

Seabirds in the Cape Dyer–Reid Bay Area of Cumberland Peninsula, Baffin Island, Northwest Territories

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We visited the large, multi-species seabird colony situated southeast of Reid Bay 15–30 July 1985 and estimated that 133 000 pairs of Thick-billed Murres (*Uria lomvia*), 12 000 – 20 000 Northern Fulmars (*Fulmarus glacialis*) and 1200 – 1300 pairs of Black-legged Kittiwakes (*Rissa tridactyla*) breed in the area. This is the only colony in the eastern Canadian Arctic, apart from Prince Leopold Island, where all these species nest intermingled. In the absence of any close geographic feature after which to name the colony we propose that it be called “The Minarets”, emphasizing the extraordinary erosion features on which many of the birds breed.

Key Words: The Minarets, Thick-billed Murre, *Uria lomvia*, Northern Fulmar, *Fulmarus glacialis*, Black-legged Kittiwake, *Rissa tridactyla*, Northwest Territories.

The existence of a large seabird colony on the eastern tip of the Cumberland Peninsula, between Cape Dyer and Cape Searle, was reported by Boas (1884–85) who mapped the position under the name “Agpan” [Wynne-Edwards (1952a) and Watson (1957)]. The exact position (66°55'N, 61°45'W) was observed in 1973 during aerial surveys carried out by D. N. Nettleship and R. C. Elliott and subsequently published by Nettleship and Smith (1975). The size and species composition was estimated at 200 000 pairs of Thick-billed Murres, *Uria lomvia*, and 10 000 pairs of Northern Fulmars, *Fulmarus glacialis* (Nettleship and Smith 1975; Brown et al. 1975), but these figures have been regarded previously as indicating only orders of magnitude.

Although the colony was visited periodically by local Inuit, particularly when the settlement at Padloping Island was in existence (K. Harper, personal communication), there is no published account of the colony by investigators on the ground. We visited the colony between 15 and 30 July 1985 to carry out an inventory of breeding seabirds in the area and this paper provides a general description of the seabird populations and an account of our census work.

Study Area

All of the Thick-billed Murres and the majority of the Northern Fulmars breed on east-facing cliffs which rise to a height of about 800 m on a headland separating two un-named fjords (locally called *Ugak* (Cod) Fjord and *Akpa* (Murre) Bay).

A small number of fulmars also breed near the cliff tops on the south side of Ugak Fjord. Black-legged Kittiwakes, *Rissa tridactyla*, breed on a small area of cliffs at the base of the murre colony.

Two cliffs on which the Thick-billed Murres breed

are composed of basalt which is eroded into irregular pinnacles and knife-edge spurs separated by deep gullies (Figure 2). To the north a huge portion of the headland has collapsed to form a basal scree of gigantic boulders (Figure 3) flanked by shear rock walls. The southern boundary of the murre colony is formed by a cirque about 1.5 km across.

Most of the murres breed on the pinnacles and knife-edge spurs which are completely inaccessible from the land, although they can be readily viewed from the edge of the upper plateau (Figure 4). They are confined to the upper half of the cliff except for a small group breeding close to the sea among the Black-legged Kittiwakes. Some murres also breed on two towers flanking the valley to the north of the main colony, in which our camp was situated (northeast and northwest towers, Figure 2).

Northern Fulmars are scattered throughout the area occupied by murres, particularly near the top, and at all elevations on the north and northeast walls (Figure 2). They also breed on some areas of the cirque, and around the southeast ridge, mainly near the top. Glaucous Gulls, *Larus hyperboreus*, breed in small groups or singly throughout the colony and we estimated about 70 pairs. Two small colonies of Iceland Gulls, *Larus glaucoides*, also occur: one at the foot of the southeast ridge (12 pairs) and the other near the head of Ugak Fjord (15 pairs). A few Black Guillemots, *Cepphus grylle*, breed in rock crevices among boulders on nearby islets, on cliffs on the headland immediately to the south of the main colony, and in adjacent fjords.

Methods

We counted the murres on all parts of the colony that could be viewed from the land. To do this we counted groups of 100 murres one by one until we felt

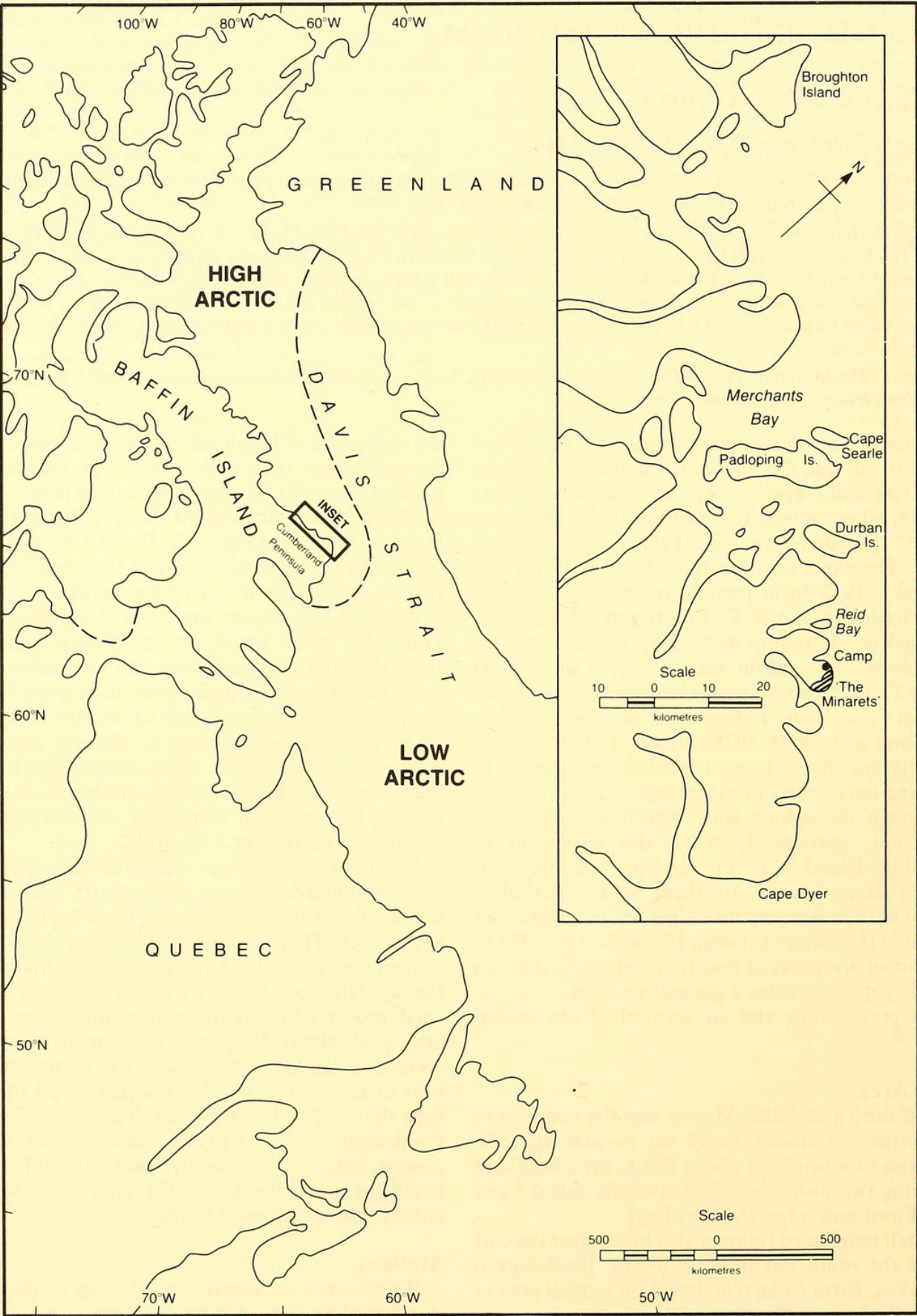


FIGURE 1. Map showing the position of localities mentioned.

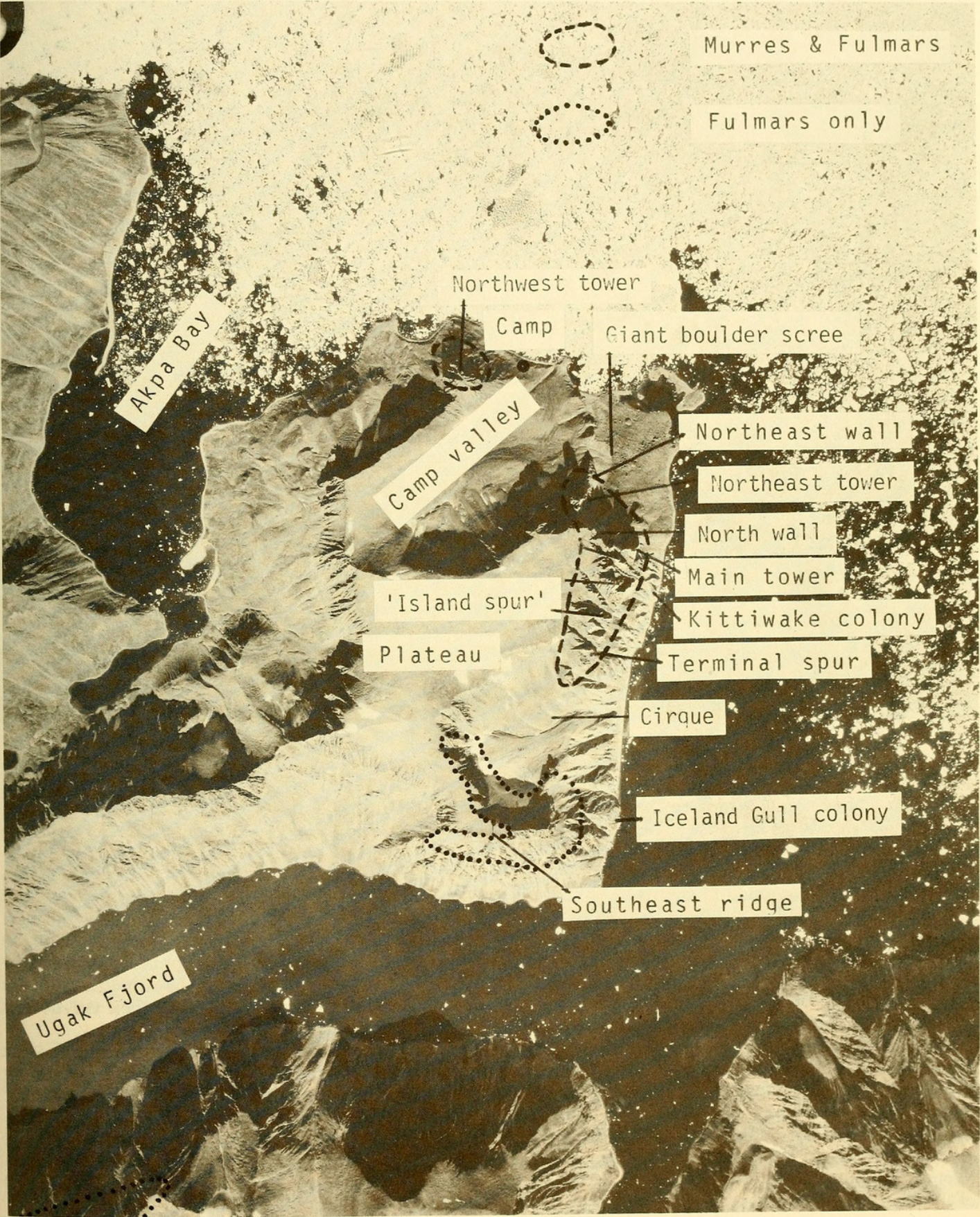


FIGURE 2. Aerial photograph showing details of the colony area and places which we named in order to simplify our survey notes [Not official geographical names.]



FIGURE 3. The southeast tip of the colony headland viewed from the south.

confident that we could estimate by blocks of 100. We then divided the visible area into discrete blocks, using natural features, and counted by hundreds. We checked our accuracy by repeating counts using individual birds and found our counts by hundreds to be accurate to within 10% where more than 1000 birds were counted. We found no systematic biases in our counts by hundreds when compared with counts of individual birds. All counts were made between 1000 and 1700 h EDT.

Birds in areas that were not visible from the land could not be counted because it was impossible to observe the cliffs satisfactorily through binoculars from our small inflatable boat. For these areas we made rough estimates by comparing them to adjacent areas which had been counted from the land. There was no way to assess the accuracy of this procedure. Details of our counts and estimates are given in Table 1.

Results and Discussion

We counted 149 465 Thick-billed Murres from the land and estimated a further 30 000 from the sea. Assuming that some birds were not visible either from land or sea and that a few were overlooked under overhangs, or behind other birds, 190 000 is our best estimate for the number of murres present during the day at the time of our visit. Our counts were probably accurate to within $\pm 15\%$, but if the estimates from the sea were only accurate to $\pm 50\%$, then the overall accuracy is probably $\pm 25\%$.

During the period of the census most birds were either in the late stages of incubation or were brooding young chicks. The corresponding ratio of numbers of birds present to numbers of breeding pairs for Thick-billed Murres at this stage of the breeding cycle is about 0.7 (Gaston and Nettleship 1981); this suggests a total breeding population of approximately 133 000 pairs with likely limits of 100 000 – 166 000 pairs.

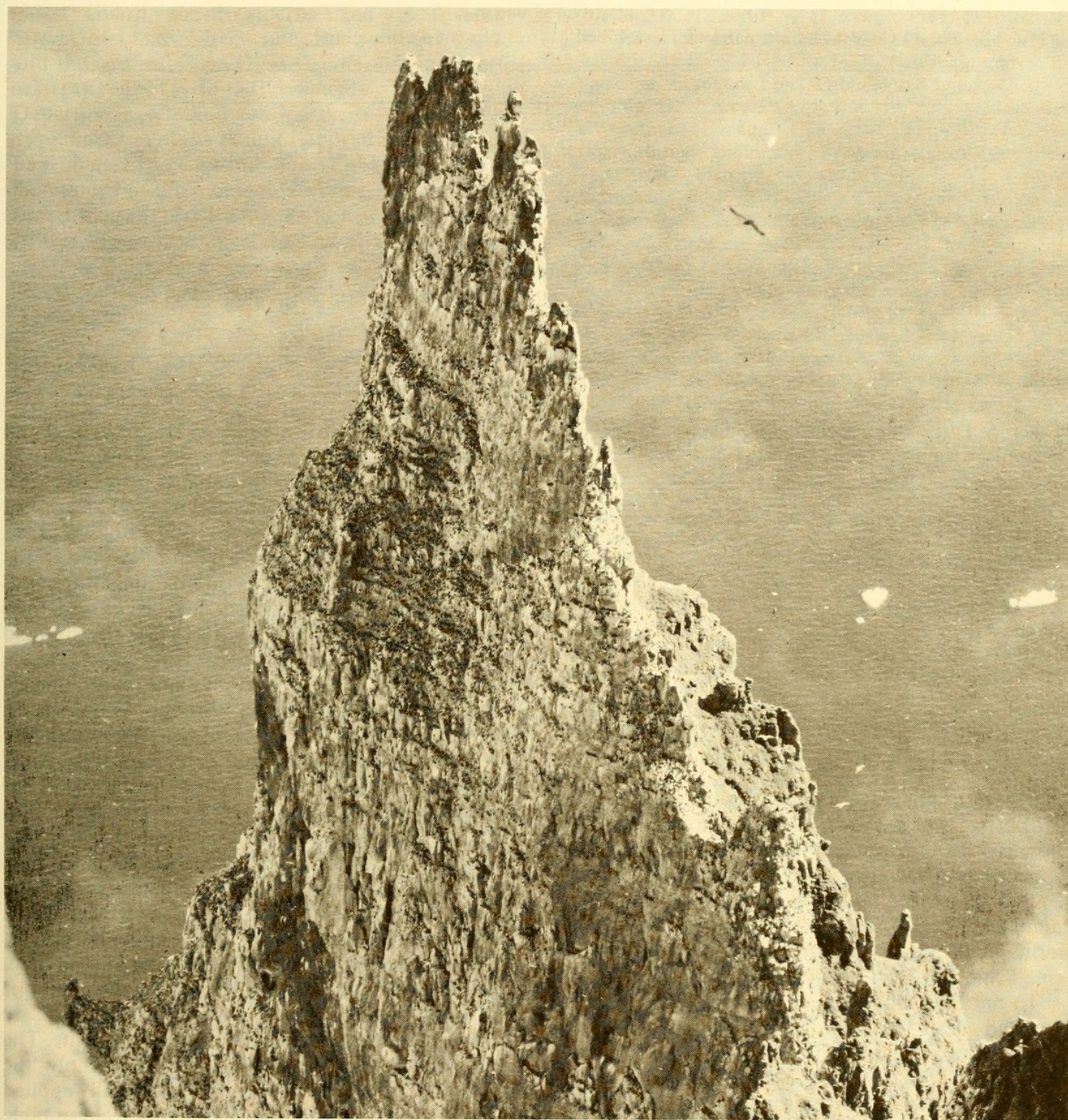


FIGURE 4. One of the main breeding concentrations, seen from the adjacent cliff top.

We counted Northern Fulmars on the north and northeast walls and on 'island spur' on 23, 24 and 25 July and estimated other areas by extrapolation. Many of the Northern Fulmars observed were extremely dark in color, looking similar in shade to Sooty Shearwaters, *Puffinus griseus* (equivalent to the DD phase of Van Franeker and Wattel (1982)).

These birds were very difficult to pick out against the blackish basalt of the cliffs. Furthermore, many breeding sites were in crevices or under overhangs which made them hard to see. Consequently, we believe that our counts considerably underestimated the number of fulmars present.

Based on our counts, we estimated that 10 150

TABLE 1. Counts and estimates of Thick-billed Murres present on the colony.

Area	Date	Number	Method
Northwest tower	22 July	6 800	Count
Northeast tower	23, 26 July	11 860	Count
Main tower to terminal ridge	23, 24, 27 July	123 255	Count
Main tower to terminal ridge	29 July	30 000	Estimate from sea
Lower (kittiwake) cliffs	29 July	1 400	Count
Other small areas	23 July	6 150	Count
Total		179 465	

TABLE 2. Distribution of Northern Fulmars and minimum estimates of numbers present on 22 to 24 July.

Area	Estimate
North wall	1 250
Northeast wall and tower	1 150
Northwest tower	500
Rest of murre colony	4 000
Cirque	750
Southeast ridge	1 750
Far side of "Ugak Fjord"	750
Total	10 150

Northern Fulmars were present in the colony (Table 2), but we feel that this must be an underestimate because the dark phase birds are so hard to see. We consider that the true figure is between 12 000 and 20 000 birds. We do not wish to speculate on the number of breeding pairs represented by this many individuals. Most breeding fulmars were brooding small chicks at the time of the count.

To estimate Black-legged Kittiwakes numbers, we counted nests with at least one adult bird in attendance, including only those nests with a well-formed cup. The count was made on 16 July from the boat. Most nests contained small chicks on that date. Repeat counts by both observers yielded totals of 1200–1300 nests.

The colony site lies close to the boundary of high and low arctic waters in Davis Strait (Salomonsen 1972; Brown et al. 1975). Although it falls on the high arctic side of the boundary, some birds from the colony almost certainly forage in low arctic waters in the centre of Davis Strait because large flocks were seen flying in towards the colony from the east. The numbers of Thick-billed Murres breeding are similar to those at other major colonies in the high arctic of

eastern Canada (Brown et al. 1975; Nettleship and Evans 1985). Among major seabird colonies of the eastern arctic it is unusual in that it is the only one other than Prince Leopold Island where Thick-billed Murres, Northern Fulmars and Black-legged Kittiwakes nest intermingled. The importance of the colony was recognized by the International Biological Programme which proposed that it be specially protected (Nettleship and Smith 1975). The size and diversity of the seabird population of the area, along with the threat posed by current plans for the marine transport of hydrocarbons through Davis Strait (FEARO 1984), have prompted the Canadian Wildlife Service to designate the colony area, along with the nearby Northern Fulmar colony at Cape Searle (Wynne-Edwards 1952b; Nettleship and Smith 1975), as a Migratory Bird Sanctuary under the combined title of "East Baffin Seabird Sanctuary".

The colony has been previously referred to as 'Reid Bay' (Nettleship and Smith 1975; Brown et al. 1975). This name has the virtue of invoking the nearest feature included on the 1:250 000 topographic map, but it is somewhat misleading because the colony is several kilometers from that bay. Consequently, we sought a suitable name for the actual colony site. The local Inuit name is "Agpait" which means simply "the place of the murres". As this name is normally applied by Inuit to any murre colony it does not seem suitable as a name for a specific colony. In view of the spectacular towers and pinnacles on which most of the murres nest, which are grander in scale than those of any other Canadian murre colony, we propose that the colony site be named "The Minarets", resembling as it does the cupolas and minarets of a mosque.

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