

## The High Arctic Wolf in the Jones Sound Region of the Canadian High Arctic\*

The high arctic wolf *Canis lupus arctos* (Fig. 1), a white, medium-sized subspecies of the arctic wolf, and a considerable carnivore, ranges over the Queen Elizabeth Islands of the Canadian Arctic Archipelago<sup>1,2</sup>. Little is known about it, however, since it is naturally scarce and there are few field biologists working in the region. With the object of adding to the meagre literature on the high arctic wolf, I present in this paper the results of observations I made on it over a total period of 425 days spent in the field in the Jones Sound region (Fig. 2), collecting information on the local wildlife and Inuit<sup>3,4,5</sup>.

The high arctic wolf is scattered thinly throughout the Jones Sound region, usually in those areas occupied by ungulates. On Devon Island, wolves or traces of them were recorded as having been present on the major grounds of muskox *Ovibos moschatus* around the lowlands between Cape Newman Smith and Sverdrup Glacier during the years 1951-52, 1954-55, 1960-61, 1968-69, 1969-70 and 1970-71. In 1957-58 a single wolf was seen at Viks Fiord, while in 1958-59 tracks of four or five of the animals were observed near Dragleybeck Inlet. Later, in 1965-66,

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tracks of three or four wolves were noted in the vicinity of Bear Bay (R.C.M.P. record — see below). From my own observations, I have concluded that over the period from May 1970 to October 1971 there were only three — or possibly four — wolves inhabiting the entire north shore of Devon Island; and to my knowledge no wolves, or traces of them, were sighted in that area between November 1971 and July 1973.

On the evidence of local records of the Royal Canadian Mounted Police (R.C.M.P.), wolves have been rather more numerous on Ellesmere Island, especially on its southeast coast between Craig Harbour and Harbour Fiord, Baumann Fiord and Makinson Inlet — the areas most commonly traversed by the Inuit and by R.C.M.P. patrols. The greatest concentrations have been in the vicinity of Baumann Fiord.

The actual number of wolves present on southern Ellesmere Island is undoubtedly much smaller than the number of tracks observed might suggest, since the home ranges of individual wolves are enormous. This fact came to light during a ground survey I did of the Bjorne Peninsula (77°45' N, 86°10' W)<sup>3</sup>. On 9 May 1973 my Inuit companions and I crossed a pair of fresh tracks leading northwards across the Peninsula. One of them was peculiar in that a toe was missing from it. We observed this odd track again in the southwestern section of Baumann Fiord, on 10 May and 21 May. The Inuit were certain it was the track of a wolf which had been repeatedly seen in the vicinity of the

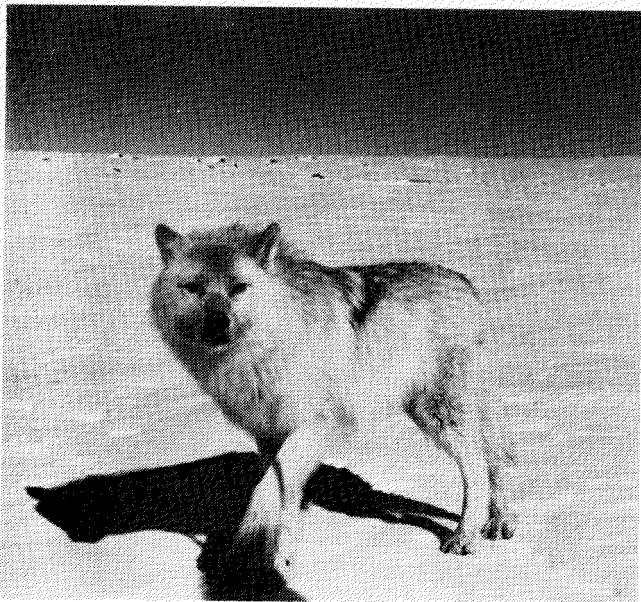


FIG. 1. An inquisitive high arctic fox on the plateau west of Sverdrup Glacier, Devon Island, 25 May 1970. Photograph by W. O. Pruitt, Jr.

Grise Fiord settlement on various occasions since 1970—the last in April 1973. The hunters had unsuccessfully attempted to trap the animal on numerous occasions. The shortest possible route from the settlement through the mountains to the point of the most northerly sighting of this wolf track on the Bjorne Peninsula was 180 km.

During an aerial survey I conducted in July 1973 over the northwestern section of the Jones Sound region<sup>3</sup>, a total of twelve wolves were spotted in an area of approximately 22,000 km<sup>2</sup>. It is quite likely that some wolves were missed on the survey, but even if the number actually present is assumed to be double those seen, one wolf lives on average off approximately 900 km<sup>2</sup> of territory. Here however it needs to be mentioned that this density concerns the area of the greatest concentration of wolves in the Jones Sound region. Such sparsity is not surprising when the barrenness of much of the terrestrial environment is taken into consideration<sup>6</sup>. The overkilling which followed the introduction of the snowmobile (see below) needs also to be taken into account.

In the Jones Sound region wolves usually

travel singly or in pairs. The largest pack I sighted myself consisted of four animals, though from Table 1 it can be seen that other persons have encountered larger packs. The two largest packs observed in the study area were at Baumann Fiord in 1965-66 (15-20 animals), and along the southern coast of Ellesmere Island in the autumn of 1961 (about 24)—according to reports provided by the Grise Fiord Detachment of the R.C.M.P. A still larger pack (of about 30) was observed just to the north of the study area in the early spring of 1970 (A. Kirbyson and A. Peejameenee, R.C.M.P., Grise Fiord, personal communications). Packs of as many as 20-30 wolves are unusual anywhere in North America<sup>7</sup>, and such numbers are even more exceptional in the High Arctic in view of the barrenness of the land<sup>4,8</sup>. Perhaps several smaller groups had combined into the larger ones because of dependence upon one of the few herbivore oases in the region, such as the ones on the Fosheim or Raanes peninsulas<sup>9,8</sup>.

Little is actually known about the wolf's predatory behaviour in the eastern High Arctic, and much of what is attributed to the

FIG. 2. The study area. The cross-hatching indicates the areas of greatest concentration of the high arctic wolf.

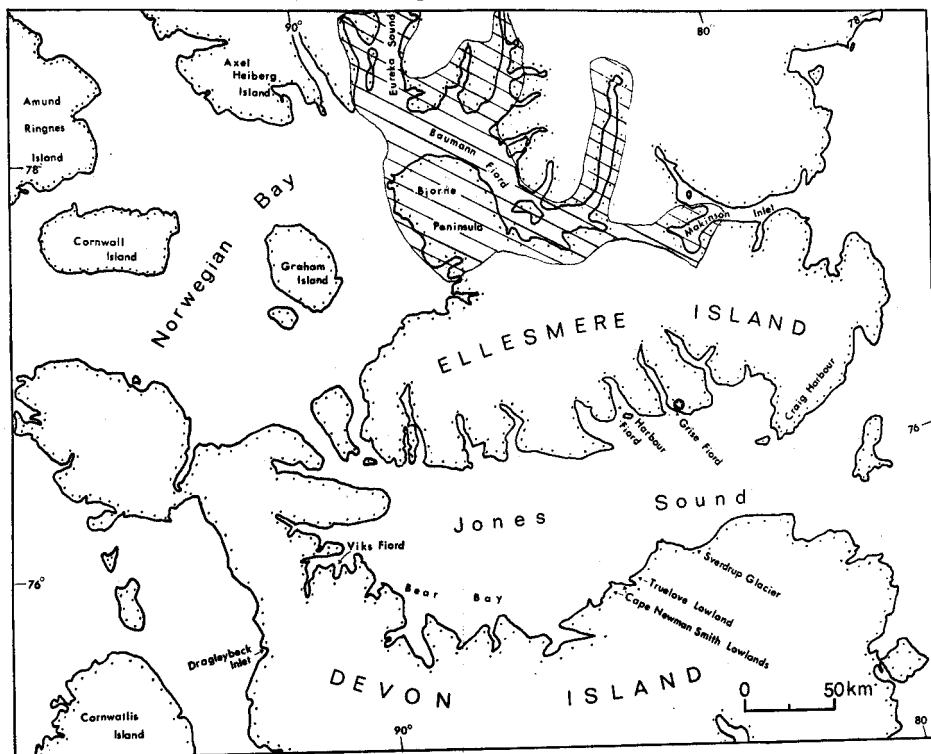


TABLE 1. Wolf pack size in the Jones Sound region.

Pack size (no. of wolves)	Number of observations*
1	50
2	17
3	7
4	4
5	1
6	3
7	2
9	1
15-20	1
24	1

\*Sightings of wolves or their tracks obtained from:

Author's records.....	54 observations
R.C.M.P. reports.....	19 observations
C. R. Harington, Canadian Wildlife Service (unpublished manuscript) ..	7 observations
W. Blair, West Coast Petroleum Ltd., Calgary (personal communication) .	3 observations
Various researchers working at the Devon Island Research Station of the Arctic Institute of North America.....	4 observations

high arctic wolf is merely hearsay or speculation. For example, in the Jones Sound region muskox carcasses which bear signs of attention from wolves are usually referred to as wolf-kills<sup>9</sup>. It is possible that some of these carcasses have simply been scavenged by wolves. During the spring of 1971, four adult muskoxen were found dead or dying of natural causes on the Truelove Lowland of Devon Island (W. O. Pruitt, Jr., University of Manitoba, personal communication). Their deaths would conceivably have been attributed to wolves, had any of the latter scavenged them before they were found. Tener<sup>8</sup> has discussed the difficulties that wolves have in preying upon healthy muskoxen. The only documented account of a wolf killing an adult muskox is that of Grey<sup>10</sup>, who unfortunately was not able to carry out an autopsy on it to determine what its state of health had been.

Over the years, some of the residents of Grise Fiord have attributed the decline in numbers of Peary's caribou *Rangifer tarandus pearyi* in the region to the predatory habits of wolves, in spite of the absence of any proof that they have a controlling effect upon the size of caribou populations. It appears in actual fact that man has been blaming his competitor, the wolf, for the problems he himself has created<sup>8</sup>.

The wolves in the Jones Sound region are primarily reliant upon muskox, Peary's caribou, arctic hare *Lepus arcticus* and, occasionally, trapped arctic fox *Alopex lagopus* for their nutritional requirements. Aside from these terrestrial creatures, the wolves also feed on ringed seal *Phoca hispida*. On 10 May 1973, two hunters and I were at the place in Baumann Fiord where between two and four wolves had dug through 50 cm of dense snow and 38 cm of sea ice to feed on an adult ringed seal which had obviously died earlier that winter beneath the ice. The Inuit have related to me how wolves also feed on seals that they (the Inuit) have killed and cached. There is also information which suggests that wolves might actually stalk live seals. One of the Grise Fiord hunters claimed that his dogs had successfully stalked and killed seals basking on the ice. This hunter was also of the opinion that wolves can do likewise, though he had never witnessed such an act. Dr. M. Curtis has observed wolves near Tanquary Camp, northern Ellesmere Island, lying in wait at a seal hole and found evidence that they attacked seals coming out of the water (G. Hattersley-Smith, personal communication, 1972).

From data based on reports of members of the Grise Fiord Detachment of the R.C.M.P. I have been able to derive the following average numbers of wolves taken:

1956-57 to 1962-63:	1.7
1963-64 to 1967-68:	4.4
1968-69 to 1970-71:	9.6

The sharp increase from 1.7 to 4.4 was a result of the reintroduction in 1964 of bounty payments in the Northwest Territories for the capture of wolves<sup>11</sup>. A hunter receives \$40 for each animal captured, as well as the pelt which has a value ranging between \$10 and \$150. Some pelts are used locally for the trimming of parkas, for which they are however considered inferior to the pelts of dogs or imported wolverine.

Most wolves taken up to 1968 were either poisoned, accidentally caught in fox traps, or shot as they approached hunters or their dogs out of curiosity. Since the coming into general use of snowmobiles in the area, however, hunters have usually followed any fresh wolf track in the hope of catching up with one of the animals. The fact that the average number caught over the three years ending in 1971 was as high as 9.6 per year was therefore the result of overhunting by snowmobile, and not of an increase in numbers of the animals. The overhunting which took place over the years 1968-71 is the presumable explanation of the fact that not one wolf was taken during the years 1971-72.

The average weight of a wolf in the Jones Sound region is about 32 kg a figure obtained from the respective weights of two males (34 kg and 43 kg) and two females (23.5 kg and 24.9 kg). Wolf carcasses are not eaten either by the Inuit or their dogs.

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