

## Birds of Mansel Island, northern Hudson Bay

ANTHONY J. GASTON

Science and Technology Branch, Environment and Climate Change Canada, Carleton University, Ottawa, Ontario K1A 0H3 Canada; email: tonygastonconsult@gmail.com

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### Abstract

A recent review of bird distributions in Nunavut demonstrated that Mansel Island, in northeastern Hudson Bay, is one of the least known areas in the territory. Here, current information on the birds of Mansel Island is summarized. A list published in 1932 included 24 species. Subsequent visits by ornithologists since 1980 have added a further 17 species to the island's avifauna. The list includes 17 species for which breeding has been confirmed and 10 for which breeding is considered probable. The island seems to support particularly large populations of King Eiders (*Somateria spectabilis*) and Tundra Swans (*Cygnus columbianus*) and the most southerly breeding population of Sabine's Gull (*Xema sabini*) and Red Knot (*Calidris canuta*; probably).

Key words: Mansel Island; Hudson Bay; birds; breeding

### Introduction

At 3180 km<sup>2</sup>, Mansel Island, Qikiqtaaluk Region, Nunavut, is the 28th largest island in Canada. It is one of three large islands in northern Hudson Bay, the others being Southampton and Coats Islands. Although the birds of Coats and Southampton Islands have been documented (Sutton 1932a; Gaston and Ouellet 1997), those of Mansel Island are comparatively poorly known. Only one publication provides information on the avifauna of the island: a list prepared by G.M. Sutton (1932b) based on specimens provided to him by A.T. Swaffield, the Hudson Bay manager who established the trading post at Swaffield Harbour, near the northern tip of the island, in 1929.

At its nearest point, Mansel Island is 56 km from the mainland of Quebec (Figure 1). The topography is mostly low elevation (maximum 138 m), without any prominent hills or gullies except for a shallow central valley running east–west across the island. Underlying bedrock throughout is Silurian limestone, which is covered, over large parts of the island, by raised beach deposits of Holocene age. There are extensive wetlands throughout, especially in the southwest portion of the island. Sutton (1932b: 41) commented: “an exceedingly flat, dull-gray piece of land”. Dry areas support low-growing shrubs, including willow (*Salix* spp.), cranberry (*Vaccinium* spp.), and Four-angled Mountain Heather (*Cassiope tetragona* (L.) D. Don), as well as the tussock forbs, Entire-

leaved Mountain Avens (*Dryas integrifolia* Vahl) and Purple Mountain Saxifrage (*Saxifraga oppositifolia* L.). Marshes support extensive sedge (*Carex* spp.) meadows.

The Hudson Bay post on the island closed in 1945, and there has been no permanent habitation on the island since then, although people from the nearby Inuit community of Ivujivik, Nunavik, sometimes visit in summer to hunt Caribou (*Rangifer tarandus*) and Polar Bear (*Ursus maritimus*; Gaston *et al.* 1985).

Sutton's list comprised 24 species, but only 17 of them were collected in summer and, hence, potential breeders, and no evidence of breeding was included (Sutton 1932b). Species were collected at various dates between September 1929 and June 1930. Sutton commented on their likely breeding status, but there was no definite evidence available to support his suggestions. Subsequent ground surveys, all of only one or two days' duration, have added another 17 species to the island's list, and breeding has been confirmed for some. Although this information is based on very brief visits, it is assembled here to give an up-to-date summary of what little is known about the avifauna of Mansel Island.

### Methods

Subsequent to Swaffield's collection, three ground surveys have been carried out by ornithologists. In July 1984, R. Decker visited the island for one day by helicopter, landing at several sites. Information

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**FIGURE 1.** a. Location of Minsel Island in Hudson Bay. b. Localities visited in 1992 and 2016. Source: Minsel Island, Nunavut, 61°59'23.31"N, 79°56'12.54"W. Google Earth Pro 7.3.2.5776. Imagery date: 13 December 2015. Data provider: Landsat/Copernicus 2018. Accessed: 30 July 2018.

from his survey was incorporated into the Land Use Information Series map of Minsel Island (Environment Canada 1970), which includes a list of “avian species which occur or are thought likely to occur within this map-area”, but I have only included species definitely sighted on the island during the survey. On 8 and 9 August 1992, A.J.G., V. Johnston, and I. Storm landed from the *M.V. Teregluk* near the easternmost point of the island and spent 10 h ashore surveying an area of lakes, ponds, and marshes adjacent to a shallow bay (Figure 1).

On 20 and 21 June 2016, Y. Aubry, M. Robert, F. Shaffer, and C. Marcotte carried out systematic surveys of breeding birds in two areas (Figure 1), using the protocol of the Program for International and Regional Shorebird Monitoring (PRISM; Bart and Johnston 2012). In addition to total bird counts, species presence or absence was recorded by 1-ha squares. They also touched down at several other sites to make additional observations.

In addition, on 12 July 1984, an aerial survey (Cessna 337) was carried out by R. Decker along the

entire coastline and over selected parts of the interior. I did not have access to the original data, but some information from this survey was incorporated into a general survey of larger birds in Foxe Basin and northern Hudson Bay (Gaston *et al.* 1986).

## Results and Discussion

Combining the species listed by Sutton (1932b) with subsequent surveys yields 41 species reported from Minsel Island to date, of which definite evidence of breeding, in the form of nests or flightless young, has been obtained for 17 species. A further 10 species were considered by at least one survey to be “probably breeding” (Table 1). Major concentrations of Arctic Terns (*Sterna paradisaea*) and Common Eiders (*Somateria mollissima*) were noted on the aerial surveys of 1984, with an estimated 1000 pairs of Common Eiders on Awrey Island and several colonies of 50–75 pairs of Arctic Terns on the east and southwest coasts (Gaston *et al.* 1986).

Because of the timing of surveys, breeding could be confirmed for fewer than half of the species recorded during the breeding season. The 1992 survey

TABLE 1. Bird observations and breeding status\* at Mansel Island based on four data sets. At-sea records are included where the birds might have been visible from the island.

Species	Sutton 1932b		Decker 1984		Sightings 1992		PRISM 2016		Surveys recorded	Combined status†	
	(season)	(status)	(status)	(status)	No. seen	Status	No. squares present	No. seen			Status
Snow Goose ( <i>Anser caerulescens</i> )	Fall				250	?	2	3	PR	2	PR
Cackling Goose ( <i>Branta hutchinsoni</i> )	Summer	B	B	PR	2	PR	2	3	B	4	B
Canada Goose ( <i>Branta canadensis</i> )				PO	100	PO	11	27	B	2	B
Brant ( <i>Branta bernicla</i> )	Summer	B	B							2	B
Tundra Swan ( <i>Cygnus columbianus</i> )	Summer	B	B	PR	2	PR	3	7	B	4	B
Northern Pintail ( <i>Anas penelope</i> )							7	12	PR	2	B
Red-breasted Merganser ( <i>Mergus serrator</i> )		PR								1	PR
Common Eider ( <i>Somateria mollissima</i> )	Summer	B		PO	5	PO				2	B
King Eider ( <i>Somateria spectabilis</i> )	Summer	PR	PR	B	47	B	10	25	PR	4	B
Long-tailed Duck ( <i>Clangula hyemalis</i> )	Summer	PR	PR	PR	20	PR	6	10	PR	4	PR
Northern Fulmar ( <i>Fulmarus glacialis</i> )				at sea	2	at sea				1	
Willow Ptarmigan ( <i>Lagopus lagopus</i> )							5	9	PR	1	PR
Red-throated Loon ( <i>Gavia stellata</i> )	Summer	B	B	PR	4	PR	3	7	PR	4	B
Pacific Loon ( <i>Gavia pacifica</i> )					15	B	3	4	PR	3	B
Common Loon ( <i>Gavia immer</i> )		PR								1	PR
Black-bellied Plover ( <i>Pluvialis squatarola</i> )	Summer			PR	5	PR	5	8	PR	3	PR
American Golden-plover ( <i>Pluvialis dominica</i> )	Summer			PR	12	PR	5	12	PR	3	PR
Semipalmated Plover ( <i>Charadrius semipalmatus</i> )							1	1	PO	1	PO
Whimbrel ( <i>Niamentus phaeopus</i> )	Fall									1	
Red Knot ( <i>Calidris canuta</i> )	Summer									1	PR‡
Semipalmated Sandpiper ( <i>Calidris pusilla</i> )					20	PR	4	12	B	2	B
Purple Sandpiper ( <i>Calidris maritima</i> )	Summer						1	1	PO	2	
White-rumped Sandpiper ( <i>Calidris fuscicollis</i> )	Summer									1	
Dunlin ( <i>Calidris alpina</i> )					6	PO	5	8	B	2	B
Ruddy Turnstone ( <i>Arenaria interpres</i> )	Summer									1	B§
Red-necked Phalarope ( <i>Phalaropus lobatus</i> )							2	3	PR	1	PR
Red Phalarope ( <i>Phalaropus fulicarius</i> )	Summer				4	PO	1	2	PO	3	PO
Sabine's Gull ( <i>Xema sabini</i> )	Summer	B		PR	10	PR	2	4	PR	4	B
Ivory Gull ( <i>Pagophila eburnea</i> )	Winter									1	
Glaucous Gull ( <i>Larus hyperboreus</i> )		B								1	B
Herring Gull ( <i>Larus smithsonianus</i> )	Fall	B	B	B	30	B	9	15	PR	4	B
Arctic Tern ( <i>Sterna paradisaea</i> )		B		PR	50	PR	5	5	PR	3	B
Parasitic Jaeger ( <i>Stercorarius parasiticus</i> )	Fall			PR	2	PR	3	5	PR	3	PR
Long-tailed Jaeger ( <i>Stercorarius longicaudus</i> )							1	1	PO	1	PO
Thick-billed Murre ( <i>Uria lomvia</i> )	Fall			at sea	4	at sea				1	

TABLE 1. Continued.

Species	Surton 1932b (season)	Decker 1984 (status)	Sightings 1992		PRISM 2016		Surveys recorded	Combined status†
			No. seen	Status	No. squares present	No. seen		
Black Guillemot ( <i>Cepphus grylle</i> )	Fall	B					2	B
Horned Lark ( <i>Eremophila alpestris</i> )			2	B	4	8	2	B
Snowy Owl ( <i>Nyctea scandiaca</i> )	Summer						1	
Barn Swallow ( <i>Hirundo rustica</i> )	Summer						1	
Lapland Longspur ( <i>Calcarius lapponicus</i> )			5	PR	4	12	2	PR
Snow Bunting ( <i>Plectrophenax nivalis</i> )					1	1	1	PO
Total (breeding)	24	17 (13)	597	(15)	26	205	(20)	B (17), PR (10)

\*B = definite evidence of breeding, PR = probable breeding, PO = possible breeding.

†Combined breeding evidence from all surveys to give likeliest status.

‡A satellite-tracked Red Knot was recorded in summer on Mansel Island by Lathrop *et al.* (2018).

§A geolocator-tracked Ruddy Turnstone spent the summers of 2014 and 2015 on Mansel Island and showed evidence of incubation in 2015 (R. Porter pers. comm. August 2018).

was conducted after most shorebirds would have completed breeding, and breeding could not be confirmed in that season for any shorebird species. Those species for which breeding could be confirmed were those that have longer breeding periods. Conversely, surveys in 2016 found the island partly covered in snow, which presumably delayed breeding for many species, making the surveys earlier than ideal. Breeding could be confirmed for only five species, although it was considered probable for another 15 species. Among species for which breeding was confirmed, Canada and Cackling Geese (*Branta canadensis*, *Branta hutchinsoni*), Northern Pintail (*Anas penelope*), and Dunlin (*Calidris alpinus*) are not shown as breeding on Mansel Island by Richards and Gaston (2018).

Only seven species were reported by all four surveys: Cackling Goose, Tundra Swan (*Cygnus columbianus*), King Eider (*Somateria spectabilis*), Long-tailed Duck (*Clangula hyemalis*), Red-throated Loon (*Gavia stellata*), Sabine's Gull (*Xema sabini*), and Herring Gull (*Larus argentatus*). Black-bellied Plover (*Pluvialis squatarola*), American Golden-plover (*Pluvialis dominica*), and Arctic Tern were recorded on all three post-1930 surveys. According to the 2016 survey, the most widespread species (seen in nine or more survey squares) were Canada Goose, King Eider, and Herring Gull. In 1992, 38 pre-flying King Eider ducklings were seen in four separate creches, along with nine adults and the species was the second most widespread on the 2016 survey. These observations suggest that Mansel Island may be an important breeding area for this species. Likewise, Tundra Swan, as well as being seen on all surveys, was the most widespread species reported on the aerial survey in 1984. Mansel Island appears to support a significant population of this species.

Overall, the avifauna of Mansel Island is very similar to that of the better-known Coats Island, immediately to the west (Gaston and Ouellet 1997). Like Coats, it supports Caribou but apparently not lemmings (*Dicrostonyx* and *Lemmus* spp.; Gaston *et al.* 2012). The absence of the latter probably determines the lack of specialist lemming predators, such as Snowy Owl (*Nyctea scandiaca*) and Long-tailed Jaeger (*Stercorarius longicaudus*). The very flat topography, lacking cliffs, may determine the absence of Peregrine Falcon (*Falco peregrinus*) and Common Raven (*Corvus corax*) and the relative paucity of Snow Bunting (*Plectrophenax nivalis*), all common on adjacent parts of mainland Quebec (Gaston *et al.* 1985). However, the breeding of Sabine's Gull and the probable breeding of Red Knot (*Calidris canutus*) on Mansel Island represent the most southeasterly extension of these species' known ranges in Canada (Richards and Gaston 2018).

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