19 18 34 3 2 1 9 6	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist V.o. V.o. K. Bourinot# J. Forbes P. Champlin#
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5 8/19-29 8/29 8/29	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth Mt. Wachusett Mt. Wachusett Osterville	1 2 2 2 2 9y. 8 7 2 2 60	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch# J. Nelson M. Malin Hawkcount (SO)	7/31 8/8 8/9 8/22 8/29 American A 7/1-26 7/27-8/6 Spotted San 7/13 7/20 7/25 8/1	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. 5 P.I. ndpiper Wachusett Res. Acton Westport Orleans	18 yg 15 19 18 34 3 2 1 9 6 12 7	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist v.o. v.o. K. Bourinot# J. Forbes P. Champlin# M. Malin
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5 8/19-29 8/29 8/29 Zone-tailed	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth Mt. Wachusett Mt. Wachusett Osterville Hawk	1 2 2 2 2 5 5 5 5 5 6 6 5 7 2 2 5 6 6 6 5 7 2 2 5 6 6 6 5 7 2 7 2 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch# J. Nelson M. Malin Hawkcount (SO) Hawkcount (RC) P. Crosson	7/31 8/8 8/9 8/22 8/29 American A 7/1-26 7/27-8/6 Spotted San 7/13 7/20 7/25 8/1 8/4	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. of P.I. andpiper Wachusett Res. Acton Westport Orleans Duxbury B.	18 yg 15 19 18 34 3 2 1 9 6 12 7 7	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist v.o. v.o. K. Bourinot# J. Forbes P. Champlin# M. Malin R. Bowes
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5 8/19-29 8/29 8/29 Zone-tailed 7/8	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth Mt. Wachusett Mt. Wachusett Osterville Hawk Cumb. Farms	1 2 2 2 2 9y. 8 7 2 2 60 27	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch# J. Nelson M. Malin Hawkcount (SO) Hawkcount (RC) P. Crosson	7/31 8/8 8/9 8/22 8/29 American A 7/12-26 7/27-8/6 Spotted San 7/13 7/20 7/25 8/1 8/4 8/20	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. indpiper Wachusett Res. Acton Westport Orleans Duxbury B. Sterling	18 yg 15 19 18 34 3 2 1 9 6 12 7 7 8	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist v.o. v.o. K. Bourinot# J. Forbes P. Champlin# M. Malin R. Bowes M. Lynch#
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5 8/19-29 8/29 8/29 Zone-tailed 7/8 Clapper Rail	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth Mt. Wachusett Mt. Wachusett Osterville Hawk Cumb. Farms	1 2 2 2 by. 8 7 2 2 60 27 2 1 ph	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch# J. Nelson M. Malin Hawkcount (SO) Hawkcount (RC) P. Crosson M. Rhodes	7/31 8/8 8/9 8/22 8/29 American A 7/1-26 7/27-8/6 Spotted San 7/13 7/20 7/25 8/1 8/4 8/20 8/29	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. 5 P.I. ndpiper Wachusett Res. Acton Westport Orleans Duxbury B. Sterling Longmeadow	18 yg 15 19 18 34 3 2 1 9 6 12 7 7	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist v.o. v.o. K. Bourinot# J. Forbes P. Champlin# M. Malin R. Bowes
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5 8/19-29 8/29 8/29 Zone-tailed 7/8 Clapper Rail 7/19	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth Mt. Wachusett Mt. Wachusett Osterville Hawk Cumb. Farms Harwichport	1 2 2 2 by. 8 7 2 2 60 27 2 1 ph	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch# J. Nelson M. Malin Hawkcount (SO) Hawkcount (RC) P. Crosson M. Rhodes B. Nikula	7/31 8/8 8/9 8/22 8/29 American A 7/1-26 7/27-8/6 Spotted San 7/13 7/20 7/25 8/1 8/4 8/20 8/29 Solitary Sa	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. 5 P.I. ndpiper Wachusett Res. Acton Westport Orleans Duxbury B. Sterling Longmeadow	18 yg 15 19 18 34 3 2 1 9 6 11 7 7 8 7	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist v.o. v.o. K. Bourinot# J. Forbes P. Champlin# M. Malin R. Bowes M. Lynch# S. Kellogg
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5 8/19-29 8/29 Zone-tailed 7/8 Clapper Rail 7/19 7/26, 8/24	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth Mt. Wachusett Mt. Wachusett Osterville Hawk Cumb. Farms Harwichport Wellfleet	1 2 2 2 2 2 2 4 5 2 4 5 4 5 5 5 5 5 6 6 6 7 2 7 2 1 ph 6, 5	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch# J. Nelson M. Malin Hawkcount (SO) Hawkcount (RC) P. Crosson M. Rhodes B. Nikula S. Broker#	7/31 8/8 8/9 8/22 8/29 American A 7/1-26 7/27-8/6 Spotted San 7/13 7/20 7/25 8/1 8/2 8/29 Solitary Sa 7/9	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. j. P.I. adpiper Wachusett Res. Acton Westport Orleans Duxbury B. Sterling Longmeadow ndpiper Cumb. Farms	18 yg 15 19 18 34 3 2 1 9 6 12 7 7 8 7	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist v.o. v.o. K. Bourinot# J. Forbes P. Champlin# M. Malin R. Bowes M. Lynch# S. Kellogg R. Stymeist#
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5 8/19-29 8/29 Zone-tailed 7/8 Clapper Rail 7/19 7/26, 8/24	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth Mt. Wachusett Mt. Wachusett Osterville Hawk Cumb. Farms Harwichport Wellfleet Fairhaven	1 2 2 2 by. 8 7 2 2 60 27 2 1 ph	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch# J. Nelson M. Malin Hawkcount (SO) Hawkcount (RC) P. Crosson M. Rhodes B. Nikula	7/31 8/8 8/9 8/22 8/29 American A 7/12-26 7/27-8/6 Spotted San 7/13 7/20 7/25 8/1 8/20 8/29 Solitary Sa 7/9 7/21	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. P.I. P.I. Mapiper Wachusett Res. Acton Westport Orleans Duxbury B. Sterling Longmeadow Indipier Cumb. Farms Washington	18 yg 15 19 18 34 3 2 1 9 6 12 7 7 8 7	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist v.o. v.o. K. Bourinot# J. Forbes P. Champlin# M. Malin R. Bowes M. Lynch# S. Kellogg R. Stymeist# J. Pierce
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5 8/19-29 8/29 8/29 Zone-tailed 7/8 Clapper Rail 7/19 7/26, 8/24 8/5 Virginia Rail	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth Mt. Wachusett Mt. Wachusett Osterville Hawk Cumb. Farms Harwichport Wellfleet Fairhaven	1 2 2 2 Dy. 8 7 2 2 60 27 2 1 ph 6, 5 1	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch# J. Nelson M. Malin Hawkcount (SO) Hawkcount (RC) P. Crosson M. Rhodes B. Nikula S. Broker# H. Zimberlin	7/31 8/8 8/9 8/22 8/29 American A 7/1-26 7/27-8/6 Spotted San 7/13 7/25 8/1 8/4 8/29 Solitary Sa 7/9 7/21 7/22	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. 5 P.I. ndpiper Wachusett Res. Acton Westport Orleans Duxbury B. Sterling Longmeadow ndpiper Cumb. Farms Washington Acton	18 yg 15 19 18 34 3 2 1 9 6 12 7 7 8 7 2 5 14	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist v.o. v.o. K. Bourinot# J. Forbes P. Champlin# M. Malin R. Bowes M. Lynch# S. Kellogg R. Stymeist# J. Pierce J. Forbes
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5 8/19-29 8/29 Zone-tailed 7/8 Clapper Rail 7/19 7/26, 8/24 8/5 Virginia Rail 7/8	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth Mt. Wachusett Osterville Hawk Cumb. Farms Harwichport Wellfleet Fairhaven Nantucket	1 2 2 by. 8 7 2 60 27 2 1 ph 6, 5 1 3	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch# J. Nelson M. Malin Hawkcount (SO) Hawkcount (RC) P. Crosson M. Rhodes B. Nikula S. Broker# H. Zimberlin D. Blatt#	7/31 8/8 8/9 8/22 8/29 American A 7/1-26 5potted Sat 7/13 7/20 7/25 8/1 8/4 8/20 8/29 Solitary Sa 7/9 7/21 7/22 8/19	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. 5 P.I. ndpiper Wachusett Res. Acton Westport Orleans Duxbury B. Sterling Longmeadow ndpiper Cumb. Farms Washington Acton Lexington	18 yg 15 19 18 34 3 2 1 9 6 12 7 7 8 7 14 6	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist v.o. v.o. K. Bourinot# J. Forbes P. Champlin# M. Malin R. Bowes M. Lynch# S. Kellogg R. Stymeist# J. Pierce J. Forbes J. Forbes
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5 8/19-29 8/29 Zone-tailed 7/8 Clapper Rail 7/19 7/26, 8/24 8/5 Virginia Rail 7/8	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth Mt. Wachusett Mt. Wachusett Osterville Hawk Cumb. Farms Harwichport Wellfleet Fairhaven	1 2 2 2 2 2 5 5 8 7 2 2 6 6 0 2 7 2 2 1 ph 6, 5 1 3 11	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch# J. Nelson M. Malin Hawkcount (SO) Hawkcount (RC) P. Crosson M. Rhodes B. Nikula S. Broker# H. Zimberlin D. Blatt# A. Bragg#	7/31 8/8 8/9 8/22 8/29 American A 7/12-26 7/27-8/6 Spotted San 7/13 7/20 7/25 8/1 8/20 8/29 Solitary San 7/9 7/21 7/22 8/19 8/23	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. P.I. P.I. Mapiper Wachusett Res. Acton Westport Orleans Duxbury B. Sterling Longmeadow Indipier Cumb. Farms Washington Acton Lexington Paxton	18 yg 15 19 18 34 3 2 1 9 6 12 7 7 8 7 2 5 14 6 6	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist v.o. v.o. K. Bourinot# J. Forbes P. Champlin# M. Malin R. Bowes M. Lynch# S. Kellogg R. Stymeist# J. Pierce J. Forbes J. Forbes M. Lynch#
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5 8/19-29 8/29 Zone-tailed 7/8 Clapper Rail 7/19 7/26, 8/24 8/5 Virginia Rail 7/8	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth Mt. Wachusett Mt. Wachusett Osterville Hawk Cumb. Farms Harwichport Wellfleet Fairhaven Nantucket GMNWR N. Truro	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 1 pt 4 5 5 1 1 3 11 6	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch# J. Nelson M. Malin Hawkcount (SO) Hawkcount (RC) P. Crosson M. Rhodes B. Nikula S. Broker# H. Zimberlin D. Blatt#	7/31 8/8 8/9 8/22 8/29 American A 7/12-26 7/27-8/6 Spotted San 7/20 7/25 8/1 8/20 8/29 Solitary Sa 7/9 7/21 7/22 8/19 8/23 8/24	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. 5 P.I. ndpiper Wachusett Res. Acton Westport Orleans Duxbury B. Sterling Longmeadow ndpiper Cumb. Farms Washington Acton Lexington	18 yg 15 19 18 34 3 2 1 9 6 12 7 7 8 7 2 5 14 6 6 6	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist v.o. v.o. K. Bourinot# J. Forbes P. Champlin# M. Malin R. Bowes M. Lynch# S. Kellogg R. Stymeist# J. Pierce J. Forbes J. Forbes M. Lynch# J. Forbes M. Lynch# J. Pierce
8/8 8/24 Broad-winge 7/18 7/30 8/4 8/5 8/19-29 8/29 Zone-tailed 7/8 Clapper Rail 7/19 7/26, 8/24 8/5 Virginia Rail 7/8 7/9 7/10	red Hawk GMNWR Mt. Wachusett d Hawk Winchendon-Ro Ware R. IBA Boxford Falmouth Mt. Wachusett Mt. Wachusett Osterville Hawk Cumb. Farms Harwichport Wellfleet Fairhaven Nantucket GMNWR	1 2 2 2 2 2 5 5 8 7 2 2 6 6 0 2 7 2 2 1 ph 6, 5 1 3 11	R. Chase J. Forbes B. Rusnica M. Lynch# M. Lynch# J. Nelson M. Malin Hawkcount (SO) Hawkcount (RC) P. Crosson M. Rhodes B. Nikula S. Broker# H. Zimberlin D. Blatt# A. Bragg# S. Broker#	7/31 8/8 8/9 8/22 8/29 American A 7/12-26 7/27-8/6 Spotted San 7/13 7/20 7/25 8/1 8/20 8/29 Solitary San 7/9 7/21 7/22 8/19 8/23	Winthrop W. Tisbury Nantucket Chatham Marblehead Avocet P.I. P.I. P.I. Mapiper Wachusett Res. Acton Westport Orleans Duxbury B. Sterling Longmeadow Indpiper Cumb. Farms Washington Acton Lexington Paxton Sheffield	18 yg 15 19 18 34 3 2 1 9 6 12 7 7 8 7 2 5 14 6 6	R. Stymeist P. Peterson S. Whiting# V. Laux# R. Merrill# R. Stymeist v.o. v.o. K. Bourinot# J. Forbes P. Champlin# M. Malin R. Bowes M. Lynch# S. Kellogg R. Stymeist# J. Pierce J. Forbes J. Forbes M. Lynch#

Grantor Valle	···lage		7/26	Plymouth B. 1500	CCDC (CAE)
Greater Yello 7/13		E. Hoopes	7/20	Plymouth B. 1500 P.I. 5400	SSBC (GdE) R. Heil
7/18	Sheffield	2 J. Pierce	8/4	Duxbury B. 4732	R. Bowes
8/3	WBWS 10	00 T. Green	8/7	Revere B. 1100	S. Zendeh
8/9		75 V. Laux#	8/16	Newbypt 2250	G. d'Entremont
8/12	Newbypt H. 35		8/22	Lynn B. 1600	R. Stymeist
8/13 Willet	Chatham 11	F. Atwood	Western San 7/24-8/31		
7/10	Newbypt H. 12	R. Heil	7/25	N. Truro 1	v.o. E. Hoopes
7/12		7 P. Kyle	7/27	Falmouth 2	C. Engstrom#
8/4		R. Bowes	8/19	Barnstable (S.N.) 2	P. Crosson
8/8		P. Champlin	8/22	Revere B. 1	R. Stymeist
8/9		00 V. Laux#	8/25	Chatham (N.B.) 2	K. Schopp
8/12	(,	P. Henson	8/30	Eastham (CGB) 2	I. Davies#
Lesser Yellov 7/10		R. Heil	Least Sandpi 7/9		D Champlin#
7/30		J. Collins#	7/12, 8/12	S. Dart. (A.Pd) 300 2 Chatham (S.B.)206, 300	P. Champlin# 0 Malin, Henson
8/8	GMNWR	4 J. Forbes	7/12, 6/12	P.I. 150	R. Heil
8/12	Newbypt H. 27		7/22	Acton 63	J. Forbes
8/22		5 D. Blatt#	8/14	Eastham (CGB) 250	R. Schain#
Upland Sand			8/31	Hadley 21	L. Therrien
7/6	Crane WMA	1 G. Hirth		ed Sandpiper	
7/16	Hanscom	1 R. Stymeist	7/26-8/31		
8/8 8/8	P.I.	S. Sullivan S. van der Veen	8/14 8/16	Eastham (CGB) 15 W. Tisbury 6	R. Schain#
8/10	Plymouth Cumb. Farms	2 G. d'Entremont	8/24	W. Tisbury 6 Chatham (N.B.) 25	S. Whiting# D. Bernstein
8/11	Dennis	1 B. Nikula	8/30	Eastham (CGB) 60	I. Davies#
8/29	Westport	P. Champlin	8/31	Winthrop B. 6	S. Riley
Whimbrel	1		Baird's Sand	lpiper	·
thr	P.I. 19 max 7/1		7/26-8/31		
7/28		20 A. Coffin	8/29	Nantucket 1	T. Pastuszak#
8/5		F. Atwood P. Champlin	Pectoral San 7/25		D Champlin#
8/10 8/17		P. Champlin G. Andrews#	8/6	Westport 5 GMNWR 2	P. Champlin# D. Swain
8/24	Lincoln	1 N. Levey#	8/12	Eastham (CGB) 2	M. Malin#
Hudsonian G		1 111 2010 / 11	Dunlin	24544441 (882) 2	1121 112411111
7/15-26	P.I.	2 v.o.	7/11	P.I. 1	D. Chickering
7/20	Newbypt. H.	2 S. Grinley#	7/30	S. Monomoy 12	J. Sender#
7/20	Oak Bluffs	J. Suozzo	8/27	Eastham (CGB) 5	K. Schopp
8/10 Morbled Cod	(,	T. Green#	Curlew San	dpiper Nahant 1	L. Pivacek
Marbled God 7/10	Monomoy	1 Y. Laskaris#	8/21 Stilt Sandpip		L. Fivacek
7/20-8/31		-3 v.o.	7/14-8/31		ax v.o.
8/7-14	Nantucket	1 T. Pastuszak#	8/3	Vineyard Haven 2	C. Duffie#
8/16	Dennis	3 B. Nikula#	8/5	Winthrop 2	R. Stymeist
8/21	Plymouth B.	1 E. Lipton	8/9	W. Tisbury 3	P. Gilmore
8/22	Edgartown	3 S. Whiting#	8/15	S. Monomoy 5	K. Yakola
8/21-30	P.I.	1 v.o.	8/21	N. Truro 2	L. Waters#
Ruddy Turns 8/4		76 R. Bowes	Buff-breaste 8/30	Edgartown 1	S. Whiting#
8/6		21 J. Young	8/31	P.I. 1	D. Deifik
8/9		55 V. Laux#	Short-billed		
8/10		21 M. Lynch#	7/6-8/31	P.I. 333 m	ax v.o.
8/14	Barnstable (S.N.)20		7/9	Cumb. Farms 1	R. Stymeist#
8/15	Dennis 15		7/9	S. Dart. (A.Pd) 116	P. Champlin#
8/17 8/23	1	P. Edmundson S. van der Veen	7/19-31 7/26	Chatham (S.B.) 675 m Plymouth B. 500	ax v.o. SSBC (GdE)
Red Knot	Plymouth B. 1	3. vali dei veeli	8/3	Plymouth B. 500 Eastham (F.E.) 600	J. Guion
7/18, 8/15	P.I. 3, 1	2 Wetmore, Keeley	8/4	Duxbury B. 210	R. Bowes
	Chatham 140, 37		Long-billed		
	Eastham (CGB)129		7/6-8/31	P.I. 1	V.O.
8/18	Monomoy 30		American W		
8/23	Plymouth B. 3	S. van der Veen	8/28	Medford 2	R. LaFontaine
Sanderling 7/16, 8/3	Ipswich (C.B.) 3, 3	J. Berry#	8/29 Wilson's Pha	P.I. 5	T. Wetmore
7/26	Plymouth B. 75		7/11	P.I. 1	T. Wetmore
8/4	Duxbury B. 19		8/21	Chatham (S.B.)	M. Faherty
8/9	Nantucket 300	00 V. Laux#	Red-necked	Phalarope	
8/10	Westport 150		8/13	Rockport (A.P.). 9	R. Heil
8/11	Chatham (S.B.) 95	M. Malin	8/14	P'town 3	B. Nikula
Semipalmate			8/23-24	S. of Nant. 349	BBC Pelagic
7/10 0/10	Chatham (S.B.)643	, 1800 M. Malin	8/26	Cape Cod Bay 7	K. Schopp#

	halarope (continued)		8/16	Eastham (CGB) 210	
8/30	E. of Chatham 2	B. Nikula#	8/24	Westport 24	.
Red Phalarop			8/29	P'town 200	
7/27	Stellwagen 1	BBC (I. Giriunas)	8/29	Chatham (N.B.) 300	C. Goodrich#
8/23-24	S. of Nant. 9		Common Ter	'n	
8/27	P.I. 1	B. Murphy	7/26	Plymouth B. 1000	SSBC (GdE)
Black-legged	Kittiwake		7/26	Edgartown 2050	S. Whiting#
7/6	P'town 7	L. Waters#	8/3	Ipswich (C.B.) 150	J. Berry
7/20	N. Truro 1	B. Nikula	8/10	Chatham 5000	R. Schain
8/31	Stellwagen 1	P. Crosson#	8/14	P'town 2300	B. Nikula
Sabine's Gul			8/15	Nantucket 600	D. Blatt#
8/24	P'town (R.P.)	B. Lagasse#	8/16	Eastham (CGB)2750	
Bonaparte's C			Arctic Tern		
7/1, 8/31	P'town 125, 20	B. Nikula	7/5	P'town 11	J. Trimble#
7/29	Nahant 150		7/13	Orleans 4	
8/6	Ipswich (C.B.) 68		7/30	Eastham (CGB) 4	
8/12	Wachusett Res. 3		8/9	Nantucket 1	V. Laux#
8/16	Newbypt 225		Forster's Ten		v. Lauxπ
Black-heade		G. d Entremont	7/31	Dennis 40	B. Nikula
7/3		C. Gjervold	8/14	Barnstable (S.N.) 34	
7/30			8/16		
8/10	Chatham 1	M. Keleher#	8/22	P.I. 3	
Little Gull	E 1 (GGD) 1	34 77 1 1 "	8/24	Westport 24	P. Champlin
7/11	Eastham (CGB) 1		Royal Tern	0.14	T 0137 ""
7/22	P.I. 11		7/1	Scituate 2	
7/27	P'town (Hatches) 4 1		7/7	Stellwagen 1	P. Peterson
8/10	Chatham 1		7/10	Eastham (CGB) 2	
8/13	Rockport (A.P.). 1	R. Heil	7/10-15	P.I. 2	
Laughing Gul			7/27	Nahant 1	
7/6, 8/26	P'town 250, 500	E. Hoopes	8/4	Nantucket 1	W. Scott
7/26	Plymouth B. 500	SSBC (GdE)	8/25	Westport 1	P. Champlin
7/29	Westport 500	P. Champlin	Sandwich Te	ern	•
8/3	Halifax 1	J. Young	7/10-14	P.I. 1	ad ph R. Heil + v.o.
8/13	Rockport (A.P.). 16	R. Heil	7/11	Eastham (CGB) 1	M. Keleher#
8/15	Dennis 700	B. Nikula	Black Skimn		
Lesser Black-			7/12	Plymouth B. 4	BBC (GdE)
7/4	Wellfleet 8	L. Waters	7/13-31	P.I. 1-5	
7/26	N. Truro 26		7/16	Winthrop 2	
	Inswich (C B) 1	M Brengle#	7/21	Nantucket 3	T Pastuszak#
8/2 8/5	Ipswich (C.B.) 1 Nantucket 31		7/21 7/29	Nantucket 3 Edgartown 12	
8/5	Nantucket 31	W. Scott	7/29	Edgartown 12	P. Sowizral#
8/5 8/22	Nantucket 31 S. Monomoy 8	W. Scott M. Faherty	7/29 7/29	Edgartown 12 Nahant 2	P. Sowizral# L. Pivacek
8/5 8/22 8/25	Nantucket 31	W. Scott M. Faherty	7/29 7/29 8/5	Edgartown 12 Nahant 2 Brewster 5	P. Sowizral# L. Pivacek D. Daniels
8/5 8/22 8/25 Least Tern	Nantucket 31 S. Monomoy 8 Plymouth H. 2	W. Scott M. Faherty B. Harris	7/29 7/29 8/5 8/6	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3	P. Sowizral# L. Pivacek D. Daniels M. Burnat#
8/5 8/22 8/25 Least Tern 7/1	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300	W. Scott M. Faherty B. Harris V. Laux#	7/29 7/29 8/5 8/6 8/25	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2	P. Sowizral# L. Pivacek D. Daniels M. Burnat#
8/5 8/22 8/25 Least Tern 7/1 7/6	Nantucket S. Monomoy Plymouth H. 2 Nantucket 300 W. Tisbury 200	W. Scott M. Faherty B. Harris V. Laux# C. Heald	7/29 7/29 8/5 8/6 8/25 South Polar	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson
8/5 8/22 8/25 Least Tern 7/1 7/6 7/15	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood	7/29 7/29 8/5 8/6 8/25 South Polar 7/11	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor
8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220 Chatham 193	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse#	7/29 7/29 8/5 8/6 8/25 South Polar 7/11 8/23-24	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor
8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220 Chatham 193 Ipswich (C.B.) 145	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry	7/29 7/29 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1 1 1 1 1 1 1 1 1	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic
8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3 8/6	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220 Chatham 193 Ipswich (C.B.) 145 P.I. 125	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry D. Adrien	7/29 7/29 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae 8/4	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1 ger Stellwagen 4	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic
8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3 8/6 8/23	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220 Chatham 193 Ipswich (C.B.) 145 P.I. 125 Orleans 75	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry D. Adrien	7/29 7/29 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae 8/4 8/9	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1 eger Stellwagen 4 P'town (R.P.) 2	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic NOAA (Nikula) M. Andersen
8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3 8/6 8/23 Gull-billed T	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220 Chatham 193 Ipswich (C.B.) 145 P.I. 125 Orleans 75	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry D. Adrien P. Henson	7/29 7/29 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae 8/4 8/9 8/23-24	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1 1 1 2 2 2 Stellwagen 4 P'town (R.P.) 2 S. of Nant. 2 2 S. of Nant. 2 2 3 2 2 3 3 3 3 3	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic NOAA (Nikula) M. Andersen BBC Pelagic
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8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3 8/6 8/23 Gull-billed T 7/13-18, 8,	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Chatham 193 Ipswich (C.B.) 145 P.I. 125 Orleans 75 een 29-30 P.I. Mashpee 1	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry D. Adrien P. Henson v.o. M. Keleher#	7/29 7/29 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae 8/4 8/9 8/23-24 8/29 Parasitic Jaeg	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1 teger Stellwagen 4 P'town (R.P.) 2 S. of Nant. 2 Chatham (N.B.) 1 teger 1 teger 1 teger 1 teger 2 teger 1 t	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic NOAA (Nikula) M. Andersen BBC Pelagic C. Goodrich#
8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3 8/6 8/23 Gull-billed T 7/13-18, 8/7/16 8/12	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220 Chatham 193 Ipswich (C.B.) 145 PI. 125 Orleans 75 ern 729-30 PI. 2,1 Mashpee 1 Chatham (S.B.) 2	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry D. Adrien P. Henson v.o. M. Keleher# B. Lagasse#	7/29 7/29 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae 8/4 8/9 8/23-24 8/29 Parasitic Jae 7/6, 8/30	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1 sger E. of Chatham (N.B.) 1 ger E. of Chatham 2, 2	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic NOAA (Nikula) M. Andersen BBC Pelagic C. Goodrich# B. Nikula#
8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3 8/6 8/23 Gull-billed T 7/13-18, 8,	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Chatham 193 Ipswich (C.B.) 145 P.I. 125 Orleans 75 een 29-30 P.I. Mashpee 1	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry D. Adrien P. Henson v.o. M. Keleher# B. Lagasse#	7/29 7/29 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae 8/4 8/9 8/23-24 8/29 Parasitic Jaeg	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1 teger Stellwagen 4 P'town (R.P.) 2 Chatham (N.B.) 1 teger Stellwagen 2 Chatham (N.B.) 1 teger 2 teger 2	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic NOAA (Nikula) M. Andersen BBC Pelagic C. Goodrich# B. Nikula# B. Nikula
8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3 8/6 8/23 Gull-billed T 7/13-18, 8/7/16 8/12	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220 Chatham 193 Ipswich (C.B.) 145 P.I. 125 Orleans 75 Gern (29-30 P.I. 2, 1 Mashpee 1 Chatham (S.B.) 2 Chatham (N.B.) 1	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry D. Adrien P. Henson v.o. M. Keleher# B. Lagasse#	7/29 7/29 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae 8/4 8/9 8/23-24 8/29 Parasitic Jae 7/6, 8/30	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1 2ger Stellwagen 4 P'town (R.P.) 2 Chatham (N.B.) 1 ger E. of Chatham 2, 2 Chatham 2, 1 2 2 5 Stellwagen 2 2 5 Stellwagen 2 2 2 5 Stellwagen 2 2 2 2 2 2 2 2 2	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic NOAA (Nikula) M. Andersen BBC Pelagic C. Goodrich# B. Nikula# B. Nikula
8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3 8/6 8/23 Gull-billed T 7/13-18, 8/7/16 8/12 8/14	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220 Chatham 193 Ipswich (C.B.) 145 P.I. 125 Orleans 75 Gern (29-30 P.I. 2, 1 Mashpee 1 Chatham (S.B.) 2 Chatham (N.B.) 1	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry D. Adrien P. Henson v.o. M. Keleher# B. Lagasse# B. Lagasse#	7/29 7/29 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae 8/4 8/9 8/23-24 8/29 Parasitic Jaeg 7/6, 8/30 7/23, 8/26	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1 teger Stellwagen 4 P'town (R.P.) 2 Chatham (N.B.) 1 teger Stellwagen 2 Chatham (N.B.) 1 teger 2 teger 2	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic NOAA (Nikula) M. Andersen BBC Pelagic C. Goodrich# B. Nikula# B. Nikula NOAA (Nikula)
8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3 8/6 8/23 Gull-billed T 7/13-18, 8/7/16 8/12 8/14 Caspian Tern	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220 Chatham 193 Ipswich (C.B.) 145 P.I. 125 Orleans 75 ern (29-30 P.I. 2, 1 Mashpee 1 Chatham (S.B.) 2 Chatham (N.B.) 1	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry D. Adrien P. Henson v.o. M. Keleher# B. Lagasse# B. Lagasse# M. Keleher#	7/29 7/29 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae 8/4 8/9 8/23-24 8/29 Parasitic Jaeg 7/6, 8/30 7/23, 8/26	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1 2ger Stellwagen 4 P'town (R.P.) 2 Chatham (N.B.) 1 ger E. of Chatham 2, 2 Chatham 2, 1 2 2 5 Stellwagen 2 2 5 Stellwagen 2 2 2 5 Stellwagen 2 2 2 2 2 2 2 2 2	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic NOAA (Nikula) M. Andersen BBC Pelagic C. Goodrich# B. Nikula# B. Nikula NOAA (Nikula) T. Green
8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3 8/6 8/23 Gull-billed T 7/13-18, 8/7/16 8/12 8/14 Caspian Tern 7/11	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220 Chatham 193 Ipswich (C.B.) 145 P.I. 125 Orleans 75 ern (29-30 P.I. 2, 1 Mashpee 1 Chatham (S.B.) 2 Chatham (N.B.) 1 Eastham (CGB) 4 Stellwagen 1 P.I. 1	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry D. Adrien P. Henson v.o. M. Keleher# B. Lagasse# M. Keleher# H. Miller T. Wetmore	7/29 7/29 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae 8/4 8/9 8/23-24 8/29 Parasitic Jaeg 7/6, 8/30 7/23, 8/26 8/4	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1 seer Stellwagen 4 P'town (R.P.) 2 S. of Nant. 2 Chatham (N.B.) 1 seer E. of Chatham 2, 2 Stellwagen 2 N. Truro 6 Orleans 10 10 10 10 10 10 10 1	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic NOAA (Nikula) M. Andersen BBC Pelagic C. Goodrich# B. Nikula# B. Nikula NOAA (Nikula) T. Green
8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3 8/6 8/23 Gull-billed T 7/13-18, 8/7/16 8/12 8/14 Caspian Tern 7/11 8/5 8/22	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220 Chatham 193 Ipswich (C.B.) 145 P.I. 125 Orleans 75 ern (29-30 P.I. 2, 1 Mashpee 1 Chatham (S.B.) 2 Chatham (N.B.) 1 Eastham (CGB) 4 Stellwagen 1 P.I. 1	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry D. Adrien P. Henson v.o. M. Keleher# B. Lagasse# B. Lagasse# H. Miller T. Wetmore	7/29 7/29 7/29 8/5 8/6 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae 8/4 8/9 8/23-24 8/29 Parasitic Jaeg 7/6, 8/30 7/23, 8/26 8/4 8/6 8/23 8/29	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1 eger Stellwagen 4 P'town (R.P.) 2 Chatham (N.B.) 1 eger Stellwagen 2 Chatham 2 2 E. of Chatham 2 2 2 Stellwagen 2 N. Truro 6 Orleans 10 Chatham (N.B.) 15	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic NOAA (Nikula) M. Andersen BBC Pelagic C. Goodrich# B. Nikula# B. Nikula NOAA (Nikula) T. Green B. Lagasse
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8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3 8/6 8/23 Gull-billed T 7/13-18, 8/7/16 8/12 8/14 Caspian Tern 7/11 8/5 8/22	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220 Chatham 193 Ipswich (C.B.) 145 P.I. 125 Orleans 75 ern (29-30 P.I. 2, 1 Mashpee 1 Chatham (S.B.) 2 Chatham (N.B.) 1 Eastham (CGB) 4 Stellwagen 1 P.I. 1	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry D. Adrien P. Henson V.O. M. Keleher# B. Lagasse# M. Keleher# H. Miller T. Wetmore C. Goodrich#	7/29 7/29 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae 8/4 8/9 8/23-24 8/29 Parasitic Jaeg 7/6, 8/30 7/23, 8/26 8/4 8/6 8/23 8/29 Long-tailed	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1 Stellwagen 4 P'town (R.P.) 2 Chatham (N.B.) 1 Stellwagen 4 12 Stellwagen 4 12 Stellwagen 2 N. Truro 6 Orleans 10 Chatham (N.B.) 15 Jaeger 15 Stellwagen 10 Chatham (N.B.) 15 Jaeger 15 Jaeger 17 Jaeger 17 Jaeger 17 Jaeger 17 Jaeger 18 Ja	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic NOAA (Nikula) M. Andersen BBC Pelagic C. Goodrich# B. Nikula# B. Nikula NOAA (Nikula) T. Green B. Lagasse C. Goodrich# BBC Pelagic
8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3 8/6 8/23 Gull-billed T 7/13-18, 8/ 7/16 8/12 8/14 Caspian Tern 7/11 8/5 8/22 8/29 Black Tern	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220 Chatham 193 Ipswich (C.B.) 145 P.I. 125 Gern 29-30 P.I. 2, 1 Mashpee 1 Chatham (S.B.) 2 Chatham (N.B.) 1 1 Eastham (CGB) 4 Stellwagen 1 P.I. 1 1 Chatham (N.B.) 1 1 Barnstable (S.N.) 7 7	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry D. Adrien P. Henson v.o. M. Keleher# B. Lagasse# M. Keleher# H. Miller T. Wetmore C. Goodrich# J. Glydon	7/29 7/29 8/5 8/6 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae 8/4 8/9 8/23-24 8/29 Parasitic Jae 7/6, 8/30 7/23, 8/26 8/4 8/6 8/23 8/29 Long-tailed 7/19	Edgartown 12 Nahant 2 Brewster 5 S. Monomoy 3 Squantum 2 Skua Stellwagen 1 S. of Nantucket 1 sger Stellwagen 4 P'town (R.P.) 2 S. of Nant. 2 Chatham (N.B.) 1 sger E. of Chatham 2, 2 Stellwagen 2 N. Truro 6 Orleans 10 Chatham (N.B.) 15 Jaeger S. of Nant. 2 2 2 2 2 2 3 3 3 3	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic NOAA (Nikula) M. Andersen BBC Pelagic C. Goodrich# B. Nikula# B. Nikula NOAA (Nikula) T. Green B. Lagasse C. Goodrich# BBC Pelagic
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8/5 8/22 8/25 Least Tern 7/1 7/6 7/15 7/29 8/3 8/6 8/23 Gull-billed T 7/13-18, 8/ 7/16 8/12 8/14 Caspian Tern 7/11 8/5 8/22 8/29 Black Tern 7/29 8/6 8/29	Nantucket 31 S. Monomoy 8 Plymouth H. 2 Nantucket 300 W. Tisbury 200 Dennis 220 Chatham 193 Ipswich (C.B.) 145 P.I. 125 ern 29-30 P.I. 2, 1 Mashpee 1 Chatham (S.B.) 2 Chatham (N.B.) 1 1 Eastham (CGB) 4 Stellwagen 1 P.I. 1 1 Barnstable (S.N.) 7 S. Monomoy 5 Nantucket 120 1	W. Scott M. Faherty B. Harris V. Laux# C. Heald P. Flood B. Lagasse# J. Berry D. Adrien P. Henson v.o. M. Keleher# B. Lagasse# M. Keleher# H. Miller T. Wetmore C. Goodrich# J. Glydon M. Burnat# V. Laux# T. Wetmore	7/29 7/29 8/5 8/6 8/5 8/6 8/25 South Polar 7/11 8/23-24 Pomarine Jae 8/4 8/9 8/23-24 8/29 Parasitic Jae 7/6, 8/30 7/23, 8/26 8/4 8/6 8/23 8/29 Long-tailed 7/19 8/4 8/6 8/9 8/13	Edgartown Nahant 2	P. Sowizral# L. Pivacek D. Daniels M. Burnat# D. Henderson T. Factor BBC Pelagic NOAA (Nikula) M. Andersen BBC Pelagic C. Goodrich# B. Nikula# B. Nikula NOAA (Nikula) T. Green B. Lagasse C. Goodrich# BBC Pelagic NOAA (Nikula) T. Freen B. Lagasse C. Goodrich# T. Green B. Lagasse C. Goodrich# BBC Pelagic NOAA (Nikula) T. Pastuszak# F. Hosley R. Heil
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DOVES THROUGH FINCHES

There were three reports of **White-winged Dove** noted this period, each seen only for one day. One was found in Newbury on July 13, not too far from one reported at Crane Beach in Ipswich on June 27.

Tom Gagnon has been counting Common Nighthawks for 41 years and reports that for the last several years the migration was poor, but this year a record 7,791 individuals were tallied from Tom's Northampton site, surpassing his previous high of 7,028 in 1981. Other good counts were noted from Southwick, Pittsfield and at the Worcester Airport in Leicester. **Chuck-wills-widows** continued in Falmouth and Truro, and a good number of Eastern Whip-poor-wills were calling as late as August 26 on Plum Island. A breeding plumaged male **Rufous Hummingbird** was present at a feeder in Townsend for five days. Although females and immatures have been recorded in increasing numbers in recent years, since 1998 there have only been four records of breeding plumaged males.

A pair of Monk Parakeets was noted building a nest in Allston but further investigation revealed that they were pets of a nearby resident who let them free. An adult **Red-headed Woodpecker** was discovered on a sightseeing trip to the grave of Henry David Thoreau at Sleepy Hollow Cemetery in Concord. A report of an Olive-sided Flycatcher on July 4 in Southwick suggests the possibility of breeding. A careful count of over 100 Red-eyed Vireos was made over a portion of October Mountain State Forest in the Berkshires at the end of July. The annual gathering of Tree Swallows occurs in August but a tally of 10,000 on Plum Island was dwarfed by last year's estimate of 50,000 at the same time. Purple Martins had a successful year in Rehoboth with 311 birds fledged and in Mashpee with 66 young fledged. A male Blue Grosbeak was photographed in South Carver on July 5, a date far outside of typical migration dates. It may have arrived via Hurricane Arthur, but a potential breeder cannot be ruled out.

Other highlights include the first Philadelphia Vireo on August 31, Prothonotary and Yellow-throated warblers at Marblehead Neck, a Kentucky Warbler in Westport, a Tennessee on August 5 in Sudbury, and a Lark Sparrow in the Mission Hill section of Boston.

R. Stymeist

White-winge	ed Dove			Chuck-will'	s-widow		
7/13	Newbury	1 ph	L. Waters	7/2	Truro	1	T. Green
7/18	Nantucket	1 ph	V. Laux	7/12	Falmouth	1	K. Fiske
8/27	Manomet	1 ph	I. Davies#	Eastern Whi	p-poor-will		
Yellow-billed	l Cuckoo	•		7/1	W. Gloucester	2	J. + M. Nelson
7/4	Quabog IBA	3	M. Lynch#	8/26	P.I.	9	T. Wetmore
Black-billed			•	Ruby-throate	ed Hummingbird		
8/12	Hubbardston	3	W. Howes	8/3	Lexington	12	C. Cook
Barn Owl				8/9	Whately	43	T. Gagnon
7/30	Edgartown	3	B. Rusnica	8/14	GMNŴR	15	A. Bragg#
Barred Owl	Ü			8/23	Westport	12	P. Champlin
7/27	Andover	2	J. Berry#	Rufous Hun	nmingbird		•
8/23	Harvard	2	J. Moosbruker	7/20-25	Townsend	1 ph	T. Rossbach
8/24	Rehoboth	pr	K. Bartels	American Ko	estrel	•	
Northern Saw	v-whet Owl	•		8/3	Lancaster	3	M. Lynch#
8/20	Dover	2	J. O'Connell	8/12	Crane WMA	4	F. Atwood
Common Nig	hthawk			8/14	Windsor	3	T. Gagnon
8/15-31	Northampton	7791	T. Gagnon	8/16	Westfield	6	S. Kellogg
8/20	Amherst	175	S. Surner	8/21	Hadley	6	B. Emily
8/21	Northampton	949	T. Gagnon	Merlin			
8/21	Southwick	175	S. Kellogg	8/12	Nantucket	3	T. Pastuszak#
8/23	Northampton	2696	T. Gagnon	Peregrine Fa	ılcon		
8/23	Leicester	511	M. Lynch#	8/8	Hadley	2	L. Therrien
8/24	Southwick	200	S. Kellogg	8/28	Eastham (CGB)	2 3	M. Faherty#
8/26	Pittsfield	300	S. Lewis	8/31	P.I.	3	T. Wetmore
8/26	Belchertown	170	L. Therrien	Monk Parake	eet		
8/26-28	Mt.A.	75	R. Stymeist#	7/26	Allston	2	R. Doherty

Red-headed Woodpecker			8/16	Woburn (HP)	5	M. Rines#
7/20 Concord	1 ad	N. Hayward#	Philadelphia	Vireo		
Red-bellied Woodpecker	4	S. Johnson	8/31 Ped avad Vi	P.I.	1	B. Harris#
8/3 Barnstable 8/14 Edgartown	4	J. Seward#	Red-eyed Vi 7/5	Quabbin (G10)	67	SSBC (GdE)
8/27 Brewster	5	D. Clapp	7/6	Wendell	85	M. Lynch#
Yellow-bellied Sapsucker		11	7/26	October Mt.	109	M. Lynch#
7/12 Konkapot	6	M. Lynch#	8/24	Sandisfield	41	M. Lynch#
7/13 Ware R. IBA	6	M. Lynch#	Fish Crow	To anni ala		I D
Hairy Woodpecker 7/5 Quabbin (G10	0) 6	SSBC (GdE)	7/thr 7/26	Ipswich Plymouth	6 5	J. Berry SSBC (GdE)
7/13 Ware R. IBA	5) 5	M. Lynch#	7/26	Brewster	9	S. Finnegan#
8/8 Falmouth	5	M. Malin	8/1	Canton	3	G. d'Entremont
Northern Flicker			8/8	WBWS	8	D. Daniels
7/18 Mt.A.	10	R. Stymeist	8/26	Mashpee	6	P. Crosson
8/3 Brewster	10	B. Lagasse	Common Ra		2	T. Fr. dee.
8/26 Medford Pileated Woodpecker	24	M. Rines	7/1 7/18	Waltham Newton	2	J. Forbes P. Peterson
7/20 DFWS	3	P. Sowizral	7/31	Plymouth	3	K. Doyon
8/9 Wendell	4	M. Lynch#	8/14	GMNWR	3	A. Bragg#
8/23 Stow	2	J. Milhaven#	8/22	Medford	2	P. Devaney#
Olive-sided Flycatcher			8/25	Mt. Wachusett	9	S. Olson
7/4 Southwick	. 1	S. Kellogg	8/26	Barre Falls	3	W. Howes
8/19-31 Reports of inc	div. from 10	locations	Horned Lark		7	D. Class
Eastern Wood-Pewee 7/6 Wendell	13	M. Lynch#	7/5 7/6	P'town Chatham (S.B.)		D. Clapp M. Malin
8/3 Brewster	7	B. Lagasse	7/26	Plymouth B.	1	SSBC (GdE)
8/6 Harwich	12	F. Atwood	8/4	Chatham (N.B.)		B. Lagasse
8/18 Waltham	7	J. Forbes	8/9	Orange	3	J. Young
8/31 Ware R. IBA	5	M. Lynch#	8/18	Hadley	1	L. Therrien
Yellow-bellied Flycatcher	` 2	17. 11	Purple Marti		2	I Cl
8/22 Chatham (MI 8/24 Florida) 2	K. Hansen J. Young	7/1 7/3	Norfolk Mashpee	3 134	J. Glover M. Keleher
8/29 Manomet	1 b	T. Lloyd-Evans	7/4-12		d, 66 yg	M. Keleher
Acadian Flycatcher	10	1. Bioya Evans	7/5	Rehoboth 58 pi		R. Marr#
7/12 W. Quabbin	1	S. Schwenk	7/14	P.I.	9	J. Keeley#
Alder Flycatcher			7/26	Westwood	1	E. Nielsen
7/12 Konkapot	6	M. Lynch#	Tree Swa		1200	I.D
7/26 October Mt. 8/4 New Braintre	9 e 6	M. Lynch#	8/3 8/8	Ipswich (C.B.) P.I. 1	0000	J. Berry D. Chickering
Willow Flycatcher	. 0	M. Lynch#	8/22	E. Boston (B.I.)		R. Stymeist
7/4 Wakefield	7	P. + F. Vale	8/22		1000	P. Crosson
7/31 P.I.	8	R. Heil	8/23	Falmouth	1500	G. Hirth
8/16 Lexington	3	J. Forbes	8/23		0000	V. Laux#
Least Flycatcher	4	M. I 1.#		ugh-winged Swall		E Candon
7/6 Wendell 8/20 Belmont	4 1	M. Lynch# J. Forbes	7/2 7/4	Truro Wakefield	6 6	E. Goodman P. + F. Vale
Great Crested Flycatcher	1	J. Polices	7/14	Wachusett Res.	15	M. Lynch#
7/3 Brewster	5	D. Clapp	7/17	Chatham	8	R. Schain
7/18 Wellfleet	6	T. Green#	7/28	Eastham (CGB)	13	K. Schopp
8/6 Harwich	5	F. Atwood	Bank Swallo			
8/10 Mashpee	5	M. Malin	7/1	Nantucket	25	V. Laux#
8/25 Groveland	1	D. Chickering	7/31 8/6	P.I. Ipswich (C.B.)	40 12	R. Heil D. Williams
Eastern Kingbird 7/12 Konkapot	22	M. Lynch#	8/8	Longmeadow	150	S. Kellogg
8/12 P.I.	46	N. Landry	8/14	Eastham (CGB)		P. Trimble#
8/15 Longmeadow	18	M. Moore	8/14	Chatham	18	T. Hurley#
8/19 Barnstable (S	.N.) 23	P. Crosson	Cliff Swallo	W		•
8/26 P.I.	14	J. Berry#	7/1	Amesbury	8	R. Stymeist
White-eyed Vireo 7/27 Westport	1	J. Young	7/1 7/12	Newbypt H. Konkapot	6 8	T. Wetmore#
7/27 Westport 8/25 Acoaxet	4	M. Lynch#	7/13	Sunderland	4	M. Lynch# A. Richards
Yellow-throated Vireo	-	WI. Lyncin	8/7	Lexington	2	J. Forbes
7/4 Quabog IBA	5	M. Lynch#	Barn Swallo			
7/12 Konkapot	2	M. Lynch#	7/31	Eastham (F.H.)	80	F. Atwood
8/24 Sandisfield	2	M. Lynch#	8/7	Westport	218	P. Champlin
Blue-headed Vireo Winchenden	Dov. 0	M I mak#	8/10	Chatham	92 70	A. Horn
7/18 Winchendon- 8/17 Ware R. IBA	Roy. 9 5	M. Lynch# M. Lynch#	8/13 8/23	Southwick Nantucket	70 140	S. Kellogg V. Laux#
Warbling Vireo	3	ivi. Lynch#	8/27	Brewster	105	D. Clapp
7/4 Wakefield	17	P. + F. Vale	Red-breasted			c.mpp
7/8 Assabet NWF	₹ 6	M. Lynch#	7/10	Winghandon De	w 27	M. Lynch#
770 71334000111111	. 0	WI. Lylicii#	7/18	Winchendon-Ro	y. 21	WI. LyπCΠπ

Red-breaste	d Nuthatch (continu	ied)		8/21	P.I.	7	T. Wetmore
8/4	Chatham	12	F. Atwood	Cedar Waxv			
8/18	Sandwich	9	T. Swain#	7/31	P.I.	97	R. Heil
8/20	Mashpee	10	M. Malin	8/6	Ware R. IBA	36	M. Lynch#
8/29	Westport	4	P. Champlin	8/20	Wachusett Res.		M. Lynch#
8/30	Truro	9	J. Young	8/30	Nantucket	30	T. Pastuszak
Brown Cree		2	M T1.#	Ovenbird	0 .111. (C10)	22	CCDC (C.IE)
7/8 8/6	Assabet NWR Harwich	3	M. Lynch#	7/5 7/6	Quabbin (G10)	23 38	SSBC (GdE)
8/17	Ware R. IBA	3	F. Atwood	7/31	Wendell Barnstable	38 14	M. Lynch# M. Malin
House Wren		3	M. Lynch#	8/21	Bourne	5	M. Malin
7/12	Konkapot	11	M. Lynch#	8/28	Weston	3	J. Forbes
7/27	E. Sandwich	5	M. Malin	Worm-eatin		3	3.101003
7/30	Ware R. IBA	8	M. Lynch#	7/12	Mt. Washington	n 1	M. Lynch#
8/22	Lexington	9	M. Rines	8/25	MNWS	1	D. Ely#
Winter Wrei				Louisiana V	Vaterthrush		•
7/6	Wendell	3	M. Lynch#	7/12	Mt. Washington	n 3	M. Lynch#
7/18	Winchendon-Ro	y. 4	M. Lynch#	8/5	Westport	1	P. Champlin
Marsh Wren	1			8/8	Sandisfield	2	M. Lynch#
7/2	GMNWR	30	A. Bragg#	8/11	Southwick	1	S. Kellogg
7/12	Konkapot	4	M. Lynch#	Northern W			
7/29	Harwich	11	F. Atwood	8/1	N. Truro	3	T. Green
7/31	P.I.	37	R. Heil	8/7	Westport	12	P. Champlin
8/9	Wellfleet	9	S. Broker#	8/16	Nahant	2	R. Stymeist
Blue-gray G		7	A D	8/26	Medford	3	M. Rines
7/2	GMNWR	7	A. Bragg#	Blue-winge		2	M I
7/9 8/25	Mashpee	5 3	M. Keleher#	7/8 7/26	Assabet NWR	2 5	M. Lynch# J. Forbes
8/26	Groveland Medford	2	D. Chickering M. Rines	7/31	Waltham P.I.	2	R. Heil
	wned Kinglet	2	WI. KIIIES	8/9	Westport	3	P. Champlin
7/3	Falmouth	2	G. Hirth	8/28	Medford	2	R. LaFontaine
8/9	Sharon	1	V. Zollo		white Warbler	_	R. Lai ontaine
8/24	Sandisfield	5	M. Lynch#	7/5	Quabbin (G10)	3	SSBC (GdE)
Ruby-crown			111. Ly 11011	7/13	Freetown	3	G. d'Entremont
8/22	S. Quabbin	1	L. Therrien	8/7	Westport	4	P. Champlin
Eastern Blue				8/18	Waltham	6	J. Forbes
8/24	DFWS	37	P. Sowizral	8/24	Sandisfield	17	M. Lynch#
8/31	Concord	20	C. Cook	8/28	Wendell	10	M. Lynch#
Veery				8/28	Medford	2	R. LaFontaine
7/5	Quabbin (G10)	14	SSBC (GdE)		ıry Warbler		
7/6	Wendell	51	M. Lynch#	8/25	MNWS	1	D. Ely#
7/13	Freetown	17	G. d'Entremont	Tennessee V			m a .
7/13	Ware R. IBA	29	M. Lynch#	8/5	Sudbury	1	T. Spahr
8/30	P.I.	1	J. Keeley#	8/25	Lenox	1	J. Young
Swainson's		4	C 4'E-4	Nashville W		1 1	M I
7/5 8/4	Mt. Greylock Amherst	1	G. d'Entremont J. Rose	7/5, 30 7/18	Ware R. IBA Winchendon-R	1, 1	M. Lynch#
Hermit Thru		1	J. Kose	8/29	Groveland	0y. 2 1	M. Lynch# D. Chickering
7/5	Quabbin (G10)	5	SSBC (GdE)	Mourning V		1	D. Chickering
7/13	Freetown	4	G. d'Entremont	7/5	Mt. Greylock	2	G. d'Entremont
7/18	Winchendon-Ro		M. Lynch#	7/18	Winchendon-R		M. Lynch#
7/31	Barnstable	7	M. Malin	8/23	Woburn	1	M. Rines#
8/8	Harwich	6	F. Atwood	8/28	Westport	1	P. Champlin
Wood Thrus	sh			Kentucky V	Warbler		•
7/5	Quabbin (G10)	3	SSBC (GdE)	8/29	Westport	1	P. Champlin
7/6	Wendell	6	M. Lynch#	Common Ye			
8/3	Lexington	2	C. Cook	7/1	Truro	29	T. Green#
8/26	Medford	2	M. Rines	7/4	Wakefield	24	P. + F. Vale
Gray Cathir		20	X7.X //	7/6	Wendell	45	M. Lynch#
7/1	Nantucket	30	V. Laux#	7/30	Ware R. IBA	45	M. Lynch#
7/4 7/12	Wakefield Konkapot	34 47	P. + F. Vale M. Lynch#	7/31 American R	P.I.	24	R. Heil
7/12		60	S. Finnegan#	8/9	Wendell	6	M. Lvnch#
	Prometor				WEHLEH	U	IVI. LYIICII#
7/31	Brewster			8/23	Waltham	6	I Éorbee
7/31 8/19	P.I.	96	R. Heil	8/23 8/23	Waltham Westport	6 15	J. Forbes
8/19	P.I. Sandwich	96 32	R. Heil M. Malin	8/23	Westport	15	P. Champlin
8/19 8/24	P.I.	96 32 27	R. Heil M. Malin M. Rines	8/23 8/24	Westport Burlington	15 6	P. Champlin M. Rines
8/19	P.I. Sandwich Burlington Manomet	96 32	R. Heil M. Malin	8/23 8/24 8/28	Westport Burlington Medford	15	P. Champlin
8/19 8/24 8/24	P.I. Sandwich Burlington Manomet	96 32 27 27	R. Heil M. Malin M. Rines	8/23 8/24	Westport Burlington Medford	15 6	P. Champlin M. Rines
8/19 8/24 8/24 Brown Thra	P.I. Sandwich Burlington Manomet isher	96 32 27 27 2 2	R. Heil M. Malin M. Rines G. d'Entremont	8/23 8/24 8/28 Cape May V 8/24 8/29	Westport Burlington Medford Warbler Monroe Westport	15 6 6	P. Champlin M. Rines R. LaFontaine
8/19 8/24 8/24 Brown Thra 7/4 7/6 8/4	P.I. Sandwich Burlington Manomet ssher Orleans Chatham W. Tisbury	96 32 27 27 2 2 2	R. Heil M. Malin M. Rines G. d'Entremont B. Marsh T. Tinsley B. Atanasio	8/23 8/24 8/28 Cape May V 8/24 8/29 Cerulean W	Westport Burlington Medford Warbler Monroe Westport Yarbler	15 6 6 3 1	P. Champlin M. Rines R. LaFontaine J. Young P. Champlin
8/19 8/24 8/24 Brown Thra 7/4 7/6	P.I. Sandwich Burlington Manomet ISHE Orleans Chatham	96 32 27 27 2 2	R. Heil M. Malin M. Rines G. d'Entremont B. Marsh T. Tinsley	8/23 8/24 8/28 Cape May V 8/24 8/29	Westport Burlington Medford Warbler Monroe Westport	15 6 6	P. Champlin M. Rines R. LaFontaine J. Young

Northern Paru	ıla			Wilson's Wart	oler		
7/4	Wellfleet	1	S. Broker#	8/18	Hadley	1	J. Jorgensen
7/10	Brewster	1 1	P. Trimble#	8/23	Mt. Wachusett	1	M. Gimpel
8/2 8/7	P.I. Westport	1	J. Keeley# P. Champlin	8/23 8/24	Natick Sudbury	1	G. Dysart J. Forbes
8/24	Burlington	i	M. Rines	8/29	MNWS	î	R. Stymeist
Magnolia Wai	bler .			8/29	Roxbury	1	R. Merrill
7/5	Ware R. IBA	3	M. Lynch#	Eastern Town		22	34.7. 1.0
7/26 8/28	October Mt. Medford	2 2	M. Lynch# R. LaFontaine	7/8 7/13	Assabet NWR Freetown	23 43	M. Lynch# G. d'Entremont
8/31	Ware R. IBA	3	M. Lynch#	7/30	Mashpee	35	M. Malin
Bay-breasted		-	,	7/31	P.I.	39	R. Heil
8/25	Chester	1	J. Young	7/31	Barnstable	41	M. Malin
8/25	MNWS	2	D. Ely#	8/9	Wendell	42	M. Lynch#
8/28 8/29	Chestnut Hill Sudbury	1 1	R. Merrill T. Spahr	8/26 Clay-colored	Nantucket	30	D. Blatt#
8/31	Otis	1	J. Forbes	7/12	Bourne	1	P. Trimble
Blackburnian				8/29	Hadley	1	L. Therrien
7/5	Quabbin (G10)	6	SSBC (GdE)	Field Sparrow			
7/6	Wendell	4	M. Lynch#	7/31	Barnstable	15	M. Malin
8/31 8/31	P.I. Chestnut Hill	1 1	B. Harris# R. Doherty	8/1 8/3	Crane WMA Lancaster	10 4	K. Fiske M. Lynch#
Yellow Warble		1	R. Donerty	Vesper Sparro		7	WI. Lynch
7/4	Wakefield	17	P. + F. Vale	7/19	Lancaster	2	J. Young
7/17	Chatham	28	R. Schain	8/16	Hadley	4	S. Surner
7/25	Westport	101	P. Champlin#	Lark Sparrov			D M 311
7/31 8/2	P.I. Woburn (HP)	55 14	R. Heil M. Rines	8/29 Savannah Spa	Roxbury	1	R. Merrill
Chestnut-side		14	WI. Kilies	7/1	Nantucket	14	V. Laux#
7/6	Wendell	26	M. Lynch#	7/12	Bourne	10	J. McCumber#
7/30	Hubbardston	3	W. Howes	7/24	Chatham (N.B.)	11	B. Lagasse
8/24	Sudbury	2 2	J. Forbes	Grasshopper S		2	I M.C
8/28 Blackpoll War	Chestnut Hill	2	R. Merrill	7/12 7/13	Bourne Crane WMA	2 8	J. McCumber# V. Zollo
7/5	Mt. Greylock	4	G. d'Entremont	8/29	Westport	1	P. Champlin
8/10	P.I.	1	B. Harris#	Saltmarsh Spa		_	
8/17	Barre Falls	1	M. Lynch	7/15	Barnstable (S.N.)		P. Crosson#
	d Blue Warbler	1.5	CCDC (CJE)	7/16 7/18	Nantucket	5 11	D. Blatt#
7/5 7/6	Quabbin (G10) Wendell	15 32	SSBC (GdE) M. Lynch#	7/18 7/20	Chatham Edgartown	5	R. Schain S. Whiting#
8/31	Otis	8	J. Forbes	8/8	P.I.	10	J. Berry#
Pine Warbler				8/10	Westport	6	M. Lynch#
7/6	Wendell	23	M. Lynch#	8/16	Mattapoisett	3	M. Lynch#
7/13 7/13	Wachusett Res. Freetown	13 11	K. Bourinot# G. d'Entremont	Seaside Sparre 7/6	P.I.	3	T. Wetmore
8/17	Ware R. IBA	33	M. Lynch#	8/10	Chatham	1	R. Schain
Yellow-rumpe		00	1,11 23,11011	8/22	Eastham (CGB)	1	K. Schopp#
7/3	Ware R. IBA	17	M. Lynch#	White-throate			
7/18	Winchendon-Roy		M. Lynch#	7/18	Winchendon-Roy.		M. Lynch#
8/17 8/30	Ware R. IBA P.I.	14 1	M. Lynch# J. Keeley#	7/26 Dark-eyed Jur	October Mt.	2	M. Lynch#
Yellow-throa		1	J. Reciey#	7/12	Mt. Washington	2	M. Lynch#
8/12-14	MNWS	1	J. Smith#	7/26	October Mt.	4	M. Lynch#
Prairie Warble			D. G	8/25	Mt. Wachusett	3	S. Olson
7/3	Crane WMA Wendell	4 5	P. Crosson#	Scarlet Tanage		13	M. Lymah#
7/6 7/6	Brewster	6	M. Lynch# S. Finnegan	7/8	Wendell Assabet NWR	10	M. Lynch# M. Lynch#
8/28	Westport	6	P. Champlin	7/13	Ware R. IBA	9	M. Lynch#
8/30	Truro	4	J. Young	Rose-breasted	Grosbeak		·
	d Green Warbler	-	CCDC (CIE)	7/5	Quabbin (G10)	4	SSBC (GdE)
7/5 7/6	Quabbin (G10) Wendell	5 23	SSBC (GdE) M. Lynch#	7/30 8/3	Ware R. IBA Lexington	9 11	M. Lynch# C. Cook
7/18	Winchendon-Roy		M. Lynch#	Blue Grosbea		11	C. COOK
8/31	Otis	5	J. Forbes	7/5	S. Carver	1 m ph	J. Mason
Canada Warbl				Indigo Buntin		•	
7/6	Wendell	2	M. Lynch#	7/3	Crane WMA	5	P. Crosson#
7/17 7/30	Concord Ware R. IBA	3 4	D. Swain M. Lynch#	7/30 8/31	Ware R. IBA Concord	6 8	M. Lynch# C. Cook
8/24	Sandisfield	3	M. Lynch#	Dickcissel	Concord	U	C. COOK
8/26	Medford	3	M. Rines	8/14	Eastham (F.E.)	1	F. Atwood
				8/15	Longmeadow	1	M. Moore
				8/15	Belchertown	1	L. Therrien

Dickcissel (continued)			7/22	P.I.	4	T. Wetmore
8/16	Hadley	1	S. Surner	8/3	WBWS	4	T. Green
8/17	P'town	1	B. Nikula	8/10	Newton	2	H. Miller
Bobolink				8/15	Northampton	1	T. Gagnon
8/4	P.I.	120	D. Williams	Baltimore (Oriole		•
8/4	Hardwick	10	M. Lynch#	7/3	Crane WMA	12	P. Crosson#
8/14	GMNWR	16	A. Bragg#	7/8	Assabet NWR	16	M. Lynch#
8/29	Northampton	465	T. Gagnon	7/31	P.I.	13	Ř. Heil
8/29	Lexington	20	M. Rines	8/7	P'town	11	F. Atwood
Eastern Mea	dowlark			8/24	Burlington	8	M. Rines
7/8	Wachusett Res.	8	M. Lynch#	8/29	Westport	7	P. Champlin
7/12	Bourne	4	P. Trimble	Purple Find	h Î		•
7/31	P.I.	2	T. Wetmore	7/12	Konkapot	4	M. Lynch#
8/13	Hadley	2	S. Surner	8/6	Ipswich (C.B.)	5	D. Williams
8/16	Westfield	8	S. Kellogg	8/16	P.I.	5	G. d'Entremont
Brown-head	ed Cowbird			Red Crossb	ill		
7/18	Chatham	75	R. Schain	7/4	S. Quabbin	1	L. Therrien
8/30	Edgartown	50	S. Whiting#	Evening Gr	osbeak		
Orchard Orio	ole			8/10	Heath	20	D. Potter
7/12	Crane WMA	22	J. Young	8/18	Chesterfield	5	G. Hurley
7/18	Chatham	4	R. Schain				



PILEATED WOODPECKER TRIO BY SANDY SELESKY

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		ONWR Oxbow National Wildlife Refuge
Location-#	MAS Breeding Bird Atlas Block	PG Public Garden, Boston
A.A.	Arnold Arboretum, Boston	P.I. Plum Island
ABC	Allen Bird Club	Pd Pond
A.P.	Andrews Point, Rockport	POP Point of Pines, Revere
A.Pd	Allens Pond, S. Dartmouth	PR Pinnacle Rock, Malden
B.	Beach	P'town Provincetown
Barre F.D.	Barre Falls Dam	Pont. Pontoosuc Lake, Lanesboro
B.I.	Belle Isle, E. Boston	R.P. Race Point, Provincetown
B.R.	Bass Rocks, Gloucester	Res. Reservoir
BBC	Brookline Bird Club	RKG Rose Kennedy Greenway, Boston
BMB	Broad Meadow Brook, Worcester	S.B. South Beach, Chatham
BNC	Boston Nature Center, Mattapan	S.N. Sandy Neck, Barnstable
C.B.	Crane Beach, Ipswich	SRV Sudbury River Valley
CGB	Coast Guard Beach, Eastham	SSBC South Shore Bird Club
C.P.	Crooked Pond, Boxford	TASL Take A Second Look, Boston Harbor Census
C.r. Cambr.		
CCBC	Cambridge	
	Cape Cod Bird Club	WE World's End, Hingham WMWS Wachusett Meadow WS
Corp. B.	Corporation Beach, Dennis	
Cumb. Farms	Cumberland Farms, Middleboro	Wompatuck SP Hingham, Cohasset, Scituate, Norwell
DFWS	Drumlin Farm Wildlife Sanctuary	Worc. Worcester
DWMA	Delaney WMA, Stow, Bolton, Harvard	Other Albert diese
DWWS	Daniel Webster WS	Other Abbreviations
E.P.	Eastern Point, Gloucester	ad adult
F.E.	First Encounter Beach, Eastham	b banded
F.H.	Fort Hill, Eastham	br breeding
F.P.	Fresh Pond, Cambridge	dk dark (morph)
F.Pk	Franklin Park, Boston	f female
G40	Gate 40, Quabbin Res.	fide on the authority of
GMNWR	Great Meadows NWR	fl fledgling
H.	Harbor	imm immature
H.P.	Halibut Point, Rockport	juv juvenile
HP	Horn Pond, Woburn	lt light (morph)
HRWMA	High Ridge WMA, Gardner	m male
I.	Island	max maximum
IRWS	Ipswich River WS	migr migrating
L.	Ledge	n nesting
MAS	Mass Audubon	ph photographed
MP	Millennium Park, W. Roxbury	pl plumage
M.V.	Martha's Vineyard	pr pair
MBWMA	Martin Burns WMA, Newbury	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
Newbypt	Newburyport	

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://massbird.org/birdobserver/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 <mattpgarvey@gmail.com>.

ABOUT THE COVER

Cooper's Hawk

With its powerful, short and rounded wings and its long tail that aids in maneuverability, the Cooper's Hawk (*Accipiter cooperii*) is the quintessential hunter of birds and small mammals. It is midway in size between the larger Northern Goshawk and the smaller Sharp-shinned Hawk. The sexes are similar in plumage: finely barred rufous below, blue gray above, a pale nape, and a long tail that is bluish gray barred with black and tipped with white. However, sexes are dimorphic in size with females a third larger than males. Juveniles are brown above and white below with thin dark streaks, some of which end in teardrop shapes. The belly is white and relatively unstreaked. Juvenile Sharp-shinned Hawks have coarser and more extensive light brown or rufous streaking below. Cooper's Hawks have more rounded tails than Sharp-shins and their heads are proportionally larger and protrude significantly in front of their wings. The Cooper's Hawk's tail is proportionally longer and thinner than that of the Northern Goshawk. Cooper's Hawk is part of a superspecies that includes Gundlach's Hawk in Cuba and Bicolored Sparrow Hawk of eastern Mexico. The species is monotypic with no subspecies currently recognized.

The breeding range of the Cooper's Hawk includes almost all of southern Canada and the United States except along southern Texas, the Gulf Coast, and southern Florida. It also breeds in a narrow band in western Mexico that extends to the center of the country. The northern population is partially migratory, wintering in the United States and south throughout Mexico to Guatemala and Belize. In Massachusetts the Cooper's Hawk is an increasingly common but inconspicuous breeder and an uncommon migrant and winter resident. Migrants arrive in March and April and leave in September and October. Population declines during the DDT era have rebounded in the past several decades, perhaps influenced by an increasingly forested landscape and the increased presence of winter bird feeders, which concentrate their prey. In fall, migrants tend to follow ridges of the Appalachians, and peninsulas such as Cape May, New Jersey, which often concentrate substantial numbers following winds from the northwest.

The species is monogamous and produces a single brood per season. The birds are solitary during the nonbreeding season. Males give a *kik* call to announce their presence and location. During courtship, males bring food to females who utter a *whaaa* call that may signal nonaggression or submission. Females give a *cah-cah-cah* alarm call with interspersed *kik* notes that may serve to enforce domination over the much smaller males. Before nest-building, males give a bowing display that may signal readiness to nest or to appease the larger female. The difference in size between Cooper's Hawk mates is one of the most pronounced in the hawk world. In aggressive display to intruders, the hawk lowers its head and raises its crest, keeping its wings outstretched and its tail fanned.

The Cooper's Hawk's breeding habitat is cosmopolitan: deciduous, evergreen, and mixed forest; forest edge, suburban, and even urban areas. Data is lacking on nest site

selection, but it is known that Cooper's Hawks may reuse nests in subsequent years. The nest is a large, broad, nearly flat structure of sticks lined with bark. It is usually 25-50 feet high in a tree, in either a tree fork or on a horizontal branch next to the trunk. The usual clutch is three to five pale cobalt blue eggs. Only the female develops a brood patch and she does most of the incubating, although the male occasionally takes a short shift as well. The eggs hatch in about five weeks. The young are altricial and helpless but covered with down upon hatching. The male provides most of the food for both the female and the chicks. The female tears up the food for the chicks for the first three weeks after they hatch; thereafter, the chicks can dismember the prey themselves. Chicks fledge in four to four and a half weeks but return to the nest for more than a week. There is little information on the postfledging period for the young.

Cooper's Hawks often hunt from a perch and attack a sighted prey with a burst of speed. They frequently fly close to the ground, using shrubs to hide their approach. In open habitats they may stoop on prey. When hunting, they typically rotate their feet forward about five feet from contact with prey; on contact they set wings as a brake and grasp prey with both feet. They may pursue prey on foot and sometimes even drown their prey. The hawks usually eat the head of prey first, then the viscera, and finally the muscle tissue. They eat mostly birds, including crows and pheasants, grouse, jays, robins, and a host of smaller birds. They also take small to medium-sized mammals including chipmunks, squirrels, rabbits, and bats, as well as the occasional reptile, amphibian, fish, and insect. They frequently cache prey for later retrieval.

Because Cooper's Hawks are fierce birds they have fewer predators than most, although raccoons may rob their nests, and Great Horned Owls are a scourge. Shooting, particularly during migration, reduced their numbers in the first half of the 20th century, but by the 1960s the raptors were protected. The DDT era from the 1940s through the 1960s caused widespread reproductive failure. In recent decades, Cooper's Hawks have rebounded dramatically. Because of their cosmopolitan tastes in habitat preference and their broad geographic distribution, they should do well in the future.

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>. •

AT A GLANCE

October 2014



WAYNE R. PETERSEN

This issue offers a mix of mystery bird species. Since most birders like to put a name on every bird they see, they will want to identify all the birds in the picture. One of the virtues of this photo is the fact that more than one species is represented in the picture—a feature that can facilitate solving the various identification puzzles provided in the image.

Because the seven birds standing in water all have obviously long legs and long, slender bills, it is safe to assume that they are shorebirds. The fact that there is a mix of sizes and shapes further hints that they are shorebirds because different shorebird species frequently feed or roost together.

Sorting out the different species is fairly simple once you evaluate the relative size of the birds. Concentrating on the bill structure of the species that are awake is another good way to begin the identification process. The pale-colored bird near the center of the group and the two birds to its right both exhibit very long, slightly upturned bills and proportionately long legs. In contrast, the bird at the extreme right has a straight and somewhat thicker bill and it is slightly smaller than all but the shorebird in the foreground. And finally, the sleeping bird in the foreground is noticeably smaller than all the others, even though its legs are long enough to allow it to stand in water that is a few inches deep without getting its belly wet.

With size in mind, look closely at the largest bird in the group—the second from the right. It shows a strongly checkered pattern on its back, unmarked underparts, and a

very long bicolored bill extending on top of the bird's back as it rests. This shorebird's large size, combined with these other features, mark it as a Marbled Godwit (*Limosa fedoa*).

The bird to the left of the Marbled Godwit also has a long and slightly upturned bill, as well as a distinct white supercilium in front of the eye, which is highlighted by the overall dark coloration of the bird. This bird, as well as the two sleeping individuals at the extreme left of the photo, is a Hudsonian Godwit (*Limosa haemastica*). The lower bellies of the sleeping birds show mottling, which are remnants of their deep, chestnut-colored breeding coloration.

Compare the pale, sandy-colored individual in the center of the picture with the other godwits. It, too, has a long bicolored bill, but it has shorter legs than the nearby Hudsonian Godwits and a plain dorsal pattern unlike the Marbled Godwit. It is a Bartailed Godwit (*Limosa lapponica*). The fortuitous combination of these three godwit species in the same photo affords a wonderful comparative view of these closely related species.

Of the remaining shorebirds in the photograph, the one in the upper right with the stout, straight bill is a Willet (*Tringa semipalmata*). (The similar-sized Greater Yellowlegs is slimmer and longer-necked, has a thinner bill, pale-colored legs, and shows more patterning on its back.) The bird in the foreground of the group is a dowitcher. While its identity as a Short-billed versus a Long-billed Dowitcher cannot be ascertained with confidence from the picture, its generic identity can be assured by its overall dark coloration, its shorter-legged appearance compared to the godwits and the Willet, and the fact that it is roosting in the water—a behavior that dowitchers do more regularly than many other shorebirds.

With the exception of the Willet, which is a locally common breeder in coastal salt marshes, godwits and dowitchers occur only as migrants in Massachusetts. Marbled Godwits are uncommon midsummer and fall migrants that appear with greatest frequency in the Chatham area of Cape Cod. Hudsonian Godwits, although more common fall migrants, are equally local: South Beach and Monomoy National Wildlife Refuge on Cape Cod are the best places to regularly encounter the species in New England. The Bar-tailed Godwit is a rare migrant anywhere on the Atlantic Coast of North America, although the Chatham area has hosted more than its share in the last 30 years. Short-billed Dowitchers are uncommon spring migrants and abundant fall migrants in July and early August at several coastal localities. The author photographed this group of shorebirds on August 21, 2012, at North Beach, Chatham.

Wayne R. Petersen

AT A GLANCE



WAYNE PETERSEN

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

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CONTENTS

DIRECTOR OF THE CHARLES DIVINE BY WATER AND WATER TOWN	
BIRDING THE CHARLES RIVER IN WALTHAM, NEWTON, AND WATERTOWN	
Jason Forbes	337
EIGHTEENTH REPORT OF THE MASSACHUSETTS AVIAN RECORDS COMMITTEE	
Matthew P. Garvey, Jeremiah R. Trimble, and Marshall J. Iliff	347
Chasing Shearwaters Dave Wiley	358
Photo Essay	
Tagging Shearwaters Dave Wiley and Anne-Marie Runfola	364
A Young Birder's Summer Jeremiah Sullivan	366
Introducing the Massachusetts Young Birders Club	
Jonathan Eckerson	372
Musings from the Blind Birder	
Taking Steps for Bird Conservation Martha Steele	374
Gleanings	
Bugging the Birds: Tracking Individuals through Migration	
David M. Larson	377
About Books	
A List for the Listers Mark Lynch	380
BIRD SIGHTINGS	
July/August 2014	387
ABOUT THE COVER: Cooper's Hawk William E. Davis, Jr.	399
About the Cover Artist: Barry Van Dusen	400
AT A GLANCE Wayne R. Peterson	401