

MIGRATION OF ONTARIO TRUMPETER SWANS

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ABSTRACT

Migration is defined as a traditional movement from a specific breeding ground to a specific wintering ground and annual return. Of 703 wing-tagged Trumpeter Swans released in Ontario, 586 survived at least to their first winter. Of these, 138 were 4+ years old, and therefore chosen for this analysis. Most birds do not leave their release site. Very few swans showed behaviour consistent with the definition above. Only four (7%) migrated from Wye Marsh, Midland, Ontario to Burlington, Ontario, as defined here. However, 43 (31%) moved inconsistently on this route. Between 1982 and 2005, 54 trumpeters moved to the United States. This is 9 percent of those surviving through their first winter. The longest movement was 978 km (608 miles) from Wye Marsh to Tennessee. In western Ontario, the Kenora population migrates to the Otter Tail River, Otter Tail County, in Minnesota. Winter feeding has a powerful influence on the movements of Trumpeter Swans in Ontario.

INTRODUCTION

A definition of migration for Trumpeter Swans might include a movement in fall from a specific nesting or summering area to a specific wintering ground and return to the same breeding area the next spring. This kind of movement should persist for the lifetime of the bird to be considered true migration. Grande Prairie Trumpeter Swans move to the Tristate area of Montana, Idaho, and Wyoming for the winter. The consistent Tristate winterers have a migration that conforms to the above definition. Many expect that introduced trumpeters should do the same. This paper examines what restored Ontario Trumpeter Swans actually do.

METHODS

Each wintering area is considered to cover a radius of 10 km from the main concentration point. For example, La Salle Park is the focus for the Burlington, Ontario, wintering area. Records are available of movements of 703 Trumpeter Swans that are marked with patagial tags. To encourage the public to report numbers, all phone calls and emails from naturalists and birders are recorded and the life history of the particular swan is given to the reporters when possible.

Media outlets are widely used to publicize the purpose of the program and to appeal for reports of wing tag numbers. A large number of talks have been given to naturalist and other groups and annual progress reports have been sent to many interested parties. Funds are raised by applying to corporations, foundations, clubs, and individuals. We released swans raised in captivity at 42 sites. We banded wild-hatched swans wherever we could catch them,

the majority at Wye Marsh in Midland, Ontario, and at LaSalle Park, in Burlington, Ontario, on Lake Ontario.

To test the definition of migration, only swans 4 years or more at liberty have been analyzed. Out of 703 tagged swans, 586 survived over their first year and 138 birds satisfy this qualification. December to February is counted as a migratory opportunity for each swan. These swans have had 822 opportunities for migration, or, an average of six each. The public is encouraged to feed swans in winter at sites that are free of lead shot and sinkers. This certainly influences winter movements and reduces winter mortality.

RESULTS

Marked birds lose their tags and drop out of the record. We re-tag as many as we can catch. Only about half the population is marked. Observers make errors in reading or reporting numbers. Reports come from where interested observers operate. There are wide areas where we suspect marked swans are living, but no one is aware of the program and we do not get reports. This is particularly evident in records of marked swans reported in winter, which disappear into the north and for which there are no summer records. In some cases, pairs nest in beaver ponds in forests where they are only visible from the air. The number of reports of individual swans varies from a low of one, at the time of release, to 140 or more for some birds that are at liberty for 10 - 13 years.

One can recognize about five categories of movement among those swans that lived for 4 years or longer. Some swans do not move from their release site, either because there is always open water and natural

food, and/or because they are fed. There were 73 swans in this category, which is 53 percent of the 138 birds in this study.

There is a strong connection between Wye Marsh and the Burlington, Ontario, area. There were 43 swans (31%) that follow the pattern of breeding in the Wye Marsh area and wintering at least some of the time at Burlington on Lake Ontario. Most were wild caught for tagging and only 10 were captive-bred and released at Wye Marsh. The birds are fed year-round at Wye Marsh where the water is kept open and in winter at Burlington.

There was no tradition of wintering at Burlington until 1992 when a movement was initiated on 29 January by three cygnets captive-raised at Wye Marsh. Without flying parents, they wandered south and wintered on Lake Ontario at Bronte, east of Burlington. Judging by their behaviour, I do not think they were fed artificial food that winter. Every time I saw them, they were very wary. Last seen there on 27 March, they were reported back at Wye on 8 April 1992. As yearlings, they did not return in the winter of 1992-93, but remained at Wye Marsh. In 1993, only one, tag number 100, bred at Wye Marsh, raised six cygnets and returned to Burlington with her mate on 12 December. Number 100 and her offspring were the first trumpeters to winter on that shore. They were fed regularly by volunteer Bev Kingdon. Number 100 returned to the Burlington area in 4 subsequent winters when she had raised broods. For 2 winters, she did not return, but stayed at Wye Marsh when she failed to raise young.

Only four (7%) are true migrants according to our definition. Always summering in the Wye Marsh area, they moved each winter to Burlington. There are some birds which spent 1-3 winters at Burlington, but most of their winters elsewhere. Fourteen (10%) were in this category; eight (6%) birds never visited the Burlington area, but wintered once or twice at Wye Marsh and the rest of the time at a variety of other sites.

Some trumpeters winter in the United States. These are in addition to the 138 swans 4+ years of age discussed above. Those that wintered in the U. S. number 54, but only nine were 4+ years at liberty. These include four adults trapped at Comox, British Columbia, and released as an experiment at Port Rowan, Ontario, on Lake Erie. All had undertaken at least one migration from Alaska prior to capture. All moved south from Ontario the winter following release. This group visited nine states. New York State received 24 visits. Four birds also went on to

Pennsylvania. One bird spent 4 winters, but not always in the same place; two birds stayed for three winters and one bird went twice. Twenty-one swans visited Pennsylvania, three swans also moved on to Ohio and four came from New York. One bird visited twice. Ohio wintered three swans, which moved through Pennsylvania. Tennessee hosted one; Virginia was visited twice by one swan; Maryland wintered three swans; a single bird went to New Jersey before continuing on to Connecticut.

Only one brood seems to have been involved in movement to the United States. A pair, Number 239 and Number 259, nested at Warminster in 1995 and hatched four cygnets. They raised two and moved south to Burlington where the male was caught, suffering from lead poisoning. Despite treatment, he died. The female and two cygnets moved to Leetown, West Virginia, 721km (436 miles) from Warminster where they stayed from 11 to 13 March. The female had only one cygnet when they returned to Richmond Hill, Ontario, on 23 April 1996. This female lived for at least another 4 years before she lost her tags. We have no record of her return to the U. S. and have a record of her presence in Ontario in almost every month to 30 September 2000.

Of these swans that visited the U.S., four are known to be dead and 21 have not been seen back in Ontario. We consider those that are not reported for over a year to be dead. Seven may still be alive, but have not been noted back in Ontario since their last U. S. report. They have not been missing for over a year and we consider them possibly to be still alive. Thus, 18 are known to be dead or missing, constituting 35 percent of those that crossed the border. If the missing birds do not turn up, the loss would be 46 percent.

Ten of those birds that moved to the U.S. were 4 to 7 years at liberty; only one spent each of its 4 winters in New York State, but at three different localities and cannot be defined as a migrant according to our definition. One swan came down with lead poisoning (3.6 ppm) at Bear Creek, New York. We are grateful to Wendy Pencilla who treated and released him. He subsequently returned to Ontario. Another bird died at Valencia, Pennsylvania. We thank Beth McMaster who carried out a necropsy and found that a congenital defect in the aorta contained a blood clot, part of which broke off and lodged at the base of the brain.

The distance that Ontario swans move is of some interest. The flight from Wye Marsh to Burlington is 165 km (102 miles), but many make much longer

journeys. Two untagged trumpeters were videotaped by Ken Abraham in summer on the Swan River in the Hudson Bay lowlands. We do not know from where they originated, but Wye Marsh is the nearest concentration area and is 701 km (436 miles) to the south. Two tagged swans were seen on a summer survey from the air by a Canadian Wildlife Service (CWS) field crew in 2004 at Val Coté. This locality is 570 km (354 miles) northwest of Wye Marsh. Some of the longest distances covered in the U.S. were two from the release site at Whitby to Saint Michaels, Maryland, 683 km (424 miles). Released at Callander Bay, one flew to Mechanicburg, Pennsylvania, 702 km (436 miles) to the southeast. Another moved from Port Rowan, Ontario, to Fort Belvoir, Virginia, 522 km (324 miles). The longest move was from Wye Marsh to Jonesborough, Tennessee, 978 km (608 miles).

The map in Figure 1 shows some selected records flown by Trumpeter Swans from their release site to the United States. There were other records that were not marked on road maps and could not be found. The clearest example of true migration we have in Ontario is the movement of swans from their breeding ground in the western part of the province in the Ministry of Natural Resource's districts of Kenora and Fort Francis. The birds came from Minnesota originally and return in winter to the Otter Tail River, Otter Tail County, in western Minnesota (Steve Kittelson, pers. comm...). The distance for the Kenora birds is about 430 km (267 miles).

DISCUSSION

If we use the definition of migration strictly, we find that of the Wye-Burlington group, there are only four (7%) that conform. If we loosen the definition slightly by allowing 1 winter away from the traditional site, there are 12 (22%).

There were six birds that passed their first winter at Wye Marsh before moving to Burlington as their regular wintering quarters. One bird, released at Wye Marsh, lived at Burlington for its first winter and then moved to Frenchmans Bay, 79 km (49 miles) to the east for 9 consecutive winters, wandering widely during 3 summers before it started to breed in the Pickering area. Another swan, released on Lake Simcoe, spent its first winter on Leslie Street Spit, Toronto, 67 km (42 miles) south, before moving to Wye Marsh 101 km (82 miles) to the northwest for its next 4 winters. A bird released at Cooks Bay, Lake Simcoe, wintered there before moving to Newcastle 83 km (51 miles) southeast for the next 4 winters. It seems that most Ontario trumpeters move

erratically with very little traditional migration taking place. Winter or year-round artificial feeding must have a profound effect on their behaviour.

LaSalle Park in the Burlington area could be a natural wintering area for trumpeters. It is shallow enough that one can see both migrant Tundra and Trumpeter Swans tipping for food several hundred meters from shore. Normally, Burlington Bay does not freeze completely and a few Tundra Swans may winter there occasionally. However, in 2003 and 2004, the bay froze and both Mute and Trumpeter Swans spent the night on open water near the Canadian Center for Inland Waters or on Lake Ontario. Each day they flew at least 3.5 km across the frozen bay to land on the ice at LaSalle Park where they were fed. In the absence of artificial food, these birds would have moved further south, probably to the United States. As it was in these two hard winters, there was an increase in the number of swans moving to the U.S. There were nine (17%) of all the birds that had moved since 1983. With a few birds from other areas, the peak numbers at LaSalle Park in 2002 were 92-93, in 2003 110, and in 2004 132 (Beverly Kingdon, pers. comm.).

Members of the public enjoy feeding birds, particularly geese and swans. It is not easy to prevent people from feeding geese when they become a nuisance. Enforced municipal laws seem to have been partially effective in Ontario for geese.

Our first experiences of frequent lead poisoning and disappearances, many of which we suspect were lead caused, persuaded us to try to winter swans in a lead-free environment. While lead poisoning was frequent at Wye Marsh at the beginning of the program, the situation improved when Don Foxall and his colleagues developed a pontoon mounted vibrator which caused the lead to sink below the reach of swans in the soupy marsh. Burlington Bay was un-hunted and when Trumpeter Swans chose to winter there, it was a simple matter to feed them and hold them there. At most wintering sites, we have no objection to feeding and a host of volunteers led by Bev Kingdon at LaSalle Park do a very efficient job.

Swans are easy to catch for banding when they are hand fed and they become extremely tame. It is of interest that when most of these birds reach their breeding territories, they become wary and secretive. The argument that hand feeding destroys wildness is not necessarily true. If cottagers offer food, subadults will sometimes accept it in summer.

Trumpeter Swans will winter as far north as they can find open water and food. In Ontario, trumpeters are the latest waterfowl to move south and about the earliest to move north in spring. The northernmost wintering site in Ontario is a small flock released at Sudbury, 47° 10' N 82° 00' W, that does not migrate, but breeds and winters north of Lake Huron. Trumpeters winter in some locations in Alaska. In eastern North America, we can expect them to be able to winter at any site where Canada Geese and Black Ducks choose to remain. Both these species winter at Parson's Pond (50° 00' N 57° 55' W) in Newfoundland (Gillespie and Roberts, CWS unpublished report). Trumpeters Swan bones were recovered from a burial site at Port-au Choix just north of Parsons Pond. There used to be large

numbers of Canada Geese and ducks wintering on the bay at Port Joli in southeastern Nova Scotia, feeding on extensive beds of eelgrass (personal observation). Many other locations along the east coast would provide the conditions suitable for the winter survival of Trumpeter Swans. The Maritime Provinces and northern states in the Atlantic Flyway might establish local populations of trumpeters, which, with management, would have no need to move south where they are apparently not wanted. If the Atlantic Flyway insists on having a migratory population of Trumpeter Swans, they should state where they are supposed to breed and in what area they are required to winter.

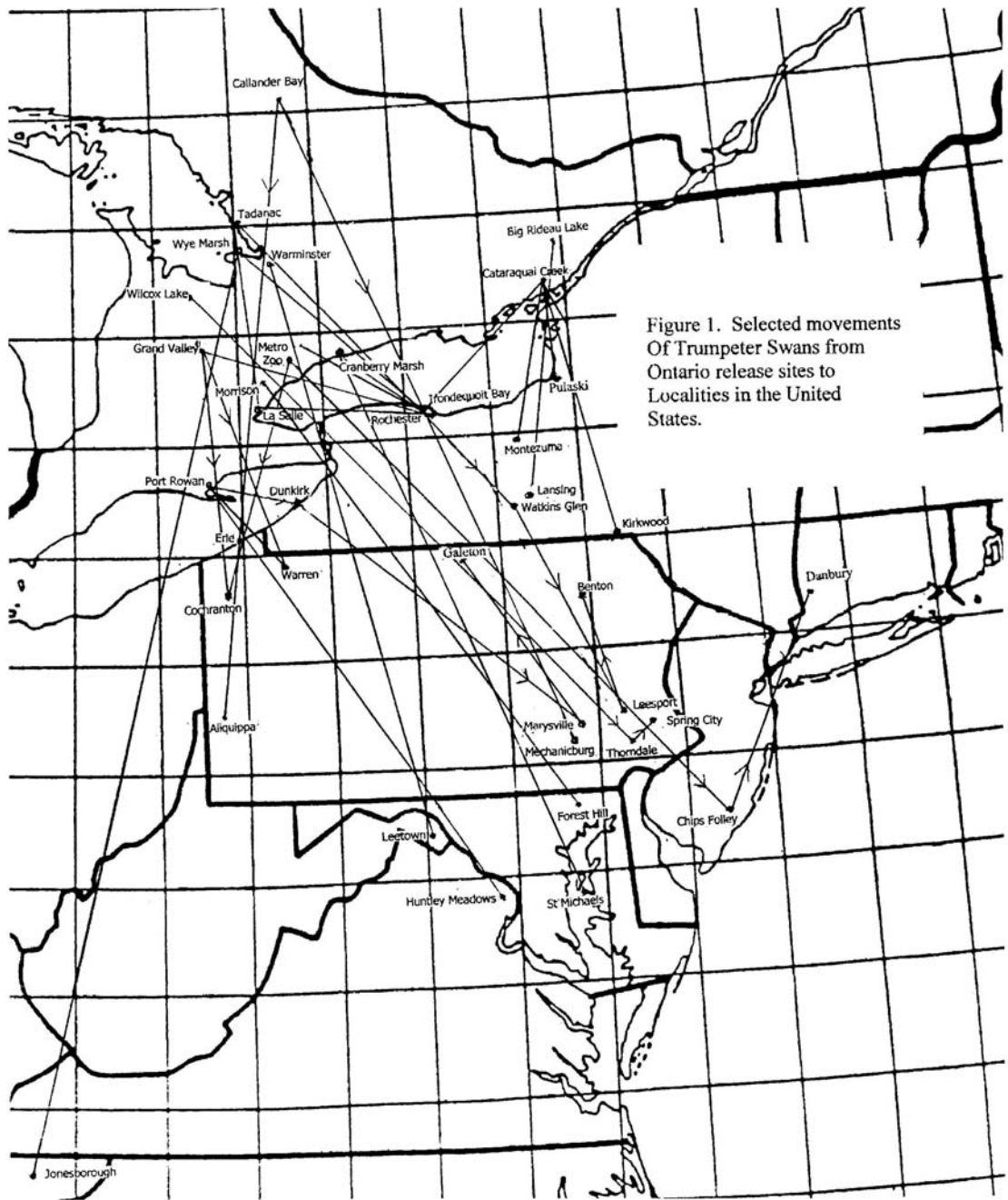


Figure 1. Selected movements Of Trumpeter Swans from Ontario release sites to Localities in the United States.

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