

GENERAL NOTES

Bald Eagle near Stillwater, Oklahoma.—There are so few records of Bald Eagles from Oklahoma that its appearance near Stillwater, January 4, 1939, may be of interest. An adult bird, presumably *Haliaeetus leucocephalus leucocephalus*, was observed from an automobile by a party of five persons at R. 1 E, T. 19 N, S. 14, Payne County. The car was stopped about 75 feet from the thirty-foot elm tree which served as a perch and the eagle remained until all five occupants had made thorough observations. The bird flew a few hundred yards away and alighted in another tree. All present took note of the bird's white head and tail.—
GEORGE A. MOORE and JOHN D. MIZELLE, *Stillwater, Oklahoma.*

King Rail in Michigan in Winter.—A King Rail (*Rallus elegans*) was received in the laboratory of the Game Division, Michigan Department of Conservation, on December 9, 1938. The bird was sent in by conservation officer Thomas White of Houghton Lake, Michigan, who reported that it was taken from a muskrat trap on December 7, about three miles east and one and one-half miles south of Prudenville, Michigan.

An examination failed to reveal any injury other than those resulting from the trap or any diseased condition that would have prevented normal flight. The bird was a male, in adult plumage, but was a bird of the year as evinced by the presence of a bursa Fabricii.

While there are other winter records of this species in Michigan, this is probably the first record from a point so far north in the state.—W. CARL GOWER, *Game Division, Michigan Department of Conservation, Lansing.*

Twilight Flight of the Black Tern.—During many summer evenings and week-ends between 1934 and 1938, I had abundant opportunity to observe an interesting twilight flight of the Black Tern (*Chlidonias nigra surinamensis*) at Whitmore Lake. This Michigan lake is about twelve miles north of Ann Arbor, and is approximately six hundred acres in extent. Within a five mile radius of Whitmore Lake are many bodies of water ranging in size from a glacial pothole of a fraction of an acre to lakes several hundred acres in extent. Horseshoe Lake, a mile and a half to the south, is one of the largest in the immediate vicinity. Many of the lakes, including Whitmore and Horseshoe, usually have annual nesting colonies of Black Terns.

During the summers between 1934 and 1936 the water level of Whitmore Lake was several feet below normal, thereby exposing many suitable nesting sites for Terns. As a consequence twenty to forty pairs nested annually. The water level was raised several feet in 1937, the nesting sites were covered with water, and no Terns nested then. In 1938 three pairs nested despite the high water level. They placed their nests upon some boards that were floating in a small marsh at the southern end of the lake.

The nesting birds at Whitmore Lake and visiting Terns from neighboring lakes fed singly, in pairs, or small groups over the entire lake throughout the day. About an hour before sunset large hatches of aquatic insects began emerging, and the Terns became more active in their food gathering. This increased activity of the birds continued until sunset. Shortly after sunset the scattered Terns from the Whitmore Lake colony (in those years when a colony was present) ceased their active feeding and began to gather in a flock. At the same time they became much

more vociferous. The flock usually flew in great circles about the central portion of the lake and within one hundred feet of the water. At frequent intervals the circling flock flew over or near the nesting colony. Each time this occurred some or all of the birds in the flock would swoop down over the colony, apparently attempting to persuade or chase their mates from the nesting sites. After several such attempts the majority or all of the adults would be in the air. About half an hour after sunset the flock began to call loudly and to ascend in great spirals. At the same time it would assume the customary flock formation employed by the species in migration, namely a long, horizontal, arc-shaped formation with its slightly bowed center in the lead. About the time the flock began its ascent other groups of Terns, usually in arc-shaped formation, could be seen coming from neighboring lakes and ponds to join the Whitmore Lake flock. The group coming from the direction of Horseshoe Lake was always the largest, consisting of ten to thirty individuals.

The visiting flocks were usually silent as they approached the lake, and their arc-shaped formation gave every indication of migrating birds. When a visiting flock came within a few hundred yards of the Whitmore Lake birds, both groups began to call excitedly and, upon meeting, would merge together. Between 1934 and 1936 the combined groups of several lakes totaled between seventy and ninety Terns.

The length of time the combined flock remained together depended upon weather conditions. If the evening was warm, and especially if there was a bright moon, the flock, or a portion thereof, would remain in the air until as late as ten o'clock. On cool evenings the flight was of shorter duration. The height to which the group ascended depended upon weather conditions. If there was little wind the birds would occasionally ascend out of sight of the naked eye, and then only their calls could be heard. On cool, windy evenings the flock seldom flew above one hundred feet. The first evidence of disintegration of the flock was the leaving of the nesting pairs of Whitmore Lake birds. These pairs usually traveled at great speed towards their nesting site, with one of a pair in apparent pursuit of its mate. Upon reaching the nesting site the foremost bird would settle upon or beside the nest. Sometimes the pursuing bird would return to the main flock again. With the return to the nesting sites of the Whitmore Lake birds the visiting groups would leave for their respective lakes or ponds in the same manner in which they came.

Each year this twilight flight was first noted in early June as the nesting colony was becoming established, and continued until the departure of the summer resident birds in August. The flight was most pronounced from mid-June until the time the young began flying. These flying young seemingly distracted the old birds, for the young would trail behind the flock calling lustily, and adults were constantly leaving the group to accompany the young. As the young became more adept at flying they would join the old birds, but the flock never regained its former unity.

The disappearance of the Whitmore Lake adults and their young generally coincided with the first cool period in August. These cool spells usually occurred between August 4 and 20. I believe I saw the resident birds leave on August 9 of 1936. The birds began calling loudly on the mid-afternoon of that rainy day, and began assembling in a flock just as they did throughout the summer at twilight. After much calling and flying around the lake in arc-shaped flock formation the group disappeared in a southeasterly direction. After the summer residents left only transient birds were seen. The transient numbers varied greatly in daily abundance, and individuals usually remained only for a few hours or days. The transients which accumulated at the lake during the warm periods usually left at the beginning of cool spells. Because of the distinctive appearance of mottled individuals in August the daily observer could readily identify most individuals. Identifications of transients were especially easy because of their small numbers.—MILTON B. TRAUTMAN, *University of Michigan Museum of Zoology, Ann Arbor.*