

NECKBANDED CANADA GEESE OBSERVED AT A MIGRATORY STOPOVER

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ABSTRACT — The banding of thousands of Canada Geese in the Atlantic Flyway with highly visible neck collars provided an opportunity to observe these birds at migratory stopovers on the shore of Lake Ontario west of Rochester, NY. A total of 861 neckbanded geese was observed along a section of the lake shore from 1992 to 1998. Some showed remarkable fidelity, returning to the same fields year after year, often for weeks at a time before resuming their migration. Because sightings have been entered on a NY State DEC computer, it was possible to determine age, banding location and prior sightings for many of the birds observed. These observations suggest that different geese sighted along this particular section of lake shore use it differently — some as an annual, extended stopover place, and some for an occasional or even one-time visit.

INTRODUCTION

My most exciting moment each spring occurs when the weather breaks in late February or early March, and V formations of Canada Geese fly west along the south shore of Lake Ontario.

In recent years, there has been an added incentive to observe these birds. When thousands of Canada Geese were banded, by biologists in about 20 states and provinces all along the Atlantic Flyway, with highly visible neck collars starting in 1983, a unique opportunity was created. Individual birds could be easily identified, even at a distance. And their movements could be tracked over both distance and time since the collars are designed to last the life of the goose.

During the first phase, 29,831 adult and subadult migrant geese in the Atlantic Flyway were neckbanded from October to March, 1983-1987, with yellow, tube shaped collars (designated YB below). These are thick plastic collars, fastened with glue. Each collar bears its own combination of four black numbers and letters.

During the second phase, 14,822 adult and subadult migrant geese were neckbanded from December to March, 1991-1994, and another 26,205 adult, subadult (second-third year) and immature (first year) resident geese were neckbanded from late June to early August during the same years. This second phase used white, cone shaped collars (WB). These are more flexible, polyurethane plastic, also fastened with glue, that were developed to reduce the risk of mortality due to ice accumulating on the collars during periods of severe weather. A small minority of geese have also had problems catching their lower

mandibles on collars immediately after banding, but adjust to them after about 24 hours. (Hestbeck 1995)

Each WB collar bears its own combination of three black numbers, letters or other characters, such as ?, =, and +. Some YB collars, however, continued to be put on geese through at least 1994.

The objectives of the project, sponsored by the Atlantic Flyway Council, were to study the changing distribution of wintering geese in the flyway, and to see whether the increase in wintering geese in the Mid Atlantic states, in particular, was caused by increasing numbers of resident, as opposed to migratory geese. Migrant populations of Canada Geese breed in the subarctic regions of Canada and always migrate. Resident geese breed in southern Canada and the U.S.; only the northern populations of these geese migrate (Hestbeck 1995).

Local spotters who participated in reporting these birds could also gain some insights into the nature of the migration in their own areas — especially along migration corridors where the geese gather in large numbers.

One such area is the south shore of Lake Ontario, west of Rochester, NY, where thousands of migrating Canada Geese congregate each spring. Fields of corn stubble provide spilt corn from the previous year's harvest for the geese to feed upon; wide open pastures with shallow streams or ponds provide safe areas for loafing and bathing; nearby larger bodies of water, including Lake Ontario and Braddock Bay, offer additional protected sites for roosting.

Geese arrive with the first major warm fronts at the end of February or early March. Numbers peak in March, when geese literally carpet the fields. Numbers begin to dwindle in April as the weather moderates. Isolated pockets of geese can remain as late as May, but finally depart when farmers plow under the last of the corn stubble.

METHODS

From 1992 to 1998, a total of 861 different neckbanded geese were observed in a 9.5 mile long, approximately 2 mile wide, section in Monroe County, extending from the town of Parma into the town of Hamlin. A total of 391 of these geese, or about 45 percent, were spotted again on at least one subsequent day, and several returned to the same fields year after year. These repeaters, as a percentage of all geese seen, increased from 10.3 percent in 1993 to 13.5, 25.7, 35.5, and 42.3 percent in each subsequent year, before slipping back to 37.6 percent in 1998. That, in turn, was a major incentive for this observer to return to those fields as well. How many of these geese would come back again? How long would they stay?

The most systematic efforts began in 1993, when a change in hours at work allowed me to devote anywhere from 22 to 36 mornings per season searching for collars. Geese were observed by driving along roads, starting about 9 am when

geese begin moving inland to feed. Coverage averaged about 2.5 hours per trip. Flocks were examined using a window mounted Kowa spotting scope with 20x60 zoom lens. I remained in the car to avoid spooking the birds.

Sampling was at random. Only some of the geese present could be observed on any given day. Many of the geese, for example, would be on interior properties, too distant from the road for observation, or hidden on the far side of a rise.

Weather conditions also influenced the ability to detect, then read collars accurately. A stiff wind, for example, might force geese in some fields to face away from the observer. By April, sunlit days produce heat shimmers at the surface that can greatly reduce the distance at which collars can be read.

In addition, the conclusion of banding in 1994 made it more difficult to find collars in subsequent years, in part because of attrition and reduction of banding effort. In 1994, for example, 229 different neckbanded geese were found during 26 days of observation; in 1998, only 117 were found on 25 days.

OBSERVATIONS

Despite these limitations, observations of collars provided some interesting insights into these birds and their migration:

1. Fidelity. Some of these geese showed remarkable fidelity to specific sites. A total of 155 neckbanded geese returned to the area in at least one subsequent year (see Chart A); nearly half of these repeaters — 72 neckbanded geese — returned to the exact same fields in at least one of those years.

A handful of geese returned to the same fields year after year. WB S8U, for example, banded on Feb. 10, 1992 in Maryland, was an almost daily fixture in the same section of a pasture during extended stopovers for six straight years.

2. Stay Length. Several other geese made their stopover an extended one, stretching into several weeks. WB 9CR, for example, was observed over a 55 day period in 1997; WB JOG for 52 days in 1995; YB P8K9 for 50 days the same year.

Chart B summarizes the length of time that individual collared geese were observed in the area during any given year. These are probably conservative; a goose spotted during a week long span might have been in the area even longer, and simply escaped detection.

3. Longevity. Sixteen of the geese sighted during the last year of observation were at least 10 years old. YB P52M, banded in 1983, was at least 15 years old; three other birds, banded in 1984, were at least 14. The average life span of Canada Geese is about 7 to 9 years, but it is not uncommon to find banded birds in the field 12 to 18 years old (Purdy & Malecki 1984), so it is likely that there will be opportunities to observe these birds for years to come.

4. Social Structure. It was not unusual to find small groups of collared geese side by side in the same fields, often with collars bearing closely related

sequences of numbers and letters. Young Canada Geese often remain with their family unit for two or more years before going their own way. Such may have been the case with WB A5Y, A5=, M?U, M?R and M?1, which were seen side by side on two different dates in 1992. A5Y, M?U, M?R and probably M?1 (last digit obscured) were spotted again together the following year. In 1994, however, only M?1 and M?U were spotted together; A5= was spotted alone. M?1 and M?U were spotted alone in subsequent years.

Several pairs of neckbanded geese were observed together. WB =7 and =X, for example, were spotted in the same field in 1994, -95, -97, and -98. The observer assumed that this was an example of Canada Geese mating for life — until a computer check revealed that both birds were males! However, sexing of geese while banding can be difficult, so it is possible that these two geese are indeed a mated male and female.

5. Tracking. Because neckband observations have been entered on the DEC computer, it was possible to obtain records on many of these birds to see where they were banded, and where else they might have been sighted in the months immediately prior to their arrival along the lakefront. This was done for geese sighted in the lakeshore study area during two time periods. First: 1994, when banding was still being done, and when a peak number of sightings was made in the study area and in New York State as a whole. Second: 1997-98, on the assumption that geese sighted during the last two years would have been wearing neckbands longest, and might have more a extensive record of prior sightings.

Of the 420 of these birds for which banding information was available, 267 had been banded in Maryland, the rest in these states: North Carolina (49), Virginia (38), New York (33), New Jersey (14), Pennsylvania (8), Delaware (7), South Carolina (2) and Ontario (2). The Ontario birds had orange tubular collars with white digits. In virtually all cases banding had been in winter or early spring. Only four had been banded in summer.

In 76 instances, neckbanded geese had been observed elsewhere in a given year, between 1 January and their arrival along the lake shore later that spring. These prior sightings were in Maryland (55), the Finger Lakes region of New York (8), North Carolina (4), New Jersey (4), Pennsylvania (3), Virginia (2).

The best returns were for 1994. Of 212 birds seen that year for which information was available, 43 had been seen elsewhere just prior to arrival on the lake shore. This included 35 birds that had just been banded in Maryland; of which, WB ?17 and WB ?1V, banded on 28 Feb, were spotted along the lake shore on 15 Mar, the first of this group to arrive.

For some birds, the computer search revealed an interesting pattern of multiple sightings. WB UU?, for instance, was sighted 19 Oct 1993 on the Delmarva Peninsula. On 11 Jan 1994 it was north of Philadelphia, and then on the lake shore west of Rochester on 14 Apr.

WB YVY spent 11-17 Oct 1993 in eastern Connecticut, showed up on 28 Feb 1994 on the Delmarva Peninsula, and then arrived west of Rochester on 2 Apr .

Chart A. Of the 861 different Canada Geese sighted during 1992-1998, this chart shows how many were seen in only 1 year, in 2 years, in 3 years, etc. Collar types are indicated. OW is an orange tubular collar with white numbers and letters, banded in Canada. WB is a white conical collar. YB is a yellow tubular collar.

Years	WB	YB	OW	Total
1	517	179	10	706
2	74	19		93
3	21	14	1	36
4	9	4		13
5	6	2		8
6	3			3
7	2			2

Chart B. Duration of stay. Days elapsed between initial and last sighting of neckbanded Canada Geese. Once a collared goose was sighted, how long did it linger? This chart shows how many geese were seen on only 1 day in a given year, how many over 2-6 days, 7-13 days, etc. Because some geese were sighted in 2 or more different years, the total can exceed the 861 studied.

Days	WB	YB	OW	Total
1	454	178	10	642
2-6	118	29	3	150
7-13	85	36		121
14-20	71	20		91
21-27	37	8		45
28-34	39	9		48
35-41	8	2		10
42-48	10	2		12
49-55	4	1		5

DISCUSSION

One of the more baffling aspects of this study was trying to find a consistent pattern to the sightings in this particular section of lake shore, but there appeared to be none.

At one extreme is the majority of sightings: geese that were seen in one year — most for a single day — and never again. At the other extreme is the handful of geese that returned to the same fields, year after year, for weeks at a time. In between were sightings that covered every other scenario: geese that made regular, briefer appearances, for example, or showed up sporadically in some years but not in others.

Perhaps too many geese using the study area simply eluded detection. However, it is also possible that different geese were using this section of their migration corridor in different ways.

It is known, for example, that the spring migrations of Canada Geese "are not direct flights to the breeding grounds ... Rather, their movements are intermittent, stopping in agricultural areas along the migration route to feed on waste grains, grasses and forbes in final preparation of the breeding season." (Purdy and Malecki 1984)

Weather, obviously, can influence how far geese progress at each stage. "Just as the alternate cold and warm fronts battle over the unsteady progress of spring, the first northward movements of Canada Geese are equally unsteady. A heavy snowfall, or a blast of cold air stops the migrants in their tracks and, occasionally, sends them into retreat." (Bellrose 1976).

Some geese wait longer to start their migration than others, and seem to rapidly adapt their migration patterns to changing agricultural practices. Any number of variables could affect the pace and progress of the migration by any particular flock of geese.

It would not be surprising if the geese sighted at any given spot along the lake shore represent a mix of birds. Some, as demonstrated by repeated, extended stays, use it as a yearly, long-term stopover.

Others may be one time, temporary visitors, using this section of the lake shore because it happened to be a convenient stopping place for that year's migration, given the conditions unique to that year's flight.

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