DISTRIBUTION AND MIGRATION ROUTES OF MARINE MAMMALS IN THE CENTRAL ARCTIC REGION

by

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FISHERIES AND MARINE SERVICE
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ERRATA

READ, C.J. and S.E. STEPHANSSON. 1976. Distribution and migration routes of marine mammals in the Central Arctic Region. Fish. Mar. Serv. Tech. Rep. 667: 13 pp.

Please make the following addition and change to your copy of this report:

Page ii, under Observations: Add under Narwhal, Walrus 5

Page 2, last paragraph, first line: Should read, The westerly migration route follows the west coast ...

LIST OF FIGURES

ACKNOWLEDGMENTS

The authors gratefully acknowledge the major contribution of the Inuit hunters from Spence Bay, Gjoa Haven and Pelly Bay who, through personal interviews with one of the authors, graciously provided the information contained in this report.

ABSTRACT

READ, C.J. and S.E. STEPHANSSON. 1976. Distribution and migration routes of marine mammals in the Central Arctic Region. Fish. Mar. Serv. Tech. Rep. 667: 13 p.

This report contains information regarding the distribution, relative abundance and migration routes of marine mammals in the Central Arctic Region. The material presented was collected by means of interviews with Inuit hunters from Pelly Bay, Spence Bay and Gjoa Haven during the summers of 1971, 1972 and 1973.

RÉSUMÉ

READ, C.J. and S.E. STEPHANSSON. 1976. Distribution and migration routes of marine mammals in the Central Arctic Region. Fish. Mar. Serv. Tech. Rep. 667: 13 p.

Ce rapport renferme des renseignements sur la répartition, l'abondance relative et les voies migratoires des mammifères marins dans la région centrale de l'Arctique. Les renseignements ont été recueillis au moyen d'entretiens avec des chasseurs inuits de la baie de Pelly, de la baie Spence et de Gjoa Haven au cours des étés de 1971, 1972 et 1973.

INTRODUCTION

During the course of a fisheries survey carried out by the Fisheries Management Division of Environment Canada* in the Central Arctic Region, it became apparent that the residents of Pelly Bay, Spence Bay and Gjoa Haven were becoming concerned about the decline of marine mammals in the near vicinity of their respective communities. The number of marine mammals taken remained relatively constant over the years but the hunters found it necessary to venture farther from home each year in order to maintain their harvest. This was particularly evident with seal hunting.

In addition, the Eastern Arctic Pipeline had been proposed as an alternative to the Mackenzie Valley Pipeline. The proposed route was to pass from north to south across Boothia Peninsula and then east to the south of Pelly Bay. It was realized that the construction and use of such a pipeline could have a major impact on the environment, particularly in the event of a functioning pipeline being breached.

Therefore, information was collected on marine mammal distribution, relative abundance and migration routes to provide a basis for future reference if required. Traditional hunting waters were mapped and observations respecting habitat were recorded. This data is intended as background information for fisheries management personnel as well as those individuals assessing the environmental impact of the Eastern Arctic Pipeline.

MATERIALS AND METHODS

All information was acquired through interviews with native hunters from settlements in the Central Arctic Region during the summers of 1971, '72 and '73. Six Inuit hunters were interviewed in Gjoa Haven, 10 in Spence Bay and six in Pelly Bay. A Sony TC-110 tape recorder was used to record these interviews for future reference. World Aeronautical Charts were used to record species migration routes, distribution and summer concentration areas.

Distribution and migration routes of the species concerned are presented as described by the interviewees with minimal personal interpretation by the authors. The information is based on actual sightings of marine mammals by Inuit hunters and should not be interpreted as being the only routes and habitats of the species concerned; rather it is representative of the major known areas of marine mammal activity. Some of these areas are not visited by present-day hunters, so what the elderly hunters remember of these areas is the only information available.

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* Since this manuscript was completed the Headquarters staff of Fisheries and Marine Service, Western and Northern Region has been reorganized into a new reporting structure. The titles used in this text reflect the organization current at completion of the manuscript.

OBSERVATIONS

HISTORICAL SETTLEMENT AREAS

Since all hunters interviewed were more than 50 years old, all settlement areas noted are of considerably greater age. The shaded areas (Fig. 1) represent land most frequented by the hunters, specifically for hunting and fishing. Areas preferred for purposes other than hunting and fishing were not recorded.

Without exception, the 10 hunters interviewed in Spence Bay chose Savage Point as the place where they could live comfortably off the land. Savage Point was located on the east coast of Prince of Wales Island (Fig. 1, 1). Fort Ross near Bellot Strait was the second choice of several hunters (Fig. 1, 2). Both Savage Point and Fort Ross were old settlements that no longer exist.

The Gjoa Haven hunters preferred to hunt off the western coast of the Adelaide Peninsula where seals are particularly abundant.

The Pelly Bay hunters preferred to hunt along the eastern coast of Pelly Bay. In past years many seals were also taken in the Keith Bay area of northwestern Committee Bay.

BELUGA (Delphinapterus leucas (Pallas, 1776))

Migration routes

The two solid lines (Fig. 2), which show migration routes in Lancaster Sound, are not intended to show two distinct "stocks" of beluga but to indicate that large numbers of these animals move westward in the spring along the south coast of Devon Island as well as along the north coast of the Brodeur Peninsula. It is not known whether these animals are from two distinct "stocks" or not. However, there are two different routes of migration that follow in a southerly direction from Lancaster Sound.

The easterly route follows the east coasts of Somerset Island and Boothia Peninsula as far south as Lord Mayor Bay. In some years, beluga have been sighted farther south in the Gulf of Boothia. The return route is not known.

The westerly migration route follows the ~~east~~ West coast of Somerset Island through Peel Sound to Franklin Strait where a split occurs. One route continues in a southerly direction along the west coast of Boothia Peninsula into Pasley Bay and somewhat farther south. On occasion beluga have been seen as far south as Rasmussen Basin, just north of Chantrey Inlet. The return route is not known. The other route, which goes north from Franklin Strait, goes around Prince of Wales Island north to the Barrow Strait and back to Lancaster Sound.

Figure 1. Shaded areas indicate historical settlement areas in the Central Arctic Region.

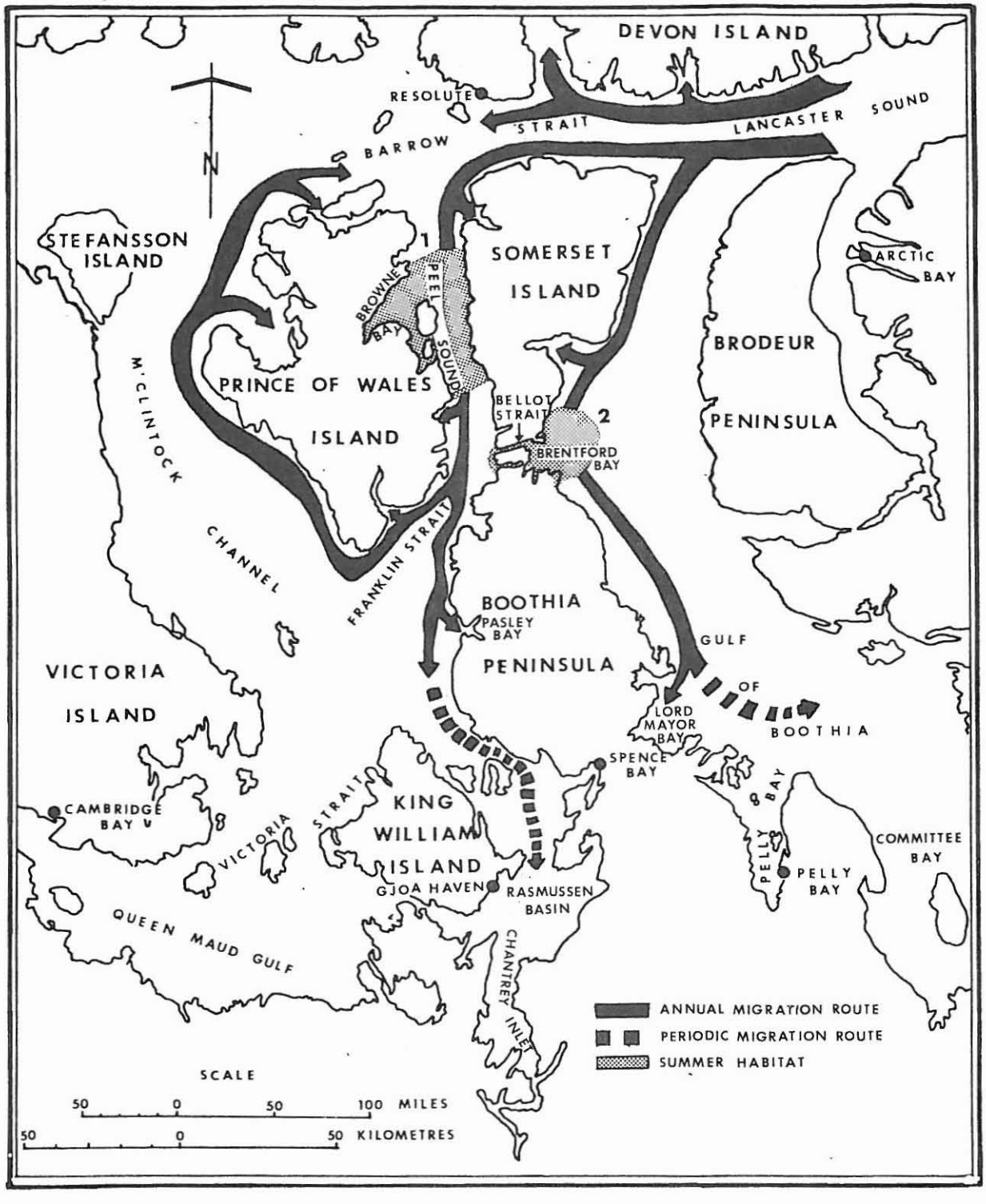

Figure 2. Annual and periodic migration routes and primary summer habitat of beluga in the Central Arctic Region. Numbers refer to areas described in the text.

Summer habitat

The hunters who were interviewed reported only two areas where beluga were found throughout the summer:

1. in Peel Sound, especially in the Browne Bay area (Fig. 2, 1): and
2. in Brentford Bay and throughout Bellot Strait (Fig. 2, 2).

NARWHAL (Monodon monoceros Linnaeus, 1758)

Migration routes

In Lancaster Sound, narwhal move westward during the spring along the southern coast of Devon Island, as well as along the northern coast of Brodeur Peninsula (Fig. 3). As with the beluga, it is uncertain whether or not these represent two distinct "stocks" and the two solid lines shown are not intended to indicate two separate populations. In any event, two major migration routes emerge from Lancaster Sound, as well as one minor route which extends into Admiralty Inlet.

The split into two major routes occurs just off the coast of Prince Leopold Island. The easterly route goes south along the east coast of Somerset Island as far as Cape St. Catherine (Fig. 3, 2). In some years narwhal have been sighted in Lord Mayor Bay and even farther south into the Gulf of Boothia, north of Pelly Bay. The return route is not known.

The westerly route goes through Peel Sound along the east coast of Somerset Island, around Prince of Wales Island, through Barrow Strait and back to Lancaster Sound. In some years narwhal have migrated into Ommanney Bay on the west coast of Prince of Wales Island.

Summer habitat

There are large numbers of narwhal in the Brentford Bay area during the summer (Fig. 3, 1).

WALRUS (Odobenus rosmarus (Linnaeus, 1758))

Migration routes

The northern migration route of the walrus extends from Lancaster Sound west along the south coasts of Devon Island and Cornwallis Island to Resolute (Fig. 4). The return route is not known.

The southern route of migration follows the east coast of Somerset Island as far south as Bellot Strait. In some years walrus have been sighted along the east coast of Boothia Peninsula as far south as Lord Mayor Bay. The return route is not known.

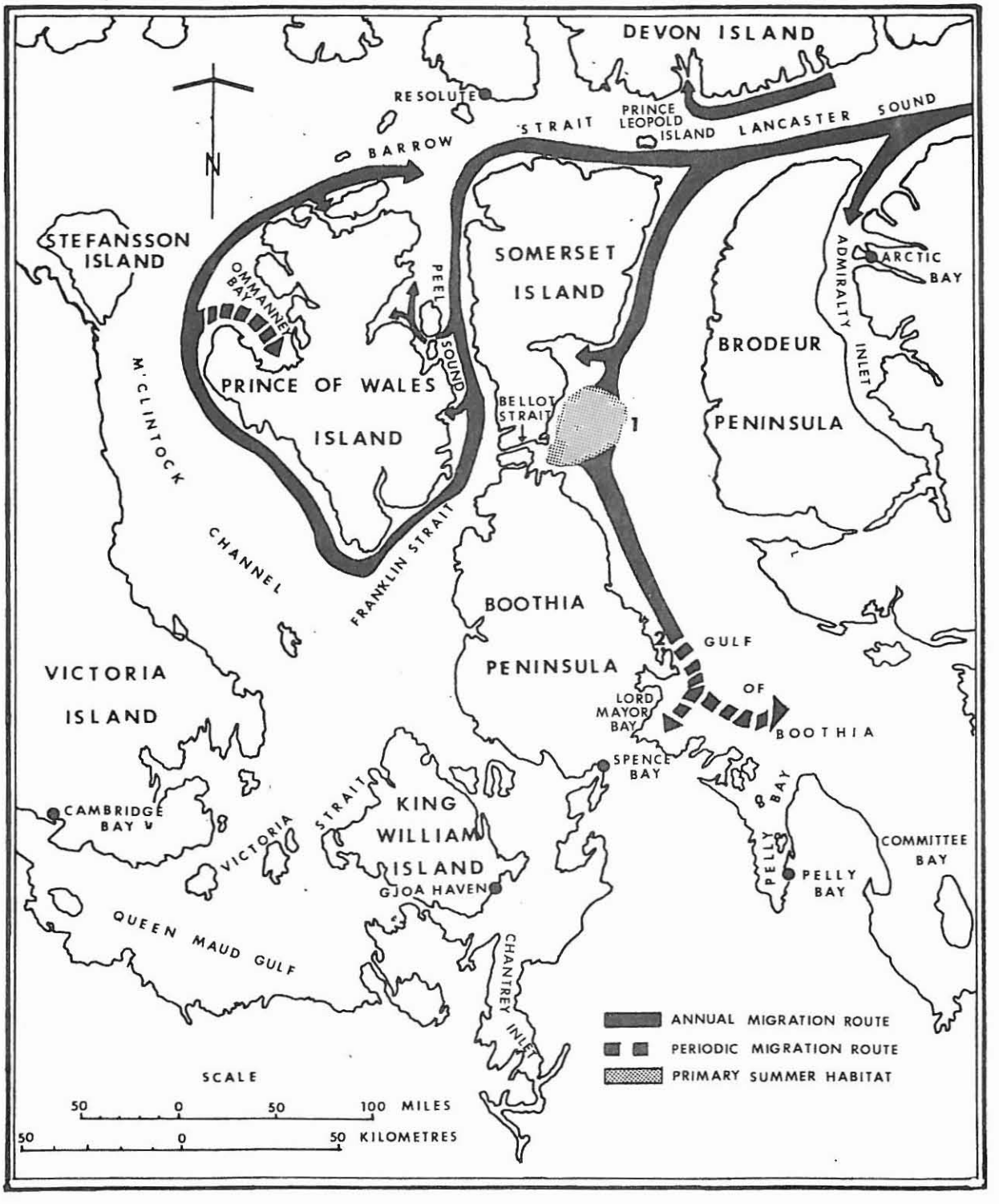

Figure 3. Annual and periodic migration routes and primary summer habitat of narwhal in the Central Arctic Region. Numbers refer to areas described in the text.

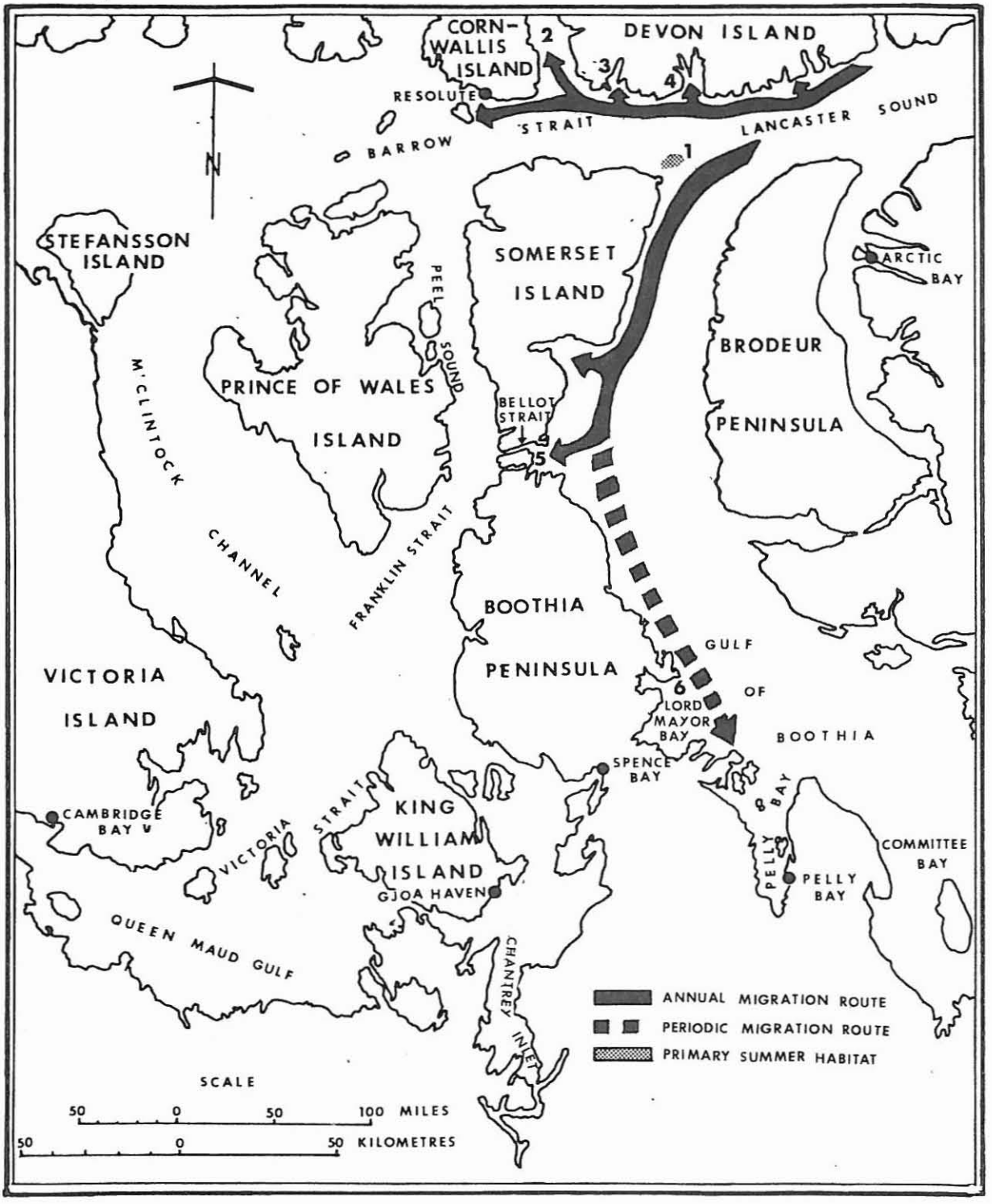

Figure 4. Annual and periodic migration routes and primary summer habitat of walrus in the Central Arctic Region. Numbers refer to areas described in the text.

Summer habitat

Walrus were reported to be common around Prince Leopold Island throughout the summer (Fig. 4, 1). Very few seals were seen in this area during the summer because of the abundance of walrus. Walrus are known to prey on seals but it is more likely that they chased the seals away. Walrus were common throughout southern Wellington Channel and especially off the southeast coast of Cornwallis Island (Fig. 4, 2). The area between Cape Ricketts, at the entrance to Radstock Bay, and Cape Hurd was a favorite summer habitat for this species of marine mammal (Fig. 4, 3). They were also common in Maxwell Bay, particularly in the eastern sector (Fig. 4, 4). Brentford Bay, at the western entrance to Bellot Strait, was the usual southern limit for walrus (Fig. 4, 5). Hunters reported the occasional harvesting of walrus in the eastern limits of Lord Mayor Bay, around the Astronomical Society Islands, as well as in the extreme south of the bay (Fig. 4, 6).

BEARDED SEALS (Erignathus barbatus (Erxleben, 1777))

Summer habitat

Bearded seals are found in areas throughout the Central Arctic Region from Wellington Channel in the north to Sherman Basin in the south (Fig. 5). Large numbers of bearded seals were reported in the extreme north of Browne Bay in late summer (Fig. 5, 1). Former residents of Fort Ross reported that bearded seals were common throughout Brentford Bay (Fig. 5, 2). In late summer they were abundant along the east central coast of Boothia Peninsula (Fig. 5, 3). Spence Bay hunters reported that bearded seals were common throughout most of Lord Mayor Bay (Fig. 5, 4). This species of marine mammal was also abundant along the east coast of Boothia Peninsula, from Cape Rendel to Kent Bay (Fig. 5, 5) and as far south as the Tennent Islands (Fig. 5, 6). They were very rarely seen south of the Tennent Islands in Spence Bay, Rae Strait or Chantrey Inlet. A large area of bearded seal abundance extended from the northeast coast of Adelaide Peninsula northeast to the Geographical Society Islands (Fig. 5, 7). Gjoa Haven hunters reported that large numbers of bearded seals gather around the west entrance to Simpson Strait (Fig. 5, 8) in the fall. Bearded seals were also common in the area around Jenny Lind Island (Fig. 5, 9), whereas ringed seals were seldom found in this area.

RINGED SEALS (Phoca hispida Schreber, 1775)

Habitat

There are areas of ringed seal activity scattered throughout the Central Arctic Region from Wellington Channel in the north to Chantrey Inlet in the south (Fig. 6). The extensive open water areas caused by shifting ice around Prince Leopold Island make an ideal winter habitat for ringed seals (Fig. 6, 1). Ringed seals are common throughout Brentford Bay summer and winter (Fig. 6, 2). This species of marine mammal is also common throughout the open water areas of Victoria Strait throughout the winter (Fig. 6, 3). During and after spring break-up, ringed seals move from

Figure 5. Shaded areas indicate primary summer habitat of bearded seals in the Central Arctic Region. Numbers refer to areas described in the text.

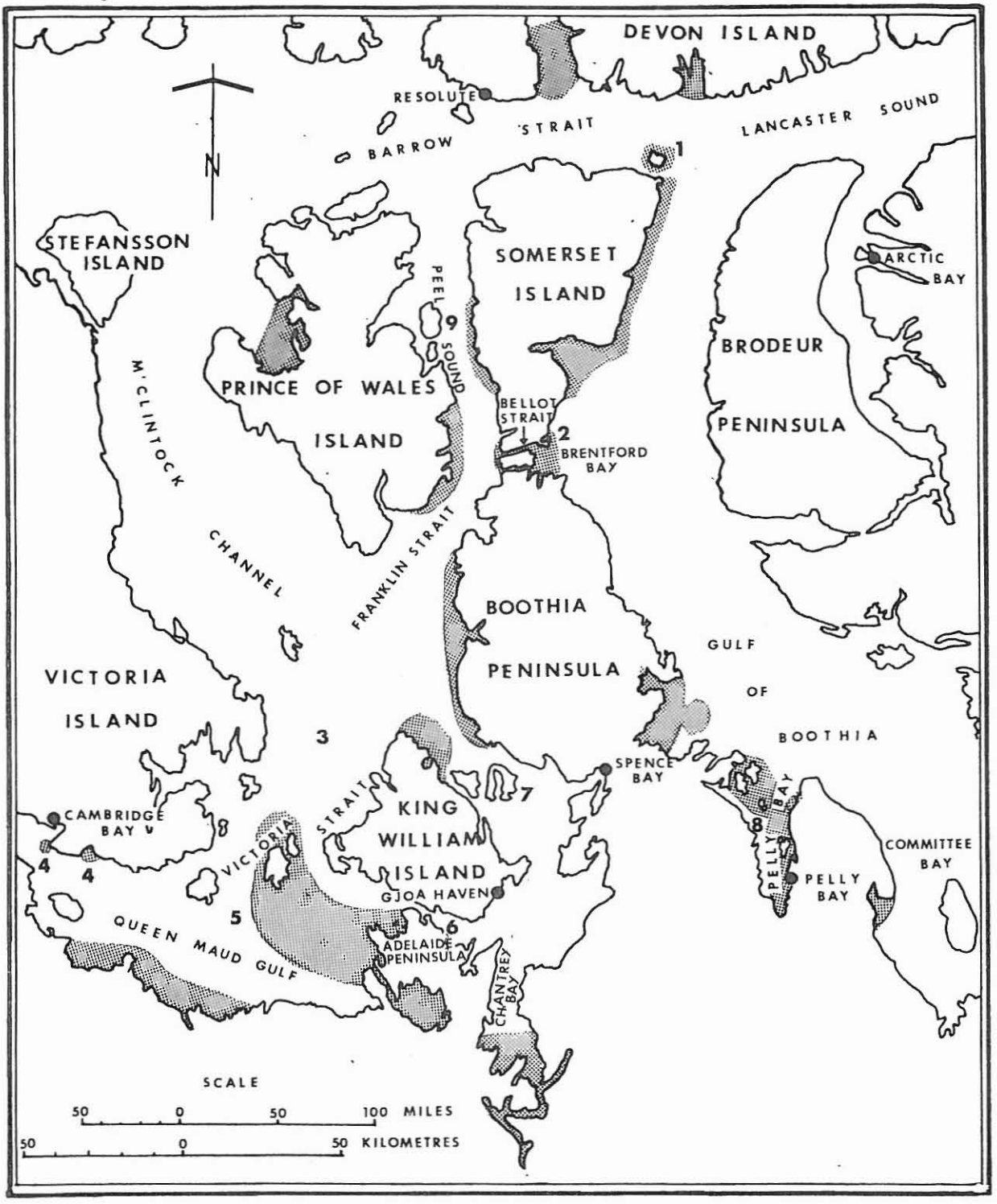

Figure 6. Shaded areas indicate primary summer habitat of ringed seals in the Central Arctic Region. Numbers refer to areas described in the text.

Dease Strait and Queen Maude Gulf into Cambridge and Anderson Bays respectively (Fig. 6, 4). Large numbers migrate to this area for pupping and breeding. An extensive area of ringed seal abundance stretches northeast from Adelaide Peninsula beyond the Geographical Society Islands with concentrated numbers just off the west coast of Adelaide Peninsula (Fig. 6, 5). There are relatively few ringed seals in the vicinity of Gjoa Haven so hunters have to travel into Simpson Strait for the best seal harvesting (Fig.,6, 6). Although residents of Spence Bay hunt ringed seals off the east coast of Motty Island, they are not plentiful in this area (Fig. 6, 7). The majority of Pelly Bay residents do most of their seal hunting within 10 miles of the settlement (Fig. 6, 8). Former residents of Savage Point, Pandora Island area, did extensive hunting for ringed seals along the west coast of Somerset Island (Fig. 6, 9).

POLAR BEAR (Ursus maritimus Phipps, 1774)

Winter habitat

The hunters interviewed reported two main areas of polar bear distribution (Fig. 7). Residents of Simpson and Boothia Peninsulas formerly hunted polar bears in Prince Regent Inlet between Bernia Bay and Boothia Peninsula (Fig. 7, 1). Seals were also common in this area during the winter because of the extensive areas of open water. Polar bears were also abundant throughout Victoria Strait during the winter (Fig. 7, 2).

WINTER OPEN WATER AREAS

Open water and extensive lead-ice areas are important to overwintering marine mammals. Seals concentrate in lead-ice zones in areas where solid ice is shifting and breaking. Narwhal and beluga may get trapped in isolated high current areas that are ice-free but surrounded by solid ice or shifting ice.

Inuit hunters travelled to ice-free and lead areas for winter polar bear and seal hunting. The most important areas to the hunters are shown in Fig. 8 and their importance explained below (the numbers refer to Fig. 8).

1. The shifting lead-ice in Victoria Strait is primary polar bear habitat for this region.
2. Bellot Strait is seldom completely open during winter. Most years there are extensive open water areas throughout the strait with lead-ice extending into the bays on either side.
3. Extensive but scattered shifting lead-ice is found in central Gulf of Boothia. Polar bears and seals were historically hunted in this region.
4. This area is primarily shifting lead-ice.
5. Shifting leads and stretches of open water occur in Wellington Channel.
6. There are both open water and shifting lead-ice in Maxwell Bay.
7. Vast stretches of shifting open water occur in Lancaster Sound, usually extending off the coast of Devon Island.

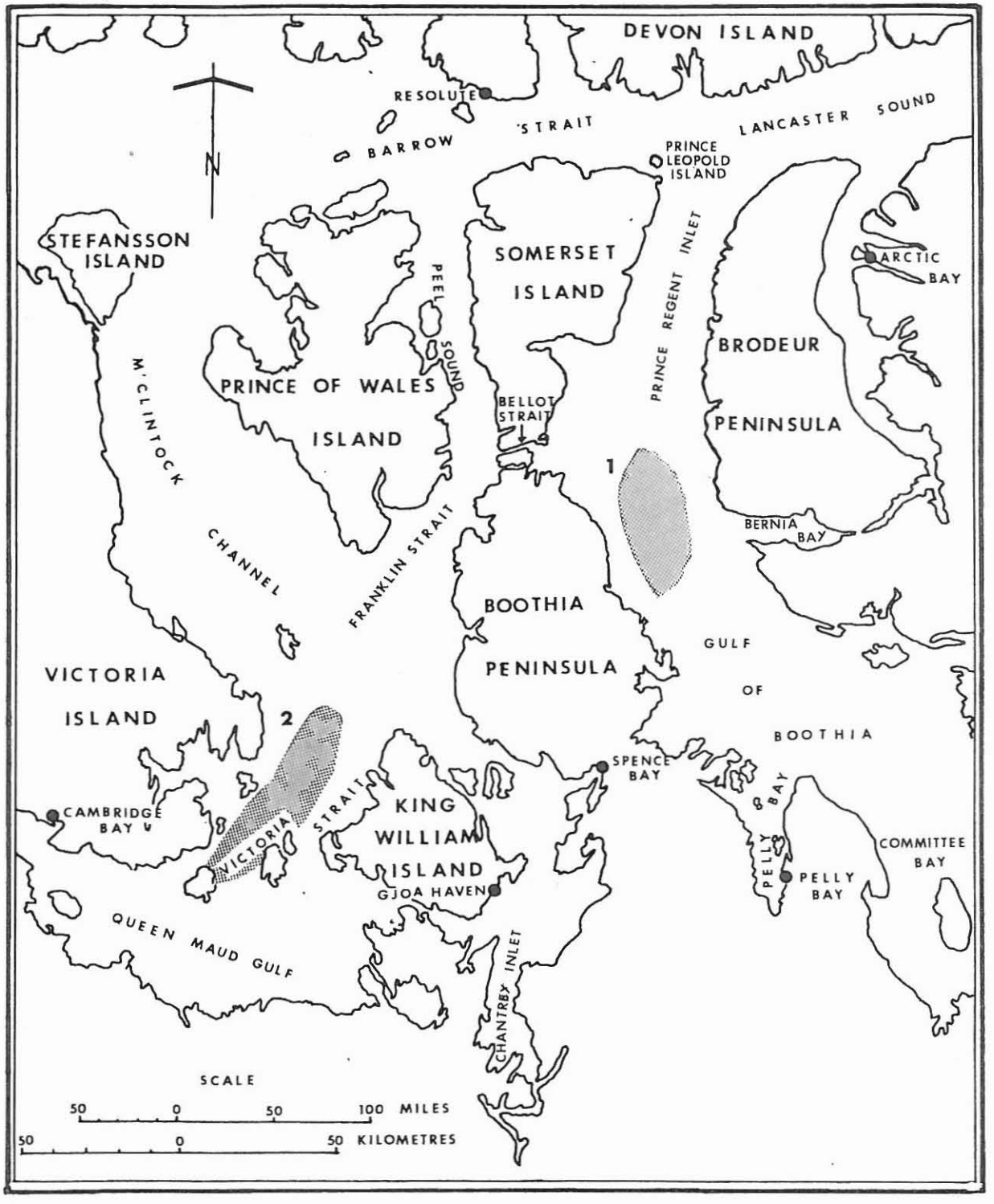

Figure 7. Shaded areas indicate primary winter habitat of Polar Bears in the Central Arctic Region. Numbers refer to areas described in the text.

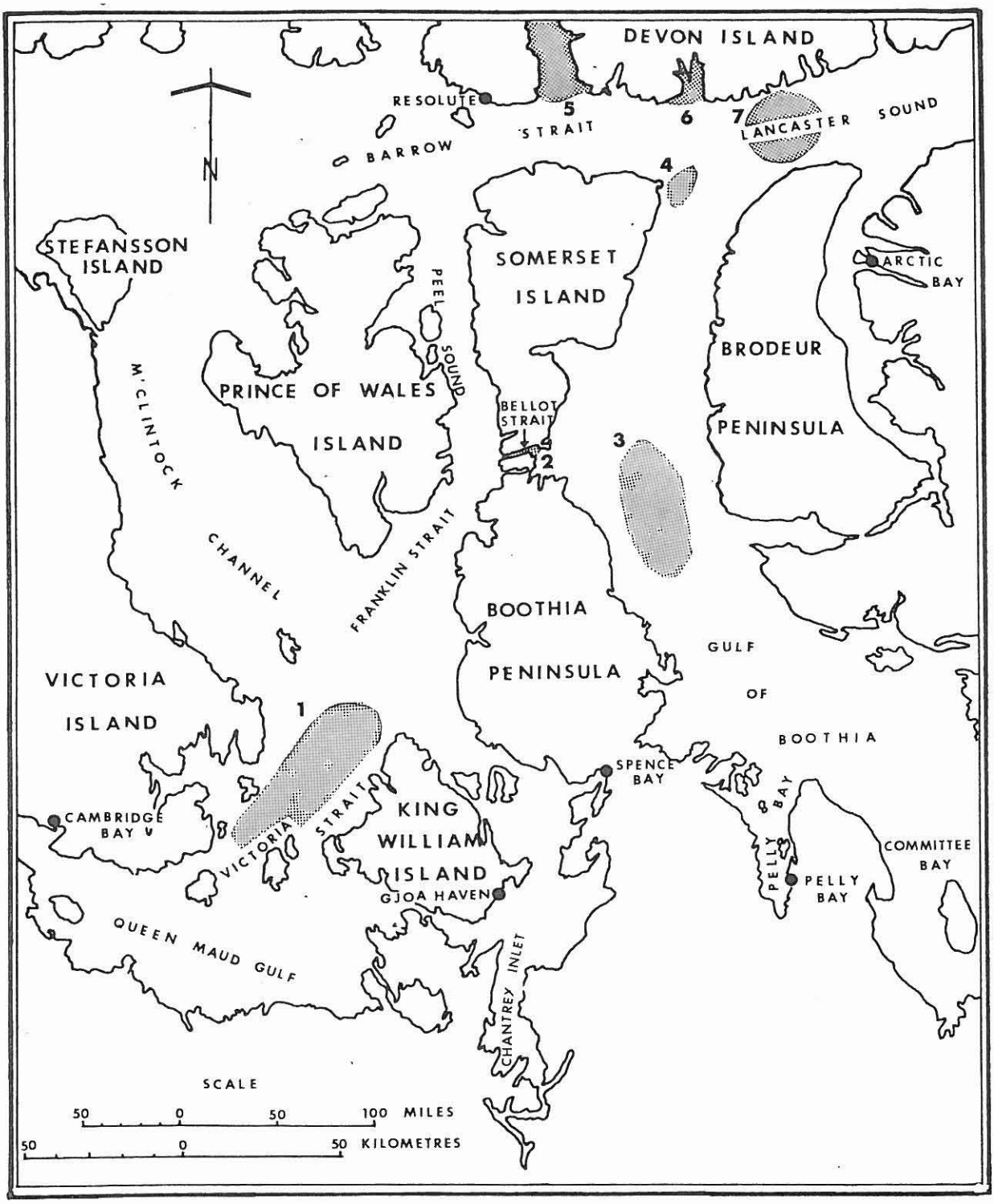

Figure 8. Shaded areas indicate extensive open water areas in the Central Arctic Region. Numbers refer to areas described in the text.