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Cover Illustration: Black-tailed Gull *by Barry Kent MacKay*

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Photo: Brandon Holden

Black-tailed Gull
New to Ontario

Brandon Holden

ON 28 SEPTEMBER 2009, the forecast was to be remarkable in terms of weather, with winds predicted to be southwest at 80 to 100 km/h. The Lake Erie marine forecast was calling for waves reaching four to five metres, surely a great day to be outside. I drove through the night and arrived at Point Pelee National Park for dawn. Fallen trees blocked the road, but I was able to arrive in good time to view the visible migration and displacement that morning. Of note were numerous Peregrine Falcons (*Falco peregrinus*) in active migration and two Sanderling (*Calidris alba*) that appeared to be in great discomfort trying to ride out the storm at the Point. They eventually walked into the nearby woods looking for shelter.

After spending the morning birding around Point Pelee, my mind began to focus on real life. I was scheduled to work in Prince Edward County at 0900h the following day, a six hour drive from my current location. I debated how I could continue to experience the spectacular weather and unusual birding conditions, while also cutting into my future travel time. In short order, I decided to make the drive to Port Burwell Provincial Park where I had expectations of large numbers of gulls and potentially other waterbirds taking shelter on the beaches there.

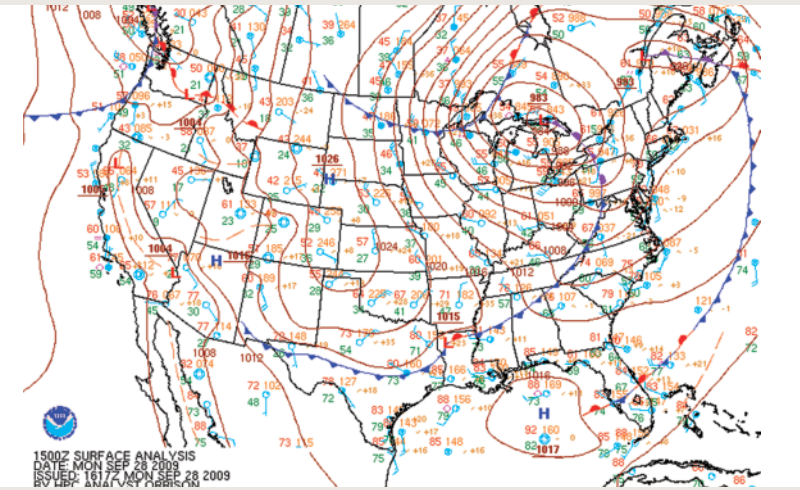
When I arrived at Port Burwell, I was thoroughly shocked. Off the community beach, I estimated at least 10,000 gulls in the immediate area using all

available space on shore and in the water to ride out the gale force conditions. Instead of scanning these birds, I decided to travel immediately into Port Burwell Provincial Park in hopes of seeing even greater numbers of gulls there. Upon arrival, I was amazed to see that most of the beach was underwater due to the large waves. Thankfully, there were still roughly 5,000 birds standing in shallow water or on a sand-bar that was once the beach. Observations were difficult due to my inability to stay still in the wind gusts and painful raindrops that occurred as occasional bands of precipitation raced ashore.

While walking along the beach, I frequently stopped and hunched down behind bushes and weeds in order to get some sort of wind-break to make scanning possible. I had only brought my binoculars, as I figured a scope might be useless, and my camera gear would get rained on. After several stops of scanning through the gulls, I had covered a few kilometres of the beach. Looking far behind me, I thought for a brief moment, I had seen a dark-mantled gull at a great distance from where I had just came, however I could not confirm this.

The viewing was horrible and I was debating whether I should back-track to check. I knew a second-basic plumaged Laughing Gull (*Leucophaeus atricilla*) had been reported in the area a few days previously (Apse 2009), and Lesser Black-backed Gull (*Larus fuscus*) is an expected species by late September in Ontario (eBird 2012). I then briefly saw and confirmed there was indeed a darker mantled gull, and I decided to go back and figure out what it was. I moved

Figure 1. A powerful 983mb low pressure system over central Ontario at the time of observation.
National Weather Service – Hydrometeorological Prediction Centre 2012



closer several times, but I still could not see anything more than the bird having a dark mantle. Eventually I got the impression it was an adult-like dark-mantled gull, and I was assuming Laughing Gull in the back of my mind as it appeared too small for a Lesser Black-backed Gull.

Viewing conditions remained very poor, so my goal was to continue to move and check every few hundred metres to keep an eye on the bird's location. During one of these quick stops, I saw the bird in question take flight with a mass of Ring-billed Gulls (*Larus delawarensis*) as a wave swept over the sand-bar they were on. It quickly landed again, but I did notice that it had a black tail band. A quick realization flashed through my mind that this could very easily be the same Laughing Gull reported earlier, which would show some black on the tail at this age. Yet that thought quickly vanished as I realized that I had just viewed a tail that was almost entirely black, a feature at odds with a second-basic Laughing Gull (Howell and Dunn 2007).

My pulse quickened, yet I convinced myself the bird was not going to be a Black-tailed Gull (*Larus crassirostris*). I was getting frustrated with the constant blasts of wind and stinging raindrops as they were preventing me from making an identification. I made the decision to cut inland behind a dune and walk considerably closer, with hopes that when I surfaced it would be easily identified as long as I could still find it. I have looked at hundreds of birds from afar, or in bad conditions, and thought they were something unusual, only to find out they were nothing unusual once I obtained better views. Yet when I resurfaced from behind the dune, I was shocked to see a stunning adult Black-tailed Gull standing only 50-75 feet away! The bird even made another short flight to avoid a crashing wave, revealing its spectacular black tail

Figure 2. Adult Black-tailed Gull (*Larus crassirostris*) at Port Burwell Provincial Park on 28 September 2009 with six Ring-billed Gulls (*Larus delawarensis*) in the foreground and two Herring Gulls (*Larus argentatus*) in the background. Note the distinctive bill pattern of a yellow base, black ring and red tip. *Photo: Brandon Holden*

bordered in white. Now that I was shaking from both the wind and excitement, I enjoyed the bird for a few minutes before reality started to return. I needed to get the word out about this bird via cell phone and I had a long run back to my car to get my camera. Upon my return I was able to relocate the bird and obtain several images (Figures 2 – 5). Before dark, Tyler Hoar, Stu Mackenzie and Ron Ridout were able to arrive and view the bird before it was lost in the fading light.

Figure 3. Clean appearance with black primaries and white primary tips ages the bird as an adult. Dusky head markings indicate definitive basic plumage. The dark mantle, yellow legs and thin white tertial crescent were useful both for locating and identifying this individual before finer points were noticed at closer range.
Photo: Brandon Holden

Discussion

Although there were remarkable weather events occurring at the time of observation, they are unlikely to be the direct cause of this bird occurring in Ontario. This is due to the species' core range being largely in the Sea of Japan (Olsen and Larssson 2004) over 9,400 km away from Port Burwell (Google Maps 2012). We can only speculate if the bird was brought to Lake Erie from some distance due to the large wind field of the storm or whether it was already

Figure 4. Body size was similar to nearby Ring-billed Gulls, although the large bill and long wings gave the impression of a larger gull. All gulls observed at this location were showing an unusual hunched posture in order to deal with the adverse weather conditions.
Photo: Brandon Holden

Figure 5. The beach at Port Burwell Provincial Park on 28 September 2009, with the Black-tailed Gull visible near the centre. Powerful swells on Lake Erie forced thousands of gulls to take shelter throughout the Port Burwell area.
Photo: Brandon Holden

present on Lake Erie and simply arrived on the beaches of Port Burwell Provincial Park to take shelter from the elements during the storm.

Despite the incredible distance from the core range, there is a developing history of vagrancy for this species in North America (Howell and Dunn 2007). The Black-tailed Gull is a casual visitor to the coasts of Alaska, along the Pacific

coast (British Columbia, Washington, California and Mexico) and along the Atlantic coast from many states and provinces from Newfoundland south to Virginia (Howell and Dunn 2007). It is considered exceptional in the interior of North America with records in Texas, Vermont, Iowa and a single bird that occurred on Lake Michigan for several months providing first records for Wisconsin, Illinois and Indiana (Howell and Dunn 2007). Since this observation in 2009, a third record for the Great Lakes occurred in nearby Ohio when Craig Holt found a basic plumaged adult in Ashtabula County on 16 November 2011 (Ayyash 2011). That bird spent several weeks in the area through late February 2012 (eBird 2013).

The sighting on 28 September 2009 in Port Burwell, *Elgin County,* was subsequently accepted by the Ontario Bird Records Committee in 2010 and constitutes the first and only record for the province to date. The same bird was presumed to be involved in subsequent sightings along the north shore of Lake Erie at Port Burwell, *Elgin County,* on 29 September 2009 by Pete Read *et al.*, 15 November 2009 by Garth Riley and 14 December 2009 by Aaron Allensen; at Port Stanley, Elgin County from 25-26 November 2009 by Peter Gilchrist, Josh Vandermeulen and Andrew Keaveney; and at Port Rowan, *Norfolk County* on 9 December 2009 by Stuart Mackenzie and Ron Ridout (Cranford 2010).

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Flight Times and Abundance of Three Shorebird Species Staging near Chickney Channel, James Bay, Ontario, Summer 2012

Christian Friis, Kenneth G. Burrell and Stuart Mackenzie

Mixed flock of Dunlin and Semipalmated, White-rumped, and Pectoral sandpipers flying to presumed roost at Chickney Channel, July 2012. *Photo: Christian Friis*

Introduction

The Hudson Bay Lowlands are the third largest wetland complex on earth and the coastal ecosystems of south-western Hudson Bay and James Bay are a global hotspot for breeding and staging waterbirds, waterfowl, shorebirds and other migratory birds (Manning 1952, Ross *et al.* 2003, Abraham and Keddy 2005, Abraham and McKinnon 2011). For shorebirds, the Lowlands is known or believed to harbour significant proportions of the breeding populations of Hudsonian Godwit (*Limosa haemastica*) and Whimbrel (*Numenius phaeopus hudsonicus*) (Manning 1952, Morrison 1987, Skeel and Mallory 1996, Peck and James 1983, Peck 2007, Peck and Sutherland 2007, Prevett 1987, Walker *et al.* 2011). Several Arctic and sub-Arctic breeding shorebird species stage along the coast to add fat reserves and undertake partial moults (e.g., White-rumped Sandpiper (*Calidris fuscicollis*), Semipalmated Sandpiper (*C. pusilla*)) or complete moults (e.g., Dunlin (*C. alpina*)) in preparation for their migrations (Harrington *et al.* 1991, Parmelee 1992, Warnock and Gill 1996, Hicklin and Gratto-Trevor 2010, Abraham and McKinnon 2011).

Early research on shorebirds throughout the Americas in the 1970s led to the establishment of the Western Hemisphere Shorebird Reserve Network (WHSRN) program in 1985 (Morrison 1983, 1984, Myers *et al.* 1987a, b). A site must meet two criteria to be considered for WHSRN designation: demonstrated importance to shorebirds and expressed landowner agreement. Three categories of WHSRN sites are recognised based on peak counts or use by a percentage of a population of a species: Sites of Hemispheric

Importance hosting at least 500,000 shorebirds annually, or at least 30% of the biogeographic population for a species; Sites of International Importance hosting at least 100,000 shorebirds annually, or at least 10% of the biogeographic population for a species; and Sites of Regional Importance hosting at least 20,000 shorebirds annually, or at least 1% of the biogeographic population for a species (WHSRN 2009). Landowners must agree in writing to the following three conditions: to make shorebird conservation a priority at the site; to protect and manage the site for shorebirds; and to update WHSRN annually about the site's status (WHSRN 2009).

During the 1990s, the Canadian Wildlife Service (CWS) compiled an inventory of potential WHSRN sites along the coasts of both Hudson Bay and James Bay (Morrison *et al.* 1991, 1995, Ross *et al.* 2003). Despite meeting criteria demonstrating the importance to shorebirds, efforts to date have failed to secure a WHSRN designation for any of the James Bay sites, leading to a significant and recognized gap in the WHSRN program.

The western James Bay shorebird project (hereafter: the project) began when the Royal Ontario Museum (ROM) and the Ontario Ministry of Natural Resources (OMNR) partnered to survey birds at sites along the James Bay coast in 2009. Since then, CWS, Bird Studies Canada (BSC), Nature Canada and the Moose Cree First Nation have joined this partnership in various capacities to continue work on surveys of staging shorebirds. This work initially included bird surveys at sites known to support staging shorebirds, with an emphasis on Red Knot (*C. canutus rufa*) to enable identification of critical habitat, as well as species at risk surveys for Yellow Rail (*Coturnicops noveboracensis*) and Short-eared Owl (*Asio flammeus*). Additional work to collect natural heritage information by staff at the Natural Heritage Information Centre of the OMNR has been conducted in concert with more recent surveys. Currently, the project involves annual surveys of shorebirds staging at various sites along the south-western coast of James Bay.

Goals of the project are: to increase our ability to estimate population trends of shorebird species staging along the south-western James Bay coast; to understand movement patterns of these birds and their causes (local and flyway); and to obtain information to update the identification of important shorebird staging habitats as potential WHSRN sites based on recent research and traditional ecological knowledge. The intention of these goals is to update information on Important Bird Areas and ultimately lead to the protection of habitat for the Red Knot, which was listed as Endangered in Ontario in 2008 under the provincial Endangered Species Act, 2007, and the nomination of WHSRN site(s) for south-western James Bay. The objectives to meet these goals are to estimate variability of migration phenology and length of stay of staging shorebirds; to

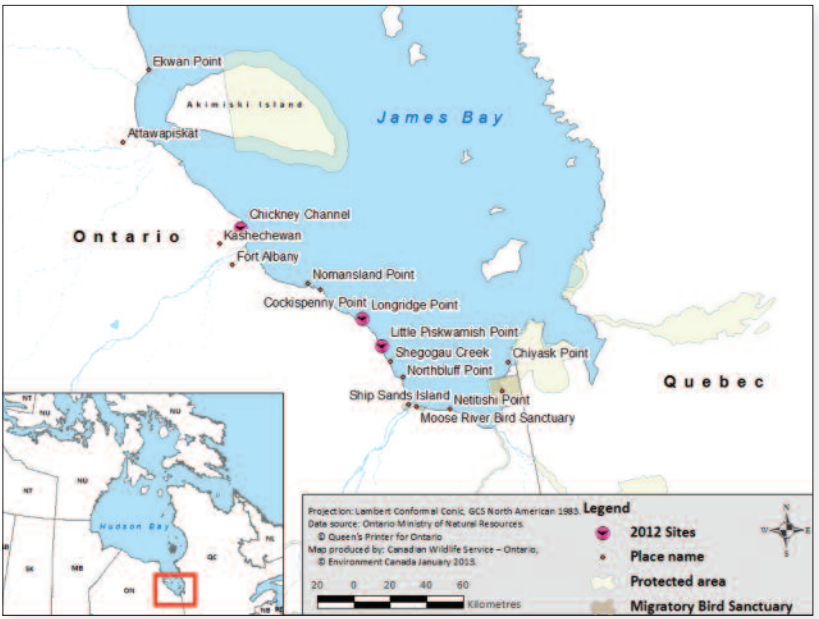

Figure 1. Field camp sites of the western James Bay Shorebird Project, 2012.

estimate annual variation in abundance of staging shorebirds; to assess habitat and food resource availability for staging shorebirds; and to determine the minimum proportion of the global Red Knot, subspecies *rufa*, population that uses the south-western James Bay coast.

Three field camps operated in 2012; Little Piskwamish Point, Longridge Point, and Chickney Channel between 15 July and 13 September (see Figure 1). From these field camps, dedicated volunteers and staff counted shorebirds on the south-western coast of James Bay during their southbound migration. The timing of these counts was driven by the tide cycle, in that birds are more easily counted when they concentrate because of the flooding (incoming) and ebbing (outgoing) tides. At low tide, birds distribute broadly, making it difficult to cover ground effectively and attain an accurate count. At Chickney Channel, birds were pushed inland during the flooding tide until they flew to a presumed roost site to the south, which was too far away to monitor efficiently. Roost sites (Figure 2) were more easily approached at other field camps. Most species — except those that tend to feed in the wet meadow or more vegetated zones (e.g., Pectoral Sandpiper (*C. melanotos*), Least Sandpiper (*C. minutilla*) and yellowlegs sp. (*Tringa* sp.)) — would cease feeding and rest until the tide began to recede.

Figure 2. Roosting and feeding shorebirds at Chickney Channel, July 2012. *Photo: Christian Friis*

Figure 3. Mixed flock of Dunlin and Semipalmated, White-rumped, and Pectoral sandpipers flying to presumed roost at Chickney Channel, July 2012. *Photo: Christian Friis*

During field surveys in July and August 2012 at Chickney Channel, surveyors noted species were more abundant during particular periods during flights to roost on flooding high tides. Species most common during these flights included Dunlin, and White-rumped and Semipalmated sandpipers (Figure 3). Here we describe the timing and composition of these flights relative to high tide at Chickney Channel for short periods in August 2012.

Study Area

Chickney Channel camp (52.462063°N, 81.628790°W) was the most northerly of the project's three field camps in 2012. It was located north of Chickney Channel (Albany River) roughly 30 km north of Fort Albany, 45 km directly south of Akimiski Island and about 150 km north-northwest of Moosonee (Figure 4). Extensive mudflats in the region, fuelled with nutrients from the Albany River, its tributaries and the innumerable smaller creeks, provided excellent conditions for staging shorebirds and waterfowl (Abraham and Miyasaki 1994, Morrison *et al.*1995, BSC and Nature Canada 2012). The extremely shallow gradient shoreline in the area was vegetated by dense tall willow (e.g., *Salix bebbiana, S. planifolia*) thickets, which gave way to vast supratidal graminoid meadow-marshes (e.g. *Carex paleacea, Calamagrostis inexpansa, Juncus balticus*) interspersed with low willow thickets, which graded finally to brackish and saline tidal marshes (e.g., *Puccinellia* spp., *Hippuris tetraphylla, Plantago maritima, Salicornia* sp.) dissected by myriad small ponds, drainage

channels, tidal inlets and exposed mudflats. The spruce forest (e.g., *Picea glauca, P. mariana*) began five to six kilometres inland from the high tide line. Previous aerial surveys of this region have shown large concentrations of shorebirds (e.g., Hudsonian Godwits) during autumn migration (Morrison *et al.* 1995).

Methods

At Chickney Channel, standardized daily shorebird surveys (Figure 5) were conducted between 15 July and 15 August 2012 near high tide at two count locations along

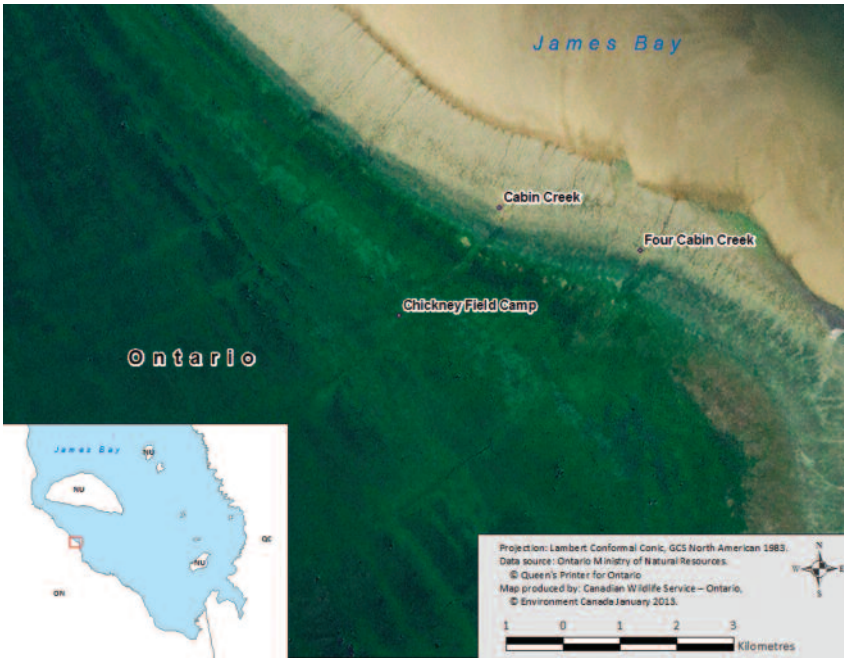

Figure 4. Chickney Channel site, showing field camp and count locations Cabin Creek and Four Cabin Creek.

the coast: Cabin Creek and Four Cabin Creek (Figure 4). The timing of shorebird movements was recorded on two days in August (14 and 15). Counts of individuals of each species were estimated for each of these intervals by two-person teams in 15-minute intervals from the beginning to the end of the roost flight. Each team consisted of an individual who estimated total numbers while the other estimated the proportion of each species in the flock. For an example of the flights, please see the following videos at http://www.youtube.com/watch?v=Vj4iyirvx7k and http://www.youtube.com/watch?v=KTP2otAr-YI.

Results

Counts from August coincided with morning and afternoon high tides. Flights during these periods typically corresponded with lower numbers than those observed during counts that coincided with evening high tides that likely comprised some degree of mass movement toward night roosts. On 14 August, Dunlin numbers dominated early in the flights, particularly within the first 30 minutes of observation (Figure 6). This is less apparent on 15 August, where Dunlin numbers are most abundant during the first 15-minute period. On both days as the flooding tide began, numbers of White-rumped Sandpipers

started to build between the 15-30 minute mark of observation, with a corresponding reduction in Dunlin numbers. White-rumped Sandpiper numbers in the flight appeared to peak immediately adjacent to high tide (Figure 6). Semipalmated Sandpiper numbers built with White-rumped Sandpiper numbers peaking about 15 minutes following high tide, at which point birds began to mix in the flooded high tide zone making it difficult to get an accurate count.

Discussion

The relationship between movement to roost and the incoming tide possibly relates to each species preferred feeding habitat at specific sites. Previous research has shown that species selectively use particular habitat (i.e., are spaced apart) within foraging sites, based primarily on water depth, and prey size and density (Baker and Baker 1973, Myers 1984, Senner *et al.* 1989, Davis and Smith 2001, Eldridge *et al.* 2009). The three species that we focussed on at Chickney Channel (Dunlin, and White-rumped and Semipalmated sandpipers) appeared to follow these choices and were segregated by their feeding habits, the advancing tide and general body size. Dunlin tend to feed farther out on the mudflats during low tide, particularly in shallow water (0-5cm deep; Brennan *et al.* 1985), thus being affected earlier, or among the first species affected, by the flooding tide. White-rumped Sandpipers tend to be closer to the vegetated area of the intertidal zone, and thus appear to move once water reaches this area (pers. obs.). Semipalmated Sandpipers appear to be the least (and last) affected by the flooding tides, preferring to forage along the edges of marshes and other water bodies

Figure 5. Counting Semipalmated and White-rumped sandpipers at Chickney Channel, July 2012.
Photo: Christian Friis

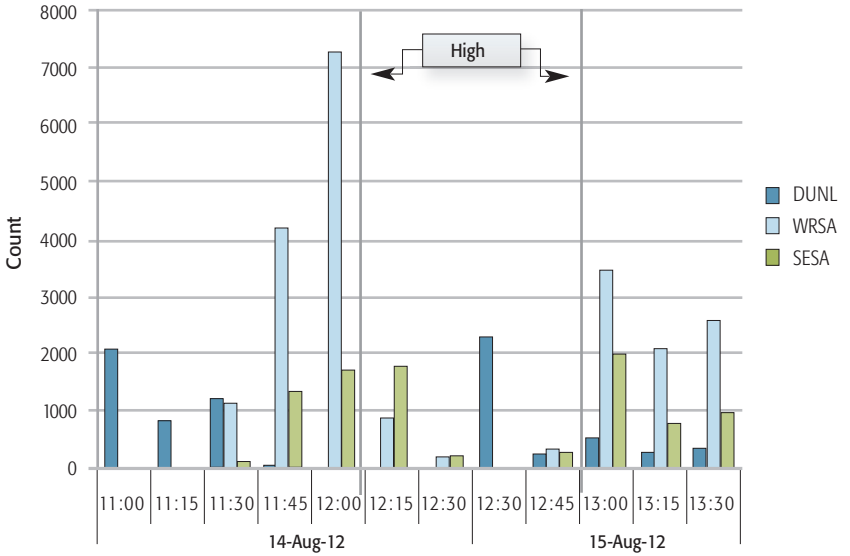

Figure 6. Numbers of each species at 15-minute intervals during high-tide flight to roost at Chickney Channel, 14-15 August 2012.

(Lewis 1983, Morrison 1984, Young 1989) and tends to feed continuously during high tide (pers. obs.).

Our results showed that Semipalmated Sandpipers were least affected by the flooding tide, and may only move to roost when water levels are at their highest level, effectively removing foraging habitat, or in the evening when feeding opportunities are more limited. Indeed, Semipalmated Sandpipers are known to be the least specific in their feeding habits (Hicklin and Gratto-Trevor 2010), and at Chickney Channel, they were observed foraging in the grassy intertidal zone, moving only when water covered the area, and later in the day. Dunlin, on the other hand, have been shown to roost during high tide, while Western Sandpiper (*C. mauri*), like Semipalmated Sandpiper, tend to forage continuously (Senner *et al.* 1989). This corroborates our observations from Chickney Channel of Semipalmated Sandpipers feeding continuously at high tide, while roost flights of Dunlin occurred before high tide.

These differences in foraging behaviour are certainly related to specific differences in diet (Hamer *et al.* 2006). Unfortunately, invertebrate samples taken at Chickney Channel have not been analysed, and specific diets for each species at Chickney Channel are unknown. Anecdotally, molluscs and dipterans were most abundant in the intertidal zone, along with oligochaetes to a lesser extent. It is difficult to determine whether each species was selectively foraging for one invertebrate group, but it is likely, due to the constraint of their bill size and length. For example, Senner

et al. (1989) found that Dunlin foraged more often on the mollusc *Macoma balthica,* while Western Sandpipers, like Semipalmated Sandpipers, had a more diverse diet. Similarly, Morrison (1984) noted the varying diet of Semipalmated Sandpipers at sites along the James Bay coast, as well as an apparent segregation of birds based on habitat and food resources. Once access to the preferred food source is flooded, the birds move to roost or to less flooded areas.

Our observations show differences in timing of flights, species composition and overall abundance estimates. In order to understand better the use of James Bay by staging shorebirds, future surveys at a variety of sites could collect similar data over a longer period and at different times during the season to better capture changes in abundance and flight times. Information about the invertebrate composition of various tidal zones would also be valuable to help determine how diet and foraging site selection may influence flight timing. A broad understanding of the habitat use of all shorebirds along the James Bay coast would be beneficial for conservation and management of this significant area.

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A Migration of Juvenile Bonaparte's Gulls at Wheatley Harbour, Ontario

Alan Wormington

THIS PAPER DESCRIBES an exceptional count of juvenile Bonaparte's Gulls (*Chroicocephalus philadelphia*) that was made at Wheatley Harbour in southwestern Ontario on 1 September 2010. Wheatley Harbour is on Lake Erie and straddles the boundary between Essex County and the Regional Municipality of Chatham-Kent. The observation site is part of the official Point Pelee Birding Area, which is a standard 24 kilometre (15 mile) diameter Christmas Bird Count circle. Wheatley Harbour is located in the northeast section of the Point Pelee Birding Area, which is hereafter referred to as simply "Point Pelee". For comparative purposes, data on the status of juvenile Bonaparte's Gull at Point Pelee are also presented.

Observation on 1 September 2010

On the day of observation, I arrived at Wheatley Harbour at 0705h. Almost immediately, I noticed distinct groups of juvenile Bonaparte's Gulls in flight, all flying from northeast to southwest. This is the orientation of the shoreline here, and the birds were flying offshore at or just above eye level. I was standing at the end of the east pier, and although some birds were passing overhead, the majority were flying slightly farther offshore. All birds had a "determined" flight, and it was obvious that a major movement was in progress. I remained at Wheatley Harbour until 0905h, when the passage appeared to be mostly over. During the two hours that I was present, I counted a grand total of 3,450 juveniles.

Figure 1. A juvenile Bonaparte's Gull at Seacliff Beach (Leamington) on 8 August 2009. This is a favourite loafing location within the Point Pelee Birding Area for Bonaparte's Gull during summer and early fall migration, and it is here where the first juvenile birds are often detected (including 2010).
Photo: Alan Wormington

The passing flocks typically consisted of 10 to 60 birds each. I did not count the number of actual flocks, but assuming an average of 35 birds per flock, then approximately 100 separate flocks passed my observation point. Most flocks were purely juvenile birds, but some flocks also contained from one to several individuals of the other age classes of Bonaparte's Gull, namely adults or second-winter (one-year-old) immatures. Birds other than juveniles totalled only 80 individuals, which was about 2% of all that were counted (3,530 birds in total).

During the 2-hour period of observation, there was a moderate southwest wind that was slowly veering to the west. Visibility at the time was good, and some cloud cover was present. The temperature was unusually warm during the early-morning observation period, ranging from 23.2° to 26.7° C. (as reported by the Windsor Weather Office of Environment Canada).

Discussion

The juvenile age class (see Figure 1) is probably the least studied population of Bonaparte's Gull. For example, the

definitive account for Bonaparte's Gull in the online "Birds of North America" series barely mentions the juvenile age class, let alone describes it in detail (Burger and Gochfeld 2002). Birds in juvenile plumage can be surprisingly elusive. Compared to the population of the species as a whole, they are not overly common, and they tend to be seen in few places (and known concentration areas are fewer still). At Point Pelee, it has been documented that the first juveniles typically arrive in late July, they then quickly increase in numbers during August, but by mid-September (at the latest) the vast majority have already departed. Those that remain are few in number and shortly thereafter their moult into first-winter (first-basic) plumage has been completed (Wormington 2001, *in prep*).

Several aspects concerning the observation of 3,450 juveniles on 1 September 2010 are of interest: (1) it is an exceptionally high count for this age class; (2) the fact that the birds were actively migrating (or at least had the appearance of migrating); and (3) they were clearly separate from other age classes that were present in the area. All of these points are discussed below.

Very high counts of juvenile Bonaparte's Gulls at Point Pelee are relatively few, even though the species as a whole is abundant here (Wormington *in prep*). Prior to 2010, the highest count for this age class was of 1,500 birds on 18 August 2006. These were part of a massive flock of birds that also included 5,500 adult Bonaparte's Gulls, all of which were loafing in the "Onion Fields" that are located just north of Point Pelee National Park. The next-highest count for juveniles at Point Pelee drops down to 715 birds, recorded on 25 August 1987; then down to 60 juveniles observed on two different occasions (Wormington *in prep*). These lower high counts clearly indicate that the 3,450 juveniles observed on 1 September 2010 was indeed significant.

Additional sightings during 2010 at Point Pelee also indicate an exceptional season for juvenile birds that year. On 29 July, 120 juveniles were recorded. This was not only a very high count for so early in the season, but was also the highest July count ever (the previous monthly high was 60 juveniles on 29 July 1988). For the month of September, in addition to the 3,450 birds counted on 1 September, 260 juveniles were seen on 13 September and another 200 on 16 September. The previous high juvenile count for the month of September at Point Pelee (prior to 2010) was of only 60 birds (7 September 1982).

Since the number of juvenile Bonaparte's Gulls observed at Point Pelee during 2010 was considerably higher than any previous year dating back to the early 1980s (Wormington *in prep*), this would suggest that the species had an exceptional breeding season. Indeed, for the summer of 2010, Crins (2011) stated that northern Ontario experienced its fifth warmest summer on record. Likewise for northern Manitoba (Koes and Taylor 2011) and Nunavut and Northwest Territories (Eckert 2011), where a

generally early and good nesting season was reported. Thus in 2010, virtually the entire breeding range of Bonaparte's Gull potentially had very favourable conditions for nesting and raising young.

During the years that I have been monitoring Bonaparte's Gull at Point Pelee (since the early 1980s), there has never been a previous occasion when juvenile birds have outnumbered any other age class (or outnumbered all other age classes combined). Instead, during the entire fall migration period which extends from July to January inclusive, adult birds without exception have always greatly outnumbered all other age classes combined (Wormington *in prep*). Thus, the 3,450 juvenile birds on 1 September 2010, comprising 98% of all birds counted, represent an extreme aberration compared to normal conditions. The fact that the juvenile birds were effectively isolated from all others, were present in very large numbers and, finally, were passing a fixed observation point, would indicate that they were actively migrating. Furthermore, since the vast majority of juvenile birds depart Point Pelee by early to the middle of September but adult birds remain in large numbers through late fall into January, this also strengthens the idea that the juvenile birds observed on 1 September 2010 were indeed migrating.

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Unusual Food-caching Site for a Red-breasted Nuthatch

Erica Dunn

THE RED-BREASTED NUTHATCH (*Sitta canadensis*) is a short-term cacher, hiding as many as 150 items a day in a pattern that suggests much of the food may be retrieved later the same day (Grubb and Waite 1987). Food is typically cached in tree bark crevices, but occasionally in the ground (Hendricks 1995). Less than half of caches are covered, with bark or other material picked up within reach of the cache site.

I recently observed caching in an unusual location. On 1 September 2012, I was sitting quietly, alone, on a second-storey deck in Simcoe, Ontario (42.83° N, 80.30° W). Several Red-breasted Nuthatches were visiting a feeder about 3 m away that was filled with black oil sunflower seeds, and carrying seeds to a tree about 5 m away. Judging by the frequency of visits and rapidity of return from the tree, the birds were caching seeds rather than opening and eating them.

One nuthatch carried a seed to the empty seat of the chair next to me, took a few hops while looking from side to side, then hopped to the deck by my feet. It briefly investigated several crevices, then jumped onto to the toe of one of my sandals and tucked the seed under my socked foot (Figure 1). The bird made no attempt to cover the seed, and flew off directly without any sign of having been startled.

The seed was pushed in about 1 cm under my foot, similar to the 1.5 cm Hendricks (1995) reported for a seed cached in the ground. There was no material close at hand for use in covering the

Figure 1. Location (indicated by arrow) where Red-breasted Nuthatch cached a sunflower seed. *Photo: Erica Dunn.*

cache (Figure 1), but in any event the seed was not visible after it was deposited.

I searched The Birds of North America (http://bna.birds.cornell.edu/bna/) for caching behaviour in passerines, and found no records of caching in artificial sites, let alone on humans. Dr. David Sherry, a student of caching behaviour (*e.g.* Sherry 1985), confirmed the novelty of this incident. Other than demonstrating behavioural flexibility, however, the event I experienced is of little biological significance, however delightful it may have been.

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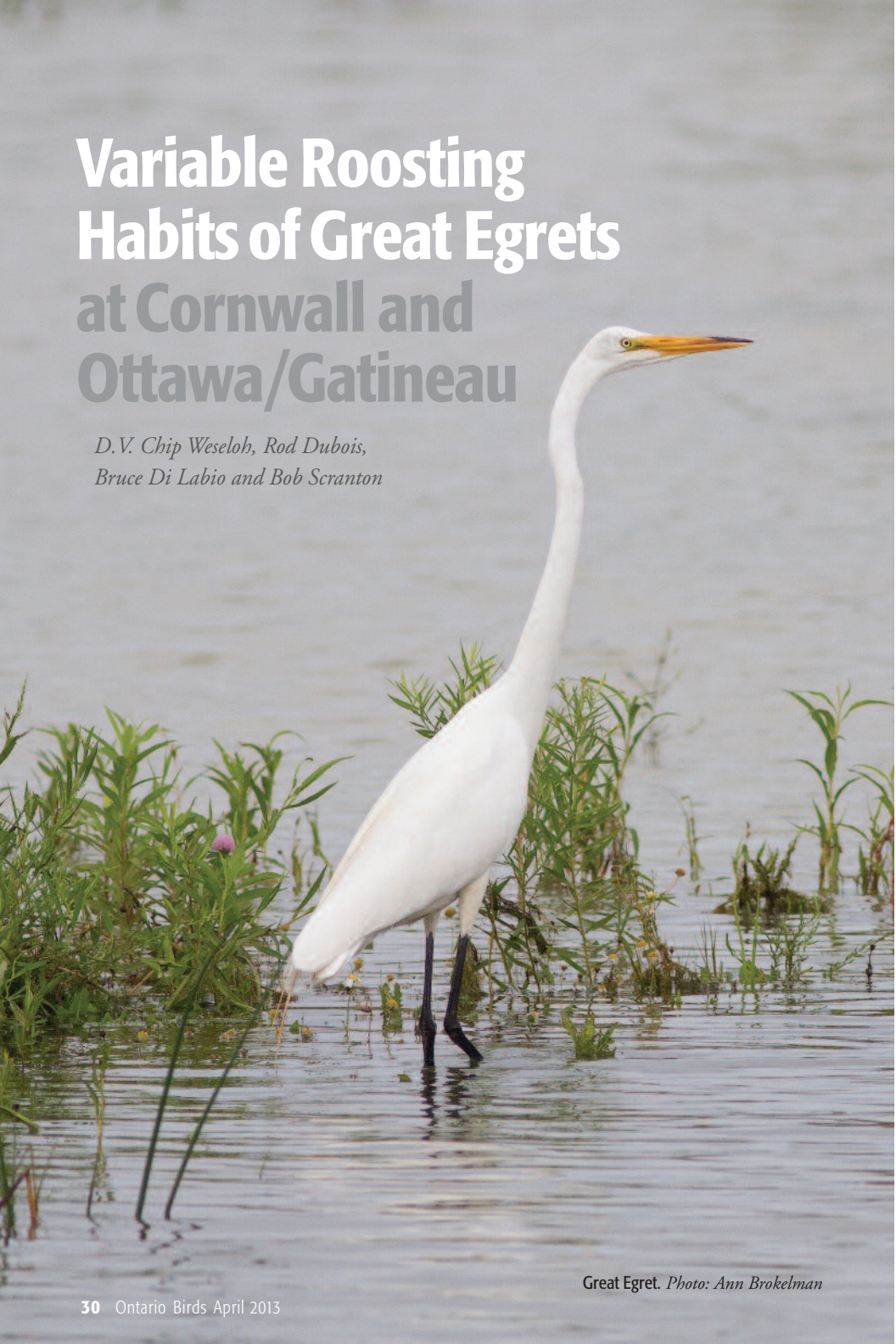
Variable Roosting Habits of Great Egrets at Cornwall and Ottawa/Gatineau

D.V. Chip Weseloh, Rod Dubois, Bruce Di Labio and Bob Scranton



Great Egret. *Photo: Ann Brokelman*

Great Egret. *Photo: Ann Brokelman*

Introduction

The Great Egret (*Ardea alba*, henceforth egret) is a resident of southern Ontario from approximately late March through November, with stragglers remaining into December (James 1991, Sandilands 2005, Curry 2006). During the first half of this period, up to approximately late July, most egrets in southern Ontario are resident on their breeding colonies and range only within foraging distance of it, i.e. approximately 16 km (10 miles) but occasionally a bit farther (McCrimmon *et al.* 2011). Their activities during this period are well known: selecting territories and mates, nest building, courtship and copulation, egg laying, incubation and brooding, and feeding young (McCrimmon *et al.* 2011). The activities of egrets during the post-breeding period, from July through November, are not as well documented but there is ample evidence that egrets are more widely distributed across much of southern Ontario during this period than during the breeding period (Speirs 1985, Sandilands 2005, Curry 2006, Weir 2008, Black and Roy 2010).

During the period from July to November, the activities of egrets in southern Ontario would include: dispersal from the breeding and natal colony by adults and juveniles, daily foraging in new territory, temporary residence and roosting within their dispersal area, migratory staging, nutritional preparation

for migration and, finally, southward migration. However, the details, and even the existence of many of these post-breeding activities in Ontario are not known or seldom recognized. For example, it is not known if there is a differential migration chronology (timing) where adult egrets migrate ahead of juvenile egrets, as there is with many other birds, e.g. shorebirds (Pienkowski and Evans 1984, Nol and Blaken 1999). Also, it is not known to what extent the egrets in southern Ontario undergo a northward post-breeding dispersal as do egrets from more southerly areas (McCrimmon *et al.* 2011). The Great Lakes and southern Ontario are already at the northern edge of the egret's breeding range in eastern North America and records to the north are rare.

For this paper, we have focused our attention, primarily, on the roosting habits of Great Egrets during the post-breeding period in the Cornwall and Ottawa River area. Some of the unknowns in this area include: are individual roosts used continuously during the July to November period or only sporadically? How many birds occupy given roosts? What is the most common size of roosts? What is the roosting substrate? Where do they roost? Are the same roosts used year after year? There are many unknowns pertaining to local movements and roosting habits of egrets in Ontario (and elsewhere) during the post-breeding season. Here, we describe the roosting habits of Great Egrets at two southern Ontario locations, one at Cornwall, Ontario, and the other at the adjacent locations of Ottawa (Ontario) and Gatineau (Québec) in 2010 and 2011. These were two of the three most intensively monitored egret roosting sites in southern Ontario during this time with the third being Luther Marsh (DVCW and L. McLaren, unpubl. data). To the best of our knowledge, the types of questions posed above have not been addressed by any previous studies of Great Egrets (McCrimmon *et al.* 2011)

Background

In the area of Cornwall, Ontario, Great Egrets formerly bred at Dickerson Island, approximately 10 km downstream (east) from the town site, in the Québec waters of the St. Lawrence River. They are known to have bred there from 1984 (David 1996) to 2003. Ninety-one nests were counted there in 2003 and (probably due to mammalian predation) they have not been known to nest there since (L. Harper unpubl. data). In the Cornwall area, egrets were first noted roosting in a small backwater section of a large wetland complex just south of where Richmond Drive crosses a set of railroad tracks, on the west side of Cornwall, Ontario, in August 2008 (BS unpubl. obs).

In the area of Ottawa, Ontario, and Gatineau (formerly Aylmer), Québec, Great Egrets are a relatively recent arrival; they were first reported as single birds in the former in 1972 (BD unpubl. obs.) and just east of the latter, at Masson (QC), in 1973 (RD unpubl. obs.). Reports of one to two egrets in Ottawa and east of Gatineau were received occasionally during the 1980s and 1990s

Great Egret. *Photo: Ann Brokelman*

(RD unpubl. obs.). In the early 2000s, the number of egrets began to increase; five to eight egrets were noted in Ottawa in the autumn (BD unpubl. obs.) and up to a dozen egrets were reported just east of Gatineau (RD unpubl. obs.). Egrets were first observed on Conroy Island in 2007 but were not noted to be roosting there, or anywhere in the area, until 2010, when more than 30 egrets were recorded (BD and RD unpubl. data). Up to the end of 2011, Great Egrets did not breed anywhere near the Ottawa/ Gatineau area. In fact, the nearest colony was at Dickerson Island (approximately 100 km to the SE).

Methods

At Cornwall, all observations were made from the backyard of the house at 5696 Richmond Drive by BS and colleagues. This yard abuts the extension of the wetland complex where the egrets roosted (Figure 1). From the backyard, across

Figure 1. The location of the egret roost off Richmond Drive in Cornwall, Ontario.

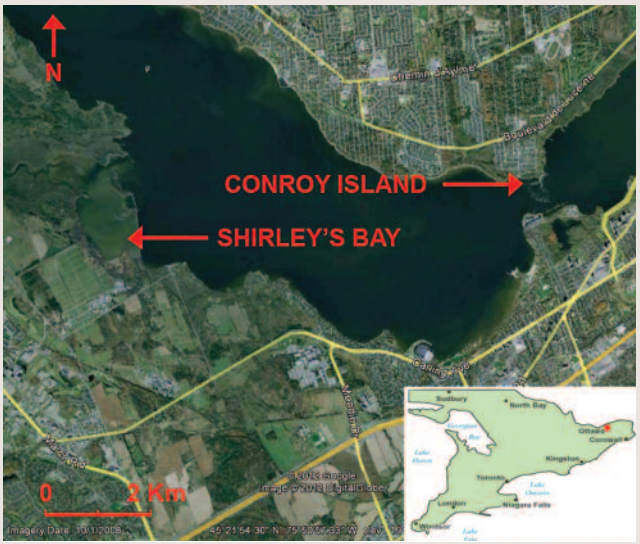


Figure 2. The Ottawa/Gatineau study area. Egrets roosted in/near the west side of Shirley's Bay in 2010 and in the east side in 2011.

the small wetland, to the trees where the egrets roosted was approximately 100 m. In the Ottawa River in 2010, the egrets roosted, sequentially, at two different areas: Conroy Island (on the Gatineau side of the River) and at an unconfirmed location west of, or at the west end of, Shirley's Bay (in Ottawa) (Figure 2); this exact roost site could not be located. All observations of roosting egrets on Conroy

Island in Gatineau were made from a paved bike path along the Ottawa River at a distance of approximately 200 m by RD. From the Ottawa side of the River, where observations were made by BD, Conroy Island was observed most closely from the Britannia Yacht Club. It could also be seen more distantly (4 km) from the old causeway that directly overlooks Shirley's Bay and from which flight lines of egrets going to and from the unconfirmed roost site were also visible. In 2011, along the Ottawa River, egrets roosted sequentially on Conroy Island (as in 2010) and at an easily observed location from the causeway on the east side of Shirley's Bay (a different location from 2010) and observations were carried out as described above. DVCW visited the Cornwall (2010 and 2011), Conroy Island (2011) and Shirley's Bay (2012) roost observation posts on selected occasions.

Most observations at the above sites were made in the evening during the last hour of daylight when either the total number of egrets at the roost was tallied or egret numbers were tallied as the birds flew into the roost. At Cornwall, the egrets could be observed easily flying and landing in medium-tall trees (5 – 8m) at the water's edge. At Conroy Island, the egrets were clearly visible as they flew to the west end of the island (usually from the west or southwest), where they landed in the treetops. Their final roosting location, however, was lower down in the vegetation and/or on the south side of the island, which was not directly visible from the observation post on the north side of the river. The east end of the island also was not visible from the Gatineau observation post. However, very few egrets were ever observed coming to Conroy Island from the east. At Shirley's Bay in 2010, egrets could only be observed flying to and from (in the evening and morning, respectively) the unconfirmed roost farther to the west. In 2011, the roost location, in the shallow waters of the east side of Shirley's Bay (just west of the causeway), was easily visible.

Occasionally, observations were made in the morning during the first hour of daylight. In these instances, the most accurate counts were made by waiting for the egrets to disperse out of their roost and then counting them individually. On clear days, egrets usually start leaving their roost about 10 – 15 minutes before official sunrise (DVCW unpubl. obs.). When roosting in trees or shallow water, egrets may often be bunched together and it can be difficult to get a single accurate count.

All count data for egrets are presented as the greatest number of egrets recorded per week; weeks were defined by the following dates: week 1 = 1st-7th, week 2 = 8th-15th, week 3 = 16th-23rd, week 4 = 24th-31st of the month.

Results

Cornwall

The pattern of roost occupation and the number of egrets present at the Richmond Drive roost in Cornwall in 2010 and 2011 are plotted in Figure 3.

In 2010, observations for roosting egrets at the site were made on 12 dates between 17 July and 29 October (approximately once per week). The number of egrets using the roost ranged from zero to 34. Egret numbers increased fairly quickly beginning in the last week of July; no egrets were seen on 17 and 21 July, but 3, 16 and 21 egrets came in to the roost on 23, 26 and 28 July, respectively. Peak numbers were recorded from late August to mid-September. Unfortunately, there were no observations from mid-September until mid-October, by which time numbers had declined to only eight. The last egret was observed at the roost on 20 October.

In 2011, observations for roosting egrets (Figure 3) were made on 26 dates between 5 June and 4 November (slightly more than once per week). A single egret was observed at the Cornwall roost intermittently until 25 July when the number increased to four. The numbers of roosting egrets increased sharply throughout August, reaching 51 at the end of the month, and through most of September and peaked at 73 in early October. Numbers decreased quickly during October; they declined 41% during the second week and a further 45% (of the peak) during the third week. The last two egrets at the roost were recorded during the first week of November.

At Cornwall, as far as is known, the egrets only roosted at this one location in 2010 and 2011 and they only roosted in medium-tall trees (5-8 m) on the shoreline of a wetland.

Ottawa/Gatineau

In 2010, egrets roosted sequentially at two locations in or near the Ottawa River: Conroy Island (at the Deschênes Rapids) and the unconfirmed location

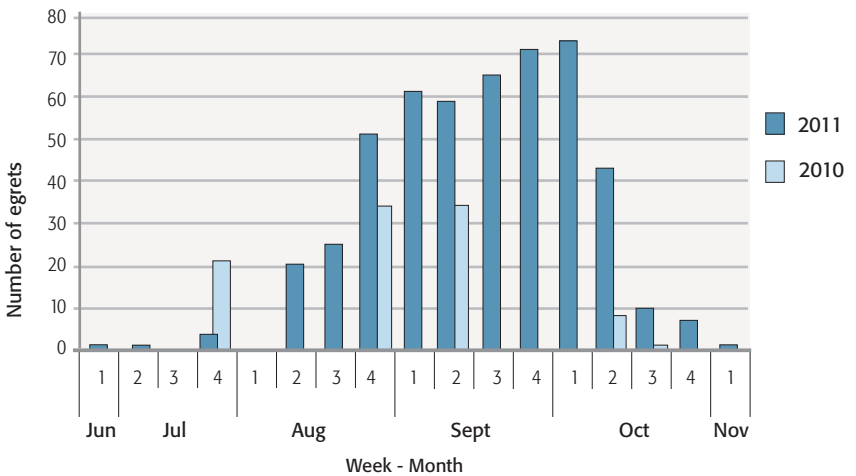


Figure 3. Number of egrets and periods of occupation at the Cornwall roost, 2010 and 2011.

Figure 4. Egrets in the Cornwall roost. *Photo: Jacques Bouvier*

in or near the west end of Shirley's Bay. Counts for roosting egrets at these two sites were made on 15 dates between 7 August and 23 September (approximately twice per week); the two roost sites are approximately 4 km apart. During the summer, through 7 August, up to three egrets were observed roosting on Conroy Island (2010 data not shown). During the second week of August, the number rose to 18 and by 21 August numbers peaked at 30 egrets. After that, numbers declined very quickly as the egrets abandoned this site, perhaps due to disturbance on the island from fisherman at dusk (RD, pers. obs.). During 22–25 August, numbers fluctuated between only one to five egrets roosting on Conroy Island. Observations at Conroy Island gave no indication as to where the egrets had gone.

At sunrise on 28 August, more than a dozen egrets arrived at Shirley's Bay from the west; none came from the east, the direction of Conroy Island. This strongly suggested that the egrets had roosted at some location to the west of, or in the extreme west end of Shirley's Bay and not at Conroy Island to the east. During the rest of August and early September, 10-18 egrets were reported foraging in Shirley's Bay during midday. On an evening watch on 6 September at Shirley's Bay, small numbers of individual egrets, eventually totalling 33, were observed flying to the west, towards the back of the Bay approaching the Crown Game Preserve.

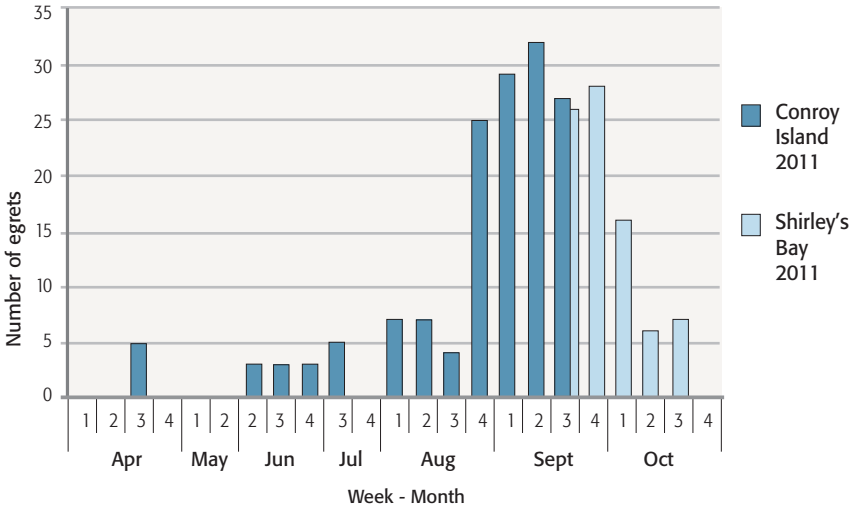


Figure 5. Number of egrets and periods of occupation at the Ottawa River roosts, 2011.

Unfortunately, this was the last observation that could be made from this area. During the third week of September, at dusk, a single egret was observed to fly over Conroy Island and continue flying off to the west (in the direction of Shirley's Bay and the Game Preserve). Thus, in 2010, the egrets using the Ottawa River appeared to switch roosts during the autumn period, first roosting on Conroy Island and then switching to an unknown specific location either at the extreme west end of Shirley's Bay or to the west of the Bay, perhaps in the Crown Game Preserve.

The pattern of roost occupation and the number of egrets roosting at Conroy Island and Shirley's Bay in 2011 are given on a weekly basis in Figure 4. Observations were initiated on 4 April, in hopes of documenting the use of these roosts in spring, a time of little reported or known roosting activity away from the breeding colony. No egrets were observed in the area of the Conroy Island roost until 9 April when a single egret was seen foraging in the river. Three days later, a single egret was observed flying westward past Conroy Island at dusk and continued to the west. Finally, on the evening of 19 April, five egrets were observed to come in to roost on the island. At dusk/ dawn on 23/24 April, two egrets were observed roosting on the island. Three egrets were observed on the island in mid-morning on 3 May but it is not known if they roosted there or if they possibly bred there.

Regular observations were not made at the Conroy Island site during the rest of May through early July, although during 14–28 June up to three individuals were observed roosting there, including an egret with the red leg-band, 61J (see below). Starting in mid-July, regular and

intensive observations were resumed (28 days of observations during 18 July – 26 September, nearly three times a week) and the number of egrets using the roost on Conroy Island increased slowly from five to seven by early August (Figure 5). During the third week of August, increased numbers of egrets were observed on the Ottawa River during the day (11–16 egrets on 19 August, BD). By the first week of August, the number of egrets using the roost increased to 15 and then 25; 61J was reported present during this entire time period.

For the next month, observations were made on a nearly daily basis at Conroy Island and somewhat less frequently near Shirley's Bay. The number of egrets roosting on Conroy Island increased to a peak of 32 on 12 September; 61J was still present. During this time, egrets were observed foraging regularly during the day at Shirley's Bay and Britannia Park, e.g. on both 7 and 14 September, more than 20 egrets arrived there first thing in the morning from the east, the direction of Conroy Island.

On the evening of 17 September, RD was at the usual observation post in Gatineau overlooking Conroy Island when 27 egrets came into the roost and settled into the trees. Suddenly, at 1942 hrs, 21 of the egrets flew off to the SW towards Shirley's Bay; six egrets remained at Conroy Island. The following night only a single egret came to Conroy Island but it, too, flew off in the direction of Shirley's Bay. On 22, 23, 24 and 26 September, no further egrets came to the Conroy Island roost. On 23 September, at 0730hrs, just after sunrise, BD observed 26 egrets foraging at the back (west end) of Shirley's Bay. The next morning, before sunrise, he observed 28 egrets, including 61J, roosting in shallow

A colour-banded Great Egret

During the latter half of June 2011, when up to three egrets were observed intermittently at the Conroy Island roost, a colour-banded egret (61J) also was observed (RD pers. obs.). This bird had been banded as a flightless young on 17 July 2009 at Nottawasaga Island (near Collingwood, Ontario) by the Canadian Wildlife Service; hence, when it was observed near Conroy Island it was a two-year old bird. This egret was seen on 11 occasions between late June and 24 September 2011 (3.5 months). It was identified nine times coming in to roost on Conroy Island and twice at Shirley's Bay. It was foraging there on the morning of 11 September and it was roosting there on the evening of 24 September. It probably also was the banded individual observed roosting at Shirley's Bay on 18 October 2011 (BD pers. obs.). There were no other reports of this bird between 17 July 2009 and June 2011. This observation illustrates how long some egrets may stay in a given area during the post-breeding period.

Figure 6. Egrets roosting at the Shirley's Bay roost, 2011.
Photo: Bruce M. Di Labio

water on the eastern side of the Bay. Obviously, this had become their new roosting site and they had changed from roosting in trees/shrubs on Conroy Island to roosting here in shallow water.

During the period of 26 September to 11 October, the number of egrets roosting in the shallow water of Shirley's Bay declined from 28 individuals to 15 and then to six. Somewhat surprisingly, no egrets came into roost at Shirley's Bay on the evening of 12 or 13 October; it was assumed that the last few birds had migrated. More surprisingly was a posting on the ONTBIRDS listserv on 15 October reporting that seven egrets had been observed, that day, at a pond along Sarsaparilla Trail off Richmond Road. (B. McCrea pers. obs.). Based on the assumption that if there were still egrets in the immediate Ottawa area, they would roost at Shirley's Bay, BD went there that evening and as expected, he found seven egrets roosting at Shirley's Bay. Over the next three evenings, the numbers went from two to zero and six days later there were still no other egrets roosting at Shirley's Bay. It appeared the egrets had finally left the area for good.

Discussion

This paper reports on the seasonal use of four roosting sites by two cohorts of Great Egrets at two widely separated geographical locations and the switching from one roosting habitat (live trees on a riverine island) to another (shallow riverine water) by one of those cohorts. It also documents the use of two different roost sites in successive years by egrets from the same local area. To the best of our knowledge, these features of the Great Egret's post-breeding roosting behaviour have not been the main focus of any previous study of this species.

At Cornwall, the egrets did not appear to use their traditional autumn roost during their spring migratory period. Rather, they commenced using their only known Cornwall-area roost site (live trees adjacent to a marsh) in the mid-summer (June-July) and occupied it consistently throughout the post-breeding period until late October-early November. In southern Ontario, roost occupation in the autumn during the post-breeding period and not in the spring, is also known to occur at the roost sites at River Canard (LaSalle, P. Pratt, pers. comm.) Metcalf, Ontario (J. Cooper and S. Godoy, pers. comm.) and at The Coves (London, A. Granger, pers. comm.). Locating active egret roosts in spring, away from the breeding colony, is very difficult. Occupation appears to be brief and sporadic and the number of birds involved is small. This spring (2012) at the Luther Marsh roost (Grand Valley) the number of egrets using the roost varied from zero to 11 on

16 dates from 13 April to 13 May; in the autumn, over 400 egrets roost at that site (L. McLaren, unpubl. data). With many bird species, the spring migration is often quite direct with birds spending little or no time at staging areas en route to their breeding areas. In the autumn, there is often a dispersal period prior to the actual southward migration, where movements are quite leisurely and temporary residence in local areas is common.

In the Ottawa River, on the other hand, egrets were observed to roost on Conroy Island in the spring of 2011. Up to five individuals were seen from 19 April to 3 May. Then, like at Cornwall, egrets began roosting on Conroy Island during the post-breeding period in June-July of both years only to switch to a site (approximately 4 km away) in or near the west end of Shirley's Bay (in 2010) and near the causeway at Shirley's Bay (in 2011).

Changing roosting sites and substrates

There can be little doubt that the egrets which were roosting on Conroy Island in mid-September (on the 12th, 14th and 17th) were at least mostly the same ones that began, and continued, roosting at Shirley's Bay on 23, 24 and 26 September. Three observations support this conclusion; the number of egrets involved was approximately the same (27-32 vs 26-28), use of the two sites was mutually exclusive, i.e. they were not occupied simultaneously, and the colour-banded individual, 61J, was observed roosting at both sites. Though not reported from other locations in the literature, the changing of local roosting sites/substrates has been observed elsewhere in Ontario. Egrets roosting at Oshawa Second Marsh (Oshawa, T. Hoar, pers. comm.), the mouth of the Rouge River (Scarborough, A. Brokelman and K. Fawthrop, pers. comm.), Carroll's Point (Hamilton, C. Hodder, pers. comm.) and the Hespeler Mill Pond (Hespeler/Cambridge, R. MacIver, pers. comm. and DVCW, pers. obs.) have been observed to change roost sites from treed shoreline areas to shallow water/mudflats (or vice versa), as observed at Ottawa/ Gatineau. In contrast, there was no indication of roost/substrate switching at Cornwall nor has there been at some other Ontario roost sites: Lynde Creek (Ajax, DVCW, pers. obs) or Wildwood Lake (St. Marys, H. Veenendaal, pers. comm.).

Although identifying the factors which may control the selection of roost sites by Great Egrets is beyond the scope of this study, a major contributing factor appears to be the presence of water and water levels. Of 42 roost sites identified to date in the area of southern Ontario, all have been in or very close to water; 26 were in trees in, or immediately adjacent to water; 12 were in very shallow water or on mudflats; and four were in low bushes or fallen trees in water (DVCW, unpubl. data).

Concerning water levels, in the extreme, if a wetland that was used previously as a roost site dries up or is drawn down to dryness, egrets have not returned to that site. For example, Mays Point at Montezuma National Wildlife Refuge and Mohawk Pond at Iroquois National

Wildlife Refuge (both in western New York) both had egret roosts in the autumn of 2011. In 2012, they were drawn down to dryness and neither one was used as a roost (J. Graves, B. Watson and C. Morien, pers. comm.). There also seems to be a tendency for egrets to move from a tree roost, earlier in the season, to a water/mudflat roost, later in the season, e.g. at the Rouge River Park (Scarborough), Carroll's Point (Hamilton) and this study. Of the 12 known egret roosts in water in southern Ontario and western New York, all of them were in very shallow water, probably less than 10 cm (DVCW unpubl. data). These conditions probably tend to occur as the autumn season progresses. It remains to be seen if shallow water and mudflats may be the egrets' preferred roosting substrate but it is generally not available until later in the autumn period.

Temporary abandonment and reoccupation of the roost site

Late in the post-breeding period, daily observations at the roost sites on the Ottawa River showed that no egrets roosted at either Shirley's Bay or Conroy Island on 12 and 13 October (2011). It appeared that the egrets had abandoned the site and probably migrated. However, as it turned out, egrets resumed roosting at Shirley's Bay on 16, 17 and 18 October with seven, two and two individuals, respectively. An obvious question is where did the egrets roost or where did they go for the evenings of the 12th and 13th? Given that the numbers of egrets roosting at Shirley's Bay on 5, 6 and 11 October (six to seven) were identical to the number that was seen there on 16 October (seven), it was probably the same group of egrets that was involved in both roostings. Hence, we appear to have a situation where an entire roosting cohort of egrets abandoned their roost site for two nights, only to return for three nights and then migrate out of the area. The question remains, however, where did they go, and what prompted them to do so, when they were not at Shirley's Bay?

Conclusion

Great Egrets show both great consistency and great flexibility in their roosting habits as exhibited by the two roosting situations discussed in this paper. On the one hand, they will roost consistently at the same site throughout the post-breeding period and between years (as at Cornwall). On the other hand, they show great flexibility in switching roost sites, and roosting substrate, during the post-breeding period as well as roosting at different locations, at a given locale, from one year to the next (as at Ottawa/Gatineau). Neither of these situations would have been uncovered had it not been for the dedicated and persistent roost observations by the authors and other volunteers. Roosting behaviour and habits of Great Egrets may or may not change during the bird's life cycle in southern Ontario but without the repeated observations at given sites, we will never know.

A practical application of these findings might suggest caution in using the presence of an egret roost as a selection criterion in designating Important Bird Areas (IBAs), especially with relatively small-sized roosts. There may be a relationship between the size of the roost, *i.e.* the number of birds using it, and its stability.

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Isotherms and Winter Distribution of **Trumpeter Swans**

Trumpeter Swan *Photo: Larry Radko*

Harry G. Lumsden

THE EARLY FRENCH EXPLORERS, missionaries and Acadian settlers, left a record in the 16th and 17th centuries of swans in eastern Canada before the flood of European settlement arrived. These records of birds, believed to be Trumpeter Swans (*Cygnus buccinator*), were brief and scattered (Banko 1960). They tell us little about numbers and report winter occurrence only in New England. The paucity of these early records leaves us with little understanding of their original summer or winter distribution. The recently re-established Ontario Trumpeter Swan population has demonstrated its ability to migrate and has shown

its choice of wintering zones. These swans would probably have the same capabilities as their forerunners nearly 500 years ago. The purpose of this paper is to relate the contemporary winter range of this re-established population of Trumpeter Swans with the present mean January isotherms.

The earliest report of swans in Canada was in 1538 on the St. Lawrence River by Jacques Cartier (Biggar 1924). Travelling in the ship in which he had crossed the Atlantic, he sailed up the St. Lawrence River, very nearly as far as Montreal. With the need to cautiously sound his way upstream, he was forced to sail in the deepest water. Observations of wildlife close to shore were thus limited. He anchored his ship from 19-28 September and rowed upstream in his longboats, presumably avoiding the main current, to reach the Indian village of Hochalaga (vicinity of present day Montreal). During this trip in shallow water he saw "many" swans.

There is a problem with Cartier's dates, which were recorded under the old Julian calendar as 19 September-30 September. In 1582, Pope Gregory XIII introduced a new calendar, which we use today, and which corrected the 10 day accumulated error in the 1500 year old Julian calendar (Hatcher 1984). Under the new Gregorian calendar, Cartier actually saw these swans on 29 September - 10 October.

Could these have been early migrating Tundra Swans (*Cygnus columbianus*)? This is not likely because Tundra Swans are late fall migrants, some remaining on the prairies until freeze-up. They cross Minnesota, Wisconsin and Michigan from late October to late November. The majority move through these states between 5 to 15 November (Bellrose 1976). They reach their final destination and wintering grounds in the Atlantic States from mid-November to mid-December (Limpert and Earnst 1994). The earliest fall records for Tundra Swans in Ontario were 17 and 23 October (Quillian 1973) when birds were seen in the Kingston area. These dates suggest that it is very unlikely that there were "many" Tundra Swans on the St. Lawrence River east of Montreal in late September-early October.

Could the swans Cartier saw have been Trumpeter Swans that had flown in from elsewhere? That would depend on the maturity and stamina of cygnets and the molt dates of adults. Cygnets fledge on the western prairies (Kraft 1991) and in Minnesota (L. Gillette, pers. comm.) in September. In Ontario, they fledge from mid-September to early October. These cygnets would not have had the stamina to fly to the St. Lawrence River by late September. Mattson *et al.* (1995) found that Wisconsin Trumpeter Swans began their fall migration in late October, with most leaving in late November. Trumpeter Swan parents have a very varied and extended period of molt. An individual can regain flight in about 30 days. Some yearlings may be flightless in July but some adult males in Ontario and elsewhere do not regain flight until October (L. Gillette pers comm; Banko 1960).

Cartier's dates support the view that the "many" birds he saw were local Trumpeter Swans, possibly a breeding population. Dièreville, a trader from France, visited the Acadian settlers on the Bay of Fundy, Nova Scotia in 1699-1700 (Dièreville 1933). He wrote from Port Royal (44° 42' N 065° 36' W) that the settlers "could safely collect the eggs of swans and geese." Squires (1976) identified the swans as Tundra Swans, but that species nests much farther north on the tundra and only very rarely has been recorded breeding within the tree line. These nesting swans on the Bay of Fundy must have been Trumpeter Swans. If so, they would extend the historical distribution of breeding Trumpeter Swans to the Atlantic coast.

In New York in 1671-72, a Jesuit priest wrote (Thwaites 1959) that "swans and Canada Geese are very abundant during the entire winter and in spring one sees nothing but continual clouds of all sorts of waterfowl." The location he gave was Lake Toshero which he wrote was 14 leagues long by one or two leagues wide. The only lake of that size near the Oswego River which he mentioned is Oneida Lake near Syracuse, New York. This is the only French historical record which gives the location of swans in the winter. They must have been close to the northern limit of their winter distribution. It is of interest that 1671 would have been about the middle of the "little ice age" when a sharp downturn in the climate created much colder conditions than prevail today.

Archaeological sites also produced the bones of Trumpeter Swans in eastern Canada. In northern Newfoundland, near the straits of Belle Isle at the Port aux Choix burial site, four Trumpeter, 22 Tundra and six undetermined swan bones were recovered (Tuck 1976). Two Trumpeter Swan bones also were dug from the Coteau du Lac site upstream from Montreal in Quebec (H. Savage, pers. comm.).

When the restored population of Trumpeter Swans in Ontario are frozen out of their nesting wetlands, their identifying wing-tags show that most go only as far south as they must to find open water and food. The majority winter along the north shore of Lake Ontario, where many are attracted by artificial feeding. There are, however, birds wintering on inland rivers north of Lake Ontario (e.g. at Washago and in the Severn River system) that depend on aquatic vegetation (Lumsden *et al.* 2012). There have been few long distance movements. Most of the population remains in Ontario but some move into the Atlantic States.

The Ontario swans, therefore, have shown us where they choose to winter. It is possible to extrapolate from this distribution to other areas to determine where the potential exists for wintering additional swans.

The position of the +3°C, the 0°C, the -3°C, the -6°C and -9°C mean isotherms for January in eastern North America (source internet: Geography 2200, Lecture 12, Florida State University) are shown in Figure 1. When the

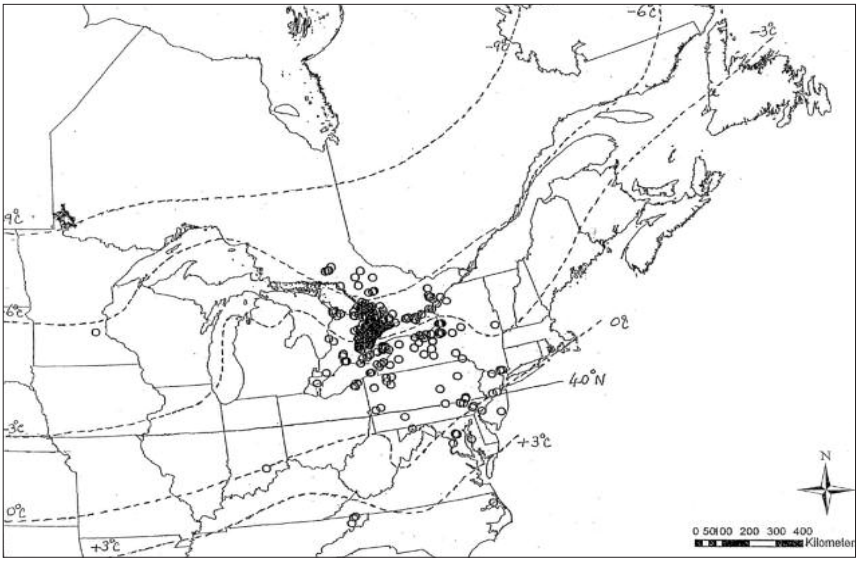

Figure 1. Mean January isotherms for eastern North America and the December, January and February distribution of Ontario-tagged Trumpeter Swans.

December to February locations of tagged Ontario Trumpeter Swans are superimposed (Figure 1), a pattern emerges. Most of the population remains in Ontario for the winter between the -3°C and -6°C isotherms. At some of these open water sites, the swans remain because they are fed, at others they survive on their own on natural food. This zone in the United States includes all of the Atlantic States where there are areas with spring water or currents which prevent ice formation.

The swans that leave Ontario mostly stay between the 0°C and -3°C isotherms. If we look further at this climate zone, we find that it includes Indiana, Ohio, Michigan, New York, Pennsylvania, north-eastern West Virginia, northern Maryland, northern New Jersey, Connecticut, Rhode Island, Massachusetts, southern New Hampshire, coastal Maine, southern New Brunswick, Nova Scotia and most of Newfoundland. Further south between the +3° C to 0° C isotherms , the rest of West Virginia, Virginia, southern Maryland, Delaware and southern New Jersey are included. That swans wintered in New Hampshire, Connecticut and Massachusetts in the early years of settlement is reported by Banko (1960). More recently, Ontario wing-tagged Trumpeter Swans have been identified in New York, Pennsylvania, Maryland and Delaware and untagged swans, reported as Trumpeter Swans, wintered in New Jersey, Connecticut and Maine.

The restored Trumpeter Swan population in Ontario is now self-sustaining.

There is very extensive unoccupied breeding range in northern Ontario and to the east in Quebec where they have started to nest recently. As the population builds, these birds will occupy increasingly larger parts of this range and will likely spread their winter range into the Atlantic States and Maritime Provinces.

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Figure 1. Starlings floating in Burlington Canal. *Photo: Marlene Hart*

Mysterious Deaths of European Starlings at Hamilton/Burlington

Marlene Hart

ON SATURDAY, 26 JANUARY 2013, a small group of outdoor enthusiasts from Guelph visited the Burlington Ship Canal (Burlington, Ontario) to do some bird photography. The group arrived at approximately 0940h and stayed for an hour. The conditions were sunny with a very light wind and temperature of -7°C. The overnight temperatures for 22-25 January had ranged from -14°C to -19° C.

There were many Long-tailed Ducks (*Clangula hyemalis*) in the canal on the west side of the Lift Bridge as well as other ducks; so at first, the group was engaged with admiring and photographing them. However, as I walked under the bridge and toward the lake, I noticed many small dark shapes floating in the water in the canal. After closer examination, it became clear that they were dead European Starlings (*Sturnus vulgaris*) (Figures 1, 2 and 3). Our group leader, Gregg Parsons, and I estimated that there were at least 200 birds, and

Figure 2. Dead European Starlings.
Photo: Marlene Hart

possibly more, floating on the south side of the canal in an uneven line stretching on either side of the bridge. No carcasses were noticed on land, on the dock, or any location other than the water in the canal. Several photos were taken of this phenomenon and all the while we were wondering what had caused the deaths. Unfortunately, no carcasses were retrieved. There were a number of immature Great Black-backed Gulls (*Larus marinus*, Figure 4) and Herring Gulls (*L. argentatus*, Figure 5) feeding on the starling carcasses.

The Burlington Skyway Bridge has long been known as a roosting location for starlings in the autumn and winter.

Figure 3. European Starling. *Photo: Marlene Hart*

A maximum of 70,000 birds was reported roosting there on 3 November 1991 by Bill Crins and Brian Henshaw (Curry 2006). During the recent Christmas Bird Count, approximately 700 starlings were reported leaving the roost on the morning of 26 December 2012 (N. Taylor and B. Smith, pers. comm.). There also appears to be an obvious reduction in the number of Rock Pigeons (*Columba livia*) which roost at the bridge (M. Cadman, pers. comm.).

Figure 4. Great Black-backed Gull with European Starling carcass. *Photo: Marlene Hart*

Currently, there is a large maintenance project underway on the underside of the Skyway Bridge involving many tarps and much scaffolding. This work may help explain the current low numbers of starlings and pigeons at the bridge.

Several questions come to mind with this incident: What caused the deaths? Why were all the birds in the water? Where had they come from? Were the deaths pesticide-related; is Avitrol used to reduce the numbers of birds roosting on the bridge or to keep them away? Could the starlings have been electrocuted or killed during bridge maintenance? Or, did someone simply dump the carcasses into the canal having obtained them from someplace else? As it was not possible to retrieve any of these birds for necropsy, we will probably never know the answers. Any pesticide-related cause may be a great concern because Peregrine Falcons (*Falco peregrinus*) often hunt pigeons, and perhaps starlings, from this bridge and they are very susceptible to some pesticides.

Editors' note: On the evening of 31 December 2010, near Beebe, Arkansas, approximately 3,000 Red-winged Blackbirds (*Agelaius phoeniceus*) were killed when, apparently, they were flushed from their evening roost by a fireworks display.

Figure 5. Herring Gull with European Starling carcass. *Photo: Marlene Hart*

It was speculated that when flushed from their roost at night, under such circumstances, the birds were highly disoriented and flew into a nearby building; upon necropsy, their bodies were heavily bruised. Given the maintenance work going on under the Skyway Bridge (above), and possible flapping tarpaulins or other loud noises, the starlings there could also have been flushed inadvertently with numbers being killed as they flew into the Lift Bridge. See http://www.jsonline.com/news/Wisconsin/113018024.html.

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I wish to thank Mike Cadman and Chip Weseloh for their assistance in preparing the latter part of this article i.e.: their research into the historical bird populations of the area and their proposals for various scenarios/causes of this phenomenon. I am also grateful to Gregg Parsons, leader of the photography group.

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Correction: Lumsden *et al.* (2012)

In the paper, Lumsden, H., R. Kingdon, B. Kingdon, K. Intini and J. Kee. 2012. Recent history of Trumpeter Swans in Ontario and Quebec and their status in 2010-2011. *Ontario Birds* 30:109-119, published in the last issue of *Ontario Birds*, on page 118, in the left column, from lines 4-7, the sentence "On 27 June, a brood with four cygnets was found by Jeff Skevington on the Jock River west of Ashton (C. Lewis, pers. comm.)" should be changed to read "On 13 June, a brood with four cygnets was found by Michael and Joyce Jaques on the Jock River west of Ashton (see: Crins, W.J. 2011. The Nesting Season: June through July 2010 – Ontario Regional Report. *North American Birds* 64(4): 583-587).

Correction: Weseloh and Hoar (2012)

In the article by Weseloh, D.V.C. and T. Hoar. 2012. Spring movements of Great Egrets into Ontario: an eBird analysis. *Ontario Birds* 30(1):36-47 on p. 38, Figure 1, three breeding sites for Great Egrets in Ontario were not numbered. The sites are all in the western Lake Erie basin and, from east to west, should have been numbered as: 6. Middle Island, 7. East Sister Island and 8. Middle Sister Island. They are easily located on a topographical map or navigational chart of the area.

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Ontario Field Ornithologists is an organization dedicated to the study of birdlife in Ontario. It formed in 1982 to unify the ever-growing numbers of field ornithologists (birders/birdwatchers) across the province, and to provide a forum for the exchange of ideas and information among its members. The Ontario Field Ornithologists officially oversees the activities of the Ontario Bird Records Committee (OBRC); publishes a newsletter (*OFO News*) and a journal (*Ontario Birds*); operates a bird sightings listserv (ONTBIRDS), coordinated by Mark Cranford; hosts field trips throughout Ontario; and holds an Annual Convention and Banquet in the autumn. Current information on all of its activities is on the OFO website (www.ofo.ca), coordinated by Doug Woods. Comments or questions can be directed to OFO by e-mail (ofo@ofo.ca).

All persons interested in bird study, regardless of their level of expertise, are invited to become members of the Ontario Field Ornithologists. Membership rates can be obtained from the address below. All members receive *Ontario Birds* and *OFO News*.

Please send membership enquiries to:
Ontario Field Ornithologists, PO Box 116,
Station F, Toronto, Ontario M4Y 2L4.

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Ontario Birds

The aim of *Ontario Birds* is to provide a vehicle for documentation of the birds of Ontario. We encourage the submission of full length articles and short notes on the status, distribution, identification, and behaviour of birds in Ontario, as well as location guides to significant Ontario birdwatching areas, book reviews, and similar material of interest on Ontario birds.

Submit material for publication by e-mail attachment (or CD or DVD) to either:
chip.weseloh@ec.gc.ca
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