

# Trumpeter Swan (*Cygnus buccinator*)

Status: State Threatened

W.C. Joe Johnson

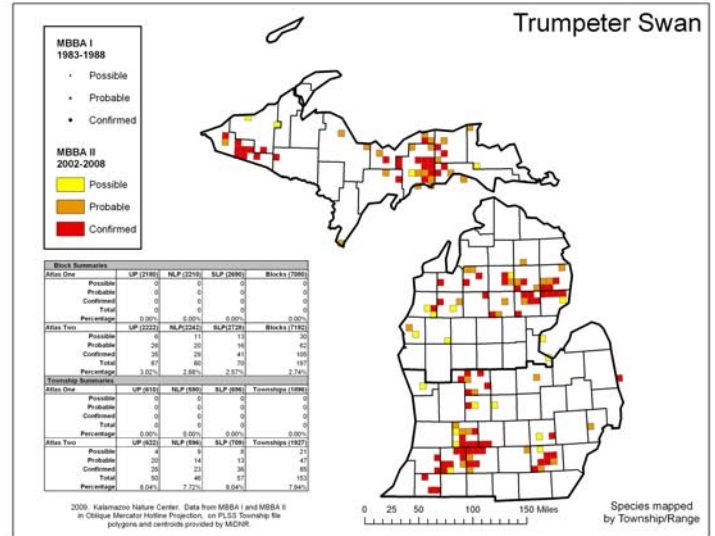


Seney National Wildlife Refuge, Schoolcraft Co., MI  
June, 2009 © Al Menk

This species sponsored by Bryce & Paula Dreezen and also by Joe Johnson.

Banko (1960) presents some compelling evidence that this species was once abundant and widespread on the North American Continent; from the Atlantic to the Pacific and the Arctic to the Gulf coast. The population was severely depleted by subsistence hunting and over 125 years of commercial swan skin harvest by hunters and trappers for the Hudson Bay Company. Many thousands of skins were shipped to Europe between 1772 and the late 1800s (Banko 1960). By 1933 there were thought to be only 66 Trumpeters alive in North America and thus nearly extinct (Banko 1960). Unknown and unrecorded remnant populations existed in Canada and Alaska (Mitchell 1994).

Major conservation efforts have resulted in a significant recovery of this species. There are three major populations. The Pacific Coast Population nests in Alaska and winters along the Pacific Coast as far south as Washington. The Rocky Mountain Population nests in Northern Alberta, British Columbia and the Yukon Territory. For the most part this group migrates to the tri-state region of Montana, Idaho and Wyoming for the winter, joining a small population of non-migratory Trumpeters that nest in the region. The Interior Population ranges from South Dakota and Nebraska



Not found in MBBA I.

through the Great Lakes States to Eastern Ontario and New York.

All of the swans in the Interior Population are the result of restoration projects by federal, state and provincial biologists between 1962 and 2008. Biologists began the Michigan effort in 1986 and finished releasing swans in 1993. A total of 124 Trumpeters were released as two year olds. About a third of the swans were released in the eastern UP, another third in the NLP and the remainder in the southwestern LP. Many of the swans were hatched and reared from eggs collected in Alaska; many others were donated by major zoos and private aviculturists. From 1994 to 2005, 122 more were released in the western UP, northeastern LP, northwestern LP and southeastern LP by Consumers Energy Corporation, Native American tribes, and private citizens. The restoration effort was sponsored by the DNR Nongame program and MSU's Kellogg Bird Sanctuary.

## Distribution

There are numerous "New France", pre-English, records the most interesting of which was a journal entry by M. de Lamothe de Cadillac in July of 1701 about Lake St. Clair: "There are

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such large numbers of swans that the rushes among which are massed might be taken for (white) lilies” (Lumsden 1984). These were clearly outside the summer range of Tundra Swan and the Mute Swan did not exist in Michigan at that time. Between 1860 and 1884, several Trumpeter Swan were reported shot on Lake St. Clair, however none were confirmed (Barrows 1912). A single museum specimen (#70317) resides in the National Museum in Washington D.C. It was shot on the St. Clair Flats on November 20, 1875 (Barrows 1912). No other sightings in Michigan have been recorded (Barrows 1912, Wood 1951). The species was gone, extirpated from the entire Midwest by 1900.

Michigan’s restoration effort started during MBBA I, when 44 Trumpeter swan eggs were placed under feral Mute Swans at the Allegan State Game Area (1986-1988). A total of 31 cygnets hatched during this cross-fostering experiment, but only six survived to flight stage. Had a species map been created for MBBA I, it would have had one possible observation in one township (Valley) in one County (Allegan). In contrast, atlas workers during MBBA II observed Trumpeter Swans in 147 townships in 42 counties. Nesting was confirmed in 82, probable in 45 and possible in 20 townships. It may just be a coincidence, but the distribution of townships occupied and the percentage of them occupied mirrors the proportions of swan released from 1989-1993, about a third of the population in each zone and just a bit over 7.5% of the townships occupied.

### **Breeding Biology**

Based on a literature review of habitat needs of this species in the west, biologists in Michigan were asked to seek wetlands for potential release that were large (24ha/60 acres); had lots of emergent wetland plants to nest in; had abundant and diverse submersed aquatic plants for food; had no overhead electric wires (a major source of death); had no Mute Swans; and

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most importantly, had no history of waterfowl hunting because lead shot poisoning is a major killer of Trumpeter Swans in the Great Lakes region (Degernes and Redig 1990, Degernes and Frank 1991, Johnson 2000). This was not an easy task, but several federal and state refuges and Audubon Sanctuaries were selected. Trumpeter Swans do not actually need 24 ha wetlands; many are now nesting on beaver ponds as small as 1.5 ha (3 acres). They seem to select wetlands with minimum human disturbance and rarely select lakes that are residentially developed, or that have ice-out to ice-in boating activity by humans. Upon encountering a pair of Mute Swans on a wetland, nine times out of ten a mature pair of Trumpeters will drive them from their nest and territory and occupy the wetland (Johnson 1999).

Trumpeter Swans often return to their nesting site before ice out; they often use the same nest site for several years. In southern Michigan, egg laying begins in early to mid April with cygnets hatching in mid to late May. In the UP, they are about two weeks later.

The first successful nesting in Michigan occurred in 1992; one pair in Cass County and a second pair at the Seney National Wildlife Refuge in Schoolcraft County. Biologists at Seney have studied the nesting biology of Trumpeter Swans for more than 15 years. They estimate that the average clutch size is six; that 88% of eggs laid hatch; that 95% of the observed nests hatch one or more cygnet. Brood size ranged from one to nine. From 1992-2004, 632 cygnets hatched and 353 survived to flight stage; average cygnet survival was 56% (D. Olson, pers. comm.) Statewide, from 1992-2005 a total of 375 broods contained 1,220 cygnets for an average of 3.26 cygnets per successful pair (Johnson, 2005 unpubl survey data).

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## **Abundance and Population Trends**

Trumpeter Swans have been surveyed across North America every five years since 1975. In 2005, record high numbers were recorded: 34,803, 47% higher than 2000 (23,647). The Pacific group was 24,928; the Rocky Mountain group was 5,228 and the Interior Population, to which Michigan belongs, was 4,647 swans, an increase of 91% over the 2000 estimate of 2,430 (Moser 2006). In 2005 there were 471 Trumpeter Swans in South Dakota/Nebraska, 644 in Ontario, 2,000 in Minnesota, 431 in Wisconsin, 269 in Iowa, 91 in Ohio, 13 in New York, and 728 in Michigan which included 345 in the UP, 161 in the NLP, and 222 in the SLP (Moser 2006).

## **Conservation Needs**

Michigan's initial effort was guided by the 1984 North American Management Plan for Trumpeter Swan (USFWS 1984) and later by the 1998 Joint Flyway Management Plan for the Interior Population of Trumpeter Swans (Ad hoc Drafting Committee for the Interior Population of Trumpeter Swans 1998). The goal of the joint plan was to "restore a self-sustaining, migratory population of Trumpeter Swan in the Central and Mississippi flyways" and the first objective was to develop a dispersed breeding population of at least 2,000 birds and 180 successful breeding pairs by the year 2001. The Interior Population objective was reached in 1999 when 2,087 swans were surveyed and the successful breeding pair objective was reached in 2000 when 202 pairs were recorded.

The Michigan restoration plan (Martz et al. 1986) had a very modest goal of two flocks of 100 birds each by the year 2000. That goal was reached in 1997 in the UP and the southwestern LP. Perhaps it is time to reconsider the original Michigan population goal and establish a new one. Many agencies – the DNR, Natural Resources Conservation Service (NRCS), USFWS, and private groups like Ducks Unlimited – are spending a great deal of money

to restore Michigan wetlands. This is good news for all wetland dependent wildlife, as Michigan has lost half of its original wetlands. Since the only official inventory of Trumpeters is conducted once every five years across the continent, we must plan for the continuation of these surveys in the future.

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