

## OHIO'S TRUMPETER SWAN RESTORATION PROJECT - FIRST YEAR SUMMARY

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### ABSTRACT

**I review the first year of Ohio's Trumpeter Swan Restoration Project, including project goal, objectives, methods, results, and challenges. Ohio's project is proceeding in two phases: the first phase is to acquire captive-raised Trumpeters (*Cygnus buccinator*) greater than 2-years-old to jump start the reintroduction effort during the first 2 years, and the second phase is to collect Alaskan Trumpeter Swan eggs for 3 years for rearing and release in Ohio as 2-year-olds.**

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### INTRODUCTION

The goals of Ohio's Trumpeter Swan Restoration Project are to restore Ohio's native wildlife diversity by reintroducing Trumpeter Swans (*Cygnus buccinator*) in Ohio and to increase appreciation and awareness of Trumpeter Swans and their role in Ohio's wetland wildlife ecosystems. The objective is to establish a breeding population of 15 pairs by the year 2006. These pairs, along with nonbreeding Trumpeter Swans, should number at least 50 birds, as specified in the Management Plan for the Interior Population of Trumpeter Swans (Subcommittee on the Interior Population of Trumpeter Swans 1997). Trumpeter Swans will be released in at least 10 sites in Ohio (Figure 1).

Prior to reintroduction efforts, the Ohio Division of Wildlife needed to confirm nesting of Trumpeter Swans in Ohio. Ohio has archeological evidence of Trumpeter Swans present in the Lake Erie marsh region (Mayfield 1972), northeastern Ohio, Cincinnati, Grand Lake St. Mary's (Coale 1915), and southern Ohio (Henninger 1919). There is no known evidence of nesting Trumpeter Swans in the state; however, Lumsden (1984), in a review of Trumpeter Swan nesting range, notes that French missionary Father Hennepin observed and recorded swans on the lower Detroit River and Lake St. Clair during August 1679. Cadillac also recorded swans in the Detroit area in the summer of 1701. Because the Detroit River marshes ran continuously south into the western Lake Erie marshes, it is probable that swans nested in these marshes as well. However, because of the impenetrable Black Swamp, they were never recorded as being present in the Lake Erie marshes, probably because they were extirpated before they could be recorded by British naturalists. Lumsden concluded that the nesting range of Trumpeter Swans probably extended much further east and most likely occurred in the large marshes surrounding all of the Great Lakes. He also states that Trumpeter Swans had probably disappeared before the arrival of the English settlers and naturalists because the Indians and French had shot them for food.

Based on this information, there is a high probability that Trumpeter Swans did nest in Ohio and were extirpated prior to being recorded as a nesting species. With this information in hand, the Ohio Division of Wildlife began planning the reintroduction effort in 1995. Several key partnerships were developed to assist in the project. The

Cleveland Metropark Zoo (CMZ) agreed to purchase captive-reared Trumpeter Swans and to hatch and rear Alaskan eggs and cygnets. The International Center for the Preservation of Wild Animals (The Wilds) is providing veterinary expertise and serves as a rearing and conditioning facility until swans are ready for release.

### METHODS

A two-phase approach is being used to restore Trumpeter Swans to Ohio. Phase One involves acquiring cygnets and subadults from avicultural sources to provide a source of swans greater than 23-months-old to release in select wetlands during the first 2 years of the project, 1996-97. The CMZ took the lead in purchasing birds from various sources. Birds were held at The Wilds prior to release. This phase was used to jump-start the reintroduction and raise public awareness and support. Release sites were selected based primarily on quality of wetland vegetation that would support Trumpeter Swans. Released swans were monitored from the ground once a week throughout the summer and less frequently as vegetation growth precluded observation. Aerial flights were used later in the summer and fall to track swan movements in the Lake Erie marsh region.

Phase Two involves securing eggs from Alaskan Trumpeter Swans during 1996-98 for releases in 1998-2000. The protocol for Alaskan egg collection followed Matteson *et al.* (1991). Each egg was candled with a non-electric tube-type field candler and "sniffed" to determine viability. At least two viable eggs were left in each nest where collection occurred. Collected eggs were placed in portable field incubators that operated either on battery power or direct current. Temperature in the incubators was maintained at 92-94° F, and eggs were rotated several times during the flight back to Ohio. Eggs were incubated at the CMZ at 99.9 °F. Eggs were turned continuously.

Newly hatched cygnets were placed in a hatcher and weighed after hatching and daily. The protocol for captive-rearing cygnets followed Matteson *et al.* (1994).

All birds released were marked with green plastic collars and leg bands with white alphanumeric characters in addition to a U. S. Fish and Wildlife Service aluminum leg band.



Figure 1. Sites in Ohio selected for Trumpeter Swan releases. Magee Marsh Wildlife Area (WA) was the site of the first releases in 1996. Killbuck Marsh WA is the proposed release site for 1997. The Wilds is the rearing and conditioning facility where the swans are held until release.



Figure 2. Location of May 1996 releases of 15 Trumpeter Swans at Magee Marsh Wildlife Area in northern Ohio and the three areas to which eight of the released birds moved by 1 February 1997.

## RESULTS

### Phase One

In 1995-96, the Cleveland Metropark Zoo purchased 22 Trumpeter Swans from Michigan (5), Ontario (11), Alaska (2), Utah (1), Ohio (1), South Dakota (1), and Bougie (1). Birds were held at The Wilds in two 40-acre ponds that were fenced and aerated. Magee Marsh Wildlife Area in Ottawa County was selected as the first release site. Magee Marsh is an 1821-acre Lake Erie coastal wetland that is rich in submergent aquatic and emergent vegetation.

The first release of eight Trumpeter Swans occurred on 11 May 1996, International Migratory Bird Day. Several weeks later another seven swans were released on Magee Marsh, for a total first-year release of 15.

The Trumpeter Swans took very well to the rich environment and survived the summer without incident. In September, one swan was found dead, with lead poisoning as the suspected cause. In December, two Trumpeter Swans were removed because it was discovered they were pinioned. Another swan was removed because it had developed no flight feathers. It is being rehabilitated and will be returned to Magee in the spring of 1997. As of 1 February 1997, four Trumpeter Swans had migrated to Keiger-Gavin Reservoir on the Ohio River in Gallia County, two had migrated to the Walhonding River in Coshocton County, and two had migrated to the Black Fork of the Mohican River in Richland County (Figure 2). The remaining three Trumpeter Swans had not been accounted for.

The remaining 10 Trumpeter Swans at The Wilds were wing-clipped in August and were to remain in the fenced ponds. However, all 10 swans molted and took flight in October, but they have remained at The Wilds. Attempts have been made to recapture them in anticipation of the Spring 1997 release planned for Killbuck Marsh Wildlife Area.

### Phase Two

In June of 1996, 50 eggs were collected from nests in Minto Flats in east-central Alaska. One to five eggs were collected from each of 18 nests. Clutch size averaged  $5.0 \pm 2.78$  and ranged from three to seven eggs. The time from the beginning of collection to the eggs being placed in incubators in Cleveland was approximately 16.5 hours. In Ohio, 42 of the 50 eggs hatched, for a hatch rate of 84%. Hatching occurred from 5 to 18 days after returning. Therefore, most eggs were collected during their 15th to 28th day of incubation.

During the first 6 months at CMZ, nine cygnets died of various causes (genetic deformities, accident), leaving 33 juvenile swans, for a 66% survival rate. These swans were transported and released at The Wilds in December. All swans were marked with green collars to facilitate observation on the release site. These swans will be released in the spring of 1998.

## DISCUSSION

The Ohio Trumpeter Swan Restoration Project has experienced its share of successes, challenges, and problems during its first year. However, less mortality at the Magee release site than expected and the successful

migration of a majority of the swans to safe wintering areas in Ohio are extremely positive indications that the program is on the right track.

Partnerships with the Cleveland Metropark Zoo and The Wilds have been extremely successful, with each entity providing unique experience and skills to ensure success of the program. Refinements are being planned, but the overall assessment is that the partnership is working well and providing a degree of accomplishment that would be unattainable by only one agency.

The real measure of success will be reaching the goal of 15 nesting pairs, but the next immediate indicator would be the return of wintering swans to the Magee Marsh release site and the subsequent nesting of swans. All indications to this point are that the swans have not migrated far (less than 300 miles) and should return to Magee.

## ACKNOWLEDGMENTS

I would like to thank the Division of Wildlife staff at the Crane Creek Wildlife Research Station and Wildlife District Four for all of their efforts in the reintroduction program, for Stan Searles and the CMZ staff for their expertise in rearing the cygnets, Dr. Evan Blumer and the staff at The Wilds for their support, and for Ducks Unlimited for their wetland conservation work, which makes this whole program work.

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