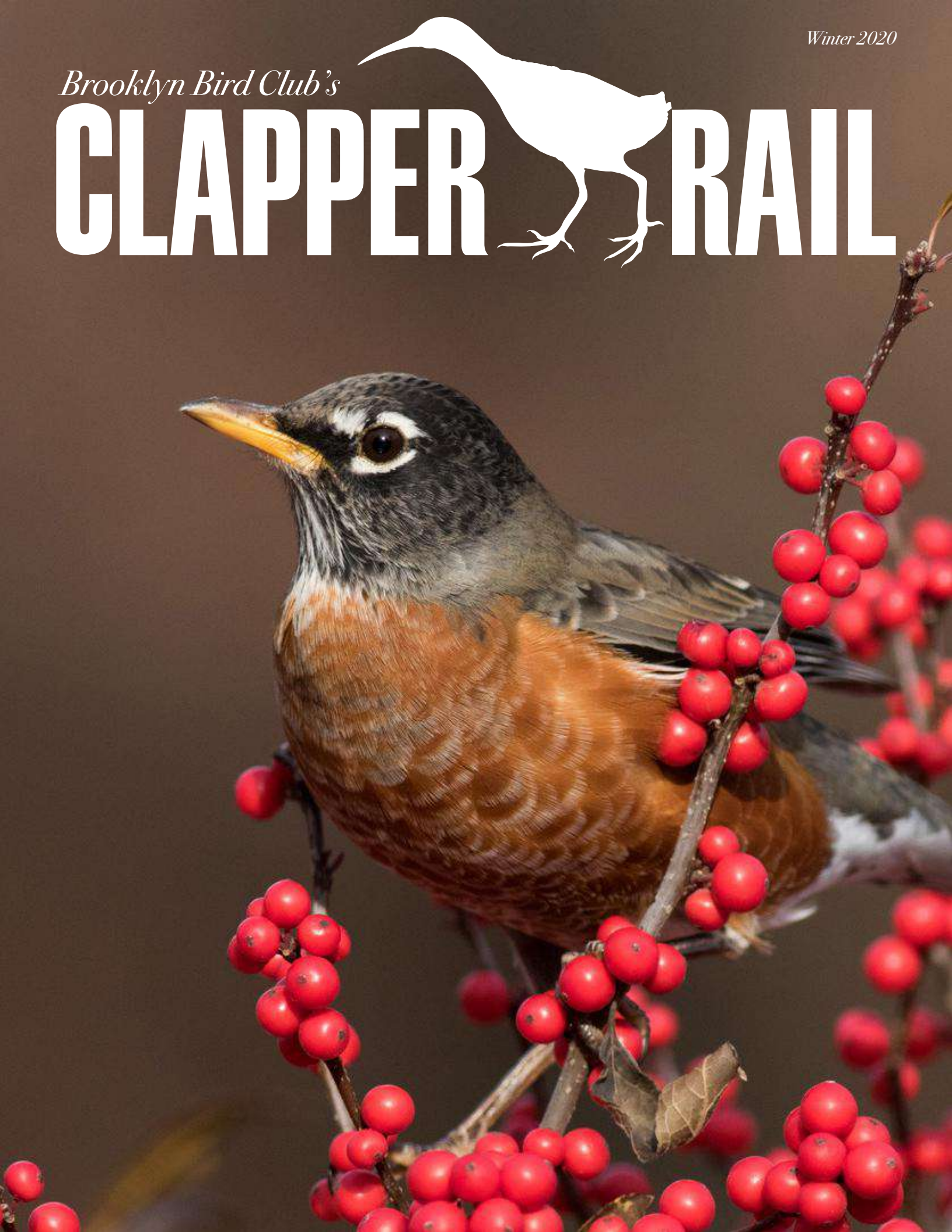
Winter 2020

Brooklyn Bird Club's

CLAPPER RAIL



Inside This Issue

The Brooklyn Bird Club
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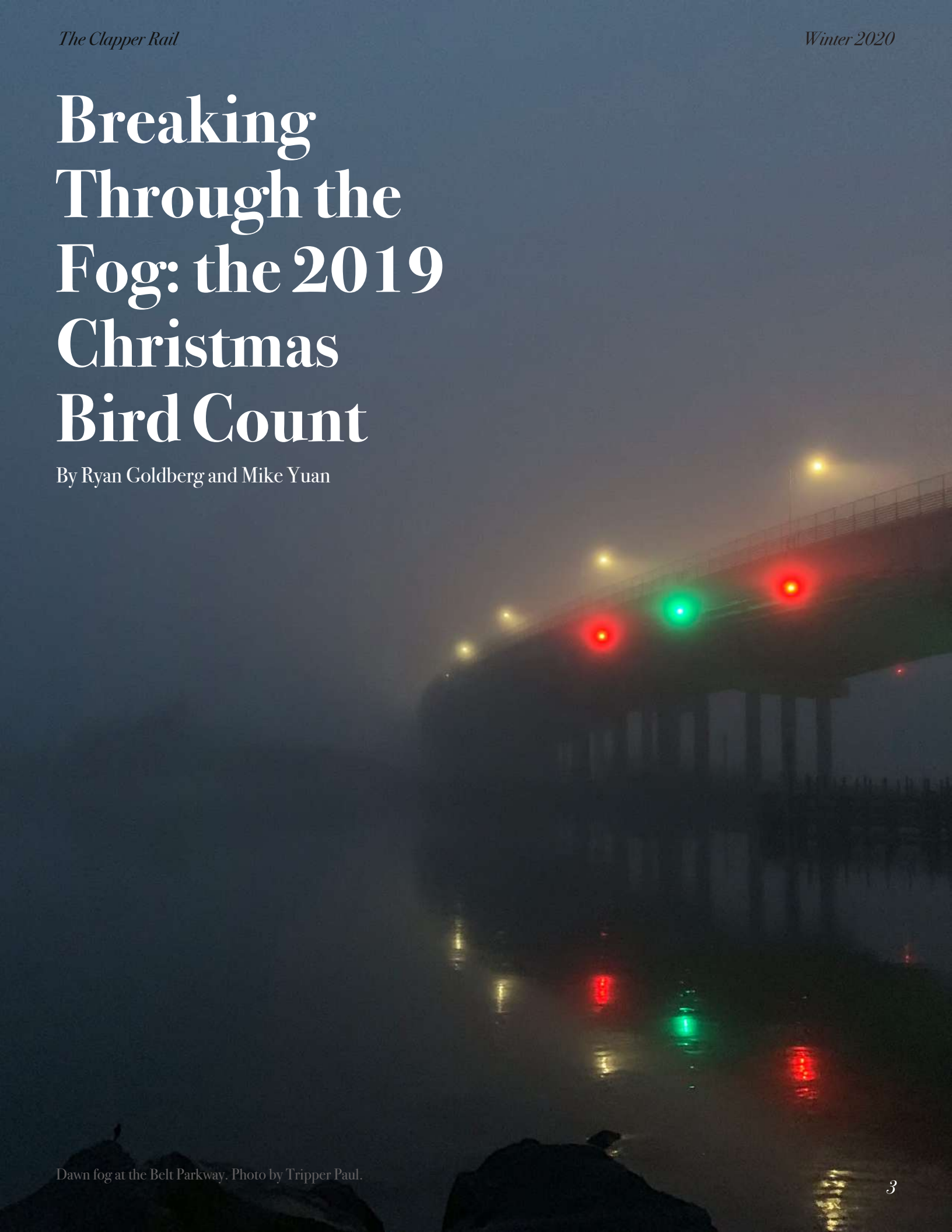
Cover: American Robin in Fort Greene Park. Photo by August Davidson-Onsgard.

Breaking Through the Fog: the 2019 Christmas Bird Count

By Ryan Goldberg and Mike Yuan



Dawn fog at the Belt Parkway. Photo by Tripper Paul.

Visibility was low but the number of birders was high on Brooklyn's 111th Christmas Bird Count on December 14. It speaks to the growth of the Brooklyn Bird Club, and birding in general in the borough, that on a misty, foggy morning, 108 people spread across the 15-mile count radius to report back on this winter's birdlife.

It was a mild day, as the whole winter has been—soon to be one of the warmest on record. The fog meant that a near record-low of 26,835 individual birds were seen, but there were pleasant surprises among the expected shortfalls, with an above-average species count of 130, the highest since Brooklyn's all-time high of 134 in 2012.

That total was helped by one intrepid duo. In addition to the 11 long-standing count sectors, Louis DeMarco and Bonnie Aldinger resurrected one that had been dormant for 17 years, the Jamaica Bay Boat. They kayaked to islands in the bay, scanning habitat not visible from land, and pulled out two count "saves" in the process: American Oystercatcher and Dunlin.

Rightfully so, DeMarco and Aldinger drew the largest applause at the annual compilation dinner that night at Prospect Park's boathouse. And so too did other milestones for the Brooklyn Bird Club. Rick Cech handed the reins to Mike Yuan and Chris Laskowski after running the show for 27 years; that two people would replace Cech speaks to the stamp he's left on the Brooklyn CBC, which includes proprietary software he developed to manage the compilation and display real-time stats throughout the night.

Paul Keim, ex-club president, also announced that this would be his final compilation as emcee. Meanwhile, the club's current head, Dennis Hrehowsik, began proceedings by noting that this was the first dinner to eliminate single-use plastic. And it was an opportunity to also recognize member Molly Adams, NYC Audubon's advocacy and outreach director, for her and her organization's dogged pursuit of newly-passed city legislation that requires bird-friendly glass on most new construction. It's a significant step forward.

Above: A foggy morning at Jamaica Bay Wildlife Refuge. Photo by Doug Gochfeld.

Above: Hermit Thrush at Brooklyn Bridge Park. Photo by Janet Zinn. Below: Iceland Gull at Cross Bay Boulevard Bridge. Photo by Shane Blodgett.

The story of the day unfolded as the night wore on. Steve Nanz, the leader of the Spring Creek team, was quick to remind the audience of the poor visibility. The waterfowl numbers bore that out. White-winged Scoters, for instance, nearly equaled the tally of Black Scoters, because as one coastal participant noted, "They were the easiest ones to identify in the fog." Not surprisingly, all-time lows were set for waterfowl and gulls, with 14 American Wigeon, 367 Mallard, 509 Greater Scaup, 28 Horned Grebe, 989 Herring Gull, and 14 Great Cormorant.

Rare sightings (seen three or fewer times in the last 10 years) included a Redhead and Northern Goshawk at Jamaica Bay's West Pond, five American Oystercatcher and eight Dunlin on the bay islands, a pair of Ring-Necked Duck at Prospect Park, Laughing Gulls at Spring Creek and Jacob Riis Park (with an Iceland Gull), a Lapland Longspur at Riis and another at Breezy Point, an all-time high of four Eastern Phoebe, House Wren, Lincoln's and Vesper Sparrows, Baltimore Oriole, and four warblers—Ovenbird, Black-and-white, Nashville, and Wilson's.

Greater Yellowlegs and Tufted Titmouse were the big misses, both for the first time on the count.

Bonaparte's Gull and Red-breasted Nuthatch were also absent.

High counts centered around the terrestrial, with all-time highs set with 11 American Woodcock, 240 Northern Cardinal, 93 Carolina Wren (more than double the previous high), 20 Chipping Sparrow, and four Common Raven. The ravens continue to establish themselves as likely breeding regulars in Kings County. Count week species consisted of Wilson's Snipe, Bald Eagle, Black Skimmer, and White-crowned Sparrow.

It was also the second year in which Fort Greene Park was included in the North Shore sector, thanks to August Davidson-Onsgard. Their finds included a significant gathering of Mourning Doves and the only Brown Thrasher of the count. August's younger brother Clay was eager to announce that save, but he had to take a do-over after the emcee backtracked. Such is the joy of a save bird that on the second go-round, Clay proclaimed it again with the same enthusiasm.

Right: Orange-crowned Warbler at JBWR. Photo by Doug Gochfeld.
Below: Pine Warbler at Spring Creek.
Photo by Mike Yuan.

Top: White-throated Sparrow at Brooklyn Bridge Park. Photo by Janet Zinn.
Bottom: Brown Thrasher at Fort Greene Park. Photo by August Davidson-Onsgard.

Clockwise from top: Chipping Sparrow at Bergen Beach (Tripper Paul). Ovenbird at Spring Creek (Steve Nanz). Lesser Black-backed Gull at Jacob Riis (Shane Blodgett). Common Raven at Marine Park (Heydi Lopes). Redhead at JBWR (Eleanor Ray).

2019 CHRISTMAS BIRD COUNT BROOKLYN

12 TEAMS

108 PARTICIPANTS

130 SPECIES

26,835 TOTAL BIRDS COUNTED

CBC map by Tina Alleva.

The Field Guide to Adventurous Birding

By Linda Ewing

Bird lust and wanderlust tend to feed one another. Birding locally is wonderful, of course. There's something particularly satisfying, almost intimate, about developing deep knowledge of a local patch—learning the precise corner of a weedy field favored by Savannah Sparrows, visiting specific puddles where migrating warblers come down from the canopy to bathe, knowing which bushy clumps should be checked for American Woodcock. But the call of exotic species is powerful, and so is the lure of travel. Of the more than 10,000 species of birds in the world, fewer than 300 reside in or pass through Brooklyn in any given year, making travel the only way to see entire families of birds in the wild. And so Brooklyn birders travel. Some trips are spurred by a desire to see a specific bird, like Whooping Cranes in Texas. Sometimes the motivation is a more general desire to immerse oneself in a region rich in endemic species. Other times, it's to bird a coastal or border zone that's a magnet for ABA-area rarities.

Whatever the motivation, birding in unfamiliar places poses challenges. There's the need to negotiate destinations with non-birding travel partners ("You seriously want to fly across the country to go to…a landfill?"). There's the question of how to fit a scope and tripod within a paltry luggage allowance. There's the conflict between typical tourist activities—visiting museums and historic sites, wandering picturesque markets, dining in fine restaurants, staying out late—and the imperative to get up well before sunrise to be in the field at first light. There's knowing where the local birding hotspots are, then figuring out how to get to them—which may involve driving on treacherous, rocky and rutted roads—and, once there, where to look for which birds. There's the important matter of personal safety, particularly for female and gender nonconforming birders.

And, of course, there's the challenge of identifying new and unfamiliar birds. In interviews, some Brooklyn birders sheepishly admitted to creating elaborate Excel spreadsheets of their target birds. Others just as sheepishly confessed to relying on good old-fashioned paper: lists written out carefully on legal pads, notes scrawled on the backs of envelopes, file cards with field marks, likely locations, and notes on behavior written on one side, a picture of the bird taped to the back.

While there's no single approach to planning a birding trip, conversations with birders across a range of experience levels highlighted common themes.

Invest in field guides and other print resources

Print still rules for birders. Finding a field guide (or guides) specific to the destination is, by consensus, the first step to a successful birding trip. That can be as easy as picking up the western volume of one's favorite guide to the birds of North America—or as complicated as ordering expensive field guides from outside the U.S., sight unseen, guided by reviews and word-of-mouth…then waiting impatiently for delivery.

Ed Crowne has birded widely in Central and South America as well as the western U.S., contributing his trip reports to the Clapper Rail (most recently about Oaxaca for the Spring 2019 issue). Where possible, Crowne supplements his extensive collection of field guides with books devoted to finding birds within a state, region, or country. The American Birding Association is one good source for bird-finding guides for destinations within the U.S., while the titles available from Buteo Books span the globe. Then there's Crowne's favorite example of a hyper-local, hyper-specific guide: "Freeway Birding, San Francisco to Seattle" (written by a birder who had frequent occasion to drive—you guessed it—between San Francisco and Seattle). If you want to know where to see White-faced Ibis a short detour off I-5 at Exit 586, this is your book.

Stocking up on destination-specific guides can be a non-trivial expense, especially when piled on top of airfare, accommodations and other travel costs. But Brooklyn birders are as generous with their possessions as they are with their advice, and the community supports an informal lending library of sorts. All one needs to do is ask—and sometimes not even that.

Pay attention to vocalizations

I don't consider myself much of an ear-birder. It took a trip to Spain, where I found myself surrounded by unfamiliar chirps and twitters, to make me realize just how much I do in fact depend on vocalizations. In Brooklyn's parks, I ignore the familiar chatter of House Sparrows and squeaks of European Starlings; I tally Red-bellied Woodpeckers without always glancing up; and most importantly, I know when something sounds unfamiliar and therefore worth investigating, even if I can't quite place it. In Spain, literally everything sounded unfamiliar. I had no clue what to tune out, what to listen for, where to focus my attention. What

was I missing, I wondered, and why hadn't I prepared better?

Others, smarter and more experienced, do pay attention to vocalizations as well as field marks in their trip preparation. One morning in Oaxaca, before dawn, Crowne heard a song that he couldn't quite place but knew was worth paying attention to. He made a recording, and was able to confirm that he'd been listening to a Buff-collared Nightjar. Similarly, Karen O'Hearn never actually clapped her eyes on a Boreal Chickadee during her trip to Moose Bog in northeast Vermont, but she heard one—and thanks to her preparation, recognized its song.

One challenge for those who use birding as an excuse to escape Brooklyn in the dead of winter, Crowne cautions, is that many birds won't be singing during those months. Learning a bit about which species remain vocal outside the breeding season can help focus trip preparation.

Use a variety of online resources

Brooklyn birders rely on eBird…a lot. "I don't know how anyone did anything without eBird," O'Hearn comments. She relies on the site to identify target birds at a particular destination—or the reverse, using eBird to figure out where to travel to see a particular target bird. O'Hearn's quest to see Morelet's Seedeater, for example, shaped a birding trip to Texas.

eBird is not without limitations. Some hotspots that appear inviting on the site can be daunting to bird in real life. Jen Kepler tells of stopping at an eBird hotspot in Rhode Island, only to find a dense forest posted with warning signs and filled with men with guns. It was hunting season, and having left her blaze orange at home, Kepler continued down the road. Other birders have their own tales of scary or confusing or inaccessible hotspots. To avoid unpleasant surprises, O'Hearn sometimes uses Google satellite images to scout out destinations in advance.

Other limitations are geographic. Although eBird went global in June 2010, participation still varies significantly by country and region, making the data for many destinations more limited than Brooklyn birders are used to in our heavily-eBirded backyard. When Adelia Honeywood was planning her trip to northern Europe (written up in the Fall 2018 issue), she included Falsterbo, Sweden on her itinerary. Falsterbo is a heavily birded area, home to a major bird observatory and banding station. So eBird data

on sightings and hotspots should be extensive, right? Wrong. Honeywood found relatively few eBird lists for the area, providing only sketchy guidance to hotspots.

Local birders, it turned out, preferred a different platform. Plenty of information was available online, but finding it meant looking beyond eBird. Fortunately, the observatory itself provided species lists and other helpful information on its website. So do many parks and refuges, state and local Audubon societies, birding societies in other countries (a quick search will generally turn these up), and state and regional birding trails (the American Birding Association has a list). Trip reports, like those that appear in the Clapper Rail, can provide highly specific information. A few sites, like cloudbirder.com and fatbirder.com, aggregate reports. Others are scattered across hundreds of individual blogs, best accessed only if you have plenty of time on your hands.

Crowne recommends making use of the abundance of photographic and video images that are available online. Field guide illustrations are necessarily stylized and generic, and the more bird-rich the destination, the more stylized and generic they tend to be, with a bewildering number of avian mug shots crowded onto illustrative plates. Photographs, in contrast, show actual birds in their actual habitats, capturing individual variations, different vantage points, and changing light conditions. Videos add even richer detail. How does the bird move along the ground? How does it feed? Does it flick or pump or cock its tail? What does its flight look like? Investing some time looking at photo galleries and YouTube videos can bring unfamiliar birds to life.

Online resources are particularly important for ear birders. While he owns a number of CDs of bird songs (including a three-CD collection on the birds of southwest Ecuador), Crowne relies heavily on the xeno-canto website. Its crowd-sourced library of more than half a million recordings captures the voices of pretty much every bird species on the planet. I typed "Hooded Yellowthroat" into the site's search box just now (it's a target bird for an upcoming Mexico trip), and came up with 21 recordings, several from one of the spots I plan to bird. Crowne had earlier advised focusing on recordings made as close to your destination as possible, to account for regional variations. It would be hard to get any closer than that.

Reach out on social media

Kepler, who maintains an active social media presence, used the #birdtwitter hashtag to seek advice and recommendations for a recent Texas trip—her first time planning a trip around birds. Bird Twitter responded with an outpouring of tips that helped make the trip a success. She also recommends joining bird-focused Facebook groups, whether destination-specific or general. World Girl Birders, in particular, provides a helpful and supportive group for women who bird (though men may also join). Safety concerns that go unmentioned on most birding websites are discussed frankly within the group, and members from around the world freely share advice. Recent posts include questions about birding during a layover at the Zurich airport; the best field guide to the birds of Australia, and where to bird between Sydney and Adelaide; how to spend a day birding between Madison and Duluth; and much more, all with multiple responses.

In contrast to general sites like Twitter and Facebook, BirdingPal was created specifically to encourage connections among birders across geographic boundaries. Results have been uneven. Honeywood contacted everyone on the list for Northern Switzerland, and initially received zero responses. Just as she was preparing to move on, an excellent local birder, feeling guilty about the lack of response, jumped in and treated her to a full day of birding. In the end, it was a great experience, but not one she would necessarily recommend to others, or try to repeat herself.

Take advantage of technology

Once upon a time, the choice was between lugging around a field guide (the birdier the destination, the bulkier the book; Howell and Webb's "Guide to the Birds of Mexico and Northern Central America" runs more than 850 pages and weighs several pounds, even in paperback) or buying two copies (yikes) and ripping the plates out of one to carry along with you. Tablets and smartphones have changed that calculus. Crowne identifies key plates in his field guides and takes pictures of them with his smartphone, so that they're always close at hand. He also downloads recordings from xeno-canto directly onto his phone, allowing him to access them even when he doesn't have internet access. (Spotty internet access is the bane of roaming birders.)

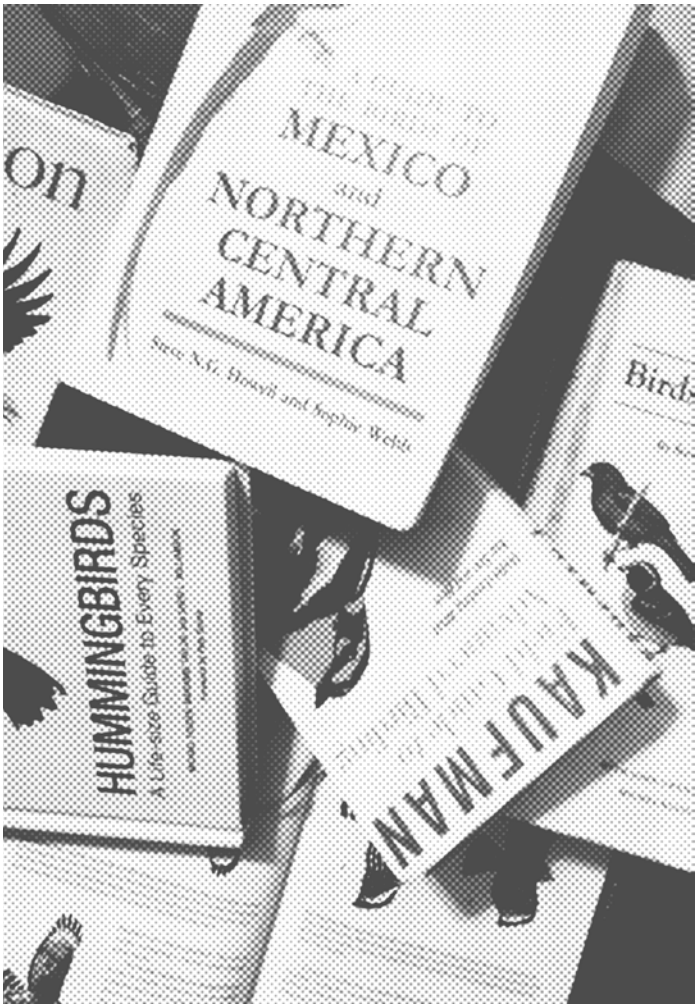
Honeywood carried a copy of the Collins guide to the birds of Britain and Europe as her day-to-day

field guide, but she also relied on the corresponding app. While she missed the familiarity and ease of use of Sibley's app, she appreciated the ability to listen to songs and, for a modest fee, download video libraries. For European raptors, Honeywood purchased the Kindle version of a specialized raptor guide. The downside? The 500-plus pages of the original book ballooned to tens of thousands on a smartphone screen.

Study up

Some birders, who shall go nameless here to avoid embarrassment (a hint: one of them is typing this article), are slackers. Let's just say that leafing through field guides on the way to your destination is not the best way to prepare for a birding trip, especially since more often than not, you'll discover that your airline's in-flight personal entertainment system includes that movie you'd been meaning to see, and you'll end up watching it—and then a second movie, because what the heck—instead.

Others are anything but slackers. These tend to be the individuals who contribute trip reports to the Clapper Rail, because they have the best trips. The common thread among the most experienced, enthusiastic and successful travel-birders is a serious commitment to studying the birds of their destination. Crowne's wife, Robbyn, attests to his diligence. For weeks before a trip, she says, their home is filled morning to night with recorded bird songs. Honeywood's trip to Europe wasn't primarily a birding trip—she was attending a family gathering—but as soon as plans were set, she began to study the birds of Europe. For three months, she spent at least some time each day reviewing field guides and memorizing field marks.



Nikolaj Christensen and his father traveled in the opposite direction, from Denmark to Brooklyn, where he impressed local birders with his extensive knowledge of North American birds. Having fallen under the spell of colorful New World warblers at a young age, visiting the East Coast during spring migration was a longstanding dream. Christensen spent not months, but years, studying his copy of Sibley's. And it showed. Even when he was seeing a bird for the first time, he was as adept at identifying it as most local birders. The only difference was his level of joy and excitement.

Not all birders need to start their trip preparations from scratch, of course. Since O'Hearn's focus is on North America, many of the expected species in her destinations are already familiar to her, making the challenge of preparing for a trip a bit more manageable. She reviews her list of targets, figures out which are the most easily confused with similar species, and focuses her pre-trip study on them. That includes listening to songs and calls while she's driving around Brooklyn. But only when her spouse is not in the car.

Consider hiring a local guide

Even if traveling independently, as was the case with all the birders who shared their experiences for this article, hiring a guide for a day or two can pay off. Crowne, Honeywood and O'Hearn have all used guides on a targeted basis: to see specific target birds, such as grouse on their leks; to access remote or hard-to-get-to areas; or simply to gain a better understanding of a region's bird life.

Hiring a guide for a day was the single biggest expense of Honeywood's trip, but she considers it well worth the money, and the best way for a non-elite birder to get the most out of a birding trip. A guide, she hastens to add, is not a substitute for building one's own knowledge. Honeywood's extensive pre-trip

study gave her an awareness of what to look for, added her own skills to the mix, earned the guide's respect, and generally made the experience more fun for both her and the guide.

I can attest to the difference a guide makes. In an accidental experiment, I birded the exact same stretch of road in Spain's Llanos de Caceres two days in a row: the first time on my own, the second with Martin Kelsey of Birding Extremadura. Birding on my own, I was pleased and excited to have found and identified Red Kites, Northern Wheatears, European Stonechats, and Crested Larks, and was pretty sure—but not 100 percent confident—that the kettle of several dozen vultures overhead included both Cinereous and Eurasian Griffon. When I returned the next day with Kelsey, we saw many more individuals of all those species (Kelsey confirmed the vultures), as well as Northern Lapwings, two species of sandgrouse, Little Owls, an Iberian Gray Shrike, Corn Buntings, Calandra Larks, a Greater Whitethroat, Whinchats, Great Bustards, a Spanish Imperial Eagle…and, well, you get the idea. Even if I'd studied harder in advance of the trip (see above), I doubt I would have seen and identified more than a fraction of the birds I saw with Kelsey.

Combine birding with sightseeing and travel time

Kepler often posts on Twitter with the hashtag "#alwaysbirding," and she puts that slogan into practice when she travels. On her Texas trip, she saw a Bald Eagle on the way to the airport, White-winged Doves at the Alamo, and Cattle Egrets outside a grocery store. Kepler isn't alone. Other Brooklyn birders have seen Cinnamon-bellied Flowerpiercer outside the window of Mexico City's Biblioteca Vasconcelos, Canvasbacks from the gate area at LaGuardia, Cave Swallows along the San Antonio Riverwalk, Lesser Roadrunners perched on Zapotec ruins, and many other serendipitous birds in unexpected places.

I have a serendipity story of my own. On a trip to Mexico City, I searched unsuccessfully for Curved-bill Thrashers on early-morning birding walks. They're common birds, but they were on the verge of becoming my nemesis. When I finally saw one, it wasn't in a park, and I wasn't birding. It was hopping around the courtyard of the Palacio Nacional, where I was sitting on a bench, reeling from the impact of Diego Rivera's astounding murals.

Warning: if done to excess, this practice can become extremely annoying to travel partners.

Make personal connections

Birding travel isn't just about the birds, it's also about the people you meet along the way. Personal connections make trips more fun as well as more productive. That's true before, during and afterward.

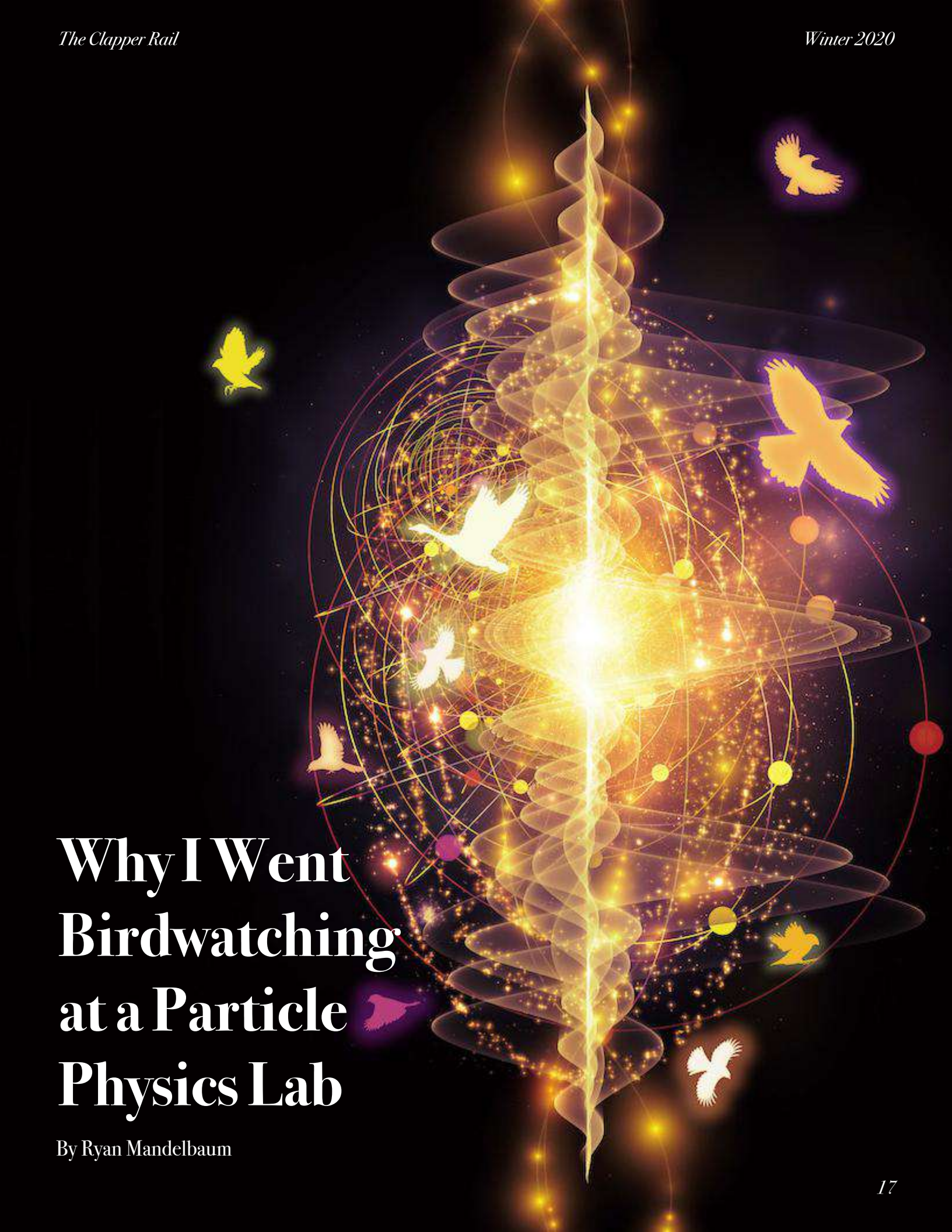
No one exemplifies this better than Christensen, who considers the Brooklyn Bird Club his second "bird family." A friend of his father's had suggested Prospect Park as a destination, which is how the two Danes ended up in Brooklyn. During their spring 2018 trip, Christensen and his father seemed to be everywhere in in the park—up on Lookout, down in the Ravine, over at the Vale of Cashmere—and they were quickly adopted by the local community. Thanks to Christensen's extensive study, he didn't need much (if any) help identifying birds, but the locals made sure he got a chance to see the rarities that showed up during his visit, including an uncharacteristically cooperative Kentucky Warbler.

Honeywood was just beginning to plan her European trip at that time, and it was Christensen who suggested Falsterbo as a destination. She, in turn, considers her interaction with the birders she met at Falsterbo and elsewhere a highlight of her trip, and strongly encourages other travelers to reach out to local bird clubs at their destinations.

One reason birders tend to be generous with their travel advice, I think, is that it's as fun for the giver as it is useful for the recipient—possibly more so. In the course of writing this article, Crowne gave me great suggestions for Mexico, reliving bits and pieces of his own trip along the way. Earlier, I had several conversations with another Brooklyn birder about their upcoming trip to Spain. Those conversations evoked vivid memories of Extremadura's dehesa landscape, of Red-rumped Swallows darting over the main plaza of Trujillo, of the flashing wings and tails of Iberian Magpies, of extravagantly surreal Hoopoes…not to mention of amazing ham.

I can't wait for their trip report.

Kingbirds and a Phoebe. Sumi ink on paper, by Toni Simon.



Why I Went Birdwatching at a Particle Physics Lab

By Ryan Mandelbaum

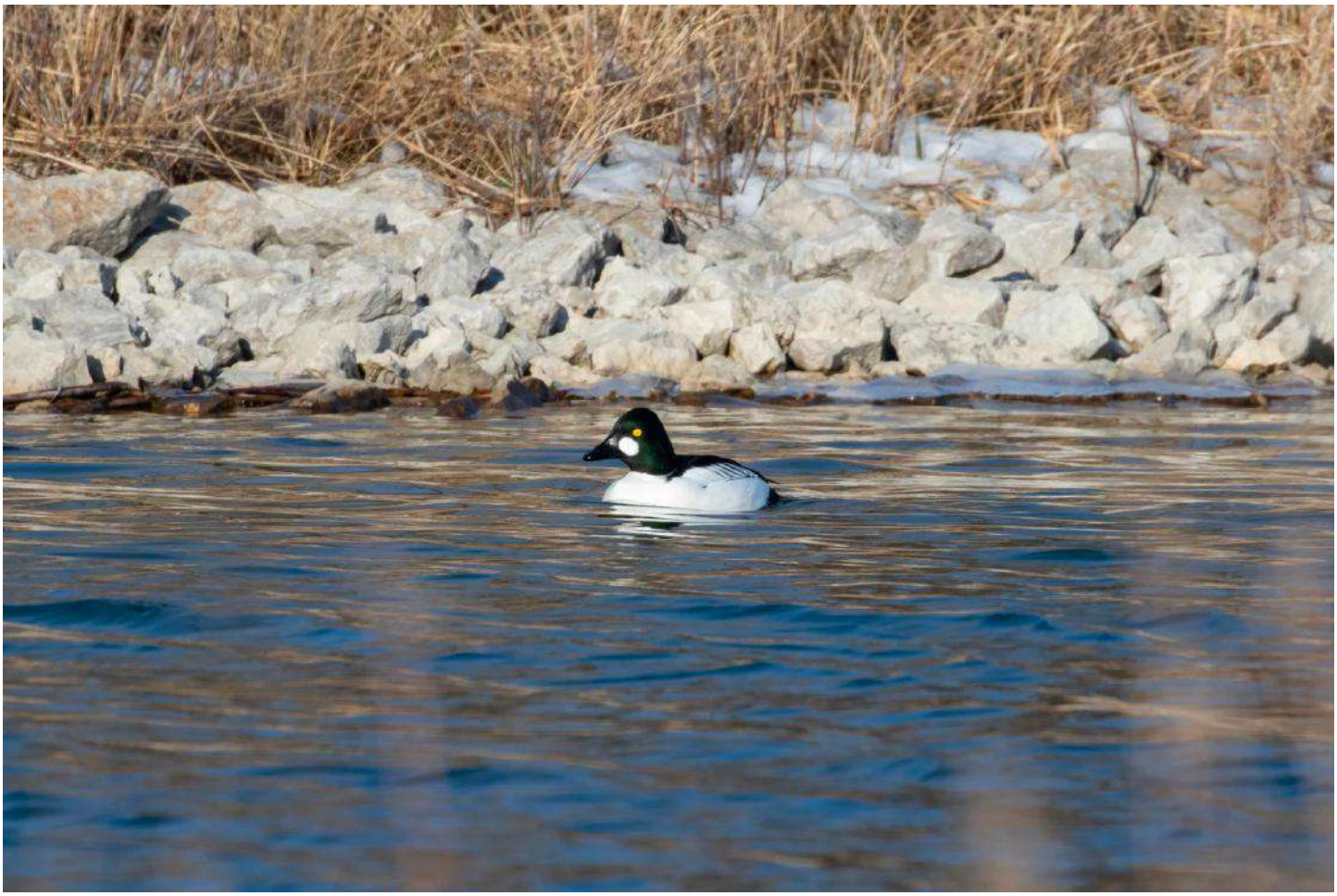
This article was originally published at Gizmodo on January 23, 2020, and is being reprinted here with the publication's permission.

We drove past the perfect-circle frozen pond delineating the Booster—the second in a sequence of Fermilab's particle accelerators—and then onto the 2-mile ring road that traces the tunnel that houses the Main Injector accelerator. Along the road are unfrozen ponds filled with water used for cooling research equipment, where Canada geese have taken up residence by the hundreds. We stopped to scan for any rarer geese that might have joined the flock as several crows flew overhead.

The crow population has plummeted due to the West Nile virus, Fermilab physicist Peter Kasper explained to me. The crows turned their attention to a larger bird of prey, which flew our way. Its bright white underside and long tail revealed it to be a male northern harrier, a marsh-loving hawk with an owl-like face. We continued following a road along the berm delineating the proton beam, arriving at where, in the past, it would have entered the the now-decommissioned Tevatron accelerator. We stopped to appreciate the stark contrast between the green head, yellow eye, and white body of a small diving duck called a common goldeneye.

Kasper works on the laboratory's Mu2e experiment, which will probe the fundamental rules of particle physics—the Standard Model—by seeing whether a particle called the muon can decay into an electron. If the decay occurs more frequently than the incredibly rare rate at which it's presently predicted, it might be a sign of undiscovered particles—particles that could explain outstanding mysteries like dark matter. But Kasper has gained notoriety for his side project: He has birded Fermi National Accelerator Laboratory in northeastern Illinois since joining the lab's accelerator division in 1986.

Kasper has been bird-obsessed since he was in fourth grade in Australia, when he saw a friend's bird eggshell collection. He bought a field guide to understand eggs himself but was soon wowed by all the fascinating birds, birds he could go outside and see for himself. He's since seen over 4,500 of the world's 10,000 bird species, and he has become the de facto steward of Fermilab's birds. Today, the lanky, long-haired physicist leads surveys of the site's avian



A Common Goldeneye in a pond near Fermilab's Main Injector. All photos by Ryan Mandelbaum.

diversity; he and others have observed a total of 291 species on the 10-square-mile campus. I visited Fermilab this week for reasons unrelated to birds, but my press handler, knowing that I, too, am a bird-fanatic, budgeted time for me to observe the wildlife around the lab with Kasper.

After our waterfowl search around the Main Injector—where magnets and radiofrequency cavities turbocharge protons from the Booster and Recycler and send them to other experiments—we traced the Tevatron's 3.9-mile ring, which once further accelerated and collided protons. A pair of experiments called CDF and DØ monitored those collisions and discovered the top and bottom quark, the heaviest two of a sextet of subatomic particles. Fermilab decommissioned the experiment in 2011, as the more powerful Large Hadron Collider at CERN in Switzerland came online. The ring encases a tallgrass prairie and a reedy lake. It's a perfect summertime habitat for waterfowl, marsh birds, and, in dry years, migrating sandpipers.

Lakes freeze over during the frigid Illinois winter, so we'd hoped to find grassland specialists like the northern harrier and the northern shrike, a robin-sized bird famous for impaling its prey onto sticks, thorns, or barbed wire. We failed to spot one, but a small falcon called an American kestrel flew over the car, making a fine consolation prize. We completed the circuit and turned onto the road bordering the lab's respectable grasslands.

Less than 0.01 percent of Illinois' original 22,000,000 acres of tallgrass prairie remains today. In the 1950s and 60s, biologist Robert F. Betz of Northeastern Illinois University worked to protect this habitat. When he heard that Fermilab architect and Manhattan Project physicist Robert R. Wilson was looking for ways to manage the site's vacant land, Betz met with Wilson and explained the importance of the prairie ecosystem and the threats it faced, though he cautioned that the project would take 40 years to complete. Wilson replied, "If that's the case, we should start this afternoon," according to a paper on the

From top to bottom: A coyote on a barren field on Fermilab's campus. One of Fermilab's resident bison. A Short-eared Owl hunts just after sunset, with Fermilab's Wilson Hall in the background.

A pair of Lapland Longspurs in a field.

results of their project.

Wilson was already famous for guiding the lab's distinctive appearance, Fermilab archivist Valerie Higgins explained to me over lunch. Wilson put a herd of American bison on the site in 1969 as an attraction to complement the prairie restoration. Today, prairie breeders like meadowlarks, bobolinks, and even rare Henslow's sparrows summer in the grasslands.

We kept our eyes peeled for rough-legged hawks, Arctic-breeding birds that spend the winter patrolling America's prairies in search of prey. Kasper pointed out a place where I could later see the short-eared owl, a grassland specialist that hunts for meadow voles and can be seen around sunset. I warned Kasper that I needed to be back soon for an interview with a physicist about quantum technology, but then I mentioned that I'd never seen a Lapland longspur, a sparrow-like bird that favors barren agricultural fields. Kasper said this was a fine excuse to be late. We turned past the whimsical, Wilson-designed pi-shaped power lines and onto an iced-covered road bordered by farmland where Kasper had seen the longspurs this past weekend.

A pair of horned larks, another barren-ground lover with a yellow face, fed on grit and seeds by the side of the road; so too did flocks of American tree sparrows, a small brown bird with a red cap and a bicolored bill who happens to favor treeless habitats. Wind over the empty landscape chilled us both; neither of us were wearing a coat, despite the below-freezing temperatures. No Lapland longspurs showed themselves during our drive—but another consolation prize, one of the site's resident coyotes, slunk in front of our car.

We turned around and returned to Wilson Hall, the 200-foot-tall concrete tower that stands solitary over the prairie. We accidentally scared a red-tailed hawk out of a tree as we entered the parking lot. In just 45 minutes, we'd tallied 13 species, a respectable list for wintertime birding. I retraced our circuit later and the next day (my press handler warned security that a harmless 20-something with binoculars would be driving slowly around areas labeled "Authorized Personnel Only"), catching views of the short-eared owls hunting over the prairie, a duck called a redhead, and, finally, a flock of Lapland longspurs.

Kasper has seen all but six of the site's 291 recorded birds, including a neotropic cormorant, rare to the state of Illinois. He's jealous of another birder's decades-old observation of a garganey, a small European duck, and

wishes he could see a snowy owl on the site's plains.

Like other long-time birders, Kasper has observed a decline in the number of birds at Fermilab. The area's annual Christmas Bird Count survey has counted fewer and fewer birds over the years. Formerly large flocks have dwindled, and while spring migration might once have brought Fermilab 20 species of colorful warblers in a day, today Kasper struggles to see 10. America has lost almost 3 billion birds since the 1970s, 29 percent of its total avifauna. Veteran birders notice.

"The data is horrific," Kasper said, noting that it's become normal for him walk through the lab's woods and not hear a single bird chirp. "The first time that happened to me, I was shocked. I thought, 'what's going on, where are all the birds?' The woods were never quiet."

Fermilab's grassland visitors show the importance of protected habitats to a healthy ecosystem. The hundreds of bird species that visit the campus are drawn to its diverse habitats—today, it combines woods, creeks, lakes, and prairies into a relatively small area near a well-known migratory route. Kasper's hobby has brought him recognition from birders around the world, and his bird logs have drawn more birders into the area. Birders call this phenomenon the Patagonia picnic table effect, where rare bird sightings can turn a seemingly unremarkable patch into a birding hotspot, as more birders come to the area and report more rare sightings of their own.

"There are much better places to find birds in the Chicago area than Fermilab," he said. "But we keep looking [here]."

A Horned Lark on Fermilab's campus.

Cape May Warbler in Green-Wood Cemetery.
All photos by Jeremy Nadel.

Sparks!

By Jeremy Nadel

Coming of age in New York City in the 1970s offered some unsettling realities: a recession, urban decay, environmental damage. Fortunately, from a young age I was able to see through the decay and find beauty. As a kid, neighborhood and beyond explorations were my adventures—and one such was going to the Dumps.

The Dumps were part of the Bronx's vanishing marshlands of Baychester and Pelham Bay. Illegal dumping was rampant and there was little enforcement. Development gradually took over much of the native marshlands, from Freedomland, the former amusement park, to Co-op City. Playing in the Dumps—running up and down mountains of unearthed boulders and construction waste—was a mix of fun and danger. On many occasions, pheasants hiding in remaining tall reeds would suddenly rocket upwards and fly-off for friendlier terrain. The sound of wing movement and alarm call still rings clear today. It was always a dramatic event, leaving me feeling guilty of flushing them, and hastening their eventual displacement. Those pheasants, with their size, call and stunning colors, were my spark bird, if not my alarm bird.

During the Seventies it was an accepted urban identity that the city's pulse was flagging. Unpredictability marked the times: blackouts, Son of Sam on the loose, gangs of all stripes, muggings. I

remember my first camera, a Pentax K1000, far from top-of-the-line, but I still put black electrical tape over the name when venturing into Central Park. Much has changed since then; the parks are safer and well-maintained (sometimes too much). For many years I was an art teacher at Sunset Park High School, across the street from Green-Wood Cemetery. I often made trips there with students, teaching them photography and video. Frequent breaks and after-work walks in the cemetery nourished my birding interest. It was the proximity of Green-Wood that lured me into the birding game for good.

The hill up from Crescent Water, where Samuel F.B. Morse is interred, is a special place for me. After hours of walking I usually come here to take a break on the seats surrounding Morse's memorial. On Morse Hill I've seen special birds, like a Cape May Warbler and Scarlet Tanager. They flit and feed amongst the dogwood and apple trees. Breathtaking moments like these continue to spark the birding fire within me. In this setting, Morse Hill communicates beyond the man's original invention and use. It allows me to connect to nature, art and memorialization, surrounding me with a solemn beauty.

In 1844, the first telegraphic message sent by Morse code read, "What had God wrought." Then, as today, that confronts one with biblical and transformative reflection. America was transforming rapidly in the mid-19th century in its communication and industrialization. Today, these are coming home to roost in the sobering reality of climate change and environment degradation. The seating at the Morse memorial at Green-Wood is fashioned with a facsimile of a telegraph—a "keyer" and paddle used to send code—and thus beckons visitors to send messages to the world. On a recent visit, I didn't see any perching birds, although a Red-bellied Woodpecker flew back and forth over the hill. I thought of what message I could tap out that may best reflect the times today.

Keying in an S.O.S. • • • – – – • • • summed it up best. There's so much at stake now, and that familiar unsettling sense of displacement and unpredictability hangs in the air. Pondering the world's first telegraphic message—"What had god wrought"—I looked at my cell phone's birding app and marveled at the technology that provides immediate information, but at what cost? Rare-earth metals mined, cheap labor and so on. No one is pure, I thought, but all I can do is continue to care and keep the spark alive—looking for beauty amongst the decay.

Common Yellowthroat with fishing wire in Green-Wood Cemetery.

Scarlet Tanager in Green-Wood Cemetery.

A Brooklyn Hawk Watch

By Matthew Wills

Clouds and fog obscured the view the first two times I was in this apartment. The realtor was apologetic. But I could sense what was out there. The view from four stories above the crest of the Harbor Hill Moraine was astonishing, especially for someone who had just spent 10 years in a ground-floor apartment. My Dickensian real estate lawyer grumbled that one should never buy for the view, no sir, since there is no guarantee a view will last in the churning real estate world. Well, until then…

Patch or micro-local birding is now a subsection of birding. One's yard is, after all, habitat. Thus many birders keep a yard list. Quite a few Brooklyn birders don't have yards, of course. But most everyone has windows. John Burroughs said "the place to observe nature is where you are."

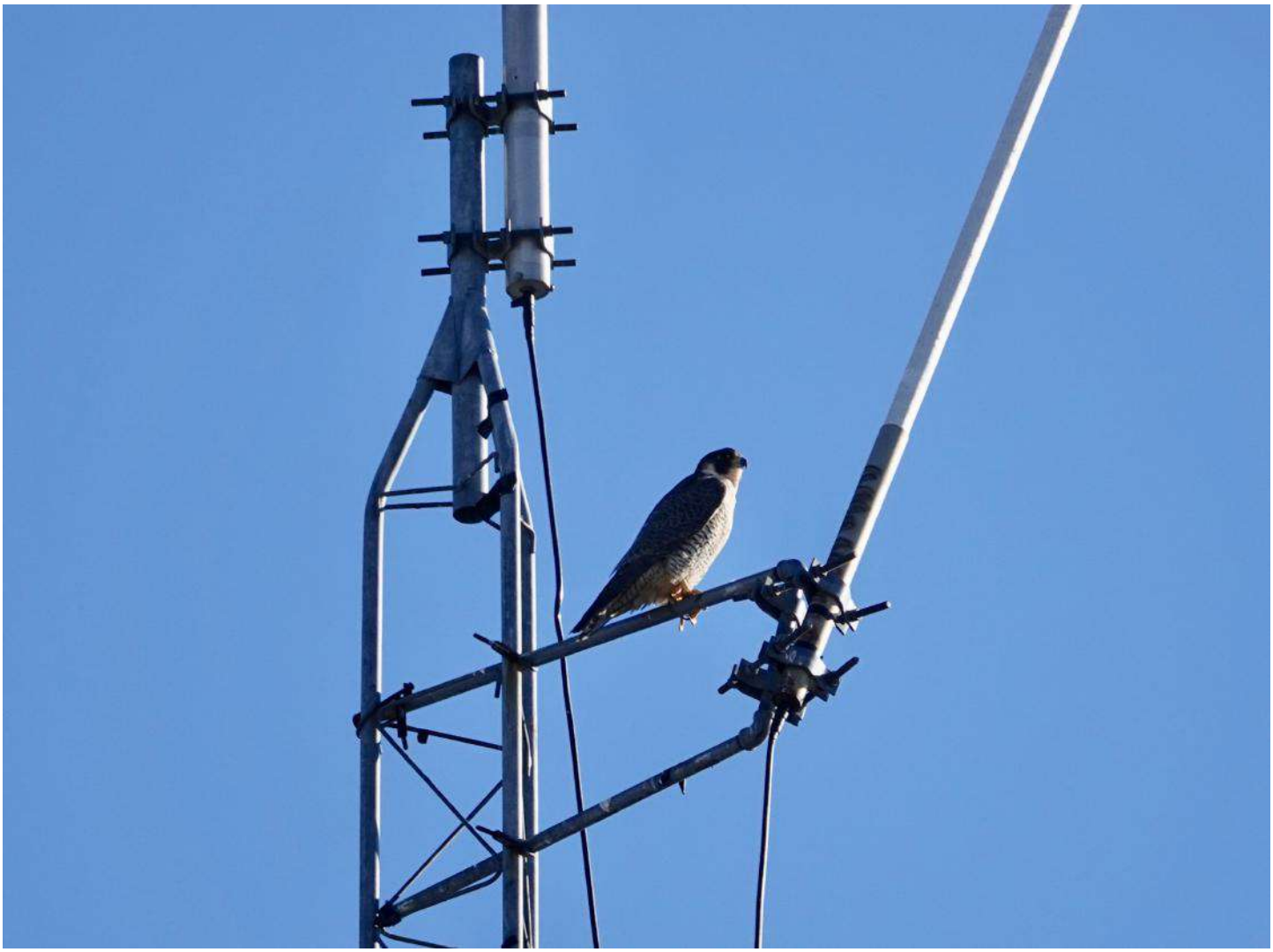
I thought the apartment might be a good place to spot gulls moving to and from the bay, and swirls of pigeons banking across the ample sky. This, it turned out, wasn't the half of it. The first time I was here after closing on the purchase, I heard a Common Raven passing overhead. Literal auspices!

The apartment has turned out to be a hawk watch. Raptor sightings average at least one a day from fall to spring. Summer is much less productive because the curtains are closed pretty much all day long against the sun.

The species seen regularly are American Kestrel, Peregrine, and Red-tailed Hawk. Coming close behind in the second tier are the Accipiters, primarily Cooper's Hawks. This winter a Merlin has been a regular feature. A couple of Red-shouldered Hawks and Bald Eagles have also been spotted from the windows over the years, plus a few vultures rolling along at or even below eye-level. In breeding season, Ospreys are an occasional sight. The Ospreys who nested in the parking lot of the South Brooklyn Marine Terminal in 2016 could be seen from here with some optical enhancement.

Three significant raptor perches dominate this Raptor Bowl of horizon. Each of them rises high above their surroundings.

St. Michael's Church at 4th Avenue and 42nd Street.



This page: Peregrine Falcon on car service antenna. Cover: American Kestrel on rooftop pipe. All photos by Matthew Wills.

The large cross on the unusually shaped dome is flat-topped. Peregrines perch and feast up there, sending the feathers of their prey flying down to the avenue. Gulls and crows clean up the remains afterwards.

The car service antenna at 5th Avenue and 40th Street. This is a sturdy communications tower with a metal frame that supports two antennas at different heights. Red-tailed Hawks and Peregrines perch on the frame itself. Kestrels and Merlins grip the tips of the antennas. This year a male Kestrel has been regularly perching on the lower of the two antennas. Sometimes he's on the higher. The Merlin has always perched on the higher. Once, both of these small falcons were perched at the same time. This Falco bonanza was brief.

The brick smokestack at 2nd Avenue and 32nd Street. This is the tallest of the raptor perches and also the farthest from here. It is Peregrine territory. One up there is a regular sight, especially in the morning. Two are not uncommon as we get towards spring. At the moment, I've seen a pair up there only once this winter. Wherever they nest, they don't perch up there much during the summer. The brick stack has a much shorter sibling, but in three winters, I've never seen the Gothic silhouette of a Peregrine on that shorter tower.

Consider the day I started to write this, January 10. There was a Peregrine perched on the smokestack when I pulled open the curtains about 7:15 a.m. A Merlin soon showed up on the car service antenna and was seen to fly away and return twice. Before breakfast, I spotted a Red-tailed Hawk come up from behind the houses across the street, proceeded by a flurry of Mourning Doves. The buteo perched briefly on an old television antenna that has been used for two breeding cycles by the American Kestrels who nest on the nearby corner. Around 12:30 I noticed a male American Kestrel on the car service antenna. An hour later, a passing floppy-winged something got my attention. It was a Great Blue Heron heading southwesterly. In the distance in the binocular view: an Accipiter flap-flap-gliding in the same direction.

Or take January 23. Peregrine as usual around dawn on the smokestack. About half an hour after sunrise, a calling American Kestrel proved to be a female, perched on a building halfway down the block. This is the first female seen in months around here. The male flew towards her, circling her for a few turns. He, too, was loud. Within a few minutes, they were mating on a roof-top pipe. Afterwards, they perched together on the pipe. I expected them to be there a while, but they suddenly bolted in opposite directions. They were flushed by a young Red-tailed Hawk who swooped up to the pipe. The buteo perched briefly before flying to a nearby TV antenna. Both Kestrels begin to dive at the hawk until it flew out of sight. Then the Kestrels went their separate ways.

And all was quiet again.

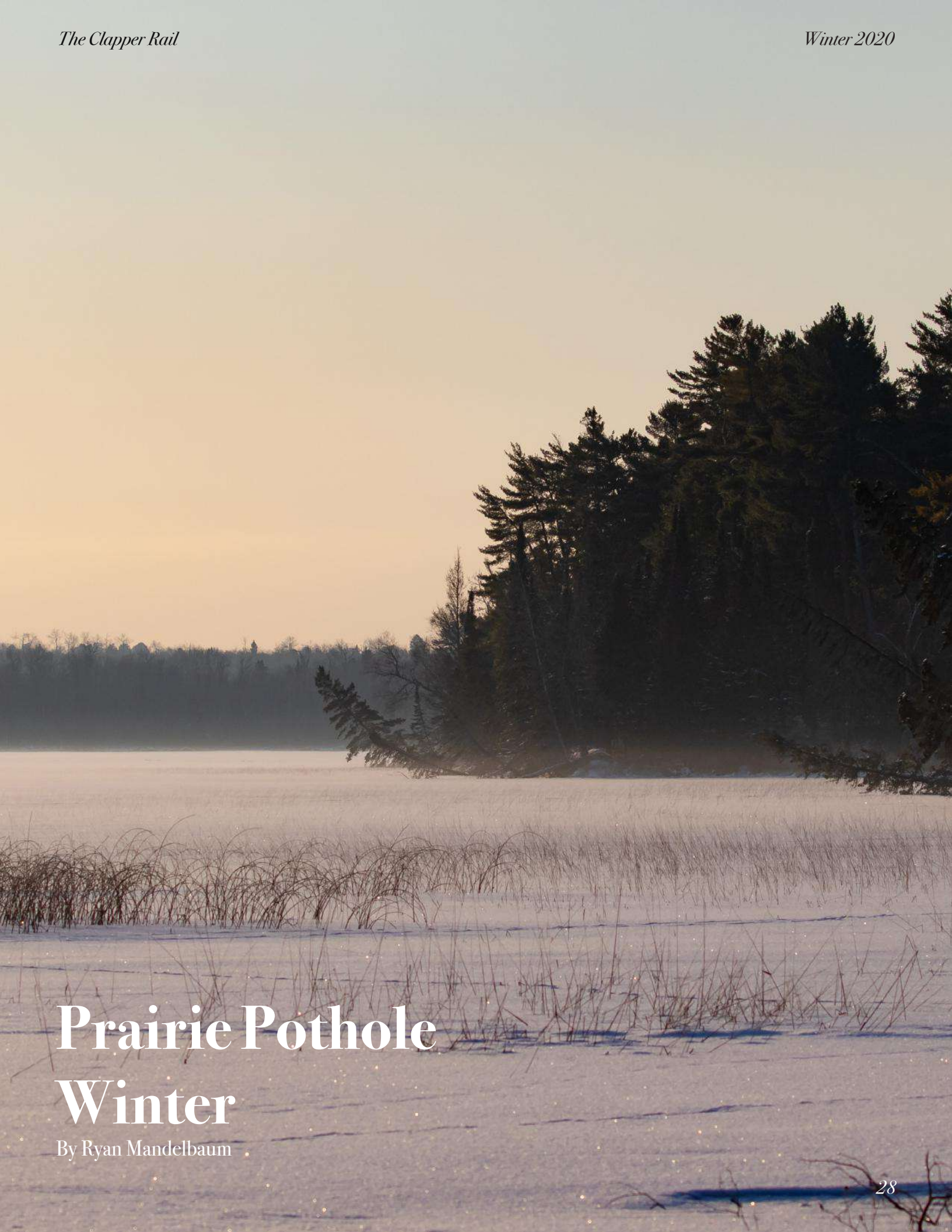
Peregrine Falcon perched on brick smokestack .

Breezy Point in December

On a grassy path to the beach,
near crushed shells, a ragged towel,
a gallon-
size bottle of bleach
sprouts a talon:
a Snowy Owl…

— *Eric Mathern*

Snowy Owl, modified from *Birdcraft*, 1897.



Prairie Pothole Winter

By Ryan Mandelbaum

Minnesota winter birding has a reputation for White-Winged Crossbills dripping from spruce trees, Canada Jays landing on your head, and Great Gray Owls posing on fence posts like models. Sure, there are parts of Minnesota crowded with winter birders that might produce such experiences. My annual Christmas Bird Counts in Northern Minnesota instead feature birdless hours turning every clump of snow into a Snowy Owl, backyard drive-bys to stare at deer carcasses nailed to trees, and breaking into rapturous applause after seeing a single Mallard on a wastewater pond behind a sugar beet plant.

It's a different kind of experience, but I treasure it regardless—in fact, I prefer it. Each year I look forward to seeing friends I never would have made otherwise, and to the otherworldly solitude among the vast plains and boreal forests. And yes, there are still good birds; just go in without expectations and remember to layer up.

First, what's a Long Islander doing in Northern Minnesota in December? My future spouse hails from tiny Crookston (population 8,000), 30 miles from Grand Forks, North Dakota, two hours south of Canada, and the coldest urban area in the lower 48. This year, as we do each December, we spent a few days in Fargo, North Dakota before heading up to Crookston, then drove down to the Twin Cities for Christmas. I rented a car and signed up for four Christmas Bird Counts in the area while Brittany spent time with old friends and coworkers.

For my first count, I headed north in the dark to Grand Forks's Northside Cafe, arriving to a back room already full of birders decades my senior who'd come out despite the minus-10 degree weather. I was welcomed by the crowd, most of whom were eager to share stories and photos and discuss what drew me to Grand Forks in the winter. And, in a land of hunters, a birder who still has their hearing is a valued asset.

Our truck, driven by the wise retired University of North Dakota professor David Lambeth, would start by driving up and down the streets of East Grand Forks, Minnesota, watching mainly for feeders, the cold making it hard to bird with the windows down. But we stopped for a Pine Siskin that flitted close to the car, a pair of Cedar Waxwings fluffed into spheres fed on an ornamental tree, and feeders filled with Dark-eyed Juncos. We headed over to the sugar beet plant, whose wastewater ponds stayed an unfrozen winter waterfowl refuge and whose landfill above barren plains welcome birds of prey and Gray Partridges introduced to the United States over a century ago.

This harsh habitat makes you appreciate any species that can figure out how to survive it. Even the flock of rock pigeons roosting around the plant generated excitement, and we cheered when a single male Mallard materialized out of the fog over the

Above: White-tailed Jackrabbit in East Grand Forks, ND. Cover: Itasca State Park, MN. All photos by Ryan Mandelbaum.

Top to bottom: Gray Partridge and Black-billed Magpie in Grand Forks.

pool; we welcomed any species that would boost our count. And then, from far away, we spotted a bird hovering above the field: a kestrel, a rarity in winter so far north. As we prepared to head to lunch, a nearly dog-sized rabbit hopped in front of the car—a white-tailed jackrabbit, a lifer mammal for me. I had a hunch that the Mammalia class would bear some of the most interesting wildlife finds of my trip.

Our afternoon featured the farms, prairies, and potholes that North Dakota is known for, as we appreciated specialties that make winter birding special while scanning for Snowy Owls. A Pileated Woodpecker fed on frozen grapes in a driveway, allowing closer looks than I've ever had before. An American Tree Sparrow, another bird rare for CBCs this far north, stood out from a flock of barnyard house sparrows with its bicolored bill and rusty cap. Ten Gray Partridges took shelter in piles of snow outside of a Tractor Supply Co., a flock of Black-billed Magpies flitted around on a copse behind a barn where they'd bred the year before, and a Northern Shrike dive bombed from a powerline before zooming in front of the car toward a distant treetop perch.

All the while, Dave and I chatted about climate

Itasca State Park.

change, the area's wildlife, his effort to photograph every bird in North Dakota, and how he once used farmed pigeons to study how cells produce energy.

I arrived early at the tally rally potluck while the sun was still up, since we'd received word that another count rarity had taken refuge at the host's feeders: a Harris's Sparrow, a personal lifer. We feasted on midwestern specialties like hot dish (also known as a casserole) and chili while we shared stories from the day.

I left early the next morning for Itasca State Park, home to the headwaters of the Mississippi River. Trees start to appear along Northwestern Minnesota's prairies as you head east, eventually turning into pine and then spruce forests that form black walls along the highway as broken up by frozen lakes or snowed-over farms, which look the same before sunrise. I tried not to set lofty goals for my trip, but I'd picked Itasca's CBC hoping to find one of the park's annually-reported Canada Jays.

My guide, naturalist Sandra Lichter, was eager to find me the bird, and fitted me with snowshoes so we could walk around one of the park's spruce-tamarack bogs, a boreal habitat defined by its poorly-drained acidic soil. I thought the Ruffed Grouse that flew in front of the car on the drive to the trailhead and the inspiring views over Lake Itasca would surely bring us good luck.

But silence met us by the bog, and the birding quickly became aspirational. "This dead tree would be great for a Black-backed Woodpecker," I thought. Or, "oh, look how many cones this spruce has, maybe a White-winged Crossbill will land in it on the return hike." And "wouldn't it be funny if a Northern Goshawk came and ate one of the red squirrels we keep confusing for birds?" The same flock of Black-capped Chickadees and Red-Breasted nuthatches seemed to mock us. At least Sandra knew lots about trees, which we'd decided to ID in lieu of birds.

Our luck turned when we arrived at a promontory over the frozen lake.

"That's a mammal," Sandra said, peering through binoculars perhaps a mile out onto the ice. I took a few pictures we considered the speck on the screen. It wasn't just any mammal. A large canine was slinking through the ice—one of the park's resident wolves. For

Gray Wolf in Itasca State Park.

the second day in a row, a mammal took the prize for most exciting animal of the morning.

We walked back to the car, and birded a few more boggy sites without luck. But I wasn't thinking about the boreal birds anymore; I'd seen a wolf.

I returned south to finish the day participating in the Detroit Lakes CBC, a count covering farms, woods, and sloughs which I hold near to my heart. On last year's CBC I'd made several friends I keep in touch with, the closest being a Christian missionary and duck hunting-real estate agent named Beau who I was eager to see again. I had lunch with his welcoming family; his children were excited to talk with their dad's friend from New York.

Our task for the afternoon was to finish birding our section, and then rack up the birds species that the rest of the now home-bound counters missed during the count's morning half. Our section proved quiet; the wooded areas were previously reliable for winter finches, but we knew the bumper cone crops further north would kept them elsewhere. We kept busy discussing Beau's travels, when we passed a tree with an enormous mound of black fuzz hugging a limb; a porcupine was resting between its tree bark meals.

North American Porcupine in Detroit Lakes.

We stopped and walked closer to get a better look. It gnashed its teeth at us and climbed further up the tree.

We hopped between spots the rest of the afternoon, ticking off species as if they'd been planted there for us thanks to Beau's encyclopedic knowledge of the area's wildlife. He correctly predicted the exact tree we'd see the missing Northern Shrike, and didn't bother checking the river where other birders had failed to see a continuing Common Goldeneye earlier in the day—the bird was, as Beau said it would be, a little further downstream. We couldn't find the count's

Itasca State Park.

missing Wood Duck after checking through hundreds of Mallards in a roadside creek, but encountered a river otter, five Trumpeter Swans, and a Bald Eagle harassing a solitary female Mallard. We were disappointed to miss Townsend's Solitaire—though a rarity, Beau had correctly guessed we'd find a vagrant Varied Thrush the year before, so I'd requested a vagrant of my own this year—but in the last of the daylight, we were treated to Great Horned Owl chasing after a Snow Bunting in a

Trumpeter Swans in Monticello, MN.

clearing.

I returned to the potluck to visit with other friends I'd made at previous Christmas Bird Counts in the area. I told them about my wolf, the owl, some of the birds I was excited to return to New York to see, and enjoyed some chili.

An uneventful fourth count at Tamarac Wildlife Refuge near Detroit Lakes was highlighted mainly by dozens of ravens plus some Bald Eagles and Black-billed Magpies congregating over a deer carcass, and a Brown Creeper, another uncommon bird for the count (though our guide told us he thought he'd seen a goshawk, but neither I nor the other birder in the car could confirm it). I drove slowly back to Fargo along backroads, stopping the car to scan Snow Bunting flocks and to offer a perch to a wayward rock pigeon flailing in the plain's high winds, and before returning the rental car, visited with a confiding Townsend's Solitaire that had long been reported in a small Fargo park.

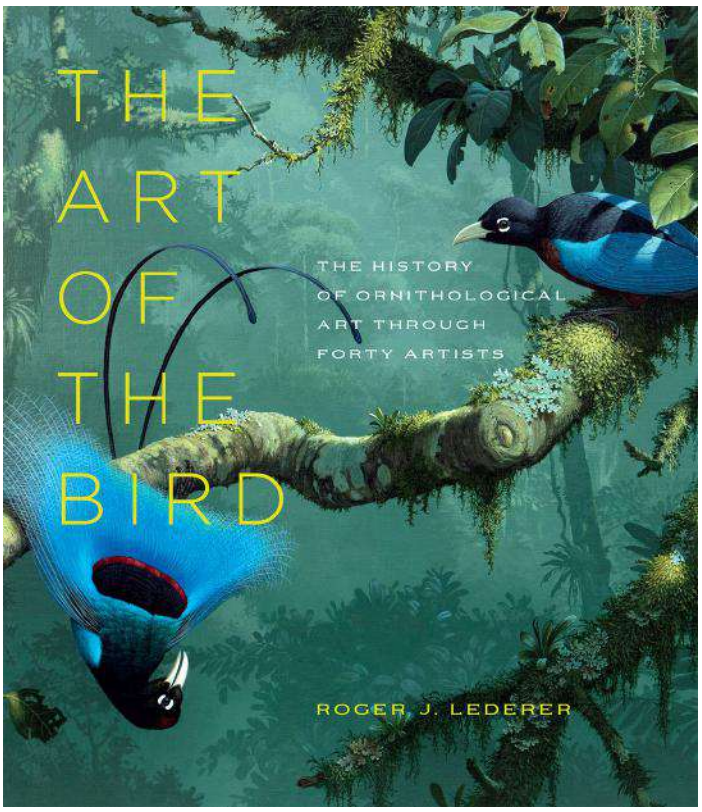
I didn't only participate in Christmas Bird Counts; Brittany's family took us cross-country skiing around wildlife refuges, we visited a well-known spot for wintering Trumpeter Swans, and we enjoyed some of Fargo's bars and restaurants (including Bernbaums, a Nordic-Jewish deli that rivals any East Coast bagel spot). Plus, northwestern Minnesota features some of the largest tracts of northern tallgrass prairie in the country, including Bluestem Prairie just east of Fargo and Glacial Ridge, the largest prairie and wetland restoration project in U.S. history, bordering Brittany's hometown of Crookston. Winter prairie birding can be some of the most frustrating; target birds like Greater Prairie Chickens, Sharp-tailed Grouse, and Rough-legged Hawks might be anywhere among the vast plains. This year, I was able to experience all of them, the chickens with the help of my friend and Bemidji, Minnesota photographer Brent Cizek.

The prairies, potholes, and north woods are not for folks hoping to generate large lists, and many of the region's specialties can be found in warmer places (or better appreciated during warmer seasons). Still, I'm excited every year to see friends I never would have made otherwise, appreciate the animals that have figured out how to survive sub-zero winters, and experience the quiet, unpopulated wilderness. And if you're lucky, you might get to experience the wildlife that make the North special—like a wolf.

From Rembrandt to Sibley: Five Centuries of Bird Art

By Janet Schumacher

The Art of the Bird: The History of Ornithological Art through Forty Artists
Roger J. Lederer, published by University of Chicago Press (2019)



Beginning with Flemish Baroque artists, Roger Lederer's book moves quickly through the centuries and artists, with selected works of 40 artists representing not only different styles of painting but also how attitudes towards birds have changed. Lederer, professor emeritus of biological sciences at Chico State University, California, limits the selection to Western artists.

The first chapter opens with Rembrandt's exquisite self-portrait with a trussed bittern (1639). Showier birds, such as peacocks and swans, were favorite early subjects portraying spoils of the hunt. Parrots, macaws, and toucans began to appear in commissioned paintings, as rich landowners acquired exotic specimens for their aviaries.

Mark Catesby (1682-1749) was one of the first illustrators to realistically portray birds in their habitat. Born in England, he studied natural history and moved to the Carolinas in 1712 as a plant collector. He chose botany because of the importance of plants for food and medicine, but he was drawn to birds because of their close relationship with plants. His "Natural History of Carolina, Florida and the Bahama Islands" was the first published account of flora and fauna in the Americas.

A number of English artists were foremost ornithologists, with the illustrations complementing their research. These include the "father of English ornithology" George Edwards (1694-1773, Thomas Bewick (1753-1828) and the Scottish Alexander Wilson (1766-1813), the "father of American ornithology."

Robert Ridgeway (1850-1929), an American taxonomist, published his first paper at the age of 18. Later, over half a century, he published and illustrated the 11-volume, 6,000-page "The Birds of North and Middle America." He continued to paint, and he used his organizational skills to standardize colors and their names. Ridgeway's book on the nomenclature of colors was also used by paint, chemical and wallpaper manufacturers.

Lederer includes a number of women artists in this volume. Less known is Lady Elizabeth Symonds Gwillim (1763-1807), who moved to Madras, India with her husband and sister in the 1880s. An accomplished watercolorist, she painted the local birds from life, and, unusual at the time, her drawings were near life-sized. Her illustrations have been compared to Audubon, although her work preceded his by decades. Unfortunately, she didn't publish her work because at the time it was considered inappropriate for women to be serious artists. She died in India, and her husband preserved 201 of her paintings and brought them back to England.

Of the women artists, most intriguing to me has been Elizabeth Gould (1804-41). I became interested

after seeing Mrs. Gould's Sunbird in Bhutan—a small, brilliant red and gold, long-tailed bird, with purple and blue patches—nectaring on rhododendrons blooming in the snow in the Himalayas. An unforgettable sight, and the name stuck. But who was Mrs. Gould?

Elizabeth Gould was in fact a prolific artist who illustrated a number of ornithological works, including work published in Darwin's "Voyage of the H.M.S. Beagle." Her husband was John Gould, an ornithologist, collector and taxidermist for the Zoological Society of London. They spent some years in Australia, producing the seven-volume "The Birds of Australia." Although she primarily painted from specimens, her drawings are detailed with birds portrayed in natural postures. It has been noted that her husband frequently took credit for her work. Gould died in 1841 shortly after the birth of her eighth child in 11 years. The Irish ornithologist Nicholas Vigors honored her by naming the beautiful Mrs. Gould's sunbird after her in 1831.

Another skilled artist, Edward Lear (1812-88), worked closely with the Goulds for years, painting backgrounds and illustrations, and he also was often not credited. Elizabeth Gould learned lithography from Lear. As a teenager, Lear drew animals for the London Zoological Society. Several years later, he published the highly acclaimed "Family of Psittacidae, or Parrots," despite suffering from epilepsy and asthma. He failed to sell enough copies to cover his expenses, but he gained recognition as an artist. He taught drawing to young Queen Victoria and illustrated poetry by Alfred Lord Tennyson. Some of us may be less familiar with Edward Lear's art than his limericks, which he also illustrated. A few of the most famous are: "The Owl and the Pussycat" and "There was an old man with a beard…."

Also in England, the Dutch artist John Gerrard Keulemans (1842-1912) was one of the most sought after artists to illustrate the many monographs and texts published there. A contemporary prolific English artist is Hilary Burn (1946-). She has been the primary illustrator of a number of European ornithological guides, and a major contributor to the Handbook of Birds of the World. She considers herself foremost to be an ornithologist with artistic talent, who "paints

Concert of Birds. Oil on canvas by Frans Snyders, c. 1630s.

for people who love birds." One critic described her waterfowl paintings as "practically swimming off the page."

Of other more contemporary artists, I particularly enjoyed the linotype prints of Janet Turner (1914-88). Born on a Kansas farm she was discouraged as a woman from studying biology. She went on to get a Masters of Fine Arts, and birds were central to her art, which has received worldwide acclaim. Also noted is New York City's own Arthur B. Singer (1917-90), a graduate of Cooper Union Art School. After serving in World War II, he became a renown illustrator of texts, most famously the 1966 Golden field guide, "Birds of America."

The most familiar works in this book are those of John James Audubon (1785-1851), Louis Agassiz Fuertes (1874-1927), and Roger Tory Peterson (1908-96). The volume concludes with David Allen Sibley (1961-). It must have been challenging for Lederer to choose the artists he did. I found it a pleasure to immerse myself into the art, particularly in this age of photography, and to find artists both familiar and new. I also enjoyed reading the biographical information on each of the featured artists, many of whom faced significant challenges in pursuing their art.

"The Art of the Bird" contains more than 200 illustrations. The reproduction quality is quite good, especially considering the low price of $39 for a large format volume. The book is now available at the Brooklyn Public Library.

Woodcock cake. Duncan Hines cake mix, icing and food coloring, by Jen Kepler. This edible artwork was presented at BBC Members' Photo & Art night on October 22, 2019. Attendees enjoyed a slice.

Visitors

By Dan Smith

Varied Thrush in Prospect Park. Photo by Charles Tang.

Brooklyn had a couple of special visitors at the end of 2019. One was a West Coast vagrant, the Varied Thrush in Prospect Park, and the other was my 6-year-old grandson Chace.

My wife and I are very close to Chace. He's a big part of our lives but in July he moved with his mom from the Upper West Side to Charlotte, North Carolina. While he lived in Manhattan, Chace spent every other weekend at our Brooklyn apartment on Machete (or Park) Circle. Before he could walk or talk he was sleeping over. We shared many adventures in Prospect Park—fishing, boating, rescuing cats and birding.

He came back on December 29 for the first time since their move. The day the Varied Thrush was first spotted in Prospect Park by Brad Luckhardt.

I saw the reports and tried to entice Chace out to the park by explaining that there was a rare bird there. He loves animals and was eager to hear about what made this thrush special. But this was his first visit in months and he really wanted to spend time in his home away from home reacquainting himself with his toys and games, our cats and fish. I didn't push him, hoping the bird might linger a day or two.

He asked me, "What does a Varied Thrush look like?" I showed him a photo on my phone. He took it, disappeared and returned with this drawing of the Varied Thrush and a woodpecker to boot. "In case you don't see your bird I made this drawing," he told me. "I put in the woodpecker because we always see them." Such is the nature of the deep understanding we have of each other. He knew the bird was important to me and acknowledged the sacrifice I was making.

We FaceTime on weekends now and birds we've seen is a frequent topic of conversation.

I tried and failed many times to locate Prospect Park's Varied Thrush but always found comfort in Chace's gift. (I finally got this lifer for me at the end of January!)

Varied Thrush and woodpecker drawing by Chace Cantor.

Prospect Park Happenings

By Stanley Greenberg

The Prospect Park Community Committee met on February 20. Of main concern to the BBC was the Capital Projects Report (see map). We've already seen or know about most of the projects on the map. One new one that will impact our walks is the reconstruction of the footpath from Grand Army Plaza to the Vale of Cashmere. New lighting is being installed now, and the path will be completely reconstructed (new drainage and asphalt) in April, when Tom Stephenson's Thursday walks start. There's a running path up above, so that might be the way to go if you're trying to get to the Vale.

The Alliance is asking for another $3.5 million in next year's capital budget for the comfort station/visitor center near the Parkside entrance (to go along with the $2.5 million it received last year).

Two new park rangers will be headquartered in the park offices near the Parade Grounds. They will work all around the borough, but hopefully we'll start to see them in Prospect Park soon too.

BBC Financial Report

By Dennis Hrehowsik, president and treasurer

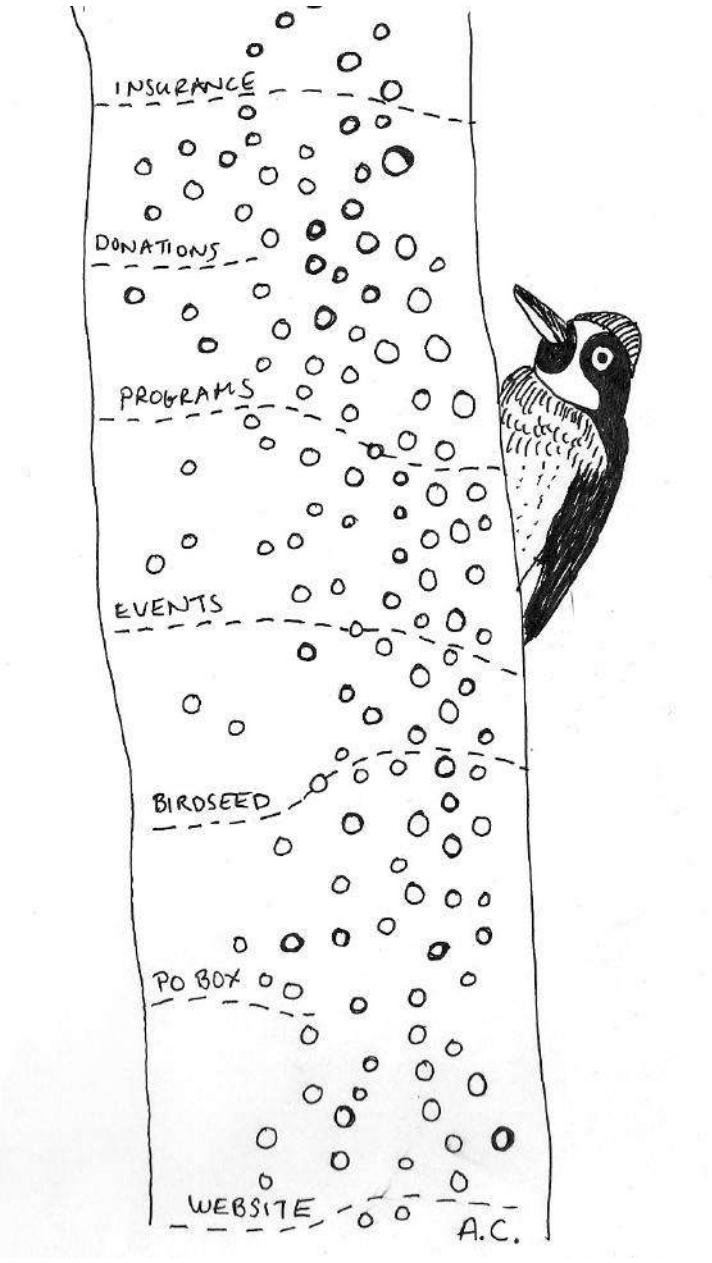
I would like to begin by thanking Heidi Steiner Nanz for her 17 years of service as the treasurer of the Brooklyn Bird Club. She has left the records and finances of the club in good order and her diligent work has made this a smooth transition. Huzzah! I hope I can execute the duties as well as she has all these years.

We began 2019 with $7,131—this is the combined total of funds in the checking and PayPal accounts. Money added to the two accounts throughout the year came entirely through yearly membership dues ($25 per person) and small donations. These credits totaled $7,955 as of January 16, 2020, which added to our $7,131 gives us a working budget of $15,086.

Our Expenses were as follows:

- General Liability Insurance: $1,617. This is renewed annually.
- Donations: $1,813. This year we made donations to the following organizations: the Brooklyn Public Library and Prospect Park Zoo (hosts of our monthly programs), Prospect Park Alliance (including party for the park), Green-Wood Cemetery Historic Fund, New York State Ornithological Association (NYSOA), and the New York State Young Birders Club (NYSOA-NYSYBC).
- Separately, members raised $14,000 for International Migratory Bird Day in May, and these funds were given directly to the non-profit organization Save El Choco for its purchase of uniquely-important lowland rainforest in Ecuador. The club donated the $363 in PayPal fees so that the organization could receive the full amount our members raised.
- Programs: $650. This year we hosted six talks as well as a bat walk. Each speaker is paid $100 and we donated $50 to the Bat Fund as a thank you.
- Events: $378. These include the supplies for the annual Audubon Christmas Bird Count dinner, light refreshments for the members' open house, and two council meetings.
- Birdseed for Prospect Park's feeders: $99.
- P.O. Box annual rental fees: $395.
- Website maintenance and fees: $284.
- Our total expenditures for 2019 were $5,236. Subtract this from our total budget of $15,086 and we were left with $9,850. This is the current balance heading into the new year.

I think the club is in good fiscal health at this juncture. Thank you all for your continued support of the BBC. There is no club without you dear members.



Top to bottom: Common Eider, Razorbills, Red-throated Loon, Long-tailed Duck, Harlequin Duck at Jones Beach. All photos by Tom Stephenson.

Upcoming BBC Programs

Please check the BBC website for updates.

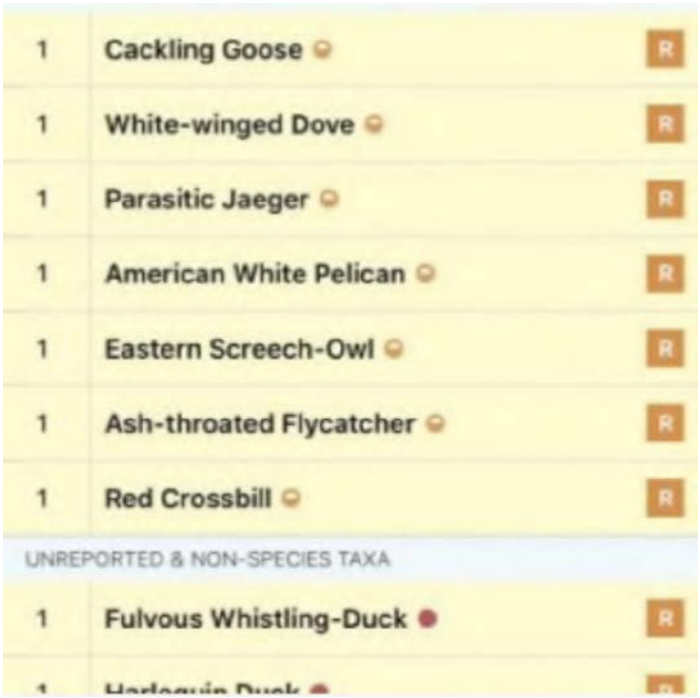
3.24.20

Brooklyn Public Library Main Branch, Info Commons Classroom, 7 P.M.

"eBird: The Ferrari You Haven't Taken out of Fist Gear!" presented by Sean Sime

Sean Sime, a professional photographer, eBird regional reviewer and long-time member of the Brooklyn birding community, will lead an interactive discussion on eBird's functionality beyond checklists and how we as birders barely scratch the surface of its utility. Sean will provide a brief overview of eBird, what his contribution as a reviewer entails, and more importantly, show us some of the many of the ways eBird can better our birding skills and experiences.

Questions can be submitted in advance here, and will be answered throughout the evening. We hope to see you at what will surely be an informative forum.



4.21.20

Prospect Park Zoo, C classroom, 7 P.M.
Please ensure you are on time, doors open at 6:45pm and you must enter through the service gate on Flatbush

"Climate Change and North American Avian Communities," presented by Shannon Curley

Shannon Curley is a recent graduate of the CUNY Graduate Center. Her research focuses on changes in species distributions and community composition as a result of climate change. She is also actively involved in the ongoing research at Freshkills Park, conducting grassland bird surveys and assisting with bird banding operations. Her talk will present research collectively being done at College of Staten Island.

The first part of this talk will explore how birds have responded to recent climate change and how, as a result, avian community composition has changed in the northeastern United States. It will highlight how historically southern-distributed species have shifted into more northerly locations.

In the second part of this talk, Shannon will discuss her ongoing research at Freshkills Park in Staten Island. Freshkills Park is about 890 hectares of reclaimed land on what was once the largest landfill in the world. The park now hosts expansive native grasslands. Temperate grasslands are among the most globally endangered biomes, suffering from both habitat loss and lack of protection. Consequently, grassland birds are among the most dramatically declining avian species groups in North America. This summer, researchers from College of Staten Island completed their fourth year of Monitoring Avian Productivity and Survivorship (MAPS) bird banding at Freshkills Park, and Grassland Breeding Bird surveys. Shannon will present her research highlights and outline future plans.

5.19.20

Brooklyn Public Library Main Branch, Info Commons Classroom, 7 P.M.

"Save the Choco," presented by James Muchmore

"Save the Choco" was our beneficiary of our 2019 Birdathon, for which we raised a record amount of over $12,000. Join us to learn a bit more about "Save the Choco" and the impact of our donations on protecting this important bio-diverse region in South America.

James Muchmore is an artist, birder, designer, and photographer-turned-conservationist. James has been exploring design's role within conservation for the last five years. He has put his years of corporate design and branding knowledge to use by collaborating with local and global organizations to help protect vital areas and species throughout the Chocó region.

Brooklyn Christmas Count Annual Report: 2019

Species	Total Seen	NS	PP	GW	OH	MP	FB	BB	SC	JB	RP	BP	BT
Snow Goose	450									450			
Brant	7,072	55			90	1101	669	680	1342	2410	190	155	380
Canada Goose	1,772	93	317	72	150	148	40	345	206	175			226
Mute Swan	83		4		75					4			
Wood Duck	4		4										
Northern Shoveler	195		158						20	17			
Gadwall	38	12			10		2		9	5			
American Wigeon	14	3	1		2	3				5			
Mallard	367		110	8	35	36	12	35	45	71	14	1	
American Black Duck	522	1	2		38	7	10	26	7	126	1		304
Northern Pintail	3									3			
Green-winged Teal	40							5	3	32			
Redhead	1									1			
Ring-necked Duck	2		2										
Greater Scaup	509	9			20	9		14	228	222	7		
Lesser Scaup	130	56			18			3	40	13			
Common Eider	1						1						
Surf Scoter	3				1							2	
White-winged Scoter	34								1		2	31	
Black Scoter	42										13	29	
Scoter (sp.)	2											2	
Long-tailed Duck	146				2		2	3		1	17	121	
Bufflehead	694	175	1		35	31	47	57	94	215	7	12	20
Common Goldeneye	69									69			
Hooded Merganser	47							5	7	35			
Common Merganser	2								2				
Red-breasted Merganser	522	10			14	16	27	12	12	345	45	17	24
Ruddy Duck	633		31			42			40	520			
Ring-necked Pheasant	1								1				
Pied-billed Grebe	6		2			1			1	2			
Horned Grebe	28						3	3	4	17	1		
Rock Pigeon	829	205	41	6	90	84	20	60	142	50	101	30	
Mourning Dove	545	175	77	50	6	9	114	74	8	3	23	6	
American Coot	21		10		2				9				
American Oystercatcher	5												5
Black-bellied Plover	3											3	
Killdeer	5						1		4				
Ruddy Turnstone	2											2	
Sanderling	322					48	7					267	
Dunlin	8												8
Purple Sandpiper	17	3			9							5	
American Woodcock	11							6	3	2			
Wilson's Snipe	0								cw				
Greater Yellowlegs	0									cw			
Laughing Gull	2								1		1		
Ring-billed Gull	2,224	320	140	18	440	91	467	210	294	40	179	25	

Species	Total Seen	NS	PP	GW	OH	MP	FB	BB	SC	JB	RP	BP	BT
Herring Gull	989	15	20	1	35	42	124	30	134	130	391	25	42
Iceland Gull	1										1		
Lesser Black-backed Gull	2										1	1	
Great Black-backed Gull	280	11	5		18	5	37	1	6	7	101	75	14
Black Skimmer	0				cw								
Red-throated Loon	26				2		2				14	8	
Common Loon	66				17	2	6	2			9	28	2
Northern Gannet	27				1						5	21	
Double-crested Cormorant	52	11	1		8	2	8	4	1	6	3	8	
Great Cormorant	14	1				1			2		5	5	
American Bittern	0									cw			
Great Blue Heron	19		2		2	2	1	4	2	3	1		2
Black-crowned Night-Heron	8				2				6				
Bald Eagle	0							cw					
Northern Harrier	15					2	3		4	2	1		3
Sharp-shinned Hawk	7		1	1	1	1	2			1			
Cooper's Hawk	16	1	2	5	1	1	2	1	2			1	
Northern Goshawk	1									1			
Red-shouldered Hawk	2				1	1							
Red-tailed Hawk	22	1	1	8	2	1	5		4				
Barn Owl	3									3			
Great Horned Owl	1		1										
Snowy Owl	1											1	
Northern Saw-whet Owl	1										1		
Belted Kingfisher	9	3			1	1		1	2	1			
Red-bellied Woodpecker	56	1	18	29	7	1							
Yellow-bellied Sapsucker	15	2	6	7									
Downy Woodpecker	57	1	12	7	2	5	10	2	11	4	2	1	
Hairy Woodpecker	3		3										
Northern Flicker	55	2	1	4	1	8	9	1	3	8	10	8	
American Kestrel	9	1	1	1		2	1	1	1	1			
Merlin	6	1				1	1			2	1		
Peregrine Falcon	3									2		1	
Monk Parakeet	12			4				8					
Eastern Phoebe	4		2								2		
Blue Jay	174	4	57	53	8	11	3	7	29			2	
American Crow	372	1	25	1	6	2	16	302	8	1	9	1	
Fish Crow	314	8	2				1	3	300				
Common Raven	4	1		1		1						1	
Horned Lark	81						3				32	46	
Tree Swallow	123						3			1	19	100	
Black-capped Chickadee	7					1	2				3	1	
Tufted Titmouse	1		1										
White-breasted Nuthatch	6		5	1									
Brown Creeper	5		3	2									
House Wren	2		1				1						
Winter Wren	6		1						1	4			
Carolina Wren	93		5		8	7	21	2	9	20	18	3	
Golden-crowned Kinglet	14		4	7				3					

Species	Total Seen	NS	PP	GW	OH	MP	FB	BB	SC	JB	RP	BP	BT
Ruby-crowned Kinglet	20		1				4	2	6	7			
Hermit Thrush	9	3	1	2		1				2			
American Robin	157	55	13	1	1	2	36	4	11	22	12		
Gray Catbird	18	1				1	5		1	3	4	3	
Brown Thrasher	2	1								1			
Northern Mockingbird	161	11	4	18	4	6	36	17	18	20	21	6	
European Starling	2,985	180	89	43	50	575	907	290	208	238	205	200	
Cedar Waxwing	30	2	1			1				26			
House Sparrow	460	146	52	3	15	13	33	18	55	72	28	25	
American Pipit	5						5						
House Finch	145	2	15				11		19	39	34	25	
American Goldfinch	52		5	3		2	1	15	21	3	2		
Lapland Longspur	2										1	1	
Snow Bunting	127											127	
Chipping Sparrow	20			12	1	3		2	2				
Field Sparrow	18					2	6	1	1		3	5	
Fox Sparrow	53		5	6		2	5	4	29	1		1	
American Tree Sparrow	23					4	3	5	5	4	1	1	
Dark-eyed Junco	92	5	8	49	2	10	8	2	2		3	3	
White-crowned Sparrow	0											cw	
White-throated Sparrow	642	106	103	35	22	16	99	62	102	42	47	8	
Vesper Sparrow	1											1	
Savannah Sparrow	18					2	4		8			4	
Song Sparrow	469	8	12	10	30	30	46	54	78	122	49	30	
Lincoln's Sparrow	1	1											
Swamp Sparrow	94	5	3		2	4			26	47	1	6	
Eastern Towhee	12		2		1	1		1	1	4		2	
Yellow-breasted Chat	0		cw										
Eastern Meadowlark	10					1	6		3				
Baltimore Oriole	1						1						
Red-winged Blackbird	46	1	25					7	10		1	2	
Brown-headed Cowbird	6										6		
Common Grackle	1								1				
Boat-tailed Grackle	38									38			
Ovenbird	1								1				
Black-and-white Warbler	1							1					
Orange-crowned Warbler	5		1	1		1				2			
Nashville Warbler	1								1				
Palm Warbler	6	2				1					3		
Pine Warbler	1								1				
Yellow-rumped Warbler	453	9				34	153	40		71	122	24	
Wilson's Warbler	1		1										
Northern Cardinal	240	4	29	36	13	23	28	14	27	32	21	13	
Species Count:	130	48	59	34	48	59	57	50	68	65	54	55	12
Number Seen:	26,835	1,724	1,450	505	1,301	2,461	3,080	2,449	3,685	5,826	1,794	1,530	1,030

Brooklyn XMas Highlights: 2019 *Territory =* TC

Species Name	*x Last 10 Years*	*Last Seen*	*All-Time Mx Yr*	*All-Time Max*	*All-Time Min*	*10-Year Max*	*10-Year Min*	*Av*	*2019*	*Hi All*	*Hi 10Yr*	*Lo All*	*Lo 10Yr*	*Rare/ Irr*
Regular [8-10 yrs]														
Brant	10	2019	2011	23,699	1,271	2011	23,699	7,072	14,226	7,072				x	
American Wigeon	10	2019	1962	2,857	14	2011	209	14	87	14			x	x	
Mallard	10	2019	1938	2,235	367	2014	1,011	367	723	367			x	x	
Greater Scaup	10	2019	1966	14,537	509	2010	7,405	509	2,436	509			x	x	
Common Goldeneye	10	2019	1937	3,000	1	2019	69	1	27	69		x			
Horned Grebe	10	2019	1983	216	28	2011	182	28	111	28			x	x	
Mourning Dove	10	2019	1983	739	95	2019	545	150	298	545		x			
Black-bellied Plover	10	2019	2011	82	1	2011	82	3	31	3				x	
Dunlin	10	2019	1983	703	8	2017	115	8	59	8			x	x	
American Woodcock	10	2019	2019	11	1	2019	11	1	3	11	x	x			
Ring-billed Gull	10	2019	2009	10,282	1,127	2017	9,146	2,224	5,712	2,224				x	
Herring Gull	10	2019	1970	135,600	989	2012	7,557	989	2,710	989			x	x	
Double-crested Cormorant	10	2019	1988	628	32	2011	157	52	93	52				x	
Great Cormorant	10	2019	1988	274	14	2014	106	14	55	14			x	x	
Belted Kingfisher	10	2019	1994	27	1	2019	9	1	4	9		x			
Peregrine Falcon	10	2019	2008	12	1	2011	11	3	7	3				x	
Tufted Titmouse	10	2019	1995	323	1	2012	134	1	36	1				x	
Winter Wren	8	2019	1996	6	1	2019	6	1	3	6		x			
Carolina Wren	10	2019	2019	93	1	2019	93	4	31	93	x	x			
Ruby-crowned Kinglet	9	2019	1999	32	1	2019	20	4	10	20		x			
Gray Catbird	10	2019	2005	28	1	2019	18	3	7	18		x			
Chipping Sparrow	8	2019	2019	20	1	2019	20	1	5	20	x	x			
Field Sparrow	10	2019	1986	43	1	2019	18	2	8	18		x			
White-throated Sparrow	10	2019	1992	1,084	188	2019	642	266	420	642		x			
Swamp Sparrow	10	2019	1995	145	2	2019	94	9	40	94		x			
Eastern Towhee	9	2019	2005	13	1	2019	12	1	3	12		x			
Common Grackle	9	2019	2017	153	1	2017	153	1	26	1				x	
Palm Warbler	9	2019	1994	21	1	2019	6	1	2	6		x			
Yellow-rumped Warbler	10	2019	1997	2,642	126	2019	453	126	238	453		x			
Northern Cardinal	10	2019	2019	240	39	2019	240	127	185	240	x	x			
Irregular [4-7 yrs]														
Common Eider	6	2019	2010	82	1	2010	82	1	29	1				x	IRR
Common Merganser	4	2019	1938	30	1	2017	13	2	6	2				x	IRR
Ruddy Turnstone	5	2019	1993	55	1	2010	10	1	4	2					IRR
Black-crowned Night-Heron	7	2019	1971	95	1	2019	8	1	4	8		x			IRR
Red-shouldered Hawk	7	2019	2010	7	1	2010	7	1	3	2					IRR
Barn Owl	5	2019	1992	12	1	2019	3	1	1	3		x			IRR
Snowy Owl	7	2019	2013	15	1	2013	15	1	4	1				x	IRR
Northern Saw-whet Owl	5	2019	1995	4	1	2018	3	1	2	1					IRR
Fish Crow	7	2019	1990	337	1	2019	314	2	72	314		x			IRR
Common Raven	7	2019	2019	4	1	2019	4	1	2	4	x	x			IRR
Tree Swallow	8	2019	2007	180	1	2018	174	1	62	123					IRR
Golden-crowned Kinglet	8	2019	2005	55	1	2019	14	1	5	14		x			IRR
Brown Thrasher	6	2019	1996	5	1	2012	4	1	2	2					IRR
Eastern Meadowlark	7	2019	1937	50	1	2012	10	1	6	10					IRR
Boat-tailed Grackle	7	2019	1993	719	1	2018	88	2	35	38					IRR
Pine Warbler	5	2019	1987	3	1	2010	2	1	1	1					IRR
Rare [0-3 yrs]														
Redhead	2	2019	1968	46	1	2010	10	1	6	1				x	RARE
Ring-necked Duck	3	2019	2007	9	1	2015	2	1	2	2					RARE
American Oystercatcher	4	2019	1985	26	1	2019	5	1	3	5		x			RARE

Species Name	x Last 10 Years	Last Seen	All-Time Mx Yr	All-Time Max	All-Time Min	10-Year	10-Year Max	10-Year Min	10-Year Av	2019	Hi All	Hi 10Yr	Lo All	Lo 10Yr	Rare/ Irr
Laughing Gull	3	2019	1986	41	1	2016	5	2	3	2					RARE
Iceland Gull	2	2019	1945	2	1	2018	1	1	1	1					RARE
Lesser Black-backed Gull	3	2019	1984	2	1	2019	2	1	1	2		x			RARE
Northern Goshawk	1	2019	1982	3	1	2019	1	1	1	1					RARE
Tyrant Flycatchers															
Eastern Phoebe	4	2019	2019	4	1	2019	4	1	3	4	x	x			RARE
Wrens															
House Wren	2	2019	1984	2	1	2017	2	2	2	2					RARE
Longspurs and Snow Buntings															
Lapland Longspur	2	2019	1939	70	1	2019	2	1	2	2		x			RARE
Towhees and Sparrows															
Vesper Sparrow	3	2019	1963	2	1	2014	1	1	1	1					RARE
Lincoln's Sparrow	2	2019	1983	1	1	2010	1	1	1	1					RARE
New World Blackbirds															
Baltimore Oriole	4	2019	2011	2	1	2011	2	1	2	1					RARE
Wood-warblers															
Ovenbird	1	2019	1997	1	1	2019	1	1	1	1					RARE
Black-and-white Warbler	2	2019	2011	1	1	2011	1	1	1	1					RARE
Nashville Warbler	4	2019	1999	2	1	2015	2	1	1	1					RARE
Wilson's Warbler	1	2019	1993	2	1	2019	1	1	1	1					RARE

Species Totals by Area

Since 1981 x Places

Year	All Areas	No Shore	Pr Park	GW Cem	Owls Hd	Mar Park	Floyd B	Berg Bch	Spr Creek	Jam Bay	Riis Park	Brzy Pt	JB Boat
1981	112		42	32	50	42	42	42	49	59	44	38	24
1982	111		45	29	54	50	42	56	44	65	44	43	
1983	121		52	33	62	62	54	54	70	73	52		37
1984	120		44	32	49	50	51	47	60	59	43	43	32
1985	121		43	32	53	60	52	70		68	60		14
1986	122		48	36	53	61	49	60		61	58		46
1987	120		49	28	42	65	48	64		60	58		44
1988	120		46	30	52	61	50	30	61	66	56		46
1989	122		46	32	44	48	46	43	58	61	45	32	
1990	111	3	55	33	47	49	45	42	58	68	40	30	45
1991	134		56	42	62	51	49	50	58	77	34	40	42
1992	127	18	52	45	63	61	53	58	58	71	50	42	52
1993	127		49	42	49	59	49	55	62	81	57	45	53
1994	124	16	58	38	46	53	47	50	63	74	34	39	52
1995	127	18	57	48	64	72	53	52	65	66	47	48	44
1996	120	33	58	33	55	61	45	48	60	69	41	44	42
1997	131	19	62	39	50	57	60	54	64	77	54	56	
1998	126	17	57	39	48	50	43	47	62	78	49	50	11
1999	128	1	56	39	62	59	64	58	69	82	62	55	
2000	123	1	57	35	49	51	60	47	53	79	49	57	
2001	123	1	61	38	46	47	54	42	53	68	51	57	
2002	119		54	32	46	44	42	44	51	64	41	51	
2003	126	19	57	34	48	60	53	44	52	70	53	61	26
2004	128	13	54	33	54	53	56	39	55	70	48	60	
2005	123	12	55	39	66	53	64	41	60	72	56	53	
2006	121		58	32	62	52	50	29	54	65	49	54	
2007	124		62	43	62	70	54	34	55	62	65	60	
2008	124		60	36	64	68	47	46	70	73	60	61	
2009	122	17	51	35	56	54	54	43	56	61	50	53	
2010	126	20	47	44	66	67	57	53	64	71	67	59	
2011	132	21	56	36	52	51	49	45	64	69	58	57	
2012	134	24	64	47	61	61	53	60	66	75	46	46	
2013	111	17	50	27	52	56	51	51	59	61	45	50	
2014	124	25	56	42	51	59	60	57	62	58	57	53	
2015	117	24	56	33	51	51	40	49	53	47	44	41	
2016	119	35	53	33	55	51	49	57	65	54	61	55	
2017	120	36	52	33	53	61	50	57	61	65	52	61	
2018	121	44	59	40	53	66	67	46	68	57	54	59	
2019	130	48	59	34	48	59	57	50	68	65	54	55	12
Max	134	48	64	48	66	72	67	70	70	82	67	61	53
Avg	123	20	54	36	54	57	52	49	60	67	51	50	37
Total	229	79	131	99	144	154	137	133	151	159	145	123	99

Brooklyn XMas Count: Historic Count Results

Year	*Total Species*	*Regular Species*	*Irreg. Species*	*Rare Species*	*# Seen*
1981	111	86	14	12	73,106
1982	110	85	14	12	96,869
1983	121	87	15	19	121,048
1984	119	94	13	13	93,252
1985	120	91	18	12	35,261
1986	121	92	16	14	28,969
1987	118	90	15	15	24,374
1988	119	92	17	11	30,424
1989	122	91	16	15	23,092
1990	110	89	11	11	26,482
1991	133	94	19	21	47,312
1992	126	96	13	18	36,321
1993	125	94	17	16	35,157
1994	123	96	17	11	34,176
1995	126	97	18	12	34,522
1996	119	96	12	12	33,519
1997	130	97	18	16	43,024
1998	126	95	14	17	51,636
1999	128	96	19	13	36,132
2000	123	94	18	11	46,265
2001	123	95	16	12	27,583
2002	119	97	13	9	27,818
2003	126	96	18	12	34,902
2004	128	96	17	15	29,978
2005	123	98	16	9	31,991
2006	121	97	13	11	41,164
2007	123	95	14	15	41,427
2008	123	98	15	11	46,617
2009	122	98	13	11	42,941
2010	126	97	18	11	54,822
2011	132	100	18	14	57,508
2012	134	99	20	15	41,717
2013	111	96	10	5	39,174
2014	124	97	22	5	41,923
2015	117	94	15	8	42,766
2016	119	98	13	8	34,441
2017	120	98	14	8	56,886
2018	121	96	16	9	32,568
2019	130	97	16	17	26,835
	122.4	94.7	15.7	12.5	43,692
# Species	230	100	29	101	
Av % Seen	53.2%	94.7%	54.0%	12.3%	
Act % Seen	56.5%	97.0%	55.2%	16.8%	