

Birds of Bylot Island and Adjacent Baffin Island, Northwest Territories, Canada, 1979 to 1997

DENIS LEPAGE,¹ DAVID N. NETTLESHIP² and AUSTIN REED³

(Received 7 August 1997; accepted in revised form 13 November 1997)

ABSTRACT. Observations of birds in the Bylot Island region from 1979 to 1997, with emphasis on the southwest part of the island each summer since 1989, revealed an avifauna composed of 63 species, of which 35 were breeding. Thirteen species are new records for the region, including one for the Northwest Territories (black-headed gull *Larus ridibundus*) and two for the Canadian Arctic Archipelago (killdeer *Charadrius vociferus*; mew gull *Larus canus*). Two species, Canada goose (*Branta canadensis*) and red knot (*Calidris canutus*), were also confirmed as breeders for the first time in the region. A summary of these avifaunal observations, along with a review of previous observations made in the region, allows changes in population size and status of individual species to be identified. These records combined with those from earlier studies give a total of 74 species for the Bylot Island region, 45 confirmed as breeders. This makes the avian community in the area one of the most diverse known north of 70°N latitude in the Canadian Arctic Archipelago.

Key words: arctic birds, avifauna, avian distribution, Baffin Island, Bylot Island

RÉSUMÉ. Nos observations d'oiseaux dans la région de l'île Bylot entre 1979 et 1997, et en particulier dans la région du sud-ouest depuis 1989, ont permis de recenser une avifaune de 63 espèces, dont 35 nicheuses. Treize n'avaient jamais été rapportées précédemment dans la région, incluant une nouvelle mention pour les Territoires du Nord-Ouest (mouette rieuse, *Larus ridibundus*) et deux pour l'archipel arctique canadien (pluvier kildir, *Charadrius vociferus*; goéland cendré, *Larus canus*). De plus, nous avons confirmé la nidification de deux nouvelles espèces pour la région, soit la bernache du Canada (*Branta canadensis*) et le bécasseau maubèche (*Calidris canutus*). Nous présentons le sommaire de ces observations, de même qu'une revue de la littérature touchant les oiseaux de la région et nous discutons des changements récents dans l'état des populations de certaines espèces. Avec un total de 74 espèces et plus de 45 nicheurs confirmés, la région comprend probablement l'avifaune la plus diversifiée de l'archipel arctique canadien au nord du 70° de lat. N.

Mots clés: avifaune, île Bylot, île de Baffin, oiseaux arctiques, répartition avienne

INTRODUCTION

The Bylot Island and adjacent northeastern Baffin Island region probably has one of the most diverse and well-studied avifauna in the Canadian High Arctic. The most detailed information on birds of Bylot Island comes from studies by Tuck and Lemieux (1959), Van Tyne and Drury (1959), and Kempf et al. (1978), supplemented by brief accounts published in Ross (1819), Parry (1821), M'Clintock (1859), Low (1906), Lloyd (1922), Soper (1928), Hørring (1937), Baird (1940), Shortt and Peters (1942), Bray (1943), Wynne-Edwards (1952), Ellis (1956), Heyland (1970), Nettleship (1974), Mary-Rousselière and Heyland (1974), Billard and Goubert (1989), and Gilg et al. (1993). Various papers on specific species or groups have also been produced, e.g.,

Lemieux (1959), Drury (1960, 1961a,b,c), Tuck (1961), together with several publications from two long-term studies of greater snow geese *Chen caerulescens atlantica* (e.g., Reed et al., 1980; Reed and Chagnon, 1987; Reed et al., 1992; Gauthier, 1993; Gauthier et al. 1995, 1996) and thick-billed murre *Uria lomvia* (e.g., Birkhead and Nettleship, 1981; Nettleship et al., 1984; Birkhead et al., 1985; Nettleship, 1996a). In addition, surveys of seabirds were performed between 1972 and 1979 by the Canadian Wildlife Service (e.g., Brown et al., 1975; Nettleship and Gaston, 1978; Nettleship, 1980), with a major thrust between 1976 and 1979, as part of the Eastern Arctic Marine Environmental Study (EAMES), to describe marine life in the region, including the avifauna (e.g., Johnson et al., 1976, Renaud and Bradstreet, 1980; Bradstreet, 1982; McLaren, 1982; McLaren

¹ Département de Biologie and Centre d'Études Nordiques, Pavillon Vachon, Université Laval, Ste-Foy, Québec G1K 7P4, Canada; present address: Bird Studies Canada, Long Point Bird Observatory, P.O. Box 160, Port Rowan, Ontario N0E 1M0, Canada; dlepage@bsc-eoc.org

² Canadian Wildlife Service, Environment Canada, Queen Square, 5th Floor, 45 Alderney Drive, Dartmouth, Nova Scotia B2Y 2N6, Canada; david.nettleship@ec.gc.ca

³ Canadian Wildlife Service, Environment Canada, 1141, Route de l'Église, C.P. 10100, Sainte-Foy, Québec G1V 4H5, Canada; austin.reed@ec.gc.ca

This is Polar Continental Shelf Project Contribution No. 02697

and McLaren, 1982; Renaud and McLaren, 1982; Renaud et al., 1982). Renaud et al. (1981) presented their bird observations and reviewed the literature, but only for the area around the hamlet of Pond Inlet and southeastern Bylot Island.

We recorded bird observations during the summers, all incidental to the studies on the breeding ecology of the greater snow geese on southwest Bylot Island (irregularly from 1979 to 1988, and continuously from 1989 to 1997) and to the studies of the reproductive performance of thick-billed murres and black-legged kittiwakes *Rissa tridactyla* at Akpa North, near Cape Hay (from mid-June to mid-September 1979). This paper fills gaps in the information on species composition and distribution of birds in the region and summarizes seasonal patterns of occurrence and status of each species recorded between 1979 and 1997.

STUDY AREA AND CLIMATE

Bylot Island (73°N, 80°W), roughly 15 000 km² in land area, is located in the heart of the Arctic Cordillera, a chain of mountains that runs up the entire eastern side of Baffin Island to northern Ellesmere Island. These mountains, often ice-capped, rise in elevation to about 2000 m and bisect Bylot Island from southeast to northwest. On either side of the chain are two extensive sedimentary plains with fairly diverse vegetation. The general study area includes Bylot Island and adjacent northeastern Baffin Island (Fig. 1). A more detailed geomorphological and ecological description can be found in Zoltai et al. (1983). Bylot Island is generally uninhabited except for small camps established for short periods during summer. The hamlet of Pond Inlet on Baffin Island (Mittimatalik, 72°42'N, 77°59'W) has a population of over 1400 people. Located near the mouth of the Salmon River, it is the only important permanent community in the region.

Weather Conditions

The region is characterized by the normal polar continental climate of the Canadian High Arctic. Mean daily temperatures are highest in July (6°C) and lowest in February (−35°C). From 1 June to the end of August, average daily temperatures range between −2°C and 10°C, with extremes ranging from −14°C to 22°C (Atmospheric Environment Service, 1997). Coastal sites exposed to winds may be up to 5°C colder, on average, than inland locations (Maxwell, 1981). This difference is particularly evident on the east coast of Bylot Island, which is influenced greatly by Baffin Bay. Annual precipitation is among the highest recorded in the Canadian Arctic Archipelago, averaging c. 70 cm in the eastern mountains and 15 cm in the northwest (Maxwell, 1981). July and August have the most rain, while September and October receive the most snow; precipitation is highest in July and August. (Atmospheric Environmental Service files, Environment Canada, Pond Inlet). The sun remains above the horizon (24 h daylight) from the second week of May to early August, and disappears from November to the end of January (24 h darkness).

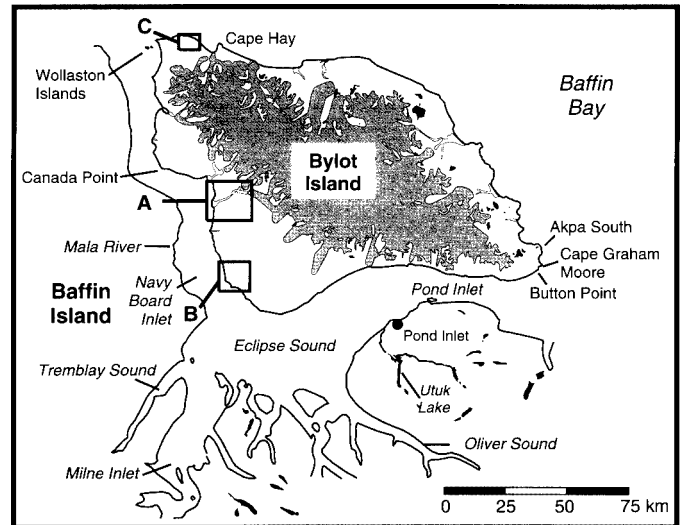


FIG. 1. Sketch map of Bylot Island and adjacent northeast Baffin Island showing the main study area (A, North Valley) and the two supplemental study sites (B, South Colony; C, Akpa North). Shaded area is glaciated.

From 1979 to 1997, January and February have been, on average, about 2°C colder and June and July about 1° to 1.5°C warmer than temperatures recorded for the period 1950–1980 (Zoltai et al., 1983; Atmospheric Environment Service, 1997). Total precipitation has also increased, on average, for the months between July and November. During the study period, summer weather on land was generally normal, except that 1986 and 1992 were unusually cold and rainy.

Bird Habitats (Marine)

Polynyas: Polynyas are areas of open water surrounded by ice and maintained by winds and sea currents. A large recurring polynya is present at the entrance of Lancaster Sound, at its intersection with Baffin Bay. In winter, the only bird normally recorded in it is the black guillemot *Cephus grylle*. However, polynyas are essential for seabirds in spring, and are used by sea ducks, larids, and alcids as feeding areas prior to egg-laying and, after chick-rearing, before reproduction. Indeed, there is no major seabird colony in the eastern Canadian Arctic that is not adjacent to a recurring polynya (Brown and Nettleship, 1981). In spring and early summer, the floe edges at the entrances to Navy Board Inlet and Pond Inlet are also very rich areas for seabirds and other marine wildlife.

Seabird Colonies: Approximately 180 000 breeding pairs of five species of colonial seabirds are known to breed in 29 colonies on Bylot Island (Nettleship, 1996a). However, 97% of these birds are concentrated at two colonies, Akpa North (AN) near Cape Hay, and Akpa South (AS) at Cape Graham Moore (Fig. 1), which are populated mostly by thick-billed murres (Nettleship, 1980). Several other large seabird colonies occur on Baffin Island close to the study area, and individual birds breeding at these sites probably also occur in marine water areas of the study region. Buchan Gulf colony, south of Pond Inlet, and Baillarge Bay, northwest of the

hamlet, account for about 8% (50 000 breeders) and 10% (60 000 breeders) of the Canadian population of northern fulmars *Fulmarus glacialis*, respectively (Nettleship, 1980, unpubl. data).

Bird Habitats (Terrestrial)

Most of Bylot Island is covered by glaciers and snow-covered mountains, which limits the habitats suitable for birds. However, two large plains are found in the northeastern and southwestern parts of the island. Land birds are more plentiful on the southwest plain, roughly 1600 km² in area, which is a rolling plateau slightly above sea level (60 m), cut by several glacial rivers. The northeast plain has been little studied or visited by ornithologists. It is slightly colder in summer than the southwestern part of the island since it is subject to a maritime influence (Maxwell, 1981). Suitable habitats for land birds can also be found on adjacent Baffin Island, particularly in the Mala River region and the area between the hamlet of Pond Inlet and Utuk Lake. Although the land environment presents many different habitats, the wet meadow and pond habitat have the richest avifauna. These meadows, dominated by grasses and sedges (e.g., *Dupontia scheuzeri*, *Eriophorum angustifolium*, and *Carex arctica*), are most common on the southwest plain of Bylot Island, particularly its northern part. They also occur in the Mala River region and around Utuk Lake, south of Pond Inlet. Slopes with southern exposures are also preferred habitats of many birds (e.g., American pipit *Anthus rubescens*, hoary redpoll *Carduelis hornemanni*) owing to the composition of the low arctic vegetation (Renaud et al., 1981; Zoltai et al., 1983). River deltas also attract certain shorebirds and arctic terns *Sterna paradisaea*, though numbers are generally low. The most common habitat in the plains is a relatively dry vegetative complex, dominated by *Salix arctica*, *Cassiope tetragona* and other dicotyledons, which supports a low to medium density of birds. The most common birds nesting on the plains are snow geese, lapland longspurs *Calcarius lapponicus*, and American golden-plovers *Pluvialis dominica*. Descriptions of the three study sites on Bylot Island, where most of the observation effort was concentrated, are given below.

North Valley (NV): This is the main study area where investigations of the breeding ecology of the greater snow goose were carried out from 1979 to 1997. It is a glacial valley (ca. 6500 ha) in the northern part of the southwest plain (Fig. 1: location A, and Fig. 2), bordered on the north and south by hills reaching 500 m. The valley floor (lowlands: ca. 4000 ha) is rich in wetland habitats and has one of the highest densities of nesting birds in the region. The hillsides (uplands: ca. 2500 ha) also provide rich habitat for several species not usually found in the valley itself, which include northern wheatear *Oenanthe oenanthe*, hoary redpoll, and American pipit. Three species of raptors—peregrine falcon *Falco peregrinus*, rough-legged hawk *Buteo lagopus*, and snowy owl *Nyctea scandiaca*—also nest in the cliffs of these hills. Large lakes and ponds abound in this valley, many of which are used by loon species for breeding.

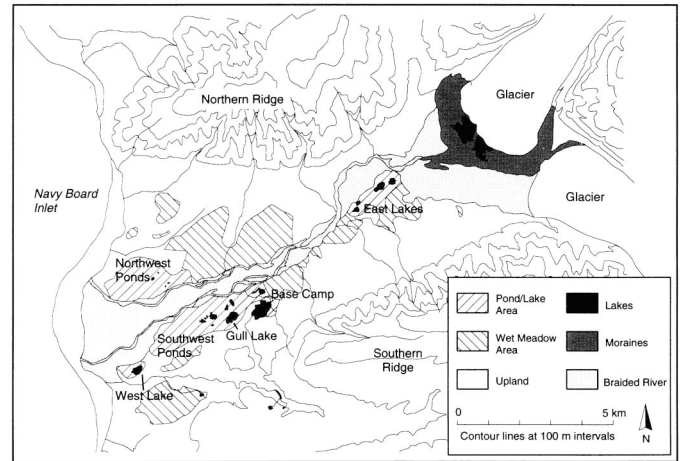


FIG. 2. North Valley, the main study area, showing lowland and upland habitats (for general location on Bylot Island, see Fig. 1: site A).

South Colony (SC): We surveyed this site (ca. 800 ha) in 1992 and from 1994 to 1997 during the geese breeding season (Fig. 1: location B). It supports the largest concentration of nesting geese on Bylot Island (an estimated 5000 pairs in 1994). It is characterized by the rolling hills typical of the southwest plain, with some large wetland areas.

Akpa North (AN): This is the principal seabird colony studied on Bylot Island. An immense concentration of thick-billed murres and black-legged kittiwakes extends about 3.5 km on steep, 250 m sea cliffs about 8 km northwest of Cape Hay (Fig. 1: location C). The AN colony was studied intensively in 1957 (Tuck and Lemieux, 1959; Tuck, 1961) and by us in 1979 (Birkhead and Nettleship, 1981), and additional aerial and/or ground surveys were made in 1972, 1973, 1976, 1978 (for summary, see Nettleship and Evans, 1985), and more recently in 1989 (Nettleship, unpubl. data). Avian observations reported here are mainly from daily observations made in 1979 (20 June to 5 September) by 3–5 workers within a 3 km radius of the camp, which was located on the top of the cliffs at about 300 m from the western end of the colony. Information on seabird colonies elsewhere on Bylot Island is from aerial and ground surveys performed mostly in 1972 and 1973 (Nettleship, 1980, 1996a).

RESULTS

Seventy-four bird species have been observed in the region, of which 63 were observed by us between 1979 and 1997 (Table 1). The terms *breeder*, *visitor*, or *resident*, preceded by *common*, *uncommon*, *rare*, or *accidental* as an estimate of abundance, have been used to describe the status of individual species in the region. Common and scientific names of the birds are based on the American Ornithologists' Union Check-List (1983 and supplements: AOU, 1985, 1989, 1995, 1997); common names are also given in French (from Devillers and Ouellet, 1993) and Inuktitut (from Boertmann and Fjeldså, 1988; supplemented by Snyder, 1957). A second Inuk name is given either alone, where an alternative is used on Baffin

TABLE 1. Summary of bird records for Bylot Island and adjacent Baffin Island listing species and their suspected/known status observed by different workers (adapted from Renaud et al., 1981): + = present; B = evidence of breeding; B? = possible breeding; ? = status uncertain; – = not observed. Observations from this study are in bold.

	Soper, 1928	Hørring, 1937	Shortt and Peters, 1942	Ellis, 1956	van Tync and Drury, 1959	Tuck and Lemieux, 1959	Kempf et al., 1978	Others	Snyder, 1957	Godfrey, 1986	Renaud et al., 1981	Renaud and others ⁸	Drury, 1960, 1961a,b,c	Billard and Goubert, 1989	This study, all areas (1979–97)	North Valley (1979–97)
Red-throated Loon	–	+	–	+	B	B	B	–	–	–	B	–	B	+	B	B
Pacific Loon	?	+	+	–	B?	–	B	–	B	B	+	–	–	B	B	B
Common Loon	–	B?	–	–	+	–	+	–	B	B?	–	–	–	+	+	+
Yellow-billed Loon	–	–	–	–	–	–	–	–	–	+	B?	–	–	–	+	+
Northern Fulmar	+	–	+	+	+	+	+	+	–	–	+	+	–	–	+	–
Tundra Swan	?	–	–	–	–	–	–	B ²	–	–	–	–	–	–	B	B
Greater White-fronted Goose	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+
Ross's Goose	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+
Snow Goose	B	–	+	+	B	B	B	B ³	B	B	B	–	B	B	B	B
Brant	+	–	–	?	+	+	–	B ⁴	B	B	+	+	–	–	+	+
Barnacle Goose	–	–	–	?	–	–	–	–	–	–	–	–	–	–	–	–
Canada Goose	–	–	–	–	B?	–	–	–	–	+	+	–	–	–	B	+
Mallard	–	–	–	–	–	–	–	+	–	–	–	–	–	–	–	–
Northern Pintail	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	–
American Wigeon	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+
Common Eider	B?	B	+	+	–	B	B	–	B	B	B	+	–	–	+	+
King Eider	B?	+	–	+	+	B	B?	B ³	B	B	B?	+	B?	+	B	B
Oldsquaw	+	+	B	+	B	B	B	–	B	B	B	+	B	B	B	B
Red-breasted Merganser	–	–	–	–	+	–	B	–	–	B	B	–	–	–	+	+
Rough-legged Hawk	–	–	–	–	?	B	–	–	–	B	+	–	–	–	B	B
Peregrine Falcon	–	–	–	+	+	+	–	–	B	B	B?	–	+	–	B	B
Gyrfalcon	+	–	–	–	B	B	B	–	B	B	+	–	–	–	B	+
Rock Ptarmigan	+	+	+	–	B?	B?	B	–	B	B	B	–	–	–	B	B
Sandhill Crane	–	+	–	?	+	B?	B	+	B	B	B?	–	–	–	B	B
Whooping Crane	–	–	–	–	–	–	–	+	–	–	–	–	–	–	–	–
Black-bellied Plover	–	–	–	+	B	B	B	–	B	B	B	–	B	–	B	B
American Golden-Plover	–	–	–	–	B	B?	B	–	B	B	B	–	B	B	B	B
Common Ringed Plover	+	?	+	+	B	B	B	–	B	B	B?	–	B	+	B	B
Killdeer	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+
Ruddy Turnstone	–	–	–	+	+	+	B	–	–	B?	+	–	–	–	B	B
Red Knot	–	–	–	–	–	+	–	–	–	–	+	–	–	–	B	B
Sanderling	–	+	+	–	B?	B	–	–	–	B	+	–	B?	–	+	+
Least Sandpiper	–	–	–	–	–	–	+	–	–	–	–	–	–	–	–	–
White-rumped Sandpiper	–	–	+	–	B	B	B	–	B	B	B	–	B	–	B	B
Baird's Sandpiper	–	–	–	B	B	B	B	–	B	B	B	–	B	B	B	B
Pectoral Sandpiper	–	–	–	+	+	?	–	–	–	+	B	–	–	–	B	B
Purple Sandpiper	+	+	+	–	–	B	+	–	B	B	+	+	–	–	+	+
Dunlin	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+
Red Phalarope	–	–	–	+	+	+	+	–	–	B	B	+	–	+	B	B
Red-necked Phalarope	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+
Pomarine Jaeger	–	–	–	–	?	B?	–	–	B	B	+	+	–	–	+	+
Parasitic Jaeger	–	+	–	+	+	B	B?	–	B	B	+	–	+	–	B	B
Long-tailed Jaeger	–	+	+	+	B	B	B	–	B	B	B	+	B	B	B	B
Great Skua	–	–	–	–	–	–	–	–	–	–	?	–	–	–	–	–
Franklin's Gull	–	–	–	–	–	–	–	–	–	+	+	–	–	–	–	–
Black-headed Gull	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+
Mew Gull	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+
Thayer's Gull	+	B	+	+	+	B	?	–	B	B	B	+	+	+	B	+
Iceland Gull	–	–	–	–	–	–	–	–	–	–	+	–	–	–	–	–
Glaucous Gull	+	B	+	B?	B?	B	B?	–	B	B	B	+	+	B	B	B
Great Black-backed Gull	–	B	–	–	+	–	–	–	–	–	+	–	–	–	–	–
Black-legged Kittiwake	–	B	+	B	B	B	+	–	B	B	B	B	–	+	B	+
Ross's Gull	–	–	–	–	–	–	–	–	–	–	+	–	–	–	+	–
Sabine's Gull	–	B	–	–	+	B	+	–	B	B	+	–	–	–	+	+
Ivory Gull	–	–	–	+	–	+	–	–	–	–	+	+	–	–	+	–
Arctic Tern	–	–	–	+	B	B	B	–	–	B	+	+	B	+	B	B
Dovekie	–	–	–	+	+	–	–	–	–	–	+	+	–	–	–	–
Thick-billed Murre	B	B	+	B	B	B	+	B ⁶	B	B	B	B	–	–	B	–

TABLE 1 – continued

	Soper, 1928	Hørring, 1937	Shortt and Peters, 1942	Ellis, 1956	van Tyne and Drury, 1959	Tuck and Lemieux, 1959	Kempf et al., 1978	Others	Snyder, 1957	Godfrey, 1986	Renaud et al., 1981	Renaud and others ^s	Drury, 1960, 1961a,b,c	Billard and Goubert, 1989	This study, all areas (1979–97)	North Valley (1979–97)
Black Guillemot	–	B	+	+	+	B	+	–	B	B	B?	B	–	+	B	–
Atlantic Puffin	–	–	–	–	–	–	+	–	–	+	+	–	–	–	+	–
Snowy Owl	B	–	+	B	+	B	B	–	B	B	+	–	–	–	B	B
Horned Lark	?	–	–	+	B	B	B	–	B	B	B	–	B	+	B	B
Tree Swallow	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+
Barn Swallow	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+
Common Raven	+	+	+	+	+	+	+	–	B	B	B	+	–	–	+	+
Northern Wheatear	–	–	–	–	–	–	B	+ ⁸	B	B	+	–	–	–	B	B
American Pipit	–	–	+	+	B	B	B	–	B	B	B?	–	B	+	B	B
Yellow Warbler	–	–	–	–	–	–	–	–	–	+	+	–	–	–	–	–
Northern Waterthrush	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	–
Savannah Sparrow	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+
Lapland Longspur	+	B	+	B	B	B	B	–	B	B	B	–	B	B	B	B
Snow Bunting	B?	B	+	+	B	B	B	–	B	B	B	–	B	+	B	B
Common Redpoll	–	–	–	–	–	–	–	–	B	–	–	–	–	–	–	–
Hoary Redpoll	–	B	–	–	+	–	–	? ^s	B	B	+	–	–	–	B?	B?

¹ Low, 1906; ² Mary-Rousselière and Heyland, 1974; ³ Lloyd, 1922; ⁴ Heyland, 1970; ⁵ Bray, 1943; ⁶ M'Clintock, 1859; ⁷ Baird, 1940; ⁸ from the following: Renaud and Bradstreet, 1980; Bradstreet, 1982; McLaren, 1982; McLaren and McLaren, 1982; Renaud and McLaren, 1982; and Renaud et al., 1982.

Island, or in parentheses, where Pond Inlet nomenclature differs from the Inuk standard. A short summary of observations (past and recent) is followed by the chronology of events for each species, which includes occurrence (earliest and latest dates in the region), eggs (extreme dates: laying and incubation), nestlings (extreme dates for nidicolous species), and fledglings (dates of young incapable of sustained flight and accompanied by a parent). Information is also given on clutch and/or brood size (range with average and sample size in parentheses) and the number of clutches and/or broods recorded during our studies. Details from earlier published studies are summarized first; those from our own investigations are presented last.

Annotated List of Birds

Red-throated Loon *Gavia stellata* (French: Plongeon catmarin; Inuktitut: Qarsaaq [*Koksau*]): Common breeder. The most abundant loon in the region, reported as regular by all authors, this species nests along margins of lakes and large ponds. Nests were found in NV (six in 1990, one in 1991, three in 1992, and three in 1993) and at SC (one in 1996, two in 1997), and the species was observed regularly elsewhere on the southwest plain. It is a late migrant in spring and fall. *Chronology*: occurrence (31 May 1993–18 Sep 1979), eggs (25 Jun 1979–26 Jul 1954), fledglings (11 Jul 1993–27 Aug 1954), clutch size: 1–2 (mean = 1.7, $n = 3$).

Pacific Loon *Gavia pacifica* (French: Plongeon du Pacifique; Inuktitut: Kudlulik): Rare breeder. This species

is found mainly near large lakes. Kempf et al. (1978) reported nests on Bylot Island, as did Billard and Goubert (1989) at the Utuk Lake region, northeastern Baffin Island (2-egg nest, 15 July 1988). We sighted the species regularly in NV, but not elsewhere on the southwest plain. Two adults and a downy chick were observed together on one of the East Lakes (NV) on 14 August 1993. A group of up to six was usually seen near the NV main camp during the summer. *Chronology*: occurrence (8 Jun 1993–12 Sep 1978), eggs (15 Jul 1988), fledglings (5 Aug 1977–14 Aug 1993), brood size: 1 ($n = 1$).

Common Loon *Gavia immer* (French: Plongeon huard; Inuktitut: Tudlik or Tulik): Rare visitor. Few records exist for the region. Hørring (1937) reported a few individuals in Eclipse Sound on 21 and 31 July 1924, as well as several pairs with young, but the reliability of species identification is uncertain (possibly they were *G. stellata*; see Tuck and Lemieux, 1959; Kempf et al., 1978; Renaud et al., 1981). Other sightings include single birds in 1977 near Aktinek River (19 July) and Utuk Lake (9 August) (Kempf et al., 1978), and one at Utuk Lake on 16 July 1988 (Billard and Goubert, 1989). We recorded one bird on the lake near the NV base camp on 15 July 1994, and one on 9 August 1997 at the same location. *Chronology*: occurrence (15 Jul 1994–9 Aug 1988, 1997).

Yellow-billed Loon *Gavia adamsii* (French: Plongeon à bec blanc; Inuktitut: Tuhllik): Rare visitor and possible breeder. There have been several reports of this species in the Pond Inlet region, including possible reports of breeding: one or

two birds at the Pond Inlet floe edge between 13 June and 5 July 1978, and two sightings at the mouth of the Salmon River in early August 1978 and 13 June 1979 (Renaud et al., 1981). We saw single individuals on the lake near the NV base camp in July 1989, and on 19 July 1993, 28 July 1995 and 6 August 1996; however, we obtained no evidence of breeding. *Chronology*: occurrence (13 Jun 1978–6 Aug 1996).

Northern Fulmar *Fulmarus glacialis* (French: Fulmar boréal; Inuktitut: Qaqulluk [Qaqudluk]: Common visitor. Most birds observed in the region probably breed at one of the colonies situated on northern Baffin Island or on Devon Island (see Nettleship, 1974, 1980). From late April to July, the species can be seen beyond the floe edge in Baffin Bay and Lancaster Sound. In 1979, we recorded up to 1000 individuals each day from 24 June to 24 August near Cape Hay. Fulmars are seen regularly in Eclipse Sound, Pond Inlet, and Navy Board Inlet after the ice breaks up in July. We observed birds almost every year in the northern part of Navy Board Inlet, near the hamlet of Pond Inlet, or at the Pond Inlet floe edge. Up to 9000 individuals were reported by Renaud et al. (1981). *Chronology*: occurrence (22 Apr 1921–17 Oct 1979).

Tundra Swan *Cygnus columbianus* (French: Cygne siffleur; Inuktitut: Qussuk [?] or Qujjuk): Rare breeder. The species was first observed in the region on 2 September 1923 (Soper, 1928). Tundra swans were found breeding at the mouth of the Mala River in Navy Board Inlet on 22, 29, and 31 July 1970 (Mary-Rousselière and Heyland, 1974); one adult was observed in the same area on 9 August 1975 (Renaud et al., 1981). Several observations during our study included two broods, one near the NV camp on 31 July 1983 (2 adults with 3 young) and another 10 km southwest of camp on 18 August 1995 (2 adults with 3 young); one pair, observed at SC on 7 June 1996; and a single adult, observed a few days later at the same location. *Chronology*: occurrence (7 Jun 1996–2 Sep 1923), fledglings (31 Jul 1970–18 Aug 1995), brood size: 3 ($n = 2$).

Greater White-fronted Goose *Anser albifrons* (French: Oie rieuse; Inuktitut: Nerleq): Accidental visitor. We observed a single bird in a group of nonbreeding snow geese on 25–27 June 1992 near the coast in NV.

Ross's Goose *Chen rossii* (French: Oie de Ross; Inuktitut: Kaaraq): Accidental visitor. On 10 August 1996, an adult male was captured, measured, and photographed during our banding operations in NV. A possible hybrid between snow and Ross's goose was captured on 12 August 1994 in NV; its body size was similar to Ross's goose, but the bill had the black tomia typical of a snow goose (see also Trauger et al., 1971).

Snow Goose *Chen caerulescens* (French: Oie des neiges; Inuktitut: Kangoq [Kangu]): Common breeder. The southwest plain of Bylot Island supports the largest known colony of greater snow geese (*C. c. atlantica*), estimated at 55 000 breeding adults, 14 500 nonbreeding adults, and 86 500 juveniles in 1993 (Gauthier et al., 1996; A. Reed, unpubl. data). The size of the total population of greater snow geese, estimated at 669 000 individuals in 1996 (A. Reed, unpubl. data), has increased at an annual rate of about 11% since 1965.

The number breeding on Bylot Island has followed a similar trend, with a threefold increase between 1983 and 1993 (Reed and Chagnon, 1987; Reed et al., 1992; Gauthier et al., 1996). The largest concentration of nesters is found at SC, with over 5000 pairs estimated in 1994, and a variable number (from < 20 to about 1200 pairs) occupies the NV each year (Hughes et al., 1994a; Lepage et al., 1996). After hatching, some families are very mobile and move more than 30 km in only a few days to reach good brood-rearing habitat (Lepage, 1997). However, they may also maintain stable home ranges (< 4 km²) for variable periods when in good feeding habitat (Hughes et al., 1994b). Reproductive success varies considerably among years, with few offspring produced in some years (e.g., 1986, 1992, and 1994) and many in others (e.g., 1993). Reproductive success is mostly influenced by date of snowmelt, numbers of predators, and food availability for goslings (Lepage et al., 1996; Lepage, 1997; Tremblay et al., 1997). Arctic fox (*Alopex lagopus*) is the main predator of eggs and goslings, but jaegers (mostly *Stercorarius parasitus*), gulls (mostly *Larus hyperboreus*), and common raven (*Corvus corax*) also commonly prey on eggs. *Chronology*: occurrence (26 May 1990–13 Sep 1979), eggs (30 May 1993–21 Jul 1992), median hatch date (3 Jul 1993–16 Jul 1992), fledglings (29 Jun 1993–late Aug 1992), first young flying (9 Aug 1993), clutch size: 1–9 (mean = 3.8, $n = 1108$).

Brant *Branta bernicla* (French: Bernache cravant; Inuktitut: Nerlernaq): Rare visitor, accidental breeder. Brant are often observed in early June and September (e.g., Soper, 1928; Tuck and Lemieux, 1959; Van Tyne and Drury, 1959; Kempf et al., 1978; Renaud et al., 1981). There is only one breeding record on Bylot Island (Heyland, 1970). We observed the species irregularly on southwest Bylot: in June 1990 and July 1993, and on 15 June and 17 August 1994. *Chronology*: occurrence (1 Jun 1976–11 Sep 1979).

Barnacle Goose *Branta leucopsis* (French: Bernache nonnette; Inuktitut: Nerlernarnaq): Accidental visitor. One questionable report was made of an observation near Button Point on 8 June 1954 (Ellis, 1956).

Canada Goose *Branta canadensis* (French: Bernache du Canada; Inuktitut: Nedlenuk, or Nookliuk): Rare breeder. This species is reported in small flocks, most often in June. We observed groups of up to 12 individuals sporadically in NV or near SC almost every year. Most birds seen were small, probably belonging to the subspecies *B. c. hutchinsii*. Five larger individuals, perhaps *B. c. interior*, were also observed, three on 19 June 1993 and two on 3 June 1994. Evidence of breeding comprises two observations of broods during aerial surveys, on 7 August 1988 (2 young) and 23 July 1993 (number of young unknown), and one of a pair attending a nest with five goslings recently hatched at SC (11 July 1997, apparently *B. c. hutchinsii*). *Chronology*: occurrence (31 May 1976–22 Jul 1993), fledglings (11 Jul 1997–7 Aug 1988), brood size: 3.5 ($n = 2$).

Mallard *Anas platyrhynchos* (French: Canard colvert; Inuktitut: Qeerlutooq): Accidental visitor. A female was reported in Pond Inlet during the summer of 1912 (Lloyd, 1922). The species breeds in southwest Greenland (Boertmann,

1994), but is accidental in the Canadian Arctic Archipelago (Sirois and McRae, 1994).

Northern Pintail *Anas acuta* (French: Canard pilet; Inuktitut: Ivurak or Kashluak): Accidental visitor. There are a few nesting records in the Canadian Arctic Archipelago (Godfrey, 1986). We observed a female-type individual on a lake near Aktinek Glacier on 3 August 1983.

American Wigeon *Anas americana* (French: Canard d'Amérique; Inuktitut: unavailable): Accidental visitor. The species is a rare visitor in western islands of the Canadian Arctic Archipelago. We observed one pair in NV over several days in early July 1990, which is the only known record in the eastern Canadian Arctic.

Common Eider *Somateria mollissima* (French: Eider à duvet; Inuktitut: Mittiq or Metik [both sexes], and Amaulik [male] and Arnaviak [female]): Common visitor, rare breeder. This species is a fairly common visitor in the area (Abraham and Finney, 1986), especially at the Pond Inlet floe edge, between May and July. It is a rare coastal breeder in the Pond Inlet region (Renaud et al., 1981). A female and five ducklings were recorded in Oliver Sound on 3 August 1977 (Kempf et al., 1978), and sightings were also reported in Eclipse Sound (Lloyd, 1922; Hørring, 1937). We made numerous sightings off AN in 1979: up to 200 birds from 24 June to 6 July, and 300 on 1 August, often mixed with larger numbers of king eiders (see below). Large numbers of female and immature birds were seen flying along the coast to the southeast from 10 August to early September, probably mixed-species flocks (king and common) totaling thousands of individuals: e.g., more than 3000 birds were estimated between 1430 and 1800 CDT on 21 August 1979 alone. Only a few birds were seen in the southwest Bylot region, all in NV: 1 male in 1988, 1 individual in 1990, and 1 male on 16 June 1993; about 100 birds were also recorded at the Pond Inlet floe edge on 19–20 June 1994. *Chronology*: occurrence (30 May 1957–early Oct 1979), fledglings (3 Aug 1977).

King Eider *Somateria spectabilis* (French: Eider à tête grise; Inuktitut: Kingalik [Meetuk]): Common breeder. This is a common species in the region. Adult males depart before females, usually in mid-July. Tuck and Lemieux (1959) observed over 10 000 individuals near Cape Hay during summer 1957. In 1979, we recorded large flocks flying by the sea cliffs or on the water at AN in late June and early July (e.g., 1000+ birds were seen in the bay east of camp on 24 June), smaller numbers through the remainder of July, and large flocks (200–800 birds) reappearing from 1–27 August. This species is fairly common as a breeder near freshwater ponds in NV, where several nests were found, including some within our camp compound: one in 1992, 1993, and 1994 and two in 1996. *Chronology*: occurrence (2 May 1978–17 Oct 1979), eggs (15 Jun 1994–4 Aug 1996), fledglings (18 Jul 1993), clutch size: 3–7 (mean = 5.8, $n = 8$), brood size: 7 ($n = 1$).

Oldsquaw *Clangula hyemalis* (French: Harelde kakawi; Inuktitut: Aggek, [Aa'aangiq]). Common breeder. This species is fairly abundant and breeding in NV and SC areas, where we found several nests. One small flock of 50, mixed

in with 1200 eiders, was recorded at AN on 24 June 1979. Large flocks (50–100 birds) were seen on inland ponds or at sea in Navy Board Inlet in August (at the end of the breeding season). *Chronology*: occurrence (mid-May 1976–13 Oct 1979), eggs (18 Jun 1995–29 Jul 1954), first fledglings (18 Jul 1993), clutch size: 3–7 (4.2, $n = 8$).

Red-breasted Merganser *Mergus serrator* (French: Harle huppé; Inuktitut: Paaq or Pyle): Rare breeder. Kempf et al. (1978) reported breeding near Utuk Lake. Seven sightings were made during surveys in 1978 and 1979; one was of a female with young near the Salmon River on 10–14 September 1979 (Renaud et al., 1981). Godfrey (1986) reported the species nesting south of Eclipse Sound. We saw only one bird, on 12 June 1990 in NV. *Chronology*: occurrence (12 Jun 1990–14 Sep 1979), fledglings (9 Aug 1977–14 Sep 1979).

Rough-legged Hawk *Buteo lagopus* (French: Buse pattue; Inuktitut: Kahyook): Rare breeder. Reported nesting near the Aktinejuak River (Tuck and Lemieux, 1959) and as a rare visitor to the Pond Inlet region (Renaud et al., 1981). We saw individual birds regularly each year on the sides of the two ridges overlooking NV, where nesting pairs were observed on four occasions. *Chronology*: occurrence (26 May 1990–9 Oct 1979), eggs (? Jun 1994–12 Jul 1994), nestlings (12 Jul 1994–8 Aug 1994), clutch size: 4–5 ($n = 2$), brood size: 4 ($n = 2$).

Peregrine Falcon *Falco peregrinus* (French: Faucon pèlerin; Inuktitut: Kikkeveokjuk or Kigaviarsuk): Rare breeder. This species is observed frequently, but breeding is rarely confirmed (for details, see Snyder, 1957; Godfrey, 1986). We observed it regularly along the northern ridge of NV, where a single pair appeared to have nested each year from 1989 to 1997, using a different site each year within the same narrow ravine. Individuals were also seen in other locations in NV and SC, and a single bird was sighted on the cliffs at AN in early August 1989. *Chronology*: occurrence (4 Jun 1994–27 Sep 1979), eggs (12 Jul 1993–24 Jul 1992), nestlings (26 Jul 1957–20 Aug 1996), clutch size: 2 ($n = 2$).

Gyrfalcon *Falco rusticolus* (French: Faucon gerfaut; Inuktitut: Kissaviarsuk or [Kingavik]): Rare breeder. A pair with one fledgling was recorded on 10–11 August 1977 near Utuk Lake (Kempf et al., 1978). Gyrfalcons were also reported breeding 16 km west of Cape Hay and near Tay Bay in 1957 (Tuck and Lemieux, 1959; Tuck, 1961). We sighted the species at AN in late June and July in 1979 carrying prey (black-legged kittiwake), and at SC on 30 May 1991, 22 and 29 June 1993, 5 July 1994, 17 and 19 August 1994, and 14 and 25 July 1996. One breeding pair was observed on sea cliffs near AS in late July 1989. A single adult was also seen in August 1994 on a crag in a valley north of the NV, where it may have been nesting. Both white and intermediate colour phases were observed. *Chronology*: occurrence (30 May 1991–3 Oct 1979), fledglings (10 Aug 1977–11 Aug 1977).

Rock Ptarmigan *Lagopus mutus* (French: Lagopède alpin; Inuktitut: Aqisseq or [Arqagik]): Uncommon breeder. This species is present year-round in the Bylot Island and Pond Inlet region. Soper (1928) reported individuals crossing Eclipse Sound from Bylot Island to Baffin Island in early October. We recorded small numbers of pairs (2–6) each

year in NV; one nest and four broods were found. *Chronology*: occurrence (resident), eggs (11 Jul 1978), fledglings (3 Jul 1994–11 Aug 1996), brood size: 3–11 ($n = 2$).

Sandhill Crane *Grus canadensis*. (French: Grue du Canada; Inuktitut: Tutteghuk or [Tatigak]): Uncommon breeder. This species is believed to be a rare breeder in the Utuk Lake region (Kempf et al., 1978). Isolated sightings have also been made in the Button Point and Pond Inlet region. We observed the species regularly throughout NV and adjacent ridges. We have found nests almost every summer since 1990, most often in the eastern part of NV, where adults with young have also been sighted regularly. Nests are usually located on a small hummock, 3–5 cm high, hidden in *Salix lanata*. The NV population is estimated to be 15–20 breeding pairs. Flocks of up to 10 were seen from the end of July though most of August. *Chronology*: occurrence (25 May 1990–23 Aug 1957), eggs (13 Jun 1995–12 Jul 1996), fledglings (7 Jul 1992/93–8 Aug 1977), clutch size: 1–2 (mean = 1.6, $n = 9$), brood size: 1 ($n = 1$).

Whooping Crane *Grus americana* (French: Grue blanche; Inuktitut: unavailable). Status uncertain. Two individuals were reported near Pond Inlet during the summer of 1912 (Lloyd, 1922), but the identification was considered incorrect (Renaud et al., 1981). Only one other possible sighting is known in the Canadian Arctic Archipelago: two adults at Holman, Victoria Island, on 9 June 1991, though the reliability of this record is also uncertain (J. Sirois, pers. comm. 1994).

Black-bellied Plover *Pluvialis squatarola* (French: Pluvier argenté; Inuktitut: Tudliakdjuk or Anngilik): Uncommon breeder. This species is a fairly rare breeder according to Kempf et al. (1978). We found it to be regular, but generally uncommon in NV and elsewhere on the southwest plain, where it probably breeds in small numbers each year. Sizeable numbers were seen in 1993 and 1995, and five nests were found in NV and one at SC in these years. *Chronology*: occurrence (3 Jun 1994–17 Sep 1979), eggs (19 Jun 1993–29 Jul 1954), fledglings (12 Jul 1977–4 Aug 1977), clutch size: 4 ($n = 3$).

American Golden-Plover *Pluvialis dominica* (French: Pluvier bronzé; Inuktitut: [Toodliq] or Ungalitte): Common breeder. Probably the most abundant breeding shorebird in the region (Drury, 1961b; Kempf et al., 1978), this species is fairly common in NV and elsewhere on the southwest plain. We found several nests each year. *Chronology*: occurrence (1 Jun 1994–23 Sep 1979), eggs (13 Jun 1954–23 Jul 1954), fledglings (4 Jul 1994–25 Jul 1995), clutch size: 3–4 (mean = 3.9, $n = 31$), brood size: 1–3 ($n = 2$).

Common Ringed Plover *Charadrius hiaticula* (French: Pluvier grand-gravelot; Inuktitut: Tuujuk or Kudlekaleak): Uncommon breeder. This species is a regular breeder on extensive gravel-strewn deltas (Kempf et al., 1978), but it is never abundant. Drury (1961b) observed downy young in southern Bylot Island on 20 July 1954. We sighted the species several times near moraines at the foot of glaciers, the main river in NV, and the South River delta in summer 1989, and on 22 June 1990, 30 June 1992, 10 June 1993, 20 July 1993, 29 June 1994, and 11 July 1995. An adult performed a

distraction display (indicating the presence of young) on 31 July 1994 in the moraines east of NV. Note: A semipalmated plover *Charadrius semipalmatus* was observed 200 km southwest of Bylot Island on Baffin Island on 29 July 1993 by H. Boyd and A. Reed. The species may therefore occur on Bylot Island as a vagrant. However, all specimens examined to date have been *C. hiaticula* (Soper, 1928; Hørring, 1937; Shortt and Peters, 1942). *Chronology*: occurrence (3 Jun 1979–12 Sep 1979), eggs (14 Jul 1977), fledglings (20 Jul 1954–22 Jul 1993).

Killdeer *Charadrius vociferus* (French: Pluvier kildir; Inuktitut: unavailable): Accidental visitor. A single bird was observed in the moraine area east of the NV on 20 July 1993. This is the most northerly record for the species in North America and the first for the Canadian Arctic Archipelago (J. Sirois, pers. comm. 1994).

Ruddy Turnstone *Arenaria interpres* (French: Tournepiere à collier; Inuktitut: Taliffak or Tellevak): Rare breeder. This species is a rare breeder in the deltas of small rivers in the region (Kempf et al., 1978). We observed small numbers at AN, in NV, and elsewhere on the southwest plain. A nest with four eggs was found in the Southwest Ponds area (NV) in July 1991. *Chronology*: occurrence (31 May 1993–12 Sep 1979), eggs (2 Jul 1977), fledglings (3 Jul 1977–9 Jul 1977), clutch size: 4 ($n = 1$).

Red Knot *Calidris canutus* (French: Bécasseau maubèche; Inuktitut: Qajorlak): Rare breeder and uncommon visitor. A regular spring migrant in the Bylot Island region, the red knot was also observed in September by Renaud et al. (1981). We usually observed small numbers in early June in NV. On 26 July 1993, two adults with three downy young were recorded on a gravel area at the top of a hill south of NV main camp. An adult making distraction displays was observed at the same location on 18 July 1995, and one adult with two young was observed the following day (19 July 1995), 2 km northwest of this location. Finally, an adult with young was found in similar habitat in the southern part of Bylot in 1993 (O. Gilg, pers. comm. 1996). These are the only breeding records for the region. *Chronology*: occurrence (3 Jun 1978–11 Sep 1979), fledglings (1 Jul 1993–26 Jul 1993), brood size: 2–3 ($n = 2$).

Sanderling *Calidris alba* (French: Bécasseau sanderling; Inuktitut: Siorarsiooq): Rare breeder. Although it is believed to breed occasionally on southern Bylot Island (Van Tyne and Drury, 1959), this species is generally considered a migrant only. We observed sanderlings on 23 June 1979 northwest of AN (toward Wollaston Islands), and on 9–13 June 1990 and 19 June 1996 in NV. *Chronology*: occurrence (4 Jun 1979–28 Jul 1924).

Least Sandpiper *Calidris minutilla* (French: Bécasseau minuscule; Inuktitut: unavailable): Accidental visitor. One individual was recorded on 9 July 1977 by Kempf et al. (1978). Godfrey (1986) reports it as casual in the southern part of Baffin Island.

White-rumped Sandpiper *Calidris fuscicollis* (French: Bécasseau à croupion blanc; Inuktitut: Levelivela): Common breeder. This species has been found nesting in both the

southwest and northwest regions of Bylot Island (Tuck and Lemieux, 1959; Drury, 1961b). We found it breeding regularly in the NV and SC regions, but not as abundant as Baird's sandpiper. It breeds in wet habitats, such as seepage slopes. *Chronology*: occurrence (3 Jun 1994–16 Sep 1979), eggs (23 Jun 1990–22 Jul 1954), fledglings (5 Jul 1994–25 Jul 1954), clutch size: 4 ($n = 2$), brood size: 2–4 ($n = 2$).

Baird's Sandpiper *Calidris bairdii* (French: Bécasseau de Baird; Inuktitut: Tweetwee): Common breeder. This species is reported as common in the Bylot Island and Pond Inlet region. We found it common in NV and elsewhere on the southwest plain. It breeds in dry tundra. *Chronology*: occurrence (1 Jun 1979 and 1994–3 Oct 1979), eggs (5 Jun 1994–23 Jul 1977), fledglings (4 Jul 1994–16 Aug 1957), clutch size: 4 ($n = 8$), brood size: 2–3 (mean = 2.5, $n = 4$).

Pectoral Sandpiper *Calidris melanotos* (French: Bécasseau à poitrine cendrée; Inuktitut: Shigeriakjuk or Tweetwee-nyuak): Rare breeder. This species was observed on 21 June 1954 by Van Tyne and Drury (1959), who also reported that Pond Inlet residents see many individuals each fall (from mid-August to mid-September). We recorded sightings at several locations in NV on and after 18 June 1992, 8 June 1993, and 3 June 1994. Males were regularly seen performing courtship displays in June, and females with young were recorded on 9 July 1993 (a distraction display indicated that young were present) and 14 July 1994 (we saw two downy young). *Chronology*: occurrence (3 Jun 1994–12 Sep 1979), eggs (27 Jun 1979–28 Jun 1979), fledglings (9 Jul 1993–14 Jul 1994), brood size: 2 ($n = 1$).

Purple Sandpiper *Calidris maritima* (French: Bécasseau violet; Inuktitut: Segalea, Tudlik or Saarfaarsuk): Rare breeder. The species has been reported breeding in northwestern Bylot Island (Tuck and Lemieux, 1959). We observed small numbers only early in the season, on 23 June 1979, 13 June 1990, and 11 June 1996 (3 birds), but suitable habitats (rocky uplands) were not extensively surveyed. *Chronology*: occurrence (5 Jun 1979–26 Sep 1979).

Dunlin *Calidris alpina* (French: Bécasseau variable; Inuktitut: Saarfaarsuk or Aiviukak): Accidental visitor. This species is known to breed largely in western Hudson Bay and on the adjacent mainland north to southern Somerset Island (Godfrey, 1986; Forbes et al., 1992), and on southwestern Baffin Island (Martin et al., 1988). We made only three sightings, all of single birds: 15 km southwest of the main camp (NV) on 23 July 1993, in the Northwest Ponds area (NV) on 8 June 1994, and at SC on 11 June 1996.

Red Phalarope *Phalaropus fulicaria* (French: Phalarope à bec large; Inuktitut: Shutgak or Kajuarag): Uncommon breeder. Several pairs were reported nesting near the Salmon River (Renaud et al., 1981). We found one nest in NV on 14 June 1991 and one on 2 July 1997, and we observed a male with three young near the main camp (NV) in the same area on 6 July 1993. Sightings of single birds are common elsewhere in NV (Northwest Ponds, East Lakes) and at SC; groups of up to eight individuals have been seen at SC. *Chronology*: occurrence (8 Jun 1994–18 Sep 1978), eggs (14 Jun 1991–2 Jul 1997), fledglings (6 Jul 1993–14 Jul 1993),

clutch size: 3 ($n = 1$), brood size: 3 ($n = 1$).

Red-necked Phalarope *Phalaropus lobatus* (French: Phalarope à bec étroit; Inuktitut: Naluumasortoq): Accidental visitor. This species is normally found only farther south on Baffin Island, north to Cumberland Peninsula (Godfrey, 1986). We recorded a single male on 17 June 1995 in the NV study area, the only record for the region.

Pomarine Jaeger *Stercorarius pomarinus* (French: Labbe pomarin; Inuktitut: Eshungak or Isunngarsuaq): Uncommon visitor and probable breeder. This is the least common of the three jaeger species, though it is recorded regularly and suspected to breed occasionally (Godfrey, 1986). It is mainly seen near the seacoast. We observed them in NV (single birds on 26 June 1992, and 2, 12, and 26 June 1993; 1–3 from 17 July to mid-August 1993; and several in 1996) and at the Pond Inlet floe edge (two individuals on 19–20 June 1994). This species appears to be most common in years of high lemming (*Dicrostonyx groenlandicus* and *Lemus trimucronatus*) abundance (e.g., 1993 and 1996). *Chronology*: occurrence (2 Jun 1993–7 Sep 1950).

Parasitic Jaeger *Stercorarius parasitus* (French: Labbe parasite; Inuktitut: Isunngaq or Ishungak): Uncommon breeder. Reported breeding southwest of Bylot Island (Tuck and Lemieux, 1959), this species is seen more often along the coast than inland. We observed it regularly, although less frequently than the long-tailed jaeger (see below). At AN in 1979, we saw a single dark-phase bird on 10 July flying along the murre cliffs, and a pair of light-phase birds on 2 August mobbing an arctic fox, which suggests the pair had chicks nearby. The species occurred regularly in NV and SC, often near snow goose colonies. Three nests were found: at Northwest Ponds (NV) in June 1991, near West Lake (NV) on 17 June 1993 (1 egg, 1 chick), and at SC on 21 June 1996. *Chronology*: occurrence (3 Jun 1994–9 Sep 1950 and 1978), eggs (21 Jun 1996–17 Jul 1993), young in the nest (17 Jul 1993), clutch size: 1–2 (mean 1.7, $n = 3$).

Long-tailed Jaeger *Stercorarius longicaudus* (French: Labbe à longue queue; Inuktitut: Papikkaaq or Ishungak): Common breeder. The most abundant jaeger on the west and south coasts of Bylot Island, this species has been observed throughout the NV and the southwest plain. Several nests were found every year in NV; fewer at SC. Groups of up to 100 birds were often observed after mid-July. *Chronology*: occurrence (30 May 1991–19 Aug 1992), eggs (13 Jun 1994–14 Jul 1996), young (5 Jul 1993–24 Jul 1992), clutch size: 1–2 (mean 1.7, $n = 25$).

Great Skua *Catharacta skua* (French: Grand Labbe; Inuktitut: unavailable). Status uncertain. Renaud et al. (1981) reported a skua near the Pond Inlet floe edge on 18 June 1978, but identity was unconfirmed.

Franklin's Gull *Larus pipixcan* (French: Mouette de Franklin; Inuktitut: unavailable): Accidental visitor. Renaud et al. (1981) reported an individual in breeding plumage from 9–14 June 1979 at the Pond Inlet dump. The species breeds much farther south; its northern limit being southwestern District of Mackenzie, Northwest Territories (Godfrey, 1986; Sirois and McRae, 1994).

Black-headed Gull *Larus ridibundus* (French: Mouette rieuse; Inuktitut: unavailable): Accidental visitor. We observed one individual for several days in July 1991, near the main camp in NV. This is the first report for the Northwest Territories (Sirois and McRae, 1994).

Mew Gull *Larus canus* (French: Goéland cendré; Inuktitut: unavailable): Accidental visitor. One adult was observed near NV main camp on 21 July 1993. This is apparently the first report in the Canadian Arctic Archipelago (The species does occur on the western Arctic mainland, Northwest Territories).

Thayer's Gull *Larus thayeri* (French: Goéland de Thayer; Inuktitut: Nowyah): Uncommon breeder. This species was reported breeding at Milne Inlet (south of Pond Inlet) on 13 June 1924 (Hørring, 1937), and on Bylot Island at AN (1 pair) and Tay Bay (26 pairs) between June and August 1957 (Tuck and Lemieux, 1959). Up to 20 individuals were reported by Kempf et al. (1978). Of 21 colonies recorded in the Lancaster Sound region since 1972 (Nettleship, unpubl. data), three are in Admiralty Inlet (Strathcona Sound, English Bay, Elwin Bay; 2–100 pairs) and one at Tay Bay (ca. 10 pairs), northwest Bylot Island; no breeding groups were found near AN or in Milne Inlet (Nettleship, 1974, 1996). We observed individual birds and small flocks infrequently every year in NV and at SC; one or two individuals were recorded flying by the sea cliffs four times from late June to the end of July at AN in 1979, but there was no evidence of breeding. Other breeding groups may exist in the Bylot Island region, as several *Larus* gull colonies identified during aerial surveys have yet to be revisited to determine species composition. *Chronology*: occurrence (30 May 1993–12 Sep 1976), eggs (13 Jun 1924), young in nest (late dates: 20–21 Aug 1956).

Iceland Gull *Larus glaucooides* (French: Goéland arctique; Inuktitut: Naujaq): Accidental visitor. Renaud et al. (1981) reported several sightings in the hamlet of Pond Inlet, on 6–11 June 1978, 9 September 1978, and 4–27 June 1979 (up to five adults).

Glaucous Gull *Larus hyperboreus* (French: Goéland bourgmestre; Inuktitut: Naajarujussuaq or Nowyah): Common breeder. Single pairs and small breeding groups are scattered along the coast throughout the study area. There are 27 coastal colonies comprising about 250 breeding pairs on Bylot Island (Nettleship, 1996a), with about 550 colonies totaling nearly 18 000 pairs for the Lancaster Sound and Baffin Island region as a whole (Nettleship, 1974, 1980, 1994, unpubl. data). Furthermore, Renaud et al. (1981) reported c. 50 pairs breeding on an island in Oliver Sound and c. 50–60 pairs nesting south of the seabird colony at Cape Graham Moore. We recorded about 50–100 breeding pairs near AN in 1979 (Nettleship, 1996a). A number similar to that had been recorded in 1957 by Tuck and Lemieux (1959). In the NV, a few pairs nested at Gull Lake, near the Northwest and Southwest Ponds, and in the East Lakes area; a small group also nested 12 km inland on cliffs in the Byam Martin Mountains. Groups of 25–100 individuals, often comprising subadults, were seen regularly along the west Bylot coast, particularly in August, something also noted by Kempf et al.

(1978). *Chronology*: occurrence (22 May 1978–17 Oct 1979), eggs (9 Jun 1994–14 Jul 1997), young in the nest (11 Jul 1994–9 Aug 1979), clutch size: 2–3 (mean 2.3, $n = 10$).

Great Black-backed Gull *Larus marinus* (French: Goéland marin; Inuktitut: Naajarluk): Accidental visitor and possible breeder. Hørring (1937) reported nesting at Naujak, Milne Inlet (24 June 1924), and sightings of single birds at Pond Inlet (24 June 1924) and Eclipse Sound (28 June and 1 July 1924). Renaud et al. (1981) reported sightings of solitary individuals on 8 June and 26 September 1978 and on 21 May 1979.

Black-legged Kittiwake *Rissa tridactyla* (French: Mouette tridactyle; Inuktitut: Taateraag or Nowyavah): Common breeder. Three colonies are present in the study area (Nettleship 1980, 1994, 1996): on the Wollaston Islands (100–200 pairs), at AN (20 000 pairs), and at Cape Graham Moore (up to 3000 pairs). Kittiwake numbers estimated at Cape Graham Moore from 1972–1989 (see above) are similar to those reported earlier by Ellis (1956) and Scherman (1956). The number for AN is about half of that estimated by Tuck and Lemieux (1959) in 1957 (most of the difference at AN is believed to be an artifact of different census techniques; Nettleship, unpubl. data). Immense numbers of birds move along the east coast of Bylot Island in spring en route to colonies in Lancaster Sound and vicinity: e.g., Tuck and Lemieux (1959) estimated 300 000 birds near AN during the spring influx in mid-June 1957. The birds were already established on sites when we arrived at AN on 24 June 1979, and the 40 000 breeders remained until late August. Kittiwakes were also observed regularly in Eclipse Sound and Navy Board Inlet after ice breakup in early August to the end of the month; about 100 individuals were seen offshore on 19 August 1992. *Chronology*: occurrence (15 May 1978–? Oct 1979), eggs (first eggs: 28 Jun 1979; median laying: 4 Jul 1979), young in the nest (first hatch: 25 Jul 1979).

Ross's Gull *Rhodostethia rosea* (French: Mouette rosée; Inuktitut: Naajannuaq): Rare visitor. Breeds mainly in north-eastern Siberia, but two breeding sites are known in the eastern Canadian Arctic (near Bathurst Island and Churchill, Manitoba on western Hudson Bay) and individual birds have been recorded infrequently at other Arctic locations (Godfrey, 1986). Renaud et al. (1981) reported an adult in breeding plumage on 2 July 1979 near the Cape Graham Moore seabird colony. We observed a single adult, possibly the same individual mingling with kittiwakes at AN from 23 to 25 August 1979. Its winter range is poorly known, but the species is believed to winter in the pack ice and polynyas of the Arctic Ocean (Blomqvist and Elander, 1981).

Sabine's Gull *Xema sabini* (French: Mouette de Sabine; Inuktitut: Taateraanaq or Nowyaluga, Ehooeekrikagyagyuk, Naujavak): Rare breeder. This species was reported nesting amongst kittiwakes at Cape Graham Moore on 24 June 1924 and at Tuarpat (Cape Hay?) on 8 July 1924 (Hørring, 1937), but observations may be in error owing to differences in habitat use between Sabine's (flat, low terrain) and kittiwakes (steep, vertical cliffs). Tuck and Lemieux (1959) found evidence of breeding on a gravel spit about 5 km south of Tay

Bay (northwest Bylot) on 23 August 1957. This species is often observed near Pond Inlet and at the floe edge in spring. Our only sighting was one adult in the Northwest Ponds area (NV) on 18 June 1995. *Chronology*: occurrence (17 Jun 1978–23 Aug 1957).

Ivory Gull *Pagophila eburnea* (French: Mouette blanche; Inuktitut: Naajavaarsuk or Nowyaharsuk): Uncommon visitor. A few individuals can be seen at the floe edges from late May through July (Renaud et al., 1981). One of the last migrants to leave during the fall exodus, the ivory gull is seen mainly in October in Pond Inlet, Eclipse Sound, and Navy Board Inlet. We observed singles and pairs flying by the cliffs at AN irregularly through the summer in 1979, on 23, 25, and 30 June, 1 and 22 July, and 24 August. About 75 individuals were also seen along the Pond Inlet floe edge on 19–20 June 1994. Thirty-two colonies are known in Arctic Canada, most in the eastern Lancaster-Jones Sounds region (Haney and MacDonald, 1995), all relatively close to Bylot Island. Another colony was reported inland west of Eclipse Sound (Baffin Island) on a dry, gravelly plain, in 1993 (Gilg et al., 1993), but it remains unconfirmed. Small breeding groups may also occur on some of the many *nunataks* emerging from the glaciers and snow fields inland on Bylot Island, but none has yet been found. *Chronology*: occurrence (29 May 1979–19 Oct 1978).

Arctic Tern *Sterna paradisaea* (French: Sterne arctique; Inuktitut: Imeqqutaalaq or Emakatilak): Uncommon breeder. Arctic terns are reported to breed in small colonies (< 50 pairs) in certain river deltas, including those of the Salmon River, Aktinek Creek, and Savage River, and at other suitable locations in southwest Bylot Island (Tuck and Lemieux, 1959; Kempf et al., 1978). We observed them regularly along the coast of Navy Board Inlet, where they undoubtedly nest. Single nests were found at Northwest Ponds (July 1991) and the SC (11 July 1996 and 5 July 1997), both a few kilometres inland. A group of about 250 individuals was observed at Pond Inlet on 30 June 1995. *Chronology*: occurrence (17 Jun 1979–18 Sep 1978), eggs (5 Jul 1997–27 Jul 1954), nestlings (16 Aug 1996), first fledgling (20 Aug 1957), clutch size: 1 ($n = 2$), brood size: 1 ($n = 1$).

Dovekie *Alle alle* (French: Mergule nain; Inuktitut: Appaliarsuk or Aukpilleauktuk): Common visitor. This species is abundant in Baffin Bay in spring (from the middle to the end of May) and regular at the floe edges in June and July (Renaud et al., 1981, 1982), also in August and September in Pond Inlet and Eclipse Sound (Wynne-Edwards, 1952; Renaud et al., 1981). It breeds in huge numbers in northwest Greenland (Boertmann, 1994), but the only breeding record in Canada is at Home Bay, eastern Baffin Island, where a small number of pairs seem to breed irregularly (Finley and Evans, 1984). *Chronology*: occurrence (17 May 1955–28 Sep 1976).

Thick-billed Murre *Uria lomvia* (French: Guillemot de Brünnich; Inuktitut: Akpa or Appa): Common breeder. Two large colonies occur on Bylot Island: at AN, 8 km northwest of Cape Hay, and at AS, 7 km north of Cape Graham Moore (see Fig. 1). The population is believed to have declined by as

much as 20–40% between 1957 and 1979, largely because of incidental drowning of birds in the West Greenland salmon drift-net fishery and excessive hunting during fall and winter in West Greenland and Newfoundland-Labrador (Tull et al., 1972; Nettleship, 1977; 1996b; Nettleship and Evans, 1985). In 1979, population size was estimated to be about 140 000 breeding pairs at AN and 20 000 pairs at AS (Nettleship, 1980, 1996a). The most recent monitoring was performed in July–August 1989, and both colonies appear to be relatively stable at present (Nettleship and Evans, 1985; Nettleship, unpubl. data). Casual visits were also made to AS (18 August 1993, 19–20 June 1994) and AN (17 August 1994). A few isolated individuals can be seen in Pond Inlet, Eclipse Sound and less frequently in Navy Board Inlet after ice breakup in August (Soper, 1928; Hørring, 1937; Kempf et al., 1978; McLaren, 1982). We did not see the species in Navy Board Inlet. *Chronology*: occurrence (3 May 1976–late Sep 1978), eggs (first: 20 Jun 1957, median: 28 Jun 1957 [26 Jun and 7 Jul in 1979, a late ice year] – latest replacement 30 Jul 1979), nestlings (22 Jul 1957–14 Sep 1978).

Black Guillemot *Cephus grylle* (French: Guillemot à miroir; Inuktitut: Serfaq or Pitshulak): Uncommon resident. This species is observed year-round in the region, though it is relatively rare in winter (Renaud and Bradstreet, 1980). It breeds in small numbers at the Wollaston Islands, at AN, and at AS (Nettleship, 1980, 1996, unpubl. data); it is likely widespread and a common breeder in small groups elsewhere along the coasts where suitable habitats exist, such as at Cape Hay itself (Tuck and Lemieux, 1959; Nettleship, unpubl. data). It has been observed regularly in Eclipse Sound and Pond Inlet after ice breakup in July (Hørring, 1937; Kempf et al., 1978; Billard and Goubert, 1989). Small numbers were seen on the water at AN throughout the summer in 1979 (24 June to early September) including a group of about 70 individuals on 19 August and a cluster of 10 pairs breeding in rock crevices on the low sea cliffs at the west end of the murre colony. Some were also observed near the Wollaston Islands on 17 August 1994. *Chronology*: occurrence (resident).

Atlantic Puffin *Fratercula arctica* (French: Macareux moine; Inuktitut: Oilanngaq): Rare visitor. It breeds in small numbers in southeastern Ellesmere and Coburg Islands, and in northwestern Greenland (Nettleship and Evans, 1985). One individual was recorded at AN from 17 August to 4 September 1978 (Renaud et al., 1981), and groups of up to five were sighted in Eclipse Sound after 22 July in 1977 (Kempf et al., 1978); the species was also seen at sea off the north coast of Bylot Island on 9 September 1950 (Wynne-Edwards, 1952). At least one individual was seen regularly on the cliffs at AN from 29 June to 25 August 1979, but there was no evidence of breeding.

Snowy Owl *Nyctea scandiaca* (French: Harfang des neiges; Inuktitut: Uppik [Aukpik]): Uncommon breeder. Numbers vary between years, but it is believed most common in the southwest region, where three nests were found in 1957 (Tuck and Lemieux, 1959). The species was fairly abundant in NV in 1992, but only one nest was found (south of the main camp) and it was abandoned on 21 June. In 1993 and 1996,

when lemmings were at high densities (G. Gauthier, pers. comm. 1996), 12 and 8 nests, respectively, occurred in NV, about 1 km apart on average. One nest was located in 1989, three in 1994, and none in 1995. Snow geese, king eiders and oldsquaws appeared to concentrate their nests close to those of snowy owls, particularly in years when the density of breeding owls was high (Tremblay et al., 1997). *Chronology*: occurrence (2 Jun 1990–26 Sep 1979), eggs (7 Jun 1996–10 Jul 1993), nestlings (11 Jul 1996–5 Aug 1993), clutch size: 4–11 (mean 8.1, $n = 18$).

Horned Lark *Eremophila alpestris* (French: Alouette hausse-col; Inuktitut: Qutsissormiutaq or Tingodluktuk): Common breeder. A regular breeder in the region, particularly in NV on the surrounding hills and elsewhere in the southwest plain, but also at AN. We found three nests in NV. Individuals of a very reddish form were sometimes observed: neck, rump, and collar displayed a bronze-orange iridescence. *Chronology*: occurrence (29 May 1979–27 Sep 1979), eggs (3 Jul 1995), nestlings (30 Jun 1995–5 Jul 1977), clutch size: 3–4 ($n = 2$).

Tree Swallow *Iridoprocne bicolor* (French: Hirondelle bicolore; Inuktitut: unavailable): Accidental visitor. A single bird was seen near the main camp (NV) on 9 June 1993. The species is an accidental visitor in the Canadian Arctic Archipelago (Godfrey, 1986).

Barn Swallow *Hirundo rustica* (French: Hirondelle rustique; Inuktitut: Tulugarnaq): Accidental visitor. We recorded one individual in the hamlet of Pond Inlet on 26 June 1994, and again on 30 June 1994 at SC, possibly the same bird. This species is considered an accidental visitor in the Canadian Arctic Archipelago (Godfrey, 1986).

Common Raven *Corvus corax* (French: Grand Corbeau; Inuktitut: Tulugaq or Killugak): Common resident. We observed ravens regularly at AN throughout the summer in 1979, often patrolling the murre cliffs for eggs and/or chicks left unattended, and in NV and elsewhere on the southwest plain in all years. Adults were seen carrying food in early July, and two adults with two fledglings were present near the south end of AN colony in 1979. We found no evidence of breeding on the southwest coast, but Gilg et al. (1993) found two nests on sandy hills near Aktinek River at the south end of Bylot Island in 1993: one with 3 young (2 July) and another with 4 young (11 July). A nest was also located near the hamlet of Pond Inlet in 1979 (Renaud et al., 1981). In winter, flocks up to 100 have been recorded near Pond Inlet. *Chronology*: occurrence (resident), nestlings (2 Jul 1993–11 Jul 1993).

Northern Wheatear *Oenanthe oenanthe* (French: Traquet motteux; Inuktitut: Kussak or Sakseriak): Rare breeder. This is a local breeder, probably limited to cliffs and to steep, rocky hillsides. Kempf et al. (1978) reported a pair and two recently fledged young incapable of sustained flight. We saw the species infrequently: mainly on the northernmost ridge overlooking the NV (one bird on 5–6 July 1990; three in 1993, on 31 July, and 14 and 15 August) and once at SC (10 June 1996). The sighting on 31 July 1993 was of a fledgling that could fly only short distances, which suggests breeding nearby. One singing male was also recorded at Pond Inlet on 28–30 July

1995. *Chronology*: occurrence (10 Jun 1996–18 Aug 1975), fledglings (31 Jul 1993).

American Pipit *Anthus rubescens* (French: Pipit d'Amérique; Inuktitut: Ingiktayuk, Kajamaktoq or Avioktok): Uncommon breeder. Found in small numbers on dry or rocky hillsides, this species was seen during the breeding season on hills overlooking the NV, and sometimes in the valley itself. Adults accompanied by young able to fly short distances were seen on 15 August 1993. *Chronology*: occurrence (29 May 1979–5 Oct 1978).

Yellow Warbler *Dendroica petechia* (French: Paruline jaune; Inuktitut: unavailable): Accidental visitor. Renaud et al. (1981) reported a dead immature bird on 7 October 1978 near the mouth of the Salmon River.

Northern Waterthrush *Seiurus noveboracensis* (French: Paruline des ruisseaux; Inuktitut: unavailable). Status is uncertain. One individual was reported in June 1994 by a group of tourists visiting the Salmon River, but the observation was unconfirmed. This species is a rare accidental visitor in the Canadian Arctic Archipelago (Godfrey, 1986; Sirois and McRae, 1994).

Savannah Sparrow *Passerculus sandwichensis* (French: Bruant des prés; Inuktitut: unavailable): Accidental visitor. A singing male was observed in a wet meadow in NV (near the East Lakes) on 4, 11, and 12 July 1993.

Lapland Longspur *Calcarius lapponicus* (French: Bruant lapon; Inuktitut: Kowlegak or Narsarmiutaq): Common breeder. Considered a common nesting species in the region (Tuck and Lemieux, 1959), this is one of the most abundant birds in NV and elsewhere on the southwest plain. Nests are located in various habitats. About 40 young birds frequented the main camp in August 1992. An adult male was sighted once at AN on 10 July 1979. *Chronology*: occurrence (19 May 1978–1 Oct 1978), eggs (8 Jun 1994–2 Aug 1977), nestlings (25 Jun 1993–20 Jul 1992), clutch size: 3–8 (mean 5.4, $n = 48$).

Snow Bunting *Plectrophenax nivalis* (French: Bruant des neiges; Inuktitut: Kopenuak or Qupeloraarsuk): Common breeder. This is a fairly common nesting species in the region (Tuck and Lemieux, 1959). We found nests in several locations near the NV, especially in upland habitats, such as hillsides, where there were rock crevices. Snow buntings were sometimes observed along the valley floor, mainly in spring. They were also seen regularly at AN in 1979, with first fledglings recorded on 18 July (3 young with 2 adults). *Chronology*: occurrence (24 Apr 1955–19 Oct 1979), eggs (22 Jun 1979–4 Jul 1977), nestlings (3 Jul 1977–19 Jul 1993), clutch size: 2–3 ($n = 2$).

Common Redpoll *Carduelis flammea* (French: Sizerin flammé; Inuktitut: Orpimmiutaq or Shetshageak). Status is uncertain. This species is suspected to breed near Eclipse Sound, Clyde River, and Cumberland Peninsula on Baffin Island (Snyder, 1957; Godfrey, 1986), but no actual nesting records are known.

Hoary Redpoll *Carduelis hornemanni* (French: Sizerin blanchâtre; Inuktitut: Sakoariak or Orpimmiutaq avannarleq): Rare breeder. Four pairs were reported nesting at Pond Inlet

TABLE 2. Estimated densities of breeding species in the North Valley (Lowland and Upland) and South Colony study areas, Bylot Island, 1992–1997 (for study locations, see Fig. 1).

Species (n = 31)	Breeding density (pairs / 100 ha)		
	Lowland (n = 24)	Upland (n = 14)	South Colony (n = 14)
Red-throated Loon	0.2	–	0.1
Pacific Loon	< 0.1	–	–
Tundra Swan ¹	< 0.1	–	–
Snow Goose ²	10	2.0	600
Canada Goose	–	–	< 0.1
King Eider	0.2	–	0.1
Oldsquaw	0.2	–	0.1
Rough-legged Hawk	–	< 0.1	–
Peregrine Falcon	–	< 0.1	–
Rock Ptarmigan	0.1	–	–
Sandhill Crane	0.4	0.3	–
Black-bellied Plover ²	0.1	–	0.1
American Golden-Plover	3.0	1.0	1.0
Ringed Plover	< 0.1	–	–
Ruddy Turnstone	< 0.1	–	–
Red Knot	–	< 0.1	–
White-rumped Sandpiper	0.2	–	0.1
Baird's Sandpiper	1.5	0.2	0.5
Pectoral Sandpiper	< 0.1	–	–
Red Phalarope	0.1	–	0.5
Parasitic Jaeger	< 0.1	–	–
Long-tailed Jaeger	1.0	–	0.1
Glaucous Gull	0.3	–	–
Arctic Tern	< 0.1	–	< 0.1
Snowy Owl ³	< 0.1	1.0	–
Horned Lark	0.1	1.5	1.0
Northern Wheatear	–	< 0.1	–
American Pipit	–	1.0	–
Lapland Longspur	10	2.0	2.0
Snow Bunting	< 0.1	2.5	–
Hoary Redpoll	–	0.4	–
TOTAL	27.8	12.1	605.7

¹ not found between 1992 and 1996.

² Subject to important yearly fluctuations.

³ 1993 and 1996 only.

on 18 June 1924 (Hørring, 1937). The species was observed frequently near Pond Inlet by Renaud et al. (1981), but nesting was not confirmed. We observed it regularly along the hillsides of the NV in groups of up to eight individuals, usually in valleys with tall willow shrubs (*Salix lanata*) and southern exposures protected from the winds. We found no nests, but the presence of birds throughout the summer suggests breeding occurred, albeit at a low density. This species was also seen at the hamlet of Pond Inlet on 28 June 1995. *Chronology*: occurrence (2 Jun 1992–19 Jul 1994), nest (18 Jun 1924).

Estimates of Bird Densities

Although we did not attempt systematic sampling to evaluate breeding bird densities, we did collect detailed information on the distribution and numbers of the larger birds that occurred within the areas we visited intensively during our goose surveys in 1993. With this information combined with records of breeding birds (nests, broods,

territorial pairs) for the same areas from all years, we could estimate the species composition and densities of nesting pairs in NV (6500 ha) for both lowland and upland habitats (4500 and 2000 ha respectively) and for the SC (800 ha) (see Table 2).

A total of 31 species were recorded breeding in NV (Table 2), with the diversity and density higher in lowland habitat (24 species, 27.8 pairs/100 ha) than in the uplands (14 species, 12.1 pairs/100 ha). Overall, the most common species were lapland longspur, snow goose, American golden-plover, Baird's sandpiper, and long-tailed jaeger, though snow bunting, horned lark, American pipit, and snowy owl (only in 1993 and 1996 when lemming numbers were high) were also abundant in the uplands. Six of 14 species in the uplands (43%) did not nest in the lowland habitat, whereas 16 of 24 species in the lowlands (67%) were restricted to that habitat type.

Species occurrence at the SC study area (800 ha) was low compared to that of the lowland habitat of the NV (Table 2). All breeding species recorded within the SC area, except one, were also present in NV lowland habitat, though normally at lower densities (except for snow goose, horned lark, and red phalarope). However, overall breeding pair density at SC was extremely high (606 pairs/100 ha) because of the immense concentration of nesting snow geese in the study area. In fact, the goose colony at this site is the largest and most dense breeding group of geese on Bylot Island and represents the highest density value of any avian species in the Canadian Arctic except for colonially breeding seabirds such as the thick-billed murre. The most common nesting species at SC (excluding snow geese) were lapland longspur, American golden-plover, horned lark, Baird's sandpiper, and red phalarope.

DISCUSSION

Bird Diversity and Densities

The high numbers of species recorded (74) and established as breeders (45) in the study area are certainly due to its great diversity of habitats, which include both Low and High Arctic elements (Renaud et al., 1981). In the North Valley only, we observed 54 species of birds, of which 30 are known or suspected to breed (Table 1). No other avifaunal survey in the Canadian Arctic Archipelago has produced so many species including those from Ellesmere Island: Lake Hazen (Savile and Oliver, 1964; Nettleship and Maher, 1973), the Eureka region (Parmelee and MacDonald, 1960), and Alexandra Fjord (Freedman and Svoboda, 1982); Devon Island: True-love Lowland (Hussel and Holroyd, 1974; Pattie, 1977, 1990); Bathurst Island: Polar Bear Pass (Mayfield, 1983); Cornwallis Island: Resolute Bay (Geale, 1971); Baffin Island: Arctic Bay (Renaud et al., 1979), Eglinton Fiord (Wynne-Edwards, 1952), Igloodik (Forbes et al., 1992), and Melville Peninsula (Bray, 1943). Our estimate of the density of breeding birds in the lowlands of the NV (27.8 pairs/100 ha) was

higher than that made by Kempf et al. (1978) for southern Bylot Island (19 pairs/100 ha) and lower than the value calculated by Van Tyne and Drury (1959) for Bylot Island (33 pairs/100 ha). Species composition and abundance also differed between studies, with the snow goose, lapland longspur, snow bunting, American golden-plover, and long-tailed jaeger as the most abundant species in southern Bylot (Kempf et al., 1978) and lapland longspur, Baird's sandpiper, arctic tern, snow bunting, and snow goose as most abundant for the island as a whole (Van Tyne and Drury, 1959). The commonest nesting species recorded during our survey were lapland longspur, snow goose, American golden-plover, Baird's sandpiper, and long-tailed jaeger. Secondary species of importance were the snow bunting, horned lark, American pipit, and snowy owl. Together, these values are higher than those recorded at any other location in the Canadian Arctic Archipelago north of 70°N (Freedman and Svoboda, 1982).

Species Status and Changes

During our study, we reported 13 new species of birds for the region. Most of these observations were of vagrant species and are most likely not associated with any change in their distribution (e.g., greater white-fronted goose, northern pintail, American wigeon, mew gull, black-headed gull, killdeer, red-necked phalarope, tree swallow, barn swallow, northern waterthrush [hypothetical], and savannah sparrow). Moreover, all these vagrant species, except possibly the greater white-fronted goose and black-headed gull, have a North American origin. Few species seem likely to cross Baffin Bay from Greenland, other than the regular migrants. In general, among the breeders of the Bylot Island region, only a few winter east of Greenland in western Europe (ringed plover, northern wheatear, and possibly brant and red knot), and their migration routes are not well known.

The recent confirmation of breeding by the red knot is not surprising, considering the expansion of the species' range in northeastern North America (Ouellet, 1990). Ouellet mentioned that other arctic species may be expanding their breeding range, including ruddy turnstone and northern wheatear (both already nesting in the Bylot area), and possibly the dovekie. Others to consider are Ross's goose, which is increasing in the central Canadian Arctic (Kerbes, 1994), and was observed once at Bylot Island in 1996; Canada goose, which was recently found breeding during this study; and possibly dunlin, which has been observed three times in recent years, though the northernmost part of its breeding range is c. 400 km south near Igloolik, Melville Peninsula (Godfrey, 1986; Forbes et al., 1992). Canada goose, despite many earlier sightings, was discovered nesting in northern Baffin Island (Admiralty Inlet) only in 1981 (A. Reed and P. Dupuis, unpubl. data). Moreover, the species is increasing rapidly in southwest Greenland (Boertmann, 1994; Fox et al., 1996), which suggests it may become more common in the Bylot Island region, both as a summer visitor and as a nester.

Finally, two breeding records and one separate sighting for the tundra swan were made, which reconfirms its breeding

status made earlier based upon a single nest (Mary-Rousselière and Heyland, 1974). It seems that this species does not nest every year in the Bylot Island region. For the peregrine falcon, although only one nest had been found before this study (Soper, 1928), most authors suspected it was breeding. It probably breeds regularly in remote and inaccessible parts of the region, but we are unable to even guess the size and status of its population.

ACKNOWLEDGEMENTS

We have many people to thank for their invaluable contributions to fieldwork over the 19 years of this study. For observations in NV and SC areas, we thank P. Awa, J. Beaulieu, Y. Bédard, J. Bêty, F. Blouin, C. Boismenu, G. Bourassa, H. Boyd, C. Brodie, P. Chagnon, L. Choinière, G. Côté, A.-M. Coulombe, F. Demers, A. Desrochers, P. Dupuis, D. Fortin, G. Gauthier, J.-F. Giroux, R. Guérin, N. Hamel, R.J. Hughes, L. Innuarak, J. Inootik, K. Jones, D. Kay, A. Labbé, M. Laliberté, S. Lapointe, D. Leclerc, L. Lesage, A. Lindholm, M. Manseau, H. Massé, S. Menu, V. Morez, L. Mucpa, A. Ootovak, J. Ootovak, T. Pewatoaluk, G. Picard, N. Piedboeuf, C. Pineau, Y. Poirier, G. Pomerleau, Y. Porlier, M. Poulin, C. Poussart, E. Reed, M. Renaud, L. Rochefort, M. Salathé, G. Simard, P. Soucy, J. Tardif, J.-P. Tremblay, J. Turgeon, and F. Villeneuve. For work on seabirds at Akpa North and Akpa South, we are grateful to T. Birkhead, G. Calderwood, A.J. Gaston, E. Greene, P. Huyck, W. Lidster, and B. Lyon. We also thank N. Crockford, O. Gilg, B. Sabard, and W. Sutherland for sharing their observations with us, as well as A.J. Gaston, G. Gauthier, H. Ouellet, D.L. Pattie, and J. Sirois, for their comments on the manuscript. We are also very grateful to the Centre d'Études Nordiques, Université Laval, and the Polar Continental Shelf Project, Department of Energy, Mines and Resources Canada (now Natural Resources) for outstanding financial and logistical support over the years, and to the Canadian Wildlife Service, Environment Canada, the principal supporter of these studies of arctic birds. The Natural Sciences and Engineering Research Council of Canada, the Fonds pour la formation de Chercheurs et l'Aide à la Recherche, and the Centre d'Études Nordiques provided financial assistance to D. Lepage during his work on snow geese. This investigation is associated with the program "Studies on northern seabirds," Seabird Research Unit, Canadian Wildlife Service, Environment Canada (Report No. 295), and with the Arctic Goose Joint Venture.

REFERENCES

- ABRAHAM, K.F., and FINNEY, G.H. 1986. Eiders of the eastern Canadian Arctic. In: Reed, A., ed. Eider ducks in Canada. Canadian Wildlife Service Report Series No. 47. 55–73.
- AOU (AMERICAN ORNITHOLOGISTS' UNION). 1983. Check-list of North American birds, 6th ed. Lawrence, Kansas: Allen Press.
- . 1985. 35th supplement to the AOU Check-list of North American birds. *Auk* 102:680–686.

- . 1989. 37th supplement to the AOU Check-list of North American birds. *Auk* 106:532–538.
- . 1995. 40th supplement to the AOU Check-list of North American birds. *Auk* 112:819–830.
- . 1997. 41st supplement to the AOU Check-list of North American birds. *Auk* 114:542–552.
- ATMOSPHERIC ENVIRONMENT SERVICE. 1997. National Climate Data Archive of Canada (Pond Inlet Meteorological Station). Canadian Meteorological Centre, AES, 4905 Dufferin Street, Downsview, Ontario M3H 5T4.
- BAIRD, P.D. 1940. British expedition to North Baffin Island, 1938–39. *Polar Record* 19:225–227.
- BILLARD, G., and GOUBERT, A. 1989. Randonnée en kayak au pays de l'ours blanc. Paris, France: Association de défense de la qualité de la vie, région de la murre. 62 p.
- BIRKHEAD, T.R., and NETTLESHIP, D.N. 1981. Reproductive biology of thick-billed murre (*Uria lomvia*): An inter-colony comparison. *Auk* 98:258–269.
- BIRKHEAD, T.R., GREENE, E., BIGGINS, J.D., and NETTLESHIP, D.N. 1985. Breeding site characteristics and breeding success in thick-billed murre. *Canadian Journal of Zoology* 63:1880–1884.
- BLOMQVIST, S., and ELANDER, M. 1981. Sabine's gull (*Xema sabini*), Ross's gull (*Rhodostethia rosea*) and ivory gull (*Pagophila eburnea*) in the Arctic: Gulls in the Arctic—A review. *Arctic* 34:122–132.
- BOERTMANN, D. 1994. An annotated checklist to the birds of Greenland. *Meddelelser om Grønland, Bioscience* 38. 63 p.
- BOERTMANN, D., and FELDSÅ, J. 1988. Grønland fugle – en feltbåndbog. Copenhagen, Denmark: Grønlands Hjemmestyre, Pilersuiffik et Grønlands Naturforvaltning og Det Internationale Fuglebeskyttelsesråd (ICBP). 48 p.
- BRADSTREET, M.S.W. 1982. Occurrence, habitat use, and behavior of seabirds, marine mammals, and arctic cod at the Pond Inlet ice edge. *Arctic* 35:28–40.
- BRAY, R. 1943. Notes on the birds of Southampton Island, Baffin Island and Melville Peninsula (with comments by T.H. Manning). *Auk* 60:504–536.
- BROWN, R.G.B., and NETTLESHIP, D.N. 1981. The biological significance of polynyas to Arctic colonial seabirds. In: Stirling, I., and Cleator, H., eds. *Polynyas in the Canadian Arctic*. Canadian Wildlife Service Occasional Paper No. 45. 59–66.
- BROWN, R.G.B., NETTLESHIP, D.N., GERMAIN, P., TULL, E.C., and DAVIS, T. 1975. Atlas of eastern Canadian seabirds. Ottawa: Canadian Wildlife Service, Environment Canada. 220 p.
- DEVILLERS, P., and OUELLET, H., eds. 1993. Noms Français des oiseaux du monde. Commission internationale des noms français des oiseaux. Sainte-Foy, Québec: Éditions MultiMondes. 452 p.
- DRURY, W.H. 1960. Breeding activities of long-tailed jaeger, herring gull and arctic tern on Bylot Island, Northwest Territories, Canada. *Bird-Banding* 31:63–78.
- . 1961a. Studies of the breeding biology of horned lark, water pipit, lapland longspur and snow bunting on Bylot Island, Northwest Territories, Canada. *Bird-Banding* 32:1–46.
- . 1961b. The breeding biology of shorebirds on Bylot Island, Northwest Territories, Canada. *Auk* 78:176–219.
- . 1961c. Observation of some breeding water birds on Bylot Island. *Canadian Field-Naturalist* 75:84–101.
- ELLIS, D.V. 1956. Observations on the migration, distribution and breeding of birds in the Canadian Arctic during 1954 and 1955. *Dansk Ornithologisk Forenings Tidsskrift* 50:207–230.
- FINLEY, K.J., and EVANS, C.R. 1984. First Canadian breeding record of the dovekie (*Alle alle*). *Arctic* 37:288–289.
- FORBES, G., ROBERTSON, K., OGILVIE, C., and SEDDON, L. 1992. Breeding densities, biogeography, and nest depredation of birds on Igloodik Island, N.W.T. *Arctic* 45:295–303.
- FOX, A., GLAHDER, C., MITCHELL, C.R., STROUD, D.A., BOYD, H., and FRIKKE, J. 1996. North American Canada geese (*Branta canadensis*) in West Greenland. *Auk* 113:231–233.
- FREEDMAN, B., and SVOBODA, J. 1982. Populations of breeding birds at Alexandra Fjord, Ellesmere Island, Northwest Territories, compared with other Arctic localities. *Canadian Field-Naturalist* 96:56–60.
- GAUTHIER, G. 1993. Feeding ecology of nesting greater snow geese. *Journal of Wildlife Management* 57:216–223.
- GAUTHIER, G., HUGHES, R.J., REED, A., BEAULIEU, J., and ROCHEFORT, L. 1995. Effect of grazing by greater snow geese on the production of graminoids at an arctic site (Bylot Island, N.W.T., Canada). *Journal of Ecology* 83:653–664.
- GAUTHIER, G., ROCHEFORT, L., and REED, A. 1996. The exploitation of wetland ecosystems by herbivores on Bylot Island. *Geoscience Canada* 23:253–259.
- GEALE, J. 1971. Birds of Resolute, Cornwallis Island, N.W.T. *Canadian Field-Naturalist* 85:53–59.
- GILG, O., SABARD, B., MAURER, P., ROGUEZ, J., and ELETUFE, R. 1993. Preliminary report of the Bylot expedition, 1993. Dijon, France: Center of Studies and Documentation on Polar Environments and Arctic Ecology Research Group. 38 p.
- GODFREY, W.E. 1986. The birds of Canada. Rev. ed. Ottawa: National Museum of Natural Sciences. 595 p.
- HANEY, C., and MACDONALD, S.D. 1995. Ivory gull *Pagophila eburnea*. In: Poole, A., and Gill, F., eds. *The birds of North America*, Number 175. Philadelphia, Pennsylvania: Academy of Natural Sciences and Washington, D.C.: American Ornithologists' Union. 1–24.
- HEYLAND, J.D. 1970. Brant breeding on Bylot Island, N.W.T. *Canadian Field-Naturalist* 84:397.
- HØRRING, R. 1937. Birds collected on the Fifth Thule Expedition. Report of the 5th Thule Expedition, 1921–1924, Vol. 2, No. 6 (Zoology: Birds). Copenhagen. 134 p.
- HUGHES, R.J., GAUTHIER, G., and REED, A. 1994a. Summer habitat use and behaviour of greater snow goose *Anser caerulescens*. *Wildfowl* 45:49–64.
- HUGHES, R.J., REED, A., and GAUTHIER, G. 1994b. Space and habitat use by greater snow goose broods on Bylot Island, Northwest Territories. *Journal of Wildlife Management* 58:536–545.
- HUSSELL, D.J.T., and HOLROYD, G.L. 1974. Birds of the Truelove Lowland and adjacent areas of northeastern Devon Island, N.W.T. *Canadian Field-Naturalist* 88:197–212.

- JOHNSON, S.R., RENAUD, W.E., RICHARDSON, W.J., DAVIS, R.A., HOLDSWORTH, C., and HOLLINGDALE, P.D. 1976. Aerial surveys of birds in eastern Lancaster Sound, 1976. Unpubl. report to Norlands Petroleum Limited by LGL Limited. Toronto, Ontario: LGL Limited. Available in the Departmental Library, Environment Canada, Ottawa, Ontario K1A 0H3, Canada. 363 p.
- KEMPF, C., HARMEL, X., SITTLER, B., and PIANTANIDA, A. 1978. Notes géomorphologiques, ornithologiques et mammalogiques sur l'île Bylot et la région de Pond Inlet – Canada. Rapport d'expédition 1977. Scheltigheim, France: Groupe de recherche en écologie arctique. 76 p.
- KERBES, R.H. 1994. Colonies and numbers of Ross' and lesser snow geese in the Queen Maud Gulf Migratory Bird Sanctuary. Canadian Wildlife Service Occasional Paper No. 81. 47 p.
- LEMIEUX, L. 1959. Histoire naturelle et aménagement de la grande oie blanche (*Chen caerulescens atlantica*). Naturaliste Canadien 86:133–192.
- LEPAGE, D. 1997. Variation saisonnière du succès reproducteur chez la grande oie des neiges (*Chen caerulescens atlantica*). PhD Thesis, Université Laval, Sainte-Foy, Quebec.
- LEPAGE, D., GAUTHIER, G., and REED, A. 1996. Breeding site infidelity in greater snow geese: A consequence of constraints on laying date? Canadian Journal of Zoology 74:1866–1875.
- LLOYD, H. 1922. Some of Captain Henry Toke Munn's observations on the birds of Baffin Island and vicinity. Canadian Field-Naturalist 36:49–50.
- LOW, A.P. 1906. Report on the Dominion Government Expedition to Hudson Bay and the Arctic Islands on board the D.G.S. *Neptune*, 1903–1904. Ottawa, Ontario: Government Printing Bureau. 355 p.
- MARTIN, J.-L., CLAMENS, A., and BLANGY, S. 1988. First breeding record of the dunlin, *Calidris alpina*, on Baffin Island, Northwest Territories. Canadian Field-Naturalist 102:257.
- MARY-ROUSSELIÈRE, G., O.M.I., and HEYLAND, J.D. 1974. The whistling swan nesting on northern Baffin Island, Northwest Territories. Canadian Field-Naturalist 88:92.
- MAXWELL, J.B. 1981. Climatic regions of the Canadian Arctic islands. Arctic 34:225–240.
- MAYFIELD, H.F. 1983. Densities of breeding birds at Polar Bear Pass, Bathurst Island, Northwest Territories. Canadian Field-Naturalist 97:371–376.
- McLAREN, P.L. 1982. Spring migration and habitat use by seabirds in eastern Lancaster Sound and western Baffin Bay. Arctic 35:88–111.
- McLAREN, P.L., and McLAREN, M.A. 1982. Waterfowl populations in eastern Lancaster Sound and western Baffin Bay. Arctic 35:149–157.
- M'CLINTOCK, F.L. 1859. The voyage of the *Fox* in the Arctic seas: A narrative of the discovery of the fate of Sir John Franklin and his companions. London: John Murray. 402 p.
- NETTLESHIP, D.N. 1974. Seabird colonies and distributions around Devon Island and vicinity. Arctic 27:95–103.
- . 1977. Seabird resources of eastern Canada: Status, problems, and prospects. In: Mosquin, T., and Suchal, C., eds. Canada's endangered species and habitats. Canadian Nature Federation Special Publication No. 6. Ottawa: Canadian Nature Federation. 96–108.
- . 1980. A guide to the major seabird colonies of Eastern Canada: Identity, distribution and abundance. Canadian Wildlife Service "Studies on northern seabirds" Manuscript Report No. 97. 133 p.
- . 1994. Seabird colonies of Arctic Canada: Devon Island, Somerset Island, Baffin Island and adjacent regions. Canadian Wildlife Service "Studies on northern seabirds" Manuscript Report No. 270. 86 p.
- . 1996a. Seabird colonies of Bylot Island, Northwest Territories: A summary of the distribution and size of species populations. Canadian Wildlife Service "Studies on northern seabirds" Manuscript Report No. 286. 30 p.
- . 1996b. Family Alcidae (Auks). In: del Hoyo, J., Elliot, A., and Sargatal, J., eds. Handbook of the birds of the world, Vol. 3: Hoatzin to auks. Barcelona, Spain: Lynx Edicions. 678–722.
- NETTLESHIP, D.N., and EVANS, P.G.H. 1985. Distribution and status of the Atlantic Alcidae. In: Nettleship, D.N., and Birkhead, T.R., eds. The Atlantic Alcidae: The evolution, distribution and biology of the auks inhabiting the Atlantic Ocean and adjacent water areas. London: Academic Press. 53–154.
- NETTLESHIP, D.N., and GASTON, A.J. 1978. Patterns of pelagic distribution of seabirds in western Lancaster Sound and Barrow Strait, Northwest Territories, in August and September 1976. Canadian Wildlife Service Occasional Paper No. 39. 40 p.
- NETTLESHIP, D.N., and MAHER, W.J. 1973. The avifauna of Hazen Camp, Ellesmere Island, N.W.T. Polarforschung 43:66–74.
- NETTLESHIP, D.N., BIRKHEAD, T.R., and GASTON, A.J. 1984. Breeding of arctic seabirds in unusual ice years: The thick-billed murre *Uria lomvia* in 1978. In: Latremouille, M.P., ed. Bedford Institute of Oceanography BIO Review '84. Ottawa: Department of Fisheries and Oceans. 35–38.
- OUELLET, H. 1990. Avian zoogeography in the Canadian Arctic islands. In: Harington, C.R., ed. Canada's missing dimension, Vol. 2. Ottawa: Canadian Museum of Nature. 516–543.
- PARMALEE, D.F., and MACDONALD, S.D. 1960. The birds of west-central Ellesmere Island and adjacent areas. National Museum of Canada Bulletin No. 169. Ottawa: National Museum of Canada. 103 p.
- PARRY, W.E. 1821. Journal of a voyage for the discovery of a northwest passage from the Atlantic to the Pacific; performed in the years 1819–20, in His Majesty's ships *Hecla* and *Griper*, under the orders of William Edward Parry. London: John Murray. 310 p.
- PATTIE, D.L. 1977. Population levels and bioenergetics of arctic birds on Truelove Lowland. In: Bliss, L.C., ed. Truelove Lowland, Devon Island, Canada: A High Arctic ecosystem. Edmonton: University of Alberta Press. 413–436.
- . 1990. A 16-year record of summer birds on Truelove Lowland, Devon Island, Northwest Territories, Canada. Arctic 43:275–283.
- REED, A., and CHAGNON, P. 1987. Greater snow geese on Bylot Island, Northwest Territories, 1983. Journal of Wildlife Management 51:128–131.
- REED, A., DUPUIS, P., FISCHER, K., and MOSER, J. 1980. An aerial survey of breeding geese and other wildlife in Foxe Basin

- and Northern Baffin Island, Northwest Territories, July 1979. Canadian Wildlife Service Progress Notes No. 114. 21 p.
- REED, A., BOYD, H., CHAGNON, P., and HAWKINGS, J. 1992. The numbers and distribution of greater snow geese on Bylot Island and near Jungersen Bay, Baffin Island, in 1988 and 1983. *Arctic* 45:115–119.
- RENAUD, W.E., and BRADSTREET, M.S.W. 1980. Late-winter distribution of black guillemots (*Cepphus grylle*) in northern Baffin Bay and the Canadian High Arctic. *Canadian Field-Naturalist* 94:421–425.
- RENAUD, W.E., and McLAREN, P.L. 1982. Ivory gull (*Pagophila eburnea*) distribution in late summer and autumn in eastern Lancaster Sound and western Baffin Bay. *Arctic* 35:141–148.
- RENAUD, W.E., JOHNSON, S.R., and HOLLINGDALE, P.D. 1979. Breeding birds of Arctic Bay, Baffin Island, N.W.T., with notes on the biogeographic significance of the avifauna. *Arctic* 32:122–134.
- RENAUD, W.E., JOHNSTON, W.G., and FINLEY, K.W. 1981. The avifauna of the Pond Inlet region, N.W.T. *American Birds* 35:119–129.
- RENAUD, W.E., McLAREN, P.L., and JOHNSON, S.R. 1982. The dovekie (*Alle alle*) as a spring migrant in eastern Lancaster Sound and western Baffin Bay. *Arctic* 35:118–125.
- ROSS, J. 1819. A voyage of discovery, made under the orders of the Admiralty, in His Majesty's ships "Isabella" and "Alexander", for the purposes of exploring Baffin's Bay, and inquiring into the probability of a North-West passage. London: John Murray. 252 p.
- SAVILE, D.B.O., and OLIVER, D.R. 1964. Bird and mammal observations at Hazen Camp, northern Ellesmere Island, in 1962. *Canadian Field-Naturalist* 78:1–7.
- SCHERMAN, K. 1956. Spring on an Arctic island. Boston: Little, Brown and Company. 331 p.
- SHORTT, T.M., and PETERS, H.S. 1942. Some recent bird records from Canada's Eastern Arctic. *Canadian Journal of Research* 20:338–348.
- SIROIS, J., and McRAE, D.M. 1994. The birds of the Northwest Territories (Canada): A miniguide to a megaterritory and a checklist. Ottawa: Canadian Wildlife Service. 27 p.
- SNYDER, J.D. 1957. Arctic birds of Canada. Toronto: University of Toronto Press. 310 p.
- SOPER, J.D. 1928. A faunal investigation of southern Baffin Island. National Museum of Canada Bulletin No. 53. Ottawa: National Museum of Canada. 143 p.
- TRAUGER, D.L., DZUBIN, A., and RYDER, J.P. 1971. White geese intermediate between Ross' geese and lesser snow geese. *Auk* 88:856–875.
- TREMBLAY, J.-P., GAUTHIER, G., LEPAGE, D., and DESROCHERS, A. 1997. Factors affecting nesting success in greater snow geese: The effects of habitat and association with snowy owls. *Wilson Bulletin* 109:449–461.
- TUCK, L.M. 1961. The murre: Their distribution, populations and biology. Canadian Wildlife Service Monograph Series No. 1. Ottawa, Ontario. 260 p.
- TUCK, L.M., and LEMIEUX, L. 1959. The avifauna of Bylot Island. *Dansk Ornithologisk Forenings Tidsskrift* 53:137–154.
- TULL, C.E., GERMAIN, P., and MAY, A.W. 1972. Mortality of thick-billed murre in the West Greenland salmon fishery. *Nature (London)* 237:42–44.
- VAN TYNE, J., and DRURY, W.H. 1959. The birds of southern Bylot Island, 1954. Occasional Paper 615. Ann Arbor, Michigan: University of Michigan, Museum of Zoology. 37 p.
- WYNNE-EDWARDS, V.C. 1952. Zoology of the Baird Expedition (1950). I. The birds observed in central and south-east Baffin Island. *Auk* 69:353–392.
- ZOLTAI, S.C., McCORMICK, K.J., and SCOTTER, G.W. 1983. A natural resource survey of Bylot Island and adjacent Baffin Island, Northwest Territories. Ottawa: Parks Canada. 176 p.