

OVERWINTERING OF THE GREAT BLUE HERON AT COLLINS LAKE, SCHENECTADY CO., NEW YORK

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Frequent and regular sightings of the Great Blue Heron (*Ardea herodias*) during both night and day have been made at Collins Lake, Scotia, Schenectady Co., New York, for the winter months of 1988-1989. Review of the literature suggests that these observations merit further attention. DeKay (1844) does not report this species as overwintering in New York State; Eaton (1910) makes the generalized remark that, "This is the hardiest of all our herons and is occasionally seen in midwinter both on the coast and in the interior about the open water of springs and streams." Forbush (1929) comments: "From August until mid-November the birds are passing on their southward migration. The November flight (which in New England occurs mainly along shore) takes with it about all the remaining herons except occasional stragglers, a few of which may remain through the winter, though some such are starved and frozen before spring." Recent reviews of the species (Palmer 1962, pp. 391-403; Bull 1974, pp. 72-73; Hancock and Kushlan 1984, pp. 50-54) indicate that its overwintering range is generally south of the Tri-City Region of New York State. Regardless, occasional Great Blue Herons are reported here during the winter. Christmas Bird Counts conducted by members of the Hudson-Mohawk Bird Club have tallied 12 herons during the past 13 years (1976-1; 1980-2; 1982-2; 1983-1; 1985-4; 1986-2). To the best of our knowledge, however, specific site accounts of *prolonged* winter (and nocturnal) residency for the species are lacking for upstate New York and this region.

DESCRIPTION OF COLLINS LAKE

Collins Lake (lat. 42° 49' 36" N, long. 73° 57' 35" W) is a man-modified kettle hole and oxbow basin 55 acres in extent. The maximum depth is 9 m. The lake is spring-fed along the northern and western shores. These springs produce a band of perennially open water up to 10 m wide. The lake drains eastwards through Collins Creek for a distance of about 1 km to the Mohawk River. A long, narrow island, about 244 m (800 feet) in east-west extent and 30 m (100 feet) average width, follows the long axis of the lake.

METHODS

Observations at the lake were made once or twice daily for a duration of 30 to 90 minutes on most days of the one year study period. Morning observations were made from 0700 to 1000 hours and afternoon-evening observations occurred from 1800 to 2100 hours, depending upon times of sunrise and sunset. Binoculars (Swift 8 x 50) and a spotting scope (Bushnell Spacemaster II 15-45x) were used regularly. Vantage points at the eastern, southern and western sides of the lake provided coverage of the full lake perimeter and all shores were routinely and systematically searched for the presence of Great Blue Herons. Street and commercial lights of the surrounding village and the light gathering capabilities of the optical equipment often allowed observations well after sunset. A 'standard sighting' as used here refers to the greatest number of birds seen each day.

The lake was divided into 9 sections (N, NE, E, SE, S, SW, W, NW, creek) to record place of sighting and behavioral events of the observed herons. The number of birds sighted during each observation period was recorded; the maximum number of sightings for each day was totaled by week for the 53 weeks of the observation year; and the number of days per month with observations was also tallied. Air and water temperature, cloud cover, wind velocity, visibility, and remarks on the flora and other fauna were collected at the times of inspection. Additional meteorological data was obtained from a private observatory operated by Mr. Philip Falconer, professional meteorologist, located 4.4 km southeast of the lake.

RESULTS

The maximum number of total standard sightings (37) occurred during the seventeenth week (Nov. 20-26, 1988) when four to five (different) herons were seen each day (Fig. 1). These numbers were 3.5 times greater than those obtained during the weeks of the prior spring, summer and fall. The number of sightings continued at relatively high levels through mid March 1989 and then fell to less than five per week. Great Blue Herons were seen on 29 of the 31 days of December. The lowest number of incidences took place in May when a bird or birds were seen on only 1 of the 31 days of the month (Fig. 2).

During the months of December through March, when the lake was more or less covered with ice, herons were seen in the spring-warmed

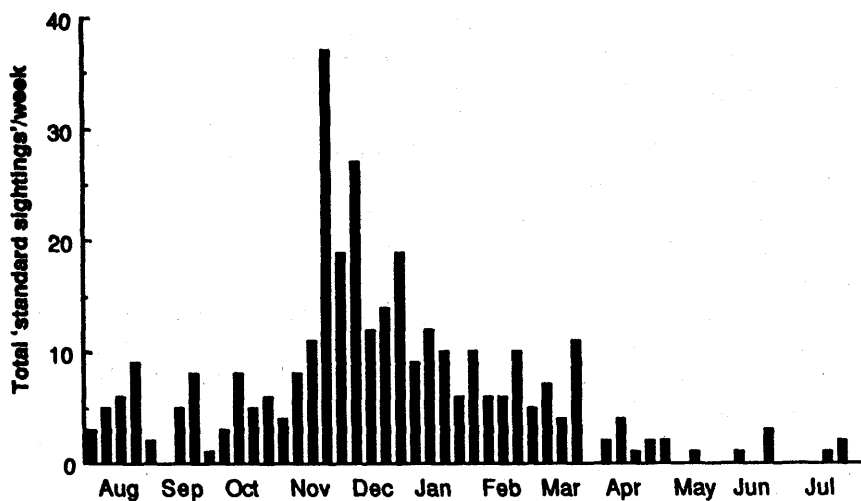


Figure 1. Total 'standard sightings' per week for the Great Blue Heron at Collins Lake for the period 7/31/88 through the week of 7/30/89.

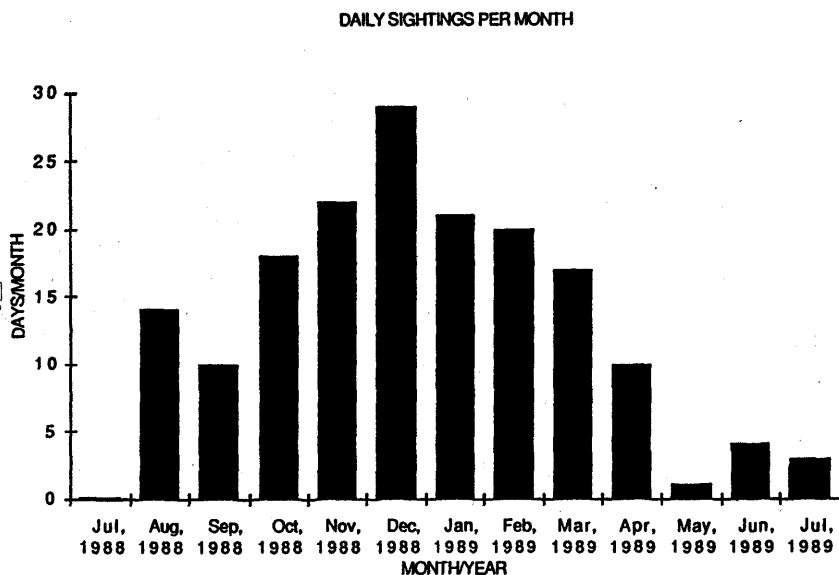


Figure 2. Total 'standard sightings' by month for the Great Blue Heron at Collins Lake for the period of 7/1/88 through 7/31/89.

band of open water along the northern edge of the lake and in the tail race of the small outlet dam. Temperatures at 15 springs along the northern edge of the lake, were measured on 20 Jan 1989. They averaged 7.6°C (45.7°F) and ranged from 6.5-8.5°C (43.7-47.3°F). The herons rarely engaged in fishing and usually stood in the water to depths of 30 cm with necks withdrawn. On mornings following especially cold nights (temperatures to -43.1°C or -20°F) dense clouds of mist drifted about the birds, and their plumage along with the surrounding surfaces, was covered with hoarfrost.

Observations during the evening after sunset commonly revealed herons arriving from the east either to perch on stumps and other woody debris at the east end of the island or to move directly to the northern edge of the lake. Two or three birds were often seen within three to five meters of one another. An effort was made to define age (mature vs. immature) status of the birds and to recognize individuals. However, the dull winter plumage, mist formation over the warmer spring water, falling snow and the large sighting distances did not allow reliable generalizations other than that all or most of the birds were immatures. One distinctively darker bird was frequently seen suggesting that at least one of the several birds seen was the same individual.

On several occasions birds were seen holding their wings in a forward and partially upturned position. This posture was not consistently directed toward other birds. However, on the three occasions (twice during the winter and once during a warm August afternoon) when a panting bird was seen, the posture was directed toward the sun. Thermoregulation may thus not be a fully satisfactory explanation because the panting bird would not have directed the wings toward the sun if cooling was required; the drying of plumage also may be involved.

On 20 January 1989, a clutter of feathers of a Great Blue Heron was seen on shore in the northwestern sector of the lake. A den of red foxes was located near the site and two foxes frequently were seen in the area. Death thus may have been due to predation. Instances of the herons being frozen into the ice were never observed.

DISCUSSION

The data gathered indicate that Collins Lake, Town of Glenville, Schenectady Co., was the site of overwintering and overnight roosting of

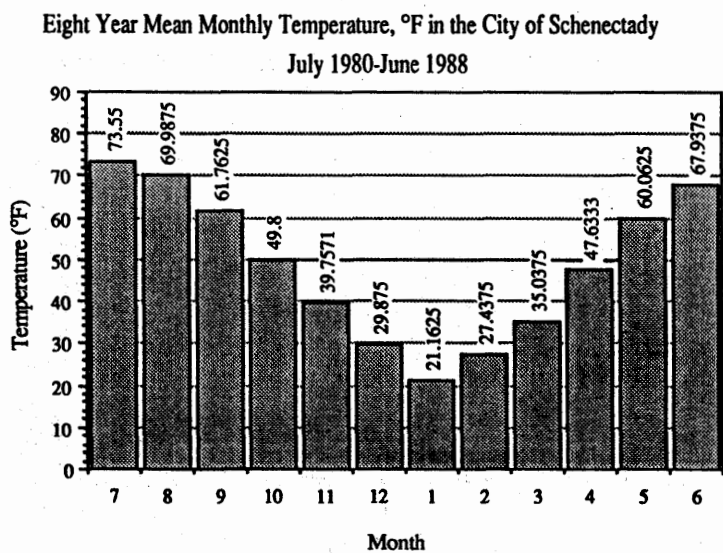
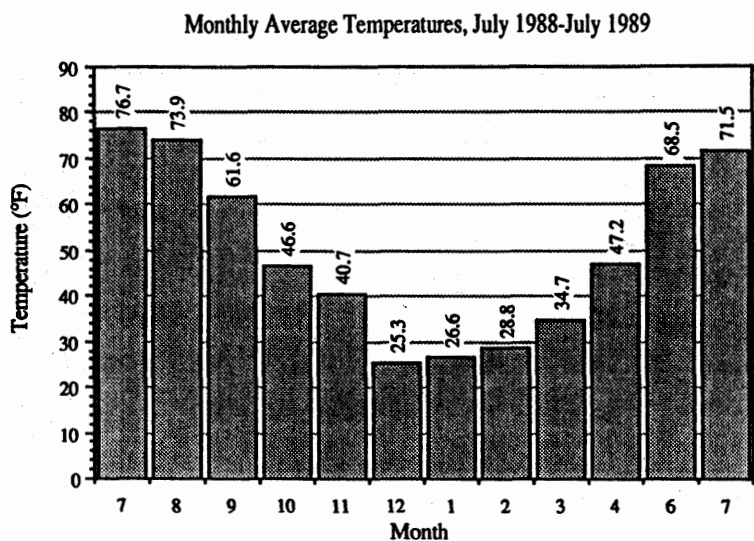
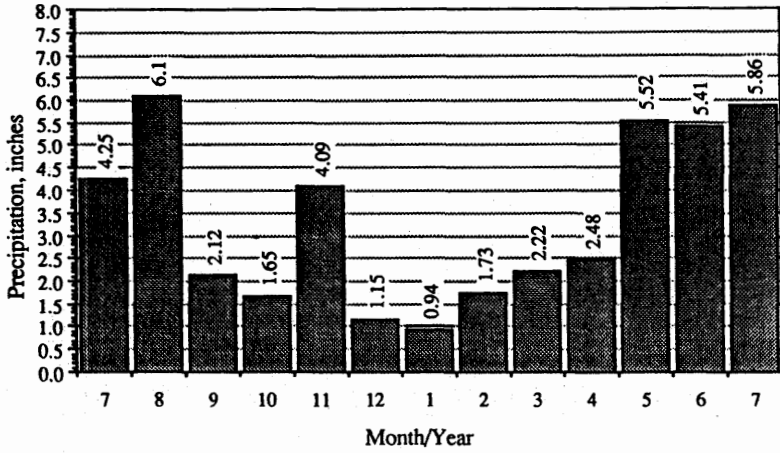


Figure 3. Comparison of temperatures for the study period with the eight year prior reference period; data collected in Schenectady 4.4 km southeast of Collins Lake.

Total Monthly Precipitation, July 1988-July 1989



Eight Year Mean Monthly Precipitation, in inches, for City of Schenectady
July 1980-June 1988

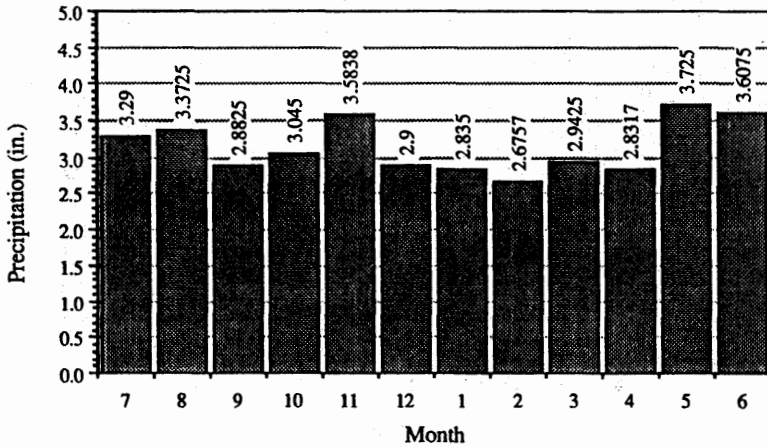


Figure 4. Comparison of precipitation for the study period with the eight year prior reference period; data collected in Schenectady 4.4 km southeast of Collins Lake.

at least five Great Blue Herons during much of the winter of 1988-1989. This overwintering is probably the consequence of the spring-fed nature of the lake with its continually open water, even during the coldest days of the winter. Although the winter of 1988-1989 was warmer (+3.2°F total difference for November-February relative to reference period) and had lower precipitation (-4.09 inches total difference for November-February relative to reference period) than previous winters (Figs. 3 and 4), open water has been found in winters with more severe weather. Other waters in the region which remain open during the winter, in descending elevation progressing eastwards, include the tail races below Vischer's Ferry Dam, Crescent Dam, the School Street Power Station and the rapids of the Mohawk River below Cohoes Falls. However, these sites are quite variable due to the vagaries of river flow and do not appear to be used regularly for overnight roosting.

Collins Lake usually has been overlooked by the several teams of the Hudson-Mohawk Bird Club performing recent Christmas Bird Counts. Thus, we have little information as to whether or not Great Blue Herons have overwintered at Collins Lake in prior years. The inaccessibility of the larger spring-fed open waters along the north shore of the lake combined with the abundance of dead gray wood matching the plumage of the herons makes observation difficult. We suspect that birds overwintering in earlier years may have been missed. Regardless, twelve members of the Hudson-Mohawk Bird Club who have been active here for ten or more more years have expressed no knowledge of other regular overwintering sites for the Great Blue Heron in lower Mohawk Valley and the Tri-Cities Region. Collins Lake thus may be a novel record of a specific overnight and overwintering locality for the Great Blue Heron in the Tri-City region of New York. Given the relative high latitude of 42°49' 36" (and paucity of such records), the lake may be one of the most northerly inland overwintering sites documented for the species. Other high latitude winter records exist for British Columbia, Idaho, Wyoming, New England and the Maritime Provinces (Palmer, 1962).

Low numbers of birds observed starting in late March are probably due to the movement of birds from wintering sites to breeding colonies. Bull (1974) indicates egg laying occurs from April 15-June 9 in New York populations, supporting the idea that emigration from the lake for breeding purposes is the cause of reduced heron numbers at Collins Lake after the winter season.

Acknowledgments

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LITERATURE CITED

- Bull, J. 1974. *Birds of New York State*. Comstock Publishing Associates, Ithaca, New York.
- DeKay, J.E. 1844. *Zoology of New York*. Part II Birds. Carroll and Cook, Albany. pp. 219.
- Eaton, E.H. 1910. *Birds of New York*. N. Y. State Mus. Mem. 12(I):253-256.. Univ. State of New York, Albany
- Farrand, J. 1983. *The Audubon Society Master Guide to Birding*. Alfred A. Knopf, New York. pp. 108-110.
- Forbush, Edward Howe. 1929. *Birds of Massachusetts and other New England States*. Part I. Water Birds, Marsh Birds and Shore Birds. Mass. Dept. Agric. 481 p.
- Hancock, J. and Kushlan, J. 1984. *The Herons Handbook*. Harper and Row, New York.
- Palmer, R. 1962. *Handbook of North American Birds*. Vol. 1. Yale University Press, New Haven.

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