



# Trumpeter Swans in Ontario 2008-2009

*Harry Lumsden*

## Introduction

The Trumpeter Swan (*Cygnus buccinator*) Restoration Program, started in 1982, was completed in 2006 when the last of the captive-raised swans was released. Since then, the population has continued to increase. The 2009 breeding season was a good one and records were received of nests and broods from many places where no previous reports were available.

The public and naturalists reported 388 numbers on wing tags seen in 2008-2009. Correcting for birds missed provides an estimate of 421 marked birds in the province. Data on the composition

of flocks seen was also collected, with birds classed as: carrying tags, without tags or signets. Ratios of these classes, combined with the estimate of marked swans, allows calculation of numbers in southern Ontario. As of 1 September 2009, this estimate was 1,522 swans.

As many swans as it is possible to catch are banded. In 2008-2009, the total was 129 swans, caught by Ray and Bev Kingdon, Kyna Intini, Julie Kee, Laurie Schutt, Mike Majury and Harry Lumsden.

Ontario's Trumpeter Swan records have now been transferred to computer

files at the University of Guelph. This file contains over 30,000 records of movements, survival, parentage and productivity of 1,145 colour-marked swans, with another 150 records and new banding to be entered.

### Mortality

We know of six swans shot by hunters in 2009. Two were shot on the opening day of duck season (the offenders were caught). Two more kills were reported by other hunters who saw offense. A tagged male swan disappeared on migration; two of his brood were wounded but recovered and we assume he was killed. A Trumpeter Swan and a Tundra Swan (*C. columbianus*) were picked up as cripples, treated and released. Undoubtedly more swans were killed, and some wounded, but numbers cannot be estimated.

### Competition

Mute Swans (*C. olor*) have not adversely affected Trumpeter Swans in Ontario. We know of only one case where a territorial male Mute Swan killed a newly-released Trumpeter Swan cygnet. Trumpeter Swans dominate Mute Swans and mature pairs have evicted Mute Swan pairs from their breeding territories. There are two cases known where Trumpeter Swans killed captive Mute Swans. Unlike Mute Swans, Trumpeter Swans are tolerant of other species of waterfowl (except Mute Swans) and will even permit Mallards (*Anas platyrhynchos*) to loaf near the nest within two meters of an incubating female.

### Potential Range

There is one early record of Trumpeter Swans breeding in the Atlantic Flyway. In 1699-1700, the trader Dièreville, from France, visited the Acadian settlers at Port Royal, Nova Scotia, in the Bay of Fundy. He wrote that the settlers “could safely collect the eggs of swans and geese” (Webster 1933). Webster identified them as Tundra Swans, but this species nests on tundra, only rarely breeding even within the tree line. They could only have been Trumpeter Swans that were present in Nova Scotia. The “many” swans that Jacques Cartier saw on the St. Lawrence River downstream from Montreal, between 19 and 28 September 1535, were probably Trumpeter Swans (date not specific, but too early for Tundra Swans). They may even have been breeders (Biggar 1924). Champlain also mentions swans he saw on the St. Lawrence in 1615, but he did not give the month. He was on his way to southern Ontario where he spent the late summer and fall (again, too early for Tundra Swans). These were almost certainly Trumpeter Swans (Biggar 1929).

Archaeological sites also record the presence of Trumpeter Swans in the northern part of the Atlantic Flyway. In northern Newfoundland, near the Strait of Belle Isle, at the Port aux Choix burial site, 4 Trumpeter Swan, 22 Tundra Swan and 6 undetermined swan bones were recovered (Tuck 1976). Two Trumpeter Swan bones were dug from the Coteau du Lac site, just upstream from Montreal, Quebec (H. Savage, pers. comm.).

These records and observations from eastern Canada suggest that Trumpeter Swans bred across the continent to the Atlantic Ocean. It is very unlikely that the Nova Scotia record represents a disjunct population isolated on the Atlantic coast. For isolation to be effective, there would have had to exist a physiographic barrier lying between Nova Scotia and Ontario potent enough to prevent this powerful flyer from crossing. No such barrier exists. We know that the habitat along the St. Lawrence River was occupied by swans in the 16th and 17th centuries. There is no reason why this range could not be occupied again by Trumpeter Swans in the 21st century.

## Wintering

Because Trumpeter Swans were extirpated so early in the settlement process in eastern North America, we have little to guide us when thinking about where restored populations might go in winter in the Atlantic Flyway. There is one historical report of Trumpeter Swans wintering in the northern part of the Atlantic Flyway. A Jesuit priest in 1671-1672 wrote 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 (Thwaites 1959). The location given was Lake Toshiro out of which flowed the Oshwego River. Modern maps suggest that this lake might have been Lake Onendaga or Lake Neutahivanta near Syracuse, New York (north of Tundra Swan wintering range). It is of interest that 1671 would have been about the

middle of the “little ice age” when climate was much colder than it is today.

Trumpeter Swans are extremely hardy and are little influenced by cold provided they have access to open water and food. In Ontario, open shallow waters where swans can feed commonly exist where current reduces ice formation, but also where springs provide warm water, where effluent is discharged, where bubblers are used in sewage lagoons, where aerators are used in marinas to protect boats and where warm water is discharged from power plants. Swans themselves can sometimes prevent ice formation by remaining as a group in the same place overnight. They are heavy enough to break thin ice. Open water where swans winter has been provided in Ontario by all of the above factors. Food comes from aquatic vegetation, cropland and grain and bread offered by the public.

When Ontario Trumpeter Swans are frozen out of their nesting wetlands, most go only as far as they must to find open water and food. The majority winter along the north shore of Lake Ontario, where most are dependent on artificial feeding. There are, however, birds wintering on inland rivers north of Lake Ontario that depend on aquatic vegetation. There have been few long distance movements. Most of the population remains in Ontario, but some move into the U. S. There are 73 locations and 8 Atlantic Flyway states where swans from Ontario have been reported in winter. Based on ratios of tagged to untagged birds, we estimate that about 150 swans were involved over a 27 year period.

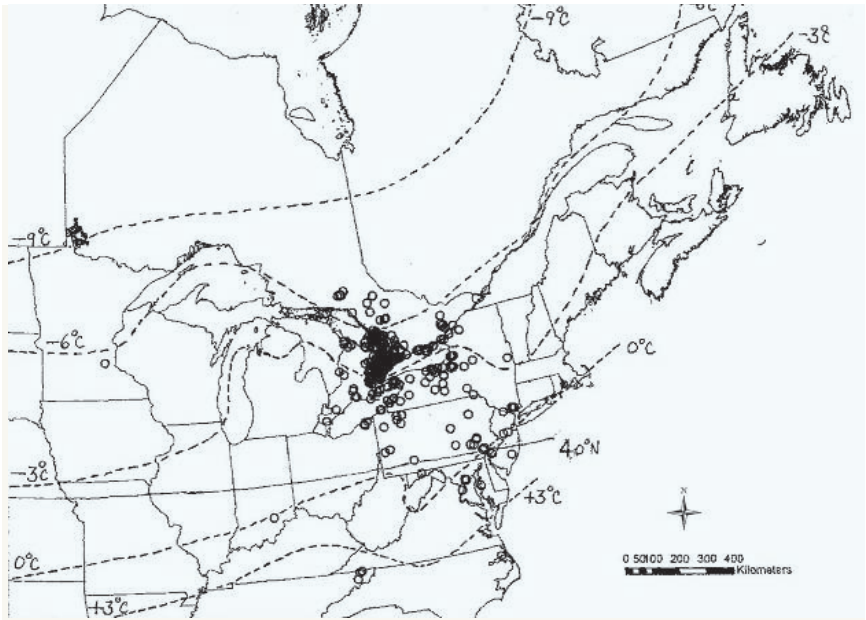


Figure 1. Mean January isotherms for eastern North America, and December, January and February distribution of Ontario Trumpeter Swans.

In Ontario, swans have shown us where they choose to winter. It may be possible to extrapolate from this distribution to other areas to determine where the potential exists for wintering additional swans. Figure 1 shows the position of the +3°C and the 0°, the -3°C, the -6°C and the -9°C mean January isotherms in eastern North America (U. of Florida, Physical Geography 2200, Lecture 12). When the December to February locations of Ontario Trumpeter Swans are superimposed, a pattern emerges. Most of the population remained in the province for the winter between the -3°C and -6°C isotherms. At some of these sites the swans remained because they were fed, at others they survived on their own.

The Trumpeter Swans that crossed the international border mainly stayed

between the 0°C and the -3°C isotherms. This zone 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 Quebec and New Brunswick, Nova Scotia and most of Newfoundland. This zone in the U.S. includes the Atlantic states that would provide at least some habitat that could support Trumpeter Swans in winter. This zone covers a very large area with a potential for wintering many Trumpeter Swans.

Trumpeter Swans breeding in Nova Scotia would not have had to move far to winter. It is likely that any place where Canada Geese (*Branta canadensis*) and Black Ducks (*Anas rubripes*) can winter,

Choix in Newfoundland. Canada Geese and Black Ducks also winter on the Eel Grass beds at Port Joli in southern Nova Scotia. There are many similar inlets along the Atlantic coast which might also support Trumpeter Swans.

## Movements

The Trumpeter Swans that crossed the border showed little consistency in their movements. One pair stayed in Ontario for 6 winters and spent their 7th with their cygnet at Rochester, New York. One pair spent their 1st and 3rd winters at Canandaga and Oshawana lakes, New York, and stayed in Ontario for the succeeding 5 years. Many moved south for one winter, but did not return for a second visit. Four birds moved south and stayed for the rest of their lives, one at least for 4 years. There is no case of a traditional movement of a pair with a brood returning to a wintering location for multiple years south of the border.

Six swans flew south of the 0°C isotherm. One moved to Maryland, where he stayed for 23 months, before moving to Pittsfield, Pennsylvania. Another spent February to July 2007 in New Jersey, and then was reported on 28 January 2008 in Westchester County, New York. She went back to New Jersey on 5 February and stayed until 26 March, then she was reported back in Ontario in June 2008.

Only two swans wandered south of the +3°C isotherm. A single bird went to Elizabeth City in coastal North Carolina on 20 December 2006. She was reported back in Ontario on 24 May 2008. The swan that went to Tennessee moved there in her second winter, but returned to

Ontario where she remained for her next three winters. It is unlikely that many Ontario Trumpeter Swans will move as far south as these states. Judging from the Ontario experience, if Trumpeter Swans are restored to all their former range in the Atlantic Flyway, we can expect nearly all of them to winter south of the -6°C isotherm and north of the 0°C isotherm.

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