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Progress Report

Canada Goose Surveys and Banding

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## Introduction

The Canada Geese which breed in the Atlantic Provinces are thought to belong to the North Atlantic population as described by Bellrose (1976). Monitoring and managing Atlantic Region birds have been hampered by a lack of good information on migration, wintering areas and harvest distribution. A total of 374 Canada Geese had been banded in the Atlantic Provinces prior to 1980 (Bateman and Barrow 1986). Seventy two recoveries resulted from those bandings. Considerably more recoveries are available from birds banded on the wintering areas and recovered in Atlantic Canada. However, those data provide little useful information on the harvest distribution of Atlantic Province geese.

Canada Goose harvests in the Atlantic Provinces in recent years approached 50,000 birds (Natural Harvest Survey figures). Approximately 25 percent of the harvest was in Newfoundland; 42 percent in Prince Edward Island; 22 percent in Nova Scotia; and 10 percent in New Brunswick. Harvest of this population on the wintering areas, which are shared with geese from other breeding grounds, cannot be determined without more band recovery information. Atlantic Region Geese are shot in all eastern states South to North Carolina.

In 1983, an intensive project to band and neck-collar Canada Geese on the wintering grounds in New York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, North Carolina and South Carolina was begun. Attempts to band migrating Canada Geese on Prince Edward Island were also initiated in 1983. The small numbers of geese which could be captured made applying only leg bands ineffective. In 1987 a project to neck collar geese was started in an effort to maximize information obtained from captured geese. Also



observations on the wintering grounds would be reported by observers associated with the U.S. program

This report summarizes the recent work on Canada Geese in the Atlantic Provinces.



### Methods

Canada Geese were captured with rocket nets (1-4 rocket, 2-5 rocket, 3-3 rocket nets measuring approximately 40 ft x 50 ft (3) and 30 ft x 35 ft (3) ). Suitable fields were selected for use after consideration of use by geese, accessibility, visibility and cooperation of the landowner.. Nets were baited with whole corn and/or barley. Nets were most often set on the ground but camouflage box sets were also used.

Captured geese were sexed/aged and fitted with a standard aluminum band at the capture site when neck collars were not used. Birds which were neck collared were transported to a heated cabin before processing.

Neck-collar sightings were solicited from provincial wildlife agencies in the Atlantic Provinces from the Nepisiquit Naturalist Club and from wildlife students at Holland College. Sightings on the wintering grounds by the official observers of the U.S. projects were requested from R. Malecki, coordinator of that project.

Observers were requested to record the number of geese observed and the habitat being used as well as the neck collar code.

Surveys were conducted during spring and fall migration.



## Results and Discussion

A total of 375 Canada Geese was banded as Prince Edward Island during six banding periods (four spring and two fall) 1983-1988 (Table 1). One hundred ninety one of those geese were also neck-collared in 1987 and 1988.

Eight of the 45 geese fitted with neck collars in October-November 1987 were reported dead (7 shot + 1 found dead) prior to the spring migration in 1988. Ten of the geese were sighted in Prince Edward Island and one in New Brunswick during 1988 spring migration. Complete records from the wintering areas in the U.S. are not yet available. At least one record of 60 percent of the initial 45 geese collared was available 18 months after marking. That is considerably more information than is derived from leg banding alone where a 20 percent recovery rate may be achieved after ten years.

Information on U.S.-collared geese observed in the Atlantic Provinces to October 1987 was received from the neck collar coordinator at Cornell University, New York. A total of 118 Canada Geese collared in the U.S. were recorded (Table 2). Fifty-eight percent (60 birds) of those birds were recorded on Prince Edward Island; 17 percent (20 birds) in New Brunswick; 24 percent (28 birds) in Nova Scotia and 1 percent (1 bird) in Newfoundland. Overall, 30 percent of the geese observed were collared in North Carolina, 30 percent in New Jersey and 22 percent in New York. Geese collared in Maryland, Pennsylvania, Virginia, Delaware and South Carolina were reported in fewer numbers. At least one goose from each state where geese were collared was reported from the Atlantic Provinces. Distribution of the collaring effort among the eight states (Table 2) differs from the origin of collars sighted. Thirty percent of collared geese sighted were from North Carolina, but that



state collared only 16 percent of the total geese. New Jersey was also the origin of a higher than expected number of collared geese (30 percent of sightings; 8 percent of geese collared). The data suggest that Maryland is of less importance as a wintering site for the Newfoundland-Labrador geese.

The small sample size prevents conclusions about differences in wintering areas and migration routes. The New Brunswick observations do however suggest that more birds wintering in Maryland, Virginia and Delaware and fewer of those wintering in North Carolina may migrate through New Brunswick compared to Prince Edward Island and Nova Scotia.

Twelve birds neck-collared on Prince Edward Island have been reported from wintering areas (7 from Mass., 2 from Rhode Island, 1 from Conn., 1 from New York, 1 from New Jersey). These data are not indicative of the most important wintering areas for the neck-collared birds because observations are incomplete at this time. However, they do indicate that we need to know the importance of Massachusetts, Rhode Island and Connecticut to geese from the Atlantic Provinces. Those states have not neck-collared wintering geese.

The length of time that individual geese remain at a staging area can be useful in determining the number of geese passing through the staging area. Surveys for marked geese must be done regularly and consistently to obtain reliable information. The most useful data to date is from Bathurst Harbour during the spring migration. The longest stay of a collared goose recorded there was 20 days and the average was 7.4 days. A goose recorded on one day is considered to have stayed one day; a goose observed on two consecutive days is also considered to have stayed two days. Two of the geese recorded in Bathurst in 1988 were previously reported there: one was banded



and collared in New York in 1985 and reported in Bathurst in October 1987 and one was collared in Virginia in 1984 and observed in Bathurst in April 1987. In 1988, four geese were recorded on only one day, 1 goose stayed, at least 4 days; 2 geese at least 6 days; 1 goose at least 9 days; one goose at least 15 days, one goose at least 1 day, and one, 20 days (Table 3).

The average recorded stay of collared geese on P.E.I. was 1.9 days in 1988 spring sightings. The maximum recorded was 209 days (Table 3). The differences between stopover time in Bathurst and P.E.I. may reflect real differences, but probably is a result of better records for Bathurst. Also, geese at Bathurst were more restricted in the areas used than were geese on P.E.I. where many areas were not systematically surveyed.

Canada Goose staging areas in the Maritimes have been surveyed periodically in past years. Mid-November aerial surveys on P.E.I. have been done frequently beginning in the late 1960's. Recent surveys in 1987 and 1988 reported 17296 geese and 17066 respectively. Comparable surveys in the 1970's recorded 9-15000 Canada Geese. Spring concentrations of geese on P.E.I. peak during April and approached 28,000 in recent years.

The number of Canada Geese at Bathurst Harbour during spring migration in 1988 was maximum during the third week of April when 1100 geese were recorded. During fall migration the maximum number present approaches 5000.



Table 1. Summary of Canada Goose bandings during migration on Prince Edward Island 1983-1988

Date	AGE-SEX CATEGORIES					Total
	HY		AHY		U	
	M	F	M	F		
Date						
1983 (spring)	-	-	11	13	-	24
1984 (spring & summer)	-	1	8	12	-	21
1985 (spring)	-	-	60	60	-	120
1986 -	-	-	-	-	-	-
1987 (fall)	12	17	7	9	-	45
1988 (spring)	-	-	41	52	-	93
1988 (fall)	13	32	11	15	1	72
Total	25	50	138	161	1	375*

\*191 geese were neck-collared in 1987, 1988



Table 2. Summary of collaring locations of Canada Geese recorded in the Atlantic Provinces up to October 1987

Province of sighting	No. of Sightings	No. of Geese	State of banding							
			NC	NJ	NY	VA	MD	PA	DE	SC
Nova Scotia	30	28	12	11	2	0	0	2	1	0
New Brunswick	30	20	2	6	5	1	2	3	1	0
Newfoundland	1	1	1	0	0	0	0	0	0	0
P.E.I.	112	69	20	19	19	1	6	1	2	1
Total	173	118	35	36	26	2	8	6	4	1
Banding site of fraction (percent) geese sighted in Atlantic Provinces			30	30	22	2	7	5	3	1
Banding site of fraction (percent) of total geese collared in US			16	8	18	8	29	8	9	2



Table 3. Frequency of recorded time periods spent in P.E.I. and Bathurst by neck-collared geese

No. of geese observed staying that long	Minimum number of days on site																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Bathurst	4			1		2			1						1			1		1	
P.E.I.	65		1	3	1	1	2											1			1



## References Cited

- Bellrose, F. C. 1976. Ducks, Geese and Swans of North America. Stackpole Books, p. 141-164.
- Bateman, M. C. and W. R. Barrow. 1986. Canada Goose band return summary for Atlantic Canada. Canadian Wildlife Service. Manuscript report. Sackville, N.B. 19 pp.