

FIVE GREATER SNOW GEESE FROM NORTHWESTERN BAFFIN ISLAND WINTER IN BERMUDA

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The Quebec and Canadian Wildlife Services have made airborne visual estimates of the size of the flock of Greater Snow Geese (*Chen caerulescens atlantica*) staging on the St. Lawrence River east of Quebec City each spring and fall since 1951. Visual estimates of the numbers of geese have been made on their wintering grounds in Virginia and North Carolina each January. Differences in favor of the St. Lawrence River counts have generally existed but had not been considered significant until 1969 when Heyland began to use vertical aerial photographs to census the flock on the St. Lawrence River (Heyland, 1972). It is possible by means of vertical photographs to reduce the error in the count to five percent. At the same time censuses on the wintering grounds continued to be made by visual means. Because of the accuracy of the Quebec counts, discrepancies between these and the U. S. counts became significant enough to warrant an explanation.

In order to determine if some geese were wintering in regions other than those in the mid-Atlantic coast states, a large sample was banded at 30 sites on the eastern Arctic nesting grounds during July and August 1971. In all 2,949 nonbreeding adults, breeding adults, and goslings were banded. On 11 and 14 August, 594 were banded at the mouths of the Magda and Jungersen Rivers at the head of Admiralty Inlet, Baffin Island (Figs. 2, 3 and 4).

During the fall Wingate observed that five banded juvenile snow geese had arrived in Bermuda on 19 October 1971 and that they wintered at Spittal Pond Sanctuary until 8 April 1972 (Fig. 1). It was possible to approach the geese closely enough to read the band numbers with the aid of a spotting scope. Banding records indicated that they had been banded as goslings at the mouth of the Magda River on 14 August 1971, four at the same site and the fifth about five miles distant.

Preliminary analyses of recovery data from the 1971 bandings indicate that the Greater Snow Geese from all parts of the eastern Arctic, including the Magda River area, migrate south-southeast across Hudson Strait and down through central Ungava until they reach the St. Lawrence River at or near the mouth of the Saguenay River. From there they proceed up river to the staging areas near Quebec. They then continue to the Atlantic coast wintering grounds. Nolet (1972) and Heyland (pers. obs.) have determined that the route followed from Quebec south is via Quebec's Eastern Townships and down the Hudson and Connecticut River valleys, and thence along the coast, stopping in New Jersey, Delaware, Maryland, Virginia, and North Carolina.

The southern half of this flight corridor has obvious landmarks such as wide river valleys and the Atlantic coast line. Because of this and the social cohesiveness within individual family groups

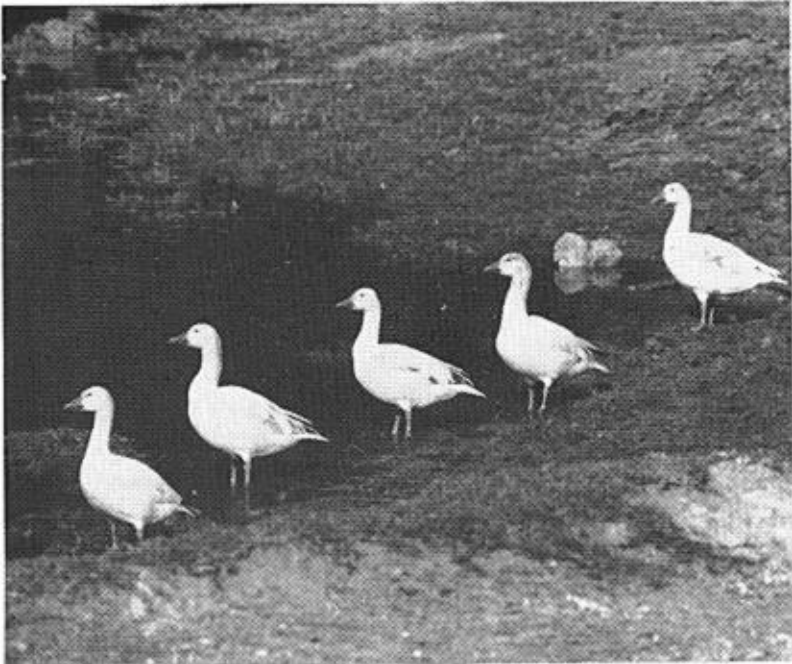


FIGURE 1. Juvenile Greater Snow Geese banded in northern Baffin Island, N.W.T.; photographed at Spittal Pond, Bermuda.

and the flock as a whole, it did not seem likely that the five geese completed their migration to Virginia or North Carolina and then struck out east-southeast across the Atlantic. Rather they must have become separated from the main flock before or after they arrived on the St. Lawrence.

The most appropriate explanation, considering the date of arrival on Bermuda, is that they became separated prior to reaching the St. Lawrence River staging area and were swept by strong winds toward the Gulf of St. Lawrence and thence across the Maritimes and out over the Atlantic Ocean. Analysis of weather systems over northern Quebec suggest that they could have been driven off course early in the week prior to 19 October.

During the morning of 11 October 1971 the center of a fairly intense low pressure area passed northward across the St. Lawrence River just west of Anticosti Island moving on into central Labrador (Fig. 2). It continued northward for the next 24 hours and was off the Labrador coast by midday of the 12th. It lingered east of Labrador for the next 24 hours (Figs. 3, 4). About the time the low pressure area passed across the St. Lawrence strong W to WNW winds developed over central Quebec, north of Lake St. John and the Saguenay River. Within a few hours winds of 35 to 50 mph were blowing over the whole area extending as far east as the Gulf of St. Lawrence and Nova Scotia. Strong winds over this area were maintained for at least 48 hours. On the 11th and 12th there were

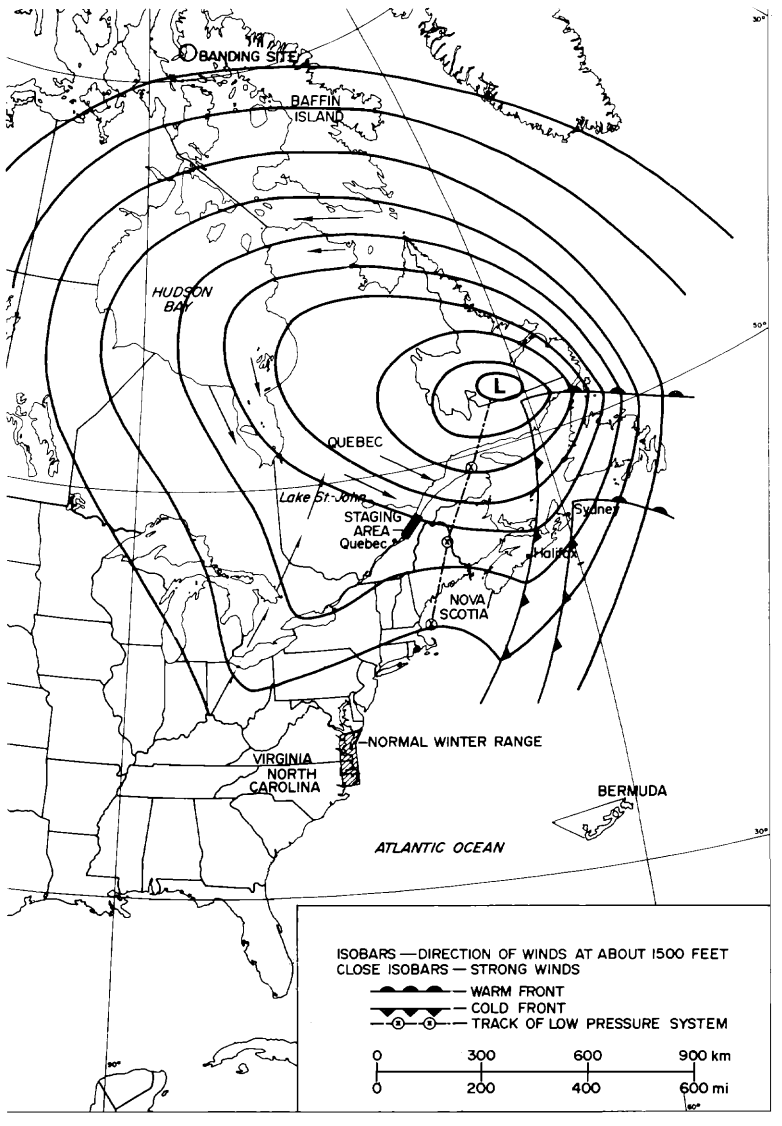


FIGURE 2. Surface weather chart for 13:00 E.S.T. 11 October 1971.

extensive layers of clouds low enough to top the hills and fill much of the air space up to at least 4,000 ft.

Greater Snow Geese entering the area from the north during this period would have had to cope with the very strong winds blowing from the starboard side. We suggest that the five juveniles recorded at Bermuda became separated from the main flock during this

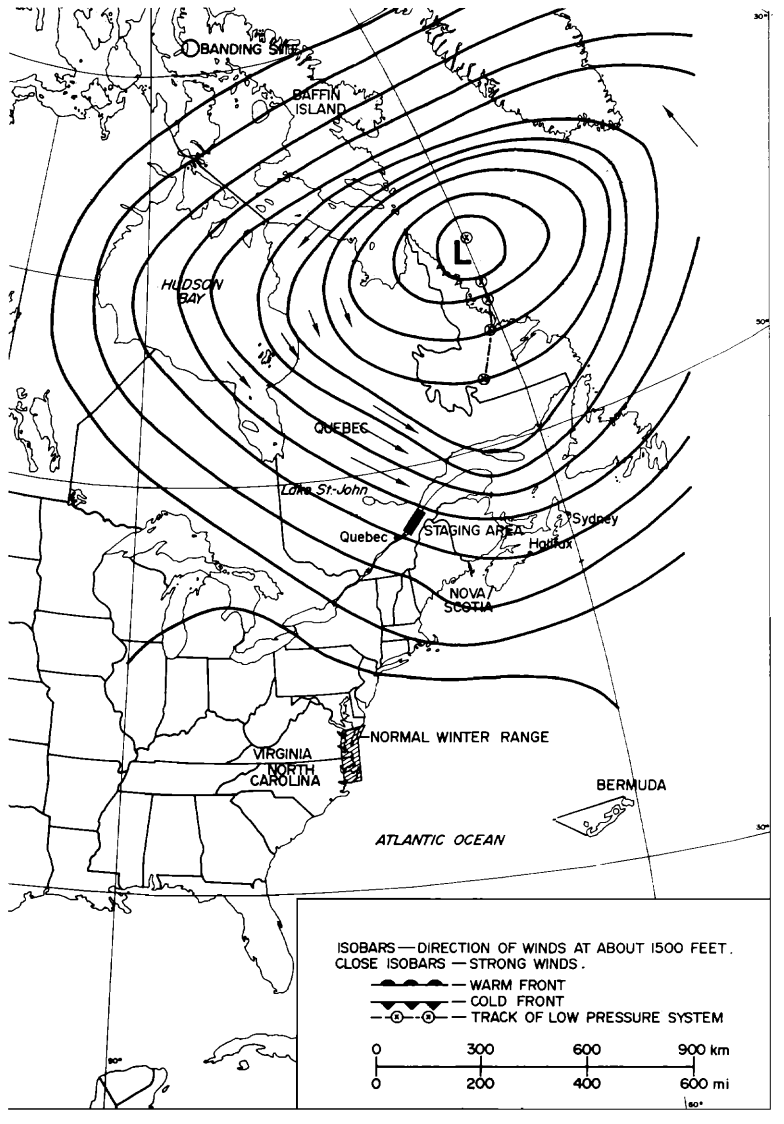


FIGURE 3. Surface weather chart for 13:00 E.S.T. 12 October 1971.

storm somewhere over central Ungava and were pushed eastward toward the Gulf of St. Lawrence and Nova Scotia. A high pressure area south of Nova Scotia on the 14th, 15th, and 16th then provided excellent weather and light winds for a continuation of the flight south all the way to Bermuda. There is no evidence that weather could have played a part in separating the birds during a

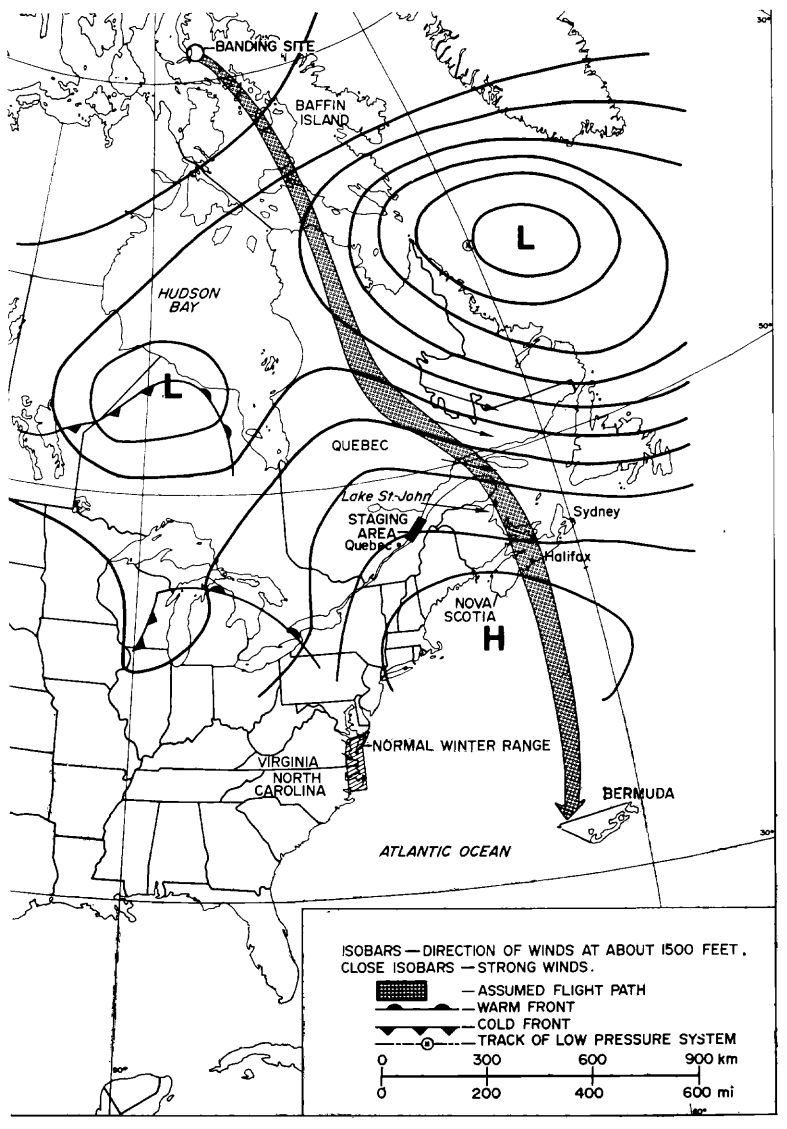


FIGURE 4. Surface weather chart for 13:00 E.S.T. 13 October 1971.

flight from the Quebec area to the usual wintering grounds.

Bermuda is a very small target and if the five geese had not found it after flying from Canada, possibly nonstop, they would probably have died of exhaustion at sea. The fact that the geese could be approached to within 12 feet following their arrival suggested that they were near exhaustion. Probably only the strongest individuals

would have any chance of reaching the West Indies, but Bond (in litt.) knows of no records of *C. c. atlantica* in that area. Wingate subsequently observed a single adult, the only spring record of a snow goose for Bermuda, which arrived at Spittal Pond on the 17th or 18th April soon after the five juveniles had departed and remained until 17th May. It is possible that this bird was a 1971 stray which reached the West Indies, wintered there, and found Bermuda on its way back north. However, Bond (pers. comm.) considers this unlikely.

On 27 April 1972, three weeks after the five 1971-banded geese had left Bermuda, the remains of one (F. & W. Service Band No. 867-78014) was found dead at Tusket, Nova Scotia. Because only the skeleton with a few associated feathers remained and because there was no evidence of gunshot wounds, we conclude that the bird might have died at sea and was washed ashore only a few days after its departure from Bermuda. Scavenging gulls and carnivores might have removed the flesh.

If we adhere to the hypothesis that the five geese were pushed eastward from central Ungava to Nova Scotia and thence south to Bermuda, then this recovery strongly suggests that the birds took the reciprocal bearing northward from Bermuda on their return in April.

Greater Snow Geese have been observed in Bermuda on seven previous occasions and this subspecies is now regarded as a rare to occasional vagrant there. All but two of the previously recorded birds arrived in the fall at about the same time as the 1971 influx, viz., 12 October to 3 November. One specimen has been obtained: a juvenile found exhausted on 6 December 1956 which is now in the collections of the American Museum of Natural History.

There is also a record of Lesser Snow Geese (*C. c. caerulescens*), one in the white phase and two in the blue phase, which arrived in Bermuda on 25 October 1959 (Wingate, 1973). The white phase bird was struck and killed by a golf ball on 20 December 1959 (specimen in the American Museum of Natural History), but the blue phase birds over-wintered successfully and departed about 20 April 1960. On or about 1 December 1973 Wingate observed an adult Blue Goose on Bermuda. It was captured and banded (F. & W. Service Band No. 597-84353) on 13 December and released at Spittal Pond. It disappeared from the pond in late December and was not relocated.

Although there is no evidence that the Bermuda/West Indies area is a significant additional wintering ground for the Greater Snow Goose, the present records do indicate that at least a few birds reach that area, that they may over-winter successfully, and subsequently attempt to return to the mainland in spring.

SUMMARY

In August 1971, 594 adult and young Greater Snow Geese were banded along the Jungersen and Magda Rivers at the head of Admiralty Inlet, Baffin Island. Five of the banded goslings were subsequently seen on Bermuda. They were first observed on 19 October 1971 and remained on Bermuda during the winter at

Spittal Pond Sanctuary. A strong low pressure system accompanied by low clouds and high northwesterly winds moved northeast across Quebec from 11 to 13 October 1971. It is suggested that if the five geese had been in the area that they could have been pushed towards the east and out over Nova Scotia. If they had then assumed a southward heading they would have landed on Bermuda. The geese left Spittal Pond in the beginning of April 1972. Three weeks later one was recovered dead at Tusket, Nova Scotia. In view of this recovery it is suggested that the birds were returning north on the reciprocal of the bearing followed the previous October.

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