

TRUMPETER SWAN RESTORATION IN ONTARIO

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INTRODUCTION

Wild production of Trumpeter Swans (*Cygnus buccinator*) in southern Ontario is steadily increasing. In 1993, the first released pair bred in the wild and raised six cygnets. In 1994, two pairs nested and raised three cygnets. In 1995, a total of nine cygnets were raised by four different pairs, and, in 1996, eight pairs raised 14 cygnets. A ninth pair built a nest but did not lay eggs.

We should reach the first Ontario Restoration Group goal of 15 wild breeding pairs on schedule by 1999. Dr. Brad White, geneticist at McMaster University, has advised us that, because of the inbred nature of Trumpeter Swan stocks, we should aim for 100 pairs of wild breeding Trumpeters to ensure a self-sustaining population.

The winter of 1995-96 was a hard one with a late, cold spring. Losses of both wild and captive Trumpeters were heavier than we had experienced in the past. In spite of this, our captive stock produced more eggs than in any previous year.

1996 PRODUCTION BY CAPTIVE TRUMPETERS

We started the 1996 breeding season with 23 pairs in the hands of cooperators and four pairs in the ownership of contributors. Fifteen pairs (56%) produced eggs. Four of these pairs laid two clutches. Eggs were removed as they were laid from eight pairs. These continuation clutches produced 75 eggs, an average of 9.4 eggs per bird. This clutch size is the same as in earlier years. Clutches which were not manipulated in this way averaged 6.3 eggs, and second clutches averaged 4.8 eggs. Total production was 137 eggs, 69 of which were incubated under Trumpeters and 68 taken into an incubator.

The Trumpeters hatched 28 cygnets (41%) and raised 19 to flight stage (68%). The incubators were less successful; only seven cygnets (10%) hatched, but all survived to flight stage. Two clutches, totaling 11 eggs, were started under Trumpeters, but the process was completed in an incubator. The female of one of these nests deserted because of interference by free-flying Trumpeters. The second pair and their eggs had to be moved in midsummer because they caused turbidity in the swimming pond at a boys' summer

camp, creating unsafe conditions. None hatched in the incubator.

We close the 1996 breeding season with 26 cygnets which will be held for release in 1998. This is a great improvement over 1995 when we raised only 12 cygnets.

CAPTIVE BREEDING STOCK

We have had some losses to the breeding stock in 1995-96. Twelve birds were lost, three to dogs and a coyote, two to unknown causes, one each to enteric haemorrhage, kidney failure, cardiac arrest, and aspergillosis, one bird disappeared, one was blind and had to be destroyed, and one became tangled in a rope and drowned. Some of these losses have been replaced. Five swans have been acquired by gift or purchase.

For the 1997 breeding season, we have 22 pairs with cooperators and contributors and eight mature swans which should form pair bonds in the spring. There are four males and four females among these birds, giving us an even sex ratio. We shall need new cooperators to take care of some when they are paired.

SURVIVAL AND LOSSES

As in the past, we have used reports of sightings of wing tags numbers to keep track of survival of released swans. If a swan has not been reported for a year, we assume that it is dead, although sometimes such a bird subsequently turns up. The cooperation of naturalists who read numbers and report them is vital in our annual inventory. We use 1 September as the anniversary date for our estimates of survival. Some swans lose their wing tags, and some even lose their leg bands. This results in an underestimate of numbers.

We started the 1995-96 year with 82 Trumpeters flying free in southern Ontario. Of these birds, 19 have been found dead, three of which were wild hatched. As in the past, lead poisoning was the leading cause of death, accounting for five deaths. It was almost certainly a contributing factor in the loss of sixth which flew into hydro wires. This bird carried 20 ppm lead in its blood. Another may have been affected by lead when it drifted into the cold

water intake at the Pickering Nuclear Generating Station. Three died of disease, three were killed in accidents, and three were found dead from unknown causes. One was killed by a coyote. The most disturbing loss of all was a breeding female, mother of five, killed by vandals at Hogg's Bay, near Wye Marsh. She was found in a shallow bay with her head cut off. Two more swans have not been recorded for over a year, and we assume that they are dead. Offsetting this loss, however, are two birds which had been missing for over two years and were presumed dead but which have reappeared.

Survival in September 1996, based on wing tag numbers reported during the year, gives a total of 62 birds. Another way of estimating survival is to subtract known losses, 19, from the number of swans, 82, estimated to be alive in September 1995. This gives a total of 63 birds. Using the inventory based on tag records and adding 36 swans released in 1996, our total comes to 98. However, one met an accidental death, and one was killed by a fox shortly after release, leaving us with 96 birds. To these must be added 13 swans known to be alive but which have lost their wing tags or escaped before they could be tagged. The production of 14 wild cygnets must also be added, giving a total of 123 free-flying Trumpeters in southern Ontario on 1 September 1996.

Since the restoration program began in 1982, we have released 164 Trumpeter Swans which were raised by Mute Swans (*Cygnus olor*), raised by their own parents, or hatched in incubators and raised in brooders.

NESTING BY WILD TRUMPETERS

In 1996, six pairs of Trumpeters nested and laid eggs in southern Ontario, and an additional pair built a nest but did not lay. In New York State, two pairs, which we assume are of Ontario origin, nested and hatched cygnets. These birds lacked wing tags, and the numbers on their leg bands have not yet been read.

These eight wild nesting pairs laid 43 eggs; however, two pairs needed help. A female, number 100, raised at Wye Marsh, nesting there for the fourth time, had two males over the years. In 1994 during migration, she became separated from her mate, Number 206, raised by Harold Hadley. She returned alone to Wye Marsh in the spring of 1995. She then paired with Number 238, which was raised at Aurora. They produced a brood, four of which migrated with them to Burlington Bay and Bronte in December 1995 and returned to Wye in the spring. Number 100 and

Number 238 had a fierce fight, and Number 100 deserted the nest. The eggs were put into an incubator where three hatched. They were transferred to Bill Carrick's facility where all three were raised and survived to flight stage. The embryos in the remaining eggs did not hatch; four died at full term.

A second banded wild pair, breeding for the first time, built a nest near Metro Zoo and laid four eggs. The female became sick and deserted the nest, but the male took over incubation duties. Expecting failure, Bill Carrick removed the eggs and placed dummies in their place. Two good eggs were put in an incubator and, when close to hatching, were replaced in the nest. The male, who had sat for 14 days, hatched one cygnet, he was then rejoined by the recovering female. Unfortunately, the cygnet disappeared when about 3-weeks old.

Another wild pair which have lost their wing tags nested in the Stouffville reservoir. They laid six eggs and hatched two cygnets, which they raised. At Metro Zoo, another untagged pair had only one addled egg when the nest was checked after full term incubation.

At Wye Marsh, two more released pairs nested. The female, Number 224, raised by Bill Carrick from an egg laid by John Gartshore's pair, mated with Number 257, raised by a captive pair at Wye Marsh. This pair produced six eggs at Hogg's Bay, hatched five, all of which survived to 1 September. Number 224 was killed by vandals on 14 August, as reported above.

A second pair nested at the west end of Wye Marsh. A female, Number 205, raised by Harold Hadley, paired to Number 219, raised by Bill Carrick from an egg from John Gartshore. This pair laid five eggs and hatched all five, but had only two cygnets left on 1 September.

In New York State, Mike Pelletier reported that a pair nested on his marsh 64 km (40 miles) east of Rochester. They laid six eggs and hatched four cygnets, all of which survived to flight stage. Art Kirsch, New York Department of Environmental Conservation (NYDEC), visited the site and also saw the Trumpeter brood. This is the third year that a pair have spent the summer on Mr. Pelletier's marsh. Art Kirsch also reported three more Trumpeters and a single in another marsh.

A second brood in New York State was first reported by a graduate student, Jean Hickey, on the Perch River Wildlife Management Area near Watertown.

Irene Mazzocchi (NYDEC) confirmed that they produced seven eggs and hatched two, which were still alive on 27 August. In 1985, two Trumpeters also visited this Wildlife Management Area, and there was a single bird there for a short time at the end of April or early May 1996.

In eastern Ontario, Annette Mess first reported a pair of Trumpeters to Shaun Thompson, Ministry of Natural Resources, and Don Cuddy, Natural Heritage Ecologist. A pair, presumably the same one, was seen on 23 April on Lower Beverly Lake by Mary Dobrik and on Big Rideau Lake by Jim and Winona Barker in June. The latter found a nest built by the Trumpeters, but the Trumpeters did not lay any eggs. Don Cuddy took some excellent coloured slides of the pair and of their nest.

Of the 43 eggs produced, the wild pairs hatched 20 (74%) and raised 14 cygnets (70%) to flight stage. Their mean clutch size was 5.4 eggs compared with 6.5 eggs laid by four pairs in 1995. The hatch and fledging rate for these wild Trumpeters was very similar to that of our captive pairs.

TRUMPETER SWANS IN THE KENORA DISTRICT

Trumpeter Swans from the Minnesota Restoration Program were first discovered breeding in the Kenora part of Ontario in 1989 by Dave Schneider. In the Kenora area, the spring of 1996 was late and cold, and ice disappearance was about the latest on record. It was not until about 13 May that the lakes started to break up. These conditions must have delayed Trumpeter observations. They normally start laying in late April. Doug Anderson reported three Trumpeter observations. A pair with one cygnet was on the 1995 nesting lake on 1 August, a single bird was on a small lake connected to Oak Lake on 3 August, and a pair was on Camp Lake on 8 August.

Disturbance during the breeding season, particularly from aircraft landing on a nesting lake, caused Trumpeters to abandon good habitat in Alaska. They are also sensitive to boating activity while nesting and before cygnets have fledged. The World Wildlife Fund (Canada) and the Ministry of Natural Resources, Kenora District, financially supported a public awareness program in the Kenora area. The printing of a brochure and poster was funded through the Endangered Species Recovery Fund and distributed to tourist outfitters, hunters, anglers, plane owners, and logging contractors in the area.

ACKNOWLEDGMENTS

The Ontario Trumpeter Swan Restoration Program is sponsored by the Ontario Federation of Anglers and Hunters. We are most grateful to our cooperators and contributors who care for breeding pairs of swans and provide the eggs and cygnets for release. Without their efforts, restoration would be very difficult and costly.

We are indebted to Our Lady of Grace Childcare Centre, Aurora, through Ms. Barbara Betts, for their generous contribution toward the restoration program at Wye Marsh. Scott Paper Ltd. continued financial help, paying the salary of Kelly Whitock who raised incubator hatched cygnets. Bill Carrick again provided facilities for hatching and raising cygnets and donated one mature bird for release. He helped to read tag numbers, banded swans, picked up sick birds, and provided facilities for holding swans. He is now working with Harry Hewick using ultra-light aircraft for induced migration of Trumpeters. We thank David Tomlinson for his help in catching swans, at which he is very skillful.

We are greatly indebted to Ray Nash for the generous gift of three mature Trumpeters which have been released at Metro Zoo. Frank Lattanzio of the Corporation of the City of St. Thomas Parks and Recreation Department has given three cygnets to the restoration program, for which we are most grateful. Beverly and Ray Kingdon and their friends played a vital role in winter feeding Trumpeter, which migrated from Wye Marsh to Burlington and Bronte on Lake Ontario, and, thereby, helped to consolidate their migratory tradition. We thank the Sur-gain Co. which supplied food for the wintering swans.

We are grateful to Al Johnston and Bob Murray for their conscientious care of breeding pairs of Trumpeters. They have had to withdraw from the program, and we thank them for their help. We welcome Harry Hewick as a new cooperator in the program. He now cares for a pair of our swans as well as his own birds. We are most grateful for the conscientious care lavished on the Trumpeters at Wye Marsh by Don Foxall and Mary Cameron and for Bob Whittam, Director of the Wye Marsh Wildlife Centre, for chairing the Restoration Advisory Committee and for help in every aspect of the program.

We are particularly indebted to Metro Toronto Zoo, which provided release facilities for 25 swans, and to Tim Burt, Curator of Birds, who helped with swan inventories at the zoo. In addition, the veterinary

staff treated sick swans and necropsied dead birds. We thank Dr. Kay Mehren and Dr. Graham Crawshaw for the intensive care they offered these birds. We also thank Dr. Michael Taylor and Becky Atkinson of the Veterinary College, University of Guelph, for the surgery and care they extended to sick and injured swans, and to Dr. Douglas Campbell of

the Canadian Cooperative Wildlife Health Centre who necropsied dead swans and gave us valuable diagnostic information. Dr. Joel Rumney of the North Simcoe Veterinary Service in Midland also provided care for sick swans at Wye Marsh. Dick Rogers of Arbrux Ltd. in Uxbridge again serviced our ice-aways at reduced cost.