

OBSERVATIONS OF TERRITORIAL CONFLICT BETWEEN TRUMPETER SWANS AND MUTE SWANS IN MICHIGAN

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ABSTRACT

A portion of the restored Trumpeter Swan (*Cygnus buccinator*) population range and that of the established feral population of Mute Swans (*C. olor*) overlap in Michigan. Anecdotal data is presented on conflicts between the two species during the nesting season. Despite the fact that the two species are equivalent in many respects, a body of evidence is accumulating that indicates that Trumpeter Swans will dominate Mute Swans in conflict associated with the acquisition and maintenance of nesting territories.

INTRODUCTION

The first feral Mute Swans (*Cygnus olor*) in Michigan were allowed to fly free in 1919. Additional releases and escapes from captivity have resulted in a population that now nests in 40 of Michigan's 83 counties. The population reached peak numbers of 2900 in 1992 and has declined to approximately 2000 in 1996 (Jerry Martz, pers. comm.). Cessation of winter feeding, starvation, and parasitism have resulted in an altered distribution and apparent population decline in recent years.

From 1986-88, attempts were made to utilize Mute Swans as foster parents for Trumpeter Swans (*C. buccinator*). A total of 44 viable Trumpeter Swan eggs was placed under Mute Swans. Thirty-one hatched, but only six cygnets were reared to fledging. Predation, parental rejection, and abandonment were known causes of cygnet losses. This experimental restoration technique worked, but not well.

Michigan continued its effort to restore Trumpeter Swans utilizing techniques developed by the State of Minnesota. A total of 139 2-year-old swans have been released to date, with major releases occurring in 1991, 1992, and 1993. The Fall 1996 population estimate for Michigan was 141, including 16 successful nesting pairs and 43 cygnets.

Considerable effort was made not to release clipped Trumpeter Swans into habitats occupied by free-flying Mute Swans. If Mute Swans were present, they were selectively removed. It was only a matter of time before interactions between the two species would occur and be documented.

METHODS

Trumpeter Swan nesting began in 1992, with the number of mature territorial pairs increasing rapidly

through 1995 and 1996 to approximately 25. Only about a third of the pairs (nine) occupy ranges that overlap with Mute Swans, primarily in southwestern Michigan. This paper is an anecdotal summary of observations reported to me by a concerned and increasingly interested public. It should be kept in mind that the average person cannot differentiate between the two species of swans.

RESULTS

As second-generation, wild Trumpeter Swans form pair bonds and attempt to occupy new nesting territories, the number of interspecific interactions has increased. Of the five interactions reported in this paper, four occurred in 1996.

On 21 April 1990, a citizen living on Orchard Lake, near Richland, called to report a conflict between Trumpeter Swans and Mute Swans. The caller had observed a fight between the swans. He was quite sure the Mute Swans were gone and that the Trumpeters had a nest with five eggs in it. Considering that this might be the first nesting effort in Michigan by Trumpeter Swans in a century, we were quick to investigate. The Trumpeter Swan pair was in residence, the Mute Swans were indeed absent from the territory, and, to our dismay, the eggs were greenish-blue in color, indicating that they were, in fact, Mute Swan eggs. However, the eggs contained dead embryos. The Trumpeter Swan pair consisted of a male from Ontario, hatched in 1987, and a female from Kellogg, also hatched in 1987. There was no evidence that this pair of 3-year-olds attempted to nest in 1990. The female was found dead under a power line during the fall of 1990.

On 18 March 1996, a citizen called to report a conflict between a Trumpeter Swan and a Mute Swan on Glasby Lake in Barry County. He reported that, on an upland site in his yard, a Trumpeter Swan, tag number

135, had driven a Mute Swan under a brush pile, had broken at least one of the Mute Swan's legs, and would not allow the Mute Swan out from under the brush pile. The Mute Swan was later removed by Animal Rescue. This male Trumpeter, hatched in 1993, is a first-generation wild swan. He and his unmarked mate occupied the territory and reared one cygnet in 1996.

This next observation was reported on the same day, 18 March 1996, and was only the second nuisance complaint concerning Trumpeter Swans I had ever received. In this case, there was no equity between the species. A single, unmarked, flighted Trumpeter was reportedly driving a pair of pinioned, proven-breeder Mute Swans from a private pond in Van Buren County. It was potentially problematic because private property was involved. The Trumpeter was discouraged from using the pond, and no further interactions were reported.

Another call, on 1 May 1996, involved a pair of Trumpeters, wing numbers 29 and 147, and a breeding pair of Mute Swans in Allegan County. The note received concerning the incident indicated that the Trumpeters were "with his pair of Mutes, and not getting along well." Fortunately, they were free-flying Mutes and not "his." The record is not clear enough to determine which species prevailed. The pond owner indicated that the Mute Swans were dominant until their eggs were lost, then the Trumpeters prevailed and remained until ice-up. This pair of 3-year-old Trumpeters did not attempt to nest in 1996. The male was from Belle Isle Zoo, and the female was from Binder Park Zoo.

The last call of the season relating to territorial conflict occurred on 19 May 1996. A leg-banded Trumpeter was reported chasing a Mute Swan pair from a sizable lake in Barry County. This lake has contained nesting Mutes for a number of years. Unfortunately, the observation is incomplete because drought conditions during the previous summer caused the portion of the lake where the caller lived to become a mud flat and owners on the deeper end of the lake could not add to the story. Circumstantial evidence indicated that the Trumpeters were a pair of 3-year-olds, including wing number 139, and that they reared three cygnets to flight in 1996.

DISCUSSION

Mute Swans and Trumpeter Swans are quite similar in size, weight, color, and diet, and in being northern

temperate species (Scott 1972). Scott indicates that many other measures are quite similar between the two species as well; however, it is doubtful some of these, such as incubation time, clutch size, egg weight, egg dimensions, or weight at hatching, are connected to territoriality. Physically, these two species are essentially alike, and our ability to predict which one is likely to dominate is limited.

Two factors that may relate to territoriality and a prediction of dominance are quite different. Nest initiation is 3-4 weeks later for Trumpeter Swans, which could favor Mute Swans. However, both species return to nesting territories prior to ice-out, which may make this difference insignificant.

The second, and perhaps most important, difference is the nesting territory size. According to Banko (1960), Trumpeter Swan nesting territories at Red Rock Lakes National Wildlife Refuge ranged from 30 to 60 hectares. Scott (1972) indicates that Mute Swan nesting territories in the United Kingdom may be as small as 4.5 hectares. Both authors suggest that habitat structure within a wetland system can affect nesting territory size. The nearly tenfold difference in nesting territory size would seem to favor dominance by Trumpeter Swans.

CONCLUSION

The five observations related in this paper indicate that, in most cases to date, Trumpeter Swans have dominated Mute Swans when interspecific competition for nesting territories occurred. The observation of a single Trumpeter Swan dominating a breeding pair of Mute Swans should probably be disregarded because those Mute Swans had been pinioned.

Competition for nesting territories will occur more frequently in the future. Observations in Michigan, Ohio, and Ontario should shed additional light on whether or not the presence of Mute Swans represents a barrier to Trumpeter Swan restoration.

LITERATURE CITED

- Banko, W. E. 1960. The Trumpeter Swan: its history, habits, and population in the United States. No. Amer. Fauna. 63. U. S. Fish and Wildlife Service, Washington, DC. 214 pp.
- Scott, P. and The Wildfowl Trust. 1972. The swans. Houghton Mifflin Co., Boston, MA. 242 pp.