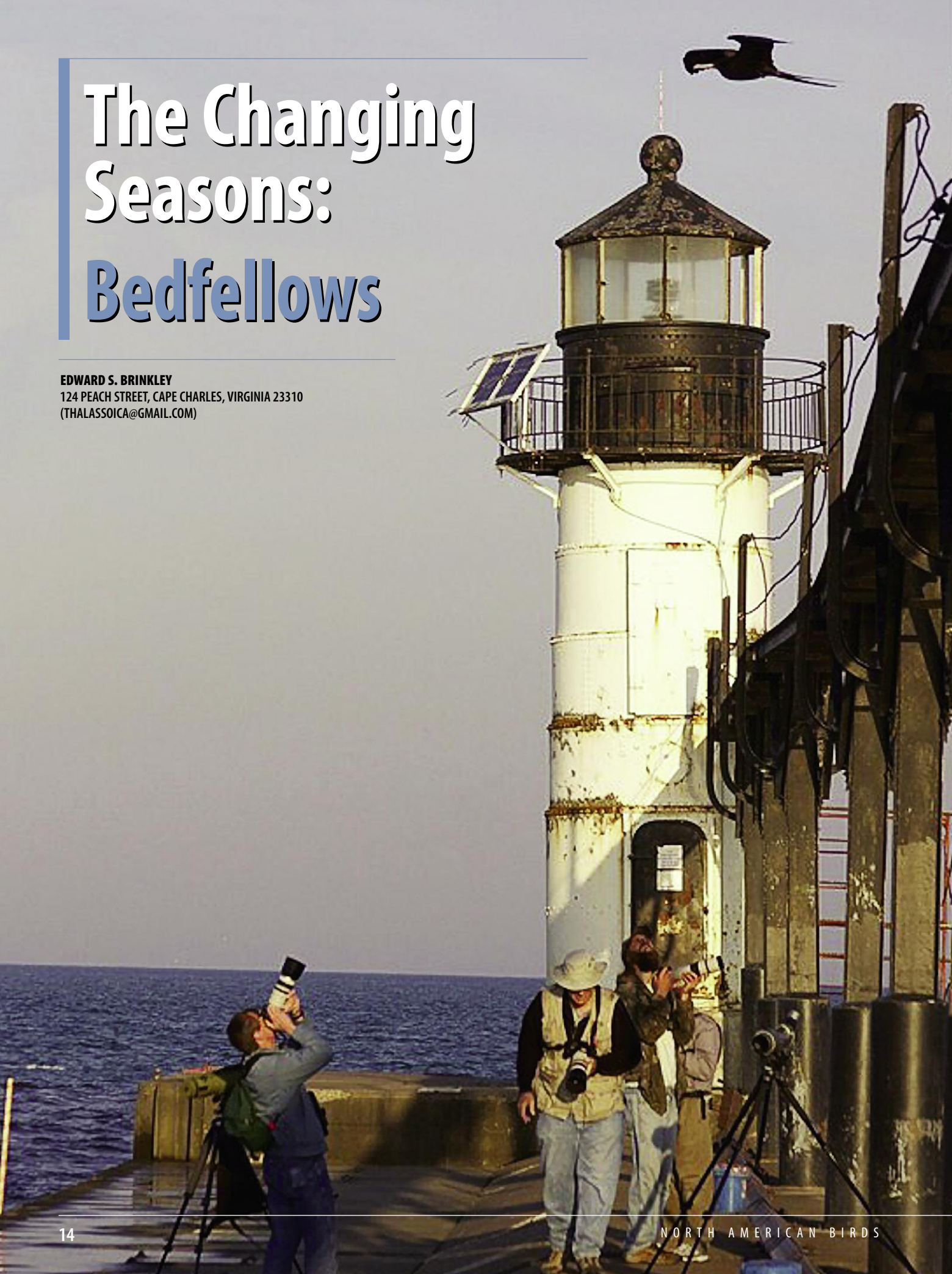


# The Changing Seasons: Bedfellows

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In Halifax, Nova Scotia, a Ruby-throated Hummingbird dive-bombs and rides a regal adult male Magnificent Frigatebird over the harbor.

Near Big Whiteshell Lake, Manitoba, a Curve-billed Thrasher picks at trash in a dumpster among fussing Gray Jays and Red Squirrels.

Not far away, on the southeastern shores of Lake Winnipeg, a female Scarlet Tanager forages on open beach with Snow Buntings.

These observations—by Patricia Chalmers 6 September, Doug Barry 25 September, and Robert Parsons and Liis Veelma 8 November—depict just a few of the odd bedfellows in the 150 pages of regional reports in this issue. It was a good autumn season, it is true, for seekers of Snow Buntings and Gray Jays, some of each moving well out of usual range, but their respective path-crossings with Scarlet Tanager and Curve-billed Thrasher are beyond what one imagines a birding day will produce, even though vagrancy and late dates in thrashers and tanagers no longer shock us. Extreme examples such as these remind us that the autumn, more than any other season, produces improbable combinations of birds, moments in birding that are burned into memory all the more beautifully because of their strangeness.

Each autumn, any spot on the continent, or off the continent, can become a crossroads of birds traveling toward the south, east, north, and west, and all compass points in between—birds riding cold fronts toward traditional wintering areas, birds borne by tropical cyclones far out of range, and those enigmatic birds found far north of usual range but apparently not displaced there by storms in the way hurricane-birds are. In fall 2010, Canada's Atlantic Provinces were ideal places to experience birding at the crossroads: hummingbirds, swallows, and flycatchers from the West; terns and other seabirds from the south; rare geese from the north and east, Greenland and Iceland; modest irruptions of Black-capped Chickadees, Northern Saw-whet Owls, and Bohemian

**This adult male Magnificent Frigatebird at Tiscornia Park, Berrien County, Michigan 19-22 (here 20) September 2010 was the longest-staying frigatebird recorded in the state. This species is irregular in its extralimital appearances, but there has been a distinct, long-term increase in reports of wayward frigatebirds over the past two decades, as with many other southern species. Though some of these birds surf hurricane winds, many extralimital frigatebirds, including this one, appear to have no clear association with an extreme weather event. Photograph by Karl Overman.**

Waxwings; and numerous regular migrants heading southward from boreal and Arctic nesting grounds. Our essay will focus on the most unusual of these phenomena, the strike of Hurricane *Earl* in early September.

Farther south, at locations saturated with birds and birders alike—such as Cape May, New Jersey during the annual Autumn Weekend in late October—the mix of birds provides an optimal occasion to speculate on the different vectors of migration involved, especially this year, when the Weekend fell during the wake of the “Super Storm,” an extra-tropical cyclone that had the lowest pressure of any such system recorded in the United States.

Finally, fall 2010 brought another star to the vagrant stage: Anna's Hummingbird, mentioned in twenty regional reports, produced firsts in seven states and provinces. All of these autumn phenomena are fascinating in their own right, and in each can be perceived questions relating to the others, questions about how and why birds move at this time of year. Some of these questions will always remain beyond our capacity to answer, but others may soon shed their mystery, as our technologies improve and our focus sharpens.

## The Weather

June and July 2010 were among the warmest summer months recorded in the mainland United States, and the next three months would continue the above-average temperatures: August, the seventh warmest on record (and third warmest for the Southeast), was 2.2° F above the long-term (1901-2000) average; September was 1.7° above; and October was 2.2° above, the eleventh warmest October. November returned to near-average conditions, with temperatures only 0.8° above the average. The urge, when writing this Weather section, is to hang out a sign that says “Warming, until further notice,” and just go birding.

In August, Bermuda High dominated the Southeast, resulting in sweltering conditions through the Gulf coast states, north to Tennessee and occasionally the lower Midwest. To the north and west, troughs in the jet stream kept much of the rest of the continent nearer normal August temperatures, and cool fronts brought above-average rains to scattered locations and some severe weather to Minnesota. Nevertheless, large areas of the United States, from Texas to the southern Great Lakes to the mid-Atlantic, registered very dry conditions. Only the West and espe-

cially Pacific Northwest saw August temperatures near the average.

The first three weeks of September continued August's pattern, with the Bermuda High centered off the Atlantic coast keeping temperatures high over the Southeast and the jet stream still holding sway over much over the Lower 48 otherwise. The Bermuda High drew most tropical systems away from U.S. coasts, but Hurricane *Earl* made landfall in Nova Scotia, and remnants of a few systems swept Caribbean islands and Gulf coast states. The remnants of Tropical Storm *Hermine* brought moisture to the Southern Great Plains, and the leftovers of Hurricane *Karl* helped ease drought in Texas. Louisiana, which had no tropical weather, recorded its second driest September, and Alabama had its third driest. To the north, seven low-pressure systems swept along with the jet stream brought above-average rain and below-average temperatures to the northern-tier states. The remains of *Karl* reached Wisconsin, Minnesota, and South Dakota, where localized flooding was a problem; in fact, it was Minnesota's wettest September on record. As often occurs, the summer pattern was broken in the last week of September. In the West, a dry high-pressure area began to dominate, as an upper-level trough built over the East, bringing rain and welcome cooler temperatures into the Southeast. The moisture (and a little wind) from Tropical Storm *Nicole* moved across the Jamaica and Cuba toward Florida and the Carolinas, which relieved dry conditions in many areas.

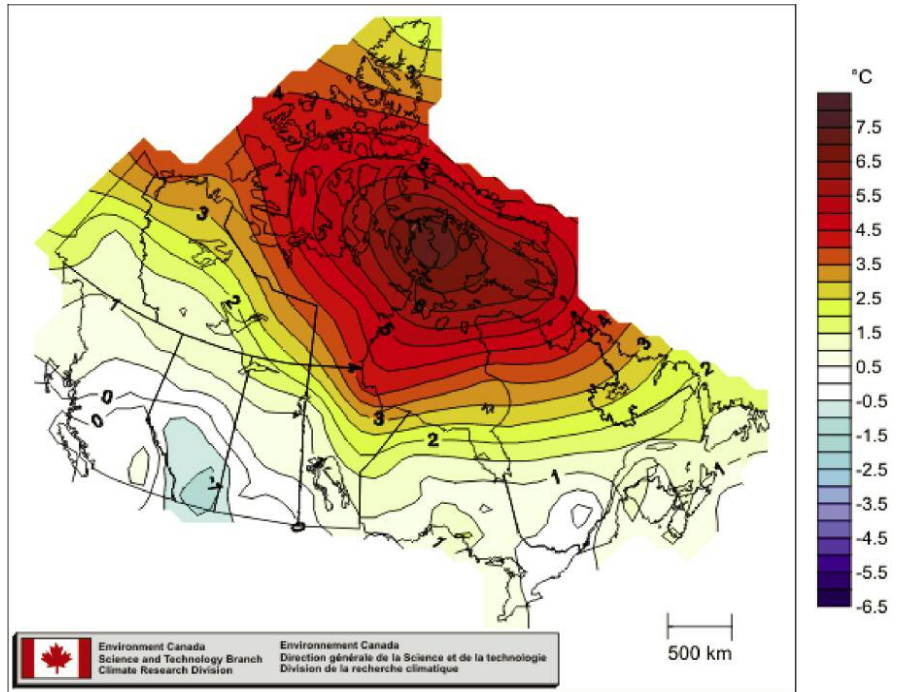
The Bermuda High remained active well into October and kept much of the East and eastern Midwest warmer than normal in the first half of the month. With the jet stream north of normal, early storm systems bypassed the southern Rockies, making October the fourth warmest in Wyoming and seventh warmest in Montana. Later in the month, rains reached the Northeast, making October the second wettest on record for Vermont, fourth for New York, and fifth for New Hampshire. The memorable “Super Storm” in the last week of the month brought blizzard conditions to the Northern Great Plains and some rain (where needed) to the Southeast. The Pacific coast, and even the Southwest, had relatively frequent rains, making it the wettest October ever for Nevada and seventh wettest for California. But across much of the Lower 48, the absence of rain-bearing mid-latitude cyclones and tropical systems meant that the Plains, Southeast, and Midwest continued dry, and September gains

were erased in some places: Florida had its driest October on record, Missouri its fourth, and Texas its eighth.

November 2010 was memorable for its abrupt transition to winter-like conditions across much of the North. Low-pressure systems in the West and the Plains brought much-needed snows throughout the month, and by the third week of November, snow covered nearly a third of the United States mainland. In part of the Ohio Valley and Gulf coast states, heavy rains helped to ease drought conditions. As sea surface temperatures cooled through the autumn in the eastern tropical Pacific, La Niña conditions strengthened, setting up a familiar pattern of cooler, wetter conditions in the northern-tier states and warmer, drier conditions in the southern-tier states. The Arctic Oscillation index values were strongly negative in November, and the East accordingly remained rather dry and cold. According to meteorologists with the National Climatic Data Center, the interplay of these two large-scale atmospheric features resulted in conditions at the continental level being near the average in the Lower 48, while Alaska averaged warmer than usual in November.

And Canada. I hesitated to include Figure 1. Such images of the warming Arctic, now fairly common even in mass-media communications, have become terribly disheartening. But our duty as birders is to pay attention to what is happening, year in and year out, not to tune it out. In the past several decades, average temperatures in the Arctic have risen at almost twice the rate as temperatures elsewhere on the planet, and as birders, we know that we have been witnessing the effects of that transformation—and that, very probably, far more dramatic effects will be manifest in years to come. In many parts of our lives, not just our birding, we should be prepared for the effects of climate change, and work to reduce our own carbon emissions, but also carefully report and document what we observe. And we should remain guardedly hopeful: in 2011, the Arctic Council may seek reductions in soot, which appears to accelerate melting of snow and ice, and this could perhaps buy a little time as countries come to grips with ways to reduce atmospheric carbon dioxide.

In looking at Figure 1, we see that the months of September, October, and November were much, much warmer than average in the Bird Conservation Region called the “Arctic Plains and Mountains” (BCR 3) and well warmer than average across much of the “Taiga Shield and Hudson Plains” (BCR 7).



**Figure 1.** Map depicting the surface air temperature anomaly for autumn (September, October, November) 2010 in Canada. Although the most densely populated parts of Canada—the southern Plains, the Great Lakes, the Maritime Provinces, and British Columbia—saw autumn temperatures near the average (or even below, as in southern Alberta), the territories, and especially Nunavut, were massively warmer than average, as has been true for most autumn seasons in the current century. Image courtesy of Environment Canada/Environnement Canada.

Needless to say, this vast region—about three million square kilometers in all—receives the least amount of birding coverage of any part of North America. So how can we begin to say anything meaningful about changes in this part of the world, where most of us have never been? In fact, we cannot really say much about it; even if many dozens of us were to mount expeditions to the region, we could cover very little area, and we have scant baseline data through which we could perceive trends.

We do, however, have a fair amount of information about birds where we live. So when, for instance, unusually large numbers of Black-legged Kittiwakes appeared in the Lower 48 states, especially in the Great Plains and Great Lakes, in autumn 2010—about 87 birds, plus two in Texas and outlier singles in Kentucky and southwestern Pennsylvania, both 4 November—we record and report that here. When even rarer Ross’s Gulls appear out of range in the same season (in southern Yukon, Colorado, Nebraska/South Dakota, plus two in Michigan), and when an Ivory Gull appears in Pismo Beach, California, we witness and document that. When Dovekies launch a flight in the hundreds off Nova Scotia in October that reaches North Carolina (in record-breaking numbers) by Christmas, we

are the group that sees and speaks. We talk to scientists, to the media, and to our friends and family. They have heard about the lost Polar Bears; but have they heard that a Great Black-backed Gull and a Northern Gannet were found in Alaska last fall, probably the result of melting Arctic sea ice?

We may feel sometimes that when we submit data to regional editors, or when we plunk our daily checklists into eBird, that the value of our observations is limited. But consider another bird of the North, one that most of us actively seek out during the autumn migration: Buff-breasted Sandpiper. The *U.S. Shorebird Conservation Plan* rated this handsome species “Highly Imperiled” in its most recent update. Once a bird that existed in the millions, hunting and habitat loss have reduced its populations to about 15,000 individuals in 2010. So every report of every migrant Buff-breasted Sandpiper counts. We birders know how to find them, we know when they pass through our areas between late August and early October, and we should spread the word to our fellow birders: report every single Buff-breasted Sandpiper that you see. And enjoy each one. Arguably, every bird species that nests in the taiga and tundra habitats of Alaska and Canada deserves this level of attention and appreciation.

## My Name Is Earl

Blake Maybank provides context for the thousands of birds found in the wake of Hurricane *Earl* in early September (Figure 2). “From a Nova Scotian birder’s perspective, Hurricane *Earl* was a ‘perfect storm.’” He explains:

- *Earl* had the perfect track, coming up from the Caribbean, passing alongside (but not over) the eastern seaboard of the United States, making first landfall in Nova Scotia;
- *Earl* was wide enough and strong enough to pick up coastal and pelagic seabirds (some probably from North Carolina) but weak enough so that many of the birds swept up in the storm survived the journey to arrive on Nova Scotia’s shores;
- Unlike in Hurricane *Juan* of 2003, relatively little damage or disruption to power occurred as a result of *Earl*’s passage;
- *Earl* struck Nova Scotia in the morning, with the worst of the rain and wind finishing by noon, giving time for birders to seek out ‘hurricane birds’; and
- *Earl* arrived on the Saturday of the long Labour Day weekend, so that most birders were able not only to search for birds but also to chase discovered rarities.”

As we often read in these pages: one hates to think of destructive storms in terms of regional rarities. But virtually all birders are fascinated by changes in birdlife in their local area—and there is no more radical or rapid change in bird status and distribution than during and after a tropical cyclone that makes landfall. We regularly scramble to locate birds after most other meteorological phenomena, whether warm front, cold front, fogbank, or snowstorm, so surely we would not ignore tropical weather systems, despite their awful costs. We are students of the here and now, after all.

Maybank’s analysis considers storm track, strength, damage, time of landfall, and timing within the holiday/weekend calendar as optimal both for the transportation of seabirds and for observation of them. All of these points are salient. Having guest-edited the regional report for the Atlantic Provinces for the fall season, I had the unexpected pleasure of reviewing records of thousands of gulls, terns, and shorebirds, and hundreds of storm-petrels, in some detail. The history of landfalling hurricanes in the East provides plenty of context for analyzing Labor Day weekend storms in the United States—but almost none for the corresponding Labour Day weekend in Canada. Indeed, *Donna* of 1960 was the most recent early September storm to hit Nova Scotia with birds, and *Gladys* of October 1968

(Finch 1969; Figure 3) has been the only well-documented hurricane with comparable avian cargo that made landfall there. So we will look at *Earl* of 2010 (not to be confused with the *Earl* of 1998) first in terms of U.S. storms in early September, then in comparison with *Gladys* of October 1968.

In the Atlantic Provinces, the bread-and-butter birds of *Earl* were, as expected, Laughing Gulls (thousands), terns (about 830 in total), and Black Skimmers; most of these were found in Nova Scotia (Table 1). Single Sabine’s Gulls made appearances in Maine and Massachusetts, and notable records of terns in New England after the storm included five Royals, four Sandwich, and two Gull-billed, plus 23 Forster’s Terns in Maine 9 September. Twenty-one Black Skimmers were also seen between Maine and New Hampshire, and some also lingered into October there. In addition, New England birders also tallied thousands of Laughing Gulls (many juveniles) after the storm, and Québec birders reported about 10.

The overall tally of terns may not seem overwhelming to a U.S. birder, but consider how rarely many of these species have been seen in Nova Scotia. Royal Tern appeared in the province after Hurricanes *Helene* (1958), *Donna* (1960), *Gladys* (1968), and *Beth* (1971), plus a very few times in summer outside the context of storms. Forster’s Tern was also seen after *Helene*, *Donna*, and *Gladys*, as well as on about two dozen other occasions. Gull-billed Tern, with just over a dozen

records (few recent), also qualifies as a real rarity in the province. So this storm brought a mother lode to Nova Scotia—and for the first time since 1968. Eric Mills, who compiled records for this hurricane for *Nova Scotia Birds*, was birding back in 1968, as were several other veterans, but for most of the province’s birders, this was an event without precedent. And it goes without saying that field identification information (and skills), birding coverage, and birder communication have all changed a bit since 1968.

In Nova Scotia, the rough ratio of terns and skimmer works out to be about 1 Least: 1 Gull-billed: 1 Roseate: 2 Black: 2 Sandwich: 3 Arctic: 4 Caspian: 8 Royal: 26 Black Skimmer: 45 Forster’s: 125 Common. The single Bridled Tern was a first for Nova Scotia. These proportions show some consistencies with Labor Day storms from the United States, but there are several stark differences. First, tropical terns and Black Terns are very much under-represented: landfalling Cape Verde-origin storms at this time of year in the United States have plenty of Sooty Terns and usually more Bridled and Black Terns than counted in *Earl*. Second, Black Skimmers have typically not been so numerous in comparable U.S. storms. Third, Forster’s Terns, though not unusual in Labor Day storms, were surprisingly plentiful in Nova Scotia after *Earl*.

The lack of Sooty Terns is unexpected, to say the least. One could infer, from the record of three Sooties at Ocean City inlet, Maryland and 2 at Fort Fisher, North Carolina, both 3 September, that *Earl*’s wind speeds were simply not sufficient to entrain many Sooty Terns as far as Nova Scotia. *Earl* did have winds in the Category 4 class through 1 September, and Cape Verde hurricanes of this sort invariably carry Sooty Terns, including those that weaken before landfall, such as *David* (1979). Even very weak storms of Caribbean origin at this season, such as *Ernesto* (2006), often have plenty of Sooty Terns with them. Let us say that if monetary wagers had been placed on the tern numbers detected in Nova Scotia, I would have taken out another mortgage to settle debts; and if a single tropical tern was to be the only waif, I would not have bet on Bridled, which is usually outnumbered by Sooty in such storms and usually seems to “drop out” of storms south of where Sooty does, as often described in these pages.

Many hurricane-birders have noted, however, that Sooty Terns are often the first pelagic species to clear out from landfall sites after rains have passed and winds have subsided; in fact, during some storms (*Isabel* of 2003, for instance), Sooty Terns have been

**Table 1.** Estimates of birds observed in Nova Scotia as a result of the landfall of Hurricane *Earl*, 5 September 2010 and later.

Laughing Gull	3000
Lesser Black-backed Gull	40
Bridled Tern	1
Least Tern	5
Gull-billed Tern	7
Caspian Tern	18
Black Tern	12
Roseate Tern	6
Common Tern	625
Arctic Tern	16
Forster’s Tern	90
Royal Tern	38
Sandwich Tern	9
Black Skimmer	126
South Polar Skua	2
Pomarine Jaeger	7
Parasitic Jaeger	11
Long-tailed Jaeger	2

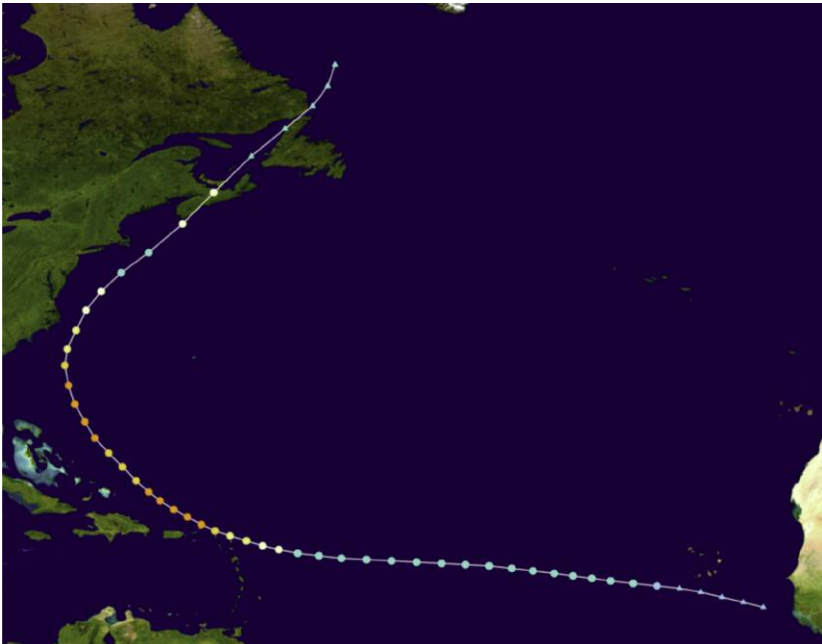


Figure 2. Track of Hurricane *Earl*, 25 August–5 September 2010. Note the similarity in the last few days of the storm's activity to the track of Hurricane Number Three of 1924 (Figure 4), one of two hurricanes to strike Nova Scotia that year. Although it hit the province almost seven weeks later in the fall season and had a very different history, *Gladys* of 1968 (Figure 3) brought tens of thousands of Laughing Gulls and many hundreds of Black Skimmers to Nova Scotia. Records of observations in August 1924 are much less complete than we have for 2010, but minimally hundreds of skimmers were found after the 1924 storm as well. Image courtesy of Wikimedia Commons.



Figure 3. Track of Hurricane *Gladys*, 15-21 October 1968. Despite a track well offshore and mostly to the east of Nova Scotia—and despite winds less intense than those of *Earl*—*Gladys* appears to have transported even more birds to Nova Scotia than *Earl*, though most were apparently Laughing Gulls and Black Skimmers, with smaller number/variety of terns detected than after *Earl* (with, of course, many fewer observers). Weaker storms may in fact allow more birds to survive displacement and return homeward than powerful storms. Image courtesy of Wikimedia Commons.

primarily observed during rather than after the storm, at least at some latitudes. In early September 2008, teams of birders stationed in many areas during the passage of Tropical Storm *Hanna* turned up Sooty Terns only where there were strong rain/wind bands, not elsewhere (Adams and Hafner 2009). So perhaps Sooty Terns were present in Nova Scotia but moved through with the storm or departed very quickly afterward, before most birders had mobilized? The solution to this puzzle may be the significant weakening of the storm east of New England, which may have allowed some birds to move out of the storm. Birding Nantucket on 3 September, Dick Veit and Vern Laux counted 680 Black Terns as *Earl* passed to the east—yet only a dozen were discovered in Nova Scotia 4-5 September.

The other apparent anomaly in *Earl*, at least in terms of U.S. storms, was the abundance of Black Skimmer. Taking a look at the storm's track (Figure 2), we see that it brushed the Outer Banks of North Carolina but otherwise did not interact with land until Nova Scotia. While many species of terns forage over, and migrate through, waters of the Southern Atlantic Bight and offshore of the Caribbean islands in September, skimmers do not forage far offshore, and though their fall migration is not well understood, one would not expect large numbers to be to sea in early September. So how do so many skimmers become entrained in an offshore storm like this? Do they fly with the storm winds, forsaking the lee of coastal beaches for gale winds? Or were they picked up while out over the ocean?

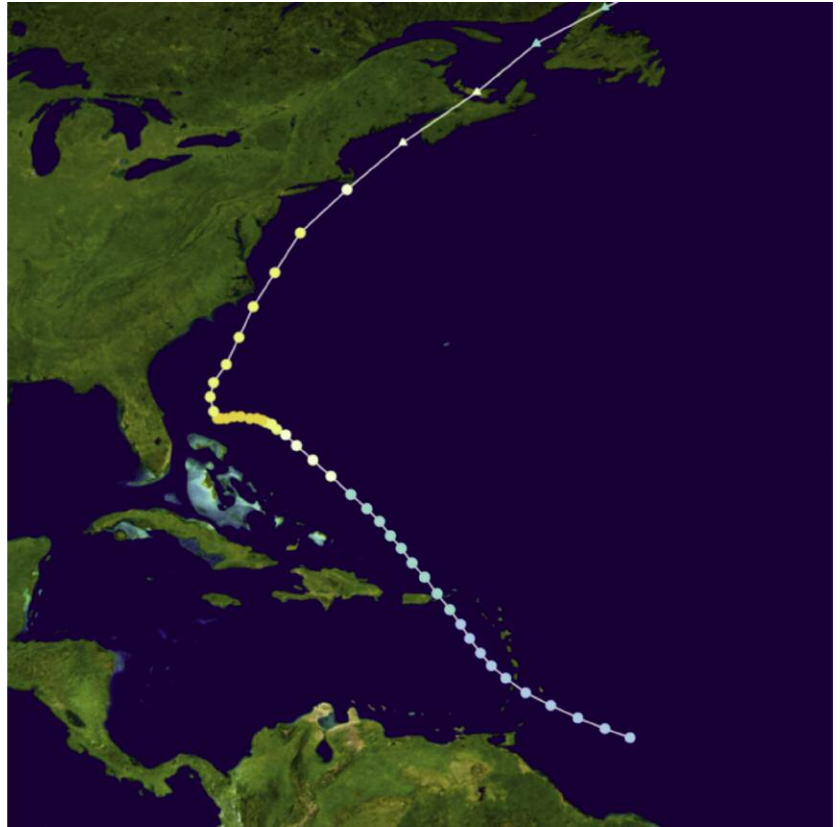
Earlier hurricanes may provide some clue here. Black Skimmers are plain rare in eastern Canada. There are confirmed summer records from Cape Sable (20 July 1964) and from Sable Island (14 August 1965), but otherwise most pre-*Earl* records were in the context of hurricanes, *Gladys* of 1968 and Hurricane Three of 1924 (Figure 4). It is only known that “many” skimmers were seen in 1924 (Tufts 1986), and observers could only estimate “hundreds” in 1968, but at least 200 were still at Jeddore as late as 1 November 1968 (Finch 1969). As with *Earl*, the tracks of these storms stay offshore after passing close to Cape Hatteras, but one storm occurred in August, the other in October. The eight-week span between these storms suggests, I think, that roosting skimmers are pulled off the beaches rather than being entrained during offshore migration. The same could well have been true of Nova Scotia's many Forster's Terns, a species that is not terribly pelagic in early September. As after *Gladys*, skimmers were recorded along the New England coast in late autumn 2010, as their numbers began to dwindle in Nova Scotia. But it is not clear that any of these New England skimmers had come south from Nova Scotia, and there is reason to be concerned about the storm's impact on the North Atlantic population of this vulnerable species.

As for tubenoses, the numbers of Leach's Storm-

Petrels seen from seawatches (and seen flying overhead, for some observers!) were impressive, but no other species was confirmed, unlike in many recent September storms in the United States. *Earl's* center of circulation passed essentially along the Atlantic coast of Nova Scotia. Had it instead transited the Bay of Fundy, as did the first of two 1924 hurricanes (Figure 4), other species, particularly tubenoses associated with the Gulf Stream, might well have been discovered. This speculation rests on two observations from storms of the past three decades or so. First, many of the birds in hurricanes seem to travel in the strongest part of the storm, the “right-front” quadrant, which during *Earl's* passage through Nova Scotia stayed largely near or over the ocean (perhaps the Sooty Terns were here?). Second, many tubenoses appear to avoid passing over land or land-like structures when moving within storms (especially during daylight, and especially when winds are below hurricane force), but in Nova Scotia there were no large-scale embayments, no impediments to birds that might have been moving with *Earl*. A storm moving up the Bay of Fundy might see “fall-outs” of at least some tubenoses, as they became bottlenecked in the terminal northern branches of the Bay of Fundy—Cobequid Bay and Chignecto Bay—and probably in the Minas Channel/Basin areas as well. (Maybe a watch from Cape Split Road, past Scots Bay, during a high tide?)

The least expected birds reported just after *Earl* in Nova Scotia were those with little history of long-distance displacement by such storms: Snowy Plover and Brown Pelican, both in the Halifax area. The plover is not found regularly anywhere along the storm's track, though it is increasing as a rare visitor along the Atlantic coast of the Southeast (Georgia and South Carolina had singles in August)—thus a double vagrant. But Brown Pelicans? Aren't they common coastally in the Southeast? They are, and certainly, in a few cases, scores have been suspected of having been displaced more than a hundred miles, as during *Bertha* of 1996. And after Gulf hurricanes in recent years, such as *Ivan*, *Dennis*, *Katrina*, *Ike*, and *Gustav*, and even after small storms like *Erin*, *Dolly*, and *Edouard*, inland records of Brown Pelicans have been attributed to storm activity, though many other records from the interior show no obvious connection to a storm (as is true of frigatebirds). In Arizona, Gary Rosenberg and Mark Stevenson attributed an incursion of 30 Brown Pelicans in mid-November 2010 to a strong wind event, so tropical weather is not the only potential source of such birds. However, in the history of hurricane-displaced birds, one finds no strong pattern of pelicans in the Northeast or Atlantic Canada after tropical cyclones. Had the Brown Pelican that ended up at Cole Harbour been swept up while over the ocean, or was it pulled off a beach somewhere, as the skimmers may have been?

Tropical cyclones keep a birder's mind in perpetual



**Figure 4.** Track of Hurricane Number Three, 16-27 August 1924. Based on our recent observations of storm-displaced seabirds, the timing, strength, and track of this storm suggest that it would have transported reasonably high number of terns and probably also Gulf Stream tubenoses into the Bay of Fundy. As this storm passed off Nantucket on 26 August, the passenger liner *SS Arabic* was struck by a rogue wave estimated to be 100 feet high; the ship limped into New York the next day, with 75 injured. Image courtesy of Wikimedia Commons.



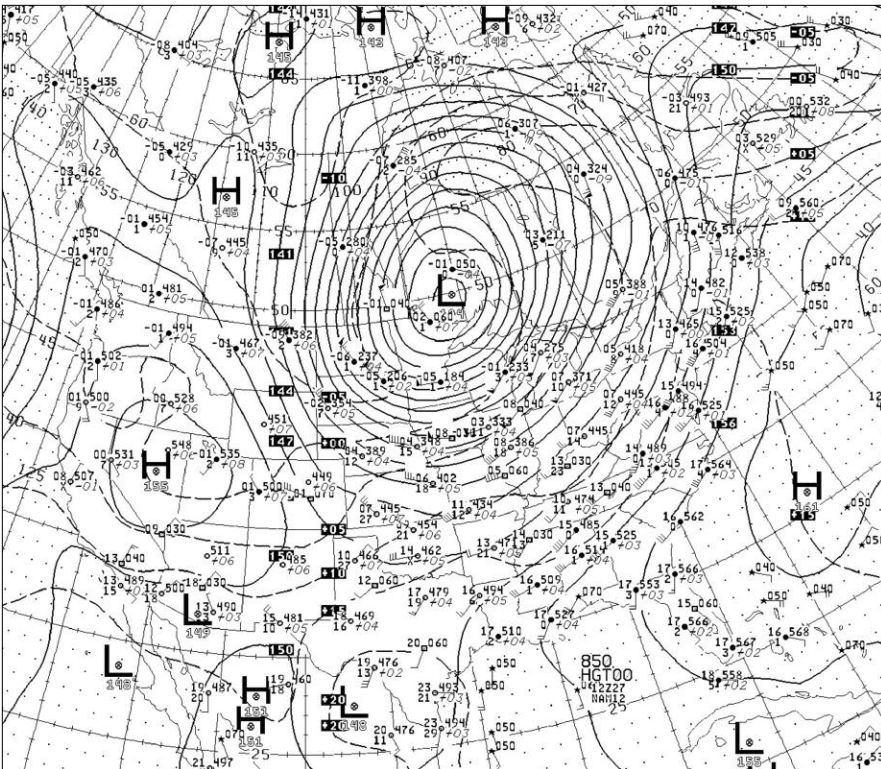
**Figure 5.** This juvenile Upland Sandpiper was found grounded by heavy rain and high winds at Little Pedro Pond in southwestern Jamaica, as Tropical Storm *Nicole* began to form in the Caribbean Sea 25 September 2010. Photograph by Hugh Vaughan.

speculation: each cyclone has its own history and properties, each interacts with landmasses in unique manner, and each produces a different set of birds, birds whose flights with the storm surely vary tremendously. Much the same is true of strong extra-tropical cyclones over land—and we will consider next a cyclone every bit as powerful as *Earl*.

But before we turn to that system, we should mention a marvelous bird on Jamaica, an Upland Sandpiper, found 25 September during BirdLife Jamaica's field trip to the



**Figure 6.** This image, taken late in the day of 27 October 2010 by NASA's GOES satellite, shows the center of circulation of the "Super Storm" over the Minnesota/Ontario border, with outlying clouds spanning from Alberta, southern Nunavut, and Newfoundland through Colorado, Louisiana, and Bermuda. *Image courtesy of the National Aeronautics and Space Administration.*



**Figure 7.** Weather features map for 27 October 2010 at 7:00 a.m. EST (850MB height). Meteorologists called this storm a "weather bomb," a very fast-developing storm that drops at least one millibar of pressure per hour for 24 consecutive hours (rarely seen in storms over large landmasses). *Map courtesy of National Climatic Data Center.*

Treasure Beach area, which happened to coincide with the formation of Tropical Storm Nicole from the remnants of Tropical Storm

Matthew. Among uncommon visitors such as Least and Pectoral Sandpipers, Sanderlings, and a Wilson's Phalarope, John Fletcher and

fifteen others watched the Upland Sandpiper at Little Pedro Pond (Figure 5) for about twenty minutes. The only previous Jamaican records of this tiny curlew come from October 1863—a bird shot by W. T. March on a rooftop in Reed's Pen (now at the Smithsonian)—and from autumn 1999, a single seen at Yallahs by Robert and Ann Sutton. In addition to the shorebirds, many Neotropical migrant passerines were discovered during the unsettled stormy weather (still called "Nicole" by the media) that persisted in the area a week later. This example reminds us that some of the most interesting birds observed as a result of tropical storms may not be entrained seabirds but grounded migrants, such as shorebirds and passerines. And we should be especially vigilant in documenting species whose populations are in steep decline, such as Upland Sandpiper.

### Oktoberfest

To quote Don Freiday on the Thursday before the Friday of the Cape May Autumn Weekend:

"Although the hawk flight slowed down quite a bit in the afternoon today, consider that the calm before the bird storm. If someone were designing the perfect weather pattern for New Jersey Audubon's Cape May Autumn Weekend, this is what they would have done. I mean this, what's happening right now, and what's going to happen the next two days. Frontal passage + northwesterly winds through Saturday morning. Hawks, sparrows, finches, pipits, late warblers, and, yes, robins. Great songbirding Friday and Saturday, great raptor watching Friday for sure, probably Saturday, at least in the morning. Stay tuned."

Almost a week earlier, I was visiting northern California as this monstrous storm system came ashore to the north. As the rain and wind battered the windows in Bodega Bay, I watched the system's progress across the continent via birding chat groups. Even before it had crossed the Rockies and strengthened still more, veteran birders online were comparing the storm to the "Great Storm" of 10-11 November 1998, which had its lowest pressure measured at 967 millibars (mb) and which rained geese and Franklin's Gulls in the Midwest and East (Brinkley 1999), and to the fierce gale that sank the *Edmund Fitzgerald* on Lake Superior 10 November 1975 (980 mb). As planned pelagic trips had been canceled, the leisure to read commentary online provided real-time perspective on how birders

prepare for and interpret weather events—and how astute we are as observers of our environment. My birding companions in California looked at the packed isobars on the weather charts and offered their predictions. “Cave Swallows, loads of them, earlier than usual.” “Cranes.” “Remember ’98? Franklin’s Gulls.” Don Freiday’s confidence in the accuracy of his forecast is clear in his blog post, and many birders in the Midwest and Northeast had similar predictions for bird movements on their patches. It turns out that everyone was pretty much right. This was a history-making system, despite the relative lack of media interest compared to blizzard-bearing cyclones such as the “Storm of the Century” of 12-13 March 1993 (960 mb). In late October 2010, birds abounded, especially at the Atlantic coast—the Super Storm’s equivalent of a hurricane’s “landfall” site. And, as in a hurricane, making sense of the combinations of birds detected in many areas was not straightforward.

The lowest minimum pressure in this Super Storm (Figures 6, 7) was measured at 953 mb, comparable to a Category 3 hurricane and the lowest on record for an extra-tropical cyclone over land in the United States, even edging out the famous Great Ohio Blizzard of 1978 (958 mb). The Storm’s many effects are too numerous to recount here, but highlights included a rare Chicago tornado, heavy snows in Minnesota and North Dakota, and what meteorologists call a “serial derecho,” a very strong straight-line windstorm stretching from the Gulf of Mexico to the Great Lakes, bringing tornados and extremely high winds across much of the eastern third of the continent 26-27 October, with strong northwesterlies from the Great Lakes to the Atlantic coast on the weekend that followed.

If Hurricane *Earl* was the “perfect storm” for Nova Scotia, as Maybank suggests, then the Super Storm was probably the “perfect weather pattern” for Cape May and the mid-Atlantic coast, as Freiday forecast. Please refer to the S.A. boxes in the Hudson-Delaware and Middle Atlantic reports for the big numbers. What does a flight of 16,000 Hermit Thrushes look like? Or 18,500 Dark-eyed Juncos? Or 10,200 House Finches? Birders wrote that in some places even city streets were full of thrushes in the predawn hours. Although the estimates are rough—and indeed most active local Cape May birders were tasked with guiding field trips and thus unable to attempt “counts” over the whole of Cape Island or beyond—they give a sense that enormous numbers of many species were present. In contrast, to the south, on the Vir-



**Figure 8.** A species rarely observed on migration on the Atlantic coast of North America, Henslow’s Sparrow is often characterized as furtive, elusive, or shy. This rather bold individual at Higbee Beach, Cape May, New Jersey was found by Michael O’Brien and group during a fallout of tens of thousands of sparrows and thrushes 30 October 2010; it remained for three days and was enjoyed by many. Photograph by Don Freiday.



**Figure 9.** Among the least expected birds to appear 29 October 2010 at Cape May during the big fallout was this Common Ground-Dove at Cape May Point State Park. This species appeared more often north of its range before 1980 but appears in recent years to be making a quiet comeback as an autumn vagrant. At Cape May, there is a previous local record, from 4 September 1984, plus one more recently from 6 October 2009. Photograph by Bob Fogg.

ginia coast, only one birder reported on the flight, with 2500 kinglets and 70 Brown Creepers at Chincoteague National Wildlife Refuge both record-high totals for the state, among a great diversity of sparrows there as well. From southeastern New York to southeastern Virginia, the diversity and numbers of sparrows were clearly elevated, but no place had the many tens of thousands of sparrows and Hermit Thrushes that dropped at Cape May after the Super Storm passed.

So why is this of interest to us? Don’t certain Atlantic coast sites with favorable geography routinely capture the lion’s share of migrating passerines in late October, with many mega-flights of various species recorded

in decades past? Certainly so. But our topic, “bedfellows,” means that we will look not just at the most numerous species (the Hermit Thrushes of the Super Storm being equivalent to the Laughing Gulls of *Earl*) but also at the least numerous. In looking over the records from the window 24-31 October, we find some genuinely rare birds east or northeast of typical range: a Henslow’s Sparrow at Cape May (Figure 8), single Common Ground-Doves at Cape May and on Long Island (Figures 9, 10), a Lewis’s Woodpecker in upstate New York (Figure 11), Bronzed Cowbird and Gray Kingbird in Maine, plus lesser luminaries such as Scissor-tailed Flycatcher at Martha’s Vineyard and Ash-throated Flycatch-



**Figure 10.** This cooperative Common Ground-Dove present at Captree State Park, New York from 31 October through 21 (here 14) November 2010 represented the first documented state record. Like the ground-dove found two days earlier at Cape May, New Jersey, this bird may have been a reverse migrant entrained by a strong storm system that crossed the continent in the last week of October—but two earlier records from the western Great Lakes suggest that their dispersal was underway before the end of October. Photograph by Rick Wiltraut.



**Figure 11.** At the home of Fred Jordan in Livonia, New York, this Lewis's Woodpecker appeared 30 October 2010 and spent the entire winter (here 7 December). The fall of 2010 saw a moderate irruption of this species out of core range, as far north as British Columbia and east to Iowa, in addition to New York. Photograph by Edward J. Norman.

ers at Cape May and in Jackson County, Mississippi. (We should not mention Maine's excessively grand fortune in hosting a Yellow-billed Loon during the same week, but there it is.)

But before we turn to these outliers, what about those predictions—for cranes and Franklin's Gulls and Cave Swallows? All of these came to pass. Franklin's Gulls turned up like clockwork on 27 October, during southwesterlies ahead of the front's passage: two singles on Long Island, one at Sandy Point State Park in Maryland, 42 (!) at West Point Dam, Georgia and 10 not far away at Tidwell Park, Georgia, and a staggering 8370 at Lake Sam Rayburn in Angelina County, Texas. (Had the 27th been a weekend day, perhaps even more would have been found.) A few significant groundings of shorebirds were also recorded on this date, such as 58 Long-billed Dowitchers in Bartow County, Georgia.

Sandhill Cranes likewise made news on 27 October. According to Ken Blankenship, a "whopping 4103" passed over Berrien County, Georgia that day, a very high count, and six turned up in Oktibbeha County, Mississippi, where rare. In Iowa, Walter Wehtje writes that "record-strong winds [...] may have been responsible for the flight of 600 Sandhill Cranes 27 October at Hitchcock Wildlife Management Area [...] and also pushed eight Whooping Cranes into Bates County, Mis-

souri" the day before. Of the Whooping Cranes, he notes: "These birds were observed in flight struggling against the wind and later on the ground. Prior to this record, only five Whooping Cranes had been seen in Missouri since 1913." Ross Silcock and Joe Grzybowski document large flocks of Sandhills passing through eastern Kansas (where not expected) 26-29 October.

And the Cave Swallows. First seen at Cape May, New Jersey 22 October, then near Rochester, New York and at the Cape Henlopen Hawkwatch, Delaware 23 October, then a single Coney Island, New York 24 October—and then the list then explodes, and we need a table to summarize them (Table 2). But wait! The storm was still well to the west on 22-23 October. Why are Cave Swallows starting to appear then? Looking at the weather maps, the answer is simple: there was a high-pressure area moving off the East Coast and a low-pressure area coming off the plains, so there were brisk southwesterlies blowing from the Gulf of Mexico toward the Great Lakes/Northeast then. Granted, the swallows' numbers on these first few days are tiny compared to the flood of Cave Swallows—over a thousand—that would turn up in the next seven days across a huge area spanning Minnesota to Maine, Ohio to Virginia. As predictable as this pipeline pattern may now be, the corridor in which most birds are found is fairly well defined: some areas receive hundreds (Ontario has now retired the species from its Review List), but others, such as Minnesota and Wisconsin, have very few reports, mostly of singles, presumably because they lie west of the corridor that Cave Swallows travel between breeding areas and the eastern Great Lakes and the Northeast. (If storm winds in such events were southerly, rather than southwesterly, surely the western Great Lakes would have many more records of Cave Swallow.)

So if we see a pattern of reverse movement in a small proportion of the Cave Swallows in the few days leading up to the Super Storm, do we see a similar early movement among those more vaunted, singular rarities that we might associate with the Storm at the end of October? Yes. A Lewis's Woodpecker passed the hawkwatch at Hitchcock Wildlife Management Area, Iowa 10 October; single Common Ground-Doves were in Minnesota's Hennepin County 18-20 October and in Michigan's Whitefish Point 20-23 October (and another one 30 October and later at Tawas Point State Park!), plus one well out of range in Nacogdoches County, easternmost Texas 24 October; and a Gray Kingbird was



**Figure 12.** A species accidental in eastern Montana, this Anna's Hummingbird was in Fort Peck 11-21 (here 17) October 2010. Photograph by Chuck Carlson.



**Figure 14.** Two Anna's Hummingbirds turned up together in early October 2010 at Grand Marais, Alger County, Michigan—a first record of the species for the state. The adult male got the most attention from photographers and remained until 11 November (here 28 October). Photograph by Darlene Friedman.



**Figure 13.** This stunning male Anna's Hummingbird spent about three months in autumn 2010 at Val-d'Espoir near the tip of the Gaspé Peninsula (here 19 November); there is just one other record of the species for Québec. Photograph by Albini Couture.



**Figure 15.** This female Anna's Hummingbird, the first of its species recorded in Ontario, visited a feeder in Cottam, Essex County 30 October 2010. Photograph by Paul Pratt.

discovered in Savannah, New York 23 October. Other records of errant flycatchers (Scissor-tailed Flycatcher, Ash-throated Flycatcher) also pepper the reports during and after the storm, but these “staples” of fall appeared throughout the second half of the season in many places. So we can hardly say that the Super Storm was some sort of special

freight train for these much-attended vagrants. Virtually all of these species seem to have been on the move farther to the west before the heavy winds kicked up, and they are rare enough in the Midwest (third or fourth records in most places) that the mid-Atlantic records are probably not unrelated coincidences. Indeed, it is possible, if not likely,

that some of the birds seen on the coast were individuals already detected farther to the west (certainly, Cave Swallows in past episodes have seemed to move from the Great Lakes to the Atlantic coast over a period of days). Whether the ground-doves in New York and New Jersey were coming from the Gulf coastal states or from Michigan and

**Table 2.** Reports of extralimital Cave Swallows in North America 22 October–2 November 2010. Another large flight of the species occurred in the last week of November and into early December 2010.

Date(s)	No.	Location
22 October	4	Cape May area, NJ
23 October	1	Hamlin Beach, Monroe, NY
23 October	9	Cape Henlopen, DE
24 October	1	Coney I., NY
25 October	35	Van Wagners Beach, ON
25 October	75	Fifty Point C.A., ON
25 October	1	Cape Henlopen, DE
26 October	21	Derby Hill, near Mexico, NY
26 October	1	Cape May area, NJ
26 October	2	Cape Henlopen, DE
27 October	1	Berrien, MI
27 October	1	Wayne, NY
27 October	1	Batavia W.T.P., Genesee, NY
27 October	3	Lakeshore Park, Lake, OH
27 October	1	Whitefish Pt., MI
27 October+	88	Point Pelee area, ON
27 October+	500+	Long Point area, ON
28 October	1	Saint-Vallier, QU
29 October	1	Pte. Mouillee, MI
29 October	1	Casco Bay, off Cumberland, ME
29 October	2	Summitville, Sullivan, NY
29 October	2	South Point, Worcester, MD
29 October	2	Ville-Marie, QU
29 October	1	Milwaukee, WI
29 October	4	Cape Henlopen, DE
29 October	1	Madison, CT
29 October	1	Cape May area, NJ
29 October	2	Chincoteague N.W.R., VA
30 October	3	Salisbury Beach, Essex, MA
30 October	5	Cape May area, NJ
30 October	1	Saint-Vallier, QU
30 October	6	Meigs Pt., New Haven, CT
30 October	1	Stamford, CT
30 October	4	Robert Moses S.P., Suffolk, NY
30 October	4	Fort Tilden, Queens, NY
30 October	4	Geneva S.P., Ashtabula, OH
30 October	1	Cook, MN (p.a., first state record)
30 October	2	Lakeshore Park, Lake, OH
30 October+	3	Lorain, Lorain, OH
30/31 October	77	Rondeau area, ON
30/31 October	50	Greater Toronto Area, ON
30/31 October	4	Conneaut, Ashtabula, OH
31 October	2	Huntington Res., Cuyahoga, OH
31 October	1	Philadelphia, PA
31 October	2	Cape May area, NJ
31 October	16	Lighthouse Pt., CT
31 October	1	New Bedford, Coschocton, OH
1 November	1	Tadoussac, QU
1 November	1*	Saginaw, MI
1 November	9	Cape May area, NJ
2 November	1	Bond Head, Durham, ON
2 November	2	Cape May area, NJ

+ = swallows reported in the area through 1/2 November  
\* = specimen preserved

Minnesota we cannot know, but one may suspect that the Super Storm birds in the mid-Atlantic were part of a wider pattern of dispersal inaugurated and abetted by the weak low-pressure event in the days before the Super Storm. The superior strength of the Storm means that the eastward shift for such birds was surely greater. So whether a species is a “normal” southbound migrant attempting to use northerly winds in autumn (Sandhill Crane, Franklin’s Gull) or a reverse migrant dispersing northward on southerly winds (Common Ground-Dove, Cave Swallow), the strength and speed of a storm appears to have some effect on the extent of longitudinal displacement.

Cave Swallows and Gray Kingbirds do not nest in the Midwest, and so we have some idea of what their vagrancy vectors might be when they appear well out of range. But what of the simply uncommon species seen in big numbers after the Super Storm (Vesper Sparrows, for instance), birds with broad breeding ranges whose pathways to the coast are less apparent? Were these birds mixed in with massive numbers of “normal” migrants? Or had they been riders on the southwesterlies prior to moving coastward on the northwesterlies? In other words, does reverse migration explain at least part of their appearance?

When trying to distinguish a migrant that is reversed from a “normal” migrant, it may be helpful to look at patterns from more geographically extreme locations than Cape May or Long Island. Take, for instance, Nova Scotia and Prince Edward Island. In both places, normal October migrants such as Song Sparrows, White-throated Sparrows, and Dark-eyed Junco appear in numbers during and after frontal passage with northerly and northwesterly winds—that is, winds blowing from the direction of areas where these birds nest. Birders there find the rarer sparrows—such as Clay-colored, Vesper, Grasshopper—and Dickcissels (insert westerly or southwesterly winds. In fact the usual caveats here about dates of detection versus actual arrival.) These granivores may eventually mix with commoner sparrows where they concentrate in coastal areas, certainly, but they do not seem to arrive together, en masse. So perhaps for the sparrow bonanza at Cape May and in adjacent states, some of the rarer species were in fact moving first on southwesterly and westerly winds, ahead of the passage of the cold front, rather than coming directly from areas north of Cape May’s latitude. In fact, it is very possible in such cases that both “normal” migrants and reverse migrants of the same species could appear follow-

ing a strong storm system. With our example of Vesper Sparrow, it is interesting that Cape May had just two Vespers on 29 October but a near-record 45 the next day. Winds on Saturday night were north-northwesterly, which suggests that at minimum these birds had undergone a longitudinal shift before hitting Cape May. Now that the islands called Haida Gwaii (formerly Queen Charlotte Islands) off the British Columbia coast are getting more late-autumn attention from birders, a comparison of reverse migrant patterns there with patterns from Atlantic Canada would be most interesting. This past fall, the first Grasshopper Sparrow for Haida Gwaii was nicely photographed, among many other interesting discoveries.

And as for the Super Storm’s effects as it came ashore in the Pacific Northwest, where it was the strongest cyclone of the season? According to Dave Irons, Doug Schonewald, Brad Waggoner, and Bill Tweit, the storm “resulted in only modest displacement of birds and no epic fallouts.” How remarkable!

## It’s Anna’s Turn

In the American East over the past three decades, western hummingbird species have appeared in waves, with each newcomer greeted by birders as an innkeeper along the Silk Route might have welcomed a new spice merchant laden with rare cargo. (Our hospitality toward these wanderers deserves a novel or a social study of its own.) Through the 1980s, Rufous Hummingbird quickly established its position as the East’s “second” hummer, with records proliferating so rapidly in some areas that committees had difficulty keeping up with the documentation (not to mention, the difficulty in ruling out Allen’s Hummingbird in each report). At the same time, with less fanfare, Ruby-throated Hummingbirds began attempting to winter in many of the same areas. By the 1990s, the march of these minions was progressing more rapidly, with Black-chinned, Allen’s, and Calliope leading the way, followed by spottier appearances of Broad-tailed, Broad-billed, and Buff-bellied (Green Violetear, it should be noted, does not conform the seasonal pattern of the others, with most found before autumn). To date, only a few of the southwestern specialties—Blue-throated, Magnificent, Costa’s, White-eared, Violet-crowned—have crossed the Mississippi, and Green-breasted Mango has been another wild card species detected only a few times away from Texas. But when autumn rolls around, few fail to keep an eye on the hummingbird feeder. Like the lottery, you have to

play to win: and with vagrant hummingbirds, you have about the same chances everyone else does.

Until relatively recently, Anna's Hummingbird had held back, though there have been scattered records from New York, Florida, North Carolina, Ohio, Alabama, Georgia, and Wisconsin, plus a goodly number from Louisiana, the Winter Hummingbird Capital. But in fall and early winter 2010, Newfoundland, Ontario, Illinois, Pennsylvania, Iowa, Michigan (2 birds), and South Carolina got their first records of the species, Québec and Maryland had seconds, and Arkansas a seventh—a far more temporally concentrated set of records than the eastern third of the continent has ever seen (Figures 12-15).

In 2011, we are in a very different birding world than we were in 1980. Back a generation ago, we had no ability to communicate large amounts of birding information in rapid fashion. Now, almost effortlessly, we can get on the computer and see not just individual records but incipient patterns in these records, whether of whistling-ducks or hummingbirds or winter finches. To be sure, we are just at the beginning of realizing the rewards of Internet sharing of bird records, but even the past five years have seen a revolution in the availability of birding data. Project eBird has been the most successful of several projects that offer geo-referenced bird data, and many records that might otherwise have fallen between the cracks of the *North American Birds* regional reporting networks have come to light because of eBird. In composing thoughts on the fall movement of Anna's Hummingbird, I found eBird very useful for visualizing what might have happened with this species.

Of course, the story began out West, where Anna's Hummingbirds are supposed to be. Alarm bells rang about moving Anna's in many western states, beginning in Alaska, where about 22 (an unprecedented number) were detected from 8 August through the end of November. Most of the birds observed there appeared to arrive in September or October, as is typical of Alaska's 15+ previous records, but there was an exception. Thede Tobish writes: "a subadult male and a female Anna's were discovered in a clearcut area above Ketchikan 8-22 August by Steve Heinl, in an area dominated by *Vaccinium* understory, typical breeding habitat. The male was seen performing flight displays and chased the female. The species is essentially unknown in the state away from feeders." "Post-breeding dispersal" is sometimes invoked as an explanation of autumn wandering in hummingbirds and other

species, but this record of a displaying subadult male (too late for a breeding attempt, surely) suggests that at least some extralimital Anna's in the early fall season have been pioneers of new breeding areas.

Other north/western records deemed worthy of mention this season were singles appearing in Spokane County, Washington 11 September, at Kalispell, Montana 26 September, at the Grand Canyon, 8-9 October, at Fort Peck, Montana 11 October (Figure 12), at Calgary, Alberta 22 October, at Boise, Idaho 1 November, and at Marsing, Idaho 15 November. To the south, up to ten Anna's visited Carson County and Washoe County, Nevada 3 October and later, described by Rick Fridell as continuing their "northward push" in the Great Basin. In the Great Plains, Kansas had an Anna's in Finney County 3-25 September, and Oklahoma followed with one in Comanche County 22-25 October. In Texas, Eric Carpenter, Mark Lockwood, and Willie Sekula describe a "banner season" for extralimital Anna's, with six reported in central

Texas beginning 25 October, plus two singles in late November in Smith County and Brazoria County.

Clearly, it was an active season for Anna's out of range west of the Mississippi River as well as east. The timing of these northern/western extralimital records averages well earlier than the southern/eastern, which is not unexpected, but the easternmost records span almost three months. The dates of detection for the first state or provincial records in 2010 were: Québec, late September (first identified 7 November; Figure 13); Newfoundland, late September (first identified 20 January 2011); Michigan, early October (Figure 14); Ontario, 25 October (Figure 15); Iowa, 31 October; Pennsylvania, late October; Maryland, 5 November; Arkansas, 8 November; Illinois, 21 November; South Carolina, 20 December. In the fall records, there is a tendency for the most northerly records to be earlier, the most southerly to be later, but the pattern is not neat. (Of course, birds may be present much earlier than they are detect-

**Table 3.** Number of records of Anna's Hummingbird by selected state and province, both in total and by season (August–November, December–February, March–May, June–July), through March 2011.

State or province	Total	Fall	Winter	Spring	Summer
Alberta	10	10	0	0	0
Ontario	1	1	0	0	0
Québec	2	2	0	0	0
Newfoundland	1	1	0	0	0
Saskatchewan	2	0	0	0	2
Alabama	5	2	3	0	0
Arkansas	7	6	1	0	0
Colorado	9	5	1	1	2
Florida	1	1	0	0	0
Georgia	2	1	1	0	0
Illinois	1	1	0	0	0
Iowa	1	1	0	0	0
Kansas	17	13	4	0	0
Louisiana	30	8	21	1	0
Maryland	2	2	0	0	0
Michigan	2	2	0	0	0
Minnesota	4	3	1	0	0
Mississippi	9	3	6	0	0
Missouri	5	4	1	0	0
New York	1	1	0	0	0
North Carolina	1	1	0	0	0
Ohio	1	0	1	0	0
Oklahoma	4	1	3	0	0
Pennsylvania	1	1	0	0	0
South Carolina	1	0	1	0	0
Wisconsin	4	3	1	0	0
<b>Totals</b>	<b>124</b>	<b>73</b>	<b>45</b>	<b>2</b>	<b>4</b>

ed at feeders, especially during milder seasons and in the more southerly areas.) Still, of all the Table 3 vagrant records, 58% are from August through November, and if one excludes the Louisiana and Mississippi records, the figure is 67%.

In *Birds of Louisiana* (Remsen, Cardiff, Dittmann, and Dickson; in preparation), the authors note: "In contrast to other winter-season hummingbirds in Louisiana, Anna's Hummingbird has not shown a historical increase since the first records, despite greatly intensified coverage of wintering hummingbirds (and also despite a well-documented range expansion in the western United States). After the first three records, all in 1979, none was recorded until 1987. Records tend to come in bursts, such as winter 1987-88 and 1995-96, and there may be no records for several years in a row." After this latest burst, in 2010, it will be interesting to see whether the slow trend of increasing records in the Pacific Northwest (including Alaska's Southeast) strengthens—and whether that pattern might be matched by more records in the Midwest and East. What is, after all, the carrying capacity of the Southeast for wintering hummingbirds, when more and more people keep feeders out year-round in the Gulf coastal states? In the future, we will be able to model records of novel dispersal ("vagranity") more clearly and meaningfully, as eBird has begun to do with fifty of the most abundant species already (see: <<http://ebird.org/content/ebird/news/ebird-animated-occurrence-maps>>), especially if the database contains a strong majority of the confirmed

records. Though Anna's does not currently seem to be on pace to become the next Rufous Hummingbird, it bears careful watching, and our best means for sharing information with each other and with researchers is through eBird.

In 1998, we suspected that the "Great Storm" had transported an Anna's Hummingbird to Muskego, Wisconsin, as the bird first appeared 10 November, during the period of high winds (Tessen 1999). And so it may have been. Our perspective in more recent times is focused less on singular weather events than on general trends. Though a big storm may help a single bird, or many birds, move a long distance, there is normally a broader context than just a single bird in a single storm: birds of the same species are usually on the move before and after the storm, for causes that are probably not directly related to weather. Would that Lewis's Woodpecker in New York have begun its journey from the West without the failure of some acorn crops (described in the Oregon & Washington report)?

Or take the little Ruby-throated Hummingbird harassing the frigatebird in our opening line: was it a local? Or, like hummingbirds seen zipping along within *Bertha* in 1996, might it have been displaced by *Earl* from areas south of Nova Scotia? And was the object of its ire, the frigatebird, one that was already wandering in the area (there had been several around in summer), or was it a tempest-borne bird from farther south? Would the Cave Swallows reported in Nova Scotia in early September have made such an early appearance there without a hurricane? Or did they origi-

nate in the Caribbean, where Caves Swallows have not shown the propensity for northeastward dispersal in autumn that southwestern Caves have? Some of these questions may be answerable, under ideal conditions. Others are still wonderfully unanswerable.

## Acknowledgments

For their thoughtful replies to my many queries on sparrows, hummingbirds, swallows, and seabirds during the preparation of this essay, I thank Ian McLaren, Steve Cardiff, Jocelyn Hudon, Doug Faulkner, Peter Taylor, Blake Maybank, Bob Fogg, Greg Jackson, Ted Floyd, Bruce Mactavish, Mike Mulligan, Josh Uffman, Ross Silcock, Peder Svingen, Tony Leukering, Michael O'Brien, Joe Grzybowski, Max Thompson, Paul Lehman, Tom Johnson, Gene Knight, Ryan Brady, Phil Cram, Nancy Martin, and Walter Ellison.

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