

Trumpeter Swan Reintroduction Program: 2006 Year End Report



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1.0 Introduction

The Wye Marsh Wildlife Centre is a non-profit organization in Midland, ON dedicated to conservation of the Wye Valley, and providing educational opportunities in a natural setting. The visitors centre is built at the edge of Wye Marsh, an important wetland designated as a Provincial Wildlife Area (PWA), consisting of approximately 920 hectares (2300 acres), and a National Wildlife Area (NWA), consisting of approximately 60 hectares (150 acres) of land. Other designations include: Provincially Significant Wetland, Life Science Area of Natural and Scientific Interest (ANSI), and Important Bird Area (IBA). One of Wye Marsh's signature programs they have become known for is being involved in the Trumpeter Swan Reintroduction Program in Ontario, of which it became a main cooperator in 1989.

This report will address the nesting and productivity of Trumpeter Swans (TRUS) within the Wye Marsh study area for 2006. Tagging and banding, over-wintering, care of sick

and injured swans, and total population estimates will be discussed. The study for 2006 considered not only swans that visited Wye Marsh, but also all swans in the study area. Boundaries are loose and extend roughly from Sudbury and Gravenhurst in the north, Lake Simcoe in the east, Innisfil in the south and Collingwood in the west. The goals of Trumpeter Swan (TRUS) research undertaken at Wye Marsh is to estimate the size of the population within the study area, monitor movements and study longevity of the species in accordance with the TRUS Reintroduction Program in Ontario headed by Harry Lumsden.

2.0 Study area & Methods

2.1 Flights

More flights were taken in 2006 than in previous years. These covered an area north to Sudbury and North Bay (see appendix 1). Flights are used to locate nests and broods, as well as a count of adult swans.

2.2 Visiting Territories

Time and funding did not allow for a great number of nests or nesting territories to be checked and monitored by Wye Marsh Staff. The three nesting territories closest to the Wye Marsh Centre were monitored.

2.3 Sightings from the public

Information about the movements of individual swans, population sizes, and nesting territories is received from the general public and volunteers who call in and inform us of their swan sightings. This has become increasingly important due to the number of

swans and nests in the study area, as well as the decreased amount of time and funding available for staff to check nests and territories.

2.4 Daily Monitoring and feeding at Wye Marsh

Daily feeding and monitoring in Wye Marsh allows Wye Marsh staff and volunteers to monitor resident TRUS and their health. Since Wye Marsh also acts as a staging area and wintering ground for many birds in the area, this is the primary method for monitoring the size of the population in the Midland area. This is primarily volunteer run.

3.0 Results

3.1 Population Estimates for 2006

There were 27 attempted nests sighted this year (see appendix 2), with 65 cygnets being hatched. Current data shows that out of 14 confirmed successful nests for the year, 32 cygnets have been reported to have fledged so far. This number may be skewed due to remote locations and the inability to revisit nesting sights. The number of fledglings from 2006 will undoubtedly climb as recorded sightings will increase over the winter months as the lakes and marshes in our region freeze up and the birds make their way to Wye Marsh, usually in between late November through to January.

There are two possible formulae to determine the population of TRUS in our study area this year. One of these considers a category entitled "Previous year's Confirmed Fledged Unmarked Birds". This considers all of the unmarked cygnets from 2005 fledged in the area. It is unreasonable to discount all of these birds confirmed to be alive in the area in 2005 from the 2006 count, so they have been added to the formula for one population estimate below.

Population Formula & Equation #1

(# Marked Birds (includes marked fledglings from 2006) -- # Marked Birds Confirmed Dead -- # Marked Birds Presumed Dead) + (# Unmarked Cygnets Fledged + # Confirmed Unmarked + Previous year's Confirmed Fledged Unmarked Birds – Confirmed Dead Unmarked Birds) = Population for 2006

$$(125 - 2 - 15) + (24 + 11 + 33 - 1) =$$

$$108 \text{ Marked Birds} + 67 \text{ Unmarked Birds} =$$

175

The following formula does not count the confirmed fledged unmarked birds as we cannot prove their existence if they do not come back north through Wye Marsh.

Population Formula & Equation #2

(# Marked Birds (includes marked fledglings from 2006) -- # Marked Birds Confirmed Dead -- # Marked Birds Presumed Dead) + (# Unmarked Cygnets Fledged + # Confirmed Unmarked – Confirmed Dead Unmarked Birds) = Population 2006

$$(125 - 2 - 15) + (24 + 11 - 1)$$

$$108 \text{ Marked Birds} + 34 \text{ Unmarked Birds} =$$

142

The actual number of swans in the study area in 2006 is likely somewhere in between the two numbers, as neither one can be completely correct; the unmarked

fledglings from 2005 can neither be considered to have entirely disappeared, nor can we presume that all of the fledglings from 2005 have survived to present day. If we work out an average between Equation #1 and Equation #2, it works out to **158.5** swans in the area. One other source of information that can give us an estimate of the area's population is the number of birds in flocks reported by the public. There were 80 birds sighted in Matchedash Bay, 40 in Hogg's Bay, 25 in Cook's Bay, and 16 known birds in Wye Marsh Between October 22nd and 28th that were reported, bringing us a total of approximately **161** birds staging within our study area. This population estimate differs by 2.5 from the average of our two calculated population estimates and gives us perhaps the best estimate of the actual number of trumpeter swans in our study area.

3.2 Mortality

Population estimates take into account mortality, which in itself can be divided into two categories; presumed dead, and confirmed dead. This year, 15 marked birds have been listed as "presumed dead" and 2 birds confirmed dead (one marked bird and one unmarked fledgling from 2005), while 4 birds that were previously presumed dead have been confirmed alive in the past year. In order to be "presumed dead", a marked bird is not seen for one calendar year. This may be simply due to the fact that some birds have lost their tags or bands or that they are feeding in areas where they are not being sighted, in which case they may in the future be considered alive.

3.3 Tagging Efforts

Tagging efforts during 2006 saw more birds tagged than in the past 5 years. 31 birds were tagged by Wye Marsh staff since February of 2006, including 5 of those birds in Burlington. The previous average tagging rate for the years between 2001-2005 was 11.2 birds per year, the minimum being 3 birds in 2002 and the previous maximum being

22 birds in 2001. Most of the birds tagged in 2006 were caught one at a time by hand. This greatly increased the success rate as the rest of the flock often becomes frightened when the tagging trap is closed, scaring the swans for days afterwards, and making tagging difficult. Catching birds by hand greatly reduces the stress level on the rest of the flock and the birds calm down much more quickly afterwards.

4.0 Discussion

4.1 Comparison to 2005 estimates and reasons for Discrepancies

In 2005, 15 successful nests there were confirmed to be with 66 hatchlings, and 45 confirmed fledglings. This year's data shows that out of 14 successful nests this year, 65 cygnets hatched and so far there are 32 confirmed fledglings. The number of fledglings confirmed this year compared to last year differs likely due to the fact that this report is being written 2.5 months sooner than last year's. Many fledglings have not as of yet been confirmed. More nesting territories and confirmed nests were sighted in 2006 due to the continuing growth of Ontario's trumpeter swan population, as well as the fact that a larger area was surveyed this year. The latter likely has less impact on the number of nests sighted, as no nests were sighted in the area north of Lake Muskoka and Lake Joseph. The total population for 2005 was 122 swans in total. The number of marked swans for 2005 was 96. This number increased in 2006 due to increased tagging efforts. The difference between the two population estimates differs by 55. The reason for the increase in numbers despite a conservative estimate of fledglings are as follows:

- The 2005 count did not subtract the number of cygnets that went missing between hatching and fledging; it reasonable to assume that these cygnets did not survive.

- The 2005 count did not consider any of the previous year's unmarked fledglings that pass through. This considers birds that were confirmed hatched for the previous year for the study area. Often these birds will pass through Wye Marsh in early winter on their way to Burlington. Since families often disperse before heading back north, often these fledglings will not visit Wye Marsh in the spring even though they remain in the Southern Georgian Bay area. There is evidence of this as several hatch year birds that were tagged in Burlington made their way to Penetanguishene and Beausoleil Island without even visiting Wye Marsh (Swans #021, 024, and 976 are examples). It is therefore reasonable to assume that many of these birds are unmarked in the study area even though they do not visit Wye Marsh again for some time. The equation that considers this (equation #1) is likely somewhat high, but aside from subtracting confirmed dead birds from this past hatch year from this number, it would be difficult to guess how many birds from this category could be presumed dead, although it is likely that many unmarked individuals fledged in 2005 could be considered to be deceased. This is due to dangers that young birds face in the wild such as lead poisoning (an issue almost exclusively amongst young trumpeters under the age of 4) and general inexperience.
- Increased tagging efforts and the number of birds tagged allowed us to recognize the presence of a greater population of untagged birds.

4.2 Sources of Error

It is difficult to determine an accurate population estimate for Trumpeter Swans in the study area. As was discussed in the reasons for discrepancies between 2005 and 2006's estimates, the estimate for this year may be artificially high because of the

assumption that there are many birds, in particular After Hatch Year (AHY) birds in the study area that do not visit Wye Marsh. Conversely, the number of confirmed untagged adults, 11 in 2006 and 10 in 2005, may be artificially low, as this number can only be as high as how many untagged and unbanded (UTUB) birds were seen at a given time at Wye Marsh. This number realistically could be 3, 4 or 5 times this amount but we cannot prove that we are not seeing the same birds repeatedly. Evidence from tagging in the past 12 months however indicates that there are still many more unknown birds than 2005's estimate; 15 birds that were tagged throughout this time period were untagged, mature birds, higher than 2005's estimate of 10 untagged unbanded birds. Despite the 15 unknown adult birds that were tagged, there were still 11 untagged unbanded birds witnessed after the tagging of these 15 newly tagged. This means that 2005's estimate should have been at least as high as 25, likely higher. Birds that were previously tagged and banded but lost both tags and bands may also be under the category "presumed dead" when actually not dead. For example, swan #006 is a bird that was found with old tagging scars upon examination; there is no way to determine the original number of this bird, but this bird has at some point previously entered the "presumed dead" category for marked birds.

4.3 Recommendations

Although there is no way to determine entirely accurate numbers of trumpeter swans in our area, following these recommendations would help to keep more accurate count of the area's birds.

- Increased tagging efforts would give us a better idea of the actual number of birds in the area.
- Examining UTUB adult birds for old tagging scars while being retagged would give researchers a better idea in the future of the number of marked TRUS that simply lose all of their identification.

- Satellite tagging, which has been suggested by a variety of people as well, would also allow researchers to locate feeding areas previously unknown, which would again allow for a more accurate population estimate.
- Catching birds for tagging purposes should be done by hand whenever possible, as it reduces stress among the flock and thus makes it possible for researchers to catch more.

5.0 Treatment / Care of captive swans in 2006

Although a problem in previous years and likely a future problem, there were no cases of lead poisoning in 2006. There were, however, cases of sick swans and individuals that needed to be detained for a period of time.

5.1 Swan #006

Swan #006 was caught on March 12th during a routine tagging. He was an untagged bird of unknown age. Upon trying to tag him, it was noticed that his right wing had a major infection in it. He was treated for the period of 1 week after a visit to the vet with antibiotics, and then Epsom salt baths. Upon his examination at the vet, old tagging scars were discovered on each wing, so at one point this was a tagged and banded bird. This bird was released on March 20th.

5.2 Swan #774 / #563

This swan (previously tagged #774, not retagged #563) was removed for its own safety (under the recommendation of Harry Lumsden) from the town of Magnetawan on June 28th after complaints of him chasing and jumping on sea doos, once with a young child aboard that the swan then proceeded to “beat up”. He was brought to Wye Marsh for evaluation and then released into Wye Marsh on August 15th.

5.3 Swan #946

Swan #946 was caught & treated at the Toronto Wildlife Centre. She has a permanently disfigured wing after an untreated break and is unable to fly. She was treated for bumblefoot as well at the Toronto Wildlife Centre. Since she is unable to be released, she was relocated to Wye Marsh permanently on October 25th, 2006.

5.4 UTUB male cygnet

This bird is a captive born and raised cygnet and was transferred to Wye Marsh from the Elmvale Jungle Zoo on November 8th 2006. He was transferred in order to be a companion and eventually a possible mate for swan # 946.

Donations and Acknowledgments

Many thanks go out to the following people who donated their time, effort and materials to Wye Marsh's Trumpeter Swan Program.

Congratulations and thanks go out to Lori Bailey and Jon Kirk for winning the Harry Lumsden Award for 2006 for their efforts in caring for the swans at Duncan's Marina in Port McNicoll and saving the lives of the cygnets born there. Jon and Lori's support of the program has been invaluable.

Many thanks also goes out to Margaret Black for her ongoing support. Margaret bought a new wagon with a ski attachment to be used in the TRUS feeding and monitoring program. She also volunteered and helped Wye Marsh staff construct a tagging trap.

Thanks also goes out to Margaret Green and Lisa Corosky, who have donated their time entering data into Wye Marsh's TRUS database, fielding sightings and replying to swan spotters.

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their time and efforts throughout the year to feeding, monitoring and caring for Wye Marsh's flock of swans.

Wye Marsh continues to support the TRUS Reintroduction Program despite lack of funding for staff time. There will always be a commitment by Wye Marsh to ensure the continued viability of the Trumpeter Swan population in Ontario.