

Traditional Ecological Knowledge of beluga whales in Nunavik
Interviews from Puvirnituk, Umiujaq and Kuujjuaraapik

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INTRODUCTION

Beluga whales (*Delphinapterus leucas*) are a traditional food of the Inuit of Nunavik. Recent aerial surveys indicate the size of the eastern Hudson Bay stock has declined since the previous survey in 1993 (Kingsley 2000, DFO unpublished data). This stock is designated by COSEWIC as "threatened" (Reeves and Mitchell 1989). As part of the co-management process, Makivik Corporation and the Nunavik Hunting Fishing and Trapping Association have been working with DFO and Environment Canada's habitat stewardship program to document traditional and local knowledge of beluga whales in Nunavik. Elders from the communities of Kangirsuk, Salluit and Inukjuak were interviewed during the first phase of the project (Lee et al 2002). In the present report, the knowledge of beluga hunters from Puvirnituk, Umiujaq and Kuujjuaraapik were compiled through maps and interviews.

Our report is not an extensive study of Inuit knowledge, but a response to questions that were posed to obtain information that was considered necessary for an understanding of beluga life history that can be used in management decisions.

Organizational notes

The communities covered by Phase II were chosen because the management concerns at present are focused on the eastern Hudson Bay stock. They represent the next three of six communities where interviews have been conducted and are thus numbered sequentially: Puvirnituk (4), Umiujaq (5) and Kuujjuaraapik (6). Maps are used to summarize life history characteristics and travel routes and follow a community map numbering system.

METHODS

Inuit hunters from the communities of Puvirnituq, Umiujaq and Kuujjuaraapik were interviewed in late January and early February 2002. These hunters were selected by the local Hunters and Trappers and Fishing Association (HFTA) and are considered to be most knowledgeable about beluga whales in their community. The hunters were interviewed by an Inuit employee of Makivik Corporation (W.A.) who has a background in conducting such interviews. The questionnaire formulated by Lee et al (2002) was followed. The information requested included:

- Areas of concentration of beluga
- Change in abundance of beluga
- Use of estuaries of beluga
- Migration patterns of beluga
- Importance of habitat of beluga
- Sustainable hunting practices of Inuit (which animals – selection, where, when and how)
- Community needs versus access to resources

The responses to questions were taped, rather than written, so that the interviewing process was more informal, although a questionnaire was being followed. Two hunters were interviewed at a time in Inuktitut. The sessions lasted approximately 3 hours.

The questionnaire was accompanied by 1:250, 000 scale maps of the local area. Each respondent marked ecological and other information pertaining to beluga whales onto acetates fixed upon these maps. These maps were then digitized and the collective information presented in map form.

RESULTS - SUMMARY OF INTERVIEWS AND INFORMATION ON MAPS

PUVIRNITUQ (Community #4)

Migration and occurrence of beluga

Beluga are not seen near Puvirnituaq in winter. They first appear at the end of May in open water or cracks in the ice. At this time beluga are migrating south, offshore and are not seen. In the past, these whales used to pass by people's camps. They are still expected but they do not occur – now they are seen ever 3 to 5 years rather than every year. The noise from outboards is considered to have scared them away (See Noise and Disturbance section). The whales used to stop at small rivers on their migration, but no longer do so.

The migration is also no longer the same; the whales are migrating further offshore (Map 4.1). Whales spend the winter off Sanikiluaq (Belcher Islands) where the ice is in constant movement.

Life history

Reproduction: Some calves are born in spring along the ice cracks while the whales are migrating south. Calves are also born when the whales reach the eastern end of Richmond Gulf (Map 4.1 Inset, Lac Guillaume Delisle). Breeding took place at the Puvirnituaq River in the past and now only occurs at the Nastapoka River. The newborns are brown not gray.

Moulting: Beluga shed their skin in July and August.

Diet: Sculpins are seen in the stomachs. Other contents are hard to identify.

Predation: The Puvirnituaq hunters interviewed have not witnessed a beluga being attacked by another type of animal.

Behaviour: Hunters report that the behaviour is not well known as the whales are just passing through. Different types of whales are not recognized. The hunters parents said that the yellow whales were only part of the Lumaq¹ family.

¹ Lumaq or last part of irngnialuma “my son did it”. A legend about a woman who had treated her blind son poorly, and who, after he regained his sight by help of a loon, tricked her into tying a harpoon line around her waist and she was dragged off by a beluga when he harpooned one. This was her cry. (Nungak and Arima 1992).

Uses of beluga, hunting and the “quota”

Traditionally, stomachs were dried and stuffed with fat. Also, in the past, gray animals were sought more often because the skin was made into kamiks (boots) and the muktuk was more tender. Sinew was an important part of the beluga. The meat was dried to preserve it, and the fat was kept.

In spring beluga are hunted at the floe edge, and previously in coastal waters (Map4.2).

The quota system is accepted as a good idea because the Inuit population is growing. However, there is disagreement with the way that the quota was allocated to communities. It was generally expressed that larger sized communities should have the bigger quotas. The fact that the quota is not being respected is frustrating.

Reasons for decline in numbers

Noise from outboards on canoes was given as the reason why there were no longer beluga inshore. Travel routes are shown on Map 4.3. The whales have been scared offshore. One hunter mentioned that in the early years there were great numbers of beluga. He felt that the operation of a cannery in Churchill, Manitoba, in the 1950s and early 1960s had something to do with the decline. Pieces of square muktuk have been found in the past. Some people thought this was due to killer whales, but killer whales don't cut them in perfect squares.

UMIUJAJQ (Community #5)

Migration and occurrence of beluga

One hunter reported seeing beluga three times in winter. Narwhal have also been seen at that time. Whales have been seen in winter in earlier years, but not anymore. One of the beluga seen was in Richmond Gulf (Lac Guillaume Delisle) - the entrance remains ice-free in winter due to strong currents.

In spring, beluga migrate south along the coast (Map 5.1) the white-coloured whales arrive first followed by the gray animals. In July, they are seen in Richmond Gulf. They are in river mouths for the summer. They go back and forth between Richmond Gulf and Great Whale River. Beluga migrate north in September and October, travelling far offshore.

One elder reports that he used to see whales migrating south towards James Bay.

Whales used to stay around in September and October, but they are rarely seen at this time now. There used to be many when they arrived. Nowadays, there are so few it seems they are declining – a noticeable decline. Used to see groups of 100 whales, but now the groups are smaller.

Life history and physiology

Reproduction: Most give birth in July and August among the Nastapoka Islands and in Richmond Gulf, but some give birth (while migrating) before they arrive there. Mating takes place in July and August also. Gray animals give birth more often than white ones.

Diet and feeding: Beluga feed in the area just west of the Nastapoka Islands (Map 5.1).

Condition: Beluga arrive in the spring fat, but they are thinner when they leave in the fall.

Behaviour: Beluga from western Hudson Bay are more yellow in colour. Whale behaviour has not seemed to have changes, but the numbers are a lot less.

Uses of beluga, hunting and the “quota”

Beluga are hunted in all seasons if they are available. In spring and fall, beluga are hunted on the offshore side of the Nastapoka Islands. In summer, hunting is in Nastapoka Sound, in Richmond Gulf and Little Whale River (Map 5.2). Hunters from further north use the Nastapoka River for hunting; people from Umiujaq tend to use Little Whale River.

Hunting is more individualistic these days than before. In the past, people used to help each other more and share the harvest. The hunters' parents used kayaks and harpoons to hunt beluga. The hunters agree with the quota.

Reasons for decline in numbers

Disturbance by noise is the reason given for the decline in occurrence. This traffic is concentrated in coastal waters (Map 5.3). The hunters noted that their parents did not have fast canoes with motors. Presently, people travel far and even at night.

KUUJJUARAAPIK (Community #6)

Migration and occurrence of beluga

Hunters wondered if the whales over-wintered in James Bay as there is open water at that time there. In their parents' time, before canoes, whales used to come upstream, past the community, up the Great Whale River.

In the Great Whale River the numbers of whales has greatly decreased. It is thought the whales have gone to western Hudson Bay. Whales are seen around Long Island and Cape Jones area. James Bay beluga appear bigger in size.

Life history

Reproduction: Some whales can be seen with three calves: two swimming with it and one on the whales back. The white animals are usually pregnant more often than grey ones. Calves are born brown in colour.

Moulting: At the end of August, beluga turn away from the rivers after they have moulted.

Diet: Beluga do not feed much when they are moulting. In July and August, they eat fish (ogac? Cod); in September sculpins are eaten.

Predation: The father of one hunter once saw muktuk in the stomach of a walrus.

Behaviour: After moulting, beluga are said to be more sensitive to noise.

Uses of beluga, hunting and the "quota"

Muktuk and the blubber is mostly used presently. The meat is dried.

Beluga are hunted by driving them into shallow water and harpooning them. No rifles are used until the whale is harpooned. In the past, people didn't used to hunt them in June, but now they do.

In winter, whales are sometimes hunted if they appear in open water area offshore of the Manitounuk Islands, NE of Kuujjuaraapik. In other seasons, hunting occurs in the coastal waters between Long Island north to the southern side of Richmond Gulf (Map 6.2).

The quota is considered to be useful as the hunters want to preserve beluga for future use. The hunters try to follow the quota. They do not agree with those communities that go over their quota. The quota was more acceptable when all

communities had the same quota. Now Hudson Strait communities have higher ones.

Reasons for decline in numbers

Disturbance by the noise from outboards on canoes in coastal waters (Map 6.3) is said to be the reason for the decline in the Great Whale area. Although Cree do not hunt whales, it was noted that they "toy" with them sometimes which may scare them away.

SUMMARY

Whales appear in the cracks in the sea-ice off Puvirnituk at the end of May and are headed south to the Hudson Bay Arc where they frequent the coastal waters and the mouths of the Nastapoka, Little Whale and (less so now) Great Whale rivers.

Hunters from Puvirnituk, Umiujaq and Kuujjuaraapik all mentioned the decrease in the number of whales that they observe in coastal water. The size of the groups they see is also smaller. They consider the cause of the decrease to be due the disturbance caused by noise from outboards on canoes which has scared the beluga further offshore. This view was expressed in the communities of Kangirsuk, Salluit and Inukjuak (Lee et al 2002).

The first calves are born during the migration south while the whales are still in the ice and birthing continues into July and August. The newborns are brown. Umiujaq hunters felt gray animals gave birth more often than whites, whereas hunters from Kuujjuaraapik said white animals were pregnant more often. These two views are not necessarily in conflict; animals that are gray can be both mature and immature (Doidge 1990) so the term itself covers a number of reproductive classes and so is a bit confusing.

At the end of August beluga are no longer seen in the estuaries. Their moult is complete. They are now thinner than when they first appeared at the beginning of summer.

Beluga feed on the outside of the Nastapoka Islands. "Fish" (presumably Greenland cod) and sculpins have been found in their stomachs. The other contents are difficult to recognize.

Whales, other than those which summer on the coast of eastern Hudson Bay are recognized. Yellow whales are considered to be from western Hudson bay or part of the *Lumaaq* family (DETAILS). Beluga from James Bay appear to be larger in size.

The method of hunting has changed with the generation. The parents of the hunters interviewed had used kayaks and harpoons to hunt beluga. Now hunters also have outboard-powered canoes and rifles. Hunters from Kuujjuaraapik mentioned that they still harpoon first before shooting the whale.

Muktuk, blubber and meat were the important products from the whales. In the past, beluga were an important source of sinew for sewing. Skin from the gray whales was used in making boots.

Hunters generally thought the quota was a good idea and was needed to preserve the beluga for the future, but they were not happy with it. They found it frustrating that some communities in Nunavik would exceed their quotas. Feelings differed on the issue of quota allotment. Hunters from Puvirnituk thought they should be based according to the size of the community. Others felt that the quota should be the same all over, including Hudson Strait. Presently, the hunt is more individualistic than the past when people shared more.

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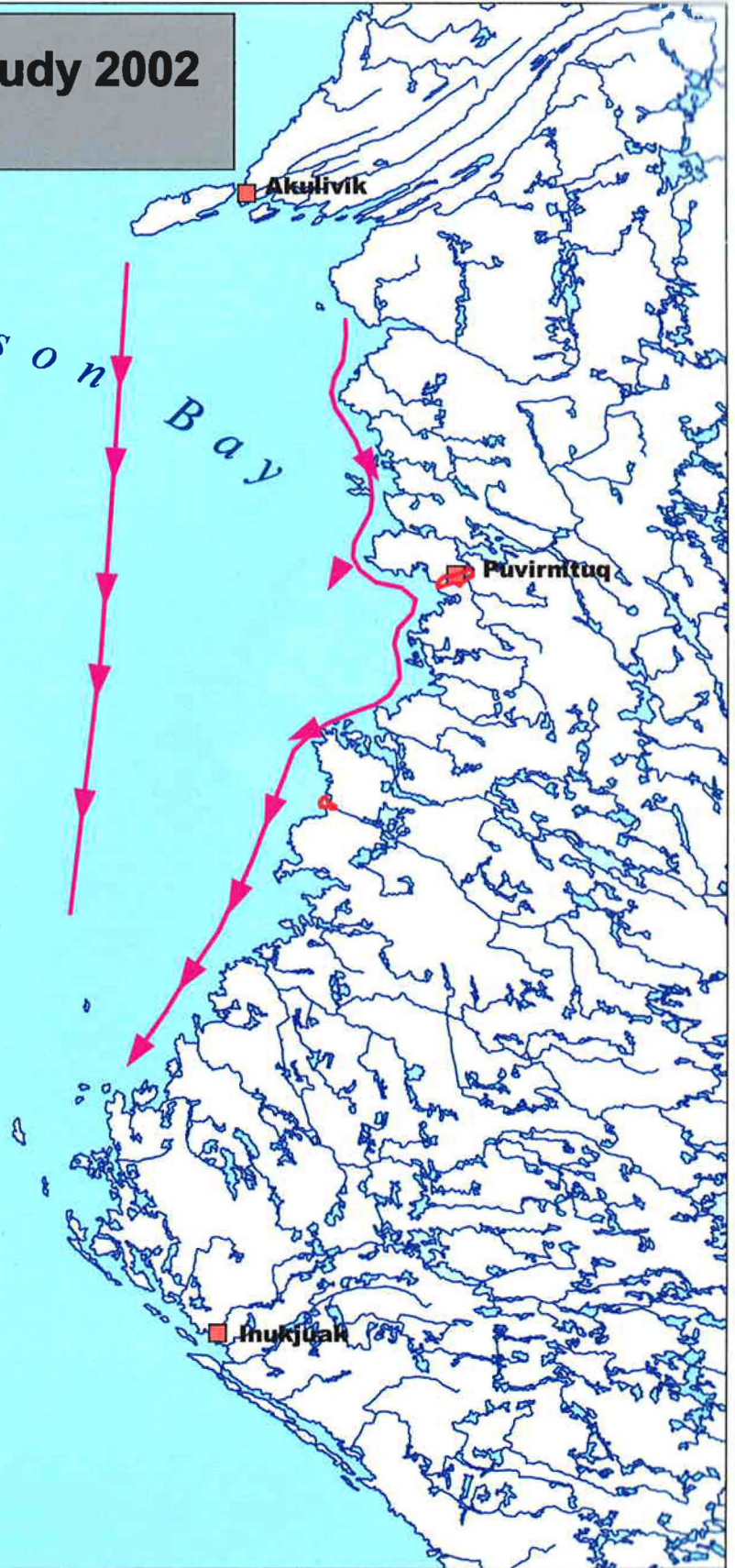
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MAP 4.1



BELUGA ECOLOGY

-  BREEDING AREA
-  CALVING AREA
-  MIGRATION ROUTE



10 0 10 20 30 40 50 Kilometers



Nunavik Beluga TEK Study 2002

MAP 4.2



BELUGA HUNTING AREA

- SPRING
- SUMMER

Hudson Bay

Puvirnituq



Inukjuak

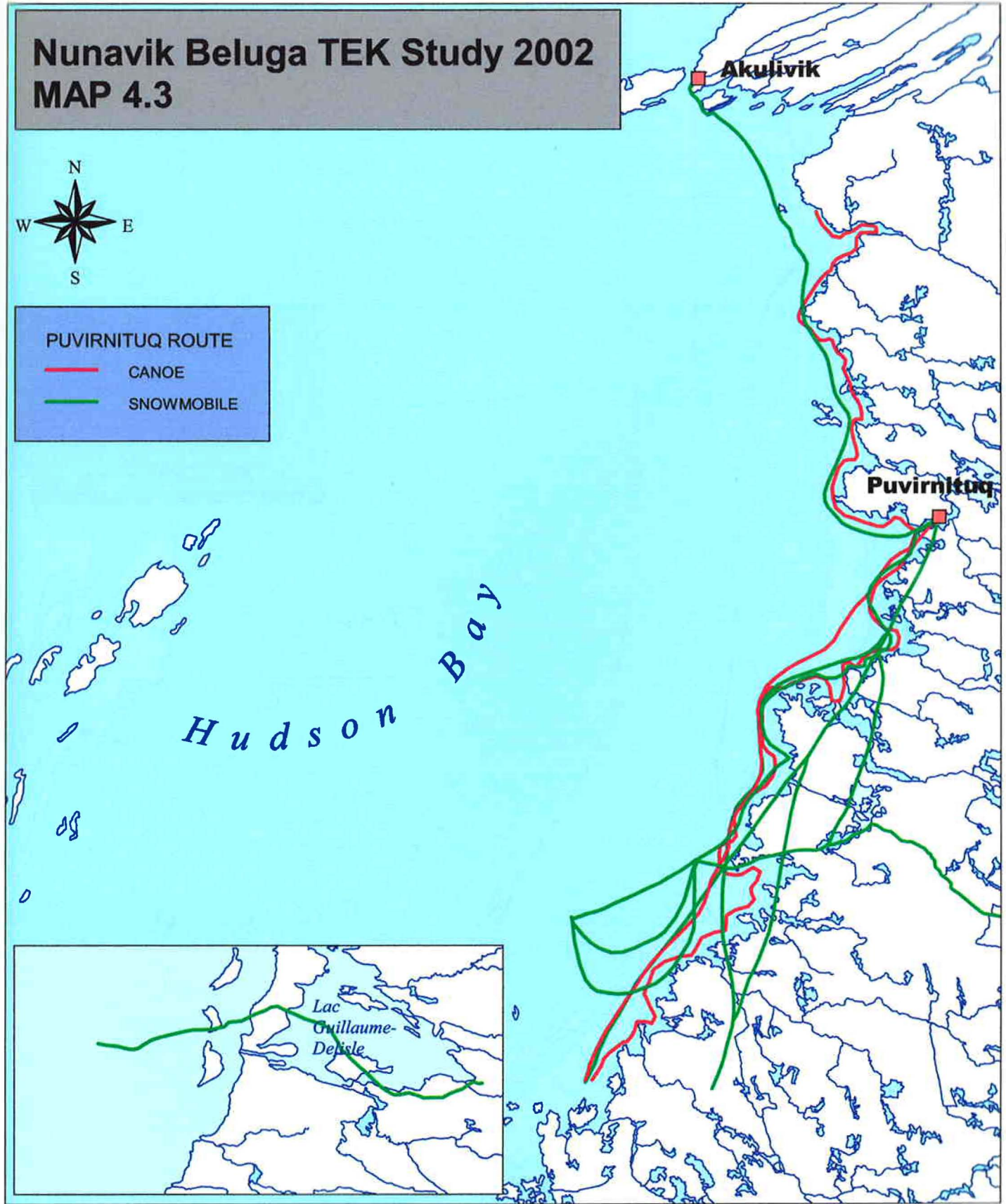


Nunavik Beluga TEK Study 2002 MAP 4.3



PUVIRNITUQ ROUTE

-  CANOE
-  SNOWMOBILE



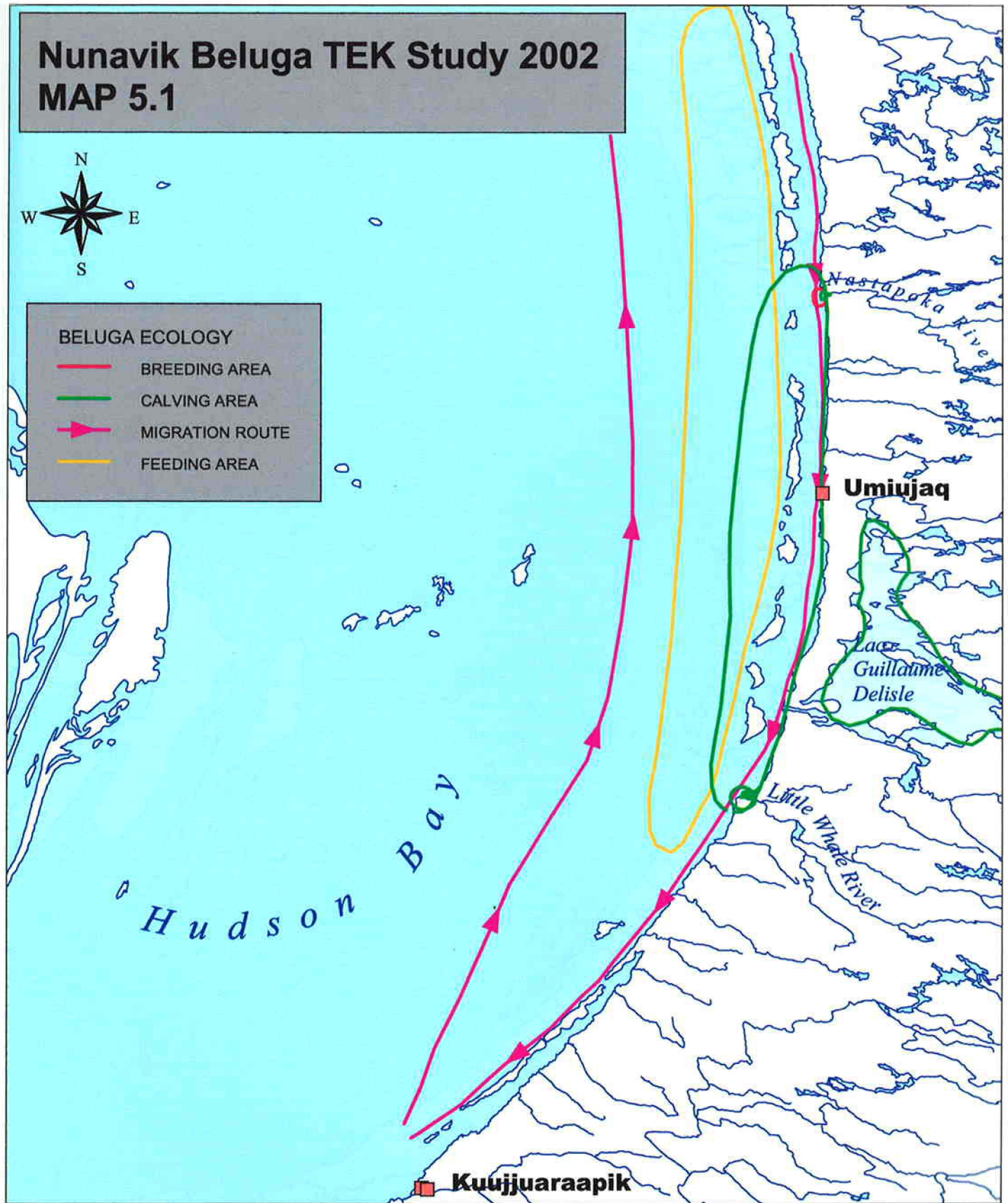
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MAP 5.1



BELUGA ECOLOGY

-  BREEDING AREA
-  CALVING AREA
-  MIGRATION ROUTE
-  FEEDING AREA



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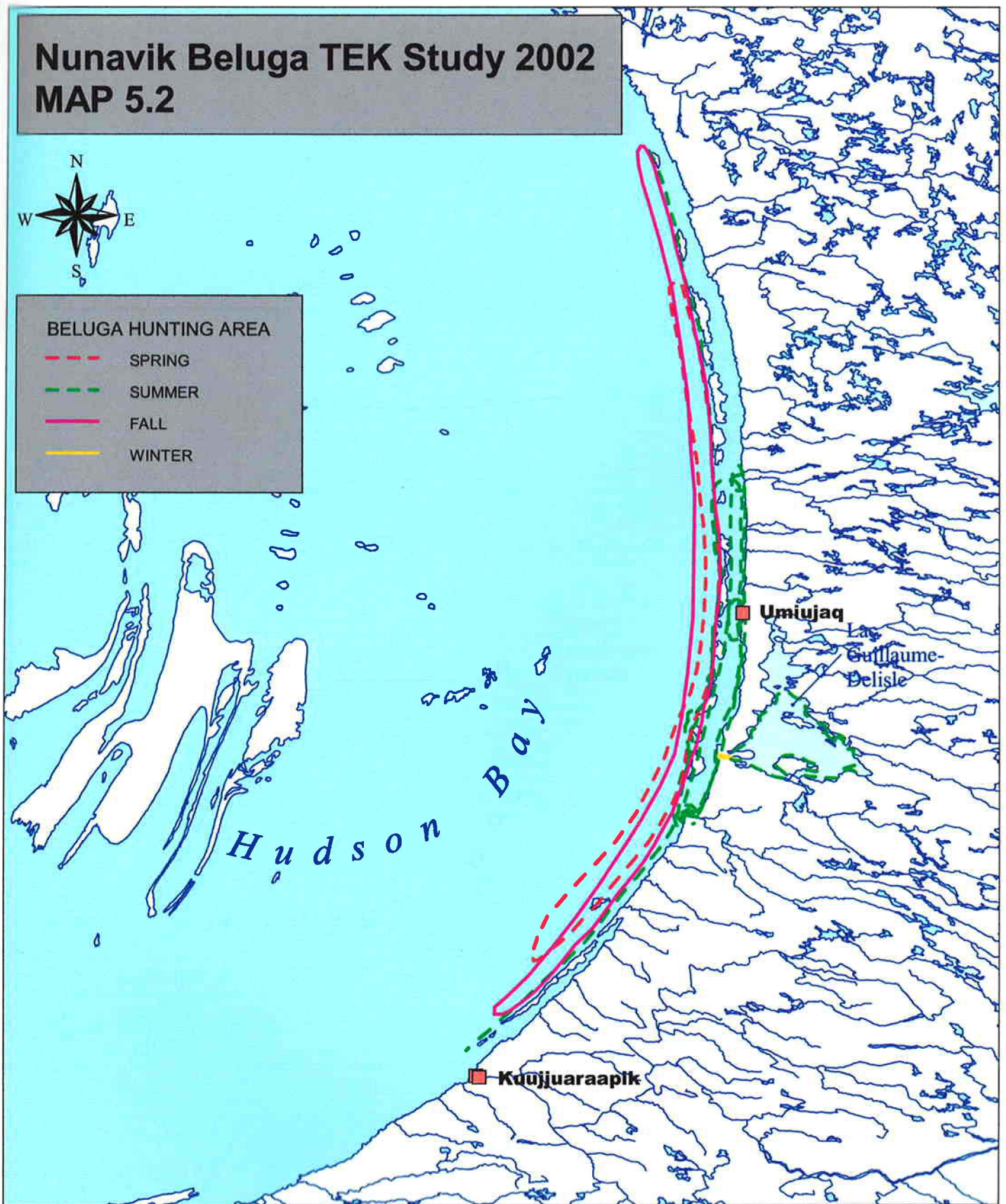
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MAP 5.2



BELUGA HUNTING AREA

- - - SPRING
- - - SUMMER
- FALL
- WINTER





10 0 10 20 30 40 50 Kilometers

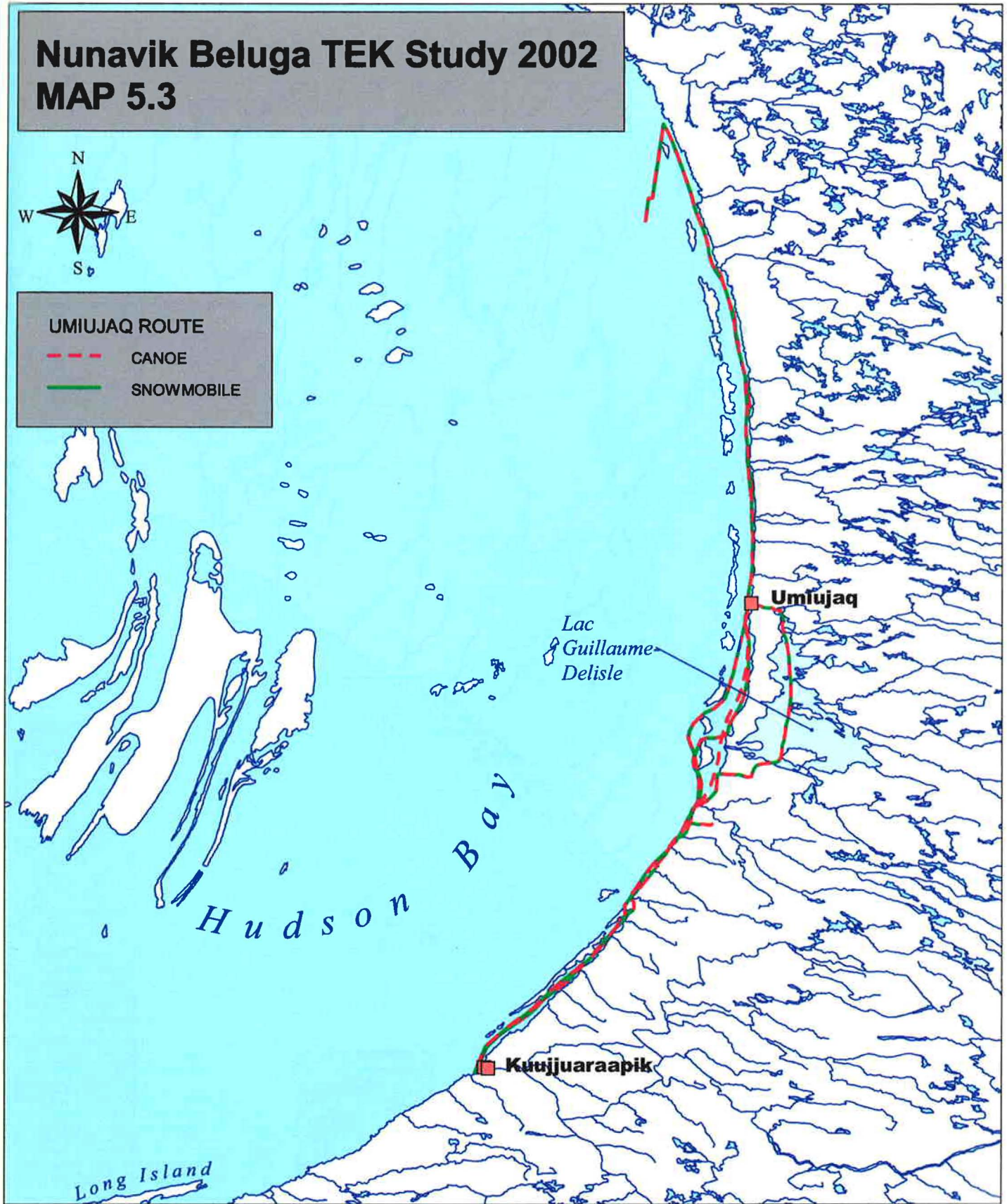


Nunavik Beluga TEK Study 2002 MAP 5.3



UMIUAQ ROUTE

-  CANOE
-  SNOWMOBILE



10 0 10 20 30 40 50 Kilometers





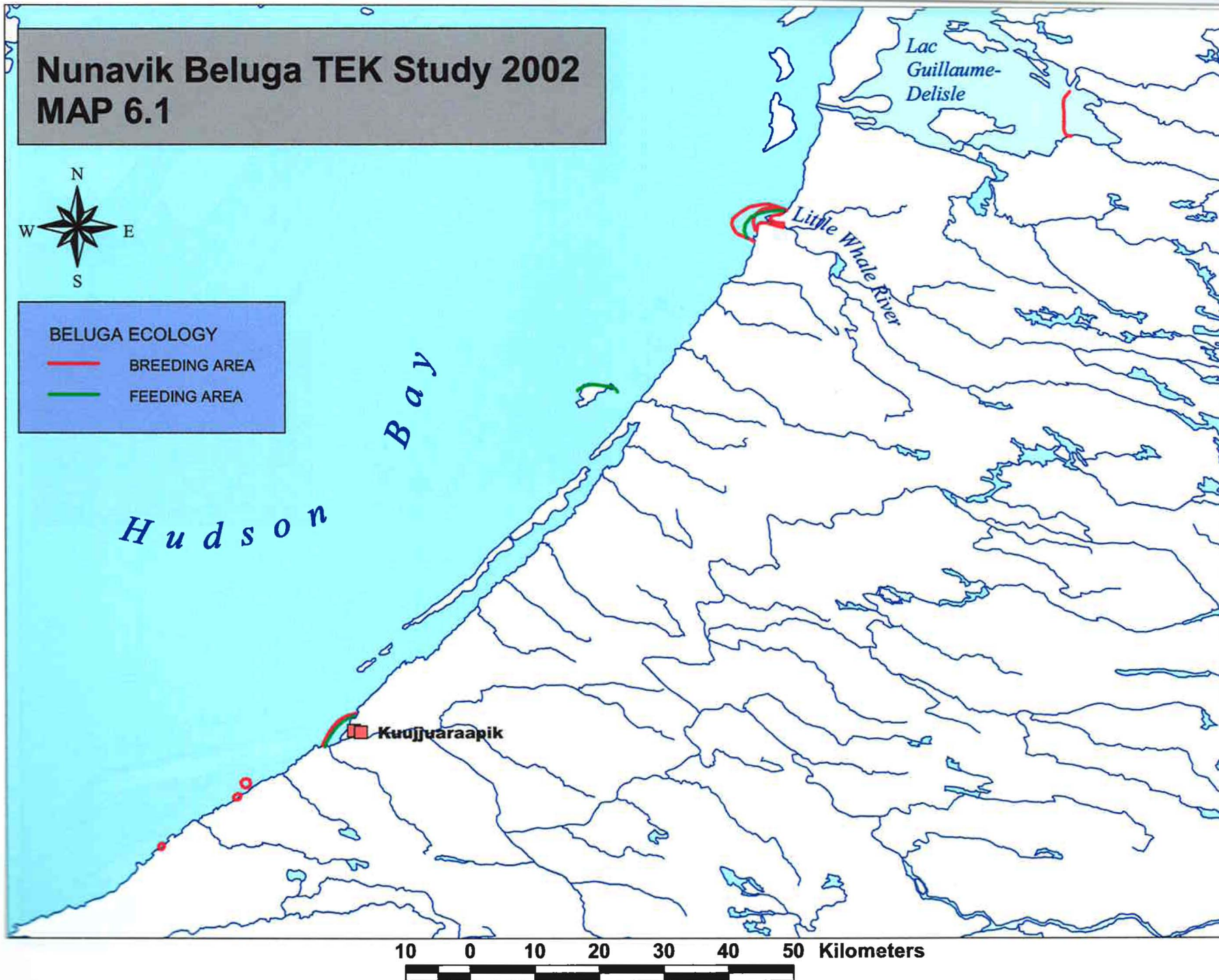
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MAP 6.1



BELUGA ECOLOGY

-  BREEDING AREA
-  FEEDING AREA



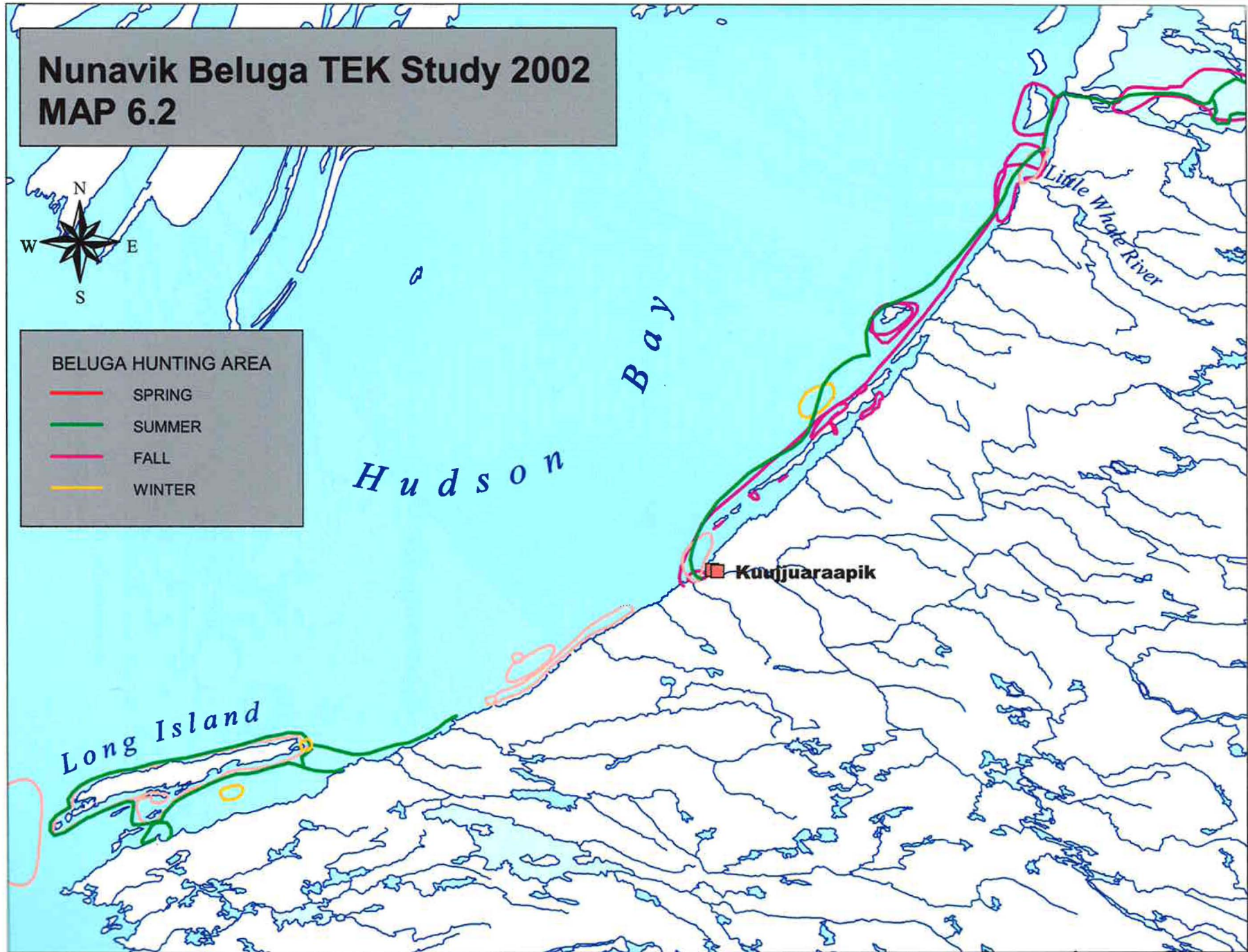
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MAP 6.2



BELUGA HUNTING AREA

- SPRING
- SUMMER
- FALL
- WINTER



10 0 10 20 30 40 50 Kilometers

Nunavik Beluga TEK Study 2002

MAP 6.3



KUUJJUARAAPIK ROUTE

- CANOE
- SNOWMOBILE

