

## SUBSPECIES OF THE CANADA GOOSE IN MICHIGAN

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THE natural occurrence of various subspecies of the Canada Goose (*Branta canadensis*) in Michigan, especially during the breeding season, has been confused during recent decades by strays from domestic flocks and by restocking activities. We can assume, however, that Canada Geese either collected or live-trapped during migration or winter visitant periods are genuine wild birds. This study was made to determine the subspecies of *B. canadensis* which may occur in Michigan during the nonbreeding seasons.

As Delacour (1954:145, 151) has pointed out, our knowledge of Canada Geese is still too scanty to make a satisfactory taxonomic arrangement of the subspecies of this group. There are differences among the various subspecies of *Branta* which are evident only in the living birds. Unfortunately, these differences, such as relative body proportions, voice, actions, and over-all carriage, are generally lost in the study skin. Hanson and Smith (1950:203-204) describe the interesting observations of Indians living in the James Bay region, Ontario, Canada, who recognize four different kinds of Canada Geese on the basis of field characteristics. Mayr (1942:242) points out the role of field characteristics, such as pair formation, family ties, and colonial nesting, in furthering the complex species development in *Branta*.

During a five-year period from 1949 through 1953, I conducted a banding program of Canada Geese at Michigan State University's W. K. Kellogg Bird Sanctuary in Kalamazoo County, Michigan. The Kellogg Sanctuary has been a favorite resting place for fall migrating geese since the early 1930's. The numbers of Canada Geese on the Sanctuary were counted periodically during the fall migration period; the numbers recorded for each year during the course of the study are shown in Fig. 1. There was no way of determining the total numbers of geese that visited the Sanctuary during a given fall. In some years, 1949 in particular, the flocks of geese remained in the area for a prolonged period of time, thus producing a large build-up in numbers as the season progressed. In other years, as in 1950 and 1951, the birds appeared to remain only a day or so in the Sanctuary area before continuing their migration.

A total of 1,115 Canada Geese were examined at the Sanctuary by me during the five-year period; 931 were banded, 60 of these were recaptured in later years, and 64 dead geese were picked up on the Sanctuary grounds for examination. Sex, age, plumage characteristics, weight, and certain morphometrical data (length of wing, tail, culmen) were recorded for each specimen. During the course of the field work certain specimens were saved as study skins, and these were deposited in the collections of the Museum of Zoology, University

of Michigan. Only those subspecies for which there is a specimen collected in Michigan are included in this report, and all specimens referred to here are in the U.M.M.Z.

I am indebted to the late Josselyn Van Tyne, who made the collections and other facilities of the U.M.M.Z. available to me. I also express my gratitude to Jean Delacour for his examination and identification of several specimens, and to Austin Rand for allowing me to examine the specimens of *B. canadensis* in the Chicago Museum of Natural History.

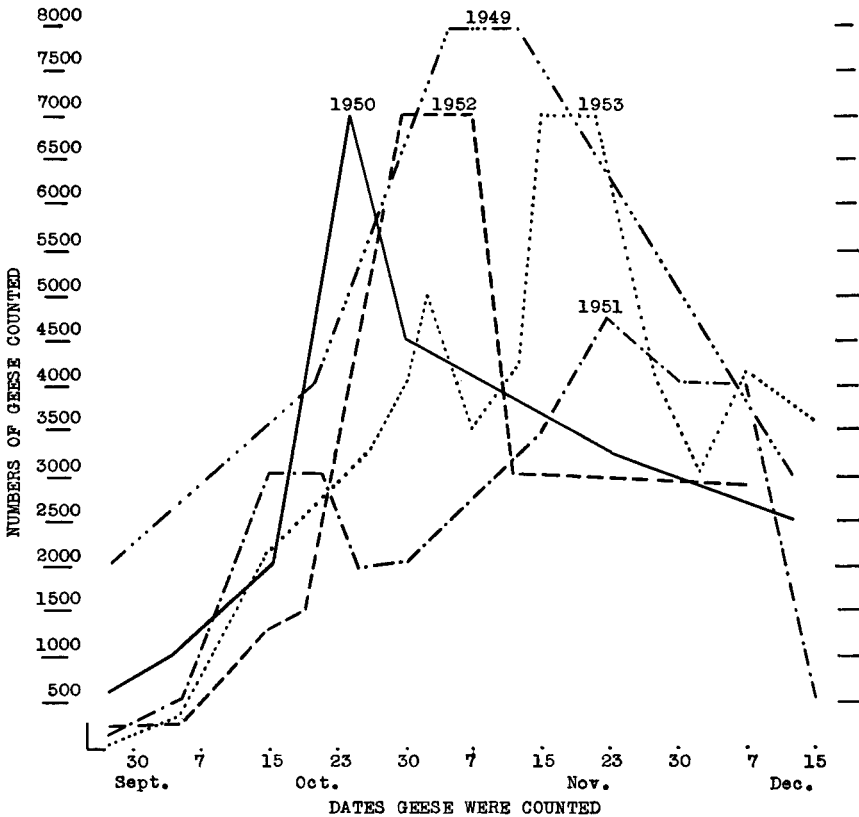


FIG. 1. Numbers of Canada Geese counted on the W. K. Kellogg Bird Sanctuary during the fall migration periods in 1949-1953.

SUBSPECIES ACCOUNTS

*Branta canadensis interior*.—Four specimens, two identified by Delacour, collected between late October and early December in Kalamazoo County are referable to this form, as are two other specimens taken in early April in Van Buren County. Other specimens of *interior* taken in Michigan include one each from Washtenaw (April), Ingham (November), and Sanilac (December) counties and one from the St. Clair River area (May).

*B. c. interior* is believed to be the most abundant Canada Goose in Michigan, both as a migrant and as a winter visitant. With the exceptions mentioned beyond, all of the birds handled at the Sanctuary are believed to have been of this race.

*Branta canadensis moffitti*.—Four specimens of *moffitti*, two of them identified by Delacour, are in the U.M.M.Z. All are from the Kellogg Sanctuary area; three were taken in December, and one in April. Of interest here is one specimen of this race taken in early November on the Ontario, Canada, shores of Lake St. Clair. Although *interior* appeared to be at least 20 times more abundant in the Sanctuary area than *moffitti*, nevertheless, the latter form is regarded as a regular migrant and winter resident in Michigan.

*Branta canadensis parvipes*.—Two specimens of *parvipes*, both identified by Delacour, have been taken at the Kellogg Sanctuary (October and November). An examination of my original data of geese examined during banding operations indicates that possibly as many as 20 specimens of *parvipes* were banded and released there during the five-year period. *B. c. parvipes* may be regarded as a rare but regular fall migrant in southwestern Michigan; its status elsewhere in the state is unknown.

*Branta canadensis taverneri*.—*B. c. taverneri* is not recognized in the latest edition of the A.O.U. Check-list (1957). Delacour (1954:168) describes the relationship between *taverneri* and *minima* during the breeding season as very similar to that which exists between *parvipes* and *hutchinsii*. The two smaller forms, *minima* and *hutchinsii*, nest on the coastal tundra while the somewhat larger ones, *taverneri* and *parvipes*, nest inland.

There is a series of specimens of Canada Geese in the U.M.M.Z., collected inland from Point Barrow, Alaska, during the breeding season (late May and early June). These specimens were formerly part of the Max M. Peet Collection and are the specimens of that collection referred to by Bailey (1948:151-155) as *B. c. leucopareia*. On the basis of Delacour's (1954:167) description, I believe these specimens are good examples of *taverneri*. A small Canada Goose was taken by a hunter at the Swan Creek Refuge, Allegan County, Michigan, on October 22, 1954; the specimen, now in the U.M.M.Z., is an adult male and compares very well with the specimens of *taverneri* on hand.

*Branta canadensis hutchinsii*.—A single specimen of this small goose was taken in Baraga County, Michigan, on October 22, 1949; it is an immature female. Earlier references to *hutchinsii* in Michigan (Sutton, 1927:559; Wood, 1951:44) are subject to question, because the specimens referred to are no longer available for examination, and they may have been any one of the three smaller races of *B. canadensis* now known to occur in Michigan.

During the last two weeks of October, 1949, three small Canada Geese were observed on several occasions on the Sanctuary. Studied with the aid of a 20× spotting scope, the short, stubby bill which is characteristic of *hutchinsii* was evident, and the birds appeared to be little larger than male Mallards (*Anas platyrhynchos*). These small geese were probably *hutchinsii*, but because critical examination in the hand could not be made, their identity remains uncertain.

*Branta canadensis canadensis*.—No specimens of *B. c. canadensis* in the U.M.M.Z. were taken in Michigan. Presumably, this subspecies may occur within the state, for a specimen of *B. c. canadensis* was taken in November on the Canadian side of Lake St. Clair. None of the specimens handled during the banding operations at the Sanctuary appeared to me to be an example of this race.

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