

## Newly Reported Colonies of Ivory Gulls on Southeastern Ellesmere Island

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**ABSTRACT.** Seven colonies of Ivory gulls comprising 330 adults were discovered on nunataks emerging from the Manson Icefield of southeastern Ellesmere Island. This brings to total 33 the number of active colonies that have been located in North America over the 14 years since the first was discovered.

**Key words:** Ivory gull colonies, Manson Icefield, Ellesmere Island

**RÉSUMÉ.** Sept colonies de mouettes blanches comprenant 330 adultes ont été découvertes sur des nunataks émergeant du glacier Manson dans le sud-est de l'île d'Ellesmere. Cela porte à 33 le nombre total de colonies actives que l'on a découvertes en Amérique du Nord au cours des 14 années qui ont suivi la première découverte.

**Mots clés:** colonies de mouettes blanches, glacier Manson, île d'Ellesmere

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Since the arctic explorations of the 19th century, when sightings of the near legendary Ivory gull (*Pagophila eburnea*) were notable events, questions concerning the location of their breeding sites have often been raised (Blomqvist and Elander, 1981). Part of the difficulty in locating these sites arises not only from their remoteness and inaccessibility, but also from the fact that although widely distributed, the Ivory gull is regarded as extremely "rare" (World Wildlife Fund, Committee on the Status of Endangered Wildlife in Canada, June 1989), with an overall population size of about 2400 adults throughout the eastern Canadian High Arctic (Thomas and MacDonald, 1987). Until 1977, only a single breeding colony had been located in Canada (MacDonald, 1976). Since then, the discovery of new Ivory gull colonies has been of continual interest, as have observations of general biology away from these sites (Brown *et al.*, 1974; Divoky, 1976; Renaud and McLaren, 1982; Orr and Parsons, 1982).

Although Ivory gull colonies have been reported from lowland areas such as the Brodeur Peninsula of Baffin Island (two colonies, 48 birds — Reed and Dupuis, 1983; eight additional colonies, about 570 birds — Thomas and MacDonald, 1987), southern Ellesmere Island (one colony, about 300 birds — Thomas and MacDonald, 1987), and northern Devon Island (one colony, 7 birds — Thomas and MacDonald, 1987), it now appears that a major habitat of Ivory gull breeding colonies is the eroded nunataks emerging from icefields. These may be situated at elevations exceeding 1000 m above sea level and dozens of kilometres inland. Because of the long-held belief among biologists in the sterility of such glaciated regions for bird life (e.g., Soper, 1940), it is not surprising that a geologist rather than an ornithologist first identified the importance of these regions for Ivory gulls in North America (five colonies, about 175 birds, on southeastern Ellesmere Island — Frisch and Morgan, 1979; four colonies, about 91 birds, on northeastern Devon Island — Frisch, 1983). Since then, Thomas and MacDonald (1987) have recorded an additional ten colonies (approximately 12 to 300 birds present at each) around the Makinson Inlet region of southeastern Ellesmere Island. The present study reports the finding of seven further colonies,

comprising a total of 330 Ivory gulls, located during a ground traverse of 319 km of glaciers and upland icefields on southern Ellesmere Island during spring 1990.

The route of travel of the Arctic Light 1990 Trans-Ellesmere Island Expedition is shown in France and Sharp (in press) and France (in press). From 6 to 15 June we crossed the western side of the Prince of Wales Icefield north of Makinson Inlet (Jokel Fiord to the Split Lake Glacier), and from 22 to 27 June we crossed the Manson Icefield (Fig. 1) south of Makinson Inlet (Bentham Fiord to the Jakeman Glacier).

Most previous studies describing locations of Ivory gull colonies were conducted with aerial surveys and gave admittedly only "very approximate" estimates of gull abundance (e.g., Frisch and Morgan, 1979), which may be far from absolute numbers. Because considerable time is needed to survey gull breeding sites quantitatively (e.g., Snell, 1989), single aerial visual estimates are not adequate to measure the number of gulls in individual colonies. Likewise, because Ivory gulls are very sensitive to disturbance, the presence of aircraft or motorized vehicles can influence their detectability (V. Thomas, Zoology Department, University of Guelph, pers. comm. 1991). The average rate of progress of the expedition through the icefields of southern Ellesmere Island was 19 km per 8-12 h day of travel on skis, permitting detailed observation of any colonies located along the way.

No colonies of Ivory gulls were observed on the 28 nunataks we passed along the 170 km traverse of the western edge of the Prince of Wales Icefield, north of Makinson Inlet. We did, however, observe wandering birds: two near the Flagler Bay polynya, four in Jokel Fiord near the foot of the Stygge Glacier, and one just before descending to the head of Makinson Inlet. The nine colonies previously located on the Prince of Wales Icefield (Frisch and Morgan, 1979; Thomas and MacDonald, 1987) were over 70 km distant from our transect, toward the eastern coast.

Colonies of Ivory gulls were discovered on 7 of the 53 nunataks we passed during the 149 km traverse of the Manson Icefield, south of Makinson Inlet (Fig. 1). Counts of adult birds ranged from 20 to 90 per nunatak (Table 1).

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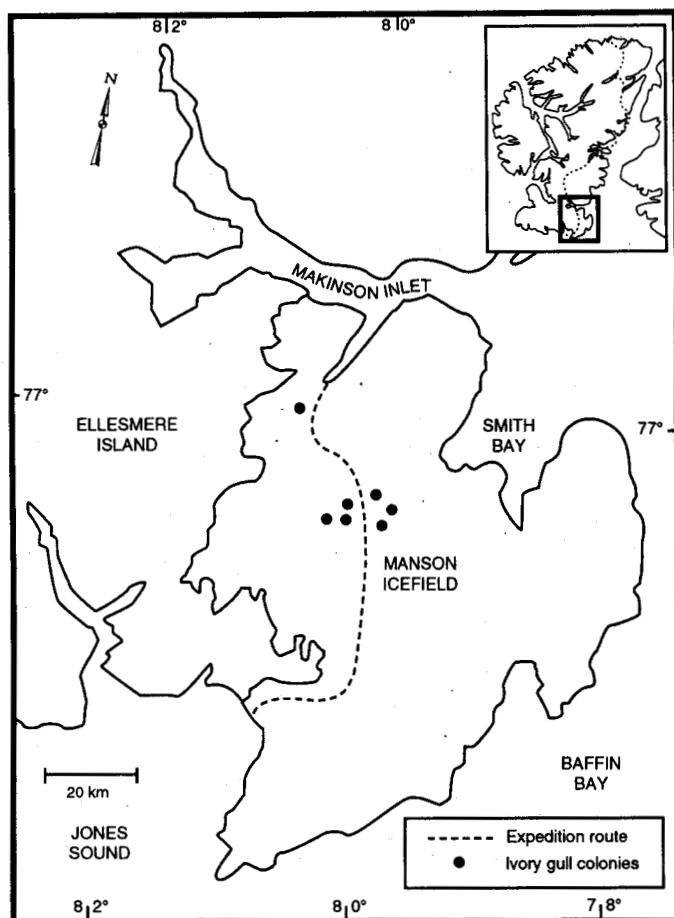


FIG. 1. Location of expedition route and seven Ivory gull colonies found on the Manson Icefield of southeastern Ellesmere Island.

TABLE 1. Location of Ivory gull colonies and number of birds observed on southeastern Ellesmere Island in spring 1990

Map identification <sup>1</sup>	UTM <sup>2</sup>	No. of birds
Vendom Fiord 49D	NR 1048	24
Clarence Head 39B	NR 2725	28
Clarence Head 39B	NR 3233	20
Craig Harbour 49A	NR 2823	28
Craig Harbour 49A	NR 1525	70
Craig Harbour 49A	NR 1825	90
Craig Harbour 49A	NR 2315	70

<sup>1</sup>Energy, Mines and Resources Canada, District of Franklin, N.W.T. Scale 1:250 000.

<sup>2</sup>Universal Transverse Mercator Grid Reference.

The present study supports Thomas and MacDonald's (1987) contention that southeastern Ellesmere Island may contain a significant component of the total Ivory gull breeding stock in the eastern Canadian High Arctic. The location of

numerous colonies here may be a result of their close proximity to the polynyas of Makinson Inlet and the North Water (Brown and Nettleship, 1981; France and Sharp, in press). This may also explain why Ivory gulls locate their colonies on the east, but not west, side of the Prince of Wales Icefield, farther to the north.

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