



# FORSTER'S TERNS NESTING AT LAKE SIMCOE

A New Breeding Species for the  
Greater Toronto Area

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Figure 1. Adult Forster's Tern at the nest, Cook's Bay, Lake Simcoe, York R.M., 19 June 2010.

Photo: Jennifer Howard

Ontario lies at the eastern edge of this species' normal breeding range, which is concentrated in the Great Basin Desert and Prairie Pothole areas of North America. Forster's Tern has been a confirmed breeding species in Ontario since the late 1800s in the Lake St. Clair area (Collins 1880, Morden and Saunders 1882, McIlwraith 1894), although there was a period of no documentation of nesting in Ontario for more than 90 years (Baillie 1958, Moore *et al.* 2010) before it was discovered to be nesting in the Long Point area in 1976 (McCracken *et al.* 1981, McCracken 1987). The vast majority of confirmed Forster's Tern nests in Ontario have been in southwestern Ontario, primarily in the Lake St. Clair marshes and the Long Point marshes, with smaller numbers at other Lake Erie marshes at Holiday Beach, Point Pelee National Park and Rondeau Bay and on Lake Huron at Kettle Point (Austen *et al.* 1994, Moore *et al.* 2010).

In the late 1990s, Forster's Tern was first confirmed as a nesting species in Cook's Bay on Lake Simcoe (Jermyn and Weseloh 2002, Weseloh 2007, Moore *et al.* 2010). These nests represent the first confirmed breeding evidence of this species for the Greater Toronto Area (GTA). The purpose of this paper is to review the history of Forster's Tern on Lake Simcoe and its status as a breeding species in the GTA.

## Introduction

Forster's Tern (*Sterna forsteri*) is an exclusively North American "marsh tern" species, breeding primarily in fresh, brackish and saltwater marshes, often in the marshy borders of lakes, islands and streams. Typically it selects large island-like stands or floating mats of vegetation in the deeper portions of wetlands with considerable open water (McNicholl *et al.* 2001).

## History of Forster's Tern on Lake Simcoe

The first indication of Forster's Terns on Lake Simcoe came in the final year of the first Ontario Breeding Bird Atlas. On 22 June 1985, Bob Curry noted an adult Forster's Tern flying east to west off South Sand Island to the south of Georgina Island. The many potentially suitable marsh areas present along the south shore of Lake Simcoe allowed this observation to be accepted as possible breeding evidence for the atlas (McNicholl 1987).

Similar sightings of Forster's Terns occurred over the next decade during periods consistent with the timing of breeding. Alvaro Jaramillo found a Forster's Tern at the south end of Cook's Bay on 21 June 1991 while doing field work for the Ontario Rare Breeding Bird Program. On 22 April 1993, Gerry Bennett observed a Forster's Tern over Hwy 400 in Vaughan (the first in Vaughan in 28 years). This may have been a migrant headed for Lake Simcoe. Ron Pittaway and Jean Iron observed a Forster's Tern off Pefferlaw Creek on Lake Simcoe on 25 September 1994. On 31 May 1996, a pair was noted in western Cook's Bay at the east end of the 13th Concession of West Gwillimbury in Simcoe County (Toronto Ornithological Club database).

Forster's Tern was first confirmed as a breeding species in Cook's Bay in 1996 during a survey by the Canadian Wildlife Service (CWS) to study organochlorine contamination in the eggs of colonial water birds (Jermyn and Weseloh 2002). Although precise coordinates of the colony were not obtained at the time, the colony was found in the eastern (Region-

al Municipality of York – hereafter York R.M.) half of Cook's Bay in the eastern edge of the first large stand of emergent cattail (*Typha* sp.) west of the boat launch in Young's Harbour, York R.M. (D.V.C. Weseloh, pers. comm.). On 28 May 1996, four nests (each containing 3 eggs) were found. Two of these nests still contained 3 eggs on 31 May and the other two still contained 3 eggs on 3 June. Three of these four nests were checked on 10 June and one still had 3 eggs, another had 2 young, and the third had 3 young. Six additional nests (all with 3 eggs) were also discovered on 10 June. Three additional nests (for a total of 13 individually marked nests in 1996) were found on 21 June. Two of these contained 2 eggs and one had 2 young. Excellent photographic documentation of this colony was published by Glenn Barrett of Environment Canada (Moore *et al.* 2010).

In a follow-up 1997 CWS survey, 10 Forster's Tern nests were found in this same colony between 26 May and 6 June. On 6 June, seven of these nests contained 3 eggs, one contained 2 eggs and two were empty. In the 1998 CWS survey, two nests with 3 eggs were discovered on 12 June. In the 1999 survey, six nests were found (two with 1 egg, two with 2 eggs and two with 3 eggs) on 28 May and 14 June.

During the second Ontario Breeding Bird Atlas, Forster's Tern was confirmed as a breeding bird in the western (Simcoe County) portion of Cook's Bay (Weseloh 2007). On 24 June 2001, Rob Copeland and Anne Harkonen observed 8 adult Forster's Terns with 4 fledged young on a raft in a cattail marsh at mouth of the



Figure 2. Nest of Forster's Tern with one egg, Cook's Bay, Lake Simcoe, York R.M., 19 June 2010.

Photo: Jennifer Howard

Holland River in the Simcoe County portion of Cook's Bay (at GPS coordinates 17T 618700 4895600 NAD83) in atlas square 17PJ19. Copeland remarked in his atlas Rare/Colonial documentation form that he had been observing small numbers of Forster's Tern at this location since 1995.

On 19 June 2010, the author visited the south end of Cook's Bay along with Jennifer and Jeff Howard to search for breeding Forster's Terns. We first investigated the large areas of emergent cattails in the York R.M. portion of Cook's Bay, well to the east of the Holland River mouth. This is the same area where the

CWS surveys were done from 1996 – 1999. In this area, we observed 18 adult birds flying over the marsh in defense of 12 separate territories and we found three active nests. The first nest we found (17T 620572 4894952 NAD83) contained a single egg (Figures 1 and 2). It was situated in the open, at the edge of a large stand of emergent cattails in about 2 m of water. The second nest we found (17T 620527 4894943 NAD83) was less than 50 m from the first nest. It was placed at one end of a large, raised mound of dead cattail, very close to the water's edge, within 3 m of an active Black Tern (*Chlidonias niger*) nest (Figure 3).



Figure 3. A pair of adult Forster's Terns at their nest, Cook's Bay, Lake Simcoe, York R.M., 19 June 2010.

*Photo: Jennifer Howard*





Figure 4. An adult Forster's Tern reaches the bottom of a diving flight in defense of its nest. Cook's Bay, Lake Simcoe, York R.M., 19 June 2010.

*Photo: Jennifer Howard*

Contents of this nest were not checked to minimize disturbance to this pair, although the presence of an adult sitting on the nest, along with the very aggressive defense of this nest site by the adults (Figure 4), was most suggestive of eggs or young being present. The third nest we found (17T 620444 4894939 NAD83) was in similar habitat (Figure 5) and contained two eggs and one recently hatched young (Figure 6). Only one adult was present at this nest and it showed little agitation, leaving the nest only briefly, and settling back on the nest contents while we were still less than 10 m away (Figure 7).

After we surveyed the eastern portion of Cook's Bay, we travelled over to the areas of extensive cattail in the western portion of Cook's Bay, within Simcoe County, near the mouth of the Holland River. Although we did not make any effort to penetrate the marsh there, in order to minimize disturbance, we did observe a minimum of 8 Forster's Terns flying over the area.

Based on the number of birds that were found in different territories, our observations suggest that there were possibly 20 or more pairs of Forster's Terns nesting in southern Cook's Bay on Lake Simcoe in 2010. Attempts to document additional nests were not made in order to keep disturbance to both Forster's Terns and Black Terns minimal. However, we only covered about a third of the suitable habitat that was present. An exhaustive search of the entire extent of suitable habitat would likely confirm an even larger colony size.

## Breeding Status of Forster's Tern in the Greater Toronto Area

The GTA is comprised of the City of Toronto and the Regional Municipalities of Halton, Peel, York and Durham and all associated water boundaries (Coady and Smith 2000). Prior to 1996, there was no confirmed evidence of breeding for Forster's Tern within the GTA. Although CWS surveys from 1996 to 1999 had confirmed the nesting of Forster's Tern in southern Cook's Bay on Lake Simcoe, it was unclear until recently whether these nests were located in Simcoe County or York R.M. It is now clear that these nests were located in York R.M. and therefore represent the first confirmed breeding evidence of Forster's Tern in the Greater Toronto Area. The Forster's Tern nests found in the York R.M. portion of Cook's Bay in 2010 have associated location coordinates that certainly further confirm that nesting has occurred in York R.M. The all-time list of confirmed breeding birds within the GTA now includes 199 species.

Moore *et al.* (2010) refer to "nests" and "breeding" of Forster's Tern from four sites associated with the Lake Ontario shoreline (Cootes Paradise in Hamilton — 2 "nests"; Rouge Beach marsh in Scarborough/Pickering—1 "nest"; Frenchman's Bay marsh in Pickering — 4 "nests"; and Whitby Harbour—3 "nests") based upon results of the 2001 decadal survey of coastal Great Lakes wetlands conducted by Bird Studies Canada in conjunction with the second Ontario Breeding Bird Atlas (Graham *et al.* 2002). The methodology used to establish "breeding" and "nests" via this survey was

Figure 5. Nest of Forster's Tern with adult sitting on two eggs and one young, Cook's Bay, Lake Simcoe, York R.M., 19 June 2010.

*Photo: Jennifer Howard*





to divide the number of adult birds observed at each location in the breeding season by two, in order to infer the number of “nests” involved. No actual nests of Forster’s Tern were ever observed or documented. This methodology might prove reasonably accurate and convenient for known and common colonial breeding species, but for rare species at the periphery of their range, this methodology is very problematic. The four areas on Lake Ontario where Forster’s Terns are listed as “breeding” or “nesting” by Moore *et al.* (2010), in fact, all involved what were eventually shown to be quite doubtful observations.

To date, no Forster’s Terns have ever been confirmed nesting in any of the coastal marshes associated with Lake Ontario. These four sites listed on Lake Ontario as “nesting” sites for Forster’s Terns were all rejected by the atlas Significant Species Review Committee and were not added to the distribution maps for Forster’s Tern in the second atlas (Weseloh 2007). The main reasons that these records were rejected were that: Forster’s Terns had no nesting history at these sites; observers failed to adequately document that the birds involved were indeed Forster’s Terns; some of the sites were known nesting locations for Common

Figure 6. Nest of Forster’s Tern with two eggs and one recently hatched young, Cook’s Bay, Lake Simcoe, York R.M., 19 June 2010. Photo: Jennifer Howard





Figure 7: Nest of Forster's Tern with only one adult present, Cook's Bay, Lake Simcoe, York R.M., 19 June 2010. Photo: Jennifer Howard

Terns (*Sterna hirundo*) nesting at artificial nesting rafts; there was no suitable Forster's Tern habitat at three of the four sites; and they were all intensively covered atlas squares and marshes where no other observer subsequently saw anything other than Common Terns.

### Conclusion

Forster's Tern has been confirmed as nesting in southern Cook's Bay, Lake Simcoe since at least 1996 (and possibly as early as 1985). Nests of Forster's Terns were found in 1996 – 1999 and 2010 which confirm breeding within the York R.M. portion of the Greater Toronto Area. This is the only location within the GTA where Forster's Tern is known to breed.

### Acknowledgements

Roy Smith provided records of Forster's Terns in Simcoe County and the Regional Municipality of York from the database of the Toronto Ornithological Club. Don Sutherland provided Forster's Tern records from the databases of the Natural Heritage Information Centre and the Ontario Breeding Bird Atlas.

Chip Weseloh provided unpublished data from Canadian Wildlife Service surveys of nesting Forster's Terns in Cook's Bay, Lake Simcoe from 1996 – 1999. Jennifer and Jeff Howard provided me with transit to the Cook's Bay Forster's Tern colony in their boat in June 2010. Jennifer Howard provided the photographs that accompany this article.

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