

Ivory Gull Colonies on the Devon Island Ice Cap, Arctic Canada

THOMAS FRISCH¹

ABSTRACT. Four small Ivory Gull colonies have been found on nunataks on the ice cap of eastern Devon Island. Mainly on the basis of their similarity to known breeding places of the Ivory Gull on Ellesmere Island, all four sites are believed to be those of nesting colonies — the first to be reported from Devon Island.

Key words: Ivory Gull, *Pagophila eburnea*, colonies, nunatak nesting sites

Recent aerial surveys (Renaud and McLaren, 1982) identified significant concentrations of the Ivory Gull (*Pagophila eburnea*) at several points along the coast of eastern Devon Island. No breeding sites were recognized in these surveys, which were confined to coastal waters.

In 1982, during a geological reconnaissance by helicopter of the largely ice-covered interior of eastern Devon Island, four colonies of the Ivory Gull were discovered on nunataks (bed-rock masses, generally precipitous cliffs, surrounded by ice). These sites are the first to be reported from Devon Island and are described below.

broken by numerous glaciers that empty into the sea. The southeastern coast of Devon Island is formed either by wider, more gently sloping, ice-free terrain or by large glaciers.

Nunataks occur at elevations up to 1500 m a.s.l., mainly in two areas: along several major glaciers flowing up the northern coast and in the southeastern corner of the ice cap. Two of the Ivory Gull colonies were found in the former area and two in the latter (Fig. 1).

Topographic information on the sites, and their coordinates in latitude and longitude and in the Universal Transverse Mercator Grid system (Maling, 1973), are drawn from National Topographic System 1:250 000 map sheets, Lady Ann Strait 48H & 38G and Dundas Harbour 48E & 38F. The UTM eastings and northings given below are all in Zone 17. Latitudes and longitudes are given to the nearest half-minute; the UTM coordinates fix the location more precisely.

All observations were made on 26 August, 1982, from a helicopter in flight.

Site 1 (Lady Ann Strait; 75°28'N, 81°22'W; 489600, 8375800) is a 120 m high vertical cliff at the eastern edge of Belcher Glacier near its head, at an elevation of nearly 1000 m a.s.l. (Fig. 2). Distance to the sea, as measured along the course of the glacier, is 22 km. About 25 Ivory Gulls were observed resting on ledges and flying around the cliff.

Site 2 (Lady Ann Strait; 75°20'30"N, 80°43'W; 508000, 8361400) is a north-facing vertical cliff, more than 300 m high, near the head of a tributary glacier of a major glacier that enters the unnamed inlet between Cape Fitz Roy and Raper Point (Fig. 2). The cliff is a rock wall bordered and overhung by ice and snow, over 1000 m a.s.l. and 17 km from the sea. About 30 gulls were seen, some resting on feces-stained ledges, others in flight.

Site 3 (Dundas Harbour; 74°57'N, 81°02'30"W; 499000, 8318500) lies at the northern end of a cliff 5 km long and 100-200 m high. The base of the cliff on which the colony is located is at 400 m a.s.l., 20 km west of the head of Bethune Inlet. The ice cap stretches unbroken from the cliff to a narrow strip of land along the western shore of Bethune Inlet. Approximately 30 gulls were observed resting on ledges and in flight.

Site 4 (Dundas Harbour; 74°46'30"N, 80°42'W; 508900, 8298600) is the steep cliff of a 240 m high nunatak, 15 km southwest of Bethune Inlet. The top of the nunatak lies about 600 m a.s.l. and the cliff faces east onto unbroken ice sloping smoothly to the sea 15 km away. Six Ivory Gulls were counted flying around the cliff.

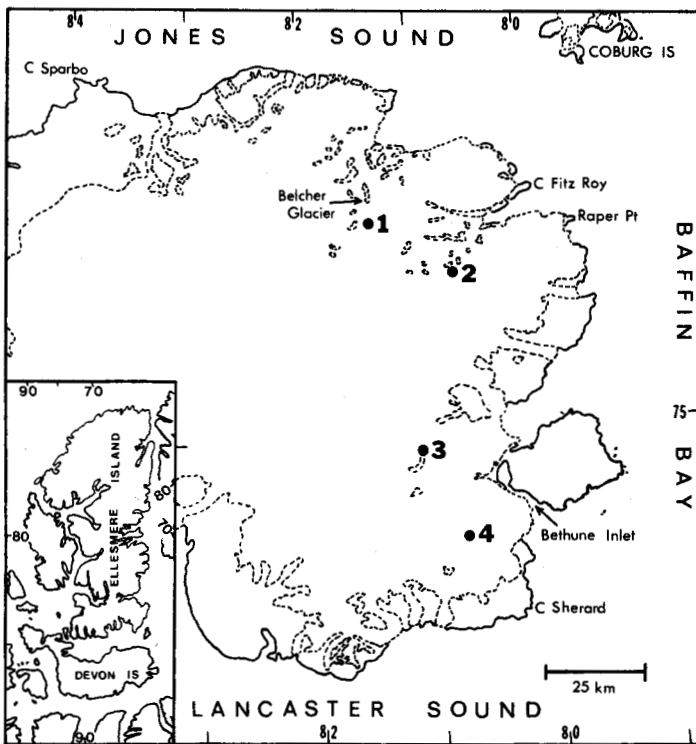


FIG. 1. Sketch map of eastern Devon Island showing sites of four Ivory Gull colonies. Broken lines mark the edges of icefields and glaciers; only the larger nunataks are shown.

Most of Devon Island east of 84°30'W (Fig. 1) is covered by an ice cap, the summit of which lies nearly 2000 m above sea level. Ice-free coastal areas fringing the ice cap to the north are generally narrow and bold, with a relief of 300 to 500 m, and

¹Geological Survey of Canada, 588 Booth Street, Ottawa, Ontario, Canada K1A 0E4



FIG. 2. View eastward across the upper part of Belcher Glacier, showing the sites of Ivory Gull colonies 1 and 2. (National Air Photo Library Trimet photograph T508L-90)

The physiography and setting of the four sites are entirely analogous to the five nunatak colonies discovered in 1977 on the icefields of southeastern Ellesmere Island (Frisch and Morgan, 1979). All five Ellesmere sites have subsequently been confirmed as being those of active breeding colonies, some of them long established (S.D. MacDonald, pers. comm. 1982), and nunataks clearly are favoured nesting places of the Ivory Gull, e.g. in Svalbard and Greenland (Blomqvist and Elander, 1982). Thus, although no nests or young birds were recognized, all four sites on Devon Island are believed to be active breeding places of the Ivory Gull.

In their census of Ivory Gulls along the Devon Island coast in 1978, Renaud and McLaren (1982: Fig. 2) noted the highest concentrations at the snout of Belcher Glacier, in the bay between Cape Fitz Roy and Raper Point, and in Bethune Inlet. The proximity of these localities to the nunatak colonies reported here makes it very likely that the latter were the source of some of the gulls recorded by Renaud and McLaren.

ACKNOWLEDGEMENTS

I thank S. Blomqvist, S.D. MacDonald and P. McLaren for reviews of this note and suggestions for its improvement. The field work would not have been possible without the generous logistic support of the Polar Continental Shelf Project. The Arctic Institute of North America kindly allowed use of their base camp on Truelove Lowland, Devon Island.

REFERENCES

- BLOMQVIST, S. and ELANDER, M. 1982. Sabine's Gull (*Xema sabini*), Ross's Gull (*Rhodostethia rosea*) and Ivory Gull (*Pagophila eburnea*) — gulls in the Arctic: a review. *Arctic* 34:122-132 and 388.
- FRISCH, T. and MORGAN, W.C. 1979. Ivory Gull colonies in southeastern Ellesmere Island, Arctic Canada. *Canadian Field-Naturalist* 93:173-174.
- MALING, D.H. 1973. *Coordinate Systems and Map Projections*. London: G. Philip & Son. 255 p.
- 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.