

THE TRUMPETER SWAN AS A BREEDING BIRD IN MINNESOTA, WISCONSIN, ILLINOIS, AND INDIANA

A. W. SCHORGER

THE Bureau of Sport Fisheries and Wildlife, U. S. Fish and Wildlife Service, has concerned itself with reestablishing Trumpeter Swan (*Olor buccinator*) populations in the United States and is therefore interested in the former breeding and wintering ranges of this bird. Winston Banko of the bureau suggested the present paper to the author so that the breeding status of the Trumpeter Swan east of the Mississippi River would be more completely understood. Search of the literature was extensive and included all of the county histories of the respective states with the exception of Minnesota.

The Trumpeter Swan is so similar to the Whistling Swan (*Olor columbianus*) that it would be hopeless to identify it in the historical literature as a breeding bird were it not for the fact that the Whistling Swan has always nested far north of the region under consideration. Accordingly, swans present in summer may be accepted as Trumpeters. The information gleaned is by no means commensurate with the time expended in searching the literature; its meagerness suggests that the Trumpeter Swan was exterminated early in certain areas or that only a small amount of effort was made to penetrate its breeding grounds in the treacherous marshes and swamps.

Minnesota.—It is unnecessary to repeat the breeding records given by Roberts (1932:204) for the central and southern parts of the state. A record which extends the breeding range into northeastern Minnesota had been overlooked. The fur traders in passing from the Mississippi to Lake Superior started from Sandy Lake. After going up the Prairie River a short distance, the West Savannah River was entered and followed upward for 8 to 10 miles, as variously stated, then a portage of 6 miles in length was reached. The portage ended at East Savannah River which was followed to the St. Louis River and down to Lake Superior.

On 7 May 1798, a member of the party headed by David Thompson (1916:284) shot a swan at a large swamp on the West Savannah River. It contained 13 eggs from the "size of a pea to that of a walnut." The date and size of the ova show imminence of nesting. On consulting Alex Dzubin, who has studied ovicular development in waterfowl, I was advised that this swan would have ovulated probably within 3 to 6 days. The editor of Thompson's narrative was undoubtedly correct in identifying this swan as a Trumpeter.

Thompson stated that the swamp was 4.5 miles across. The best description of the route which I have read is by Joseph G. Norwood (Owen, 1852:300), who surveyed the area in 1848. He stated that the West Savannah River "winds through extensive swamps covered with aquatic grasses." The

significance of place-names in the area should not be overlooked. There is a Swan Lake (not to be confused with the Swan Lake in Nicollet County) drained by Swan River. On Owen's map this stream is called West Swan River; and he shows an East Swan River, Modern Floodwood River, flowing southeast into the St. Louis River.

Wisconsin.—There is no satisfactory record of the breeding of this swan in Wisconsin. Most of the early accounts of swans are for spring and fall, or no season at all is given. When the English geologist Featherstonhaugh (1847: 18–19) entered Lake Pepin on the Mississippi on 23 October 1835, he saw hundreds upon hundreds of swans with their cygnets floating on the lake. He mentioned: "The cygnets were still of a dull yellow colour, and all the birds were very shy." Audubon (1838:542) states that the body plumage of the Trumpeter cygnet is grayish white slightly tinged with yellow, and quotes Sharpless (1832:86) that that of the Whistling cygnet is plumbeous gray. The same distinctions are given by Kortright (1942:69, 77). Accordingly, it could be inferred that the swans on Lake Pepin were Trumpeters, possibly assembled from surrounding breeding areas. On the other hand, H. A. Hochbaum and W. E. Banko, both familiar with Trumpeter cygnets, have informed me that their color is gray, though sometimes stained with ferruginous compounds.

It is stated by Grundtvig (1895:99) that this bird was said to breed in northwestern Wisconsin. The U. S. National Museum has an adult male, No. 81,290, taken at Lake Koshkonong on 20 April 1880. The date falls within the period of the spring migration of this swan. The best information on possible breeding is by Kumlien and Hollister (1903:31–32): "In the early forties 'swan' were reported as nesting in southern Wisconsin (Dane and Jefferson Counties), and if this is true it was no doubt this species. Thure Kumlien had a juvenile specimen obtained somewhere between 1842–45 in Jefferson County, with down on the head and primaries still soft, color a dingy ash. This specimen was still in existence in 1900, and doubtless is yet. . . . In the past fifteen years we have handled but two specimens. One was mounted for a hunter, who procured it from a flock of three on Lake Koshkonong May 6, 1893! This specimen contained *ova* the size of an ounce leaden bullet." If Thure Kumlien's juvenile is extant, I do not know of its location.

Illinois.—In Illinois we are on firm ground. Marquette and Joliet, after descending the Wisconsin River, entered and started down the Mississippi on 17 June 1673. Of the country about 42° N, Marquette (1903:242, 257) wrote: "We see only deer and cows [buffaloes], bustards [Canada geese] and flightless swans, because they lose their pinions in this country." (*Nous ne voions que des chevreils et des vaches, des outardes et des cygnes sans aisles, parcequ'ils quittent leurs plumes en ce pays.*) Marquette fixed the latitude

of the mouth of the Wisconsin one-half degree low; hence the above remark applies to 42°30' N, the boundary between Wisconsin and Illinois. Banko (1960:72) states that the primaries are usually shed in July but the annual molt may be completed as early as June or delayed until August, September, or even October. (Early shedding is to be expected for the more southern latitudes.) On the return journey in August, Marquette entered Lake Michigan via the Illinois River, the banks of which, he states, were incomparable for the abundance of game, including geese, swans, ducks, and parakeets. Hennepin (1903:644, 666) did not see the Mississippi until 1680. His contribution on swans is so like that of Marquette that it must have been borrowed.

A memoir written from Illinois by Liette (1947:130) in 1702 informs us: "However, I did not regret my failure to shoot the bustards. This game bird is very common here as well as swans, French ducks, musk ducks, teals and cranes both white and gray." He mentions that in autumn the marshes become dry, and that all the kinds of waterfowl mentioned then resort to the Illinois River and the lake (Peoria). Their numbers were so great, he remarked, that if they remained on the lake it would have been impossible to travel over it in a canoe without pushing the birds aside with a paddle. Since the dry period in this area is usually August, there can be no question that the swans and other species of birds were local breeders. The mention of white (Whooping) cranes should raise no doubt as to the validity of nesting of all the birds enumerated. Kennicott (1855:587) stated that a few Whooping Cranes still nested in middle and southern Illinois; a score of years later, a few still bred in the large marshes in the center of the state (Nelson, 1876:133). Rale (1900:167) wrote in 1723 that none of the Canadian Indians compared with the Illinois tribes in abundant living. The Illinois streams were covered with swans, geese, and ducks.

A trading trip to Illinois was made by Kellogg (1903:60-62) in 1710. His party reached the Illinois River by way of the Chicago River and: "As they went to the River Illinois they rais'd an infinite number of wild fowl, such as Cranes, Geese, Duck; and Swans in great abundance that feed upon wild Oats. . . ." On the Illinois the men found wild apples and plum trees, the apples bitter and sour but the plums good. Since the plums were edible, the time was the last of August or early September. No migratory swans would arrive near Chicago this early so that they must have been resident Trumpeters.

The Long Expedition on 5 June 1819, found a swan at the mouth of the Kaskaskia (38° N). According to James (1823:46) it was unable to fly, having shed its feathers. Peale (1946:157, 284), naturalist of the expedition, gives the date 4 June for meeting with a flightless swan. In his notes he

states definitely that the bird could not fly due to molting. Musselman (1921:12, 41) states that an occasional Trumpeter Swan was reported to have nested in the early days at Lima Lake, a huge swamp in the northwestern corner of Adams County. Here swans fed for days during the periods of migration.

An important contribution has been made by Parmalee (1958:171). Bones of the Trumpeter Swan were among the bird bones found at prehistoric Indian sites at Cahokia, St. Clair County, the Fisher Site, Will County, and the Snyders Site, Calhoun County. This bird, according to Parmalee, "must have been exceedingly abundant" since at Cahokia 375 bones of the Trumpeter Swan were found in comparison with only a few of the Whistling Swan. During the migrations there should have been at least equal opportunities to take both species. I believe that the preponderance of bones of the Trumpeter Swan is strong indication that this bird was taken mainly during the breeding season when molting of the primaries would make it a relatively easy prey.

Indiana.—The Kankakee marshes in Indiana once covered about 600,000 acres and should have provided many favorable nesting localities. Very few accounts of these marshes go beyond mentioning swans among the waterfowl to be found in the area. Ball (1885:153) stated, on the authority of E. W. Dinwiddie, that the Trumpeter Swan was rare in Lake County and that no nest had been found. Later he informed Butler (1898:642) that it bred formerly. Cooke (1906:86) stated that it probably had bred as far south as Indiana in the early days.

Ball (1900:453) interviewed H. Seymour, who came to the vicinity of Hebron, Porter County, in 1833. He thought that the "white cranes and the swan" nested in the Kankakee marshes at that time but was not certain. It would seem that these birds must have been present in summer to leave with him an impression of nesting.

Beaver Lake and its marshes, in northern Newton County, occupied about 36,000 acres (Fig. 1) prior to drainage. Thomas Rogers Barker settled at Beaver Lake in 1840 to trade with the Indians. On 31 July 1937, Barce (1938:71-76), a drainage lawyer, interviewed a son, Lanier Barker, on the nesting of the Trumpeter Swan. Lanier was born in 1861. He informed Barce that one of the former breeding places of this swan was the Black Marsh, about 3 miles south of the present village of Roselawn. In Beaver Lake was a submerged aquatic plant sometimes known as "swan celery" (*Vallisneria spiralis?*), a favorite food of the bird. He had seen a hundred acres of swans at a time. They would feed in one locality for a month before repairing to the marshes to nest. The bird laid from five to seven eggs. It was easily tamed, and settlers along the lake would sometimes take

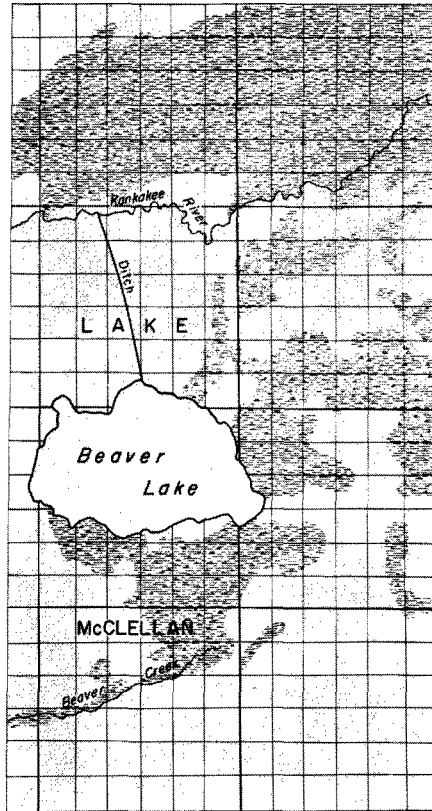


FIG. 1. Former Beaver Lake, Newton County, Indiana. After C. H. Adams & Co. Map (1871).

some of the eggs and hatch them under a hen or goose. The bird had to learn to eat corn which was soaked in water. The average weight given by Lanier Barker, 20 pounds, is that of the Whistling Swan, but this species is ruled out for the reason given previously.

Whatever its deficiencies, it is doubtful if another or better account of the nesting of this swan in the southern latitudes will be found. About 1869 or 1870, Lanier and an older brother took two eggs from a nest in "the Black Marsh, near one of the three great crossing places of the lake known as 'The Narrows.' It was one of the most treacherous bogs on the face of the earth. It was a quagmire of floating moss or turf where one could easily sink into the ooze and slime and the decayed vegetation beneath. This ooze was eight or ten feet in depth, and one who disappeared here might never come to light.

"The nest of the swan was always in a position where the water could seep up through the soil from below. Occasionally the mother bird would thoroughly drench her feathers, stand up over the nest and shake herself, so as to sprinkle the eggs. I believe that there were no swans hatched out in the swamp after 1872 or 1873."

It is impossible to reconstruct the original ecology of Beaver Lake since drainage began in the 1850's and was practically completed by the 1880's. It may be assumed that this lake, famous for its waterfowl, was favored as a breeding place because of its aquatic plant life. The lake and its surrounding marshes may be considered for all practical purposes to have been a part of the Kankakee marshes. Notes on the original survey show that the land surrounding the lake consisted of wet prairie (probably sedge), dry prairie, and oak openings (Rohr and Potzger, 1950). The recent vegetation, including that of the bottom of old Beaver Lake, is treated by Rogers et al. (1955) in a soil survey report. Very few aquatic plants receive mention.

The principal genera of plants on which the swan feeds in Montana (Banko, loc. cit.) are the mosses *Chara*, *Fissidens*, *Amblystegium*, and the flowering plants *Sparganium*, *Potamogeton*, *Sagittaria*, *Elodea* (*Anacharis*), *Scirpus*, *Carex*, *Lemna*, *Nuphar*, *Ranunculus*, and *Myriophyllum*. These are, or were, common aquatic genera in northwestern Indiana (Coulter, 1899; Peattie, 1930; Deam, 1940). In addition, *Vallisneria spiralis* and *Zizania aquatica* were common. *Zizania* "grew to perfection" (Woods, 1938:138). All of the above genera of flowering plants, except *Nuphar*, are represented from Newton County in herbariums and the exception is known for adjoining Lake County (Deam, 1940:453).

It may be concluded that the Trumpeter Swan bred formerly in Minnesota east to the St. Louis River, in Illinois south to 38°, and in northwestern Indiana. While there is high probability of its having bred in Wisconsin, clear proof is lacking.

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