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An aerial survey of breeding geese and other wildlife in Foxe Basin and northern Baffin Island, Northwest Territories, July 1979

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Abstract

An aerial survey of geese was conducted along the shores of Foxe Basin and over northern Baffin Island, NWT, on 7-9 July 1979. Important colonies of Atlantic Brant (*Branta bernicla hrota*) were observed on the east and north shores of the basin (Cape Dominion and Baird Peninsula), as well as on Prince Charles, Air Force and North Spicer islands. The colony on North Spicer had not been previously reported. Snow Geese (*Anser caerulescens*) were recorded throughout the area. The smaller form (*A.c. caerulescens*) was particularly abundant as a breeding bird along the east shore of the basin (Bowman Bay-Great Plain of the Koukdjuak) while the Baird Peninsula was used by moulting (non-breeding) individuals. The larger form (*A.c. atlanticus*) occupied several large breeding colonies on Bylot Island and near the base of Admiralty Inlet on northern Baffin Island; smaller numbers were recorded further to the west and to the south in Foxe Basin, overlapping somewhat with the range of *A.c. caerulescens*. Canada Geese were less abundant than brant and Snow Geese but were most numerous along the eastern and western shorelines of the basin. Records of other birds and mammals observed during the survey are also presented.

Introduction

Important changes have recently been recorded in the size of certain stocks of geese in eastern North America. Atlantic Brant (*Branta bernicla hrota*) numbers were reduced alarmingly as a result of rigorous winters in 1976-77 and 1977-78. Greater Snow Goose (*Anser caerulescens atlanticus*) numbers have increased several-fold over the past decades. Some eastern stocks of Lesser Snow Geese (*A.c. caerulescens*) are on the decline.

The effects of those population changes on distribution and colony size in the eastern Canadian breeding grounds are poorly known. In 1979, the Canadian Wildlife Service (CWS), the US Fish and Wildlife Service (USFWS) and the Atlantic Flyway Council jointly undertook surveys to update knowledge on goose distribution and density in a large segment of the eastern Canadian arctic. The work was conducted in two phases, the first being an aerial photo census of Lesser Snow Goose colonies on Southampton and

Baffin islands and the second a visual aerial survey of Atlantic Brant and Greater Snow Geese breeding along the shores of Foxe Basin and on northern Baffin Island. This report outlines the major results of the second phase of the operation. Separate reports will present the results of phase one (see Dupuis 1979).

Previous knowledge of the distribution of waterfowl along the shores and on the islands of Foxe Basin was incomplete (e.g. Ellis and Evans 1960) and generally superficial, although some data were available on Greater and Lesser Snow Goose colonies at specific sites (e.g. Kerbes 1975, Heyland and Boyd 1970, Kemper 1976).

Methods

The survey was flown at an average speed of 165 km/h at an average altitude of 50 m parallel to and somewhat inland from the shore line, permitting observation of the coastal plain from both sides of the aircraft. A fixed-wing De Havilland Twin Otter was used. One observer seated in the cockpit on the right hand side, recorded locations as well as bird observations in front of, and on the right hand side of the plane. Simultaneously another observer in the back recorded bird observations to the right and two other observers to the left side of the plane.

Each observer recorded each observation independently in chronological order, noting the time by 5-min intervals. In this way we obtained two independent estimates of bird sightings for each side of the aircraft at any given location; in subsequent analysis it proved easy to identify multiple observations of the same flocks by several observers and unique sightings by only one observer. An estimate was then obtained for observations from each side of the aircraft, using, in the case of multiple estimates of the same flock, that of the most experienced observer. We summed the estimates from each side of the aircraft to obtain the final estimate. We emphasized goose sightings but recorded other birds whenever possible.

We grouped our observations by categories: 1) pairs and singles believed to be nesting birds, 2) groups or flocks of non breeders and 3) birds of unknown breeding status. We recorded eggs and nests separately. The observer seated in the front of the plane pinpointed on a map the limits of any bird colony and the location of any interesting features.

Study area

We divided Foxe Basin into four areas (Fig. 1): 1) east, the east coast of the basin (the western shore of Baffin Island) from the Foxe Peninsula north to the Hantzsch

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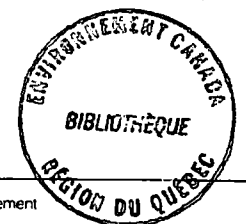
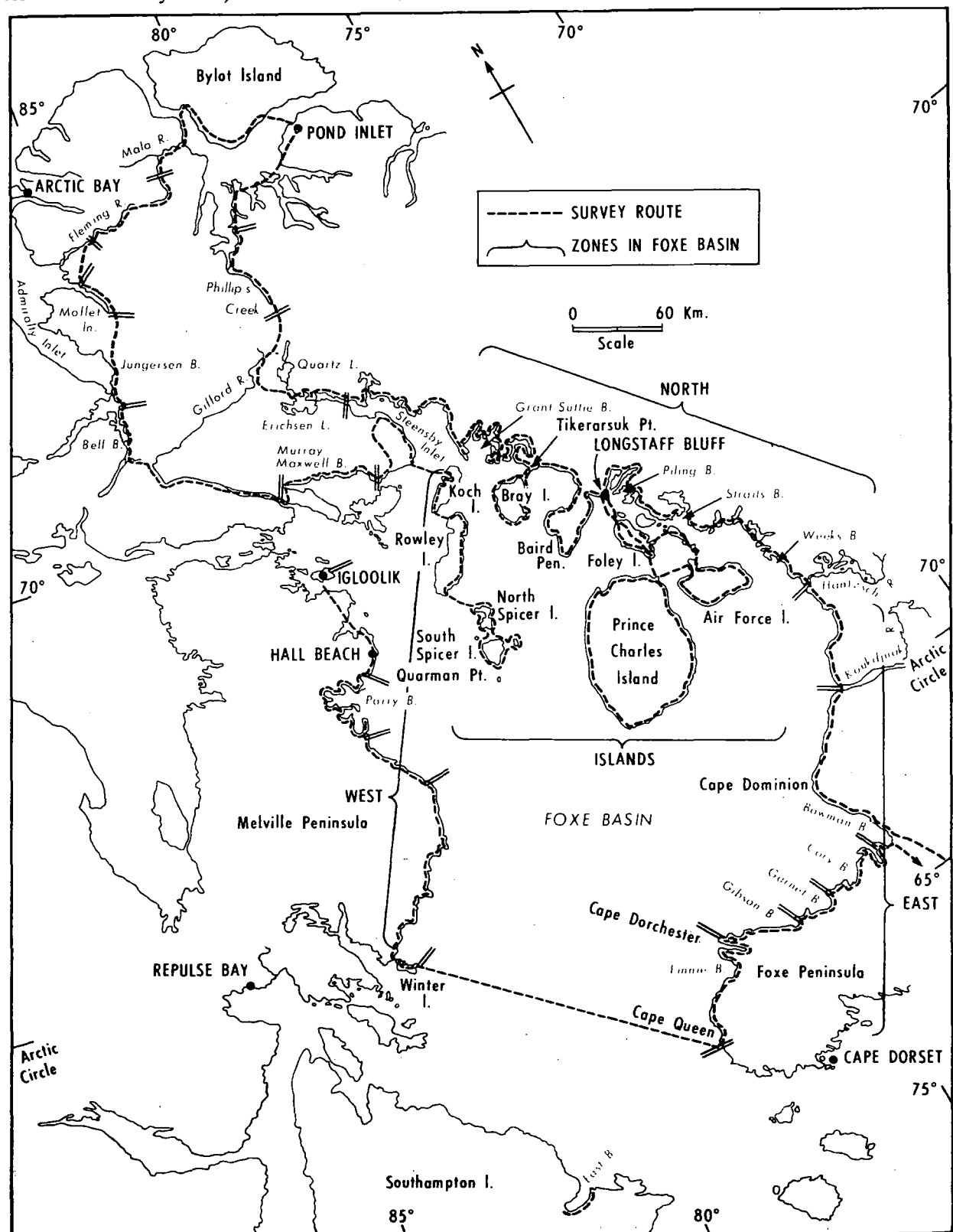


Figure 1
Study area showing survey routes and zones in Foxe Basin and northern Baffin Island (// along survey route denotes limits of survey zones)



River; 2) north, the same shoreline extending northwest from the Hantzsch River to Steensby Inlet; 3) west, from Steensby Inlet on Baffin Island south along the east shore of the Melville Peninsula and, 4) islands, all of the main islands of the basin.

We also covered inland areas of northern Baffin Island and the southern part of Bylot Island.

The survey

The survey started at Frobisher Bay on 7 July 1979. The team began recording birds in Bowman Bay on the west coast of Baffin Island. Figure 1 shows the route followed. We completed the survey on 9 July after 38.5 h of flying time.

The weather was exceptionally good. Wind velocity was less than 20 km/h and, as a result, the aircraft remained stable and water surfaces were calm in most locations. Skies were clear except for one short period of rain (along the Gifford River) and one of fog and rain (the southern part of Prince Charles Island).

Although long flights (average flying time 6.7 h) demanded lengthy periods of uninterrupted attention, the observers maintained their alertness and accuracy throughout the survey, thanks to the relative comfort of the aircraft and smooth flying conditions.

Although official weather data for the summer of 1979 in the eastern Canadian arctic are not yet available, temperatures up to and at the time of the survey were unusually warm. In the first week of July, water was open near shore from the Foxe Peninsula north to Air Force and Prince Charles islands. The ice pack was retreating out of Ikpik Bay and Steensby Inlet in the north and a large opening was located in the west part of the basin from Hall Beach to the Spicer Islands. The ground was snow-free in areas of low-lying tundra, in river valleys, near lakes and on exposed mountainous areas.

We saw no goose broods but noted many nest and incubating geese in all colonies. These observations and those from Lesser Snow Goose colonies in Southampton Island (Dupuis 1979) indicate that the 1979 survey was conducted, as planned, during the period when most geese were incubating clutches.

Results and discussion

General distribution of birds in Foxe Basin

We recorded an estimated 19 154 aquatic birds during the survey. Table 1 summarizes the general pattern of their distribution and relative abundance around Foxe Basin and northern Baffin Island.

Brant (*Branta bernicla hrota*)

Nesting brant are difficult to detect from an aircraft because of their cryptic colouration and their tendency to remain immobile (F.G. Cooch, pers. commun.). The interpretation of observations is further complicated by the fact that non-breeders often mingle with breeders in the colonies. Thus we undoubtedly underestimated the numbers of brant present in the colonies and that error was probably more pronounced for the breeding

segment of the population. Nevertheless our observations (Table 2) indicate the locations of the principal breeding colonies and the relative abundance of birds in each. We observed most brant in bays on the east shore of the basin and on the islands. We located five major sites. The Cape Dominion colony (Fig. 2) was the most important, accounting for 47% of the brant seen. Colonies on Prince Charles (Fig. 10) accounted for 15% of the brant seen, on Air Force Island (Fig. 9) for 12%, North Spicer Island (Fig. 11) for 12%, and the northwest coast of the Baird Peninsula (Fig. 4) for 4%. The colony on North Spicer Island had not been previously reported.

During the aerial photo census in southeast East Bay, Southampton Island, several days earlier Dupuis (1979) observed 395 brant. Subsequently a research team from the University of Western Ontario located 450 nests and banded more than 1000 birds at the same site (K. Abraham, pers. commun.). Those observations would suggest that colonies on North Spicer, Air Force and Prince Charles islands are similar in size to the East Bay colony, each being about one-fourth the size of the Cape Dominion colony.

We found concentrations mainly on areas with gently sloping shorelines bordered by expanses of intertidal flats. The colonies at Cape Dominion, on Prince Charles, North Spicer and Air Force islands were adjacent to extensive areas of tidal flats; South Spicer Island and parts of Bray Island appeared similar, but were only sparsely occupied. On the mainland, the low-lying shorelines used by brant tended to be in protected bays and were therefore bordered by smaller, more contained areas of tidal flat. As a comparison, the general profile of the land at Cape Dominion is much the same as at the Boas River and West Boas colonies (Southampton Island); the habitat on the two Spicer Islands is similar to that found on the southeastern coast of East Bay. Very little suitable habitat is found along the rocky western coast of the basin. Along the north coast relatively lush grassy areas are abundant, but because they are mainly on hill slopes and are not bordered by extensive tidal flats, they are used little by brant.

Snow Geese (*Anser caerulescens*)

We saw Snow Geese throughout the survey area. Previously published information indicated that the colonies at Bowman Bay, Cape Dominion and on the Great Plain of the Koukdjuak were composed of Lesser Snows (Soper 1930, 1940, Cooch 1963, Kerbes 1975, Brace *et al.* 1977), while those on Bylot Island and adjacent areas of northern Baffin Island were of Greater Snows (Lemieux 1959, Heyland and Boyd 1970, Kemper 1976). There was little information available to predict the racial status of Snow Geese found along the northern coasts and on the islands of Foxe Basin.

We attempted to identify the subspecies of all Snow Geese observed. In some cases the apparent size and relative rapidity of wing beat was a clue to taxonomic

Table 1
Number of birds observed near the coast of Foxe Basin and on northern Baffin Island, 7-9 July 1979

Species	Foxe Basin			Islands of Foxe Basin	Northern Baffin Island & Bylot Island
	East	North	West		
Loons (<i>Gavia</i> spp.)	7	9	22	36	1
Whistling Swan (<i>Cygnus columbianus</i>)	38	3	9	3	1
Canada Goose (<i>Branta canadensis</i>)	209	17	37	-	-
Atlantic Brant (<i>B. bernicla hrota</i>)	1701*	151	60	1419*	-
Greater Snow Goose (<i>Anser caerulescens atlanticus</i>)	20	2290	369	73	6337*
Lesser Snow Goose (<i>A.c. caerulescens</i>)	†	266	20	51	-
Unidentified goose	10	2	-	-	2
Northern Pintail (<i>Anas acuta</i>)	9	-	-	-	-
Oldsquaw (<i>Clangula hyemalis</i>)	11	272	374	484	25
Common Eider (<i>Somateria mollissima</i>)	82	12	56	27*	-
King Eider (<i>S. spectabilis</i>)	7	232	240	220	16
Unidentified eiders (<i>Somateria</i> spp.)	-	-	40	25	-
Other unidentified ducks (<i>Mergini</i>)	-	155	810	25	600
Herring/Thayer's Gull (<i>Larus argentatus</i> & <i>L. thayeri</i>)	18	5	8	38	-
Glaucous/Iceland/Kumlien's Gull (<i>L. hyperboreus</i> & <i>L. glaucoides</i>)	144	1	21*	202*	1
Sabine's Gull (<i>Xema sabini</i>)	109	38	4	407*	-
Arctic Tern (<i>Sterna paradisaea</i>)	828	89	-	528	-
Jaegers (<i>Stercorarius</i> spp.)	-	4	5	29	2
Sandhill Crane (<i>Grus canadensis</i>)	1	1	1	2	-
Black Guillemot (<i>Cepphus grylle</i>)	-	-	-	202	-
Snowy Owl (<i>Nyctea scandiaca</i>)	2	12	11	16	2
Ptarmigan (<i>Lagopus</i> spp.)	-	1	-	2	2

*Partial estimate; more birds present.

†Not counted; the previous week an aerial photo census was conducted, the results of which will be published in a subsequent number of this series.

Table 2
Number of brant observed in Foxe Basin, 7-9 July 1979

	Breeders	Total breeders and non-breeders
East Foxe Basin		
Finnie Bay	6	35
Dorchester & Gibson Bay	5	53
Garnet Bay	7	12
Cory Bay	0	14
Bowman Bay	1	4
Cape Dominion	314*	1579*
Taverner Bay	1	3
North Foxe Basin		
Baird Peninsula	52	151
West Foxe Basin		
Quarman Pt.	37	58
Palmer Bay	2	2
Islands in Foxe Basin		
Air Force I.	136	413
Prince Charles I.	134*	514*
Bray I.	30	69
North Spicer I.	155	397
South Spicer I.	13	25
Rowley I.	1	1
Southampton — South East Bay†		
	240	395

*Partial estimate, more birds present.

†Cessna 402, only one observer (30 June 1979).

status of individuals but for the most part we relied on the proportion of blue-phase birds in groups or flocks: eastern Canadian stocks of Lesser Snows contain at least 20% blue-phase individuals (Kerbes 1975) and Greater Snows probably less than 1%, overall (Reed, unpubl.).

Table 3 gives the observed colour phase ratios. Some caution must be used in interpreting these results because in large concentrations dark coloured (i.e. blue-phase birds) can be missed more frequently than in small flocks. At the time of writing the blue-phase ratio for the colonies at Bowman Bay, Cape Dominion and the Plain of the Koukdjuak, which was photographed during phase I of this study, was not available for the current year, so data from Kerbes' (1975) study have been provided.

Most, if not all, Snow Geese (breeders and non-breeders) encountered in the east Foxe Basin zone were

Lessers: On the Baird Peninsula and on Prince Charles and Air Force islands almost all the birds encountered were in moulting flocks and appeared to be Lessers, but a few breeding pairs of white-phase geese might have been Greaters. In the vicinity of Longstaff Bluff and in Grant-Suttie Bay there was a considerable mixture of moulting flocks (which on the basis of blue-phase ratios must certainly have been Lessers) and breeding pairs (almost all of which were white-phase and several of which appeared to be very large with slow wing beats, therefore probably Greaters). The Snow Geese encountered elsewhere on the islands and the north coast of Foxe Basin, as well as on northern Baffin and southern Bylot Islands, were Greaters. Also, a sizeable colony discovered on the west coast of the basin, which we covered only superficially, appeared to be composed of Greaters (few blue-phase, some large birds with slow wing beats).

That evidence indicates an area of overlap of range between the two subspecies, the core of which extends from the Baird Peninsula to Piling Bay and marginally includes Grant-Suttie Bay, Air Force and Prince Charles islands.

Based on that interpretation, we allocated all Snow Geese surveyed to one or the other of the two subspecies (Tables 4 and 5).

Lesser Snow Goose (*Anser c. caerulescens*)

We did not evaluate the size of the major colonies in Bowman Bay and Cape Dominion because they had been photo-censused in the previous week (Dupuis 1979). Elsewhere in Foxe Basin, Kerbes (pers. commun.) reported small breeding colonies inland on Air Force and Prince Charles islands. These colonies were not found in 1979, probably because the survey flight remained close to the shoreline. We noted small concentrations in Cory Bay on the east coast of the basin. On the north shore of the Baird Peninsula (Fig. 4) we saw a concentration of non-breeders. Table 4 gives a summary of Lesser Snow Goose observations.

Greater Snow Goose (*Anser caerulescens atlanticus*)

Greater Snow Geese now breed on the north coast of Foxe Basin; we recorded large groups of non-breeders and smaller numbers of breeders in Straits Bay, Piling Bay and Piling Lake (Fig. 3), at Tikerarsuk Point (Fig. 4), in Grant-Suttie Bay (Fig. 5), in Steensby Inlet (Fig. 6), and in Murray Maxwell Bay (Fig. 7). Surprisingly, we noted another concentration in Roche Bay and Ignertok Point in Parry Bay (Fig. 8) on the west coast of the basin southwest of Hall Beach. We recorded this subspecies in relatively low numbers on the islands of Foxe Basin (Table 5).

To the north of the Foxe Basin shoreline, we saw several important colonies (Table 5, Figs. 12 and 13). The recording of large numbers of breeders and non-breeders on Bylot Island and the base of Admiralty Inlet (Moffet Inlet, Jungersen Bay, Berlinguet Inlet) confirmed the earlier findings of Kemper (1976) and Heyland and Boyd (1970).

Almost all breeding colonies occupied vast expanses of what appeared to be grass-sedge tundra, usually along river valleys within about 10 km of the coast. On northern Baffin Island large areas of apparently suitable habitat remained unoccupied.

Table 3
Colour phase ratios of Snow Geese observed in Foxe Basin and on northern Baffin Island, 7-9 July 1979

	% blue-phase	Sample
East Foxe Basin		
Dorchester & Gibson Bay	63.2	19
Bowman Bay	80.9*	—
Cape Dominion	60.6*	—
Koukdjuak River	41.4*	—
Taverner Bay	0	20
North Foxe Basin		
Week's Bay	33.3	30
Longstaff Bluff (east) (Straits B., Piling B., Piling L.)	10.5	448
Baird Peninsula	19.0	116
Tikerarsuk Pt. (west)	0	26
Grant-Suttie Bay	11.6	86
Steensby Inlet (north)	2.6	372
Steensby Inlet (south)	2.0	396
Murray Maxwell Bay	1.6	735
West Foxe Basin		
Parry Bay area	1.0	314
Islands in Foxe Basin		
Air Force I.	12.9	31
Prince Charles I.	25.5	51
Other islands (Foley, Koch, Rowley, Bray)	0	39
North Baffin		
Erichsen L. area	1.6	257
Phillip's Creek	6.3	17
Bylot I. (south)	0	3132
Basin of Mala River	0	475
Upper Fleming River	0	1
Moffet Inlet (east)	<0.1	1340
Jungersen Bay (east)	0	487
Berlinguet Inlet (east) (Easter Sound)	0	99
Bell Bay (east)	0	316
Gifford River	0	38

*From Kerbes (1975).

Canada Goose (*Branta canadensis*)

Although outnumbered by brant and Snow Geese, this species was most abundant along the coast of east Foxe Basin. Appreciable numbers were also present along the west coast of the basin but they were sparse along the north coast and absent on the islands. We saw two geese, believed to be Canadas near Erichsen Lake, which is the only indication of the possible presence of the species on northern Baffin Island.

Whistling Swan (*Cygnus columbianus*)

We found this species breeding sparsely in the northern and western segments of Foxe Basin as well as on the islands, but in much larger densities in east Foxe Basin, particularly along the north coast of the Foxe Peninsula. We saw only one bird inland on northern Baffin Island.

Oldsquaw (*Clangula hyemalis*)

The highest densities were on the islands and on the west coast of the basin. We recorded moderate numbers along the north shores of the basin and some on northern Baffin Island. The apparent rarity of the species in east Foxe Basin may be partially due to observer bias; in Bowman Bay and the Plain of the Koukdjuak the

Table 4
Number of Lesser Snow Geese observed in Foxe Basin, 7-9 July 1979

	Breeders	Total breeders and non-breeders
East Foxe Basin		
Finnie Bay	0	30
Dorchester & Gibson Bay	1	20
Garnet Bay	2	2
Cory Bay	15	175
Bowman Bay	*	*
Cape Dominion		
Koukdjuak R.	*	*
North Foxe Basin		
Week's Bay	0	30
Baird Peninsula	0	236
West Foxe Basin		
Freuchen & Palmer bays	3	20
Islands in Foxe Basin		
Air Force I.	0	7
Prince Charles I.	0	44
North Baffin		
	0	0

*Not counted, covered by photo census previous week.

Table 5
Numbers of Greater Snow Geese observed in Foxe Basin, 7-9 July 1979

	Breeders	Total birds seen
East Foxe Basin		
Taverner Bay	0	20
North Foxe Basin		
Longstaff Bluff (east) (Straits B., Piling B., Piling L.)	33	489
Tikerarsuk Pt. (west)	6	41
Grant-Suttie B.	18	107
Steensby Inlet (north)	19	372
Steensby Inlet (south)	46	546
Murray Maxwell B.	25	735
West Foxe Basin		
Parry Bay	211	369
Islands in Foxe Basin		
Foley I.	6	6
Air Force I.	13	24
Prince Charles I.	8	8
Bray I.	1	1
Koch I.	15	18
Rowley I.	7	16
North Baffin		
Erichsen L. area	6	432
Phillip's Creek	0	17
Pond Inlet (west)	1	1
Bylot I. (south)	1745	3132
Basin of Mala River	26	475
Upper Fleming River	1	1
Moffet Inlet (east)	10	1340
Jungersen Bay (east)	234*	487*
Berlinguet Inlet (east) (Easter Sound)	0	99
Bell Bay (east)	0	60
Saputing River Fiord	1	256
Gifford Fiord	5	37

*Partial estimates, more birds present.

observers were preoccupied with picking out brant from the masses of Lesser Snow Geese and, therefore, were unable to record other species with precision.

Eiders (*Somateria mollissima* and *S. spectabilis*)

Common Eiders (*S. mollissima*) were most abundant along the north coast of the Foxe Peninsula (east Foxe Basin zone). They were present in small numbers throughout the rest of Foxe Basin (Table 6). We did not observe Common Eiders in northern Baffin Island probably because we flew over inland areas unsuitable for that species; it is known to breed along the coasts of

Admiralty Inlet (Kemper 1976) and in small numbers near Bylot Island (Tuck and Lemieux 1959).

King Eiders (*S. spectabilis*) were most abundant on the islands and in the north zone of the basin; we saw large numbers of birds of uncertain breeding status in the west zone. The count for the east zone is likely biased downward because the observers' attention was concentrated on geese.

Other ducks

We recorded nine Pintail (*Anas acuta*), all in the vicinity of Bowman Bay - Great Plain of the Koukdjuak and one unidentified Goldeneye (*Bucephala* sp.) near Prince Charles Island. We believe that several unidentified scoters (*Melanitta* spp.) were in some flocks.

Other birds

We frequently saw gulls and terns in most zones. From the aircraft it was not possible to distinguish between Herring Gulls (*Larus argentatus*) and Thayer's Gulls (*L. thayeri*) nor between Glaucous (*L. hyperboreus*) and Iceland/Kumlien's Gulls (*L. glaucooides*).

That difficulty was unfortunate because the ranges of all four species border on Foxe Basin (Brown *et al.* 1975), yet their distribution within that area is poorly known (Ellis and Evans 1960). We therefore allocated all larid observations to one of the four following categories: Herring/Thayer's Gulls, Glaucous/Iceland/Kumlien's Gulls, Sabine's Gulls (*Xema sabini*), and Arctic Terns (*Sterna paradisaea*) (Table 7). Gulls were most abundant on the islands of the basin, with Sabine's Gull predominating; Arctic Terns were also present in large numbers. In east Foxe Basin Arctic Terns were particularly abundant, but appreciable numbers of gulls were also recorded. Although larids were almost absent from our records for northern Baffin Island, all four categories are known to breed there (Tuck and Lemieux 1959, Kemper 1976).

We saw jaegers (*Stercorarius* spp.) primarily on the islands of Foxe Basin. Specific identification was generally not possible but individuals observed at Pond Inlet, Prince Charles Island and Koch Island were *S. longicaudus* while we saw *S. pomarinus* on Bray Island and *S. parasiticus* on Air Force Island and at Longstaff Bluff.

We observed loons (*Gavia* spp.) in all zones; they were most abundant on the islands and west coast of the basin. Individuals observed on Bray, Tweedsmuir, and Prince Charles islands were Red-throats (*G. stellata*) while *G. arctica* was recorded at Bell Bay.

Both Common (*G. immer*) and Arctic Loons (*G. arctica*) have been reported for Foxe Basin (Ellis and Evans 1960) and northern Baffin (Bylot Island area) although the authenticity of the *G. immer* records for the latter area has been questioned (Tuck and Lemieux 1959).

The only alcid species observed was the Black Guillemot (*Cepphus grylle*), noted at Anderson and Foley islands.

Table 6
Distribution and abundance of eiders in Foxe Basin and northern Baffin Island, 7-9 July 1979

Species	No. individuals observed (per 100 km of transect)*									
	East Foxe Basin		West Foxe Basin		North Foxe Basin		Islands of Foxe Basin		North Baffin I	
	Apparent breeders†	Others	Apparent breeders	Others	Apparent breeders	Others	Apparent breeders	Others	Apparent breeders	Others
Common Eider	36(5.8)*	49(7.9)	10(5.2)	48(24.9)	2(0.3)	11(1.6)	12(1.5)	16(2.0)	—	—
King Eider	6(1.0)	3(0.5)	16(8.3)	226(117.4)	84(12.2)	161(23.5)	140(17.15)	110(13.5)	16(8.8)	—

*The number in parentheses is the number of individuals per 100 km of transect over coastal habitat.

† Birds recorded in singles and pairs were considered to be breeding birds: each "single" was considered to represent two individuals (i.e. one breeding pair).

Table 7
Distribution and abundance of gulls and terns in Foxe Basin and northern Baffin Island, 7-9 July 1979

Species	No. individuals observed (per 100 km of transect)*									
	East Foxe Basin		West Foxe Basin		North Foxe Basin		Islands of Foxe Basin		Northern Baffin Island	
	Birds*	Colonies†	Birds	Colonies	Birds	Colonies	Birds	Colonies	Birds	Colonies
Herring Gull**	18	4	8	1	5	0	46	1	—	—
Sabine's Gull	109‡	4	4	0	38	1	407‡	11	—	—
Glaucous Gull††	144‡	5	21	2	1	0	202	2	1	—
Arctic Tern	828‡	12	—	0	89	2	526‡	13	—	—

*Number of individuals recorded, both within and outside of colonies.

‡Known underestimates.

†Number of distinct colonies noted. Concentrations of less than about 10 pairs were not considered as colonies.

**Includes *Larus argentatus* and *L. thayeri*.

††Includes *L. hyperboreus* and *L. glaucoideus*.

We saw five Sandhill Cranes (*Grus canadensis*), widely distributed over the basin and none on north Baffin. Ellis and Evans (1960) do not report the species for Foxe Basin but it is known to occur in the Bylot Island area of north Baffin (Tuck and Lemieux 1959).

Other wildlife

We recorded caribou (*Rangifer tarandus*) (Table 8) throughout the survey and established adult: calf ratios where possible. Highest densities were in the west zone.

We saw more than 15 walrus (*Odobenus rosmarus*) on ice pans of Hall Beach and several dozen narwhal (*Monodon monoceros*) in that same area. One polar bear (*Ursus maritimus*) was observed on the south shore of Prince Charles Island.

Conclusions

The results of the survey improved our knowledge of the abundance and distribution of breeding geese in that relatively unexplored area of northern Foxe Basin.

We confirmed that previously reported breeding sites of Atlantic Brant at Cape Dominion and on Air Force

and Prince Charles islands (F.G. Cooch, R. Kerbes, pers. commun.) have remained important breeding areas since the severe population declines of 1976-78. The location of other previously unrecorded brant colonies elsewhere in the study area indicates that Foxe Basin accommodates a substantial proportion of the total population of Atlantic Brant. Our findings will be useful in the planning of banding operations in coming years.

The limits of breeding distribution and range overlap of the two forms of Snow Geese have now been tentatively clarified. Ground observations (particularly anatomical measurements) are now required to confirm the accuracy of our sub-specific breakdown of the Snow Geese observed in that area.

Our observations, combined with those of Heyland and Boyd (1970) and Kemper (1976), indicate the presence of several large colonies of Greater Snow Geese on northern Baffin Island, in addition to the large, well-known one on Bylot Island (Lemieux 1959, Heyland pers. commun., Heyland and Boyd 1970). Because of the apparently great numerical importance of the north

Baffin and Bylot Island colonies, it would be desirable to conduct a more quantitative survey of those sites in the near future. It will also be useful to conduct additional reconnaissance surveys over the remaining areas of the known and suspected breeding range of the Greater Snow Goose to learn how recent population increases (Reed and Dupuis, unpubl.) have influenced breeding distribution and colony size.

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Table 8
Numbers of caribou observed near Foxe Basin and in northern Baffin Island, 7-9 July 1979*

	Foxe Basin				Northern Baffin Island
	East	North	West	Islands	
Nos. observed	467	507	575	124	43
Nos. calves/adult	0.97(37)*	0.22(96)*	0.17(167)	0.55(65)	— (-)
No. caribou/km flight line over land	0.73	0.62	2.99	0.14	0.05

*Numbers in parentheses are number of caribou from which the calves/adult ratio was established.

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Figure 2
Main area occupied by brant at Cape Dominion, July 1979

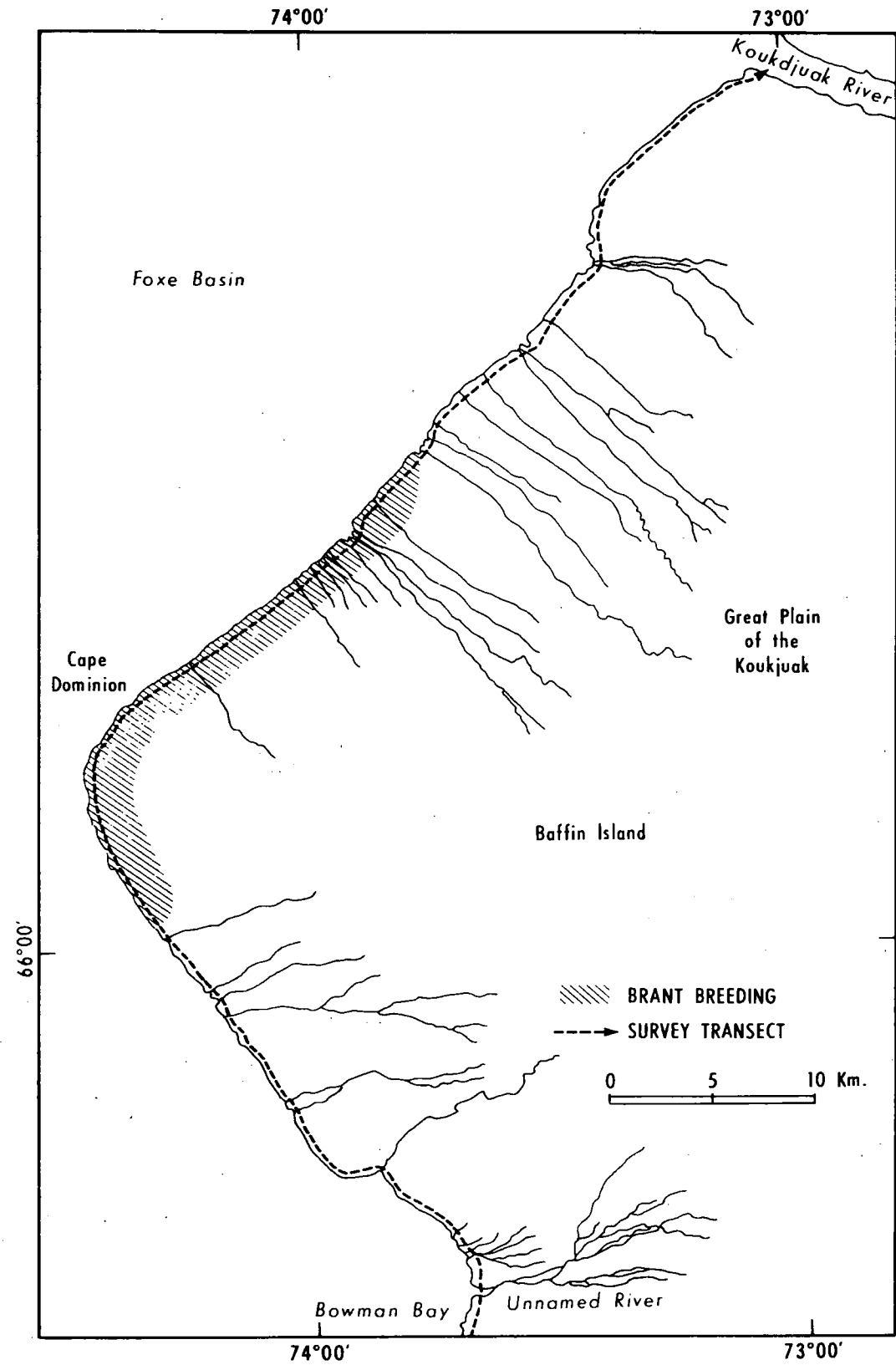


Figure 3
Areas occupied by Greater Snow Geese at Longstaff Bluff east, July 1979

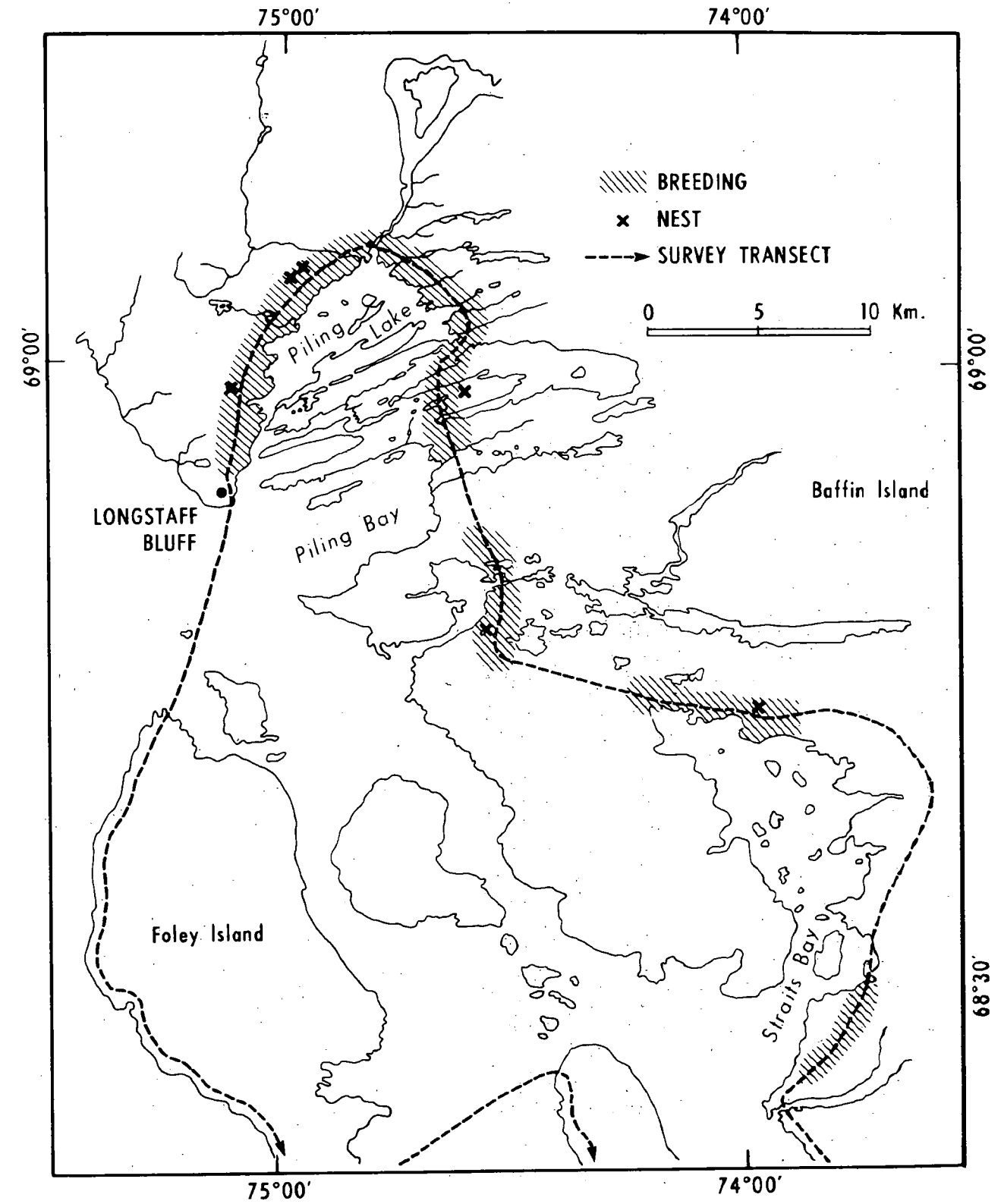


Figure 4
 Areas occupied by Lesser Snow Geese, brant and
 Greater Snow Geese, northwest of Longstaff Bluff, July
 1979

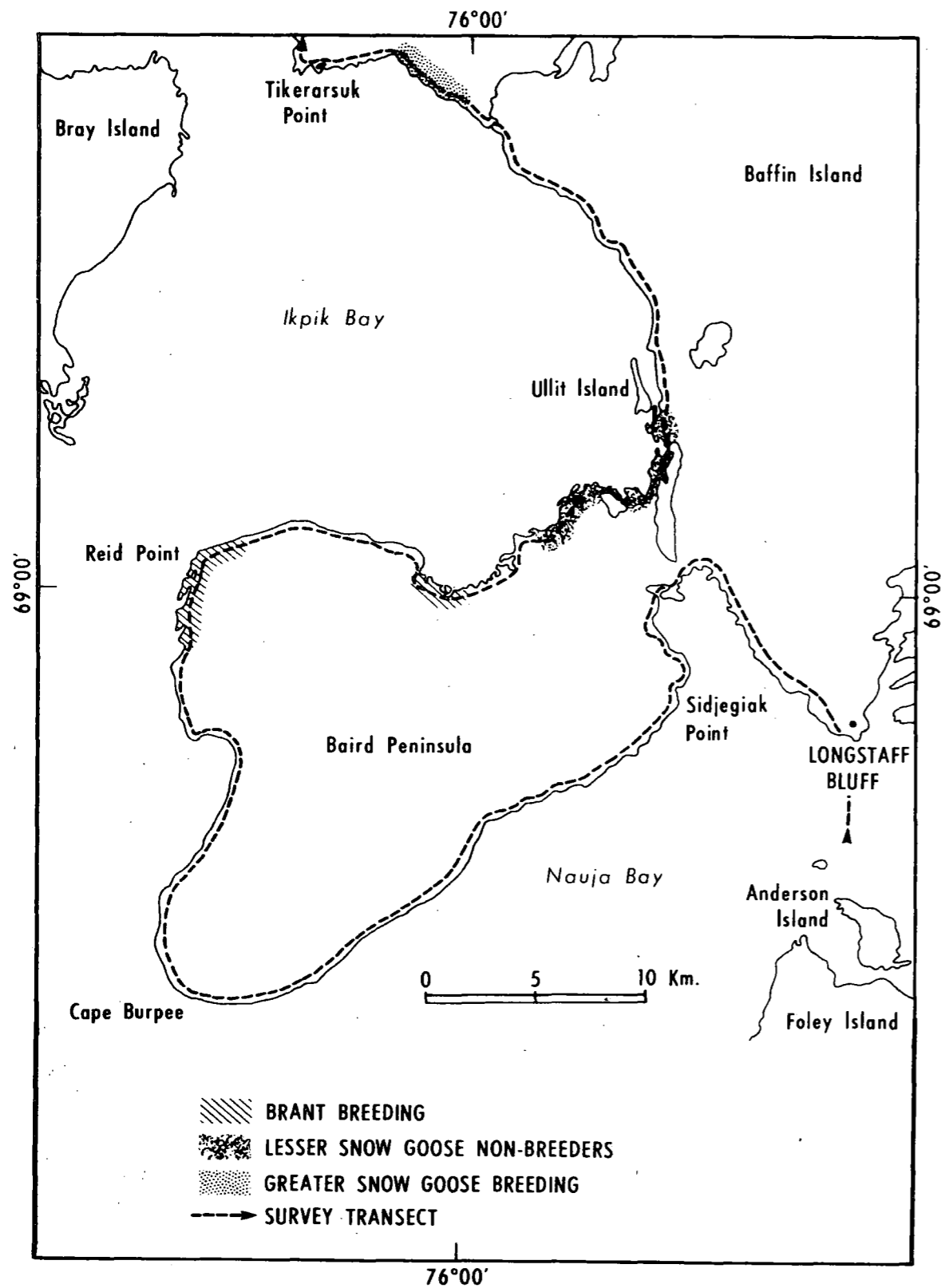


Figure 5
 Areas occupied by Greater Snow Geese south of
 Steensby Inlet, July 1979

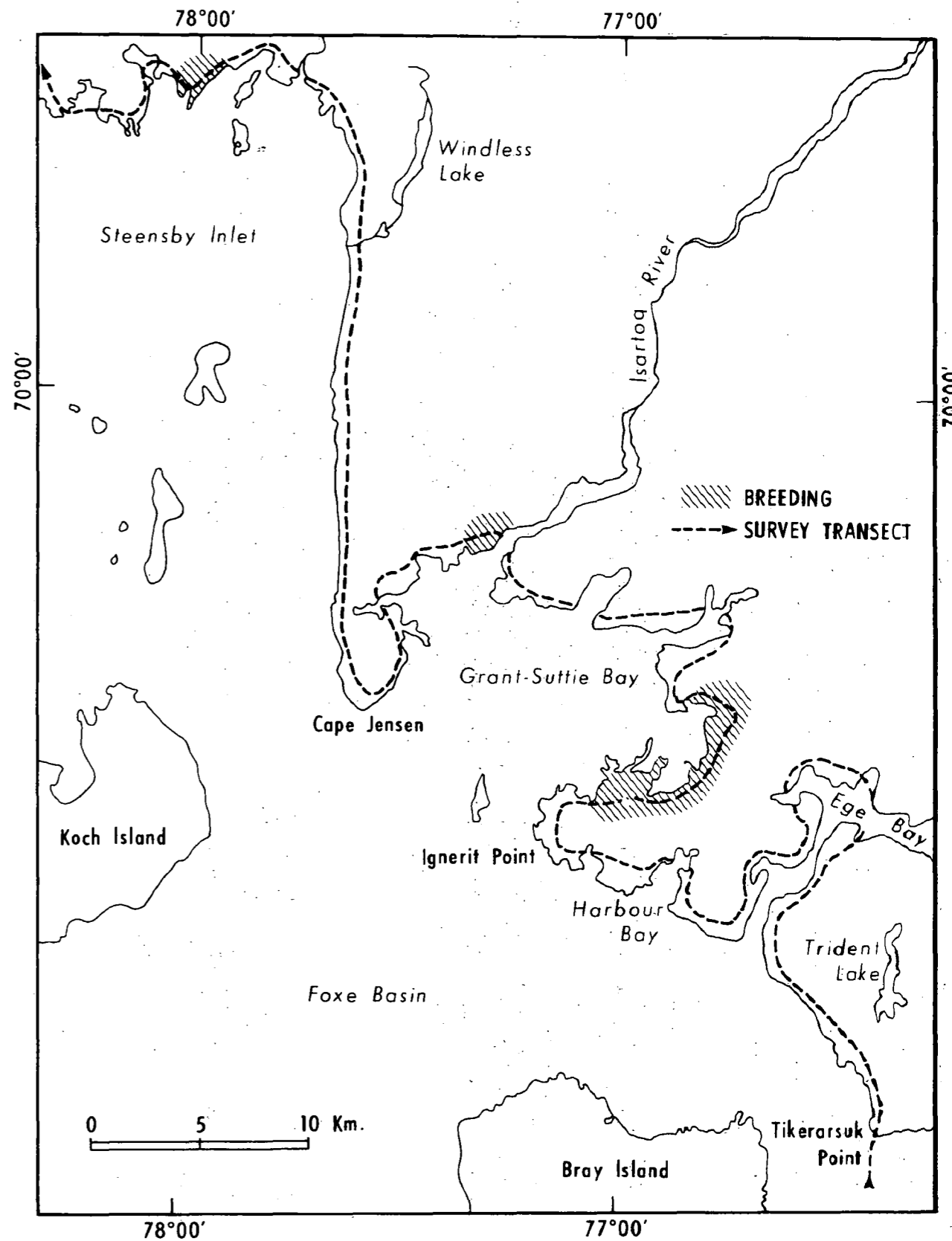


Figure 6
Areas occupied by Greater Snow Geese in Steensby Inlet, July 1979

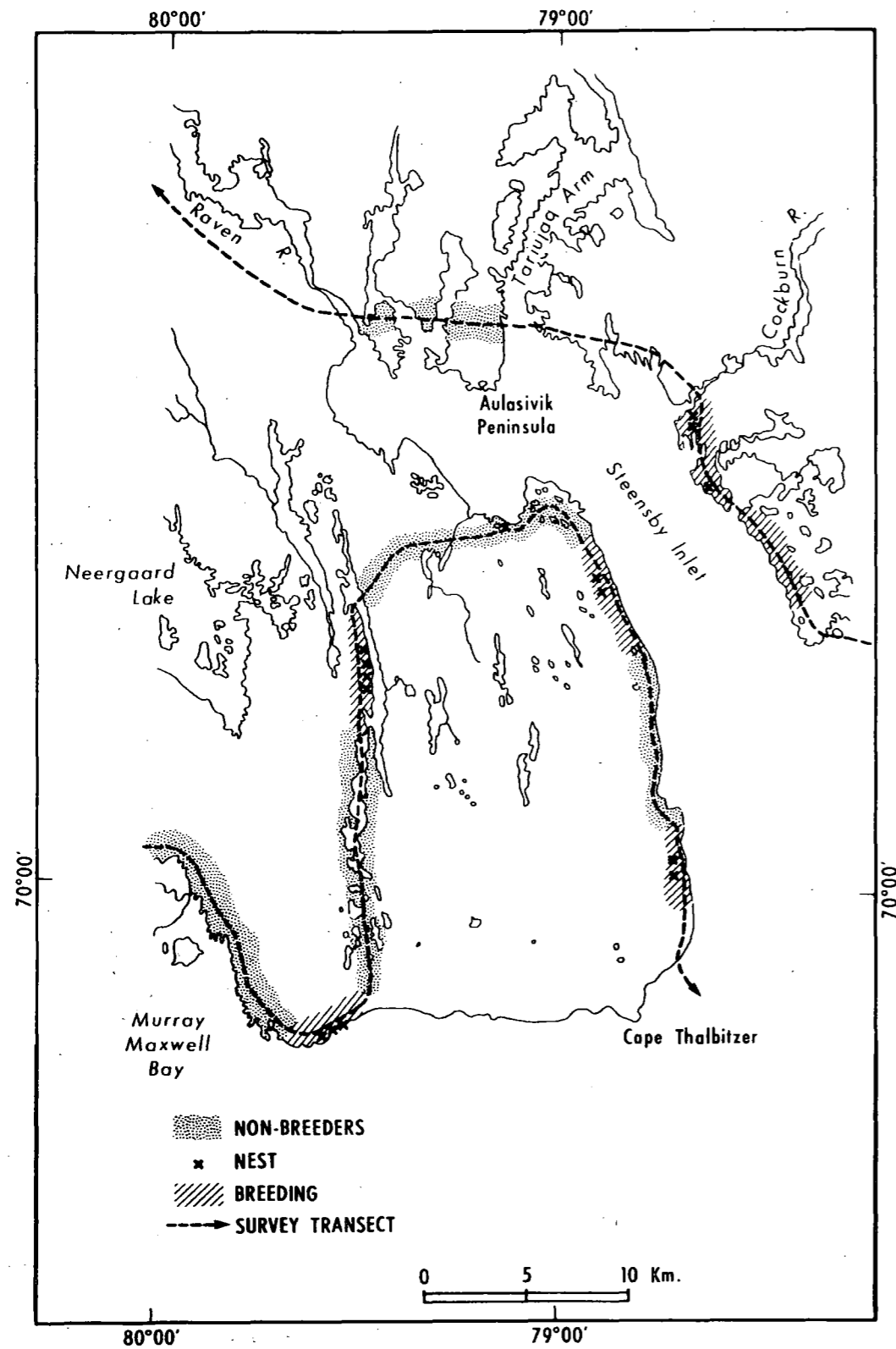


Figure 7
Areas occupied by Greater Snow Geese on the north shore of Murray Maxwell Bay, July 1979

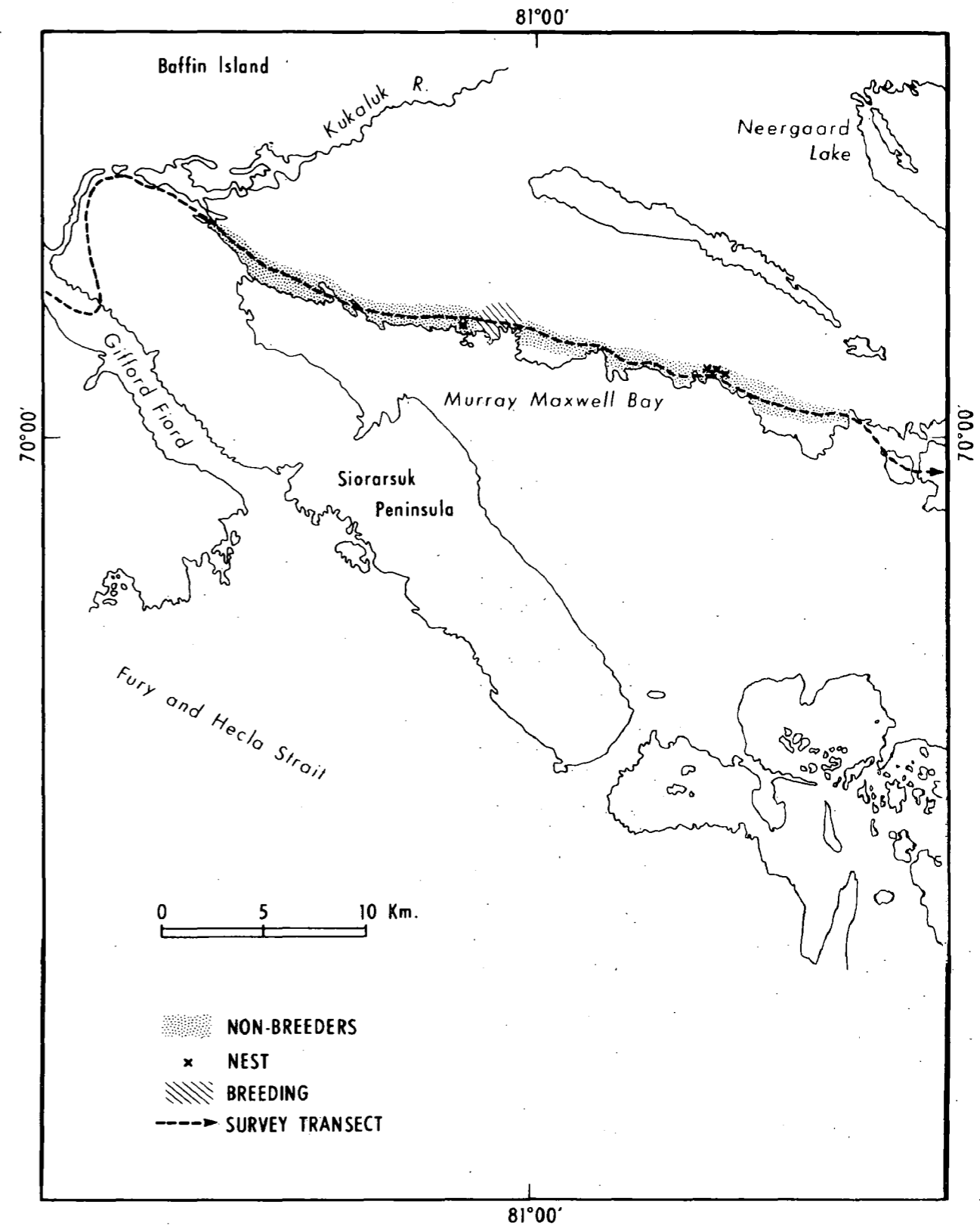


Figure 8
 Areas occupied by Greater Snow Geese and brant in
 Parry Bay, Melville Peninsula, July 1974

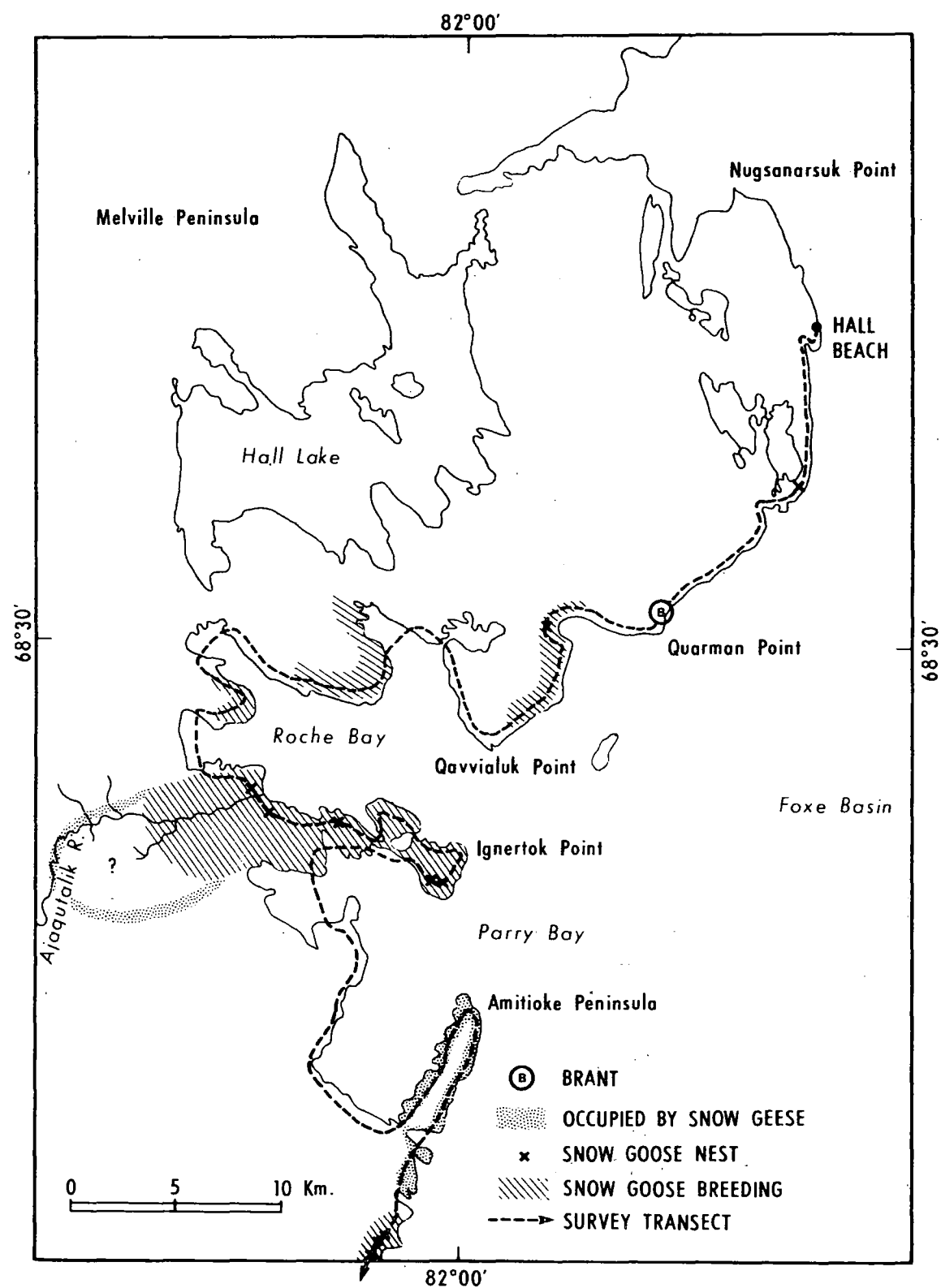


Figure 9
 Areas occupied by Greater Snow Geese and brant on
 Air Force Island, July 1979

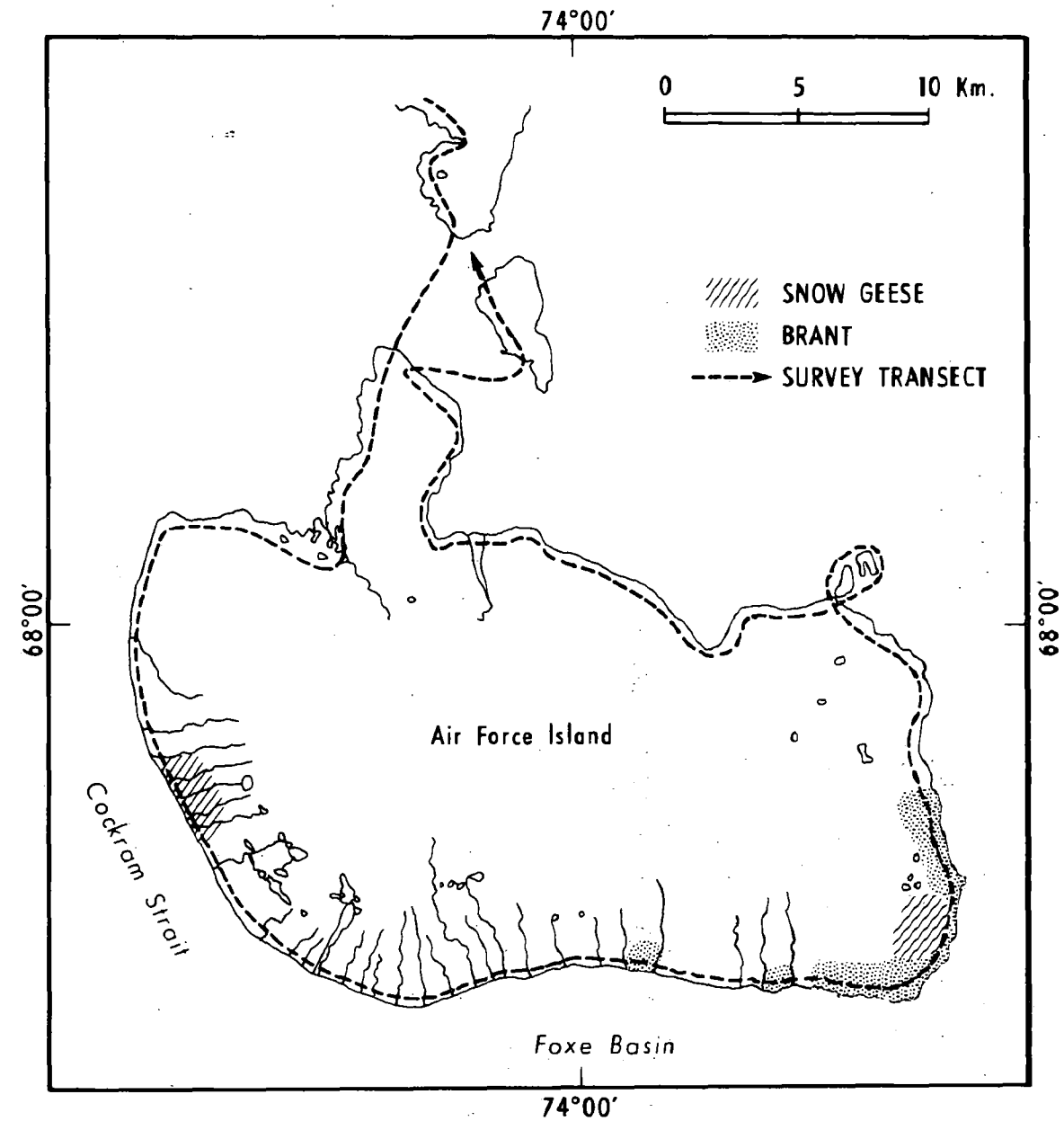


Figure 10
 Areas occupied by brant on Prince Charles Island, July 1979

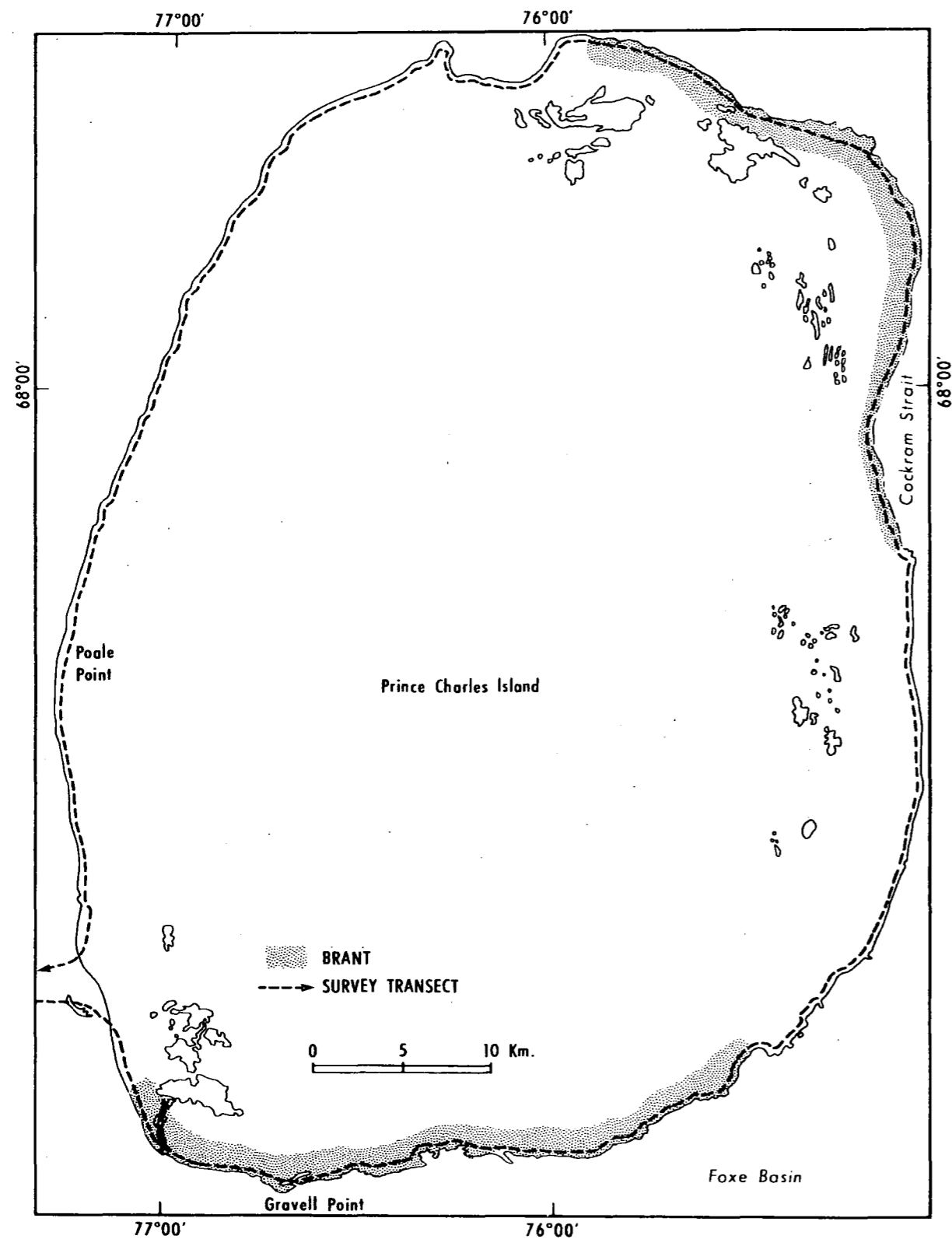


Figure 11
 Areas occupied by brant on the Spicer Islands, July 1979

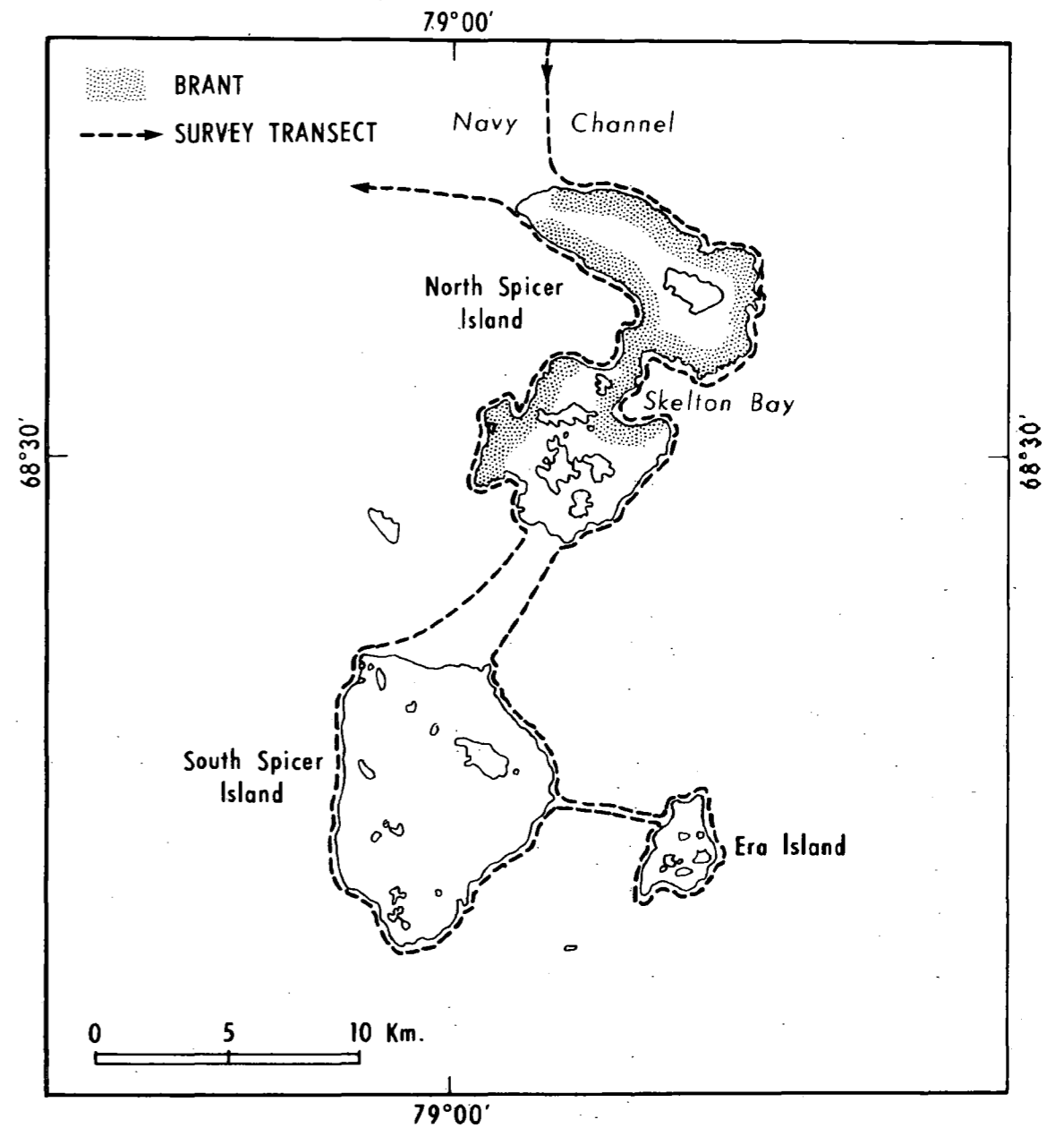


Figure 12
 Areas occupied by Greater Snow Geese in the vicinity
 of Erichsen Lake and Quartz Lake; Baffin Island, July
 1979

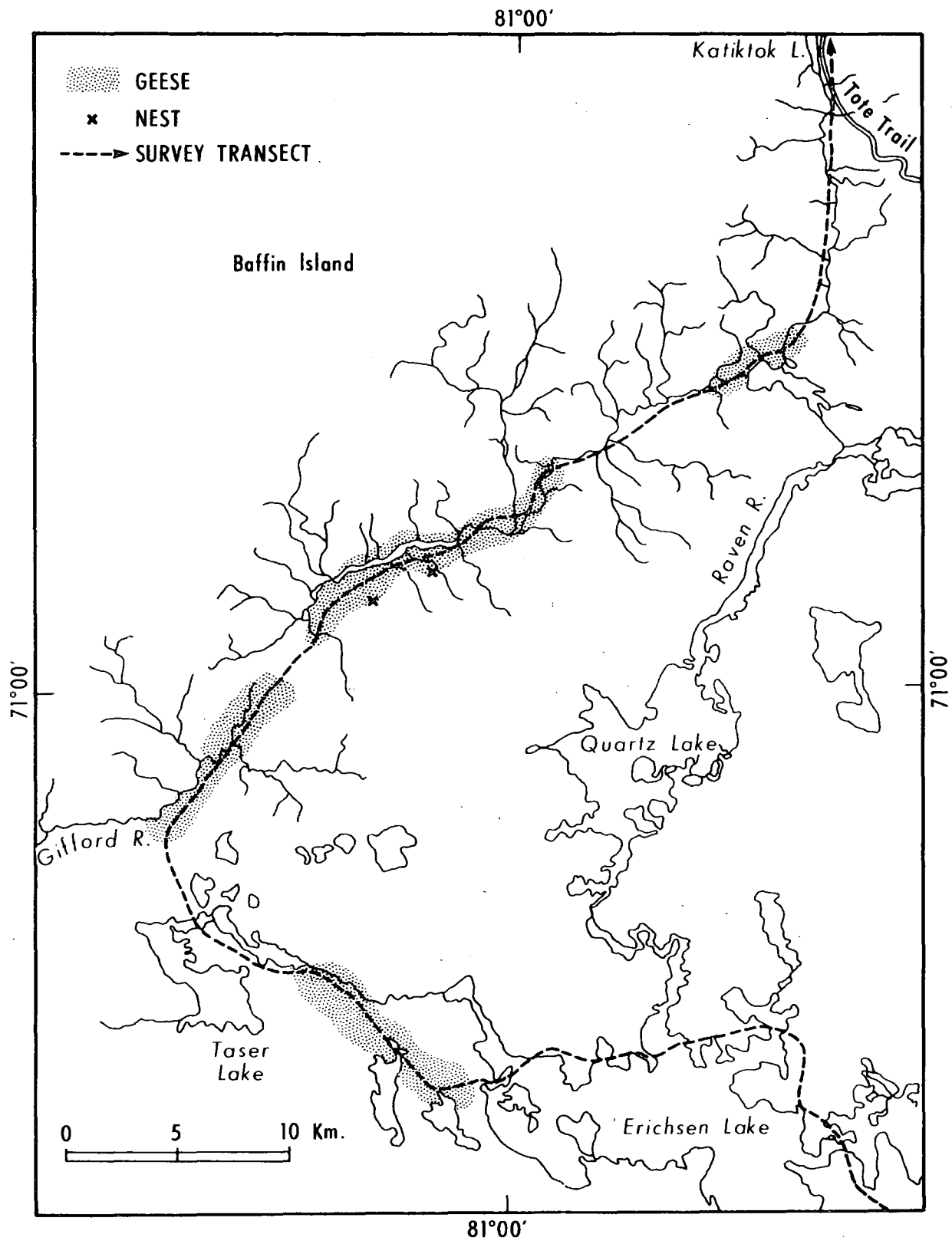
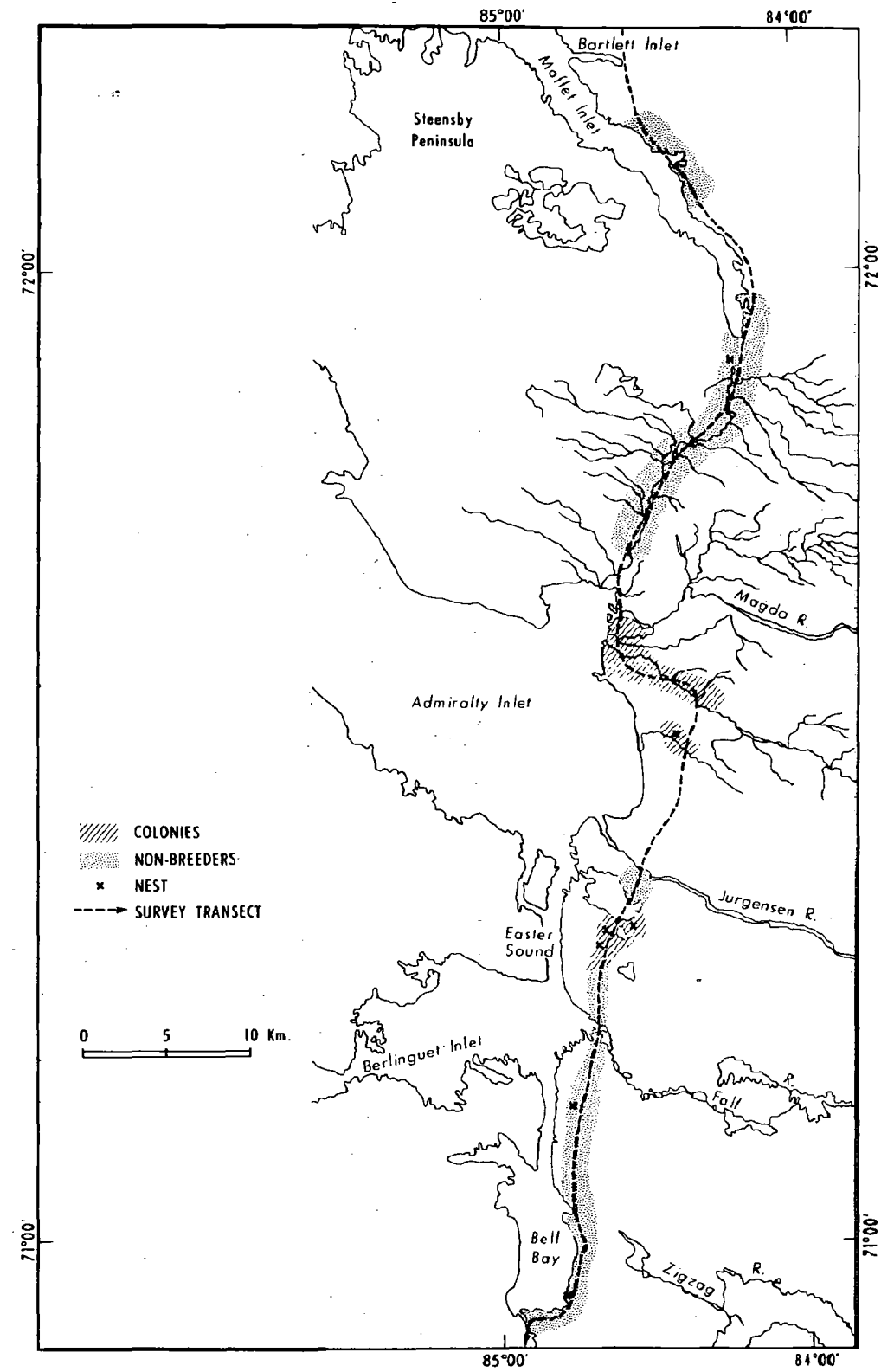


Figure 13
 Areas occupied by Greater Snow Geese in southeast
 Admiralty Inlet, Baffin Island, July 1979



(11)

(12)

(13)