Bird Observer

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HOT BIRDS



A dark-morph juvenile **Gyrfalcon** had been reported along the coast of southern Maine and New Hampshire since January. Margo Goetschkes and Steve Grinley spotted it at Salisbury Beach State Reservation on March 18. Margo took the photographs above.



Suzanne Sullivan reported a **Tufted Duck** in Lowell near the UMass Lowell boat ramp on March 26. Bob Stymeist took the photograph above.

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Birding Orleans County in the Northeast Kingdom of Vermont

Bob Stymeist and Martha Steele

Orleans County is one of three counties that constitute the Northeast Kingdom (NEK) of Vermont. Although Martha grew up in Burlington, Vermont, on the western side of the state, she knew little about the northeastern corner before adulthood. She introduced Bob to the NEK, which got its name in 1949 from then-Governor of Vermont George Aiken.



The NEK is a region that has historically struggled economically and is a little too distant from major metropolitan areas such as Boston or New York City to attract large numbers of tourists. But of course, birds pay no attention to political boundaries, and the rich and diverse habitat of the Kingdom results in one of the better regions in the northeastern United States to bird in spring and early summer.

In this article, we focus on Orleans County, with short descriptions at the end of the article of nearby Wenlock Wildlife Management Area (WMA), the Silvio O. Conte National Wildlife Refuge, and Victory Basin WMA in Essex County. We focus on the months of May and June, by far the most exciting and productive time of the year. To whet your appetite, consider a June day on our property on Wood Warblers Way in Westmore, where Martha's mother lives. Westmore is home to Lake Willoughby, considered by some to be the Lac Lucerne of the United States. Glacially formed, it is one of New England's deepest lakes, with a depth exceeding 300 feet in some spots.

Our property is 120 acres of mostly hardwood forest, with an edge plantation of coniferous trees planted in the early 1950s and an open field with several varieties of apple trees. We have recorded 100 species of birds from our property. Waking up and walking onto the deck off our bedroom on an early spring morning often brings distant calls of the Common Loon from Lake Willoughby below us, as well as the calls of an incessant Common Yellowthroat, Wood Thrush, Hermit Thrush, Barred Owl, Pileated Woodpecker, Purple Finch, Rose-breasted Grosbeak, White-throated Sparrow, Black-capped Chickadee, Winter Wren, Ovenbird, Blackburnian Warbler, Black-throated Blue Warbler, Blue-headed Vireo, Scarlet Tanager, and on and on it goes. We have several bird boxes in our meadow with nesting Tree Swallow, Eastern Bluebird, and chickadees. We have a kestrel box up and ready for one of the nearby birds to discover and we put up a Barred Owl box last fall. We welcome our avian travelers back and wish them well in finding mates and raising their young. With all of this abundance, sometimes it is hard to tear ourselves away from just walking the edges of our property.

But meander around the county we do. Starting at Lake Willoughby, you will be struck by the view from the north end of the sheer cliffs of Mount Pisgah and Mount Hor, which frame the lake on its southern end. Mount Pisgah (elevation 2,751 feet) with its towering cliffs is home to nesting Peregrine Falcons. For those who enjoy a



great hike, a trailhead to the summit (1.9 miles) begins 0.7 miles south of the lake on Route 5A (number 1 on the maps) and works its way through different habitats, largely hardwood forest, to the summit. You should see several warbler species, including nesting Blackpoll Warblers, at the summit. Recently, we were surprised to find that Canada Warbler was the most common bird encountered. Early morning is a good time to hear many Hermit and Swainson's thrushes. Once at the summit, you can either retrace your steps back to the car or continue another 2.3 miles to the northern end of this trail on Route 5A. From there, it is 2.8 miles along Route 5A back to your car. If you hike the full length of the trail, it would be best to park cars at both trailheads to save walking back to the southern trailhead.

The Westmore Town Forest (2 on the maps) has a nice 1.2 mile loop trail that takes you by a wetlands created by beavers and a bog with a short boardwalk, dedicated to Martha's stepfather Erland Gjessing. In some years this area has produced Yellowbellied Flycatchers. The Town Forest is usually a reliable spot for Canada Warblers, and is home to many other warbler species: Nashville, Black-throated Green, Blackthroated Blue, Magnolia, Black-and-white, and Chestnut-sided. There are also singing Winter Wrens along the walk, a song of which we never tire. We have seen beaver, black bear, and mom and baby moose on some trips. To reach the Town Forest, go to the northern end of Lake Willoughby, and take Route 16 along its North Beach. On the west side of the beach, you will see Peene Hill Road on the left, while Route 16 continues straight. Take Peene Hill Road for about one mile to a small parking spot on the left (space for two or three cars). The trail begins several yards to the left of the parking spot.

After visiting the Town Forest, continue several hundred yards on Peene Hill Road west to Cook Road, turn right onto Cook Road, and go to Route 16 (2.4 miles). Take a left onto Route 16 and drive 1.6 miles to May Pond Road on the left. Take this road for 2.1 miles to May Pond (3). Along the way, be on the lookout for American Kestrels and nesting Bobolinks. May Pond is a beautiful spot with breeding Common Loons, Wood Ducks, and Pied-billed Grebes. Retrace your steps back to Route 16, turn left, and drive 1.3 miles to Barton and Route 5. Take a left onto Route 5 South and in approximately two miles look for nesting Peregrine Falcons on the cliffs above Crystal Lake.

For another productive hike, return to Westmore and Bald Mountain, the third highest peak in the NEK (3,315 feet), where Bicknell's Thrush regularly nests near the summit. Access Bald Mountain by hiking a trail that begins approximately 350 feet beyond the Long Pond fishing access on the Long Pond Road (4). This road begins on Route 5A at the Willoughby Lake Store in Westmore (great sandwiches and great ice cream). The Bald Mountain trail meanders through open hardwoods and crosses several streams; it is best to have waterproof shoes or rubber boots while hiking this trail. It climbs steeply into subalpine terrain with some rock outcroppings to maneuver. At the summit you will be rewarded with spectacular views from the recently restored fire tower. You should allow two-and-a-half to three hours for this hike. For those adventurous enough to stay overnight, a small cabin on the summit of Bald Mountain can be reserved through the NorthWoods Stewardship Center in East Charleston (there is no water source, so bring your own water). A late afternoon walk in June 2013 and



again in 2014 along this trail produced Olive-sided Flycatchers, Golden-crowned Kinglets, and several Swainson's Thrushes.

In June 2012 we hiked this mountain in early morning from the Mad Brook Trail and recorded several Bicknell's Thrushes, still singing at 10:30 AM. We have also recorded Blackpoll Warbler, Yellow-bellied Flycatcher, Winter Wren, both kinglet species, and nine different warblers. The Mad Brook Trail approaches the summit of Bald Mountain from the north, beginning at the gated terminus of the Mad Brook Road in East Charleston (5). To reach the start of this trail, turn off Route 5A at the Westmore Congregational Church onto Hinton Hill Road. After approximately two miles, you will see a fork in the road; stay right and continue another 1.8 miles to Mad Brook Road on the right. You will see a small, limited parking area a short distance up the road. Hikers should keep the gated road and the neighboring driveway clear. From the parking area, walk up a graveled road toward a meadow, pass a private home, and enter the open meadow. Use your binoculars to find the small trailhead sign (see photo on page 152) on the other side of the meadow and walk through the meadow. The trail enters a mixed forest where it follows an open woods road, climbing easily, and then turns west and briefly descends to the base of Bald Mountain and the first of two nearby stream crossings. From here the trail climbs gradually around a large switchback and then more steeply up the mountain. This trail is longer than the Long Pond Trail but provides an easier way to the top.



North of Lake Willoughby we often bird the Coventry marshes (6) on our way to the Newport area. To reach these marshes, go to the village of Orleans, situated near the junction of Routes 5 and 58 (the northwestern corner of Barton). In the center of Orleans, take Maple Street north into the marshes. Maple Street becomes River Road, where the pavement ends. River Road is a great area for marsh birds, including Wood Duck, Pied-billed Grebe, American Bittern, Virginia Rail, and Belted Kingfisher. Coming out of the marshes at the end of River Road, take a left onto Coventry Station Road. Pine Warblers nest in the big white pines there. Make sure you stop at the fishing area by the bridge as this is often a good spot for Rusty Blackbird especially in early spring and again in the fall.

Continue to Maxwell Road, the first right after crossing the railroad tracks. The road rises into fields and farmlands, and the resulting habitat change yields Eastern Meadowlark, Savannah Sparrow, Northern Harrier, and Bobolink. At the end of Maxwell, we bear right onto Airport Road passing the Newport State Airport, where Upland Sandpipers have nested, although there have been no reports of this species since 2001. In this wide-open area keep an eye out for raptors.

At the end of Airport Road, take a right onto Route 5 North, and after a short distance bear right at the fork onto Coventry Street. You will soon see on the right the South Bay WMA fishing access (7). This is a good place to look for Pied-billed Grebes and late lingering waterfowl. Continue along Coventry Street into downtown Newport, which sits on Lake Memphremagog (Bob calls this Lake Make-me-an-egg-nog). In

early spring when the ice begins to break up, the municipal parking lot in the center of town is filled with hundreds of migrating waterfowl. In late March 2013 we tallied 15 different species including a pair of Barrow's Goldeneyes.

From the municipal parking lot, head to the Barton River marshes (8), a great spot for marsh birds, waterfowl, and open edge birds, such as Veery, Warbling Vireo, and Baltimore Oriole. Take a left out of the parking lot and stay straight to go over a bridge. You will see Glen Road on the right after crossing the bridge. Take Glen Road two miles to a small parking area on the right that is opposite 2069 Glen Road (a green house) and next to a transformer station. A short path leads to active railroad tracks. Walk to the left from the path along the railroad tracks out into the Barton River marshes (be aware of freight trains). Listen for Pied-billed Grebes, American Bitterns, Virginia Rails, and Willow and Alder flycatchers. Returning to the car, continue along Glen Road for 1.8 miles to a good area for breeding Mourning Warblers; we have seen them here in the last three years.

Returning to the beginning of Glen Road in Newport, turn right and drive to the second set of lights (about a half mile), where there is a Cumberland Farms on the right. Continue straight across this intersection onto Sias Avenue. At 2.2 miles, you will see a fork in the road; stay straight onto North Derby Road. In 3.9 miles, you will reach the Johns River access area on the left (9). Here, walk along the bike path. The marshes here are very birdy, with many Warbling Vireos, Yellow Warblers, Least Flycatchers constantly singing, and Marsh Wrens and Swamp Sparrows singing from the cattails. You might hear a Virginia Rail. We have regularly seen Pileated Woodpecker in this area by walking to the left, up the bike path for several hundred yards.

From the Johns River access area, turn left and continue along North Derby Road to where it dead-ends, about a half mile. Turn left into Eagle Point Wildlife Management Area (10) and drive the approximately two-mile road, birding along the way. This 420-acre grassland and marsh habitat is part of the Missisquoi National Wildlife Refuge. This is a great area for American Bitterns; in 2013 we heard five individual birds pumping away! Other birds include many breeding Bobolinks, nesting Ospreys and American Kestrels, Eastern Meadowlarks, and Savannah Sparrows. Be on the lookout for Ring-necked Pheasant (we saw several young birds in the last two years), Northern Harrier, and Bald Eagle out over the lake. You never know what can be found in this jewel located right on the Canadian border. In winter 2008, a Northern Hawk Owl made its home for a few months in this area, and we visited the bird several times.

Retrace your steps back to North Derby Road and back to the Newport municipal parking lot. Once at the parking lot, continue along West Main Street to its junction with Route 105 (1.1 miles). Turn right onto Route 105 north, and in one mile turn left onto Lane Road. Lane Road passes through mostly open country and farmland, so be on the lookout for open country birds, such as American Kestrel. The road ends in 3.6 miles at Route 14. Near the road's end you will see a sand quarry, where you can search for Bank Swallows that often feed in nearby Sargent Pond (11). This area looks ideal for Vesper Sparrow, but we have yet to spot this species here.



At the junction of Route 14 and Lane Road, take a left onto Route 14 and go 4.8 miles to the junction of Routes 14 and 5. Take a right onto Routes 5/14, and in a half mile, Route 14 bears off to the right. Follow Route 14 to the town of Irasburg, which has a small town common. At the common, stay on Route 14 (Route 58 goes off to the left), and take your first left on the other side of the common and then your first right. In about 0.1–0.2 mile, bear left onto Burton Hill Road. In 1.7 miles on Burton Hill Road, look for Cliff Swallows that nest on a beautiful white barn along the road. Burton Hill Road leads south for about five miles back to Barton, where we head west along Route 16 toward Greensboro. Along Route 16 between Barton and Greensboro are small ponds that are always worth checking out. Look for Ring-necked Ducks (especially at Horse Pond), Pied-billed Grebes, Olive-sided Flycatchers, American Bitterns, Hooded Mergansers, and others.

Your next destination might be Caspian Lake in Greensboro to search for Northern Rough-winged Swallows and (in the fall) Red-necked and Horned grebes and other waterfowl. To reach Caspian Lake, take a right off of Route 16 toward Greensboro. Once reaching Greensboro, you will pass Willy's on the right. Continue straight for several yards to a right toward the town beach on Caspian Lake and a good vantage point to search for birds.

From the lake head up to a wonderful boreal forest, Barr Hill Preserve (12), maintained by The Nature Conservancy. Drive north out of town center and turn right at the Town Hall, and in 0.6 of a mile turn left at the first fork and follow the



Mad Brook Trail trailhead. (Photograph courtesy of the author).

sign to Barr Hill. You'll pass a dairy farm and then a red barn just before the reserve entrance. The road up to the parking lot (0.6 mile) can be rough on a regular car, and you certainly hope not to meet anyone coming in the opposite direction. There is a small parking area at the base. This is an excellent spot for Dark-eyed Junco, Goldencrowned Kinglet, and various warbler species, notably Nashville and Magnolia. It seems like a good spot for some boreal species like the Boreal Chickadee, which is on the checklist there as uncommon. However, we have never found one here, nor have we found what the preserve is known for, Cape May Warbler. In 2012, we had a breeding Mourning Warbler in the preserve but did not find this bird in 2013. Our experience with Mourning Warblers in the Kingdom is that they are there in some numbers but usually not in the same locations from year to year. We found seven Mourning Warblers in 2013, all but one in locations where we had not seen them before. In the early winter of 2013 the power company cleared a wide path through the forest of our property on Wood Warblers Way, which resulted in our first Mourning Warbler on the property in June 2014. Another area that we have not fully explored is Jay Peak, the summit of which is accessible by a gondola. Higher elevation and boreal birds, such as Bicknell's Thrush, Boreal Chickadee, and Blackpoll Warbler, are present, and ski trails enable you to walk the summit area from the gondola. It is best to call the ski area in advance for gondola schedules before planning this trip.

One other location in the county worth mentioning is the Clyde River marshes. The Clyde River runs along Ten Mile Road in East Charleston. From the intersection of Route 114 and Ten Mile Road go east on Ten Mile Road for about a mile to NorthWoods Stewardship Center. This stretch of road is the only location we know of in the county for Whip-poor-will. Bald Eagles can be found here, and early morning along this road is absolutely raucous with bird song.



Magnolia Warbler. (Photograph courtesy of the authors).

We cannot do an article on birding in the Northeast Kingdom without mentioning the Island Pond area and Victory Bog in Essex County. A future article will give more details on these areas, but we provide a brief overview here. From our house in Westmore, it is a mere 45 minutes to the Wenlock Wildlife Management Area, home of the famous Moose Bog trail and South America Pond Road. The Moose Bog trail is the most reliable location anywhere in the Kingdom for Spruce Grouse, and it is possible to also see Gray Jay, Boreal Chickadee, and Black-backed Woodpecker, the proverbial Grand Slam of the Kingdom. We have never achieved the Grand Slam on one trip, though we have seen the Spruce Grouse, Black-backed Woodpecker, and Gray Jay many times. The Boreal Chickadee is quite elusive and the most difficult of the four to find.

The Silvio O. Conte National Wildlife Refuge covers over 26,000 acres of varying habitats. Visit the refuge headquarters Visitor Center on Route 105 in Brunswick,

Vermont. You can spend an entire day leisurely crisscrossing the various roads in the refuge, but make sure you stop at the Mollie Beattie Bog, where Yellow-bellied Flycatchers are common and Lincoln Sparrow is usually present. The Peanut Dam Road is a good area for boreal species like Gray Jay, Black-backed Woodpecker, and maybe a Spruce Grouse.

Victory Basin Wildlife Management Area comprises 4,970 acres of a variety of habitats including lowland spruce forests, upland hardwoods, sedge meadows, and bogs. To reach this area, take Route 2 east from St. Johnsbury to North Concord (10.5 miles), and take a left on Victory Road. The road is well maintained all the way to Gallop Mills. Stopping anywhere along this road will be rewarding. Look for blow-down tree areas about midway for Olive-sided Flycatchers and Black-backed Woodpeckers.

Lodging is most plentiful in the Newport area, the hub of this county. The Willoughvale Inn on Lake Willoughby in Westmore offers spectacular views of the lake, and Island Pond has lodging and dining options to serve as a base for the Essex County locations mentioned briefly here. There is also Brighton State Park in the town of Island Pond for those who prefer camping out.

The locations we highlighted in this article are those we visit frequently, but in truth, many of the birds mentioned here can be found just about anywhere in the NEK, given the right habitat. This region is rural with lots of dirt roads that make it easy to bird by car, slowly riding along and listening for birds. Many of the roads we mention here can be easily birded by car without having to worry about heavy traffic or places to pull over. Weather can be quite variable, and even in mid-June, it is possible to encounter cold temperatures, so always check weather forecasts to best prepare. We are frequently asked about black flies, which are present in May and June. There are certainly times and locations where these and other insects can be problematic, but for the most part, we seem to manage pretty well. We continue to explore the county, trying to find new locations that may be productive. This region is plenty challenging in the dead of winter, but in May and June, it is hard to imagine a better place to bird in New England. So consider the NEK as a great nearby birding destination once the excitement of spring migration in Massachusetts has passed!

Martha Steele is a native Vermonter, having been born and raised in Burlington, Vermont. Since her parents moved to Westmore year-round in 1979, she has hiked extensively throughout the region and, in more recent years, searched high and low with her husband, Bob Stymeist, for birds throughout the NEK.

Bob Stymeist has been interested in birds since 1958. His love of urban birding continues today, and he keeps an annual list of birds found in the City of Boston. His other favorite spot is Mount Auburn Cemetery, which he didn't find out about until 1963 even though it was only two miles from his home. He has recorded 213 species in the Cemetery. Bob was a founding member of Bird Observer and served as its president from 1978–1984. He was treasurer of the Nuttall Ornithological Club from 1981–2011, and has been the statistician for the Brookline Bird Club since 1987.

The Buzz on Golden-winged Warblers in Vermont

Mark LaBarr



Male Golden-winged Warbler at a project site in Hinesburg, Vermont. (Photo by John Hannan.)

It all started with a power line right-of-way owned by the Vermont Electric Power Company (VELCO). This right-of-way provides a swath of early successional habitat that slices through the southern Champlain Valley of Vermont. In 2012, Audubon Vermont, as part of its Champlain Valley Bird Initiative, partnered with VELCO and University of Vermont graduate student Christine Peterson to better understand the use of the right-of-way by a suite of shrubland birds and to help guide management actions. The bird species of interest included Golden-winged, Blue-winged, and Prairie warblers, as well as Eastern Towhee, Field Sparrow, Brown Thrasher, and American Woodcock. The one thing these species had in common, or so we thought, was that their populations were all declining in Vermont. From the right-of-way surveys, the project grew to focus primarily on Golden-winged Warblers. We wanted to determine where these warblers were located in the valley and how Audubon Vermont could work with partners and landowners to maintain and enhance appropriate habitat.

Golden-winged Warblers have been declining across their range for many years due to loss of the early successional habitat in which they breed, changes in land use patterns, and hybridization with their cousins the Blue-winged Warbler. These declines have resulted in the petitioning for federal listing of this species and the creation of

the Golden-winged Warbler Working Group. This group has developed a conservation plan including best management practices for the different habitat types this species favors. And there are many such habitats. From the young forests of the southern Appalachians, to the abandoned farmlands of New York and Vermont, to the aspen parklands of the upper Midwest, the Golden-winged Warbler uses a variety of early successional habitats for breeding.

The Golden-winged Warbler Working Group has also created Focus Areas to prioritize locations for conservation actions to increase habitat and thus increase the overall population. The National Audubon Society has been working in Focus Areas in North Carolina, Pennsylvania, New York, Vermont, and Michigan. In Vermont, the VELCO right-of-way bisects one of these Focus Areas.

Before our recent studies began, the Golden-winged Warbler Working Group estimated that Vermont hosted approximately 20 pairs, and the recently completed second Vermont Breeding Bird Atlas showed a slight decline (-7%) from the first atlas with the highest concentrations of Golden-winged Warblers occurring in the Champlain Valley (Renfrew 2013). Audubon Vermont's VELCO surveys conducted by Audubon staff and citizen scientists using a modified playback protocol, located a modest eight Golden-winged Warblers in 2012. That number, however, rose to 12 in 2014. Did this change suggest that Golden-winged Warbler populations were increasing in Vermont or was this variability the result of survey techniques or management actions?

To answer some of these questions, Audubon Vermont with support from the National Fish and Wildlife Foundation and the Southern Lake Champlain Fund decided to conduct a focused search for Golden-winged Warblers in the southern Champlain Valley in 2014. The southern Champlain Valley from Burlington to Rutland is part of the Golden-winged Warbler Working Group Great Lakes Focus Area 16. We figured that if we could find the birds, we could then work with landowners to maintain and enhance the ephemeral habitat that supports them. First we needed to locate suitable habitat. Fortunately, the interest of one of Vermont's premier bird enthusiasts, Ted Murin, was piqued by the idea of locating this seemingly rare species. After scouring habitat images for the southern Champlain Valley, he located more than 130 sites that "looked good," in other words contained a mixture of shrubs, herbaceous vegetation, and trees. Most of this habitat was abandoned farmland in the process of becoming reforested.

Our next challenge was to gain access to these sites. We sent letters to 150 landowners, public and private, requesting permission to survey their properties. Roughly 40 landowners, most of them private, allowed a small group of volunteers and Audubon staff to see what we could find. Some survey sites were impenetrable thickets of native and non-native shrubs and, in a couple of instances, took more than a day to survey. Others, including school grounds and town parks, were easily accessed by maintained trails. Surveys consisted of area searches often with playback of Goldenwinged Warbler songs and calls, as well as distress calls of birds mobbing an owl. All sites were surveyed in the morning, but surveys sometimes extended into the afternoon when birds continued to be active.



Female Golden-winged Warbler with nesting material. (Photo by Curtis Smalling)

One of the difficulties we encountered was that just because a bird is singing a Golden-winged Warbler song does not mean it is a Golden-winged Warbler. On many occasions these birds would turn out to be Blue-winged Warblers or one of the hybrids, Brewster's or Lawrence's warbler. Due diligence was needed to confirm an actual Golden-winged Warbler, but sometimes even our best efforts left a question mark as to what species it was.

By the end of June 2014 most of the information was in. We had surveyed roughly 60 sites ranging in size from just a couple of acres to more than 40 acres. Sites included sections of the VELCO right-of-way, previously known locations, and a subset of the 130 potential sites our volunteer had identified. In all, we located 212 warblers, of which 35% were Golden-winged Warblers, 40% were Blue-winged Warblers, and 25% were hybrids or birds we could not positively identify.

Ted Murin's predictions were impressively accurate, as more than 80% of the potential sites that he identified and we were able to survey had at least one of the warblers. Because we surveyed only a third of the predicted habitat areas, it seems likely that many more Golden-winged warblers are out there than previously known.

The second and maybe more important part of the project was connecting with landowners to create, maintain, and enhance suitable habitat for Golden-winged



Golden-winged Warbler nest. (Photo by Curtis Smalling.)

Warblers and other shrubland obligates. Audubon Vermont is well situated to undertake this task as working directly with landowners is a key component of the Champlain Valley Bird Initiative. Since 2009, Audubon Vermont has been providing Champlain Valley landowners with habitat assessments focusing on shrubland and grassland birds. In addition, in 2013, Audubon Vermont partnered with the Natural Resources Conservation Service (NRCS) and the Vermont Fish and Wildlife Department to provide technical and financial assistance to encourage landowners to create habitat for Golden-winged Warblers through NRCS's Environmental Quality Incentive Program. This assistance, combined with the management recommendations developed for VELCO, put Audubon Vermont and its partners in an ideal place to undertake this outreach effort.

So, with known locations of Golden-winged Warblers and ongoing funding, Audubon Vermont is continuing its work in the southern Champlain Valley. Audubon Vermont is already working with many new landowners including The Nature Conservancy, the Winooski Valley Park District, the State of Vermont, and several private individuals to develop management plans for their properties. In 2015, we plan on reaching out to additional landowners and partner organizations and continuing to survey areas of the Valley suspected of hosting Golden-winged Warblers. Our surveys of the VELCO right-of-way will be conducted for the fourth year in a row with a special focus on Golden-winged Warblers. VELCO is even developing an avian data collection component to their geographic information system (GIS) that is based on our surveys and will allow VELCO staff, trained by Audubon, to collect priority bird data.

Of course, we still have many questions as work on this population expands. How are current management practices affecting population size and reproductive success? Are the increasing numbers of Blue-winged Warblers impacting hybridization rates? Are Golden-winged Warblers present in the northern Champlain Valley at levels similar to the southern Champlain Valley? For now, we know that Golden-winged Warblers are present in Vermont in numbers not previously expected and that there is more to be learned about the nuances of this population and how it relates to other populations across its range.

Citations

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Mark LaBarr is Conservation Biologist and Program Manager and oversees conservation projects, project staff, and volunteers for Audubon Vermont including the Champlain Valley Bird Initiative and the Endangered Species Recovery Project. As a biologist, his focus is on the Common Tern Recovery Project as well as efforts to better understand breeding populations of Golden-winged Warblers and other grassland and shrubland obligates in the Champlain Valley. He has a master bird banding permit and runs the Audubon bird banding station at the Green Mountain Audubon Center. He works in close cooperation with partner agencies and organizations such as the Vermont Fish and Wildlife Department, the Natural Resources Conservation Service, and the University of Vermont. He is a member of the Scientific Advisory Group on Birds for the Vermont Endangered and Threatened Species Committee, and he served on the Bird Technical Committee for the State's Wildlife Action Plan. He obtained his undergraduate degree in Wildlife Biology from the University of Vermont and a master's degree in Education from St. Michael's College.

Duck Stamp? Why Us?

Paul J. Baicich



Last September, this artwork, a pair of stunning Ruddy Ducks, was chosen to appear on the 2015-2016 Migratory Bird Hunting and Conservation Stamp. The artist is Jennifer Miller, of Olean, New York. For more information, the artist's website is: www.featherdust.com.

Last year, 2014, marked the 80th anniversary of what today is officially called the Migratory Bird Hunting and Conservation Stamp. Most folks know it as the "Duck Stamp."

Created in 1934, after a decade of contentious debate, the stamp has been responsible for collecting almost \$1 billion in revenue and securing about 6 million acres of wetlands, bottomlands, and grasslands for the National Wildlife Refuge (NWR) system.

Yes, the stamp is required to hunt waterfowl, but it is so much more.

How the Stamp Works

The funds collected each year through stamp sales are deposited into the Migratory Bird Conservation Fund (MBCF). This is the same fund where some import duties on arms and ammunition are also deposited. At least twice a year, the Migratory Bird Conservation Commission meets in Washington DC to determine how these MBCF funds are to be invested in the National Wildlife Refuge System. At a time when reliable conservation funding for habitat protection is increasingly hard to come by, revenue from the Duck Stamp remains a dependable source, and the MBCF continues to be a highly efficient vehicle for bird-oriented land conservation. It's something we can all count on, and by law—at least since 1958—the dollars collected *cannot be diverted to other purposes*.

Today, parts of 252 National Wildlife Refuges accounting for 2.37 million acres and over 200 Waterfowl Production Areas with more than 3.0 million acres owe their existence to the stamp-derived investments made through the MBCF. Starting with the 2015–2016 stamp, which will be available nationwide on July 1, 2015, the price of a stamp will increase from \$15 to \$25, which should generate an estimated \$40 million per year for the MBCF and land acquisition.

Stamp dollars do not simply benefit waterfowl, of course. This funding secures vital breeding, stopover, and wintering habitats for scores of other bird species, including shorebirds, long-legged waders, rails, gulls, terns, raptors, and wetland and grassland songbirds, all highly dependent on habitat derived from stamp purchases. Furthermore, an estimated one-third of this country's officially endangered and threatened species find food or shelter on refuges established through the use of stamp funds.

In New England, one can point to many popular birding locations as places where Duck Stamp and MBCF dollars have been critical to land acquisition (Baicich 2004, Stevens 2007, U.S. Fish & Wildlife Service 2014). In Massachusetts, Duck Stamp and MBCF dollars accounted for over 75% of the total acquired habitat for Great Meadows NWR, and slightly above 97% for the Monomoy and Parker River NWRs. Other New England NWRs and their corresponding percentages include Missisquoi in Vermont at 87.5%, Moosehorn in Maine at 67.4%, and Umbagog in both New Hampshire and Maine at a combined 45%. Even the unique Silvio O. Conte National Fish and Wildlife Refuge along the Connecticut River Valley through four New England states — Connecticut, Massachusetts, New Hampshire and Vermont—can attribute chunks of its existence to the wise investment of Duck Stamp and MBCF dollars. In Massachusetts, it is 29%; in New Hampshire, it is 35%; and in Vermont, it is 64%.

To help complete the positive picture, a current and valid stamp is a free pass to any refuge that charges an entry fee, and one stamp is good for a vehicle full of people. For NWRs across the country that charge admission, this benefit is a real bargain. Locally, it applies to Parker River NWR and soon to Great Meadows. How about Bombay Hook NWR in Delaware? Santa Anna NWR in Texas? Bosque del Apache in New Mexico? Merritt Island and J. N. Ding Darling NWRs in Florida? Sacramento NWR in California? Forsythe NWR in New Jersey? Get into the refuge or drive the auto tour route in all of them for free!

It's Not Perfect

But all isn't perfect.

For starters, the stamp program is under-appreciated and not enough stamps are



This sign is at the Forsythe NWR (often known by its old name, Brigantine) in New Jersey. Over 84 percent of the refuge was acquired through Duck Stamp and MBCF dollars. Here is a case where waterfowl hunters may have paid most of the cost of acquisition, but everyone who uses the refuge, including birders, benefits. (Photo courtesy of the author).

being sold, especially considering the current United States population and urgent bird conservation needs. Sales of the 1971–1972 stamp topped 2.4 million at a time when the United States population was only two-thirds of what it is today. Now, however, sales have dropped to about 1.4–1.6 million per year. The stamp certainly needs wider appreciation to generate more sales and deliver more habitat conservation.

Today, the Migratory Bird Conservation Commission is giving special emphasis to saving grassland habitat, especially the remaining 10,000-year-old native prairie that is disappearing under the plow and being ripped up through oil and gas extraction in the Northern Great Plains. Special emphasis, yes; enough Duck Stamp and MBCF funding, no. And land costs continue to run ahead of the ability to collect stamp dollars. It is a race to save this precious habitat.

There is also a perception problem, one that suggests that the stamp is only for waterfowl hunters. Some of this misperception is a self-inflicted wound. "Duck Stamp" rolls off the tongue easily and has become standard, but "Migratory Bird Stamp" or the tongue-tying "Migratory Bird Hunting and Conservation Stamp" are not often heard. The official name of the stamp changed from the "Migratory Bird Hunting Stamp" to the "Migratory Bird Hunting and Conservation Stamp" in 1977 to better reflect the full impact of the program and to encourage non-hunters, e.g., nature photographers and

birders, to buy the stamp. Until recently, however, little was done to make that appeal a reality.

In addition, there is a promising but troubled youth component. The popular Junior Duck Stamp Program has mobilized tens of thousands of students every year since the early 1990s to combine science standards with visual arts. This national initiative has had great success, but is currently suffering from the twin assaults of narrowing local school curricula and shrinking federal dollars to sustain the program. If anything, the Junior Duck Stamp Program needs strengthening to continually encourage the next generation of wildlife conservationists.

We could all benefit from detailed tracking of exactly who buys the stamps. How many are waterfowl hunters? Non-waterfowl hunters? Birders? Wildlife photographers? Collectors? It would be good to know where the stamps are sold and, especially, who buys them. The gross sales numbers on a yearly and state basis are available, but the particular numbers, crucial in measuring and producing an effective marketing effort, are absent.

Finally, the most recent increase in the stamp price may hinder broader sales.

Another Way to Look At It

Last fall, Scott Yaich, Director of Conservation Operations at Ducks Unlimited, and I tried our best to answer an essential question: "How much does just one stamp secure in the way of wetland and grassland habitat?" We attempted to pursue a reasonable answer for any individual who bought a Migratory Bird Hunting and Conservation Stamp in the last year.

Looking at about \$53 million that came into the Migratory Bird Conservation Fund in 2013 from stamp sales and import duties, the combined fee title and easement acres of wetland, bottomland, and grassland habitats secured during the year was 60,000 acres. With about \$883 per acre of habitat secured, we arrived at 1.66% of an acre, or 725 square feet.

That was impressive, an area slightly under 27 feet x 27 feet, or almost the combined floor space of an average bedroom, kitchen, and dining room in a new home in the United States in 2013. The comparison was appropriate, producing a "bedroom," "kitchen," and "dining room" for birds and other wildlife. Moreover, to be able to stand somewhere on some federal refuge land and think that "my stamp" secured a block that's about 725 square feet, should be enough to make anyone feel proud. See the accompanying sidebar for a downloadable certificate related to this calculation.

Where Birders Come In

The price of a Migratory Bird Stamp reached \$15 back in 1991. With the need to keep up with land acquisition and easement costs, especially since valuable habitat prices have tripled over the last three decades, it was important for the price of the stamp to rise. Indeed, what you may have bought for \$15 in 1991 today costs about

\$25.75. It is no accident then that the stamp price is finally rising from \$15 to \$25, starting with the new 2015–16 stamp.

But as indicated before, this price increase also brings up a problem. Going back to the same well again and again, in this case to a dwindling number of waterfowl hunters, is not a long-range solution to the habitat acquisition problem. More stamp buyers have to be found. Moreover, asking those who are not required to buy a stamp—say, bird watchers or wildlife photographers—to voluntarily buy a \$25 stamp is not simple.

While not an easy sell, the price of the next stamp is about equal to the price of a decent large pizza and will likely be one of your smaller birding expenses. More importantly, it is still the easiest thing anyone can do to protect crucial wetland and grassland habitat.

Duck Stamps are easy to buy. They are available at most large U.S. Post Offices or at staffed NWR Visitor Centers. If you buy your stamp online at store.usps.com, you can save a trip and have it mailed to you for a modest \$1.30 fee. The availability is there.

Fortunately, there have been a number of birder-oriented organizations that have stepped up to the challenge of selling stamps, either individually or in special plastic display holders. These organizations include the Georgia Ornithological Society, the Wisconsin Society for Ornithology, the Black Swamp Bird Observatory, the Klamath Bird Observatory, and the American Birding Association. You can pick one up at Massachusetts Audubon's Joppa Flats Education Center.

For birders, however, the important thing is not just to buy the stamp, but also to *display* the stamp, to show it off. See the sidebar for ideas.

Last fall, Mike Burke, a birder and naturalist who writes regularly for the Maryland-area *Bay Journal*, wrote: "Today, birders are the pre-eminent sportsmen of our age and our numbers continue to grow." He focused on the Duck Stamp, and continued, "with an influx of dedicated funds, programs to conserve and restore habitat can garner strong support among birders and benefit countless avian species" (Burke 2014.)

For all these good reasons, buying the "Migratory Bird Hunting and Conservation Stamp," or the "Duck Stamp," or the "Migratory Bird Stamp"—whatever you wish to call it—is the way to go.

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Paul J. Baicich lives in Maryland and is co-author of Nests, Eggs, and Nestlings of North American Birds (1997, with Colin Harrison) and, most recently, co-author of Feeding Wild Birds in America (2015, with Margaret Barker and Carrol Henderson). Paul is an officer in the Friends of the Migratory Bird/Duck Stamp.

Show your Stamp!

Keeping your Migratory Bird Stamp in your pocket or your wallet is not sufficient. You should display your conservation action so that others—birders, photographers, hunters, and other outdoor enthusiasts—are inspired and challenged to do likewise. Some creative birders will slap their stamp right on their binocular barrel; some will stick it on the cover of their favorite field guide; others will have the stamp in a special plastic holder for their binocular strap, their field pack, or their jacket zipper-pull.

Get a T-shirt

You can display your support for the stamp program by wearing a t-shirt with a reproduction of the 2014-15 stamp. For details see: tinyurl.com/duckstamptshirt

A Stamp Certificate of Conservation

Right now, with every \$15 stamp you buy, you can claim to have helped secure 725 square feet of crucial bird habitat for the National Wildlife Refuge System. To accentuate the significance of your conservation contribution, you can download a free Certificate of Conservation, one to which you can attach a valid \$15 stamp and show off your role in preserving those 725 square feet at: tinyurl. com/duckstampcertificate

For more information and ideas, you can browse the website of the Friends of the Migratory Bird/Duck Stamp: www. friendsofthestamp.org.

Learning to Notice: A Birding Adventure

M.F. Badger



Members of the Soaring Birds after-school birding club, Dever-McCormack School sixthgraders practice with their binoculars. Twelve students took part in this Citizen Schools program. (All photographs courtesy of the author.)

Last fall, my friend Mary Howard and I volunteered to lead an afterschool birding club for sixth graders at the Dever-McCormack School in Boston through an organization called Citizen Schools. This Dorchester neighborhood school is located on Columbia Point in Boston, which we knew would be a great place for seabirds.

Mary and I are old friends, and we often bird together, sneaking off for a few hours here and there when we aren't working or tending to our own kids. We've done a few Bird-a-thons for Mass Audubon and twitched our fair share of vagrants. Not jaded yet, we're still able to get excited at watching any birds—even House Sparrows—if they are doing something interesting. Though we had in our heads a vision of ourselves as ornithological pied pipers showing our eager students their first Snowy Owls and Surf Scoters, part of us also realized that we were not totally sure what we were getting into.

The sponsoring organization, Citizen Schools, runs outstanding afterschool programs in low-income communities in seven states. They provide extensive background and support for volunteers like us—including considerable upfront training. Citizen Schools seemed eager to have us, and we were grateful to have such a strong organization behind us. During the training, we listened carefully, taking in all their advice about helping students develop 21st century skills. We attended orientations and learned about how to manage our classroom. They requested a detailed curriculum with objectives and activities timed for each day. But the idea of writing a curriculum

for our students was initially befuddling, given our subject. We thought it would be simple. Lesson One: Go birding. Observe birds. Lesson Two: See Lesson One.

Our lead teacher worked with us to prepare the lesson plans and establish objectives for each 90-minute class. She also helped us understand some of the challenges our students faced. Then, just before the first class, she tipped us off that the school was not comfortable with two untrained amateur teachers leading students around the neighborhood looking for birds. Their suggestion was that we go birding, instead, on YouTube.

Not that we don't already bird when we watch television—Wood Thrush, *House of Cards*—but birding on YouTube? We pushed back. Birding to us meant being outside and achieving a mental state where you are both focused and unfocused at the same time, and where being distracted can be a good thing. Birding was about the sun and the wind and climbing over the rocks to get a good look at a Ruddy Turnstone. "You need to meet these students first," school administrators advised.

And so we did. We can't say that first class went well. The kids looked at us, annoyed. None of them really wanted to be there. Some let us know that birding was *not* their first choice for an afterschool activity—or even their third or fourth choice. Fair enough, we thought, when the other options included building robots, making music videos, a Project Runway experience, and investing in the stock market. Birding was nerdy, they were telling us. Who cares about birds? A few decided to ignore us and do their math homework instead of listening. Meanwhile, the school authorities changed the name of our class from "Birding" to "The Great Outdoors," which was apparently more marketable to students.

Most days there were twelve of them, boys and girls, urban kids in a school that was struggling. Children came from all over the city of Boston to the Dever-McCormack. Not all of them had families to go home to at night. Or safe neighborhoods. Or even clean laundry. In some cases, we worried that a few might not have a good dinner waiting for them. Many of the school's students had learning differences. Language challenges. And life challenges and stresses that would level most adults. But once we got past the introductions, I could see we might have some fun.

Everyone slouched. "You're already birders," we told them. "What birds do you know?"

"Robin?" one girl volunteered. They knew the names of a few common birds, plus parakeet, parrot, penguin, and flamingo—pets, cartoons, and a lawn ornament.

We handed out sketchbooks, bird stickers, and drawing pencils; surprisingly the room lit up. "Art? Huh?" Time to draw and sketch isn't part of the typical school day. We put up slides of different birds and looked at a short video by bird artist John Muir, and we practiced drawing—noticing the various parts and proportions of birds. We showed them field notebooks from the American Birding Association's young birder contest. We gave the students a rough sketch of a sandpiper drawn by David Sibley. Through sketching, they started to notice how a bird's feathers are oriented and the

postures of different birds. "The drawing was so important to me," David Sibley has said. "It is how I study the birds." It is how our students learned the birds, too.

We made slide shows of birds side by side and challenged our students to look for the differences. Scarlet Tanager and Northern Cardinal. Indigo Bunting and Eastern Bluebird. American Goldfinch and Yellow Warbler. Then, more difficult groups: Herring Gull, Great Black-backed Gull, and Ring-billed Gull. Chipping Sparrow and American Tree Sparrow. Purple Finch and House Finch. We talked about field marks, habitat, behavior, and migration. They drew more and even made notes about what they were noticing.

By the third class, we got permission for a brief outing. Somehow, we'd earned some trust and would now be allowed to venture into the wilds of Columbia Point with our charges to do some actual birding. We'd spotted a community garden next door to the school in a vacant lot. Would a handful of small raised beds offer productive birding? The lot was weedy, filled with trash, plastic bags, and broken glass.

We arrived early that day and threw some seed around the lot, hoping to interest anything other than House Sparrows. Dandelions pushed up through the cracked asphalt, vines had overtaken the chain link fence around the perimeter, and a few scraggly trees struggled to free themselves just outside the fence. At one end of the lot, there was the well-fertilized backyard of a local church, complete with faded pink plastic wading pool collecting rainwater, and a good-sized ornamental tree. We saw a Blue Jay, a Tufted Titmouse, a House Finch. Maybe it wouldn't be fruitless.

We told the kids we were going outside. Most cheered, a few groaned, but they quickly lined up, and we filed out into the school parking lot. Almost immediately a young male hawk flew low over the group, giving everyone great looks. "Red-tailed Hawk," we let them know. They watched the bird glide and noted its belly band. That was our first class bird. We quickly passed out pairs of donated binoculars and gave a lesson in how to use them, trying to get the students to focus on the Ring-billed Gulls and pigeons on the school roof. The football players in the field, however, were more interesting.

When we got to the vacant lot, we broke into three groups. One student scanned the perimeter and pointed to a tree where a bird was hard at work. "A woodpecker," I said, but it was too big to be a Downy. Binoculars revealed a beautiful Yellow-bellied Sapsucker. Obligingly it hung around while all the students came over and tried to train their tiny binoculars on it and notice the white flanks and the golden wash of its feathers.

More birds. Song Sparrow. House Sparrow. White-throated Sparrow. American Robin. And suddenly out of nowhere, a gasp as an American Kestrel swooped in chasing a flock of starlings, then took off. Northern Mockingbird. Northern Cardinal. Then an Eastern Kingbird on the roof ridge of the church—only much later did we realize how rare this sighting was at this location at that time of year. I stood with a student as we noticed the bright white edge of its tail and its breast, the dark head and straight-up posture.

Then one of our students started to wander off, just what the school was afraid of. "Naomi, come back!!" we yelled, but she ignored us. Irritated that one child could potentially ruin all bird walks for everyone for the rest of the semester, I ran across the broken glass toward her. "Miss, Miss, I see a bird. It is all brown. On that tree. What is that?" She pointed. I looked.

Brown Creeper.

I motioned for everyone to come over to see the bird, and, again, a wonderfully cooperative creature let everyone practice with binoculars. They noticed the bird's coloring, the curve of its slender bill, its lovely habit of sprightly spiraling up tree trunks. They sketched and made careful notes. When we got back to class, they added to their sketches from memory, enhanced their field notes, and created a class life list. We talked about what we'd noticed and then they lined up again, this time for their buses.

Noticing is not on the official list of Citizen Schools' 21st Century Skills, a list



Brown Creeper. We used photocopies from bird coloring books to help students get started with their sketches and encouraged them to take field notes on what they observed birds eating and doing.

that includes communication, innovation, collaboration, and problem-solving, The 21st Century Skills are areas of emphasis that align with national educational standards and goals and are meant to support the STEM (Science, Technology, Engineering, and Mathematics) initiatives that are driving so much of education reform. From tiny preschool classrooms all the way through college distribution requirements, we are, as a nation, urgently asking students to think more like scientists and engineers—even if we aren't always clear about what that means and even if we haven't developed fundamental skills of scientific observation and data collection.

We managed to spin our class as developing a hybrid of problem-solving and communications skills so that we could pass muster. Over the course of the class, we managed to prepare our students to talk about the birds and birding skills with which they'd become acquainted for the end-of-year science fair, but I'm not sure what we were doing was technically part of STEM goals, 21st Century Skills or Common Core frameworks.

The activity of American schools seems designed around a fairly narrow idea of what attention is. William James, one of the founders of American psychology, talked about attention as the exclusion of extraneous information. Attention, he wrote, "is the taking possession of the mind, in clear and vivid form, of one out of what may seem

several simultaneously possible objects or trains of thoughts...It implies withdrawal from some things in order to deal effectively with others" (James 1890.) This is exactly what we ask of students when we ask them to pay attention—we want them to direct the limited attentional resources they have to the task we set before them. We want them to focus on the teacher and the assignment. We set out objectives to help them focus and exclude anything else. And at the Dever-McCormack and in many other public schools across the country, students are asked to do this at least four to six hours each day.



Greater Black-backed Gull with field notes. About a third of our students were Spanishspeakers, so we encouraged them to take notes in both English and Spanish.

Focused attention is a central feature of human cognition. Psychologists called this kind of focused attention endogenous attention. Endogenous attention is intentional. You focus on something specific-something you want or need to know more about and shut everything else out. You are like a laser, and the tighter your beam, the better. You are engaging your endogenous attention when you are having an intense conversation with a friend on the subway, losing yourself reading a book, or carefully watching a single bird at your feeder. In work, in school, in everyday life, we are asked to produce a sustained and narrow focus.

But there is another kind of attention—exogenous attention. When you are in a noisy school cafeteria, you are focused on trying to hear the people next to you. Yet somehow, you can hear it when people to whom you are not paying attention say your name from across the room. Exogenous attention lies just beneath your radar until it bursts through. It is that odd chip note you hear in a parking lot, even while you are talking on your cell phone, which then turns out to be a Prothonotary Warbler in Massachusetts in May.

Birders know the difference. When we search for Cackling Goose among a large flock of Canada Geese, we intentionally shift our attention from one goose to another until we find something that matches what we know about the smaller bird—smaller beak, shorter neck, different posture. By contrast, among a flotilla of Double-crested Cormorants, a Brown Pelican will catch our attention immediately (Macaluso and Doricchi 2013).

Research suggests that there are ways to enhance or improve endogenous attention—repeating or practicing various tasks, engaging in meditation, and playing video games, especially first-person shooters (Posner 1980). Various studies have looked at the effects of action video games on attention, which appear to offer "remarkable enhancement in the ability to efficiently deploy endogenous attention" (Hubert-Wallander et al. 2010). These studies say that video games can improve

selective visual attention, object tracking in the field, visual short-term memory, the mental rotation of objects in space, and the speed and efficiency at which gamers can switch from one task to the next—something known as attentional shift (Boot et al. 2008). Such improvements are possible because endogenous attention is a function of the more plastic parts of the brain, particularly a group of nuclei interconnected with the cerebral cortex, thalamus, and brainstem, which are associated with functions such as attention, motor control, cognition, and learning. Bigger basal ganglia can make you a better gamer and maybe a better student, a more effective scientist or engineer, or a more productive worker.

If video games can improve attention, why not birding? Might birding also have a positive impact on our basal ganglia? The skills that action video games demand of the gamer are not terribly different from those that birders use. Anyone who has tried to sort out individual hawks in a massive kettle during migration knows how valuable it is to be good at tracking objects in the field. Birders looking for warblers need well-developed selective visual attention skills when trees leaf out early or a wave of Yellow-rumps interferes with that Cape May you're stalking. Many of the good birders I know have spectacular selective auditory attention skills as well, easily pulling out the high thin song of the Blackpoll Warbler from a dawn chorus and then finding the bird. Short-term memory skills help birders relocate birds when they look away and remember roosting spots and favorite berries as well as nests. And identifying birds in flight when they are mere silhouettes against a bright sky demands that we do a lot of

rotating objects in space. With practice, birders learn to do all these things quickly and efficiently, switching from one task to the next, because what we see is rarely more than a glimpse.

While video games—and maybe birding—can improve and enhance endogenous attention, it is not so clear that you can do the same for exogenous attention. Exogenous attention is thought to be a more automatic process that takes place in subcortical brain structures,



Northern Mockingbird field notes.

which are generally viewed as "minimally plastic." But while that may seem to be the case in adults, it isn't true of children whose subcortical brain structures are still developing.

The two kinds of attention—endogenous and exogenous—are engaged in a dynamic tango that is not well understood on the neural level, or even psychologically. Exogenous attention allows novel or salient information to transiently interrupt goaldirected behavior. These interactions affect our experience as our goals and intentions compete with the attractions of the surrounding environment over milliseconds, seconds and minutes (MacLean et al. 2009). When our exogenous attention gets too active, we talk about being distracted. What I find most pleasurable about birding is the noticing. Noticing is the throttle between these two kinds of attention. Open up that throttle a little when you are birding, amp up some of your receptivity and senses, and you are going to hear more, see more, and experience more. The moving pile in the leaf litter will get noticed enough to turn into a Wilson's Snipe. The 30th white heron of the day will suddenly shock you with its gray lores and turn into a Little Blue. And the song you thought was a bug will be that elusive Grasshopper Sparrow. Exogenous attention is your best tool when you are birding because that is what allows you to find the unexpected, the bird you were not seeking or expecting to see—the Black-backed Woodpecker, the Fork-tailed Flycatcher, the Gyrfalcon.

Noticing can be developed, especially by practicing observation, taking field notes, and sketching. Birding is learning to notice, and as such, it offers educators a remarkable way to build fundamental skills that might make science richer and more interesting for young students. Noticing is fuel to questioning—and not silly questions, but interesting ones. What are the mirrors of a gull's feather for? Does Brown Creeper compete with White-breasted Nuthatch for food or territory? Does temperature affect migration?

Noticing successfully also demands that you learn to put quick conclusions on hold in order to observe completely. Not long ago, I watched a dark bird soaring over Fresh Pond in Cambridge. A fellow walker came up and pronounced that it was a Red-tailed Hawk. Though the large dark wings, the white head, and distinctly white tail were clear as day even without binoculars, I could not change her mind. Noticing means letting details you might otherwise exclude take a turn on center stage for your consideration before you dismiss them.

As birders, we know: noticing can stretch and build attention as if it were a muscle. Noticing is not only about what you see or hear. It can also be a model for how to read and how to learn. My daughter's brilliant high-school English teacher once said that learning to read poetry was really learning to notice. The specific words. The line break. The odd choice of metaphor. When we take students birding and encourage them to observe, we are helping them to learn how to manage the throttle. And in some cases we may be offering a different—and more effective—way of learning than what might be available to them in school. Open the throttle just a little, and new information presses in.

Toward the end of our semester, the days grew shorter, and our students grew extremely good at noticing. We walked over to the Harborwalk in a cold wind one afternoon to look for seabirds. They were quickly picking out adult gulls—they could even identify Ring-billed, Herring, and Great Black-backed gull feathers by their mirrors alone. We watched to see if one species preferred clams over crabs and which gull was most likely to bully others, and started to learn a little about juvenile plumages.

That day, we were there for sea ducks. The birds obliged in big, active rafts: two scoter species, Common Eider, Bufflehead, Long-tailed Duck, Common Goldeneye, Red-breasted Merganser. We noticed how the Buffleheads bounced along with the

chop, how the Eider sang in a chorus, how the Goldeneyes' heads shone in the light and how tightly they swam together. The Red-breasted Merganser had a different kind of bill, and it sat lower in the water than some birds. The Long-tailed Duck seemed skittish. We watched the birds dive and feed and come up with small fish. We watched how fast and low the White-winged Scoter could fly.

Birding. Sketching. Noticing. Our students gorged on new knowledge. They got to go outside, which is a rare thing in an urban school, and they had a lot of fun, we think, something that is in short supply during the packed school day. In our rush to impart essential skills for the future we can sometimes forget that there is nothing wrong with recreation and fun. Many of our students were in school from 8:00 am until 5:00 pm many days. Many had long bus rides in Boston traffic. I worry that our nation is so worried about creating the next generation of innovative problem-solving collaborators that we forget that fun and being outside and noticing can be important, too.

We bought gently used field guides on eBay and gave one to each of our students to take home at the end of class. "You are birders," we told them again.

And they were. 🐔

M.F. Badger is a birder and freelance writer in Cambridge, Massachusetts. She and **Mary Howard** volunteered in the fall of 2014 with Citizen Schools to lead an afterschool bird club at the Dever-McCormack School in Dorchester and are planning to do it again soon. They are happy to share their curriculum plan with other birders interested in working with students in Boston-area public schools (mfbadger@gmail.com). To learn more about volunteering with Citizen Schools, please visit their website: http://www.citizenschools.org.

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PHOTO ESSAY

"Soaring Birds" Artwork

M.F. Badger





While our class took place in the fall, students were also interested in some of the spring and summer birds they saw in their field guides. Snowy Owl. For many of our students, opportunities to draw and sketch had been limited. But what we saw in their sketchbooks showed that for some drawing and sketching could be a powerful way to learn.



Bufflehead. Students were excited to be able to identify birds in the harbor right near the school. Most had never looked closely at seabirds before.





House sparrow. A quick sketch with colored pencils by one of our most enthusiastic birders.

Imaginary bird. We encouraged our students to take their field notebooks and field guides home—and we were also delighted by what came back.



Black Scoter. Students observed 24 species during our fall trips including all three scoter species.

FIELD NOTE

A Hermit Thrush Overwinters at a Worcester Feeder

Mark Lynch



Hermit Thrush overwinters at Worcester feeder (All photographs by Sheila Carroll.)

Hermit Thrushes (*Catharus guttatus*) are common but local breeders throughout Worcester County, Massachusetts, the densest populations occupying forested areas in the northern and western sections. They also are common migrants, sometimes seen in numbers in fall migration if weather conditions are right. Typically they are the first woodland thrush back in spring—late March or early April—and the last to leave, usually in mid-November. Hermit Thrushes are found in some of the Worcester County Christmas Bird Counts every year, though only a single or just a few birds are reported for any specific count circle. In most years, there are scattered reports of single birds into early January; then Hermit Thrushes become decidedly rare until spring migration begins. Worcester County is a tough place for migrants to survive in winter because of cold temperatures and the accumulation of several feet of snow.

So we were surprised in late afternoon on January 30, 2015, when a Hermit Thrush showed up at our feeders in the city of Worcester. I had seen a Hermit Thrush feasting on the berries of our scraggly holly bushes on January 4, and was excited to see one that late not only in the county but in my backyard, where they are far from common birds at any time of the year. We live in the city of Worcester, and though it is a nice
section, there is not much habitat for birds. Bancroft Tower Hill, two blocks away, has some decent stands of trees.

The thrush fed on a premium seed mix that included sunflower seeds and a few nuts from a circular feeder with a dome. Periodically, a jay chased it off, but the thrush returned several times to gorge on seeds. Sheila photographed the thrush fending off the many House Sparrows. We honestly thought this would be a one-day wonder.

But for the next several days, the thrush consistently showed up late in the afternoon, always at the same feeder. Sometimes it fed on the ground under the feeders and also where we had shoveled and tossed seed on the ground. The bird typically stayed late too, well after sundown and after all the cardinals had left the feeders. Looking out the kitchen window in the gloom of twilight, we would see the bird, alone and eating away. It became a daily event.

Then the snows came with a vengeance. The snow quickly piled up higher than our small back porch, and we had trouble at times getting out to fill the feeders during some of the blizzards. We started to throw additional seed on our back porch for the juncos and cardinals because it offered some protection from the elements. Immediately the thrush joined them and regularly began feeding on the back porch. During days when it was snowing—and there were many of them—we would see the thrush on the back porch feeding off and on for most of the day. It would fly in from the cover of the bushes, perch atop one of the feeder poles for a minute or two, then fly down to a feeder, the porch, or the ground.

One day in early March, we saw the thrush perched, motionless, atop the feeder. It held its entire body up at an angle. The sun was out, but it was very cold. I went outside to see if the bird was all right. I got within two feet of it and still the thrush did not move though it clearly saw me. I didn't want to get any closer. I called Sheila out to take a photograph. She didn't get anywhere near as close to the thrush as I did. Sheila took some shots while it remained perched and motionless. We were getting concerned and started planning a trip to the Tufts Veterinary Medical Center with what we thought was a sick thrush. But as soon as we went inside, it flew down to the ground and fed normally.

Early on, it became obvious that the winter was going to be an especially brutal one. I was concerned that this thrush was eating only seeds but it likely needed more varied high-energy foods. Totally winging it, I whipped up a concoction of crunchy peanut butter, raisins, sunflower kernels, berries—blueberries or raspberries depending on what was available—and mealworms. Lots of mealworms. I mixed everything together and put it in a deep plastic bowl on the back porch. The thrush immediately went for it and regularly began eating from the bowl.

As anyone who has hosted a unique bird knows, you rapidly get attached to the bird and feel responsible for its welfare, particularly during a winter as severe as the winter of 2015. In my notes for February 13, 2015, I wrote "becoming a pet." We actively looked for the bird during the never-ending series of snowstorms, made sure it got fed, but wondered where it went at night and how it survived the many times



Hermit Thrush fends off House Sparrow at the feeder

the temperatures well below zero. The Hermit Thrush became the special bird at the feeders.

There were a few days when it was not snowing that we did not see the bird. We were not glued to the back window at all times, and on those few days when it was not snowing, we went out to run errands, look after our roof, and try to bird. We could have easily missed the Hermit Thrush on those few days.

By the middle of March, we noticed that the bird was also feeding at the suet feeders. This may have been because the squirrels and chipmunks had discovered the feeding area on the porch. By the middle of March, the grackles and Red-winged Blackbirds had returned but the thrush continued to come to our feeders.

Our last sighting of the bird was on March 23, when it fed on the ground under the feeders and took some suet, too. By then, the disastrous winter had abated some and small areas of bare ground were showing. When you spend so much time closely looking at one bird, it is amazing how your view of that bird changes. Hermit Thrushes are surprisingly small and delicate birds; it was sobering to watch this one small bird, which really should have moved on, try to survive one of the worst winters in Worcester's history. This bird was always solitary and did not hang out with other species. It came and went on its own schedule. We still look for the bird every now and then, but we hope that the Hermit Thrush survived and moved on.



FOX SPARROW BY SANDY SELESKY



WOOD DUCK PREENING BY SANDY SELESKY

MUSINGS FROM THE BLIND BIRDER

Birding Vocabulary

Martha Steele

During my years of birding, I have learned new words and new meanings of familiar words. Birders, of course, have their own vocabulary that is not always understandable to nonbirders. Below are a few words in a birder's vocabulary, with some liberties taken to poke a little fun at ourselves.

Acronyms: abbreviations meaning one thing to birders but quite another to nonbirders. Examples include: TV—Turkey Vulture, not television; MASH—Manx Shearwater, not the legendary movie and TV show featuring Hawkeye Pierce; and SOSA—Solitary Sandpiper, not the Major League Baseball player.

Birder's Walk: synonymous with "glacial walking pace." A birder's walk has a pace of about 10 yards per 15 minutes, with a range of 1 to 120 minutes, depending on the bird activity in that distance. Although birders often boast of how much "bird walking" they did in a day, they often may only walk yards rather than miles due to the glacial pace of bird walking.

CBC: an acronym that stands for Christmas Bird Count, an exercise in self-flagellation as birders rise early to freeze in search of Herring, Ring-billed, and Great Black-backed gulls, European Starlings, Rock Pigeons, American Crows, House Sparrows, and single individuals of other species. I happily stay home and cook for the countdown.

Click: the sound that a birder's digital camera makes when taking a picture. When many birders congregate around a cooperating and unusual bird, the rapid fire clicks suggest we are in the presence of a movie star.

Deflate: a phenomenon experienced by many birders who publicly misidentify a bird and in turn are publicly corrected. The opposite of deflate is inflate, a phenomenon experienced by only a small number of birders who correctly identify a rare visitor to the region.

Fallout: an ominous word usually associated with atmospheric deposition of radioactive material from nuclear accidents or bombs. However, to birders a fallout is a joyous word describing spring migrants dropping from the sky and singing up a storm.

(Fill in the Blank) Tree: fondly remembered by birders everywhere, these "fill in the blank" trees represent specific trees in specific locations where a specific rare bird was seen sometime in the last century. For example, the "Townsend's Warbler Tree" in Mount Auburn Cemetery is visited every spring by scores of birders hoping to see another Townsend's Warbler because this bird was seen in that tree in 1978.

Kettle: a thing of beauty to a subspecies of birders called hawkwatchers. A kettle generally refers to a group of raptors circling 5000 feet or more overhead.

Hawkwatchers use their unique code to identify raptors in a distant kettle, such as "WING!" for Broad-winged Hawk. For those not members of this birder subspecies, kettles are best described as the traditional containers used for an afternoon tea, rather than something containing moving specks in the sky.

Lifer: a term that draws blank stares from nonbirders, it can refer to any item of any sort that has never before been experienced or seen by the individual. Beyond seeing a "life" bird, the term can also relate to life person, life road, life diner, life airline, life lip gloss, or anything else.

Massachusetts Birder's Hall of Fame (MBHF): yet to be established on Cooperstown Road in Tyringham, the MBHF will enshrine individuals who have achieved birding excellence. Minimal eligibility requirements for the MBHF include the following: (1) at least 30 years of birding excellence; (2) a career on-birdpercentage (OBP) of at least 0.750 representing having seen at least 75 percent of all bird species recorded in Massachusetts; and (3) no more than five errors in the field of misidentified birds, thereby earning the birder at least one Gold Bird Award. Nominations anyone?

Optics: instruments used to see birds, such as binoculars and spotting scopes. Optics can be so good that they create optical illusions of a rare bird located half a mile away on a choppy ocean surface.

Out in the Open: a phrase that is among the most aggravating to birders trying to locate a bird "out in the open" among hundreds of openings. Synonyms include "on that branch," "on top of that tree," "on that rock on the reef out there," or "in the sky."

Parula Warbler: a species of warbler that no two birders pronounce alike. Is it *pear'-you-lah, par'-you-la, pah-rule'-la*, or something else?

Peep: usually thought of as a high-pitched sound uttered by young children, peeps are actually a group of small shorebird species posing identification challenges to even the most experienced birders. Just like parents who enjoy the peace of not hearing a peep out of their sleeping child, some birders may enjoy not seeing a peep either when awake or in their dreams.

Pelagic Trips: offshore trips in search of seabirds that can be exhilarating or miserable. Exhilaration reigns when large numbers or unusual birds fill the ocean air with sight and sound. Misery reigns when neither occurs, the seas are rough, and six or more hours of boredom are endured on the return to shore.

Peregrinate: wander. Peregrinate generally entails traveling at least ten times the actual "as the bird flies" distance between points A and B. Birder peregrinations are often misunderstood to be aimless and boring rather than targeted and fulfilling, unless, of course, the birding is poor, in which case it is aimless and boring.

Road Kill: a bird or other animal carcass lying in sight of passing motorists. Road kills can elicit strange behaviors in birders, who abruptly do U-turns to identify the species. Sometimes this entails exiting the vehicle and bending over to examine the

carcass, which can attract state troopers concerned that said individuals are throwing up and need medical assistance.

Spishing: considered an art form honed over many years, spishing is the act of contorting one's mouth, tongue, teeth, and trachea to utter sounds that apparently mean something to birds, who often mob the perpetrator. It is an act performed only in the presence of other birders, to be immediately squelched and replaced with a pleasant smile upon the approach of any nonbirder.

Tick: an annoying and sometimes disease-carrying arachnid. To birders, tick also means the mark on a checklist indicating they "got" the bird. A "mega-tick" means they got a rare or vagrant bird.

So, go ahead, have some fun when thinking of our unique vocabulary and quirky language and habits. And don't forget to report that LBJ—little brown job—that just flew by while you were looking into your optical-illusion-creating scope. It is probably a female Cassin's Sparrow.

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.



"SOARING BIRDS" ARTWORK

GLEANINGS

You Are What You Eat?

David M. Larson



Black Vulture. (Photograph © Shawn P. Carey)

Birds eat the darnedest things. Snowy Owls specialize on lemmings in the Arctic and eat other mammals, waterfowl, and dainty bits here in New England. And Great Horned Owls don't shun a tasty skunk. But vultures have diets that most birds will not touch and possibly could not survive.

New World vultures, such as Turkey and Black, consume fairly rotten meals. They play a vital role in scavenging dead animals, cleaning up messes, and recycling. Turkey Vultures depend on the odor of decomposing flesh to locate their meals while Black Vultures are more visual hunters. Because they lack the sharply hooked bills and raking talons of raptors, vultures often have to wait for decomposition of larger dead mammals to advance to the point that the tough skin bursts. Often the only entry point for vultures into mammals that have not gotten to that point of ripeness is through the softer tissues around the anus. Hence, whether vultures dine on freshly dead or more aged carrion, bacteria and bacterial toxins are an inescapable part of their diet.

Roggenbuck, et al. (2014) carried out a study on Turkey and Black vultures collected in Tennessee. In order to test if the diet of the birds influenced the hindgut flora, they amplified DNA from facial swabs, using polymerase chain reaction (PCR) to determine what mammals the vultures had consumed. Ninety percent of facial samples

contained mammalian DNA reflecting the vultures' food resources. However, only eight percent of hindgut DNA samples—all from Turkey Vultures—contained any mammalian DNA, demonstrating that passage through the digestive tract of the birds exposed DNA to harsh chemical degradation. Particularly harsh digestive conditions could be an adaptation for processing carrion. But there are bacteria that colonize vultures' digestive tracts, and these bacteria must be adapted to survive such harsh conditions.

The authors next tested the bacterial communities present in the facial and hindgut samples, again by PCR amplification and sequencing of a microbial DNA marker. Facial microbial communities were much more diverse than the hindgut communities, and there was no significant difference between the two vulture species in this analysis. Pathogenic anaerobic bacteria were present in facial samples and common in the gut of both vultures. Bacterial strains included Clostridia, which causes severe food poisoning in humans and periodic die-off of wild shorebirds and waterfowl, and Fusobacteria, a flesh-degrading bacteria that can cause periodontal diseases and topical skin ulcers. Their presence on the faces of vultures suggests fecal contamination of food sources, and the presence in the hindgut samples suggests survival of these bacteria through the digestive tract. Ninety-eight percent of the hindgut microbial DNA sequences were also found in facial samples, though most facial microbes do not survive passage through the passage through the vulture gut. About ninety percent of the vultures' gut bacteria were found in all of the samples, demonstrating that only certain microbes are tough enough to survive in the gut of these birds.

Finally, the authors compared their hindgut samples from wild vultures with fecal samples collected at the Copenhagen Zoo from two Turkey Vultures, a Red-tailed Hawk, and an African Spotted Eagle-Owl. The captive and wild vultures had similar intestinal bacteria. Despite having a similar diet in captivity, the hawk's and owl's gut microbial community was unlike that of the vultures, perhaps reflecting differences in gut environment.

In conclusion, New World vultures have extremely efficient digestive tracts that clear much of the toxic bacteria from their carrion diet. Those bacteria that do survive to dominate the hindgut microbiota, especially Clostridia and Fusobacteria, apparently outcompete other groups. New World vultures are well adapted to their nasty diet, including the inevitable bacteria and toxins, and function well in their role of cleaning up carrion.

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

ABOUT BOOKS

Poysers and Auntie Eiders

Mark Lynch

The Common Eider. Chris Waltho and John Coulson. 2015. London, U.K.: T & AD Poyser.

It has long been my belief that everyone's library contains an Odd Shelf. On this shelf rests a small, mysterious corpus of volumes whose subject matter is completely unrelated to the rest of the library, yet which, upon closer inspection, reveals a good deal about its owner. (Anne Fadiman. *Ex Libris: Confessions of a Common Reader*)

The contents of someone's bookcase are part of his history, like an ancestral portrait. (Anatole Broyard. "About Books; Recoiling, Rereading, Retelling," *New York Times*, February 22, 1987)

Walk into the home of any older serious birder and you will find a sizable library dedicated to that avocation. This will be more than just a random collection of field guides, identification guides, and where-to-find guides. Besides those basics, there will be numerous art books, coffee table tomes, and numbers of more academic books about migration, behavior, and ornithological history. If this "house of the seasoned birder" were in Britain, chances are you would also find an unique section of books in that library, often shelved together. These would be a distinctive collection of quality hardcover books on a wide variety of interesting ornithological subjects such as birds that eat berries or how birds are affected by weather. There would also be a number of monographs on specific species. Though the subject matter of these books would vary, all these hardcover books would have a very similar look. Although they might vary slightly in height and width, these books would have primarily white dust jackets with a beautiful original color artwork on the cover and spine and a seraph type used for the title. The beginning of each chapter of every book would include a wonderful piece of original black and white artwork. These books are books that beg to be read. These books would be "Poysers."

Poysers are books published by T & AD Poyser, a name that is featured prominently on every cover. Over the years this name has been published as T & A.D. Poyser and T & AD Poyser. In 1973, the British Trevor and Anna Poyser decided to specialize in publishing quality ornithology books written by experts in the field. They started one of the most collectable series of natural history books, second only to the New Naturalist series. The Poysers often worked with the British Trust for Ornithology. In January 1990, they sold the business to Academic Press. As is typical of the fate of independent publishing houses today, it was passed from one larger company to the next. The T & AD Poyser imprint was taken over by Harcourt Brace and then by Elsevier, a publisher of scientific books. Some of the titles have been released in the United States by Buteo Books or Yale University Press. Finally, in 2002, the brand

The Common Eider



CHRIS WALTHO AND JOHN COULSON

and backlist was acquired by A & C Black Ltd, which in turn is part of Bloomsbury Publishing Group. Founded in 1986, Bloomsbury is an independent worldwide publishing house with offices in London, New Delhi, New York, and Sydney. Bloomsbury is now releasing new T & AD Poyser titles, and they are definitely maintaining the tradition of high quality bird books. Some of the new titles have a dark blue banner along the top of the cover, breaking up that stark white background, a variation that may seem a bit heretical to long-time Poyser reader/ collectors.

Poyser titles cover an amazing variety of subjects. There are detailed regional avifauna accounts for Scotland, Wales, Ireland, and England that are much more than just annotated lists of species. Poyser published one of the first

identification guides to a group of birds. *Gulls: An Identification Guide* by P.J. Grant was one of the first detailed plumage and ageing accounts of gulls and became a musthave volume for serious birders when it was released in 1982. The groundbreaking *Flight Identification of European Raptors* by Porter et al., published in 1974, was one of the first guides to raptors in flight. Some Poysers are concerned with non-European avifaunas, and there are books that cover migration in Gibraltar and the lives of birds in the Arctic. These are not identification guides, but include information on the ornithological history and avian behavior in those regions. *Lost Land of the Dodo* by Cheke and Hume (2008) covers not just the birds but the entire ecology of the island of Mauritius.

There are also a few Poysers that are not about birds at all, titles concerned with badgers, moths, and long-eared bats.

Some of my favorite Poysers were unique in birding literature at the time they were published. *Birds By Night* by Graham Martin (1990) describes the nocturnal behavior not just of owls and nightjars but of other species of birds we typically think of as diurnal. *Man and Wildfowl* by Janet Kear (1990) is a fascinating historical and anthropological look at humans' relationship with ducks and geese, wild and domesticated.

The authors of Poyser volumes are usually people currently doing research on those species or subjects or in those locations. The noted British ornithologist J. Denis Summers-Smith spent his entire life studying the genus *Passer*, which includes the much-abused House Sparrow, which he dearly loved. *The Sparrows* by Summers-Smith is the definitive volume on all the species of these birds. He followed that with another Poyser title, *In Search of Sparrows*, which recounts his crazy adventures seeking all the House Sparrow relatives in some of the most out-of-the-way places on the globe.

Poyser is also justly famous for publishing state-of-the-art monographs on a variety of species. To date there have been Poysers about the Barn Owl, the "grey geese," the Mandarin Duck, the Snowy Owl, the Kittiwake, the Raven, the (Eurasian) Kestrel, the Ruff, the Merlin, the Pinyon Jay, the Peregrine Falcon, and a number of other species. This year Poyser has published books about the Common Eider and the Barnacle Goose.

The Common Eider by Waltho and Coulson is a fine example of a Poyser monograph. The two authors are experts in their field. Chris Waltho "has been watching eiders since he was a boy. For more than 40 years he has been involved in surveying and monitoring them in the Clyde area of Scotland." (text inside back dust jacket) For decades he has also been conducting other, wider ranging surveys of eiders with many volunteers. John Coulson does ecological research on seabirds and is the author of more than 160 scientific publications. There's a lot more listed for both authors, but suffice it to say that if you are looking for two people who really know a lot about eiders you could not do better than Waltho and Coulson.

If you have never read a well-written monograph on a bird species, the depth of the information in a monograph can be mind blowing. In *The Common Eider*, 17 pages are dedicated to plumage, physical descriptions, and illustrations of male, female, and immature eiders. Details of the eiders' geographical distribution and movements fill another 39 pages.

You may have been watching eiders for most of your birding life, but how well do you really know the bird? The following information is just a little of what you can find in *The Common Eider*.

For starters, this isn't the first book concerned with eiders. "More than 250 years ago, in 1763, Morten Thrane Brünnich, of Brünnich's Guillemot fame, wrote *Die natürliche Historie des Eider-Vogels*. This is the earliest known publication solely dedicated to eider." (p.11) Eiders have a long history of exploitation by humans, at least since the Paleolithic. Eiders have been sought after for their eggs, meat, and down. But in recent decades humans have caused even greater problems for these birds thanks to a seemingly never-ending series of oil spills and entrapments in fishing trawler nets.

Unlike the name "scoter," the word "eider" is widely known to nonbirders around the world, mostly because of the down taken from the bird's nest for clothing. It is the largest and heaviest duck in the northern hemisphere, heavier even than some of the smaller geese like Brant and Barnacle. Because of their short, pointed wings, eiders also have one of the highest wing-loadings found in any flying bird.

Eiders are the only northern hemisphere duck that occurs in marine environments year round.

Somateria species have been known from fossils dating back at least to the Pleistocene. There are at least seven recognized subspecies and fifteen biogeographic populations of eiders. Details of all are given in the book.

Eiders can dive to depths that measure from 42 to 60 meters. As anyone who has gone scuba diving knows, diving to these depths presents serious problems to airbreathing vertebrates, who can get "the bends." So when diving deep, eiders switch from aerobic diving to anaerobic diving.

Eiders, like many other seabirds, have well developed salt glands, one above each eye, so they can ingest seawater. But when incubating, these salt glands become dramatically reduced. Newly hatched duckling eiders also have very small salt glands and typically need some fresh water in order to survive.

While working on the Breeding Bird Atlas II, we were surprised to find two groups of young eider ducklings with the attendant adult females along the shore of Gooseberry Neck. One of the reasons that you see young eider ducklings off Westport and other areas on the Massachusetts South Shore is that Maine birds were introduced to the Penikese Islands in the early 1970s. This program contributed to the southern expansion of the eider's breeding range in North America to Dumpling Island (Fisher's Island) in New York.

Because eiders are such hefty species, they are capable of taking the largest prey of any duck. *The Common Eider* lists 180 different prey species that eiders have been found to eat. More than half of these are mollusks, especially the blue mussel (*Mytilus edulis*). About a quarter of the other prey items are crustaceans, and most of the rest are echinoderms. On certain parts of the British coast eiders have also learned to eat bread thrown at them by locals and even survive on discarded fish and chips. Because eiders can eat such different prey items as razor clams, sea urchins, or crabs, they have developed a wide variety of behaviors to hold the prey items in their bills and get them down the gullet. Imagine trying to eat a live crab with no hands.

Eiders are in turn preyed upon by a number of interesting species. Nesting eiders are often prey to red and Arctic foxes. White-tailed Sea Eagles are significant predators of eiders where their ranges overlap. During the breeding season polar bears, brown bears, and even Snowy Owls all prey on eiders. Whenever you find exhaustive lists like the ones in this monograph, it's fun to look for the odd bits of information, the outlier facts. So in *The Common Eider* you learn that on a certain island in Germany, hedgehogs became a significant predator on eider eggs, while in southwest Finland, eider nests fall victim to the appetites of the unusual raccoon dog (*Nyctereutes procyonoides*).

The most interesting chapters in *The Common Eider* are concerned with breeding, nesting, and raising young (pages 148–232). Eiders are typically described as "colonial nesters." But Waltho and Coulson question this description. Eiders nest in a range of densities, from isolated pairs to 300 or more nests per hectare. Are they in fact colonial or just, in some cases, nesting close together because of a local shortage of suitable nesting habitat? This is more than just a question of semantics, as the authors point out, because it affects management strategies.

It is often stated that eiders who nest near gull colonies do not fare well because of predation. But Waltho and Coulson cite other researchers who claim that, although



Common Eider. (Photograph by Sandy Selesky)

gulls take eggs and young, there may be greater overall advantages to nesting near gull colonies. Gulls can protect the eiders from more persistent predators like crows.

At present, the evidence of this benefit relies extensively on the study by Götmark and Åhlund (1988), where the nest predators of eiders nesting on small islands off the coast of Sweden were Hooded Crows and gulls, but did not involve predatory mammals. They showed that about 15% of eider nests failed to hatch any ducklings due to predation on islands which did not have nesting gulls, while only 8% of nests failed on islands with gulls. The differences in nest predation rates were statistically significant in both 1982 and 1983, and were attributed to the protection from avian predators provided by nesting gulls. (p. 217)

The situation is complicated because gulls definitely have some impact on eider nesting. Are the eiders really benefiting or do they have no other choices for nesting locations and are therefore forced to nest near nesting gulls? In 1989 Swennen did an extensive study of eider duckling mortality and found that much mortality was in fact due to the ducklings starving because they could not find appropriate food. In years when there was high duckling mortality, it was because food sources were so scarce the ducklings had to wander farther from the protection of the adults and therefore were more often preyed on by gulls. So the main problem wasn't the gulls, it was food availability.

Despite Swennen's study, there is still controversy about the impact of gulls and predation on eider ducklings and there have been several proposals on the eastern coast of the USA and Canada to cull the large gulls nesting on islands where eiders also nest. Furthermore, there is increasing evidence from both sides of the Atlantic that disturbance of females with ducklings by the general public, and even by researchers, greatly increases the level of predation by gulls. In the absence of disturbance of ducklings by walkers, dogs, jet skis, and small boats, the predation on ducklings is often much lower, and breeding eiders can and often do coexist with gulls. Those who advocate extensive culling of large gulls for the benefit of eiders need to first evaluate

the impact of gulls on eiders in the absence of human disturbance and to bear in mind the lesson of not jumping too quickly to a conclusion, so well illustrated by Swennen's excellent work. (p. 250)

Whether eiders benefit from or simply have to tolerate the disadvantages of nesting alongside gulls needs research, particularly in situations where the gulls are nesting at different densities. (p. 218)

Common Eiders form crèches after the ducklings hatch. These are groups of up to 100 ducklings that are watched over by a few females, typically far fewer females than would be expected for that large number of ducklings. This crèche system is used by other waterfowl species; in north Quabbin I have seen large groups of Common Mergansers attended by only a few adult females.

Common Eiders also have an alternative strategy. Sometimes very small broods are accompanied by more than one adult female eider. Waltho and Coulson call this the "auntie system." Though it has been described as occurring a number of times, little is known about who the other females are. There are four possibilities. These "aunties" could be failed breeders, young (two or three year old) females, adult females who have skipped breeding that year for some reason, or actually closely related females. More research is needed.

The last chapter of *The Common Eider* is written by Diana Solovyeva, one of the few researchers who has studied all four eider species, and she compares plumages and behaviors of Common, King, Spectacled, and Steller's eiders.

The Common Eider is a classic monograph: thorough, scholarly, and well written. Though certainly scholarly, the book is absolutely geared to the average intelligent reader who wants to learn more about eiders. *The Common Eider* includes a nice section of full-color plates. There are also seven appendices that include a list of major conservation sites for the eiders, an exhaustive list of species that eiders prey on, and charts on duckling growth. A welcome addition to the T & AD Poyser pantheon.

...I agreed that what really matters is what you like, not what you are like... Books, records, films - these things matter. (Rob, in the film *High Fidelity*) *A*

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COVERING THE BOREAL ZONE

The Bird Community E-Bulletin April 2015

Last May, the Boreal Songbird Initiative and Ducks Unlimited released a publication, "Boreal Birds Need Half: Maintaining North America's Bird Nursery and Why it Matters." <http://borealbirds.org/announcements/boreal-birds-need-half-maintaining-north-americasbird-nursery-and-why-it-matters>

In mid-March, both organizations launched a related and parallel campaign, backed by leading bird and conservation groups across Canada and including Alaska. This effort, for the first time, describes the conservation benchmarks necessary to ensure that the boreal forest continues to be an important North American bird nursery.

The campaign advances the idea that at least half of the boreal forest region must be protected and remain free of large-scale industrial disturbance. That level of protection is necessary to maintain healthy populations of the full spectrum of bird species and other wildlife inhabiting the North American boreal forest. Moreover, that area of the boreal that is developed should be carried out with the highest global sustainability standards, with special emphasis on maintaining healthy and pristine wetlands and waterways. Additionally, both protected areas and industrial activities should proceed only with the free, prior, and informed consent of affected native communities.

The press release, a media backgrounder, expert contact information, and supporting photos, maps, and graphics can all be found at <<u>http://www.borealbirds.org/announcements/</u>boreal-birds-need-half-campaign>

The main campaign website is at <<u>http://www.borealbirdsneedhalf.org</u>/>, along with the original report from last year. It also allows individuals, groups and businesses to add their endorsement.

To review details on dozens of IBA sites in the boreal in Canada, see:

<http://www.ibacanada.ca/explore_how.jsp?lang=EN>

and those in Alaska at:

<http://ak.audubon.org/important-bird-areas-4>



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BIRD SIGHTINGS

January/February 2015

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

The New Year started out warm with a high of 52° in Boston on January 4, but the average temperature for the month was only 26°, 3° below normal. The first bitter cold arrived early on January 8 when Boston recorded -1° with a high of just 19°, 17° below normal for that date. Pittsfield recorded -9° and with the wind chill it felt like 27° below. The season's first major snowfall on January 27 left up to nine inches in some areas, with Boston receiving 5.1 inches. Two days later classic conditions for a nor'easter were in place as the jet stream transported cold air from Canada to the Atlantic where it met warm air moving up the coast. High pressure over eastern Canada held the storm in place over New England. This storm left more than 30 inches of snow in Worcester and Middlesex counties and dropped over 23 inches in Boston making it the sixth biggest snowstorm since 1935. The entire island of Nantucket lost power when winds reached gusts of 78mph.

February was also bitterly cold with a low of -3° on February 16; and an average for the month of 19°, 13° below average. On February 2 we were hit with a major snowstorm dumping 15.9 inches of snow in Boston. Other areas received more snow as Luneburg recorded 20 inches, yet Cape Cod escaped with only one inch recorded in Chatham. Between February 7 and 12 snow fell each day adding another 25.3 inches in Boston then on February 14 and 15 we were hit with another 15.2 inches. Boston ended the month with 64.8 inches for a seasonal of 102 inches to date, already the second snowiest winter season of record with the month of March yet to come.

WATERFOWL THROUGH ALCIDS

While February weather was miserable for Massachusetts residents, it was even more miserable for wildlife. Sea birds took a particularly dramatic hit as storms blew them inland and the lucky few that were discovered by passers-by ended up at wildlife rehabilitators. The February 14 Cape Cod Times reported: "This past week dozens of thick-billed murres, some from as far inland as Taunton and Norwood were brought to rehab facilities on the Cape." On New England Wildlife's Facebook they reported on February 13: "In the past few days we have admitted 12 Thick-billed Murres, 8 Horned Grebes, 4 Bufflehead ducks, a Red-throated Loon, 3 Canada Geese and 2 American Black Ducks." Tufts Wildlife Clinic reported: "Large numbers of loons and other seabirds have been blown inland by the recent storms, says Flo Tseng, director of the Wildlife Clinic. 'Seabirds need to take off over bodies of water—they can't get airborne over solid ground,' she says. 'People are finding them everywhere, grounded and starving.'"

Two **Barnacle Geese** were discovered on January 2 on the Connecticut River in Northampton, and they continued through January 11. An **Eared Grebe** was seen on Mashpee Pond in Mashpee in November, and was rediscovered on January 20. On New Year's Day a **Brown Pelican** flew by south of Nantucket but was not seen again. Great Egrets used to be extremely rare in midwinter, but in the past four years there have been multiple individuals wintering in the southern counties. This year five individuals were reported.

An immature **Purple Gallinule** in distress was discovered in Weston on January 19, but when rescuers arrived the following day it had expired. Seven **Black-headed Gulls** were reported, all from the Cape and Islands, but only one **Little Gull** was reported. Huge numbers

of Iceland Gulls were reported from Gloucester, peaking on February 18 at 137. Quoting Rick Heil: "Current numbers constitute a major and historical incursion of these beautiful arctic gulls, probably related to our recent series of nor'easters and possibly also due to the freezing of ocean bays and harbors to our north, limiting food resources." A Royal Tern photographed on Nantucket on January 16 is the first winter record for this species in Massachusetts. Although they routinely winter as far north as Virginia, they rarely make it much farther north.

2	2		0	5 5			
							M. Rines
Croater Wh	ite-fronted Goos	20		1/2	Acoaxet	5	M. Lynch#
1/1	N. Andover	1	M. Nelson#	1/2 1/5	Wayland	2	B. Black
1/1	W. Newbury	1	P. + F. Vale#	1/19	P.I.	3	T. Wetmore
1/3	Worcester	1	B. Kamp		een-winged Te		1. Wethfore
Snow Goose	worecater	1	D. Ramp	1/23	Seekonk	1	J. Sweeney
1/3	Barnstable	4	K. Fiske	Canvasback	Beekonk	1	3. 5 weeney
1/9	Westboro	4	M. Larson	1/1	Cambr. (F.P.)	4	M. Filosa
1/18	Yarmouth	6	P. Crosson	1/3	N. Andover	1	G. Vigna
1/24	Hadley	3	S. Surner	1/5	Framingham	1	B. Black
Brant				2/18	Falmouth	4	M. Malin
1/11	Fairhaven	158	M. Lynch#	2/19	Nantucket	65	V. Laux#
1/18	Boston H.	111	TASL (M. Hall)	Redhead			
2/21	P'town H.	150	B. Nikula	1/2	Southboro	2	S. Miller
2/28	S. Harwich	120	B. Nikula	1/2	Falmouth	2	M. Malin#
Barnacle Go	ose			1/11	Weymouth	1	M. Iliff
1/2-11	Longmeadow	2	S. Motyl+ v.o.	1/17-25	Somerville	2	J. Atwood
Cackling Go				2/4	Waltham	1	J. Sharp
1/1-22	Belmont	2	V.O.	Ring-necked			
1/2	Amherst	1	L. Therrien	1/1	Southboro	353	M. Lynch#
1/12	Fairhaven	1	J. Gordon#	1/4, 2/7	Waltham	90, 30	J. Forbes
2/21	Westport	1	P. Champlin	1/5	Framingham	32	B. Black
Wood Duck				Tufted Duck			
1/2	Jamaica Plain	3	R. Stymeist	1/1-2/7	Falmouth	1	V.O.
1/9	Boston	19	P. Peterson	2/11-27	Nantucket	1	V. Laux#
1/18	Medford	3	N. Given	Greater Scauj		21.50	x
2/26	Brookline	2	P. Gilmore	1/2	Falmouth	2150	J. Trimble
Gadwall	M	0	TOUL	1/3	Chappaquiddi		L. Johnson
1/5	Marlboro	8 3	T. Spahr	1/11 2/7	Fairhaven	670 140	M. Lynch#
1/16	Cheshire	5 71	J. Pierce		Gloucester	140	R. Heil
1/19 1/25	Fairhaven P.I.	16	T. Wetmore	Lesser Scaup 1/2	Falmouth	112	J. Trimble
2/7	Gloucester	22	R. Heil	1/2 1/6	Southwick	3	S. Kellogg
Eurasian Wi		22	K. Hell	2/1	Lynn	9	R. Heil
1/1-2/11	Fairhaven	1	V.O.	2/1 2/7	Gloucester	10	R. Heil
1/12/11	Plymouth	1	K. Doyon	King Eider	Gloucester	10	K. Hell
1/25	Orleans	1 f	B. Nikula	1/1	P.I.	1 m	B. Murphy
American Wi			D. Fulkulu	1/1-25	Weymouth	1 m	V.O.
1/4	Waltham	25	J. Forbes	1/3-19	Salisbury	1	V.O.
1/19	Fairhaven	91	R. Stymeist#	1/25	Gloucester (B	.R.) 1	C. Lapite
2/7	Acoaxet	43	M. Lynch#	2/thr	Gloucester (B		v.o.
2/7	Westport	34	P. Champlin	2/28	Cape Ann	1 m	M. Brengle#
American Bl			1	Common Eid			U
1/2	Acoaxet	677	M. Lynch#	1/2	Aquinnah	2500	B. Lagasse#
1/18	Boston H.	1148	TASL (M. Hall)	1/11	Fairhaven	619	M. Lynch#
1/19	P.I.	250	T. Wetmore	1/18	Boston H.	6157	TASL (M. Hall)
Blue-winged				2/28	Scusset	864	M. Lynch#
1/19	Marstons Mills	s 2	J. Trimble	Harlequin Du			
Northern Sho				1/3	Manomet	13	N. Ludlow
1/3	Marstons Mills		V.O.	1/18	Nahant	1	TASL (M. Hall)
1/4	E. Boston (B.I.		P. Peterson	2/28	Rockport	60	J. Berry#
1/5	Fall River	9	L. Abbey	Surf Scoter	***	40	
1/24	Nantucket	5	R. Ouren	1/2	Westport	42	M. Lynch#
2/thr	Cambr. (Alewi	fe) 7	V.O.	1/18	Boston H.	513	TASL (M. Hall)
Northern Pin		4	C 17.11.	2/28	Cape Ann	25	J. Berry#
1/1	Southwick	4 19	S. Kellogg	2/28	Sandwich	14	M. Lynch#
1/1	Sudbury	- /	G. Perkins	White-winge		1	I Thomas
1/3 2/6	P.I. Marlboro	46 40	T. Wetmore	1/8 1/18	Quabbin Pk Boston H.	$1 \\ 922$	L. Therrien
2/6	Gloucester	40	T. Spahr R. Heil	2/28	Sandwich	28	TASL (M. Hall) M. Lynch#
Green-winge		0	к. nell	2/28	Cape Ann	28 53	J. Berry#
thr	Woburn (HP)	1	V.O.	2/20	Сарслан	55	J. DUITY#

D1. 1. C				C. I.			
Black Scoter 1/1	P.I.	150	T. Wetmore	Common Lo 1/3	oon Edgartown	59	CBC (J. Trimble)
1/18	Boston H.	119	TASL (M. Hall)	1/18	Boston H.	60	TASL (M. Hall)
2/14	N. Truro	35	B. Nikula	2/7	Salisbury	20	P. + F. Vale
2/28	Cape Ann	150	J. Berry#	2/14	Gloucester	15	P. + F. Vale
Long-tailed I				2/28	Sandwich	16	M. Lynch#
1/1	Wachusett Res.		M. Lynch#	Pied-billed		1	
1/3	Salisbury	50 1	S. Selesky	1/2 1/3	Longmeadow	1	M. Moore R. LaFontaine
1/8 1/15	Quabbin Pk Nantucket	3000	L. Therrien T. Pastuszak#	1/5	Medford S. Peabody	1	R. LaFontaine R. Heil
1/19	Woods Hole	415	P. Trimble#	1/20	Milton	1	E. Lipton
1/24	Nantucket	2500	V. Laux#	Horned Gre			2. Lipton
Bufflehead				1/2	P.I.	24	T. Wetmore
1/11	Fairhaven	584	M. Lynch#	1/11	Fairhaven	73	M. Lynch#
1/18	Boston H.	1174	TASL (M. Hall)	1/17	S. Quabbin	2	L. Therrien
2/7	Westport	500	P. Champlin	1/18	Boston H.	90	TASL (M. Hall)
2/28 Common Go	Wareham	241	M. Lynch#	2/28 Red-necked	Cape Ann Graba	7	J. Berry#
1/1	Wachusett Res.	42	M. Lynch#	1/1	Winthrop	32	R. Stymeist#
1/2	Cape Ann	30	J. Berry#	1/11	P.I.	20	T. Wetmore
1/11	Fairhaven	285	M. Lynch#	1/17	Quabbin Pk	2	L. Therrien
1/18	Boston H.	439	TASL (M. Hall)	1/21	Cambr. (F.P.)	1	J. Trimble#
1/24	Turners Falls	180	J. Rose	2/22	GMNWR	1	S. Annis#
Barrow's Gol				2/28	Cape Ann	7	J. Berry#
1/thr	Boston (Deer I.) 1 2	V.O.	Eared Greb		1	M. Kalahan Jawa
1/3 1/11	Cohasset Gloucester	2	V. Zollo M. Goetschkes	1/20-23 Northern Ga	Mashpee	1	M. Keleher + v.o.
1/11	Turners Falls	1	J. Rose	1/17	Rockport	2	B. Volkle#
1/20	Somerville	1	A. Laquidara	1/18	P.I.	5	T. Wetmore
1/20	Fairhaven	1	D. MacKinnon		ted Cormorant		
2/7	Westport	1	P. Champlin	1/1	Belmont	6	J. Restivo
2/24	Katama	1	J. Bernier	1/3	P'town	6	B. Nikula
	Barrow's Goldene		G	1/6	Danvers	2	K. Elwell
1/5	Falmouth	1	G. Hirth	2/1	Harwich	1	B. Nikula
2/1 Hooded Merg	Newbypt	1 m	B. Harris	Great Corm 1/1	Gloucester	16	R. Stymeist#
		94	M Lynch#				
1/3	Worcester	94 97	M. Lynch# M. Rines	1/18 2/1	Hull	11	TASL (M. Hall)
		94 97 50	M. Lynch# M. Rines J. Kovner	1/18			
1/3 1/3 1/4 1/4	Worcester Woburn (HP)	97 50 100	M. Rines J. Kovner J. Forbes	1/18 2/1 2/6 2/7	Hull Harwich	11 23 8 17	TASL (M. Hall) B. Nikula
1/3 1/3 1/4 1/4 1/5	Worcester Woburn (HP) Medford Waltham Framingham	97 50	M. Rines J. Kovner	1/18 2/1 2/6 2/7 2/20	Hull Harwich Medford Westport Amesbury	11 23 8	TASL (M. Hall) B. Nikula P. Roberts
1/3 1/3 1/4 1/4 1/5 Common Me	Worcester Woburn (HP) Medford Waltham Framingham rganser	97 50 100 52	M. Rines J. Kovner J. Forbes B. Black	1/18 2/1 2/6 2/7 2/20 Brown Peli	Hull Harwich Medford Westport Amesbury can	11 23 8 17 24	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown
1/3 1/3 1/4 1/4 1/5 Common Me 1/1	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res.	97 50 100 52 47	M. Rines J. Kovner J. Forbes B. Black M. Lynch#	1/18 2/1 2/6 2/7 2/20 Brown Pelio 1/1	Hull Harwich Medford Westport Amesbury can Nantucket	11 23 8 17	TASL (M. Hall) B. Nikula P. Roberts M. Lynch#
1/3 1/3 1/4 1/4 1/5 Common Me 1/1 1/4	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont	97 50 100 52 47 51	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B	Hull Harwich Medford Westport Amesbury can Nantucket ittern	11 23 8 17 24 1	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux
1/3 1/3 1/4 1/4 1/5 Common Me 1/1 1/4 1/7	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford	97 50 100 52 47 51 140	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B 1/4	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.)	11 23 8 17 24 1 2	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola#
1/3 1/3 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls	97 50 100 52 47 51 140 100	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B 1/4 1/20	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I.	11 23 8 17 24 1	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux
1/3 1/3 1/4 1/4 1/5 Common Me 1/1 1/4 1/7	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham	97 50 100 52 47 51 140	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B 1/4	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I.	11 23 8 17 24 1 2	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola#
1/3 1/3 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury	97 50 100 52 47 51 140 100 27 18	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.)	11 23 8 17 24 1 2 1 10 2	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson
1/3 1/3 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport	97 50 100 52 47 51 140 100 27 18 74	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch#	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4 2/7	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham	$ \begin{array}{c} 11\\ 23\\ 8\\ 17\\ 24\\ 1\\ 2\\ 1\\ 10\\ 2\\ 2\\ \end{array} $	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson J. Forbes
1/3 1/3 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2 2/7	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport Westport	97 50 100 52 47 51 140 100 27 18 74 114	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch# M. Lynch#	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4 2/7 2/18	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham Brookline	11 23 8 17 24 1 2 1 10 2	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson
1/3 1/3 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2 2/7 2/28	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport	97 50 100 52 47 51 140 100 27 18 74	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch#	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4 2/7 2/18 Great Egret	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham Brookline	11 23 8 17 24 1 2 1 10 2 2 3	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson J. Forbes P. Peterson
1/3 1/3 1/4 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2 2/7 2/28 Ruddy Duck	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport Cape Ann	97 50 100 52 47 51 140 100 27 18 74 114 65	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch# M. Lynch# J. Berry#	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4 2/7 2/18 Great Egret 1/2	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham Brookline Westport	$ \begin{array}{c} 11\\23\\8\\17\\24\\1\\2\\1\\10\\2\\2\\3\\1\end{array} $	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson J. Forbes P. Peterson P. Champlin
1/3 1/3 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2 2/7 2/28	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport Westport Cape Ann Waltham	97 50 100 52 47 51 140 100 27 18 74 114 65 5	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch# J. Berry# J. Forbes#	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4 2/7 2/18 Great Egret 1/2 1/16	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham Brookline Westport Orleans	11 23 8 17 24 1 2 1 10 2 2 3	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson J. Forbes P. Peterson
1/3 1/3 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2 2/7 2/28 Ruddy Duck 1/1	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport Cape Ann	97 50 100 52 47 51 140 100 27 18 74 114 65 5 2	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch# M. Lynch# J. Berry#	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4 2/7 2/18 Great Egret 1/2	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham Brookline Westport	$ \begin{array}{c} 11\\23\\8\\17\\24\\1\\2\\1\\10\\2\\2\\3\\1\\2\end{array} $	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson J. Forbes P. Peterson P. Champlin K. Yakola#
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1/3 1/3 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2 2/7 2/28 Ruddy Duck 1/1 1/3 1/8 2/18	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport Westport Cape Ann Waltham Wachusett Res. Gloucester (E.F	$\begin{array}{c} 97\\ 50\\ 100\\ 52\\ 47\\ 51\\ 140\\ 100\\ 27\\ 18\\ 74\\ 114\\ 65\\ 5\\ 2\\ 2, 4\end{array}$	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch# M. Lynch# J. Forbes# M. Lynch# P. + F. Vale	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4 2/7 2/18 Great Egret 1/2 1/16 1/20 1/22 Black-crown 1/10	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham Brookline Westport Orleans Nantucket Yarmouth ned Night-Heron Plymouth	$ \begin{array}{c} 11\\23\\8\\17\\24\\1\\2\\1\\10\\2\\2\\3\\1\\1\\1\\1\\1\\1\end{array} $	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson J. Forbes P. Peterson P. Champlin K. Yakola# R. Ouren J. Hoye# H. Levesque#
1/3 1/3 1/4 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2 2/7 2/28 Ruddy Duck 1/1 1/1 1/3 1/8 2/18 Wild Turkey	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport Westport Westport Cape Ann Waltham Wachusett Res. Gloucester (E.F. Jamaica Plain Gloucester H.	$\begin{array}{c} 97\\ 50\\ 100\\ 52\\ 47\\ 51\\ 140\\ 100\\ 27\\ 18\\ 74\\ 114\\ 65\\ 5\\ 2\\ 2\\ 2\\ 4\\ 4\\ 3\\ \end{array}$	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch# M. Lynch# J. Forbes# M. Lynch# P. + F. Vale P. Peterson R. Heil	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4 2/7 2/18 Great Egret 1/2 1/16 1/20 1/22 Black-crown 1/10 2/21	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham Brookline Westport Orleans Nantucket Yarmouth ned Night-Heron Plymouth Katama	$ \begin{array}{c} 11\\23\\8\\17\\24\\1\\2\\1\\10\\2\\2\\3\\1\\1\\1\\1\\1\end{array} $	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson J. Forbes P. Peterson P. Champlin K. Yakola# R. Ouren J. Hoye#
1/3 1/3 1/4 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2 2/7 2/28 Ruddy Duck 1/1 1/3 1/8 2/18 Wild Turkey 1/1	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport Cape Ann Waltham Wachusett Res. Gloucester (E.F. Jamaica Plain Gloucester H.	$\begin{array}{c} 97\\ 50\\ 100\\ 52\\ 47\\ 51\\ 140\\ 100\\ 27\\ 18\\ 74\\ 114\\ 65\\ 5\\ 2\\ 2\\ 4\\ 3\\ 26\end{array}$	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch# M. Lynch# J. Forbes# M. Lynch# P. + F. Vale P. Peterson R. Heil C. Cook	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 1/4 1/20 Great Blue 1 1/2 1/4 2/7 2/18 Great Egret 1/2 1/16 1/20 1/22 Black-crown 1/10 2/21 Black Vultu	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham Brookline Westport Orleans Nantucket Yarmouth ned Night-Heron Plymouth Katama re	11 23 8 17 24 1 2 1 10 2 2 3 3 1 2 1 1 1 1	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson J. Forbes P. Peterson P. Champlin K. Yakola# R. Ouren J. Hoye# H. Levesque# M. Ditchfield
1/3 1/3 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2 2/7 2/28 Ruddy Duck 1/1 1/3 1/8 2/18 Wild Turkey 1/1 1/1	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport Westport Cape Ann Waltham Wachusett Res. Gloucester H. Mt.A. Wachusett Res.	$\begin{array}{c} 97\\ 50\\ 100\\ 52\\ 47\\ 51\\ 140\\ 100\\ 27\\ 18\\ 74\\ 114\\ 65\\ 5\\ 22\\ 22\\ 4\\ 4\\ 3\\ 26\\ 23\\ \end{array}$	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch# M. Lynch# J. Forbes# M. Lynch# P. + F. Vale P. Peterson R. Heil C. Cook M. Lynch#	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4 2/7 2/18 Great Egret 1/2 1/16 1/20 1/22 Black-crown 1/10 2/21 Black Vultu 1/16	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham Brookline Westport Orleans Nantucket Yarmouth ned Night-Heron Plymouth Katama re Orleans	11 23 8 17 24 1 2 1 10 2 2 3 1 12 1 1 1 1 1 1	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson J. Forbes P. Peterson P. Champlin K. Yakola# R. Ouren J. Hoye# H. Levesque# M. Ditchfield K. Yakola#
1/3 1/3 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2 2/7 2/28 Ruddy Duck 1/1 1/3 1/8 2/18 Wild Turkey 1/1 1/1 2/7	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport Cape Ann Waltham Wachusett Res. Gloucester (E.F. Jamaica Plain Gloucester H. Mt.A. Wachusett Res.	$\begin{array}{c} 97\\ 50\\ 100\\ 52\\ 47\\ 51\\ 140\\ 100\\ 27\\ 18\\ 74\\ 114\\ 65\\ 5\\ 2\\ 2\\ 4\\ 3\\ 26\end{array}$	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch# M. Lynch# J. Forbes# M. Lynch# P. + F. Vale P. Peterson R. Heil C. Cook	1/18 2/1 2/6 2/7 2/20 Brown Peli 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4 2/7 2/18 Great Egret 1/2 1/16 1/20 1/22 Black-crown 1/10 2/21 Black Vultu 1/16 1/19	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham Brookline Westport Orleans Nantucket Yarmouth ned Night-Heron Plymouth Katama re Orleans Blackstone	11 23 8 17 24 1 2 1 10 2 2 3 1 1 2 1 1 1 1 1 5	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson J. Forbes P. Peterson P. Champlin K. Yakola# R. Ouren J. Hoye# H. Levesque# M. Ditchfield K. Yakola# J. Lawson
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1/3 1/3 1/4 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2 2/7 2/28 Rudy Duck 1/1 1/1 1/3 1/8 2/18 Wild Turkey 1/1 1/1 2/7 Red-throated 1/2 1/18 1/23	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport Westport Cape Ann Waltham Wachusett Res. Gloucester (E.F Jamaica Plain Gloucester H. Mt.A. Wachusett Res. Westport Loon Cape Ann Boston H. Dorchester	$\begin{array}{c} 97\\ 50\\ 100\\ 52\\ 47\\ 51\\ 140\\ 100\\ 27\\ 18\\ 74\\ 114\\ 65\\ 5\\ 2\\ 2\\ 4\\ 3\\ 26\\ 23\\ 31\\ 6\end{array}$	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch# M. Lynch# J. Forbes# M. Lynch# P. + F. Vale P. Peterson R. Heil C. Cook M. Lynch# M. Lynch# J. Berry# J. Berry#	1/18 2/1 2/6 2/7 2/20 Brown Pelii 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4 2/7 2/18 Great Egret 1/2 1/16 1/20 1/22 Black-crown 1/10 2/21 Black Vultu 1/16 1/19 2/7 2/25 Turkey Vult	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham Brookline Westport Orleans Nantucket Yarmouth ned Night-Heron Plymouth Katama re Orleans Blackstone Medway Gardner ure Westport	$ \begin{array}{c} 11\\ 23\\ 8\\ 17\\ 24\\ 1\\ 2\\ 1\\ 10\\ 2\\ 2\\ 3\\ 1\\ 1\\ 1\\ 1\\ 1\\ 5\\ 2\\ 1\\ 2\\ 1\\ 2 \end{array} $	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson P. Champlin K. Yakola# R. Ouren J. Hoye# H. Levesque# M. Ditchfield K. Yakola# J. Lawson R. Crissman T. Pirro M. Lynch#
1/3 1/3 1/4 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2 2/7 2/28 Ruddy Duck 1/1 1/3 1/8 2/18 Wild Turkey 1/1 1/1 1/3 2/18 Wild Turkey 1/1 1/1 2/7 Red-throated 1/2 1/18 1/23 Pacific Loon	Worcester Woburn (HP) Medford Waltham Framingham Tganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport Westport Westport Westport Cape Ann Waltham Wachusett Res. Gloucester (E.F Jamaica Plain Gloucester H. Mt.A. Wachusett Res. Westport Loon Cape Ann Boston H. Dorchester	$\begin{array}{c} 97\\ 50\\ 100\\ 52\\ 47\\ 51\\ 140\\ 100\\ 27\\ 18\\ 74\\ 114\\ 65\\ 5\\ 2\\ 2\\ 4\\ 4\\ 3\\ 26\\ 23\\ 31\\ 6\\ 31\\ 4\\ \end{array}$	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch# M. Lynch# J. Forbes# M. Lynch# P. + F. Vale P. Peterson R. Heil C. Cook M. Lynch# M. Lynch# J. Berry# TASL (M. Hall) P. Peterson	1/18 2/1 2/6 2/7 2/20 Brown Pelie 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4 2/7 2/18 Great Egret 1/2 1/16 1/20 1/22 Black-crown 1/10 2/21 Black Vultu 1/16 1/20 2/7 2/25 Turkey Vult 1/2 2/21	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham Brookline Westport Orleans Nantucket Yarmouth ned Night-Heron Plymouth Katama re Orleans Blackstone Medway Gardner ure Westport Sutton	$ \begin{array}{c} 11\\ 23\\ 8\\ 17\\ 24\\ 1\\ 2\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 5\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\$	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson J. Forbes P. Peterson P. Champlin K. Yakola# R. Ouren J. Hoye# H. Levesque# M. Ditchfield K. Yakola# J. Lawson R. Crissman T. Pirro M. Lynch#
1/3 1/3 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2 2/7 2/28 Ruddy Duck 1/1 1/3 1/8 2/18 Wild Turkey 1/1 1/3 1/8 2/18 Wild Turkey 1/1 1/2 1/2 1/2 1/2 8 Pacific Loon 1/29	Worcester Woburn (HP) Medford Waltham Framingham rganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport Westport Cape Ann Waltham Wachusett Res. Gloucester H. Mt.A. Wachusett Res. Westport Cape Ann Gloucester H. Mt.A. Wachusett Res. Westport Loon Cape Ann Boston H. Dorchester P'town (R.P.)	$\begin{array}{c} 97\\ 50\\ 100\\ 52\\ 47\\ 51\\ 140\\ 100\\ 27\\ 18\\ 74\\ 114\\ 65\\ 5\\ 2\\ 2\\ 4\\ 3\\ 26\\ 23\\ 31\\ 6\\ 31\\ 4\\ 1\end{array}$	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch# M. Lynch# J. Forbes# M. Lynch# P. F. Vale P. Peterson R. Heil C. Cook M. Lynch# M. Lynch# J. Berry# TASL (M. Hall) P. Peterson R. Merrill	1/18 2/1 2/6 2/7 2/20 Brown Pelia 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4 2/7 2/18 Great Egret 1/2 1/16 1/20 Black-crown 1/10 2/21 Black vultu 1/16 1/19 2/7 2/75 Turkey Vult 1/2 2/21 2/22	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham Brookline Westport Orleans Nantucket Yarmouth ned Night-Heron Plymouth Katama re Orleans Blackstone Medway Gardner ure Westport Sutton Gill	$\begin{array}{c} 11\\ 23\\ 8\\ 17\\ 24\\ 1\\ 2\\ 1\\ 10\\ 2\\ 2\\ 3\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 5\\ 2\\ 1\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\$	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson J. Forbes P. Peterson P. Champlin K. Yakola# R. Ouren J. Hoye# H. Levesque# M. Ditchfield K. Yakola# J. Lawson R. Crissman T. Pirro M. Lynch# M. Lynch# A. Baker
1/3 1/3 1/4 1/4 1/4 1/5 Common Me 1/1 1/4 1/7 1/9 1/14 2/20 Red-breasted 1/2 2/7 2/28 Ruddy Duck 1/1 1/3 1/8 2/18 Wild Turkey 1/1 1/1 1/3 2/18 Wild Turkey 1/1 1/1 2/7 Red-throated 1/2 1/18 1/23 Pacific Loon	Worcester Woburn (HP) Medford Waltham Framingham Tganser Wachusett Res. Belmont Medford Turners Falls Waltham Amesbury Merganser Westport Westport Westport Westport Cape Ann Waltham Wachusett Res. Gloucester (E.F Jamaica Plain Gloucester H. Mt.A. Wachusett Res. Westport Loon Cape Ann Boston H. Dorchester	$\begin{array}{c} 97\\ 50\\ 100\\ 52\\ 47\\ 51\\ 140\\ 100\\ 27\\ 18\\ 74\\ 114\\ 65\\ 5\\ 2\\ 2\\ 4\\ 4\\ 3\\ 26\\ 23\\ 31\\ 6\\ 31\\ 4\\ \end{array}$	M. Rines J. Kovner J. Forbes B. Black M. Lynch# O. Burton P. Roberts J. Smith J. Forbes P. Brown M. Lynch# M. Lynch# J. Forbes# M. Lynch# P. + F. Vale P. Peterson R. Heil C. Cook M. Lynch# M. Lynch# J. Berry# TASL (M. Hall) P. Peterson	1/18 2/1 2/6 2/7 2/20 Brown Pelie 1/1 American B 1/4 1/20 Great Blue I 1/2 1/4 2/7 2/18 Great Egret 1/2 1/16 1/20 1/22 Black-crown 1/10 2/21 Black Vultu 1/16 1/20 2/7 2/25 Turkey Vult 1/2 2/21	Hull Harwich Medford Westport Amesbury can Nantucket ittern Eastham (F.H.) P.I. Heron Westport E. Boston (B.I.) Waltham Brookline Westport Orleans Nantucket Yarmouth ned Night-Heron Plymouth Katama re Orleans Blackstone Medway Gardner ure Westport Sutton	$ \begin{array}{c} 11\\ 23\\ 8\\ 17\\ 24\\ 1\\ 2\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 5\\ 2\\ 1\\ 2\\ 2\\ 1\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\ 2\\$	TASL (M. Hall) B. Nikula P. Roberts M. Lynch# P. Brown V. Laux K. Yakola# D. Chickering M. Lynch# P. Peterson J. Forbes P. Peterson P. Champlin K. Yakola# R. Ouren J. Hoye# H. Levesque# M. Ditchfield K. Yakola# J. Lawson R. Crissman T. Pirro M. Lynch#

Bald Eagle	A	7	MAC (D. D. a.h. anta)	2/7	Westport	41	M. Lynch#
1/17	Amesbury	7	MAS (P. Roberts)	2/8	Plymouth B.	125 21	S. van der Veen R. Heil
1/25 2/4	P.I. Lawrence	4	T. Wetmore C. Gibson	2/25 Wilson's Sni	Newbypt H.	21	K. Hell
2/4 2/12	S. Boston	3	E. Malatesta	1/10	Revere	1	R. Schain#
2/12	Medford	3	L. Thompson#	1/11	Plymouth	1	K. Doyon
2/22	Salisbury	8	C. Lapite	2/1	Mashpee	3	M. Malin
Northern Ha		0	e. Eupite	2/4	Williamstown	1	L. Reed-Evans
1/3	P.I.	4	S. McGrath#	2/8	Boston (A.A.)	1	E. Lipton
1/21	Salisbury	2	MAS (B. Gette)	Black-legged			I I
2/1	Saugus (Bear C.)	2	S. Zendeh	1/2	Rockport (A.P.) 50	J. Berry#
Sharp-shinne	ed Hawk			1/18	P.I.	8	T. Wetmore
thr	Reports of indiv.	from 1	3 locations	1/25	P'town	200	B. Nikula
Cooper's Ha	wk			1/25	Newbury	2	BBC (R. Petersen)
1/2	Essex	1	J. Berry#	Bonaparte's			
2/15	Ipswich	1	J. Berry	1/1	Nantucket	2800	R. Ouren#
2/15	Wayland	1	J. Hoye#	1/2	P.I.	10	T. Wetmore
Northern Go		1	C II I	1/21	Salisbury	4	MAS (B. Gette)
1/17	Windsor	1	G. Hurley+ v.o.	Black-heade		2	X7 X
1/18	Orange	1	B. Lafley	1/1	Nantucket	2	V. Laux#
1/22	Sudbury	1 ad	T. Spahr T. Spahr	1/2	Edgartown	1	B. Lagasse
1/22 Red-shoulde	Marlboro	1 ad	T. Spahr	1/17 2/12	Hyannis	2 1	E. Nielsen
2/9	-	2	T Murrow	2/12 2/14	Osterville Orleans	1	P. Crosson M. Malin
2/20	Groton Rehoboth	2	T. Murray K. Bartels	Little Gull	Offeans	1	Ivi. Iviaiiii
Rough-legge		2	K. Daiteis	1/1	Nantucket	1	V. Laux#
thr	Reports of indiv.	from 1	1 locations	Iceland Gull		1	v. Laux#
thr	P.I.	5 ma		thr	Gloucester137	max 2/1	8 v.o.
thr	Lee	3 ma		1/14	Boston (Deer I		O. Burton
Purple Galli		5 1110	IA V.O.	1/14	Winthrop	10	TASL (M. Hall)
1/19	Weston	1 im	m M. Grzenda	2/8	P'town	30	B. Nikula
Common Ga					-backed Gull	20	Dirimum
1/2-11	Nantucket	2	R. Ouren	thr	Boston	1	V.O.
American Co				1/2	Swansea	1	S. Davis
thr	Woburn (HP)	75 ma	x M. Rines	1/5-29	Turners Falls	1	J. Smith
1/1	GMNWR	28	M. Stone#	1/18	N. Truro	2	B. Nikula
1/8	Jamaica Plain	44	P. Peterson	2/6	Revere B.	1	T. Factor
1/18	Somerville	22	P. + F. Vale	2/11	New Bedford	4	L. Waters
Black-bellied	l Plover			2/21	Westport	4	P. Champlin
1/3	Edgartown	39	CBC (J. Trimble)	Glaucous Gu			-
Semipalmate				1/3	P'town	1	B. Nikula
1/3	Dennis	1	R. Hamman	1/3	Sharon	1	L. Waters
Killdeer				1/6	Lunenburg	1	B. Kamp
1/5	N. Dighton	4	J. Eckerson	1/19	Salisbury	1	D. Larson
1/5	Yarmouth	4	P. Crosson	1/19	Turners Falls	1	K. Yakola
1/18	Chilmark	8	J. Nelson#	2/1	Revere	3	E. Lipton
1/18	Nantucket	6	G. Andrews#	2/17	Gloucester	2	D. + J. Lovitch
2/14	Eastham	1	W. Mumford	2/21	Westport	2	P. Champlin
Greater Yello		1	D. Calasia	2/21	Chatham (MI)	1	B. Harris
1/3 Marbled God	Chatham	1	R. Schain		eat Black-backed N. Truro	1	B. Nikula
1/16	Orleans	2	P Lagasso#	1/18 Forster's Ter		1	D. INIKUIA
Ruddy Turns		2	B. Lagasse#	1/3	Wellfleet H.	1	B. Nikula
1/14	Fairhaven	12	A. Morgan	Royal Tern	wenneet II.	1	D. Mikulu
1/14	S. Boston	12	P. Peterson	1/16	Nantucket	1	G. Andrews#
2/8	Plymouth B.	1	S. van der Veen	Dovekie	runtuenet	1	G. / marcwai
Sanderling	r ty moutin Di		bi full der feen	1/thr	Gloucester	1	V.O.
1/22	P.I.	30	T. Wetmore	1/11	Rockport	2	Z. Weber#
2/7	Westport	29	M. Lynch#	1/16	P.I.	4	T. Wetmore
2/8	Plymouth B.	10	S. van der Veen	2/8	P'town H.	1	B. Nikula
2/25	Revere B.	23	P. Peterson	Common Mu			
Purple Sandp				1/11	Nantucket	1	T. Pastuszak
Î/11 Î	Fairhaven	17	M. Lynch#	1/26	Rockport (A.P.		K. Hansen#
1/14	S. Boston	6	P. Peterson	2/8	P'town (R.P.)	52	P. Flood
1/21	Salisbury	12	MAS (B. Gette)	Thick-billed			
2/7	Westport	16	M. Lynch#	2/7		14 + 2 d	
2/28	Rockport (A.P.)	70	J. Berry#	2/8	P'town (R.P.)	12	P. Flood
Dunlin	D.*	0.0		2/28	Wareham	1	M. Lynch#
1/6	P.I.	90	T. Wetmore	Razorbill	G .	0.5	
1/20	S. Boston	39	R. Stymeist	1/2	Cape Ann	36	J. Berry#

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Razorbill (continued)			1/18	Rockport (H.P.)	2 E	BBC (Van Demark)
1/3	Wellfleet	250	B. Nikula	1/21	Gloucester (B.R.) 10	P. Gilmore
1/18	P.I.	150	T. Wetmore	2/22	Hull	2	C. Whitebread
1/18	Winthrop	5	TASL (M. Hall)	Atlantic P	uffin		
2/1	P'town Ĥ.	60	B. Nikula	1/29	P'town (R.P.)	1	R. Merrill
Black Guill	lemot						
1/3	Cohasset	1	M. Garvey				

OWLS THROUGH FINCHES

Most of the bird reports this period occurred before the blizzards began on January 26. After that, most birders were stuck feeder watching. It was almost impossible to get around most of February with snow clogging streets and many bird club trips were cancelled.

The state's first record of **Prairie Falcon** was a nice surprise on Plum Island, seen and photographed by many birders out on the first day of 2015.

The bird of the period, however, was the appearance of a **Black-backed Woodpecker** discovered January 6 at the Forest Hills Cemetery in Jamaica Plain. From the evidence of the surrounding dead pines it looked as though the bird had been around for several days if not weeks prior to its discovery. According to Birds of Massachusetts, "Periodically, following periods of especially high food abundance, large numbers of Black-backed Woodpeckers move considerably farther south than their normal wintering range." (Veit and Petersen 1993) The last major flight of 13 birds occurred during the winter of 1974–75. Since then there have been just nine reported birds in the state, the most recent from Nantucket in 2009. With the onset of the blizzards the Cemetery remained closed from January 24 through the end of February preventing any further sightings.

A **Barn Owl** was found feeding over the fields of Hanscom Field in Concord. Barn Owls are rare in mainland Massachusetts; the last Middlesex County record was in 1995 from Pepperell. A Short-eared Owl was also noted at Hanscom during the same period. As many as six Snowy Owls were seen on Plum Island and single Long-eared Owls were noted in Hatfield and Quincy. One of the six **Rufous Hummingbirds** reported during November and December continued through January 7 in Brewster. A total of 41 Yellow-bellied Sapsuckers were reported from over 30 locations. Prior to 1993 according to Veit and Petersen, sapsuckers were listed as rare and irregular in winter, this species has been increasing rapidly during the last five years.

Lingering passerines included a Blue-headed Vireo in Sandwich, Ovenbird in Provincetown, a Tennessee Warbler in Plymouth, a Northern Parula in Uxbridge; over 10 Orange-crowned Warblers were noted as well as traditional hardy migrants such as Ruby-crowned Kinglets, Hermit Thrushes, Gray Catbirds and Eastern Towhees. How many survived the heavy snow this winter was probably close to zero.

Unusual birds that continued from December included the **Townsend's Solitaire** in Marion, the **Townsend's Warbler** in Marblehead, the **Audubon's Warbler** and **Lark Sparrow** at Stodder's Neck in Hingham. There was a good showing of Northern Shrikes before the storms and **Bohemian Waxwings** after the storms. Other unusual birds included a Spotted Towhee photographed in Chilmark and a **Painted Bunting** in Wellfleet. European Goldfinches whose origins are unknown showed up in feeders in Boxboro and Lexington.

Winter finch reports were especially good for Pine Siskins and Common Redpolls; there were a few reports of White-winged Crossbills mostly from western Massachusetts with two noted on Nantucket. There were no reports of Evening Grosbeaks anywhere in the state.

R. Stymeist

Barn Owl				1/20	Milton	1	E. Lipton
1/10-14	Concord	1	J. Winstanley#	Northern Sł		1	E. Lipton
Eastern Scree		1	5. Winstanie yn	thr	Windsor	1	K. Hanson
1/1	Foxboro	3	J. Baur	1/2	Bolton Flats	1	S. Miller
1/1	Cambr. (F.P.)	2	R. Stymeist#	1/8	Hadley	1	L. Therrien
1/21	Stoughton	2	J. Baur#	1/11	Sheffield	1	G. Hurley
Great Horned				1/14	Northampton	1	J. Smith
thr	Mt.A.	pr	V.O.	1/16	P.I.	1	S. Riley
1/thr	P.I.	2	V.O.	1/23	W. Newbury	1	R. Heil
1/1	Bolton Flats	3 2	M. Lynch#	1/24	Williamstown	1	A. Richards
2/18 Snowy Owl	Holden	2	S. Corazzini	2/9 Blue-heade	Rowe	1	C. Hytinen
Snowy Owl thr	P.I.	6 m	ax v.o.	1/1	Sandwich	1	M. Keleher#
1/1	Yarmouth	2	M. Malin#	Fish Crow	Sandwich	1	
1/2	Orleans	2	K. Yakola#	1/11	Holyoke	1	L. Therrien
1/3	Edgartown	2	CBC (J. Trimble)	1/19	Mattapan (BNC		C. Cook
1/4	Springfield	1	L. Richardson	1/21	Lexington	1	J. Forbes
1/10	Winthrop	2	R. Schain#	1/22	Ipswich	1	J. Berry
1/17	Cheshire	1 fi	de J. Morris-Siegal	1/29	Dorchester	3	P. Peterson
1/24	Nantucket	2	V. Laux#	2/13	Chicopee	1	F. Bowrys
Barred Owl				Common R	aven		
thr	Reports of indiv.	from	10 locations	1/1	Sharon	2	J. Baur
Long-eared C				1/2	Lexington	2	J. Forbes
1/18	Quincy	1	TASL (M. Hall)	1/3	Woburn	2	M. Rines
1/27	Hatfield	1	B. Geryk	1/18	Waltham	2 2	J. Forbes
2/7	Westport	1 d	ead M. Lynch#	1/28	Saugus	2	S. Zendeh
Short-eared C	Concord	1	C Winstenlau#	2/1 2/1	Erving W. Roxbury (M		M. Lynch#
1/12 2/14	Leicester	1	C. Winstanley# A. Greene	2/1 2/1	Cheshire	14	D. Bernstein M. Lynch#
2/27	Salisbury	1	E. Labado	2/25	Boxford	2	S. McGrath
Northern Saw		1	L. Lubudo	Horned Lar		2	5. Weofauli
1/1	Ware R. IBA	2	M. Lynch#	1/2	Acton	35	P. + F. Vale
1/1	Sudbury	1	B. Harris	1/8	Sheffield	400	B. Lafley
1/3	Belchertown	1	L. Therrien	1/11	Saugus	40	S. Zendeh#
Rufous Hum				1/11	Newbury	90	J. Berry#
1/1-7	Brewster	1	M. Myers	1/11	P.I.	80	D. Adrien
Belted Kingfi				1/13	Acton	55	J. Forbes
2/1	Ware	2	M. Lynch#	1/19	Fairhaven	28	R. Stymeist#
American Ke				1/24	Hadley	450	L. Therrien
thr	Reports of indiv.	from	10 locations	2/22	Hull	12	S. + C. Whitebread
Merlin	Description of the la	C	0.1	Tree Swallo		7	D. I #
thr Deregrine Fel	Reports of indiv.	from .	20 locations	1/2 1/2	Aquinnah	7	B. Lagasse#
Peregrine Fal 1/2	S. Dart. (A.Pd)	2	P. Champlin	Red-breaste	Oak Bluffs	25	S. Mayhew
1/23	Dorchester	2	P. Peterson	1/3	Edgartown	14	CBC (J. Trimble)
2/4	Gloucester	2	P. Peterson	1/3	P.I.	7	N. Landry
2/7	Cambridge	$\tilde{2}$	P. Roberts	1/4	Ipswich (C.B.)	4	M. Brengle
2/11	Lawrence	pr	C. Gibson	1/11	Boston (A.A.)	3	P. Peterson
Prairie Falco		r		1/19	Manchester	2	P. + F. Vale
1/1	P.I.	1 pl	h T. Wetmore#	2/7	Westport	3	M. Lynch#
Yellow-bellie		_		Brown Cree	eper		
thr	Reports of indiv.			1/3	Edgartown	3	CBC (J. Trimble)
1/4	Mt.A.	2	O. Burton	1/9	GMNWR	3	K. Dia#
1/10	Winchester	2	R. LaFontaine	2/10	Boston (A.A.)	2	P. Peterson
1/11	Boston (A.A.)	3	P. Peterson	Carolina W		0	M. Leursh#
2/4 2/12	Blackstone	2 2	A. Marble	1/2 1/19	Acoaxet Fairhaven	8 7	M. Lynch#
2/12 2/18	Millbury Falmouth	$\frac{2}{2}$	A. Marble T. Novitsky	Winter Wre		/	R. Stymeist#
	d Woodpecker	2	1. INOVIISKY	1/18	Waltham	2	J. Forbes
1/6-23	Jamaica Plain	1	P. Peterson + v.o.	2/13	Concord	2	C. Corey#
Pileated Woo		-		Marsh Wrei		_	j
1/5	Natick	1	P. Loranger	1/22	GMNWR	2	K. Dia#
1/17	Medford	2	J. Kovner#	2/1	Mashpee	1	M. Malin
1/18	Hamilton	1	J. Berry	Golden-cro	wned Kinglet		
1/19	Essex	1	P. + F. Vale	1/2	Acoaxet	2	M. Lynch#
	Boxford	1	T. Martin	1/9	GMNWR	3	K. Dia#
2/12			R. Sweeney	2/10	Boston (A.A.)	2	P. Peterson
2/23	W. Boylston	1	5	D 1	1 177 1 1		
2/23 Eastern Phoe	W. Boylston be		-		ned Kinglet	. fr	12 logations
2/23 Eastern Phoe 1/2	W. Boylston be Falmouth	1	B. Lagasse#	thr	Reports of indiv	v. from	13 locations
2/23 Eastern Phoe 1/2 1/3	W. Boylston be Falmouth W. Tisbury	1 1	B. Lagasse# D. Hof	thr Eastern Blu	Reports of individual		
2/23 Eastern Phoe 1/2	W. Boylston be Falmouth	1	B. Lagasse#	thr	Reports of indiv	v. from 12 10	13 locations P. Sowizral S. Kellogg

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Eastern Diue	hird (continued)			1/3	Chilmork	1	T Smahr
1/20	bird (continued) Shelburne	11	T. Gagnon	1/3	Chilmark Aquinnah	1	T. Spahr T. Spahr (CBC)
2/20	Rehoboth	12	K. Bartels	1/3	Dorchester	1	J. Taylor
Townsend's		12	TH Durton	1/3	Wellfleet	1	P. Sagan
1/1-14	Marion	1	v.o.	1/6	Nantucket	1	T. Pastuszak
Hermit Thrus				1/6	Somerville	1	R. Pidal
1/1	Medford	2	R. LaFontaine#	1/9	Quincy	1	C. Whitebread#
1/2	Acoaxet	7	M. Lynch#	Common Yel		1	TT TT 1 <i>U</i>
1/3	Edgartown	16	CBC (J. Trimble)	1/4	Eastham (F.H.)	1	K. Yakola#
1/15 1/26	Gill Woburn (HP)	2 2	J. Smith D. Williams	1/19 Northern Par	Salisbury	1	B. Harris
Gray Catbird		2	D. Williams	1/3	Uxbridge	1	E. Lodi
thr	Reports of Indiv.	Fron	n 12 locations	Palm Warble			Di Dour
Brown Thras				1/2	Mattapan (BNC)) 1	A. Morgan
1/2	S. Dart. (A.Pd)	1	P. Champlin	1/2	Rockport	1	B. Harris
1/16	Granville	1	D. Holmes	1/3	Cohasset	2	
1/22	Nahant	1	L. Pivacek	1/3	Falmouth	2	M. Keleher
2/16	Truro Vermo autoria ant	1	S. Lum	1/3 Din a Washlan	Edgartown	3	CBC (J. Trimble)
2/18 2/18	Yarmouthport Centerville	1	R. Hamman P. Trimble	Pine Warbler thr		4	N. Blake
American Pip		1	r. minute	1/3	Duxbury Barnstable	1	R. Stymeist#
1/3	Edgartown	55	CBC (J. Trimble)	1/27	E. Bridgewater	1	E. Giles
1/3	W. Tisbury		B. Lagasse# (CBC)	2/1	Springfield	1	R. Burns
1/15	Boston (Deer I.)	2	P. Peterson	2/8	Sudbury	1	B. Black
Bohemian W	axwing			2/8	Concord	1	D. Swain#
1/5	WBWS	2	M. Faherty	Yellow-rump	oed Warbler		
1/16	Pepperell	1	T. Murray	1/2	Acoaxet	4	M. Lynch#
1/16	Orleans	2	K. Yakola#	1/4	Ipswich (C.B.)	12	M. Brengle
1/19	Williamstown	2 3	J. Pierce	1/16	Longmeadow	2 2	M. Moore
1/29 2/1	Amherst P'town	27	K. Yakola B. Nikula	1/18 1/19	Waltham Fairhaven	2 5	
2/16	Amesbury	4	K. Elwell	1/23	Waltham	2	
2/20	Quincy	2	D. Ranney	Audubon's		2	IX. Hunsen
2/22	Salisbury	1	C. Lapite	1/1-11	Hingham	1	V.O.
2/22	Gardner	40	J. Hoye#	Townsend's			
2/22	Hull	2	S. + C. Whitebread	1/1-07	MNWS	1	V.O.
2/23	Dorchester	1	R. Schain	Yellow-breas			
2/24	Windsor	3	T. Gagnon	1/7	Rockport (H.P.)	1	H. Mauer#
2/28	Waltham	3	J. Forbes + v.o.	1/10	Hyannis	1	P. MacFarland
2/28 Cedar Waxwi	N. Truro	31	J. Bullard#	1/29 Spotted Tow	Yarmouthport	1	D. Braginton-Smith
1/13	Ipswich	50	J. Berry	1/3	Chilmark		nh T Snahr
						- 1	
2/14			P. Peterson		hee	1	ph T. Spahr
2/14 2/21	Boston Waltham	17 21	P. Peterson J. Forbes	Eastern Towl		1	
	Boston	17		Eastern Towl	hee Lexington S. Dart. (A.Pd)		J. Forbes P. Champlin
2/21 2/24 2/26	Boston Waltham Quincy Turners Falls	17 21	J. Forbes	Eastern Towl 1/2 1/2 1/19	Lexington S. Dart. (A.Pd) Fairhaven	1 5 3	J. Forbes
2/21 2/24 2/26 Lapland Long	Boston Waltham Quincy Turners Falls gspur	17 21 28 60	J. Forbes P. Edmundson J. Rose	Eastern Towl 1/2 1/2 1/19 2/3	Lexington S. Dart. (A.Pd) Fairhaven Chelsea	1 5 3 1	J. Forbes P. Champlin R. Stymeist# S. Mossberg
2/21 2/24 2/26 Lapland Long 1/2	Boston Waltham Quincy Turners Falls gspur Concord	17 21 28 60 2	J. Forbes P. Edmundson J. Rose S. Perkins	Eastern Towl 1/2 1/2 1/19 2/3 2/23	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP)	1 5 3	J. Forbes P. Champlin R. Stymeist#
2/21 2/24 2/26 Lapland Long 1/2 1/10	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res.	17 21 28 60 2 1	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch#	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow	1 5 3 1 1	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly
2/21 2/24 2/26 Lapland Long 1/2 1/10 1/11	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington	$ \begin{array}{r} 17 \\ 21 \\ 28 \\ 60 \\ 2 \\ 1 \\ 1 \end{array} $	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr 1/3	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham	1 5 3 1 1 55	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes
2/21 2/24 2/26 Lapland Long 1/2 1/10 1/11 1/11	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus	17 21 28 60 2 1 1 1	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh#	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr 1/3 1/7	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MH	1 5 3 1 1 55 2) 50	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson
2/21 2/24 2/26 Lapland Lon; 1/2 1/10 1/11 1/11 1/11	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury	17 21 28 60 2 1 1 1 13	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry#	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr 1/3 1/7 1/15	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MI Northampton	1 5 3 1 1 55 2) 50 120	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien
2/21 2/24 2/26 Lapland Long 1/2 1/10 1/11 1/11	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus	17 21 28 60 2 1 1 1	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh#	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr 1/3 1/7	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MH	1 5 3 1 1 55 2) 50	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien
2/21 2/24 2/26 Lapland Long 1/2 1/10 1/11 1/11 1/11 1/11	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury Northampton	$ \begin{array}{r} 17 \\ 21 \\ 28 \\ 60 \\ 2 \\ 1 \\ 1 \\ 13 \\ 4 \\ 4 \end{array} $	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry# L. Therrien	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr 1/3 1/7 1/15 1/26	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MF Northampton Concord Sudbury	1 5 3 1 1 55 2) 50 120 50	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien K. Dia
2/21 2/24 2/26 Lapland Lon; 1/2 1/10 1/11 1/11 1/11 1/11 1/11 2/21 2/2	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury Northampton P.I. Salisbury g	$ \begin{array}{r} 17 \\ 21 \\ 28 \\ 60 \\ 2 \\ 1 \\ 1 \\ 13 \\ 4 \\ 1 \\ 5 \\ \end{array} $	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry# L. Therrien D. Davis	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr 1/3 1/7 1/15 1/26 2/24 Chipping Spa 1/6	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MH Northampton Concord Sudbury arrow Concord	1 5 3 1 1 55 2) 50 120 50 45 1	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien K. Dia B. Black# S. Perkins
2/21 2/24 2/26 Lapland Long 1/2 1/10 1/11 1/11 1/11 1/11 1/11 1/11	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury Northampton P.I. Salisbury g Pittsfield	$ \begin{array}{r} 17 \\ 21 \\ 28 \\ 60 \\ 2 \\ 1 \\ 1 \\ 13 \\ 4 \\ 1 \\ 5 \\ 57 \\ \end{array} $	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry# L. Therrien D. Davis S. Muise G. Hurley	Eastern Towl 1/2 1/2 1/19 2/3 American Tr 1/3 1/7 1/15 1/26 2/24 Chipping Sp 1/6 1/20	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MF Northampton Concord Sudbury arrow Concord Westwood	1 5 3 1 1 55 50 50 50 45 1 1	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien K. Dia B. Black# S. Perkins E. Nielsen
2/21 2/24 2/26 Lapland Long 1/2 1/10 1/11 1/11 1/11 1/11 1/11 2/21 2/2	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury Northampton P.I. Salisbury Pittsfield Wachusett Res.	$ \begin{array}{r} 17 \\ 21 \\ 28 \\ 60 \\ 2 \\ 1 \\ 1 \\ 13 \\ 4 \\ 1 \\ 5 \\ 57 \\ 20 \\ \end{array} $	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry# L. Therrien D. Davis S. Muise G. Hurley M. Lynch#	Eastern Towl 1/2 1/2 1/19 2/23 American Tr 1/3 1/7 1/15 1/26 2/24 Chipping Spa 1/6 1/20 1/25	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MF Northampton Concord Sudbury arrow Concord Westwood Newbury	1 5 3 1 1 55 50 120 50 45 1 1 1	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien K. Dia B. Black# S. Perkins E. Nielsen BBC (R. Petersen)
2/21 2/24 2/26 Lapland Lon; 1/2 1/10 1/11 1/11 1/11 1/11 2/21 2/21	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury Northampton P.I. Salisbury g Pittsfield Wachusett Res. P.I.	$17 \\ 21 \\ 28 \\ 60 \\ 2 \\ 1 \\ 1 \\ 13 \\ 4 \\ 1 \\ 5 \\ 57 \\ 20 \\ 5 \\ 5 \\ 7 \\ 20 \\ 5 \\ 7 \\ 10 \\ 10 \\ 10 \\ 10 \\ 10 \\ 10 \\ 10 $	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry# L. Therrien D. Davis S. Muise G. Hurley M. Lynch# J. Berry#	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr 1/3 1/7 1/15 1/26 2/24 Chipping Sp 1/6 1/20 1/25 2/8	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MH Northampton Concord Sudbury arrow Concord Westwood Newbury Plainville	1 5 3 1 1 55 50 50 50 45 1 1	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien K. Dia B. Black# S. Perkins E. Nielsen
2/21 2/24 2/26 Lapland Lon; 1/2 1/10 1/11 1/11 1/11 1/11 1/11 2/21 2/2	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury Northampton P.I. Salisbury g Pittsfield Wachusett Res. P.I. Salisbury	$\begin{array}{c} 17\\21\\28\\60\\\\\\\\1\\1\\1\\3\\4\\1\\5\\57\\20\\5\\18\end{array}$	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry# L. Therrien D. Davis S. Muise G. Hurley M. Lynch# J. Berry# H. Mauer#	Eastern Towl 1/2 1/2 1/2 1/19 2/3 2/23 American Tr 1/3 1/7 1/15 1/26 2/24 Chipping Spa 1/6 1/20 1/25 2/8 Clay-colored	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MF Northampton Concord Sudbury arrow Concord Westwood Newbury Plainville Sparrow	1 5 3 1 1 1 5 5 5 5 0 500 500 500 45 1 1 1 1	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien K. Dia B. Black# S. Perkins E. Nielsen BBC (R. Petersen) K. Marie
2/21 2/24 2/26 Lapland Long 1/2 1/10 1/11 1/11 1/11 1/11 2/21 2/21	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury Northampton P.I. Salisbury Pittsfield Wachusett Res. P.I. Salisbury Hadley	$\begin{array}{c} 17\\21\\28\\60\\2\\1\\1\\1\\3\\4\\1\\5\\57\\20\\5\\18\\9\end{array}$	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry# L. Therrien D. Davis S. Muise G. Hurley M. Lynch# J. Berry# H. Mauer# C. Jones	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr 1/3 1/7 1/15 1/26 2/24 Chipping Sp 1/6 1/20 1/25 2/8 Clay-colored thr	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MF Northampton Concord Sudbury arrow Concord Westwood Newbury Plainville I Sparrow Belchertown	1 5 3 1 1 5 5 5 5 5 5 5 0 500 500 45 1 1 1 1 1 1	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien K. Dia B. Black# S. Perkins E. Nielsen BBC (R. Petersen) K. Marie
2/21 2/24 2/26 Lapland Long 1/2 1/10 1/11 1/11 1/11 1/11 2/21 2/21	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury Northampton P.I. Salisbury g Pittsfield Wachusett Res. P.I. Salisbury	$\begin{array}{c} 17\\21\\28\\60\\\\\\\\1\\1\\1\\3\\4\\1\\5\\57\\20\\5\\18\end{array}$	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry# L. Therrien D. Davis S. Muise G. Hurley M. Lynch# J. Berry# H. Mauer#	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr 1/3 1/7 1/15 1/26 2/24 Chipping Spa 1/6 1/20 1/25 2/8 Clay-colored thr 1/10	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MH Northampton Concord Sudbury arrow Concord Westwood Newbury Plainville ISparrow Belchertown Gloucester	1 5 3 1 1 1 5 5 5 5 0 500 500 500 45 1 1 1 1	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien K. Dia B. Black# S. Perkins E. Nielsen BBC (R. Petersen) K. Marie
2/21 2/24 2/26 Lapland Long 1/2 1/10 1/11 1/11 1/11 1/11 2/21 2/21	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury Northampton P.I. Salisbury Pittsfield Wachusett Res. P.I. Salisbury Hadley	$\begin{array}{c} 17\\21\\28\\60\end{array}\\ \begin{array}{c}2\\1\\1\\1\\3\\4\\1\\5\end{array}\\ \begin{array}{c}5\\57\\20\\5\\18\\9\\12\end{array}$	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry# L. Therrien D. Davis S. Muise G. Hurley M. Lynch# J. Berry# H. Mauer# C. Jones C. Jones D. Minsky	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr 1/3 1/7 1/15 1/26 2/24 Chipping Spa 1/6 1/20 1/25 2/8 Clay-colored thr 1/10	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MH Northampton Concord Sudbury arrow Concord Westwood Newbury Plainville Sparrow Belchertown Gloucester Dorchester	1 5 3 1 1 5 5 5 0 500 500 4 5 1 1 1 1 1 1 1 1 1 1 1 1	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien K. Dia B. Black# S. Perkins E. Nielsen BBC (R. Petersen) K. Marie v.o. R. Schain# D. Sullivan
2/21 2/24 2/26 Lapland Long 1/2 1/10 1/11 1/11 1/11 1/11 2/21 2/21	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury Northampton P.I. Salisbury Pittsfield Wachusett Res. P.I. Salisbury Hadley Williamstown P'town Dighton	$\begin{array}{c} 17\\21\\28\\60\end{array}\\ \begin{array}{c}2\\1\\1\\1\\3\\4\\1\\5\end{array}\\ \begin{array}{c}5\\57\\20\\5\\18\\9\\12\end{array}$	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry# L. Therrien D. Davis S. Muise G. Hurley M. Lynch# J. Berry# H. Mauer# C. Jones C. Jones	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr 1/3 1/7 1/15 1/26 2/24 Chipping Sp 1/6 1/20 1/25 2/8 Clay-colored thr 1/10 1/11, 2/13	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MH Northampton Concord Sudbury arrow Concord Westwood Newbury Plainville Sparrow Belchertown Gloucester Dorchester	$ \begin{array}{c} 1 \\ 5 \\ 3 \\ 1 \\ 1 \\ 55 \\ 50 \\ 50 \\ 45 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \end{array} $	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien K. Dia B. Black# S. Perkins E. Nielsen BBC (R. Petersen) K. Marie v.o. R. Schain# D. Sullivan S. Miller
2/21 2/24 2/26 Lapland Long 1/2 1/10 1/11 1/11 1/11 1/11 2/21 2/21	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury Northampton P.I. Salisbury Pittsfield Wachusett Res. P.I. Salisbury Hadley Williamstown P'town Dighton arbler	17 21 28 60 2 1 1 1 3 4 1 5 57 20 5 18 9 12	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry# L. Therrien D. Davis S. Muise G. Hurley M. Lynch# J. Berry# H. Mauer# C. Jones C. Jones D. Minsky J. Eckerson	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr 1/3 1/7 1/15 1/26 2/24 Chipping Spa 1/6 1/20 1/25 2/8 Clay-colored thr 1/10 1/11, 2/13 Field Sparrow 1/2 1/4	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MH Northampton Concord Sudbury arrow Concord Westwood Newbury Plainville Sparrow Belchertown Gloucester Dorchester W Boxboro S. Peabody	$ \begin{array}{c} 1 \\ 5 \\ 3 \\ 1 \\ 1 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 4 \\ 5 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 2 \\ 10 \\ \end{array} $	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien K. Dia B. Black# S. Perkins E. Nielsen BBC (R. Petersen) K. Marie v.o. R. Schain# D. Sullivan S. Miller R. Heil
2/21 2/24 2/26 Lapland Lon; 1/2 1/10 1/11 1/11 1/11 1/11 2/21 2/21	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury Northampton P.I. Salisbury Pittsfield Wachusett Res. P.I. Salisbury Hadley Williamstown P'town Dighton arbler Plymouth	$\begin{array}{c} 17\\21\\28\\60\end{array}\\ \begin{array}{c}2\\1\\1\\1\\3\\4\\1\\5\end{array}\\ \begin{array}{c}5\\57\\20\\5\\18\\9\\12\end{array}$	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry# L. Therrien D. Davis S. Muise G. Hurley M. Lynch# J. Berry# H. Mauer# C. Jones C. Jones D. Minsky	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr 1/3 1/7 1/15 1/26 2/24 Chipping Sp 1/6 1/20 1/25 2/8 Clay-colored thr 1/10 1/11, 2/13 Field Sparrov 1/2 1/4 1/18	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MH Northampton Concord Sudbury arrow Concord Westwood Newbury Plainville Sparrow Belchertown Gloucester Dorchester W Boxboro S. Peabody Lincoln	$ \begin{array}{c} 1 \\ 5 \\ 3 \\ 1 \\ 1 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 2 \\ 10 \\ 5 \\ 5 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien K. Dia B. Black# S. Perkins E. Nielsen BBC (R. Petersen) K. Marie v.o. R. Schain# D. Sullivan S. Miller R. Heil N. Levey
2/21 2/24 2/26 Lapland Lon; 1/2 1/10 1/11 1/11 1/11 1/11 1/11 2/21 2/2	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury Northampton P.I. Salisbury Pittsfield Wachusett Res. P.I. Salisbury Hadley Williamstown P'town Dighton arbler Plymouth ned Warbler	17 21 28 60 2 1 1 1 1 3 4 1 5 57 20 5 18 9 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry# L. Therrien D. Davis S. Muise G. Hurley M. Lynch# J. Berry# H. Mauer# C. Jones C. Jones C. Jones D. Minsky J. Eckerson D. Fletcher	Eastern Towl 1/2 1/2 1/19 2/3 American Tr 1/3 1/7 1/15 1/26 2/24 Chipping Sp 1/6 1/20 1/25 2/8 Clay-colored thr 1/10 1/11, 2/13 Field Sparrow 1/2 1/4 1/18 1/18	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MF Northampton Concord Sudbury arrow Concord Westwood Newbury Plainville I Sparrow Belchertown Gloucester Dorchester Boxboro S. Peabody Lincoln Concord	$ \begin{array}{c} 1 \\ 5 \\ 3 \\ 1 \\ 1 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 4 \\ 5 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 2 \\ 1 \\ 0 \\ 5 \\ 3 \\ 3 \\ 4 \\ 5 \\ 3 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien K. Dia B. Black# S. Perkins E. Nielsen BBC (R. Petersen) K. Marie v.o. R. Schain# D. Sullivan S. Miller R. Heil N. Levey C. Winstanley
2/21 2/24 2/26 Lapland Long 1/2 1/10 1/11 1/11 1/11 1/11 2/21 2/21	Boston Waltham Quincy Turners Falls gspur Concord Wachusett Res. Gr Barrington Saugus Newbury Northampton P.I. Salisbury Pittsfield Wachusett Res. P.I. Salisbury Hadley Williamstown P'town Dighton arbler Plymouth ned Warbler Cambridge	17 21 28 60 2 1 1 1 1 3 4 1 5 57 20 5 8 9 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	J. Forbes P. Edmundson J. Rose S. Perkins M. Lynch# G. Hurley S. Zendeh# J. Berry# L. Therrien D. Davis S. Muise G. Hurley M. Lynch# J. Berry# H. Mauer# C. Jones C. Jones D. Minsky J. Eckerson D. Fletcher V.0.	Eastern Towl 1/2 1/2 1/19 2/3 2/23 American Tr 1/3 1/7 1/15 1/26 2/24 Chipping Spanov 1/6 1/20 1/25 2/8 Clay-colored thr 1/10 1/11, 2/13 Field Sparov 1/2 1/4 1/18 1/18 1/22	Lexington S. Dart. (A.Pd) Fairhaven Chelsea Woburn (HP) ee Sparrow Waltham W. Roxbury (MH Northampton Concord Sudbury arrow Concord Westwood Newbury Plainville I Sparrow Belchertown Gloucester Dorchester Boxboro S. Peabody Lincoln Concord Woburn (HP)	$ \begin{array}{c} 1 \\ 5 \\ 3 \\ 1 \\ 1 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 2 \\ 10 \\ 5 \\ 5 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$	J. Forbes P. Champlin R. Stymeist# S. Mossberg M. Beyly J. Forbes P. Peterson L. Therrien K. Dia B. Black# S. Perkins E. Nielsen BBC (R. Petersen) K. Marie v.o. R. Schain# D. Sullivan S. Miller R. Heil N. Levey
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Lark Sparro				2/7	Westport	1	M. Lynch#
1/1-22	Hingham	1	V.O.	Rusty Black		_	
Savannah Spa		2	G D 1	2/thr	Wayland	7	J. Hoye#
1/4	Concord	2	S. Perkins	2/5	Westwood	1	E. Nielsen
1/11	Saugus Cumh Farma	3	S. Zendeh#	2/21	Bradford	1	D. Larson
1/11 1/19	Cumb. Farms Lincoln	38 24	B. Harris	Common Gr 1/11		15	C. Hurley
1/19	Hadley	12	N. Levey# L. Therrien	2/7	Egremont Lynnfield	20	G. Hurley P. + F. Vale
Ipswich Span		12	L. Incincii		led Cowbird	20	1. + 1 [°] . vale
1/11	P.I.	2	D. Adrien	1/11	Fairhaven	56	M. Lynch#
2/7	Acoaxet	2	M. Lynch#	1/12	Medford	20	T. Murray
Grasshopper		-	in Lynen	1/16	Concord	25	S. Perkins
1/1-26	Mattapan (BNC)	1	v.o.	1/24	Tewksbury	15	D. Prima
Nelson's Span				Baltimore O			
thr	Eastham (F.H.)	4 max	K. Yakola	1/thr	Harwich	1	M. Ford
Saltmarsh Sp	arrow			1/2	Stow	1	S. Jesseaume
thr	Eastham (F.H.)	2 max	K. Yakola	1/15	Brewster	2	G. Iannini
Seaside Spari				Purple Finch			
1/19	E. Orleans	1	J. Trimble	1/4	Norwood	2	V. Zollo
Fox Sparrow				1/6	Sharon	2	V. Zollo
1/3	Edgartown		BC (J. Trimble)	1/23	Hadley	10	L. Therrien
1/7	W. Roxbury (MP)		P. Peterson	1/25	Lexington	3	J. Forbes
1/19	Fairhaven	3 2	R. Stymeist#	2/2	Medway	15	J. Alberta
1/30 2/15	Ipswich Dalah antau	2	J. Berry#	2/15	Ipswich	2	J. Berry
Lincoln's Spa	Belchertown	1	D. Griffiths	White-wing 1/11	Northfield	5	J. Smith
1/11-2/20	W. Boxford	1	T. Walker	1/17	S. Quabbin	3	L. Therrien
1/21	Turners Falls	1	T. Bullock	1/21	Nantucket	2	K. Blackshaw
1/27	Stow	1	G. Freedman	1/22	Windsor	1	J. Pierce
Swamp Sparr		1	G. Freedman	Common Re		1	5. 1 10100
1/7	W. Roxbury (MP)) 4	P. Peterson	1/8	Conway	150	S. Dombeck
1/9	GMNWR	3	K. Dia#	1/15	P.I.	100	T. Wetmore
1/11	Fairhaven	3	M. Lynch#	1/15	Tolland	20	R. Silsby
1/11	Cumb. Farms	8	B. Harris	1/17	Jamaica Plain		J. Taylor
White-crown	ed Sparrow			1/17	Rockport	20	B. Volkle#
1/3	Edgartown		BC (J. Trimble)	1/23	Lexington (D		M. Rines
1/4	Plymouth	2	J. Barrett	1/26	Arlington	70	K. Hansen#
1/11	Nantucket	4	T. Pastuszak	2/1	Windsor	27	F. Bowrys
2/27	Sheffield	2	R. Wendell	2/14	Holden	20	S. Corazzini
Oregon June		1	TOUL	2/19	Everett	50	D. Hefferon
1/10	Marlboro	1	T. Spahr	2/21	Waltham	20	J. Forbes
1/13 Painted Bun	Wellfleet	1 ph	P. Bartlett	2/24 Pine Siskin	Cheshire	61	J. Pierce
1/31-2/1	Wellfleet	1 ph	B. Chapman	1/10	Norwell	20	C. Patterson
Red-winged I		i pii	B. Chaphian	1/10	Gardner	11	D. Knowlton
1/2	Longmeadow	25	G. Kingston	1/11	Northfield	200	M. Taylor
1/2	Westport	40	M. Lynch#	1/15	Norwell	100	C. Patterson
1/7	Halifax	30	G. Gove#	1/15	New Salem	18	B. Lafley
1/7	W. Roxbury (MP)		P. Peterson	1/20	Rowe	40	C. Hytinen
1/16	Wayland	25	J. Forbes	1/20	Colrain	22	T. Gagnon
2/7	Lynnfield	30	P. + F. Vale	2/14	Bolton	26	J. Moosbruker
Eastern Mead	lowlark			European G	oldfinch		
1/2	S. Dart. (A.Pd)	24	P. Champlin	1/26	Boxboro	1	S. Miller
1/11	Cumb. Farms	2	B. Harris	2/25	Lexington	1	C. Floyd

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ABBREVIATIONS FOR BIRD SIGHTINGS

	ADDREVIATIONS FO	
Taxonomic o	rder is based on AOU checklist, Sev	venth edition, up to the 53rd Supplement, as
published in .	Auk 129 (3): 573-88 (2012) (see <h< td=""><td>ttp://checklist.aou.org/>).</td></h<>	ttp://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
В.	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
Cambr.	Cambridge	WBWS Wellfleet Bay WS
CCBC	Cape Cod Bird Club	WE World's End, Hingham
Corp. B.	Corporation Beach, Dennis	WMWS Wachusett Meadow WS
Cumb. Farms	Cumberland Farms, Middleboro	Wompatuck SP Hingham, Cohasset, Scituate, Norwell
DFWS	Drumlin Farm Wildlife Sanctuary	Worc. Worcester
DWMA	Delaney WMA, Stow, Bolton, Harvard	
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
Н.	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://www.birdobserver.org/Sightings/.

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

ABOUT THE COVER

Dunlin

The Dunlin (*Calidris alpina*) is one of our most common small sandpipers, and in spring it is one of our most striking. The species is unmistakable in breeding plumage with its rufous back and cap, black belly, and white flanks. The sexes are similar in plumage. Juveniles are less rufous than adults and are streaked with black on their breast and belly. On the Pacific Coast, Dunlin could be confused with Rock Sandpipers, which are also black below but are lighter rufous above and have pale rather than black legs. In winter plumage, Dunlin are gray tinged with brown, have brownish heads, and exhibit a conspicuous white wing stripe in flight. Their long drooping bill helps distinguish them from other small sandpipers. The similar Curlew Sandpiper is grayer, lacks the brownish head, and has a white rump.

Although controversial, up to nine subspecies are generally accepted worldwide for this Holarctic-breeding sandpiper. Three subspecies breed in North America: *C. a. arcticola* and *C. a. pacifica* in the coastal areas of Alaska; and *C. a. hudsonia* in northern Canada and its Arctic islands, and south to the western shores of Hudson and James bays. Dunlin are migratory, wintering along the West Coast from southern Alaska as far south as central Mexico, and inland in several locations in California. They also winter along the East Coast from Massachusetts south through coastal Florida and along the Gulf Coast to central Mexico and the Yucatan. In Massachusetts, Dunlin are an abundant spring and fall migrant along the coast, and in some coastal locations are also a common winter resident. In spring, the migration often has a double peak in both early and late May. Fall migration extends from late August to late November with a peak in late October or early November.

Dunlin are generally monogamous although occasionally they are polygamous. The male's song is a series of trills given during courtship flights involving short glides on stiff wings and shallow fluttering. They also vocalize from the ground. The Dunlin's vocal repertoire includes a variety of *cheep*, *treep*, *chrri*, and *kree* calls. They are gregarious on their wintering grounds.

Dunlin nest in wet coastal tundra or sedge marshes, where they produce a single brood during the short Arctic summer. Males establish a territory and typically make several nest scrapes, one of which the female chooses. The male makes the scrapes with his feet, shapes them with his body, and lines them with fine grass and willow leaves. Dunlin are sometimes site faithful and reuse former nest scrapes. Males tend to be more site faithful than females. The usual clutch is four olive eggs with dark blotches. Both parents develop brood patches and share incubation duties for the three weeks until hatching. Until the chicks hatch, males defend a nesting territory with a threat display of raised wings and flights along the territorial boundary. The chicks are precocial and leave the nest soon after hatching. The parents lead the chicks to areas with abundant insects where the young feed themselves. The male does most of the brooding of the chicks. Both parents tend the chicks but the males stay with them longer, sometimes up to three weeks, until the young can fly.

The Dunlin diet consists of bivalves and arthropods, especially amphipods, but also includes some gastropods, and polychaetes. Dunlin are primarily tactile foragers in winter, probing mud flats of estuaries with their long bills. On the breeding grounds, they are usually visual foragers, pecking and jabbing at terrestrial and fresh water invertebrates from wet grasses, pond edges, and coastal lagoons. Insects and larvae comprise most of their diet on the breeding grounds.

Falcons and owls are the main avian predators on adult Dunlin while jaegers are the predominant egg and chick predators. Arctic foxes also prey on nests. Loss of wintering habitat due to anthropogenic factors has negatively impacted some populations. Christmas Bird Count data suggest a decrease in birds wintering in the Northwest and many experts think that there has been a continent-wide decrease in Dunlin numbers. The effects of global warming on Dunlin and their breeding grounds are not yet known. However, the Dunlin's Holarctic distribution—with little alteration of breeding habitat to date—suggests that this common and colorful sandpiper is secure.

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>.



BOHEMIAN WAXWING BY SHERRY LEFFERT

AT A GLANCE

April 2015



DAVID M. LARSON

This month readers are treated to an especially challenging image to identify. The only thing that can be said about the mystery species is that it is clearly a waterbird species that is capable of diving from the surface, unlike plunge divers such as Northern Gannets and terns that dive from the air. Beyond this, at first glance the picture would appear to offer little in the way of obvious features useful for identification.

That the bird appears to be black above with a row of white, button-like spots against a dark background is actually a useful clue. Additionally, the bird has white on its sides. These features at once remove dark-backed cormorants and Sooty Shearwaters as identification candidates. The presence and arrangement of the white spots on the back eliminates all of the otherwise black-and-white alcids as candidates. With these details in mind the mystery bird has to be a duck. But what kind of duck?

At this point the identification actually becomes straightforward because a male Barrow's Goldeneye (*Bucephala islandica*) is the only duck that displays such distinct white spots (or white bars) against the dark background of its back. In addition, Barrow's Goldeneyes have white sides and flanks, features that also show in the picture of the mystery bird. So what may have at first appeared to be a cryptic image of an unknown waterbird actually proves to be an unfamiliar view of an otherwise easy to identify species. If the whole bird was visible it would also display a white crescentshaped mark in front of the eye and a dark spur-like marking near the shoulder that would curve downward toward the waterline.

Barrow's Goldeneyes are relatively uncommon winter visitors in Massachusetts, most often appearing among flocks of Common Goldeneyes on saltwater bays or along rocky shorelines at the coast. They also rarely appear inland during migration on large freshwater ponds or lakes. David Larson photographed this Barrow's Goldeneye on January 30, 2015, in Saco, Maine.

Wayne R. Petersen



SCREECH OWL BY SANDY SELESKY

AT A GLANCE



STEPHANIE ELLIS

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

Bird Observer Online!

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

Subscribers to *Bird Observer* have access to a full-color online version in addition to the printed copy. All issues back to February 2003 are online. Future issues will be posted regularly and older issues will keep being added.

To obtain a user name and password, send an email to birdobserver@jocama.com and include your name as it appears on your *Bird Observer* mailing label.

BIRD OBSERVER (USPS 369-850) P.O. BOX 236 ARLINGTON, MA 02476-0003

PERIODICALS POSTAGE PAID AT BOSTON, MA

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