NUNAVUT
COASTAL RESOURCE INVENTORY

Kugaararuk

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Department of Environment
Avatiliqiyikkut
Ministère de l'Environnement

NCRI

Nunavut Coastal Resource Inventory – Kugaaruk
2015

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EXECUTIVE SUMMARY

This report is derived from the Hamlet of Kugaaruk and represents one component of the Nunavut Coastal Resource Inventory (NCRI). "Coastal inventory", as used here, refers to the collection of information on coastal resources and activities gained from community interviews, research, reports, maps, and other resources. This data is presented in a series of maps.

Coastal resource inventories have been conducted in many jurisdictions throughout Canada, notably along the Atlantic and Pacific coasts. These inventories have been used as a means of gathering reliable information on coastal resources to facilitate their strategic assessment, leading to the promotion of economic development, coastal management, and conservation opportunities. In Nunavut, the coastal resource inventory has two additional applications: the preservation of traditional knowledge (Inuit Qaujimajatuqangit, or IQ) and the preparation for forthcoming environmental changes, particularly those driven by climate change.

The Fisheries and Sealing Division of the Department of Environment (DOE) initiated this inventory in 2007 by conducting a pilot project in the community of Igloolik, Nunavut. Following the success of this project further communities were approached and agreed to take part in the inventory process, they are as follows:

- 2008 Kugluktuk and Chesterfield Inlet
- 2009 Arctic Bay and Kimmirut
- 2010 Sanikiluaq
- 2011 Qikiqtarjuaq and Gjoa Haven
- 2012 Iqaluit, Repulse Bay, and Grise Fiord
- 2013 Pangnirtung
- 2014 Coral Harbour, Clyde River, and Taloyoak
- 2015 Kugaaruk and Cambridge Bay

This report presents the findings of the coastal resource inventory of Kugaaruk, which was conducted in March 2015.

Inventory deliverables include:

- A final report summarizing all of the activities undertaken as part of this project;
- Provision of the coastal resource inventory in a GIS database;
- Large-format resource inventory maps for the Hamlet of Kugaaruk, Rae Strait, and Chantrey Inlet Nunavut;
- Key recommendations on both the use of this study as well as future initiatives.

During the course of the project, Kugaaruk was visited on one occasion in March 2015 to conduct on site interviews. Community consultations were conducted via phone and email. A total of seven interviews were conducted. During the interviews we asked participants about the coastal species they currently observe or have previously observed in the area and had them draw the location of their observations on the maps that we provided. We used photographs to help participants identify the species they have seen. The interviews lasted between 2 – 5 hours, depending on the participant. The data collected throughout the interviews was compiled into a database and the maps were digitized and analyzed.

The maps produced in the interviews are presented here, organized into the following categories: Marine Mammals, Fish, Birds, Invertebrates, Marine Plants, Areas of High Diversity, and Other.

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INTRODUCTION

This document is one in a series of reports produced by the Nunavut Coastal Resource Inventory (NCRI). The overall goal of this initiative is to conduct inventories in all 26 of Nunavut's coastal communities. Each community is unique in terms of its physical environment, oceanographic setting, organisms present, and the interests and approaches of its hunters and trappers.

THE COASTAL RESOURCE INVENTORY

A coastal resource inventory is a collection of information on coastal and aquatic resources and activities gained principally from interviews with elders and hunters in each community. Coastal resources are defined as the animals and plants that live near the coast, on the beaches, on and around islands, above and below the surface of the ocean, above and below sea ice, on the sea floor, and in lakes and rivers.

All of the community-specific data is digitized and mapped using a Geographic Information System (GIS). This approach can be an effective tool to assist with management, development, and conservation of coastal areas.

Resource inventories have been conducted along Canada's Atlantic and Pacific coasts. The information has been used to provide the foundation for an integrated coastal management plan, to assist with the protection of important coastal areas, and to facilitate environmental impact assessments, sensitivity mapping, and community planning. Coastal resource inventories have also provided different levels of government with the tools to engage in strategic assessments, informed development, and enlightened stewardship.

The principle source of information for community-based coastal inventories is traditional knowledge or, in Inuktitut, Inuit Qaujimajatuqangit (IQ), gathered through interviews. Over the past 50 years, Inuit have transitioned from a resource-based nomadic life style to a wage-based economy. Coastal and land-based activities remain extremely important, contributing to Inuit quality of life, providing income and food, and as a significant part of the Inuit culture. The NCRI aims to retain some of this valuable knowledge by engaging community elders, hunters and fishers to document the presence, distribution, and characteristics of various coastal resources. IQ is unique in that it is qualitative, intuitive, holistic, spiritual, empirical, personal, and often based on a long time-series of observations (Berkes 2002). It is particularly useful for recording historical data that are unattainable in any other manner. A complementary coupling of IQ and scientific knowledge may provide a means to better understand and manage coastal resources.

Information on coastal resources may provide insights regarding the potential for future fisheries development or other economic opportunities. Given the high unemployment rates in many of Nunavut's coastal communities, it is increasingly important to identify areas of potential economic development. In order to determine both feasibility and long-term sustainability of a new fishery, information on species-specific abundance and distribution of fish stocks (or other coastal resources) must be obtained. Combining communal knowledge of local resources can be a vital step in establishing a commercialized fishery. This information could also lead to the identification of potential coastal parks and related tourism opportunities. This may include sensitive coastal areas, breeding grounds, important species, and unique habitats. Attaining this information comes with much responsibility, however, and should be accompanied by a vision for the resource, coupled with an implementation plan. The resource should be thoughtfully governed from the outset to avoid unsustainable exploitation.

Figure 1. Map of Nunavut

IQ embodies both tangible and intangible Inuit knowledge. Conserving this knowledge has importance in its own right and for its potential to inform future management plans. Some communities have expressed an interest in exploring development options using a database that has its origins in the living memories, experience, history, and skills of the people who live there. Other communities have opted for a continuation of existing practices: the gathering of extant knowledge into a form that could assist informed decision-making. Regardless, there is growing urgency throughout the Territory to identify, record, and conserve Nunavut's traditional, biological, cultural, and ecological knowledge.

There is increasing concern over the impact of climate change on the Arctic environment. Over the past 20 years, an increasing number of arctic researchers have commented on the predicted impacts of climate change on the marine environment (Tynan and DeMaster 1997, Michel et al. 2006, Ford et al. 2008a, 2008b, Moore and Huntington 2008). Additionally, the Intergovernmental Panel on Climate Change has reported that the increase in global temperatures is very likely caused by human activity, and that warming is predicted to occur faster in the Polar Regions than anywhere else on the planet (IPCC 2007, 2014). Many changes are predicted to occur in recurrent open water sites, with the potential to affect various coastal resources. Specific impacts can be expected on water stratification and its role in nutrient renewal, the balance between multi-year and annual ice, the duration and location of open water, and the impacts of tidal mixing and topographic upwelling. These physical changes could influence the marine food web through the prevalence of ice algae, the timing and magnitude of primary and secondary production, and changes in the distribution, abundance, and success of traditional species. Inuit can expect significant environmental changes in sea ice, fast ice, coastal erosion, animal behaviour, and population abundances, to name a few. For instance, apparent changes in polar bear health and abundance have been linked to climate change driven shifts in sea ice formation and movement. The coastal resource inventory provides a means of collecting information on environmental changes observed by community members.

PERSONNEL AND PROJECT DELIVERABLES

The Coastal Resource Inventory of Kugaaruk was conducted by Department of Environment (DOE) staff with the assistance of the Marine Institute of Memorial University of Newfoundland. Overall project leadership was provided by Wayne Lynch, Director, Fisheries and Sealing Division, and his staff: Ron Brown, Manager, Policy and Programs; and Corenna Nuyalia, Acting Project Coordinator. Consulting on the project and participating in all interviews was Stephen Roberts from the School of Fisheries, Marine Institute of Memorial University of Newfoundland.

Project deliverables include:

- A final report summarizing project activities;
- The Nunavut Coastal Resource Inventory in a GIS database;
- A series of large-format resource inventory maps;
- Access to all documentation pertaining to project completion; and
- Recommendations on the use of this study and future initiatives

METHODOLOGY

COMMUNITY SELECTION

Criteria to guide community selection were established prior to the start of the NCRI process and were based on a series of interviews with a broad range of individuals, all of whom had some prior experience working with traditional knowledge and/or communities. Community selection did not depend on meeting the requirements of every single criterion, but rather on the general picture conveyed by the responses to these queries. The present criteria are as follows:

- Is the selected community willing to participate in the project?
- Is the community considered to be an important source of data on coastal resources?
- Are any other projects underway in the community that might be complementary to the coastal inventory?
- Does the community possess an existing repository of oral history that could be made available to the project?
- Does the community have a strong but under-utilized or under-managed connection with a particular resource animal, such that inventory data could prove useful?
- Does the community wish to acquire or use any of the coastal inventory data produced by the project?
- Is the community presently involved in a commercial fishery?
- Is the community currently seeking infrastructure for which the coastal inventory study might prove supportive?
- Does the community have a strong and broadly-accepted leadership available to assist the project?
- Does the community have a close association with a park or a protected area?

During the course of this project, Kugaaruk was visited for on-site interview sessions in March 2015. Correspondence via email and telephone was used before the on-site interviews to put into place all of the elements that were required to properly conduct the interviews. This process was strongly dependent upon the Kugaaruk Hunter-Trapper Organization (HTO). The HTO formally agreed to support this initiative and provided an annotated list of local Inuit hunters and trappers who, in their opinion, were among the most knowledgeable and accomplished members of the community and could best satisfy the requirements of the interview process. The final selection of seven interviewees (Appendix 1) was made by NCRI project personnel. In addition, HTO personnel recommended the names of individuals who could be used as translators and student observers. These individuals were contacted, and tentative interview schedules were established.

THE INTERVIEWS

Six individuals were present during each interview: the interviewee, an interviewer, a translator, a recorder, a science consultant, and a student observer. The interviewer followed a defined protocol that placed emphasis on a series of predetermined questions and photographs of various living resources thought to occur in the area. Maps covering the area of interest and colour coded pencils were provided for interviewees to illustrate locations of interest. Interviewees were encouraged to supplement their responses by drawing on the maps provided to annotate their verbal remarks. Specific categories addressed in the interviews included: interviewee life-history information; locations of outpost camps; archaeological sites; travel routes and hunting/fishing areas frequented; the geographic occurrence of mammals, fish, birds, invertebrates, and plants; linkages between coastal resources; present and future environmental changes;

Figure 2. The study area extent discussed in the Kugaaruk interviews.

and potential economic development (e.g. the possibility of an emergent fishery). Qualitative data was gathered in the form of individual opinions, assumptions, and conclusions.

Annotations on the maps were coded to enable future identification and reference. Follow-up questions were asked of the interviewee, clarifications were elicited, and, if appropriate, discussion ensued about the information presented. The entire process was recorded using audio and video equipment, while selected portions were simultaneously manually recorded. Manual recording was used to maintain a running record of all map annotations and codes. This permitted the analysis of interviews to proceed without first transcribing the audiotapes. The interviews varied from 2 - 5 hours, depending on the individual being interviewed.

POST-INTERVIEW METHODOLOGY

All of the data manually recorded throughout the interview was entered into a spreadsheet, using audio and video data for verification when needed. The maps were scanned and the hand drawn data was digitized using Geographic Information System (GIS).

NON-INTERVIEW DATA ACQUISITION

Data on marine resources can be found scattered throughout many different sources including scientific papers, government reports, environmental impact assessments, and maps. However, three surveys with similar geographic breadth and goals have proven to be especially useful. The three-volume "*Inuit Land Use and Occupancy Study*" was undertaken in the early 1970s and published in 1976 by Indian and Northern Affairs. It grew out of the documentation required by the land claim process and was used to substantiate Inuit claims to residency and land use. The study contained detailed information on traditional land use up to that time, based on interviews with Inuit in each community. It used topographic maps to outline regions associated with hunting, trapping, and fishing activities for every community in Nunavut over three periods: pre-contact, the trading period up to the 1950s, and the present (early 1970s). The third volume is an atlas that displays the results. The original research is available in Ottawa at the National Archives and a copy is also available in the Legislative Library in Iqaluit.

The second is the *Nunavut Atlas* co-published in 1992 by the Canadian Circumpolar Institute and the Tunngavik Federation of Nunavut. This atlas is largely data collected for the Inuit Land Use and Occupancy Study. The resource data and maps are great resources but the information is approximately 35 years old. Relevant maps from this volume are presented in this report (Figures 54-58).

The third document is the *Nunavut Wildlife Harvest Study* produced by the Nunavut Wildlife Management Board in 2004 as mandated by the Nunavut Land Claim Agreement. Harvest data was collected monthly from Inuit hunters from 1996 to 2001. The purpose of the study was to determine the current harvesting levels and patterns of Inuit use of wildlife resources. Once completed this information was to be used to manage wildlife resources in Nunavut.

DATA MANAGEMENT AND ANALYSIS

Data collected through interviews and research were, when appropriate, plotted on working maps. In order to stay within the size of the geographic area under discussion, the scale of the map is kept relatively small. The scale was common to all maps to permit relatively easy comparisons. Information was separated according to resource categories and all information associated with a specific geographic location was entered into a tabular database. The development, care, and maintenance of this tabular database are extremely important, not only as a storage facility for information, but as an active repository accessed by users with diverse interests.

Data management also included protecting the confidentiality of the data. Each interviewee provided their consent to be interviewed, as well as audio and video taped. Any person or organization wishing to access NCRI data must provide written justification to the NCRI Steering Committee and agree to the terms outlined in the Data Release Form.

GIS INTERFACE

Once the inventory maps and database were completed, they were entered into a GIS which creates computer-generated maps. It also links information to the geographic locations contained in the database. Attributes associated with each piece of data include information such as the species name, the interviewee source, and the time of year it was observed.

INTERACTIVE ATLAS

The NCRI results are published in community-specific reports that are shared with project partners (community HTOs, Hamlets, high schools, and all interviewees) and that are publicly available in hard-copy and PDF formats.

Reports are currently produced in English and Inuktitut. The results from all communities are also displayed online in an interactive atlas, with this information available within a year of interviews in a community. The reports can take up to two years to produce. Links to access the Atlas: ncriatlas.ca and http://www.gov.nu.ca/environment/information/nunavut-coastal-resource-inventory

RESOURCE INVENTORY

The observations below provide highly personal insights that could warrant additional investigation.

MARINE ENVIRONMENT

The geographic area identified by interviewees as the normal range of their hunting and fishing activities spans approximately 1790km from north to south, 1450km from east to west, and includes: Pelly Bay, Boothia Peninsula, Committee Bay, Rae Strait, and The Gulf of Boothia.

HUNTING/FISHING

Kugaaruk hunters/fishers depend on a broad array of animals to supply their country food needs. Ensuring access to and availability of country food continues to be an issue of importance and concern for the community.

HEALTH, SIZE, AND PRESENCE

Throughout the course of the interviews references were repeatedly made regarding the health, size, or presence/absence of different species:

- Two interviewees stated that the animals in the region seemed to be less afraid of humans then they used to be. Believed it was from the increased activity in the area.

- One interviewee noted that it was easier to hunt bearded seals before they started using boat motors. Before motors the seals would jump around in the water while hunting and now they stay quiet and are "sneaky".

- Changes to the state of the char in the Kellet River were noted by four interviewees. Two noted that some of the char have reddish spots on their skin like

pox, and that it seems to happen in areas with greater densities of fish. Two also noted that the fish seemed to taste different with one describing it as a metallic taste. One interviewee said that the skin of the char seemed to be getting thinner in recent years.

- One interviewee said that there were more fish in the Kugaaruk River then during the 1950's and 60's.
- One interviewee noted that beluga whales are starting to come around the area.
- One interviewee stated that when he is butchering seal or caribou sometimes there will be white spots in the flesh of the animals.

CHANGES UNDERWAY

Participants commented on changes in their local area regarding- species and climate change:

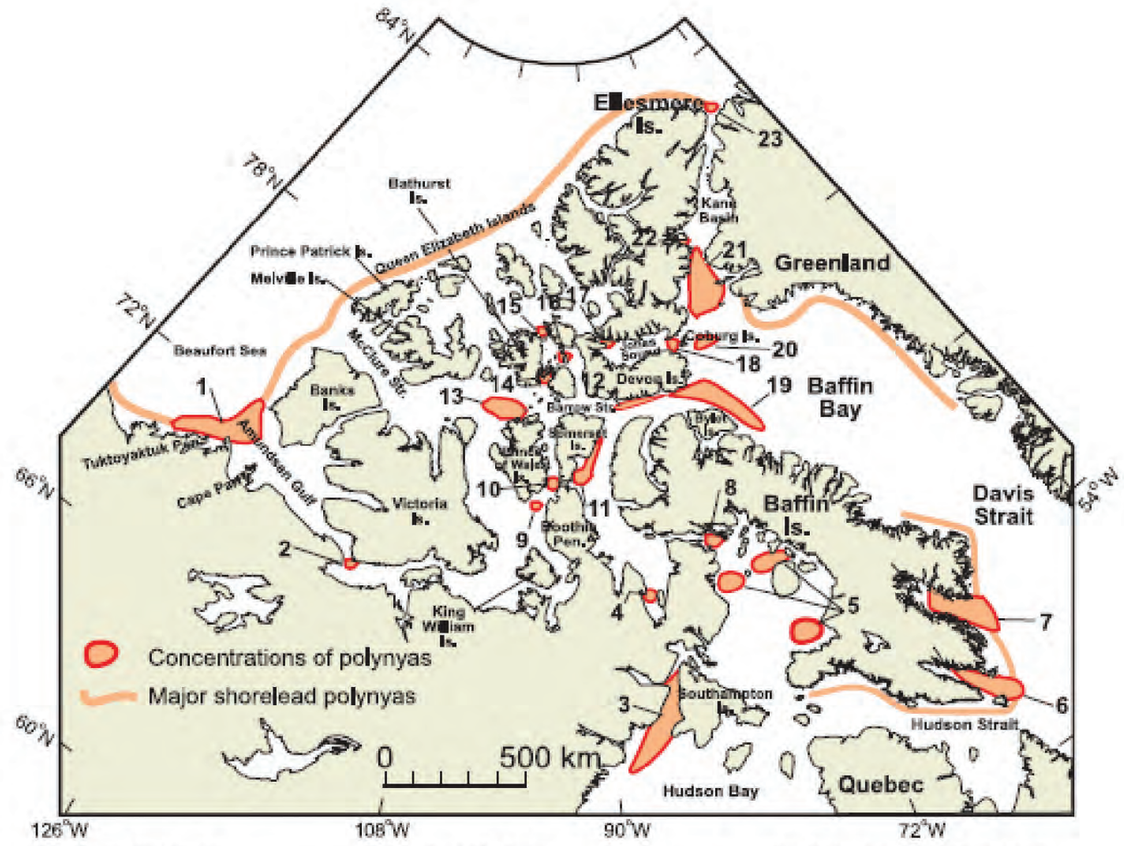
- One interviewee made comment that the ice seemed to be becoming thinner than previous years.
- Another interviewee stated that the cracks in the ice during winter seemed to be becoming wider.
- One interviewee said that he felt like it was getting colder in Autumn especially October and November.
- One interviewee noted that there was more icebergs and rough ice this year and that made it more difficult to hunt.
- Two interviewees said that the sun was crossing the sky at a lower point than before and one said it started about ten years ago.
- One interview said that he believes pollution is resulting in clouds forming over the Kellet River, and it is causing the lakes to freeze up later.
- No one voiced concerns about the current shipping in the area but one interviewee said that he worried what the effects would be in something were built or brought in to be there 24/7 like an oil rig.
- One interviewee was concerned about the smoke from chimneys. He said that you could see a cloud over Kugaaruk from outside town and smell it.

ECONOMIC DEVELOPMENT

The interviewees discussed the following with regards to social changes and economic development in their area:

- Five interviewees stated that they believed commercial fishing would be beneficial for the community. Two of them would like to see more research into the economics of the fishery and test fisheries for different species in the area before undertaking a commercial fishery though.
- Two interviewees said that they would like to see exploratory fisheries to check the viability of turbot fishing in the area.
- Three interviewees expressed how difficult it was to get hunting supplies in the community. Specifically the community cannot store enough gasoline and runs out by March/April. This requires planes to bring in fuel and causes the prices to climb.
- Three interviewees discussed how they would like to have a dock and breakwater. Two of whom made mention that the community used to have a dock but it was removed because children kept playing on it.
- One interviewee expressed how there is a need for better search and rescue services in the area. That they need the ability to conduct aerial searches instead of relying on ground crews.

Figure 3. Map of known polynyas in Nunavut



1 Cape Bathurst
2 Lambert Channel
3 Roes Welcome Sound
4 Committee Bay
5 Foxe Basin
6 Frobisher Bay
7 Cumberland Sound
9 Franklin Strait
10 Bellot Strait
11 Prince Regent Inlet
12 Lancaster Sound
13 Viscount Melville Sound
14 Karluk Brooman
15 Queens Channel and Penny Strait
17 Hell Gate – Cardigan Strait
18 Lady Ann Strait
19 Bylot Island
20 Coburg Island
21 North Water (NOW)
22 Flagler Bay
23 Lincoln Sea

- Five interviewees said that they believe that tourism would be good for the community. Three specifically said that they would like to see guiding in the community, one brought up the high cost of getting a guiding license.

- One interviewee brought up the need for a snowmobile shop in the community. He said he sees young people having to work on their machines out in the cold.

MARINE RESOURCES IN A PHYSICAL SETTING

The coastal communities of Nunavut are diverse, extending over 27° of latitude and 60° of longitude. In addition to different geomorphologies, climates, and wildlife they also experience widely different marine environments. These include: significant differences in residual circulation, tidal range, tidal currents, tidal mixing, shore-fast leads, ice-edge upwelling, topographic upwelling, and polynyas; all of which influence the abundance, diversity and concentration of marine animals and plants. The oceanographic context in which these organisms occur, especially the causal mechanisms that contribute to population dynamics, is an essential prerequisite to understanding changes that occur over time.

One of the stated goals of this initiative is to develop the capacity to monitor Nunavut's marine resources within the context of climate change. Organisms will experience the impacts of climate change, both directly and indirectly, through changes in their physiology and through variations in their physical or biological environments. Responsible monitoring of marine resources will require more than just a quantitative assessment of certain species; it will require an ecosystem approach that, by definition, includes the physical factors at play in that system.

RECURRENT OPEN WATER AND ARCTIC BIOLOGY

The presence of open water in winter can be a chance occurrence that reflects either temporary or recurring conditions. Temporary open water sites are largely unpredictable and have limited usefulness to animals and humans. Alternatively, recurrent open water sites are a physical indicator of one or several predictable physical processes that result in spatial and temporal reliability.

The formation of recurring open water sites in ice-covered seas, including polynyas, pack ice edges, and shore-fast leads reflect local geography, ice conditions, and water movements such as upwelling and tidal mixing. There is a positive correlation between recurrent open water sites and abundance of marine organisms. Stirling (1980, 1997) identified increases in the abundance of birds, seals, and whales with proximity to ice edges, polynyas, and pack ice. In some cases, animals are drawn to these sites for practical reasons such as the availability of breathing holes, a platform to haul out and rest, predator avoidance, pupping, or moulting (Stirling 1997). Ultimately, recurrent open water sites encourage a non-homogeneous distribution of animals that is linked to greater biological productivity.

Major contributing factors in the abundance of marine organisms observed at reoccurring open water locations is due to food availability, the product of primary production in phytoplankton, ice algae, and marine plants. Algal groups are important but their relative contributions can vary depending on ice conditions and available light. Ice algae can represent 5 to 30% of the total primary production (Alexander, 1974; Harrisson and Cota, 1991; Legendre et al 1992). Plant material is grazed and enters into the food web, supplying energy to invertebrates, such as copepods, amphipods, and shellfish, to fish such as Arctic Cod, to mammals such as seals, Narwhal, Walrus, and Polar Bears, and to birds such as Thick-Billed Murres, Northern Fulmars, Black-Legged Kittiwakes, and Black Guillemots. This results in a form of oasis or hotspot in an otherwise ice-covered area. With climate change, the sea ice thinning faster and earlier in the spring and sunlight sufficient to drive photosynthesis, especially in ice algae, is available sooner. These conditions are extending both the growing and grazing seasons, in some cases by as much as two months.

These open water sites also appear to have great importance to the peoples that have occupied the Arctic for several thousand years. Archaeological data obtained from historic Inuit habitation sites, coupled with modern sea-ice extremes, have been used to infer a strong causal relationship between polynyas and historic Inuit settlement patterns (Henshaw 2003). Schledermann (1980) drew attention to the fact that the early settlers of present-day Nunavut did not create settlements in random fashion. Since they depended almost entirely on food resources obtained through hunting, settlements were usually located within reasonable proximity of game, which often meant areas of recurrent open water. Schledermann (1980) also found a close correlation between the distribution of recurring polynyas in the eastern Canadian High Arctic and the abundance of archaeological sites from the Thule culture that specialized in hunting marine mammals.

OCEANOGRAPHIC FACTORS THAT CONTRIBUTE TO OPEN WATER

The Hamlet of Kugaaruk is located on the east side of Pelly Bay, on the shores of the Simpson Peninsula. The Hamlet is located at 68.53°N and 89.82°W.

TIDAL MIXING

Even at somewhat limited velocities, tidal currents can produce sufficient turbulence to generate the vertical mixing capable of forming and maintaining a polynya. A slow-moving tidal current that encounters a shallow and/or narrow strait increases in velocity, promoting vertical mixing. Tidal mixing also delivers nutrients, which promote plant and algal growth when sufficient light is available, especially in summer months. Examples of this phenomenon are the well-known polynyas in Fury and Hecla Strait at the head of Foxe Basin (Hannah et al 2009).

POLYNYAS

If the Arctic were covered with a thick, seamless layer of sea-ice, many of the organisms that currently exist there and contribute to the region's productivity would find it impossible to survive. Polynyas and leads provide the necessary breaks in the ice that permit sunlight to penetrate and photosynthesis to proceed (in both planktonic and ice-based algae), allow mammals to breath, and permit over-wintering birds to feed. Wind, water movement, and heat transfer are among the primary factors that contribute to the establishment and maintenance of these open water sites.

Polynyas have long been viewed as extraordinary because of the obvious contradiction of open water occurring in conditions that promote ice. The explanation for this phenomenon is twofold: in some cases the introduction of heat forestalls ice formation, while in others any newly formed ice is rapidly removed. The process is controlled by wind and/or ocean currents, which remove any ice formed at the site. Other factors include turbulence from surface waves or currents that can inhibit ice formation, adjacent coastlines, and shore-fast ice or ice bridges that prevent ice from drifting into polynyas (Hannah et al 2009).

Recurring polynyas typically occur between near shoals and islands, within the land-fast ice. There are two types of

polynyas that reoccur each year: those that remain open all year long and those that only freeze over for one or two of the coldest months of the year. Animals such as seals, walrus and some migratory sea birds use these polynyas as important over-wintering areas.

Although strong tidal currents, sometimes associated with the formation of polynyas, have been observed on the west side of King William Island, there are no known polynyas in this area. This may be due to the lack of a deep basin in the area to act as a reservoir for warm water (Hannah et al 2009).

LANDFAST LEADS (OR FLAW LEADS)

Extensive systems of land-fast leads occur throughout the Arctic. Land-fast ice generally comprises first-year ice, possibly mixed with multi-year remnants, that is fixed to the coast. This ice platform extends outward, eventually merging with offshore pack ice (Sterling 1981). The physical presence of this ice cover modifies tidal and wind energy, dramatically changing circulation (George 2004). Eventually, a fracture or crack may develop between the attached ice and the free-floating pack ice due to offshore winds, or through the actions of coastal currents. These leads are normally linear in shape and run parallel to shorelines. They are recurrent and predictable in their location and are among the areas where open water is found most consistently during winter and early spring. Because of these factors, land-fast lead systems are of great biological importance.

The boundary between the ice edge and the beginning of the lead is an ecosystem that is very important and has been identified as biologically rich and diverse by many elders and previous research. For instance:

- The land-fast ice edge is an important Inuit hunting site (Crawford and Jorgenson 1990)
- During late spring and early summer, large numbers of sea birds and marine mammals congregate at the edges of land-fast ice (McLaughlin et al. 2005)
- Ringed seals and polar bears are the only marine animals that regularly occupy extensive land-fast coastal ice (Tynan and DeMaster 1997)
- Bearded seals prefer relatively shallow water (<150 m) with thin shifting ice and leads kept open by strong currents (Tynan and DeMaster 1997)
- Along with polynyas, land-fast lead systems and ice edges play key roles in influencing the abundance and distribution of marine mammals and sea birds (McLaughlin et al. 2005)
- Satellite observations of polar bears in multi-year ice show that they are often associated with leads (Stirling 1997)
- High densities of arctic cod are found immediately below the edge of land-fast sea ice, linked to the availability of high concentrations of copepod prey (Crawford and Jorgenson 1990)
- Near the ice edge the diet of adult ringed seals and narwhal is composed primarily of arctic cod while amphipods and copepods are consumed in smaller numbers (Bradstreet and Cross 1982)

The reasons for greater biological abundance and diversity associated with land-fast leads and ice edges are largely the same as those outlined above for recurrent open water. However, upwelling is an additional mechanism that appears to occur at shore-fast and pack ice edges.

UPWELLING: TOPOGRAPHIC AND ICE-EDGE

Upwelling is a mechanism by which colder, deeper water is moved to the surface, where it can create and/or maintain ice-free open water. Topographic upwelling occurs where a current moving through warmer subsurface water is deflected or welled upward toward the surface by a bottom structure such as a sill, bank, or ridge (Tee et al. 1993).

Ice-edge upwelling occurs when wind blows parallel to the ice edge and causes surface water to move away from the edge. The surface water is then replaced from below (Tang and Ikeda, 1989). The upwelling zone may be several kilometres wide and draw subsurface water from depths of up to 100 metres. This phenomenon has been observed in the Bering Sea (Alexander and Niebauer 1981), the Arctic Ocean (Buckley et al. 1979, Johannesen et al. 1983) and off the coast of Newfoundland (Tang and Ikeda 1989).

Upwelled water usually carries nutrients into the upper layer where, with sufficient light, both phytoplankton and ice algae can grow and provide a strong stimulus to the local food web. This is one explanation for why polynyas and shore-fast leads are so productive.

MARINE RESOURCES IN THE CONTEXT OF CLIMATE CHANGE

Over the past 20 years, many Arctic researchers have commented on the impending probability of global warming, with its predicted impacts on the marine environment as well as the abundance, diversity, and well-being of marine organisms (Tynan and DeMaster 1997, Michel et al. 2006, Moore and Huntington 2008). Many changes may occur potentially impacting the role that recurrent open water sites play in the coastal resources. Changes may occur affecting water stratification and its role in nutrient renewal, the balance between multi-year and annual ice, the relative importance of ice algae, the timing and magnitude of primary and secondary production, changes in traditional species distributions and hunting sites, amongst others. Each of these changes could exert some influence on the food web and the state of the resources as they are presently defined.

GUIDE TO MAPS AND TABLES

The following group of maps summarizes the geographic context, species locations, and information from earlier studies (derived from the *Nunavut Atlas*). The maps are accompanied by data in tables, which provides additional detail, along with descriptive information, when available. Table 1 describes the map codes used in the tables.

Table 1. Guide to maps and tables

CATEGORY	MAP CODE
Present {since year 2000}	Appended with 'P'
Historic {before year 2000}	Appended with an 'H'
Everywhere (seen all over/no specific place/only where they go)	Appended with a upper case 'E'
High Abundance	Appended with an 'A'
Migration (use arrows to indicate direction)	Appended with an 'M'
Spawning / Nesting / Denning / Calving / Pupping areas	Appended with an 'S'
Nursery Area	Appended with an 'N'
Significant Area of High Diversity	SADP
Significant Unique Area	SAUP
Significant Area for Other Reason	SAOP
Other	OTH
Area Known Best (area most familiar with or a travel route)	AKB
Camp / Cabin (typically modern)	CAMP

Generally, maps comprise groupings of several species or a single species as reported in multiple interviews. Species and interviews are normally color-coded and locations are labeled with a number. The first number in the label refers to a specific interview while the second is a location identifier. These labels can be used to look-up relevant information in the table associated with each map.

The species identified by interviewees as being distributed "Everywhere" are not mapped in this report. The designation of "Everywhere" was used when interviewees felt that the organism under discussion has been observed everywhere throughout their travels and places with which they are very familiar. Giving a species an "Everywhere" designation does not confer any information about abundance nor should it be presumed to be ubiquitous; it is only a measure of distribution relative to where the interviewee has been. "Everywhere" data is provided in the table of data following the maps.

Some species were described by a portion of the interviewees as being "Everywhere" while other interviewees provided specific locations for the same species. In these cases, an asterisk has been placed after the species name in the title of the map. For example, arctic char is written as "Arctic Char*" in the map title because it was reported in specific locations, as well as being "Everywhere". The asterisk simply provides a visual cue that the species has two designations.

Please note that the data presented on birds has been further qualified in Appendix 3. Of all the species presented to the interviewees, birds (e.g. sandpipers or gulls) present the greatest challenge in proper identification; a challenge often encountered by even the keenest observers. To assist in interpreting the data, Appendix 3 compares observations recorded through the inventory with literature and sightings by other authors. In the future, inventory work will endeavour to qualify all species reported in a similar way.

Note: The asterisk (*) after some species names in the titles of the maps indicates that the species was also considered to be seen "Everywhere" by some interviewees. Species identified as being "Everywhere Only" are shown by the use of a solid bullet in the Map legend.

MAPS AND TABLES

Figure 4. Historic camps and travel routes

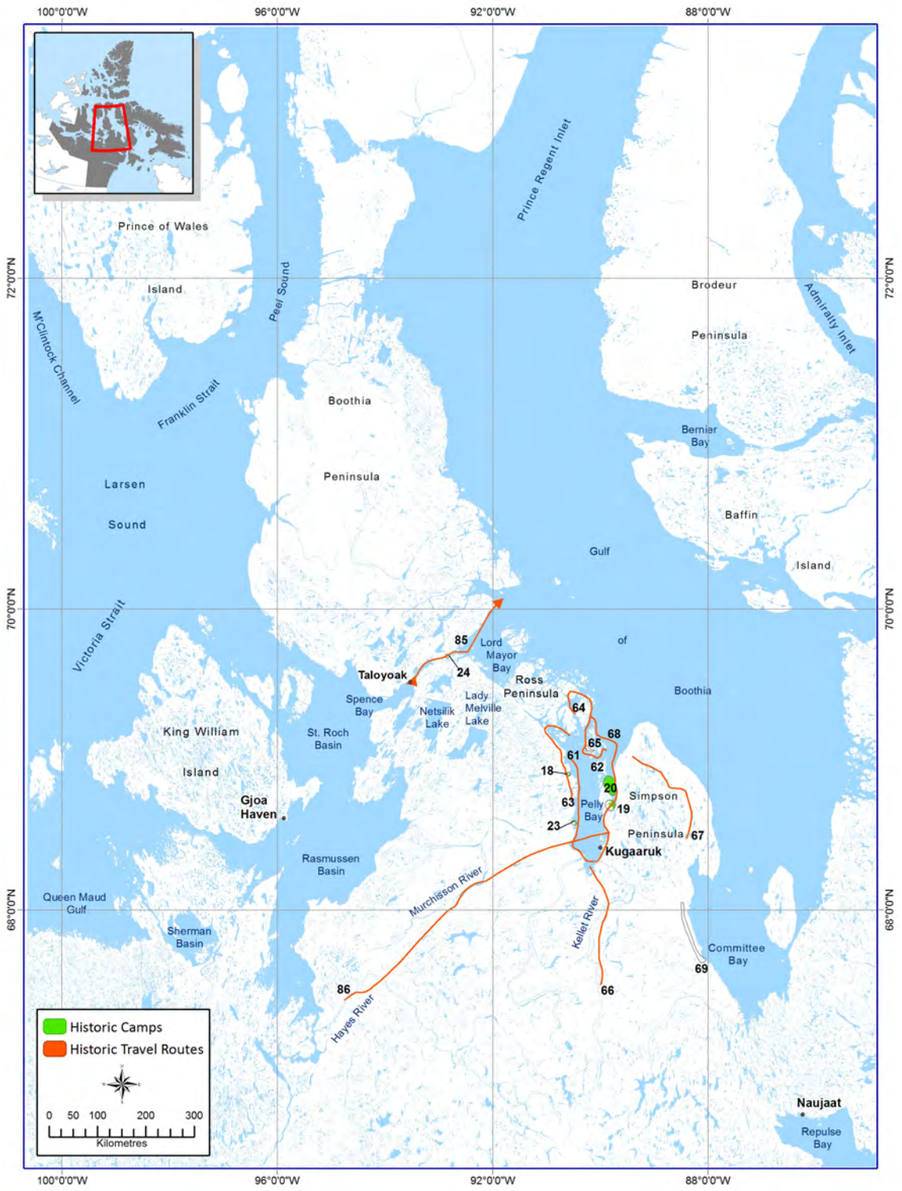


Figure 5. Current camps and travel routes

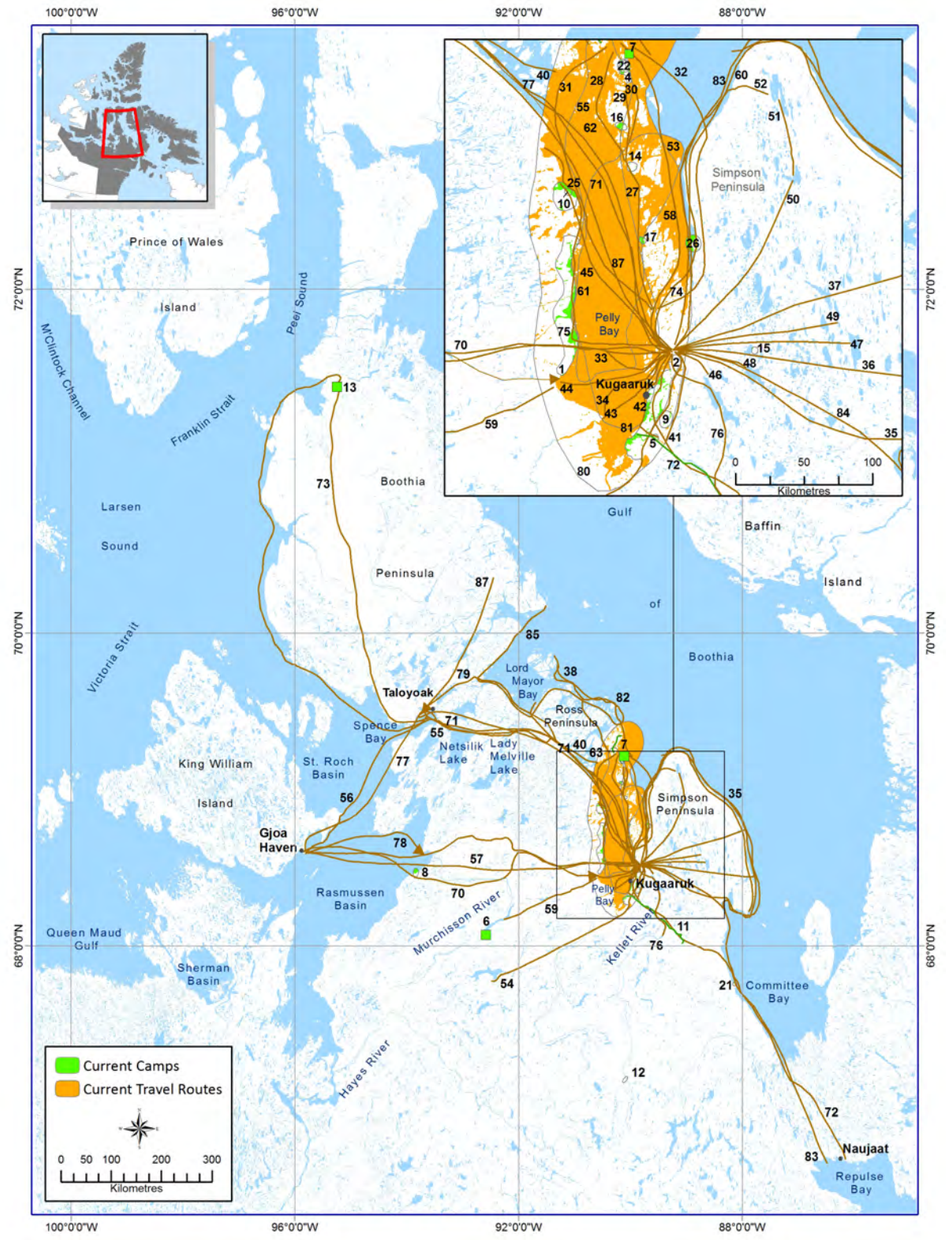


Table 2. Historic and current camps and travel routes

MAP #	INTERVIEW	CODE	CATEGORY	MONTHS	COMMENTS
1	1		Camp		Camp along the shore
2	1		Camp		Camp along the shore
3	1		Camp	May-Jun	
4	1		Camp	May-Jun	
5	2		Camp		Cabin for fishing on the Kellet River
6	4		Camp		Cabin used for muskox and caribou hunting
7	4		Camp		
8	4		Camp		Cabin
9	4		Camp		
10	4		Camp		Cabins for fishing and seal hunting in the spring
11	4		Camp		Cabins along the Kellet River
12	4		Camp		Cabin on the Kellet River
13	4		Camp		Resolute's Cabin
14	5		Camp	Spring	Cabin
15	5		Camp	Spring and Summer	
16	5		Camp	Early summer	Head there and wait for the narwhal
17	5		Camp	Spring	Camp for hunting seals
18	7	H	Camp		In the summer they would camp in this area at the mouth of the river
19	7	H	Camp		Used to be a winter campground for seal hunting
20	7	H	Camp	Winter	Living in Igloos surviving on seal fat, but hardly in summer
21	7		Camp		Cabin at "Urautiat"
22	7		Camp		There's a cabin around here, use in mid-winter
23	7	H	Camp		There was a year-round camp here when he was young, has tent rings
24	8	H	Camp		Where priest's cabin was
25	8		Camp		Cabin
26	9		Camp		His cabin
27	1		Travel Route		Used if rough sea ice
28	1		Travel Route		Mostly to hunt seal
29	1		Travel Route		Mostly to hunt seal
30	1		Travel Route		Mostly to hunt seal
31	1		Travel Route		Mostly to hunt seal
32	1		Travel Route		Mostly to hunt seal
33	1		Travel Route	June	Lots of people start hunting seal close to town because of 24 hour sun
34	1		Travel Route	June	Lots of people start hunting seal close to town because of 24 hour sun
35	1		Travel Route		Polar bear hunting route along the shore
36	1		Travel Route		Alternate route to Figure 7, Label 35 that connects to it and runs across the land
37	1		Travel Route		Alternate route to Figure 7, Label 35 that connects to it and runs across the land
38	1		Travel Route		Polar bear hunting route
39	1		Travel Route		Alternate route to Figure 7, Label 38 that follows shore
40	1		Travel Route		Alternate route to Figure 7, Label 38
41	1		Travel Route	Fall	Route to go fishing in the Kellet River
42	1		Travel Route		Along shore, not many people use this route
43	1		Travel Route		Travel route to fish for char
44	1		Travel Route	Summer	Travel route to fish for char in rivers
45	1		Travel Route	Spring	Travel route for fishing
46	1		Travel Route		Road to DEW Line Lake for trout
47	1		Travel Route		Route to go trout fishing, travel by snowmobile, or use ATV in summer
48	1		Travel Route		Travel route for trout
49	1		Travel Route		Travel route for trout
50	1		Travel Route		Travel route for trout
51	1		Travel Route		Continuation of Figure 7, Label 50 to fish in another lake
52	1		Travel Route		Alternate route to Figure 7, Label 50 and Figure 7, Label 51
53	1		Travel Route	Jul-Sep	Narwhal hunting route and area
54	1		Travel Route	May-Sep	Caribou hunting route Hard to catch caribou in the winter, best to go in spring or fall
55	1		Travel Route		Route to Taloyoak. Need lots of ice but can't be too cold when travelling this route. Lots of people start using in Apr-May, sometimes in Dec.
56	1		Travel Route		Travel route to Gjoa Haven from Taloyoak. Go to buy gas or use for a ride, people taking different routes depending on roughness.

Table 2. Historic and current camps and travel routes

MAP #	INTERVIEW	CODE	CATEGORY	MONTHS	COMMENTS
57	1		Travel Route		Direct route to Gjoa Haven
58	1		Travel Route	Starting in Nov	For seal and polar bear hunting
59	2		Travel Route		Travel route to fishing locations
60	2		Travel Route		Travel route for polar bear hunting in the northwest
61	3	H	Travel Route		Travel route as a child that connects to Figure 5, Label 3; it is especially used in the winter
62	3	H	Travel Route		Travel route for polar bear connecting to Figure 5, Label 3
63	3	H	Travel Route		Can stop at any location on this route to camp
64	3	H	Travel Route		
65	3	H	Travel route		Would camp here also
66	3	H	Travel Route		Would use this route for caribou hunting and sometimes muskox
67	3	H	Travel Route	Summer	Summer travel route as a young man
68	3	H	Travel Route		Travel route for polar bear
69	3	H	Travel route		Caribou hunting and some polar bears
70	4		Travel Route	Summer	Route to Gjoa Haven in summer
71	4		Travel Route		Route to Taloyoak 6-7 hours
72	4		Travel Route		Route to Repulse Bay 8-10 hours
73	4		Travel Route		Travel to Resolute cabin
74	5		Travel Route	Fall and winter	
75	5		Travel Route		
76	5		Travel Route	Fall, Winter, Spring	Follow Kellet River
77	6		Travel Route		Travel route to Taloyoak then on to Gjoa Haven. On the way back follow the river to the south
78	6		Travel Route		Alternate route to Figure 5, Label 77 used if the ice is thinning
79	6		Travel Route		Alternate route to Figure 5, Label 77 to take to Taloyoak, it is a long drive if it is cold
80	6		Travel route		Travel routes all through this area, zig zag across and hunt seals on spring ice
81	6		Travel route		Travel routes through area, includes Figure 5, Label 77
82	6		Travel Route		Alternate route for polar bear hunting at Figure 4, Label 64
83	6		Travel Route		Travel along the shore because of open water, sometimes go to Repulse Bay
84	6		Travel Route		Shortcut for going to Repulse Bay
85	8	H	Travel Route		Route to priest's cabin
86	9	H	Travel Route		Travel along the Murchison River to Hayes River to hunt muskox at Figure 6, Label 113
87	9		Travel Route		Travel to Taloyoak then Figure 7, Label 117

Figure 6. Historic areas known best

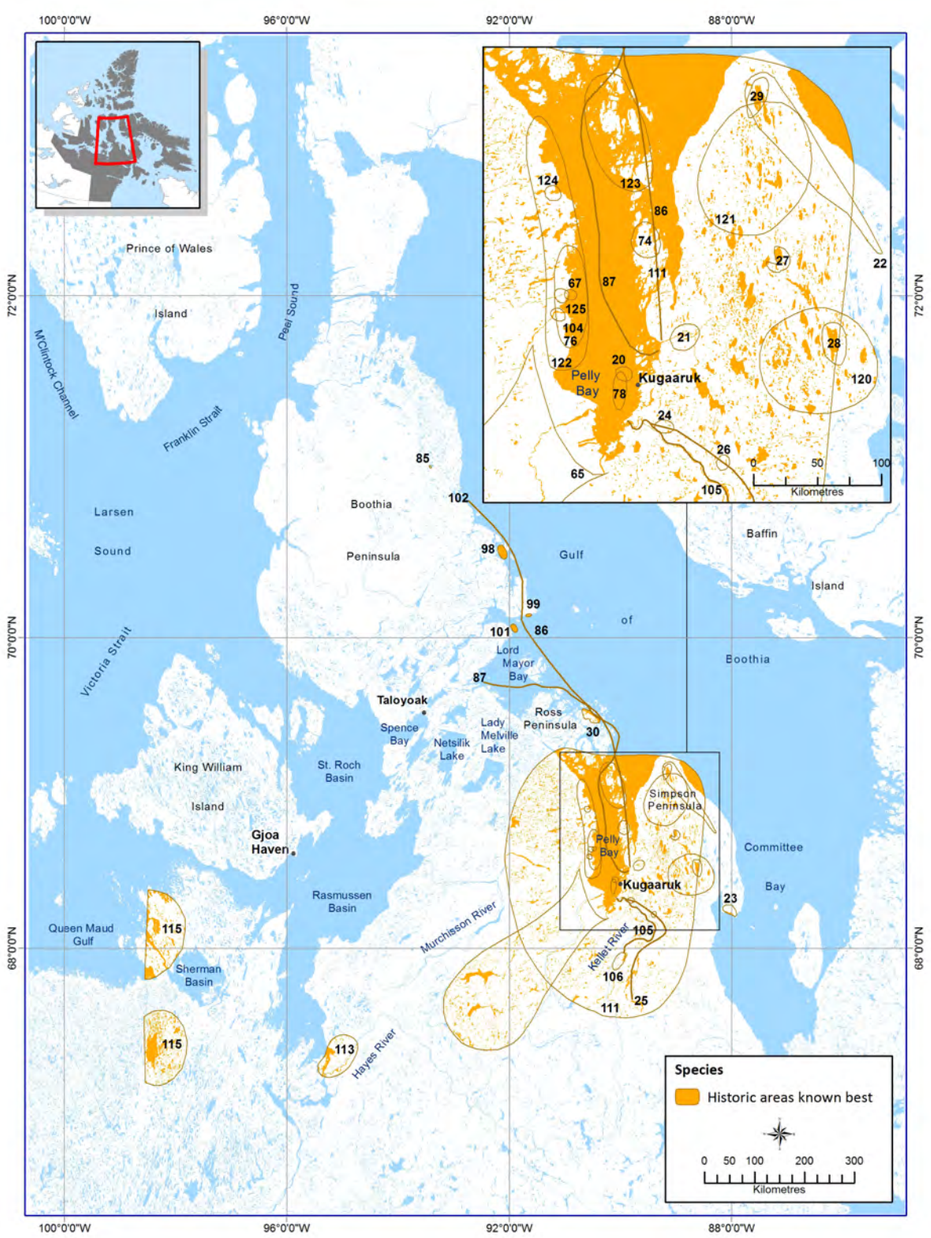


Figure 7. Current areas known best

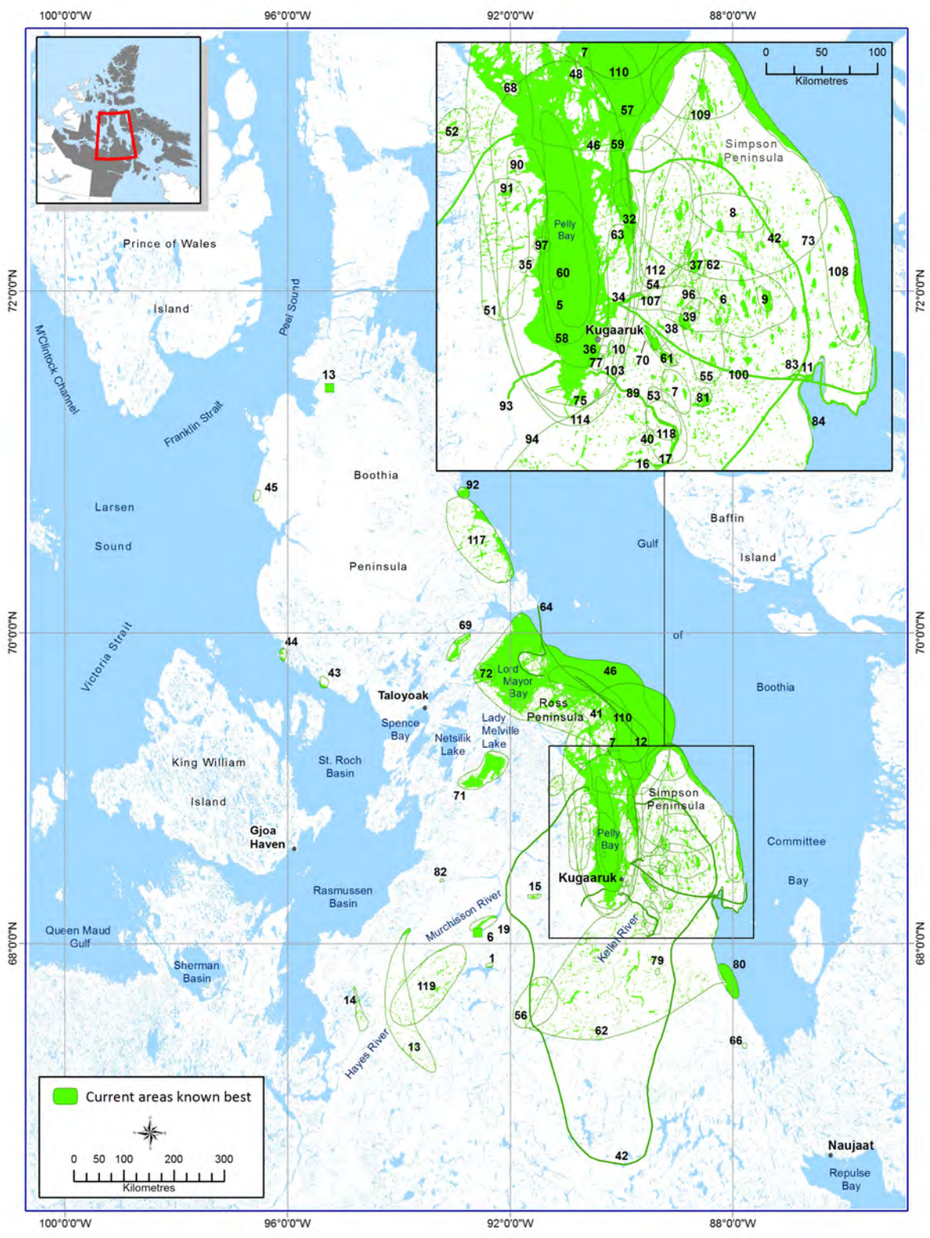


Table 3. Current and historic areas known best

MAP #	INTERVIEW	CODE	MONTHS	COMMENTS
1	1			Location where he was born
2	1			
3	1			
4	1			
5	2		Spring and summer	Goes hunting for baby seal in the spring, and many people here go hunting for narwhal here in summer
6	2			Caribou hunting area, travel by ATV in summer
7	2			Caribou hunting area, travel by ATV in summer
8	2			Caribou hunting area, travel by ATV in summer
9	2			Fishing for lake trout
10	2		Spring	Char fishing
11	2			Char fishing
12	2			Polar bear hunting area
13	2			Muskox hunting area
14	2			Muskox hunting around the Hayes River
15	2			Fishing Area
16	2			Fishing area on the Kellet River with lots of cabins
17	2			Especially likes to fish here
18	2			Fishing Area
19	2		Spring	Fishing area
20	3	H		Where he was born
21	3	H		Fishing
22	3	H		Travel through but don't camp here because it is a polar bear denning area
23	3	H		Has camped here a few times
24	3	H		Camp along the Kellet River mostly for fishing trips
25	3	H	Summer	As a young boy would travel along the Kellet River in the summer and hunt caribou and char
26	3	H		Camp along the Kellet River mostly for fishing trips
27	3	H		Fishing and polar bear hunting
28	3	H		Fishing and hunting
29	3	H		Fishing
30	3	H		Hunting area and polar bear denning area
31	4		Spring	Seal hunting
32	4		Spring	Seal hunting
33			Winter	Seal hunting
34	4		Summer	Char fishing
35	4		Summer	Char fishing
36	4		Summer	Char fishing
37	4			
38	4			Char
39	4			Char
40	4			Lake Trout fishing
41	4		November	Found 2 narwhal tusks frozen in the ice, must have been trapped and the polar bear ate them
42	4			Caribou hunting area
43	4			Gas cache
44	4			Gas cache
45	4			Gas cache
46	4			Polar bear hunting area
47	4			Seal hunting in cold winters
48	4		Winter	Seal hunting in cold winters
49	4			Seal hunting in cold winters
50	4			Seal hunting in cold winters
51	5			Caribou hunting area
52	5			Fish nets are set here in the river
53	5			Where we set fish nets in the Kellet River, also hunt wolverine and wolf
54	5			Caribou hunting area
55	5			Caribou hunting area
56	5			Hunt caribou, wolverine, and wolf
57	5			Polar bear hunting area, go pretty far out. Believes it extends further, but not sure. There are also some hunting areas on the east side of Simpson Peninsula but not sure exactly where
58	5			Narwhal hunting ground
59	5			Narwhal hunting ground
60	6			Island not on map where he was born
61	6			Big fish here, "one the size of a beluga"
62	6			Hunts within this line north to the end of the Peninsula
63	6			Area that he grew up travelling around
64	6			Polar bear hunting by snowmobile around the islands
65	6	H	Summer	Used to walk a long way for caribou hunting, too old to walk it now

MAP #	INTERVIEW	CODE	MONTHS	COMMENTS
66	7			Where he was born
67	7	H		At the mouth of Tourism River, can't go there when the river starts to run because the current is too strong have to wait until it recedes. The mouth of this river has tent rings
68	7			Island they call Haluktalik, has plenty of seal holes
69	7			Ikalupaq, very large fish in this lake, need metal leader and strong line
70	7			Dewline Lake, very large fish in this lake, need metal leader and strong line
71	7			Lady Melville Lake, very large fish in this lake, need metal leader and strong line
72	7			Where his mother was born
73	7			Part of the Simpson Peninsula called Hautuq which means flat
74	7	H	Summer	Area he and his family lived before he was married, living a nomadic lifestyle
75	7			Where he grew up "Arviligjuak"
76	7	H		Where he spent most of his time after he was married
77	7			"Ihuqtuq" means "not clear river", used stone fish traps (saputi) and fished with spear (kakivak) here. Move to this location when river starts breaking up
78	7	H		Used to live in igloos on ice hunting seal
79	7			Deeper, wider part of the river "Qamaninuaq" means small/little channel. Fish for lake trout and char with hooks
80	7			Lots of seals
81	7			Lake with nearly everything: Arctic Char, Land-locked char, and trout
82	7			Where people from Gjoa Haven put nets
83	7			Wider part of the river where they fish
84	7			Lots of fish along this coast
85	8	H		Where he was born
86	8	H		
87	8	H		
88	8	S		Caught his first polar bear in a den here
89	8			Fishing in Kellet River
90	8			Char fishing with nets. Wishes this area could be used commercially, big fish (80 cm)
91	8			Char and trout fishing
92	8			Remembers area but too small to hunt yet
93	8			Possible commercial fishing locations
94	8			Possible commercial fishing locations
95	8			Possible commercial fishing locations
96	8			Fishing area
97	8			Fishing area
98	8	H		Used to hunt here with harpoon
99	8	H		As a young boy hunters would chisel holes in the ice along shore. Built igloos and tents here and hunted with harpoons
100	8			Would catch seals and head back to town in the same day, less dangerous to hunt seals here then on the north end of the Peninsula
101	8	H		Was with harvester as young boy hunting seals but was unsuccessful
102	8	H		Father is buried on Boothia Peninsula north off the map
103	9			Where he was born
104	9	H		Char fishing in Kugaaruk River
105	9	H	Fall	Fishing in Kellet River, would go farther up the river if using a fish spear
106	9	H	Sep-Nov	Where people went using fish spears
107	9		Summer	Fishing using fish weirs
108	9		Fall	Polar bear hunting
109	9		Late winter	
110	9		Late winter	
111	9	H	Summer and fall	Caribou hunting area mostly in the fall, hunt along the shore in summer
112	9			Hunting area for snow geese
113	9	H		Muskox hunting on Hayes River
114	9			Area his family travelled around when he was very young
115	9	H		Pass through Gjoa Haven hunting for muskox
117	9			Hunting for Perry Caribou, they are a little smaller than the other caribou
118	9			Fishing for Arctic Char
119	9			Family's caribou hunting ground before he was born
120	9	H	Spring	Trout fishing area
121	9	H	Spring	Trout fishing area
122	9	H	Winter	Ringed seal hunting for dog food
123	9	H	Spring	Ringed seal hunting area
124	9	H	Spring and summer	Fishing for char in Tunitpayuk River
125	9	H		Char fishing in Kugaaruk River

Figure 8. Areas with significant diversity and areas important for other reasons

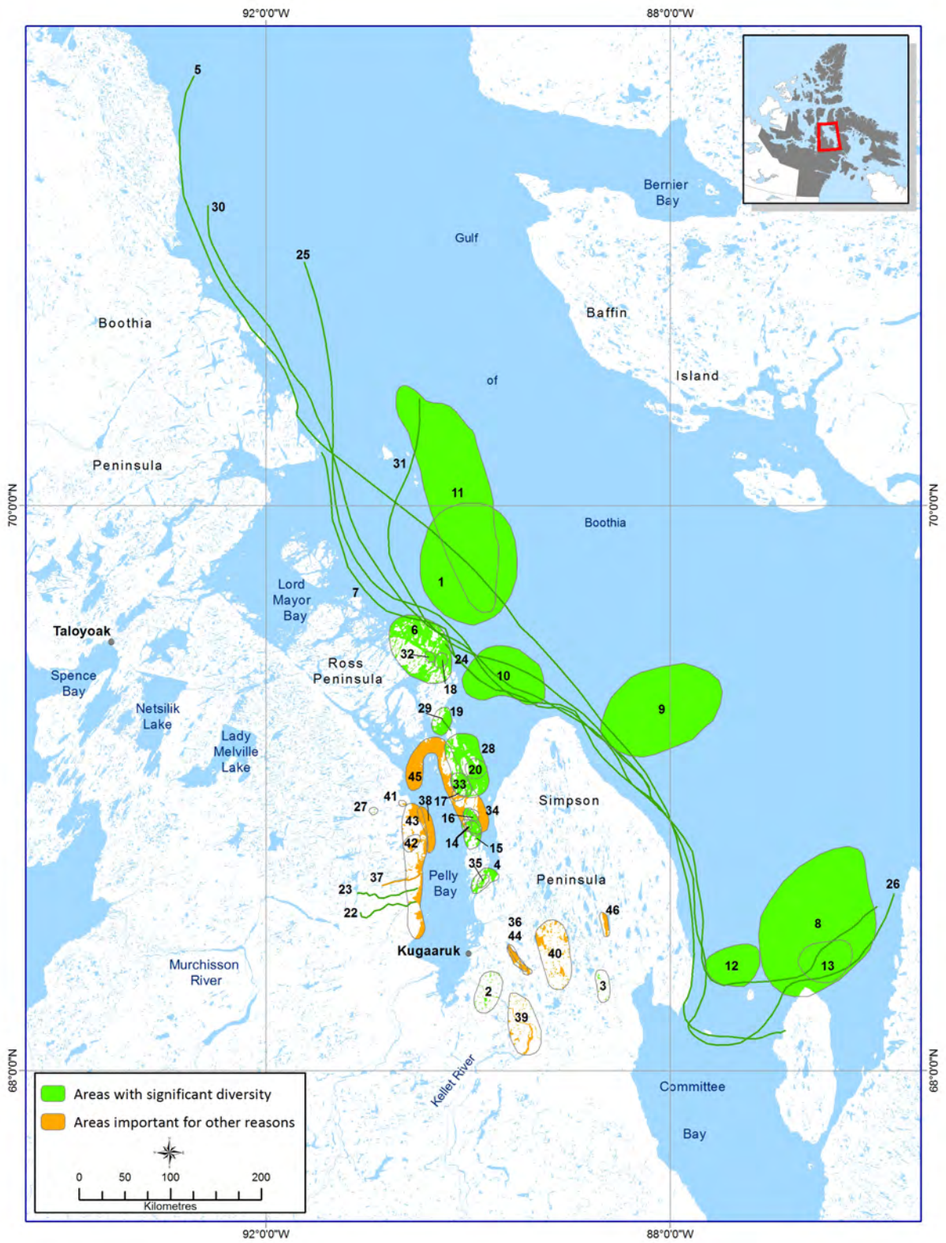


Table 4. Areas with significant diversity and areas important for other reasons

MAP #	INTERVIEW	CODE	CATEGORY	MONTHS	COMMENTS
1	2		SADP	Fall and Spring	April- freeze up sort of strong current
2	2		SADP	Summer	Lots of caribou - mostly in summertime
3	2		SADP	Summer	Head south in fall
4	2		SADP		
5	3		SADP		Always open year-round, the ice is not connected and just drifts around in the current to the east of this line
6	3		SADP		Nov-Dec it is open around these islands, doesn't freeze up until Jan
7	3		SADP		Floe edge
8	4		SADP	June	Open water areas for Narwhal
9	4		SADP	June	Open water areas for Narwhal
10	4		SADP	Year-round	Open water, strong currents
11	4		SADP		Open water, strong currents
12	4		SADP		Open water, strong currents
13	4		SADP		Open water, strong currents
14	4		SADP		Open water between islands, island on map is missing
15	4		SADP		Open water for 2-3 months between Nov and Jan depending on year, between Figure 8, Label 14 and island to the south
16	4		SADP		Open water between Figure 8, Label 14 and island to the north
17	4		SADP		open water for a few months
18	4		SADP		Open water for the longest amount of time I the area
19	4		SADP		Open crack in winter where people hunt seal
20	4		SADP		Seagulls lay eggs here in summer, lots of polar bear and seal here
21	4		SADP		Fishing area in summer
22	4		SADP		Potential rivers for commercial harvest
23	4		SADP		Potential rivers for commercial harvest
24	6	H	SADP		Used to go to the floe edge with dog team but not anymore. Won't go there with a skidoo
25	6		SADP		Everything northeast of this line is open water all winter
26	6		SADP		Frozen from November
27	7		SADP		Where they get really white stones

MAP #	INTERVIEW	CODE	CATEGORY	MONTHS	COMMENTS
28	7		SADP		In the non-current water; its almost half as thick-5ft - 3 feet
29	7		SADP		There would be a crack here where they would go seal hunting in winter
30	8		SADP		Floe edge
31	9		SADP		Floe edge, hasn't changed position much
32	9		SADP		Stays open until late January or early February
33	9		SADP		There are polynyas between the missing map islands
34	9		SADP		There are polynyas between the missing map islands
35	9		SADP		Opens in late May early June because of the current
36	2		SAOP		Lake - good fishing areas
37	2		SAOP		River - good fishing areas
38	5		SAOP	July	Love it here with the narwhal
39	5		SAOP	Fall and Winter	Love it here at the Kellet River
40	5		SAOP	Summer and Fall	
41	6		SAOP		Best places for commercial char fishing, should commercial fish on the west side of Pelly Bay because the east side is used for families' food
42	6		SAOP		Best places for commercial char fishing, should commercial fish on the west side of Pelly Bay because the east side is used for families' food
43	6		SAOP		Good hunting along this coast
44	6		SAOP		
45	6		SAOP		Lots of seal in this area
46	6		SAOP		Lake attached to Kugaaruk River, the river has fishing weirs

Figure 9. Arctic Char Probability of Occurrence

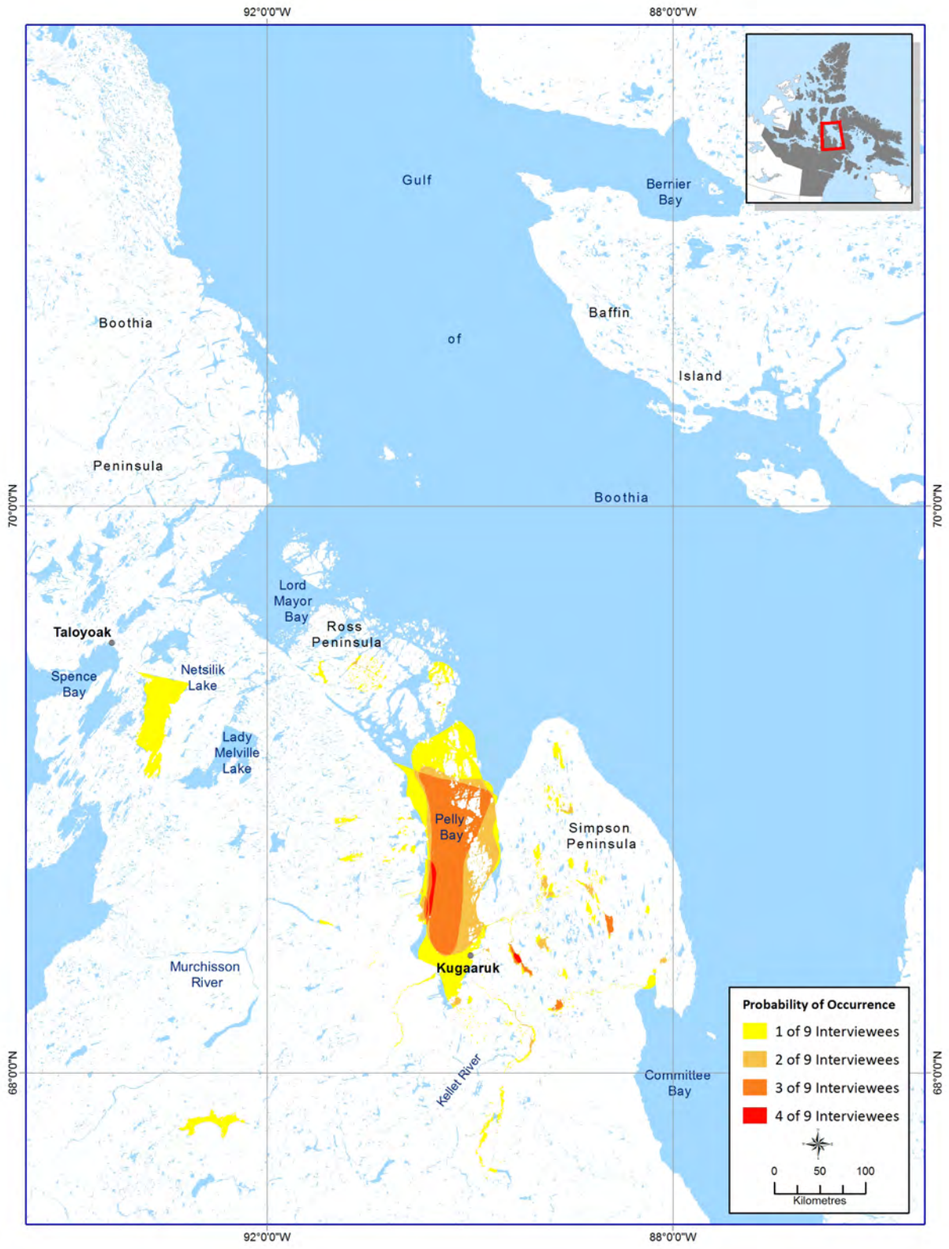


Figure 10. Arctic Char Areas of Occurrence

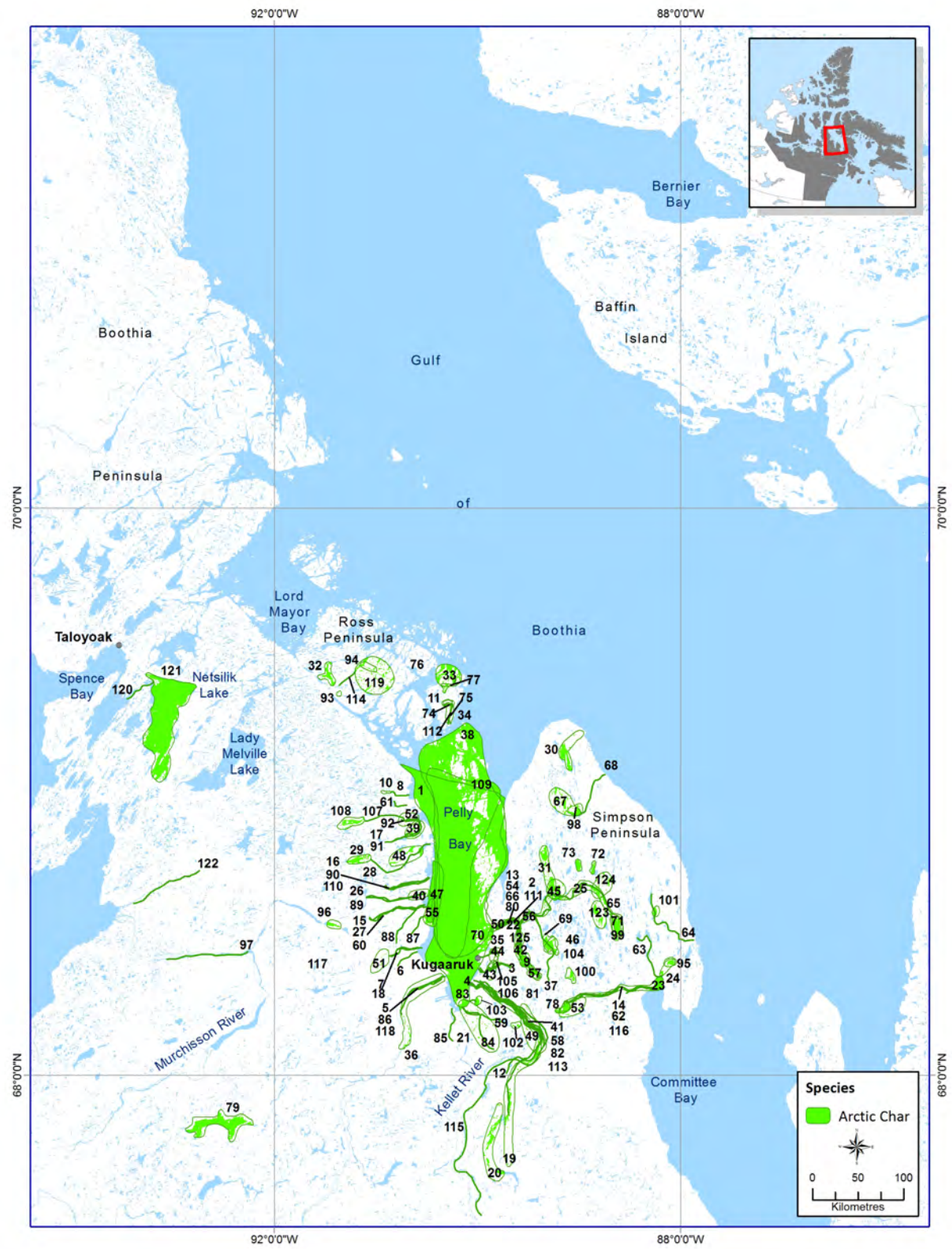


Table 5. Arctic Char Areas of Occurrence

MAP #	INTERVIEW	CODE	MONTHS	COMMENTS
1	1		Summer	Find near shore and out in the middle of the bay
2	1	MS	End of August	Going up rivers, char have darker skin than at Figure 10, Label 3
3	1	MS	End of August	Going up rivers, char have thinner skin then at Figure 10, Label 2 and they taste better
4	1	MS	End of August	Going up rivers
5	1	MS	End of August	Going up rivers
6	1	MS	End of August	Going up rivers
7	1	MS	End of August	Going up rivers
8	1	MS	End of August	Going up rivers, big char here
9	1	MS		DEW Line Lake, sometimes get char
10	1	MS		Lake that is not represented on the map, big char here
11	1			Lake isn't shown on map, some of the islands have fish too
12	2		Jul, Oct-Dec	Kellet River, catch some whitefish here in the fall too
13	2		Jul, Oct-Dec	Kugaaruk area
14	2			
15	2		Summer	
16	2		Summer	
17	2		Summer	
18	2			
19	3	M	Fall and winter	Char on the Kellet River go all the way up here, migrate in the fall and winter
20	3	M	Fall and winter	
21	3			Char in lakes along this river
22	3			Char in the Kugaaruk River to this lake here
23	3	M		Arctic Char travel up the Kellet River in winter, in summer we use fish weirs to catch them
24	3		Winter	Char head up into this inlet
25	3	M		Char are travelling up this river to the lake at Figure 7, Label 4
26	3	M	Summer	Char go up these river from the east side of the bay
27	3	M	Summer	Char go up these river from the east side of the bay
28	3	M		
29	3			In the lake
30	3			
31	3			In these two lakes
32	3			
33	3			River around this point
34	3			This river here
35	3			
36	3	M		
37	3	M		
38	4		Jul-Aug	
39	4		Spring	
40	4			
41	4	M		Along Kellet River, mostly use nets year-round, use fish weirs in the fall
42	4	S	Jun, Nov	
43	4	S	Jun, Nov	
44	4	S	Jun, Nov	
45	4	S	Jun, Nov	
46	4	S	Jun, Nov	
47	5			Caught with fishing rods and nets
48	5			Nets in the River
49	5			Kakivak and nets, Kellet River
50	5			Right in the community with nets and rod
51	5			Catch char with nets
52	5			Set nets here and catch big char
53	5	S	March	Saw them in March a few years ago, only place I've seen them
54	5		Early July	Migration down Kugaaruk River from Figure 10, Label 56
55	5		Mid July	
56	5			
57	6			Big char in this lake, had to drag some char behind his skidoo because they were too heavy
58	6	M		
59	6	M		Great char here
60	6	M		
61	6	M		
62	6	M		
63	6	M		
64	6	M		
65	6	M		

Table 5. Arctic Char Areas of Occurrence

MAP #	INTERVIEW	CODE	MONTHS	COMMENTS
66	6	M		
67	6	M		Lakes
68	6	M		In river connected to Figure 10, Label 67
69	6	M		River attached to lakes that aren't on the map
70	6	M		River attached to lakes that aren't on the map
71	6			Lots of char in the lake
72	6			Wherever there is access to a lake from a river there is char
73	6			
74	6	M		River to Figure 10, Label 75
75	6			Lake at the top of Figure 10, Label 74
76	6			Lake at the top of Figure 10, Label 77
77	6	M		River to Figure 10, Label 76
78	7			
79	7			Lake at top of river running towards Gjoa Haven
80	7	M	Late July to Early Aug	Late July to Early Aug
81	7	M		Fish going upstream earlier
82	7	M	Year-round	Kellet River, fish travelling along here
83	7	M		Muddy River
84	7	M		
85	7	M		Not sure but believes there are char here too
86	7	M		Migrate down when ground almost free of snow
87	7	M		Migrate down when ground almost free of snow
88	7	M		Migrate down when ground almost free of snow
89	7	M		Migrate down at end of July
90	7	M		
91	7	M		
92	7	M		
93	7		Spring	Fishing fish that look like char at small lake not on the map
94	7			Put fish weirs for char here, some old tent rings in the area, and lots of caterpillars "Augvik"
95	7			
96	7			
97	7			River called Kuug, put nets in overnight, all the fish here have little worm-like parasites that look like mini lampreys, in the gills
98	7			
99	7			
100	7			
101	7			
102	7			
103	7			
104	7	S		
105	7	S		
106	7	S		
107	8	S		Lots of good fish and lots of spawners. In the past it was hard to catch fish here
108	8			
109	8		Summer	In ocean
110	8	S		Kugarurarak River
111	8			Char in Kugaaruk River
112	8			
113	8	S		
114	8			Went fishing here one spring. The meat on the char didn't look right, once it was dried it looked like it had spots that had been cooked or boiled
115	9	MS		Kellet River
116	9	M		
117	9	M		Kugaaruk River
118	9	M		Can only go so far up because of the falls
119	9	M		Not sure if they go back to the ocean
121	9	M		
122	9	M		
123	9	S		Char go up river in late July and August, then spawn in the fall
124	9	S		Char go up river in late July and August, then spawn in the fall
125	9	S		Char go up river in late July and August, then spawn in the fall

Table 6. Arctic Char Everywhere data

INTERVIEW	MONTHS	COMMENTS
3		Sees red char in every river, says they are the old char

Figure 11. Landlocked Arctic Char Probability of Occurrence

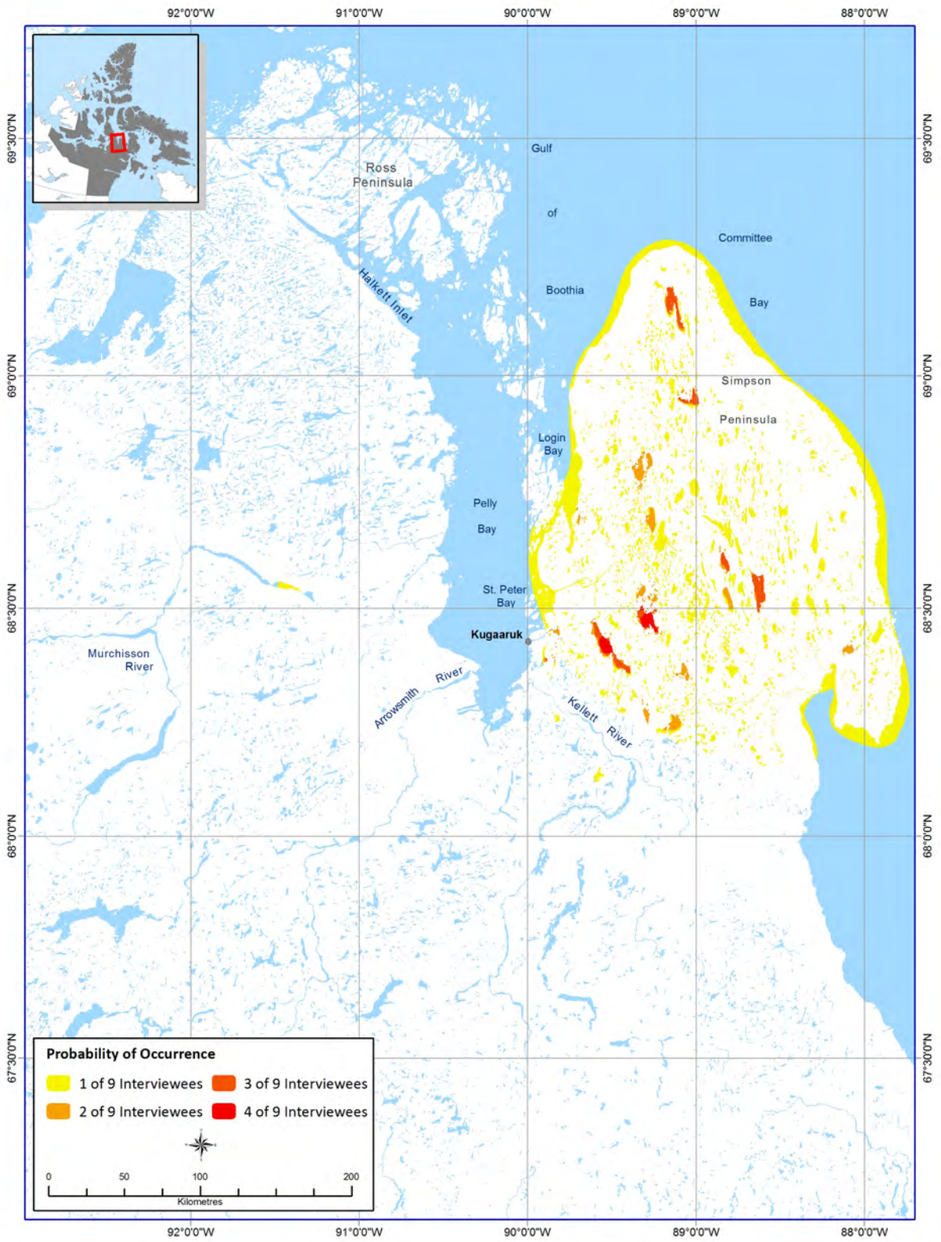


Figure 12. Landlocked Arctic Char Areas of Occurrence

Table 7. Landlocked Char Areas of Occurrence

MAP #	INTERVIEW	CODE	MONTHS	COMMENTS
1	1		Year-round	DEW Line Lake, these fish mostly stay in the same lake
2	1		Year-round	These fish mostly stay in the same lake
3	1		Year-round	These fish mostly stay in the same lake
4	1		Year-round	These fish mostly stay in the same lake
5	1		Year-round	These fish mostly stay in the same lake
6	1		Year-round	
7	1		Year-round	
8	1		Year-round	
9	1		Year-round	Small fish in a little lake not seen on map
10	2			
11	4			
12	4			
13	4			
14	4			
15	5			
16	5			
17	6			Lake that is not shown on map, only see them here
18	7			
19	7			Barrow Lake
20	7			
21	7			Nice big fish here
22	7			
23	7			
24	7			
25	7			
26	7			
27	7			
28	7			
29	7			
30	7			
31	8		Spring	Would camp here in spring and catch lots of little ones (10-20 cm)
32	8			All of the lakes on this peninsula

Table 8. Landlocked Char Everywhere data

INTERVIEW	MONTHS	COMMENTS
3		In all the lakes

Figure 13. Lake Trout Probability of Occurrence

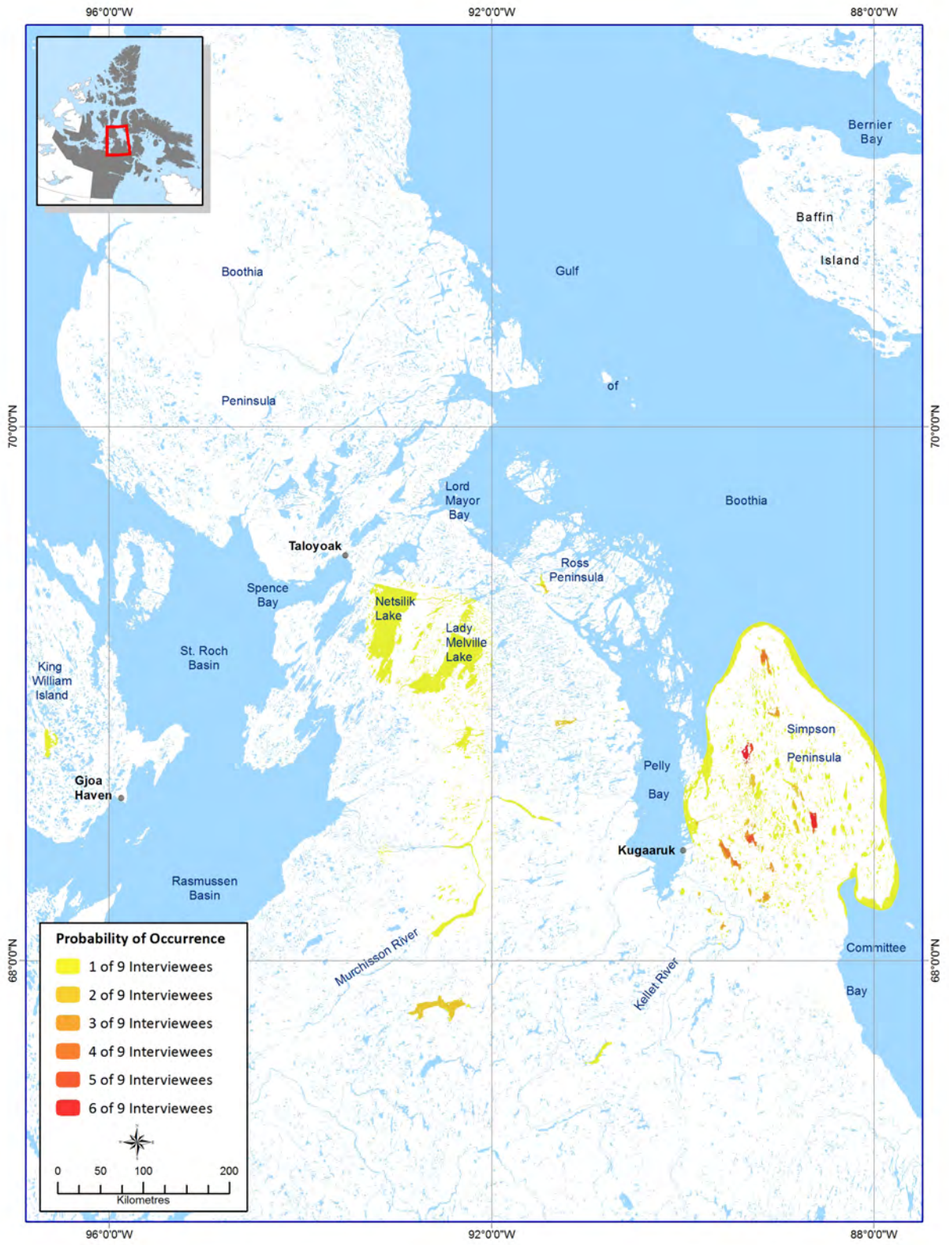


Figure 14. Lake Trout Areas of Occurrence

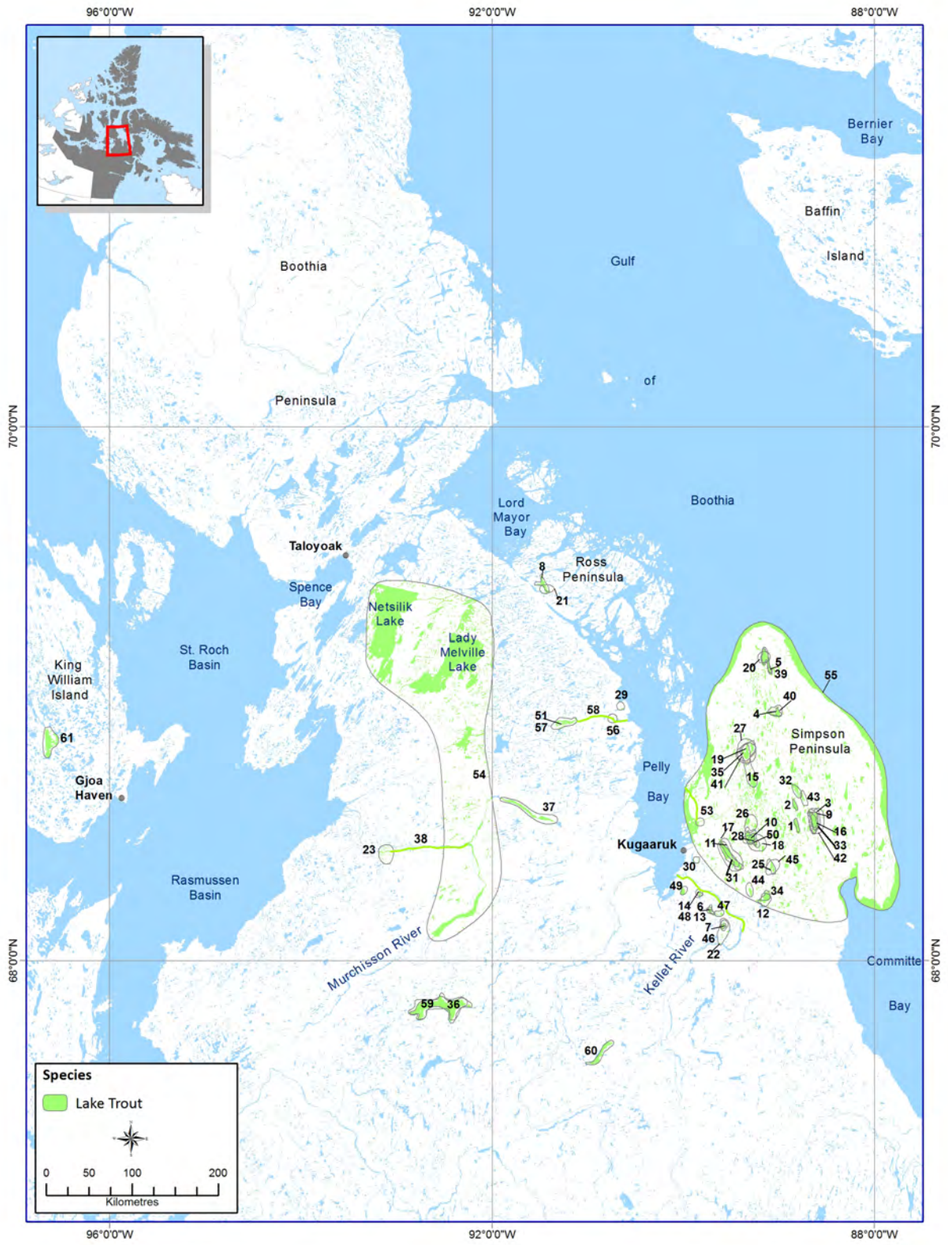


Table 9. Lake Trout Area of Occurrence

MAP #	INTERVIEW	CODE	MONTHS	COMMENTS
1	1			
2	1			
3	1			
4	1			
5	1			
6	1			
7	1			
8	1			Some lakes
9	2			DEW Line Lake
10	2			
11	2			
12	2			
13	2			
14	2			
15	3			In these 2 lakes
16	4		Mar-Apr	Mostly jigging on the ice
17	4		Mar-Apr	Mostly jigging on the ice
18	4		Mar-Apr	Mostly jigging on the ice
19	4		Mar-Apr	Mostly jigging on the ice
20	4		Mar-Apr	Mostly jigging on the ice
21	4		Mar-Apr	Mostly jigging on the ice, put some nets in with students a couple year ago
22	4		Mar-Apr	Mostly jigging on the ice
23	4		Mar-Apr	Mostly jigging on the ice
25	5			
26	5		Summer	Use rods, go on ice with ATV, dangerous
27	5		May	
28	5		Summer	Use rods
29	6			
30	6			
31	6			Big lake trout here, caught about 5 fish that were 1 meter long each
32	6			
33	6			Big lake trout here
34	7			
35	7			Lake Trout over 1 meter long
36	7			Lake at top of river running towards Gjoa Haven
37	7			Indicated that the trout here are about 70cm long
39	7			
40	7			
41	7			
42	7			
43	7			
44	7			
45	7			
46	7			Big lake trout here
47	7			
48	7			
49	7			Lake Trout here are very skinny
50	7			
51	8			
53	8			Mouth of Kugaaruk River
54	8			Bigger trout are on the west side of Pelly Bay, especially in the larger lakes
55	8			All of the lakes on this peninsula
57	8			Top of Tinniqpayuk River and lakes
58	8			Sometimes will find some here
59	9			
60	9			
61	9			

Table 10. Lake Trout Everywhere Data

MAP #	INTERVIEW	CODE
3		Lots of trout in all the lakes
9		Trout in all the lakes in this area

Figure 15. Atlantic Salmon, Brook Trout, Bull Trout, and Dolly Varden Areas of Occurrence

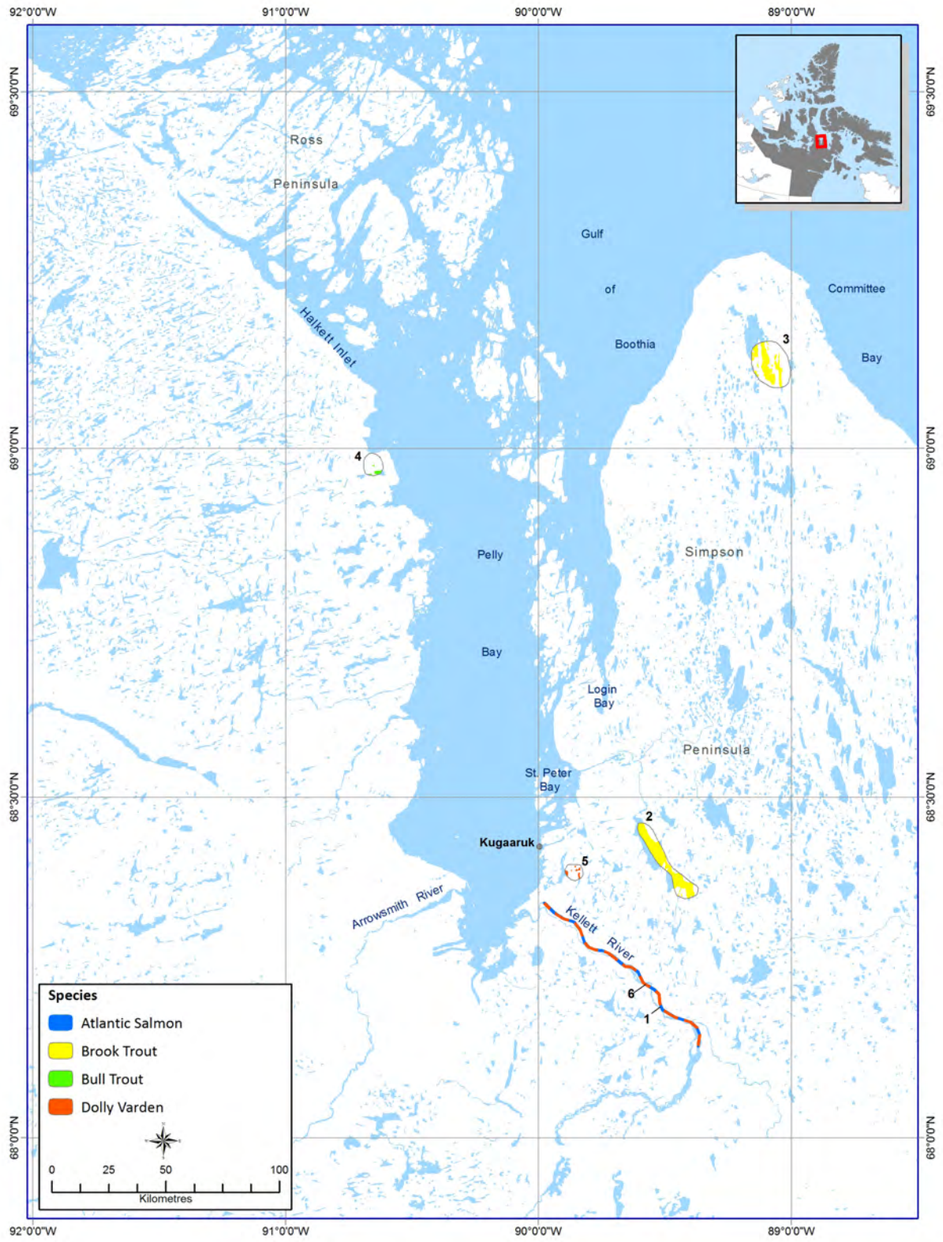


Table 11. Atlantic Salmon, Brook Trout, Bull Trout, and Dolly Varden Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	6	M	Atlantic Salmon	Fall	See them migrating up in fall, difficult to catch in summer because the river is running so hard
2	6		Brook Trout		Only here in DEW Line Lake
3	9		Brook Trout		
4	6		Bull Trout	Spring, Summer	Caught them in this lake many times
5	6		Dolly Varden	June	Seen coming in from the sea many times

Table 12. Brook Trout, Bull Trout and Northern Pike Everywhere Data

INTERVIEW	SPECIES	MONTHS	COMMENTS
3	Brook Trout		All trout are different but sees bull trout, brook trout, and lake trout in all the lakes
3	Bull Trout		All trout are different but sees bull trout, brook trout, and lake trout in all the lakes
3	Northern Pike		See them in all the lakes

Figure 16. Broad, Lake, Mountain, and Round Whitefish and Inconnu Areas of Occurrence

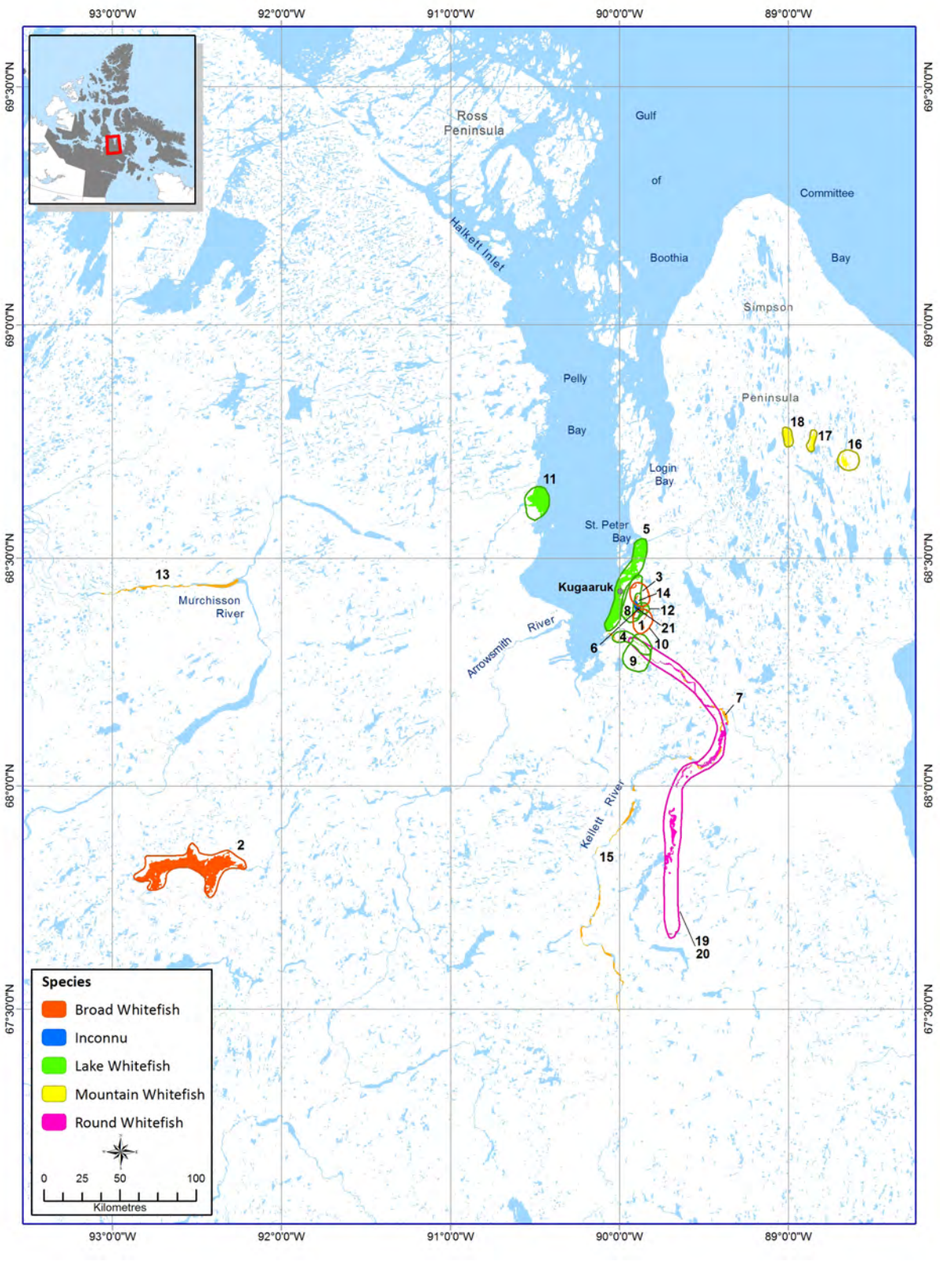


Table 13. Broad, Lake, Mountain, and Round Whitefish and Inconnu Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	4		Broad Whitefish	June	
2	7		Broad Whitefish		Lake at top of river running towards Gjoa Haven. Type of whitefish "Kakiviaqtuq" means "thick lipped"
3	9		Broad Whitefish		Near the Kugaaruk area
4	1		Lake Whitefish		In the Kellet River, lots of whitefish
5	1		Lake Whitefish		Near shore in the ocean close to town
6	1		Lake Whitefish		Little lake that has big whitefish
7	2		Lake Whitefish		Caught in nets on the Kellet River
8	3		Lake Whitefish		
9	4		Lake Whitefish		Found in the river
10	4		Lake Whitefish	June	Catch them when ice is breaking up
11	4		Lake Whitefish	June	Caught in the ocean just last year
12	6		Lake Whitefish		Lots in this lake, haven't seen them anywhere else
13	7		Lake Whitefish		River called Kuug, put nets in overnight, all the fish here have little worm-like parasites that look like mini lampreys, in the gills
14	8		Lake Whitefish	Year-round	Catch them in nets during spring and winter fishing
15	9		Lake Whitefish		Smaller type, along Kellet River
16	6		Mountain Whitefish	Winter	Catch on hooks
17	6		Mountain Whitefish	Winter	Catch on hooks
18	6		Mountain Whitefish	Winter	Catch on hooks
19	3		Round Whitefish		All in the Kellet River
20	6		Round Whitefish		
21	1		Inconnu	Year-round	Same small lake as Figure 16, Label 6

Figure 17. Arctic, Black Fin, Lake and Least Cisco Areas of Occurrence

Table 14. Arctic, Black Fin, Lake and Least Cisco Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	2		Arctic Cisco		Part of the Kellet River
2	3		Arctic Cisco		All in the Kellet River
3	4		Arctic Cisco	June	
4	5		Arctic Cisco	Fall and Winter	Catch in nets sometimes on the Kellet River while fishing for char
5	6		Arctic Cisco		
6	8		Arctic Cisco		Kellet River, eats them raw, frozen, or dried
7	6		Black Fin Cisco		
8	6		Lake Cisco	Fall	Come in from all the lakes to the Kellet River
9	3		Least Cisco		All in the Kellet River
10	6		Least Cisco		

Figure 18. Arctic, Atlantic, Toothed and unidentified Cod Areas of Occurrence

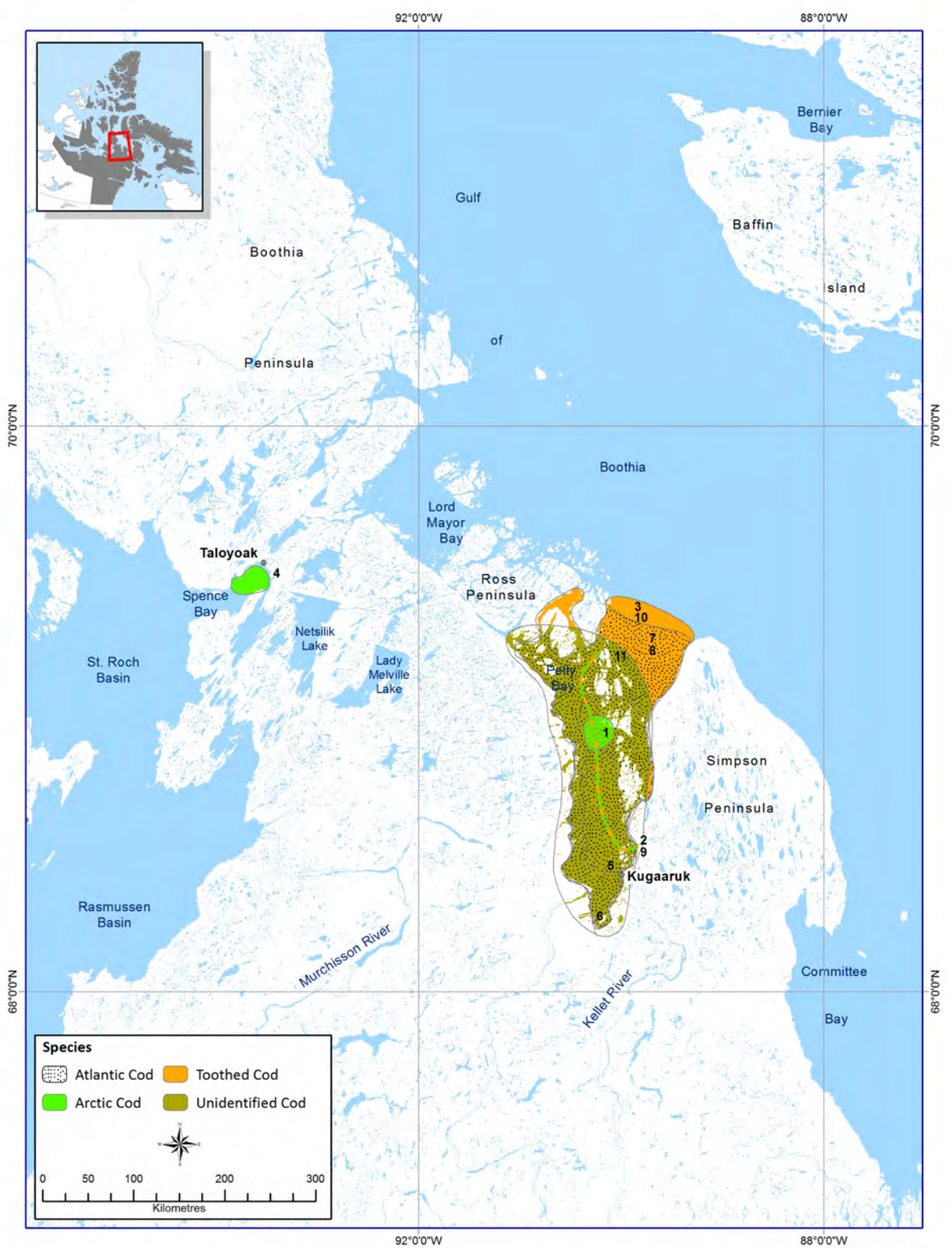


Table 15. Arctic, Atlantic, Toothed and unidentified Cod Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	4		Arctic Cod		Have seen them swimming around the ice, in areas where seals are all summer
2	8		Arctic Cod		These like to go in places with lots of broken ice. Every year when the barge leaves will see seagulls in the trail eating cod
3	8		Arctic Cod	August	See all in bay mostly in summer
4	9		Arctic Cod		In the Taloyoak area
5	2		Atlantic Cod	Summer	Find in deep water, and see some dead in seal holes in spring
6	3		Atlantic Cod		Mostly in the sea ice, they are all over the whole bay
7	6		Atlantic Cod		Everywhere in Pelly Bay
8	6		Toothed Cod	Spring and summer	Everywhere in Pelly Bay
9	8		Toothed Cod		Seagulls eat them in route the barge takes
10	8		Toothed Cod		See all in bay mostly in summer
11	9		Unknown Cod	Summer	Looks like an Arctic Cod, but smaller with few fins

Figure 19. Capelin, Pacific Herring, Black Dogfish and Unknown fish Areas of Occurrence

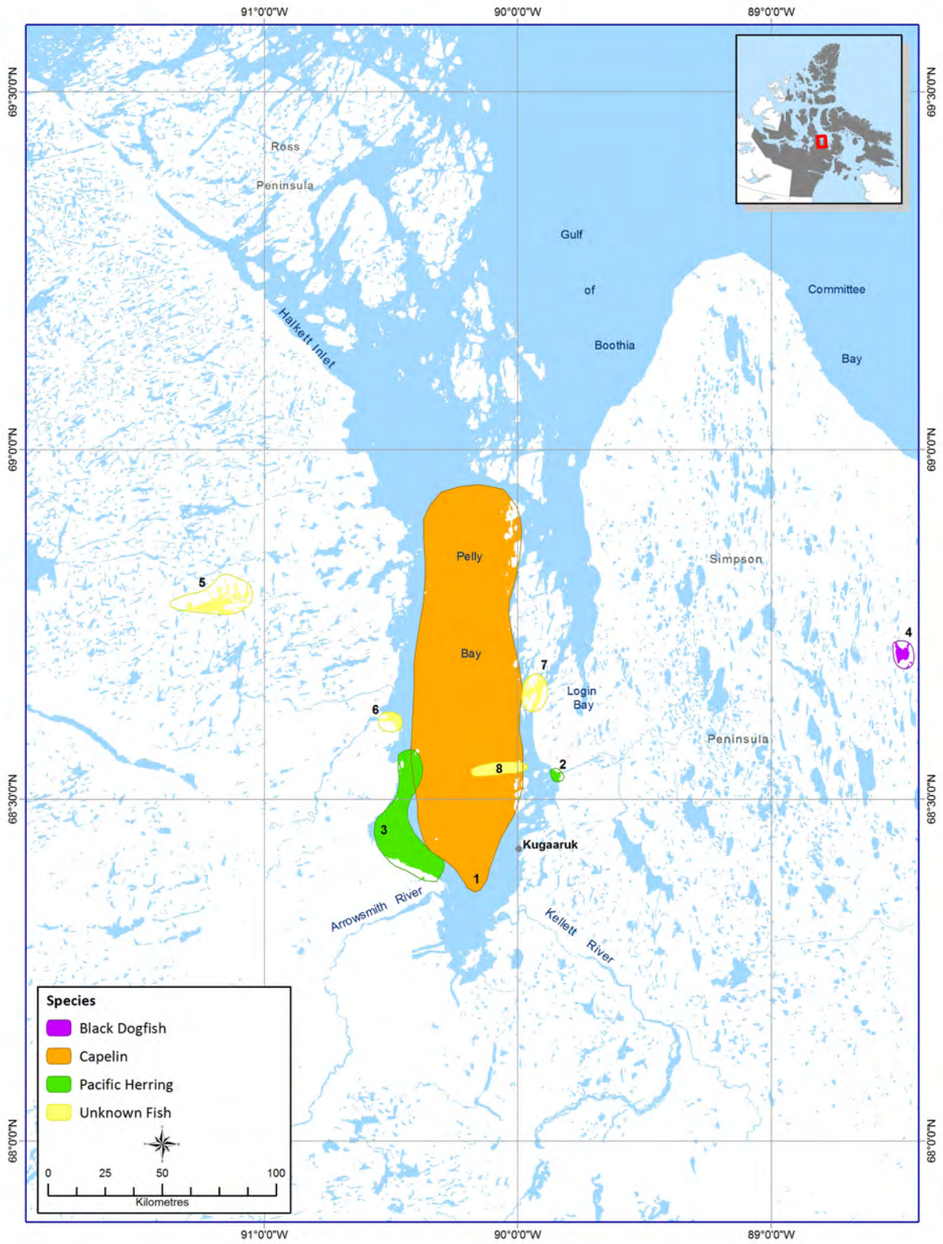


Table 16. Capelin, Pacific Herring, Black Dogfish and Unknown fish Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	1		Capelin	Summer	See in open ocean, lots of seals and whales are around when they are about
2	4		Pacific Herring		By the shore near the mouth of the Kugaaruk River
3	6		Pacific Herring		See in sea ice around the area
4	6		Black Dogfish		Caught more than one, only in this lake. They are not like Arctic char. The fish were larger "70 cm" and had hard meat
5	7		Unknown		
6	8	H	Unknown		Saw what looked like the severed tail of a shark here when he was a boy
7	8		Unknown		Saw what he thought was a shark fin by the shore
8	7		Unknown		

Figure 20. Arctic, Starry and Winter Flounder Areas of Occurrence

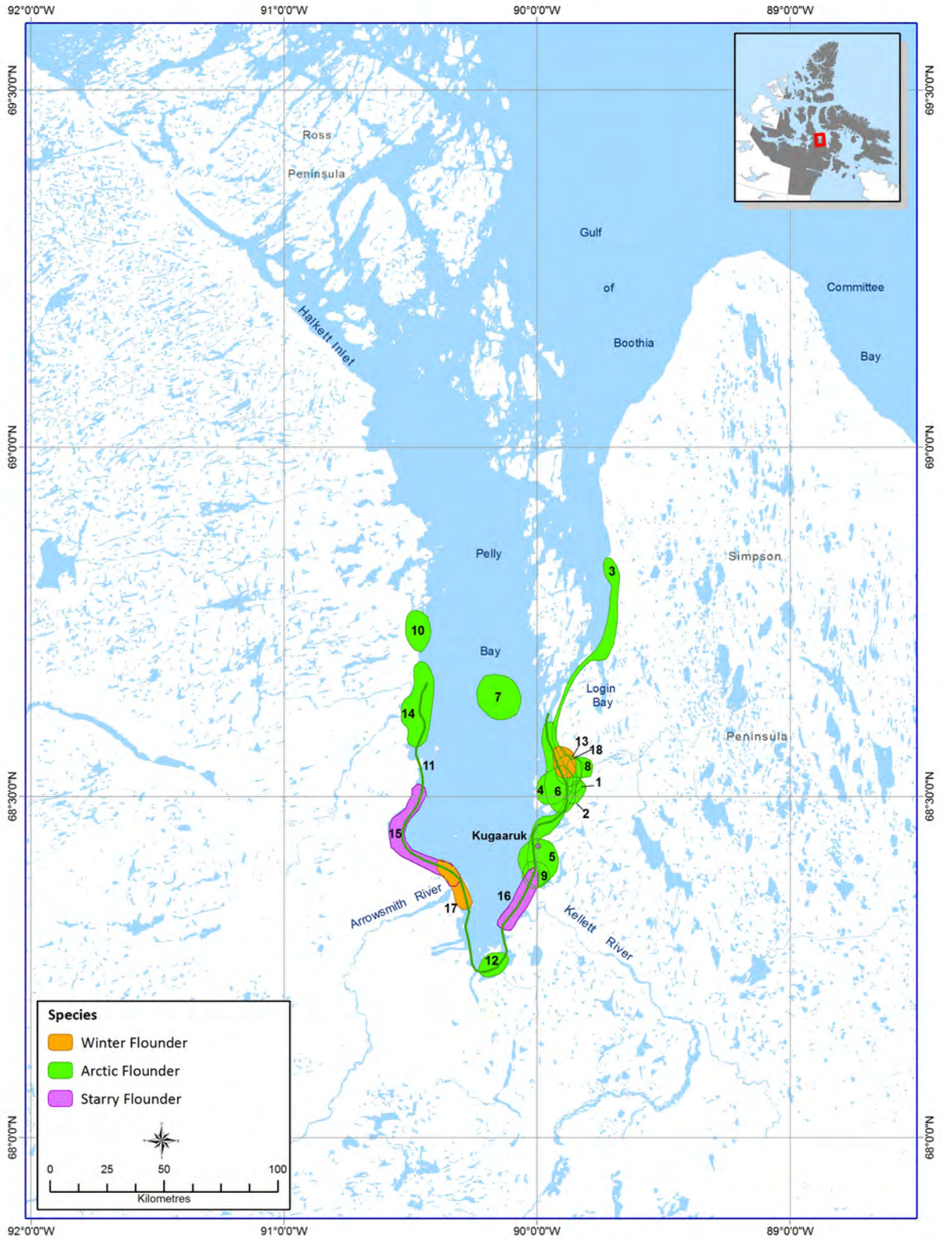


Table 17. Arctic, Starry and Winter Flounder Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	2		Arctic Flounder		
2	2		Arctic Flounder	Jun-Aug	Get them near shore in the nets but don't eat them, put them back in the sea
3	3		Arctic flounder		
4	4		Arctic Flounder		Used to be more when he was a little boy, nobody eats these
5	4		Arctic Flounder		Caught one a year ago
6	6		Arctic Flounder	Summer	Catch them in nets when setting them near Kugaaruk
7	6		Arctic Flounder		Saw big ones with a camera under his boat (60 cm), there were lots of them
8	7		Arctic Flounder		
9	7		Arctic Flounder		
10	7		Arctic Flounder		
11	8				Always get into the nets along the shore, annoying to deal with
12	8	A	Arctic Flounder		Higher abundance, thinks they are bigger in the middle
13	9		Arctic Flounder		
14	9		Arctic Flounder		
15	1		Starry Flounder		Could be Arctic Flounder
16	1		Starry Flounder		Catch them along the shore in char nets, could be Arctic Flounder
17	3		Winter flounder		
18	5		Winter flounder	Jul, Aug	

Figure 21. Ninespine and Threespine Stickleback Areas of Occurrence

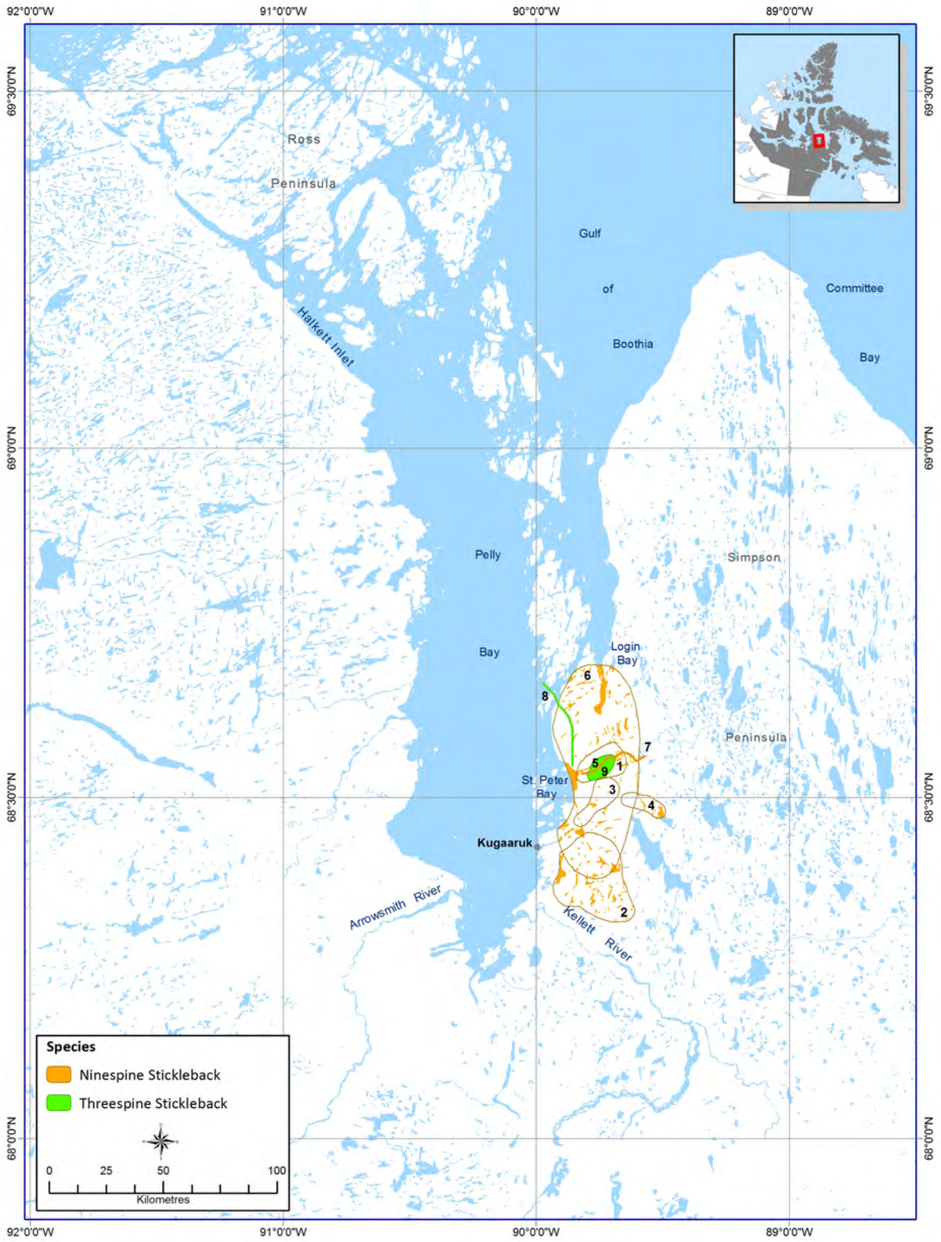


Table 18. Ninespine and Threespine Stickleback Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	1		Ninespine Stickleback		See in small ponds and puddles along streams, do not know if they migrate down-stream or not
2	1		Ninespine Stickleback		Don't know what they are called, we find them everywhere
3	2		Ninespine Stickleback		In all the little lakes, mostly closer to town
4	2		Ninespine Stickleback		In all the little lakes, mostly closer to town
5	5		Ninespine stickleback	Jul, Aug	In the river
6	8		Ninespine Stickleback		In the little lakes and ponds mostly in this area, assumes they freeze during winter and come back to life in the spring
7	9		Ninespine Stickleback		Only seen them in Kugaaruk River
8	4		Threespine Stickleback		In the river in open water
9	5		Threespine Stickleback	Jul, Aug	In the river

Table 19. Ninespine and Threespine Stickleback Everywhere Data

INTERVIEW	SPECIES	MONTHS	COMMENTS
3	Ninespine Stickleback		See them in all the lakes
3	Threespine Stickleback		See them in all the lakes
6	Ninespine Stickleback	Winter	Lots of these in all lakes
6	Threespine Stickleback	Winter	Lots of these in all lakes
7	Ninespine Stickleback		Spiky fish in all the little creeks, have heard of people eating them when there is nothing else to eat
7	Threespine Stickleback		Spiky fish in all the little creeks, have heard of people eating them when there is nothing else to eat

Figure 22. Arctic Staghorn, Short Horn, Twohorn, Fourhorn and Unidentified Sculpin Areas of Occurrence

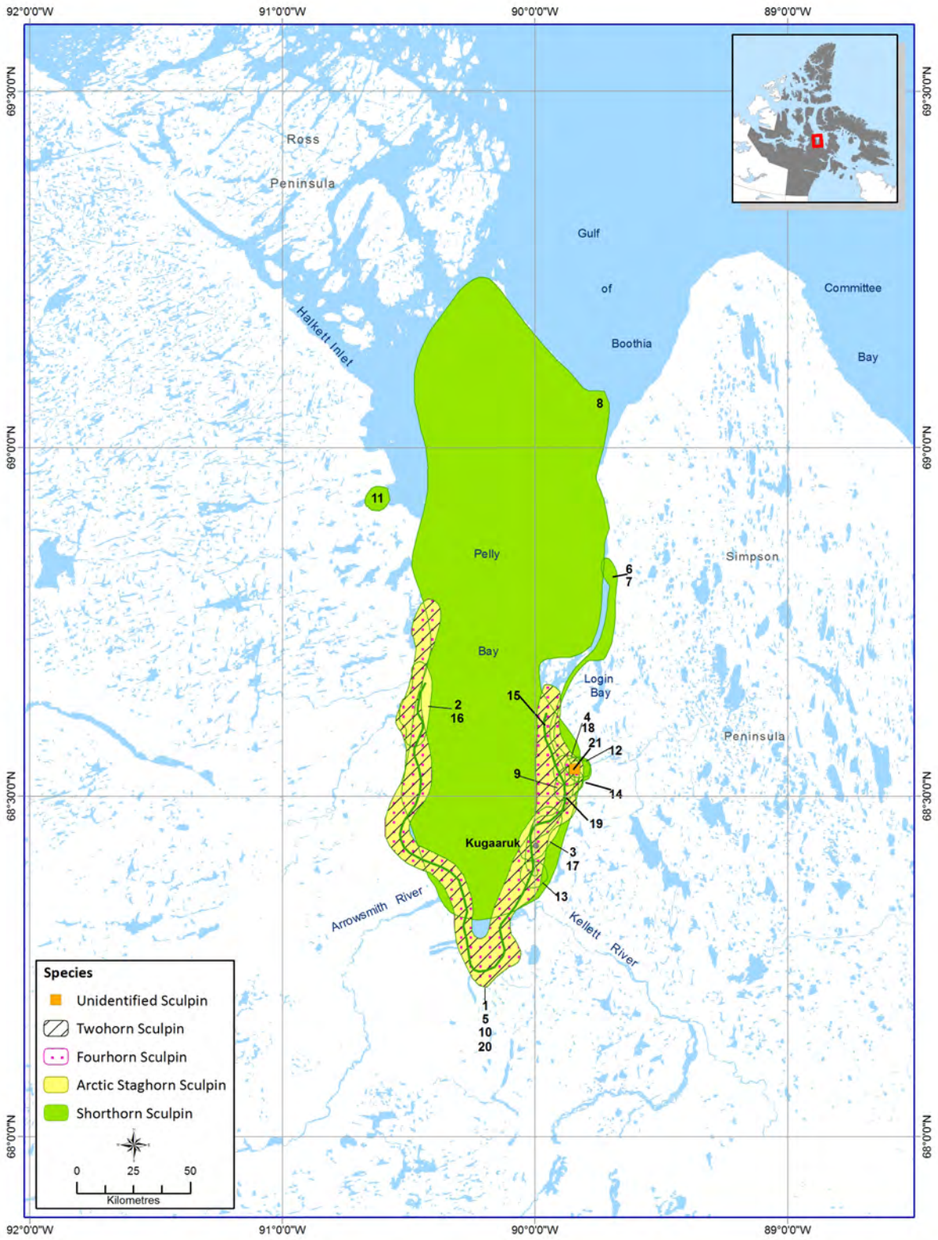


Table 20. Arctic Staghorn, Short Horn, Twohorn, Fourhorn and Unidentified Sculpin Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	6		Arctic Staghorn Sculpin		Caught in nets along coast. Good eating but very annoying to take out of the nets due to all the spines
2	9		Arctic Staghorn Sculpin		
3	9		Arctic Staghorn Sculpin		
4	9		Arctic Staghorn Sculpin		
5	6		Fourhorn Sculpin		Caught in nets along coast. Good eating but very annoying to take out of the nets due to all the spines
6	3		Short Horn Sculpin		I only recognise this species of sculpin, they are all along the shore of the bay
7	3		Short Horn Sculpin		I only recognise this species of sculpin, they are all along the shore of the bay
8	4		Short Horn Sculpin	Summer	In bay mostly near shore, not harvested
9	5		Short Horn Sculpin	Spring and Summer	Around community
10	6		Short Horn Sculpin		Caught in nets along coast. Good eating but very annoying to take out of the nets due to all the spines
11	7		Short Horn Sculpin		
12	7		Short Horn Sculpin		
13	7		Short Horn Sculpin		
14	8		Short Horn Sculpin		Catching on rod for spring derby contest
15	8		Short Horn Sculpin		
16	9		Short Horn Sculpin		
17	9		Short Horn Sculpin		
18	9		Short Horn Sculpin		
19	5		Twohorn Sculpin	Spring and Summer	Around community
20	6		Twohorn Sculpin		Caught in nets along coast. Good eating but very annoying to take out of the nets due to all the spines
21	2		Unidentified Sculpin		Get caught in the nets, all species in same area

Table 21. Shorthorn Sculpin Everywhere Data

MAP #	INTERVIEW	CODE
7		

Figure 23. Bigeye, Deep Sea, Ribbed, Slimy and Spatulate Sculpin Areas of Occurrence

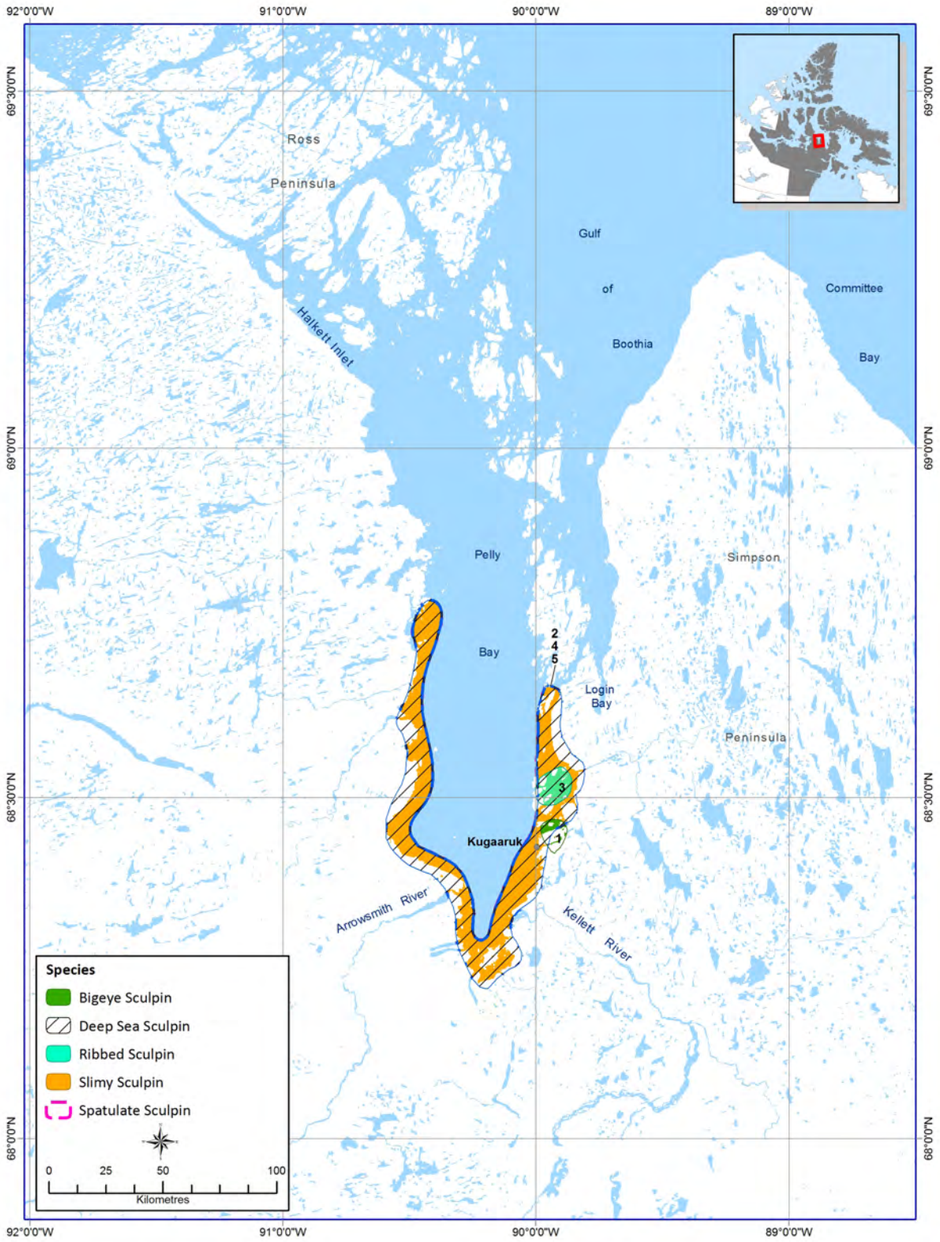


Table 22. Bigeye, Deep Sea, Ribbed, Slimy and Spatulate Sculpin Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	4		Bigeye Sculpin		South of town near the shore
2	6		Deep Sea Sculpin		Caught in nets along coast. Good eating but very annoying to take out of the nets due to all the spines
3	4		Ribbed Sculpin		
4	6		Slimy Sculpin		Caught in nets along coast. Good eating but very annoying to take out of the nets due to all the spines
5	6		Spatulate Sculpin		Caught in nets along coast. Good eating but very annoying to take out of the nets due to all the spines

Figure 24. Bartail Seasnail, Atlantic Spiny and Leatherfin Lumpsucker Areas of Occurrence

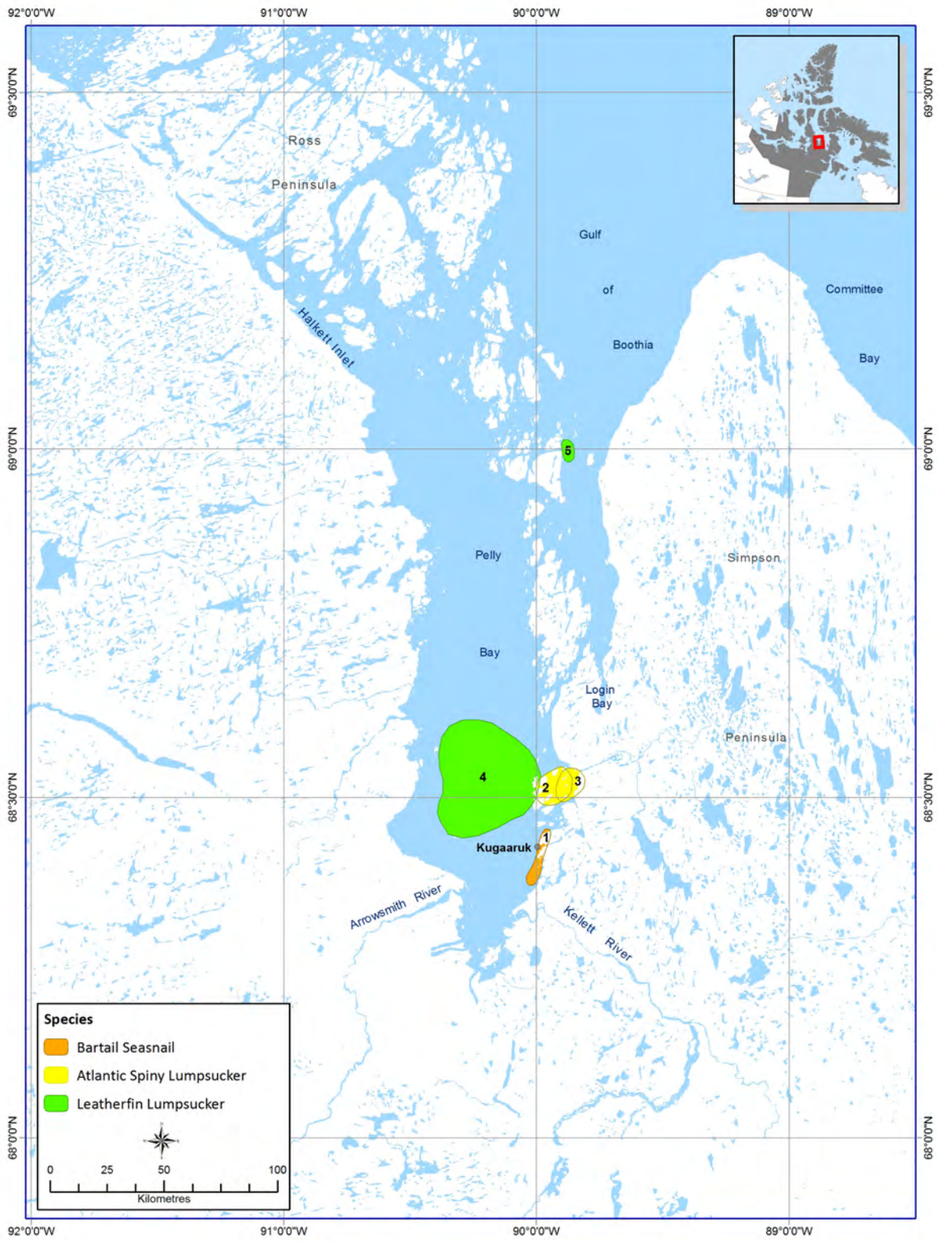


Table 23. Bartail Seasnail, Atlantic Spiny and Leatherfin Lumpsucker Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	6		Bartail seasnail		Saw along shore in intertidal when tide went down
2	4		Atlantic Spiny Lumpsucker		Near shore outside of town
3	5		Atlantic Spiny Lumpsucker		In the community
4	1		Leatherfin Lumpsucker	Winter	See in seal holes
5	5		Leatherfin Lumpsucker	June	In a seal breathing hole

Figure 25. Canadian Eelpout, Daubed Shanny and Hamecon Areas of Occurrence

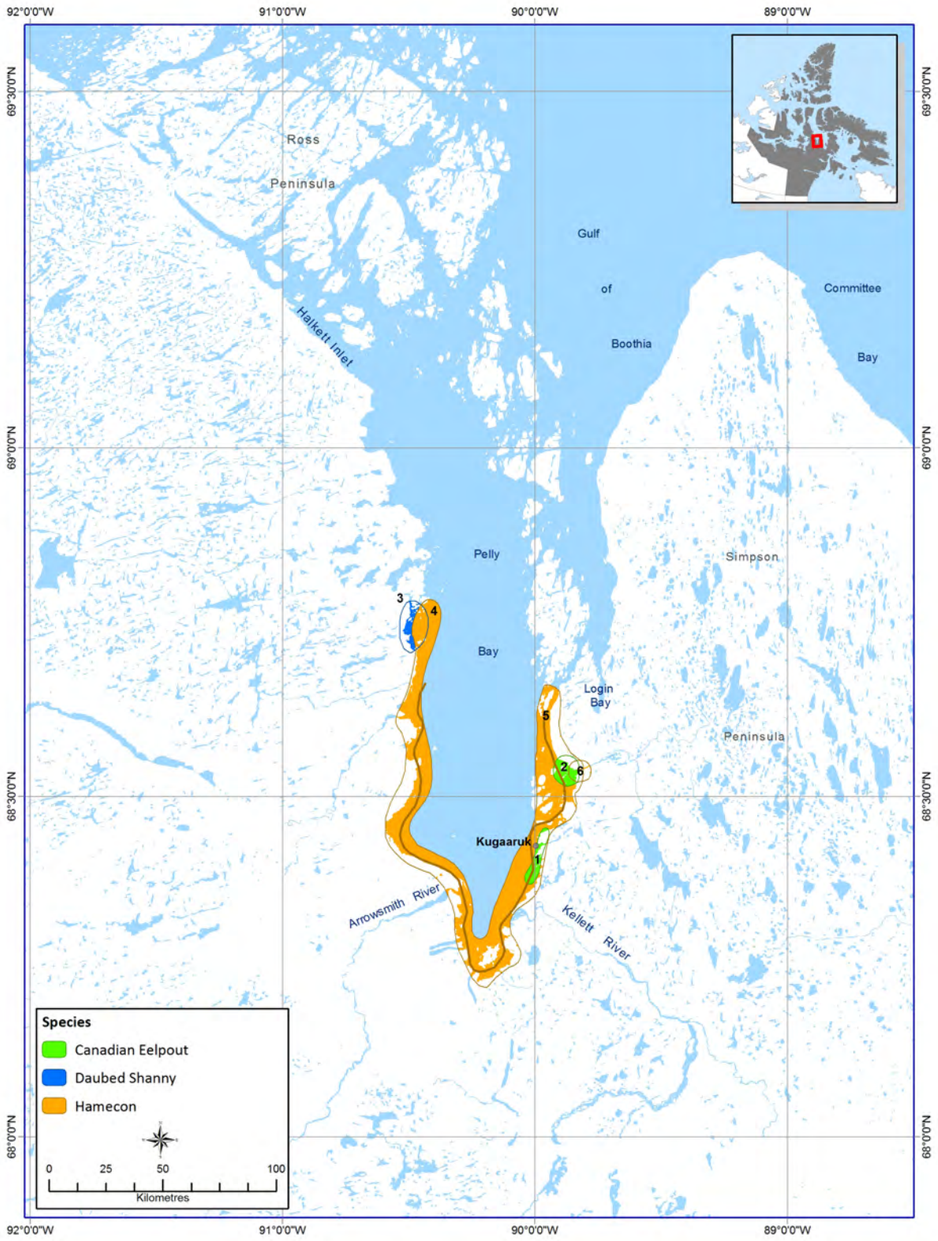


Table 24. Canadian Eelpout, Daubed Shanny and Hamecon Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	6		Canadian Eelpout		Saw on shoreline left by the tide
2	9		Canadian Eelpout		Caught in a net near town
3	5	H	Daubed Shanny		Saw only once as a young child, it was moving very slow and caught it with my hands, it was weird so I threw it back
4	6		Hamecon		Caught in nets along coast. Good eating but very annoying to take out of the nets due to all the spines
5	8		Hamecon		Less common then the shorthorns
6	8		Hamecon		Less common then the shorthorns

Figure 26. Truncate Softshell Clam, Cockle and Icelandic Scallop Areas of Occurrence

Table 25. Truncate Softshell Clam, Cockle and Icelandic Scallop Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	1		Truncate softshell clam		See the shells everywhere up on the land from when the ocean was higher
2	3		Truncate softshell clam		See the shells on the land within this line
3	6		Truncate softshell clam		See in mud and shallow water along shore. Only shells up on the land
4	9		Truncate softshell clam		Seen the shells on the land
5	3		Cockle		See the shells on the land within this line
6	3		Icelandic scallop		See the shells on the land within this line
7	5		Icelandic scallop	Late Jul to Aug	Saw up the river about 5cm in diameter
8	6		Icelandic scallop		See in mud and shallow water along shore. Only shells up on the land

Figure 27. Deep Sea King, Snow and Toad Crab, Mysid and Northern Shrimp and Atlantic Oyster Areas of Occurrence

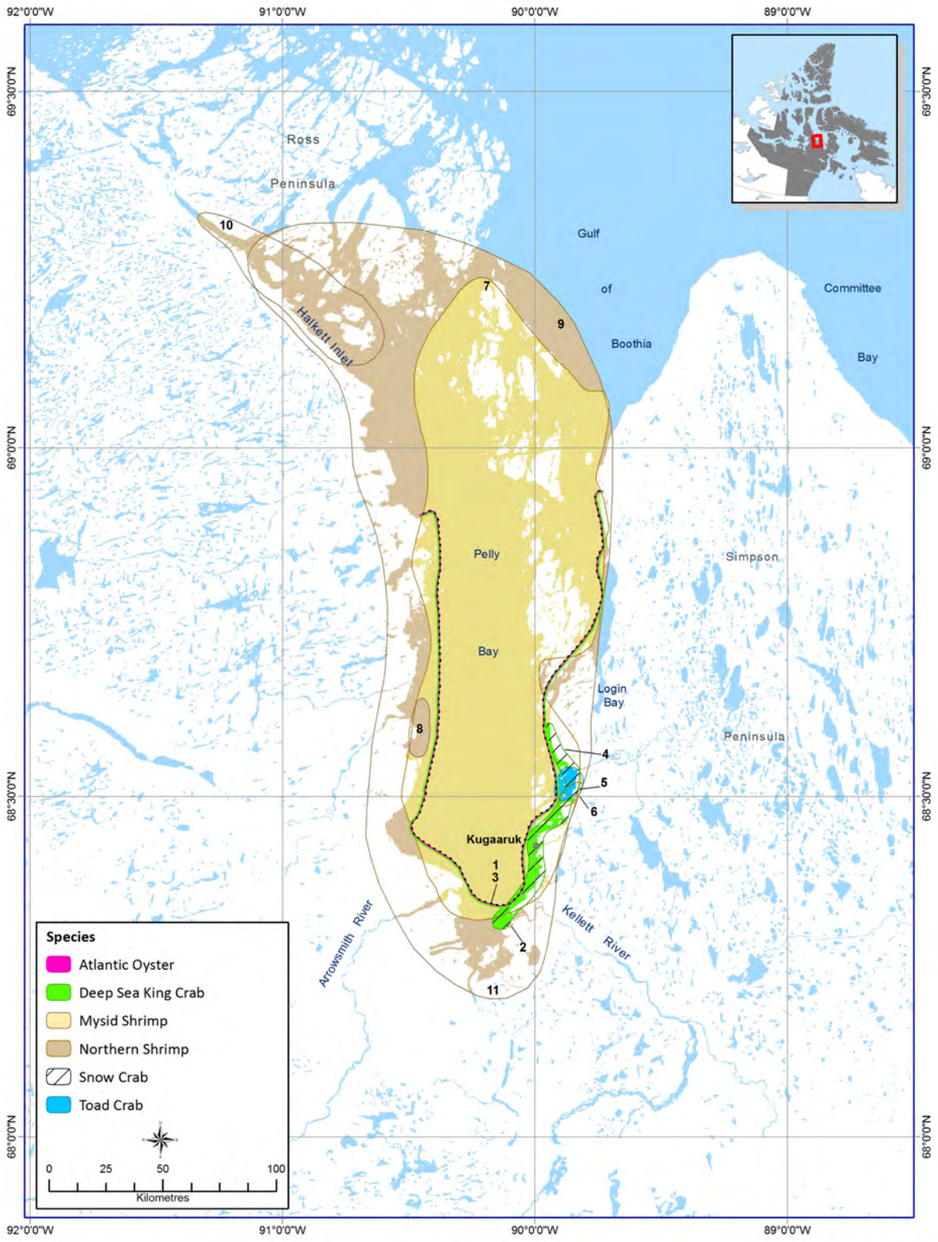


Table 26. Deep Sea King, Snow and Toad Crab, Mysid and Northern Shrimp and Atlantic Oyster Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	3		Deep sea king crab		Out in the deep areas still close to shore. They call the ice in the bay sea ice because there is always ice coming in from the mouth
2	6		Deep sea king crab		In shallow areas, about 20 cm in size
3	3		Snow crab		Out in the deep areas still close to shore. They call the ice in the bay sea ice because there is always ice coming in from the mouth
4	6		Snow crab		In shallow areas, once saw a live one that was about 20 cm
5	5		Toad crab		Near community in sculpins mouth
6	2		Mysid shrimp	Summer	Anywhere he sets his nets
7	4		Mysid shrimp		All over the bay
8	5		Northern shrimp		Came out of a char's mouth when checking nets
9	9		Northern shrimp		
10	9	A	Northern shrimp		
11	3		Atlantic oyster		See the shells on the land within this line

Figure 28. Flexed Gyro and Northern Horse Mussel Areas of Occurrence

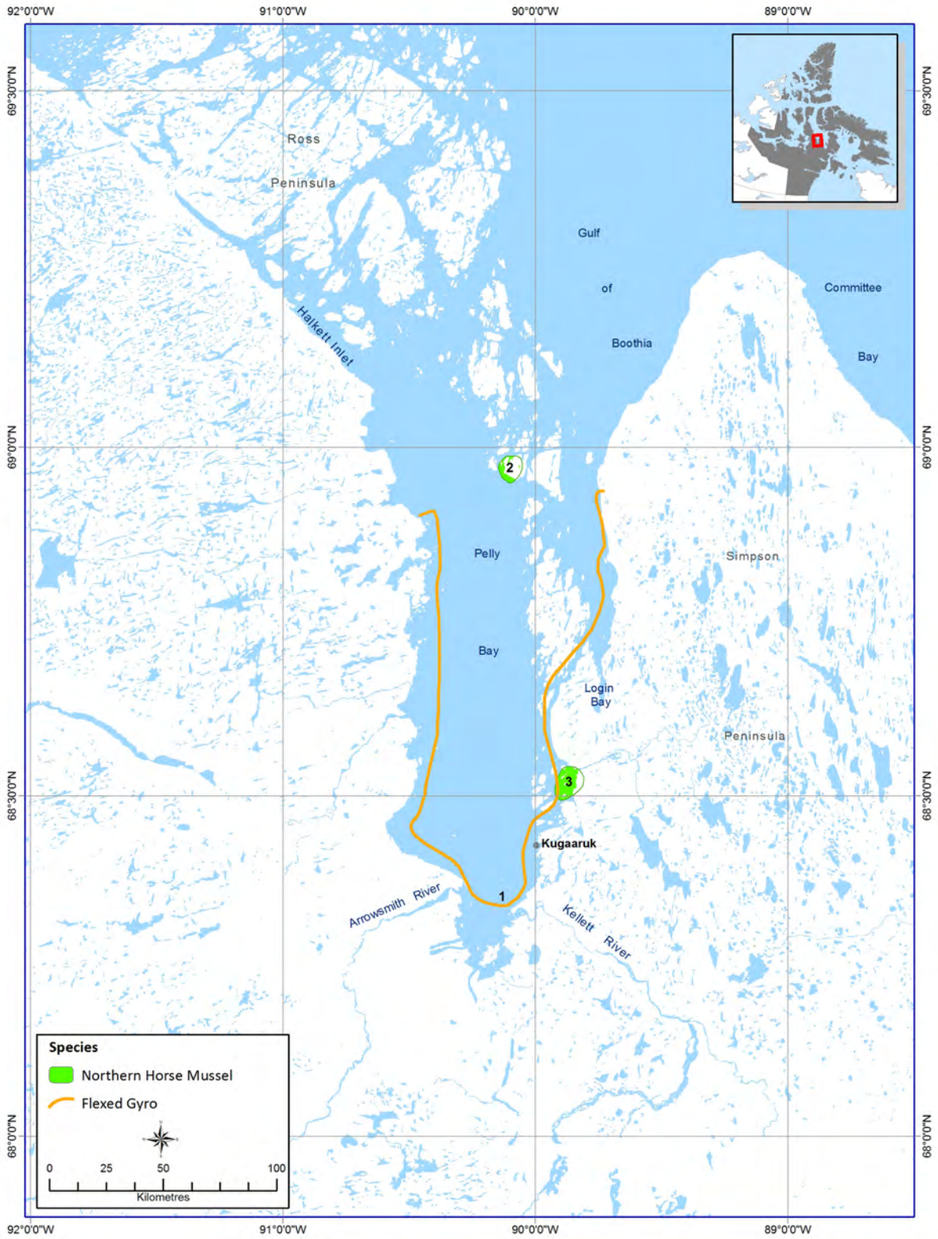


Table 27. Flexed Gyro and Northern Horse Mussel Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	3		Flexed gyro		See the shells on the land within this line
2	5		Northern horse mussel	Year-round	Near Figure 5, Label 14
3	5		Northern horse mussel	Year-round	In community

Figure 29. Jellyfish, Polar Sea Star and Sea Urchin Areas of Occurrence

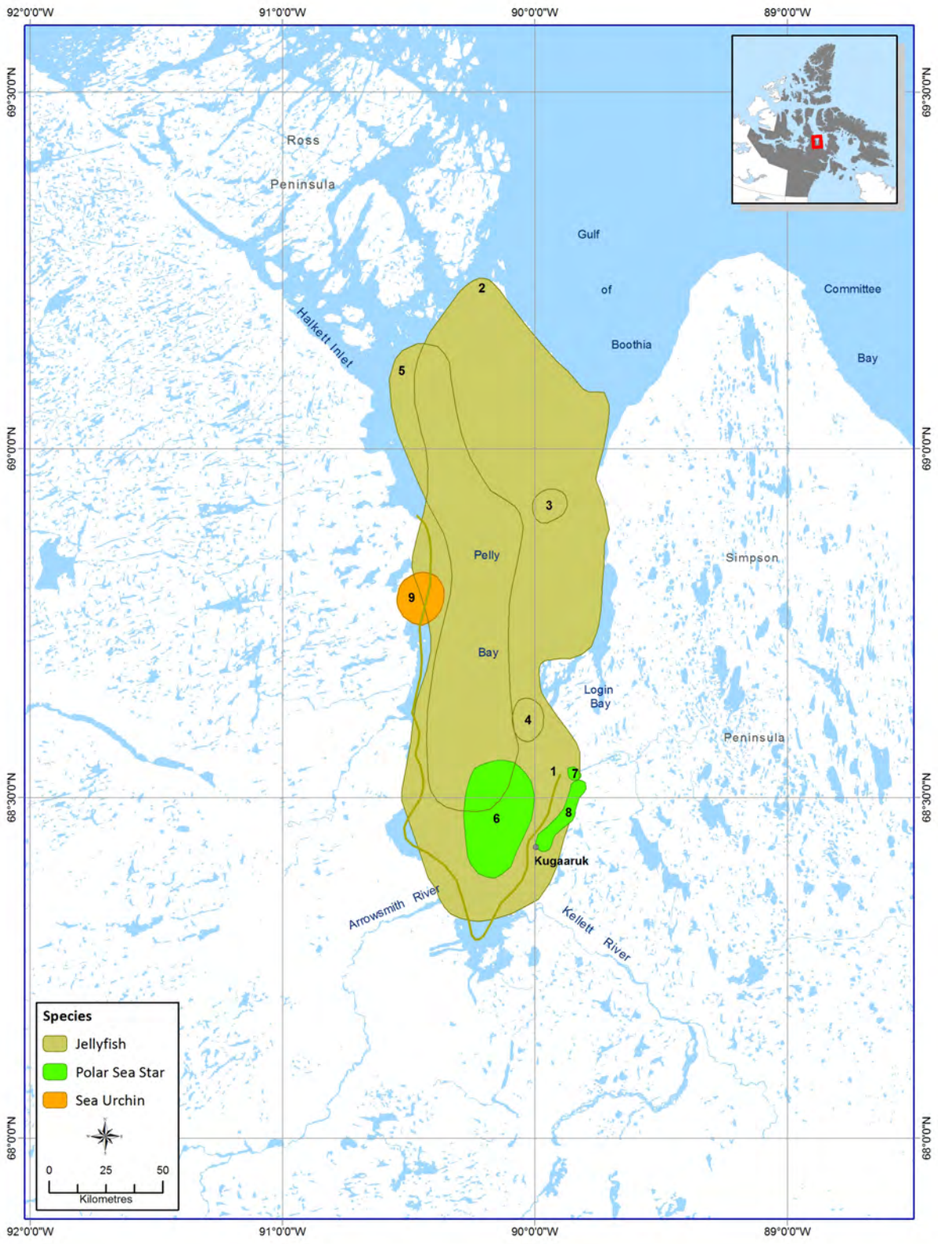


Table 28. Jellyfish, Polar Sea Star and Sea Urchin Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	2		Jellyfish	Summer	Along shore when taking boats down
2	4		Jellyfish	Summer	Believes they are here all year but can't see them through the ice
3	5		Jellyfish	September	near camp
4	5		Jellyfish	September	Not far from community
5	6		Jellyfish		In deep water areas
6	3		Polar seastar		Saw in deep water somewhere inside the bay, can clearly see the bottom there
7	4		Polar seastar		Sees them just outside of town, there were more when he was in high school
8	6		Polar seastar		See when tide is low
9	4		Sea urchin	Summer	See on bottom when the rivers are low and the visibility in the ocean gets better

Table 29. Jellyfish Everywhere Data

INTERVIEW	MONTHS	COMMENTS
1	Fall	Lots of big ones in the fall
3	Spring and summer	All over the bay

Figure 30. Ctenophore, Arctic Moonsnail and Naked Sea Butterfly Areas of Occurrence

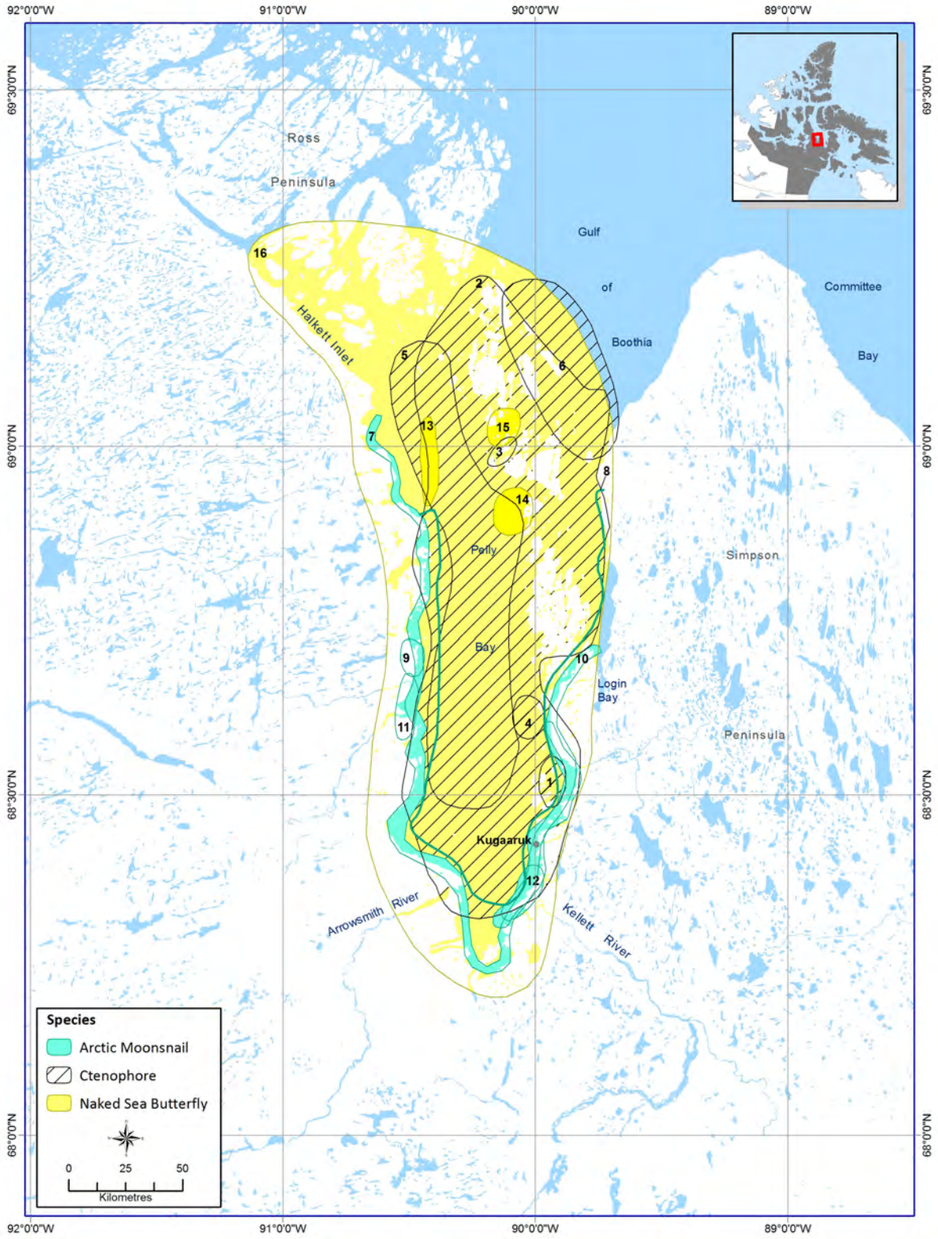


Table 30. Ctenophore, Arctic Moonsnail and Naked Sea Butterfly Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	3	H	Ctenophore		Saw when he was paddling a long time ago
2	4		Ctenophore		See them lighting up while driving the boat
3	5		Ctenophore	September	
4	5		Ctenophore	September	
5	6		Ctenophore		In deep water areas
6	9		Ctenophore		The sea is very clear here
7	1		Arctic Moonsnail		Seen dead along the shore
8	3		Arctic Moonsnail		See the shells on the land within this line
9	4		Arctic Moonsnail		Seen the shells along the shore
10	6		Arctic Moonsnail		Find along the shore, called an "ear" in Inuktitut because the shell looks like one
11	9		Arctic Moonsnail		See them in sandy areas
12	9		Arctic Moonsnail		See them in sandy areas
13	2		Naked Sea Butterfly	Summer	
14	5		Naked Sea Butterfly	Mid Sep	See a lot when boating
15	5		Naked Sea Butterfly	Mid Sep	See a lot when boating
16	9		Naked Sea Butterfly		See in water throughout Pelly Bay

Table 31. Naked Sea Butterfly and Ctenophore Everywhere Data

INTERVIEW	SPECIES	MONTHS	COMMENTS
1	Naked Sea Butterfly		See them once in a while all over ocean
1	Naked Sea Butterfly		See them once in a while all over ocean
1	Ctenophore		See them along the shore when the tide comes up, light up in the dark

Figure 31. Amphipod, Crayfish, Plankton Worm and Sea Spider Areas of Occurrence

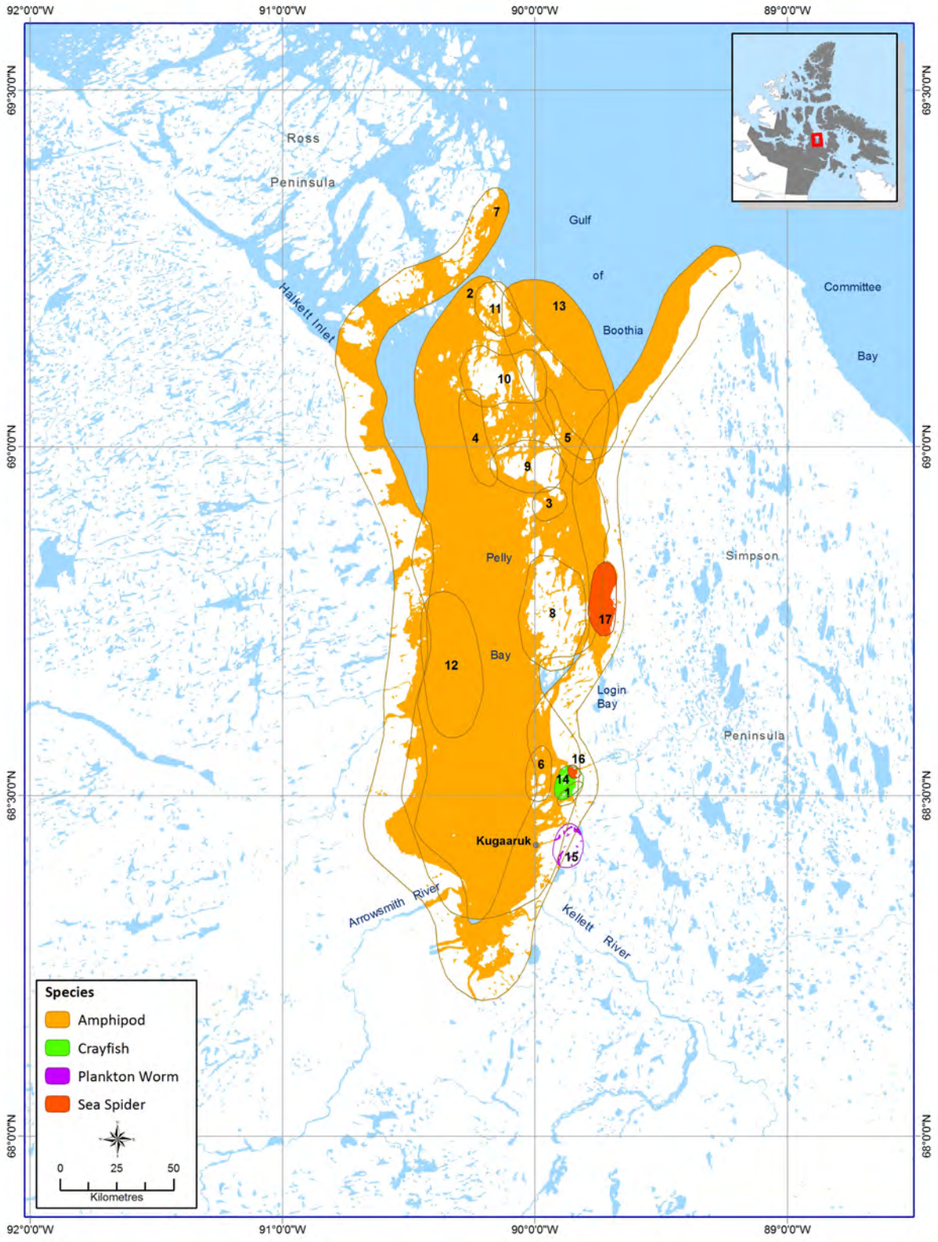


Table 32. Amphipod, Crayfish, Plankton Worm and Sea Spider Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	2		Amphipod	Summer	Anywhere he sets his nets along shore
2	4		Amphipod	Year-round	All over the bay
3	5		Amphipod	Mid Sep - early Oct	Lots all through these islands
4	5		Amphipod	Fall	All through these islands
5	5		Amphipod	Fall	All through these islands
6	5		Amphipod	Fall	Outside community
7	6		Amphipod		All over the shorelines, islands and deep sea areas
8	6		Amphipod		Around island areas near the shores
9	6		Amphipod		Around island areas near the shores
10	6		Amphipod		Around island areas near the shores
11	6		Amphipod		Around island areas near the shores
12	9		Amphipod		
13	9		Amphipod		
14	5		Crayfish		Near community in sculpins mouth
15	4		Plankton worm		
16	4		Sea spider	Summer	Pulled one up in nets while doing a survey for barge landing
17	9		Sea spider		Saw a skeleton/molt

Table 32. Amphipod Everywhere Data

INTERVIEW	MONTHS	COMMENTS
1		Lots in seal holes, eaten by fish
3		All over the bay

Figure 32. Polar Bear Probability of Occurrence

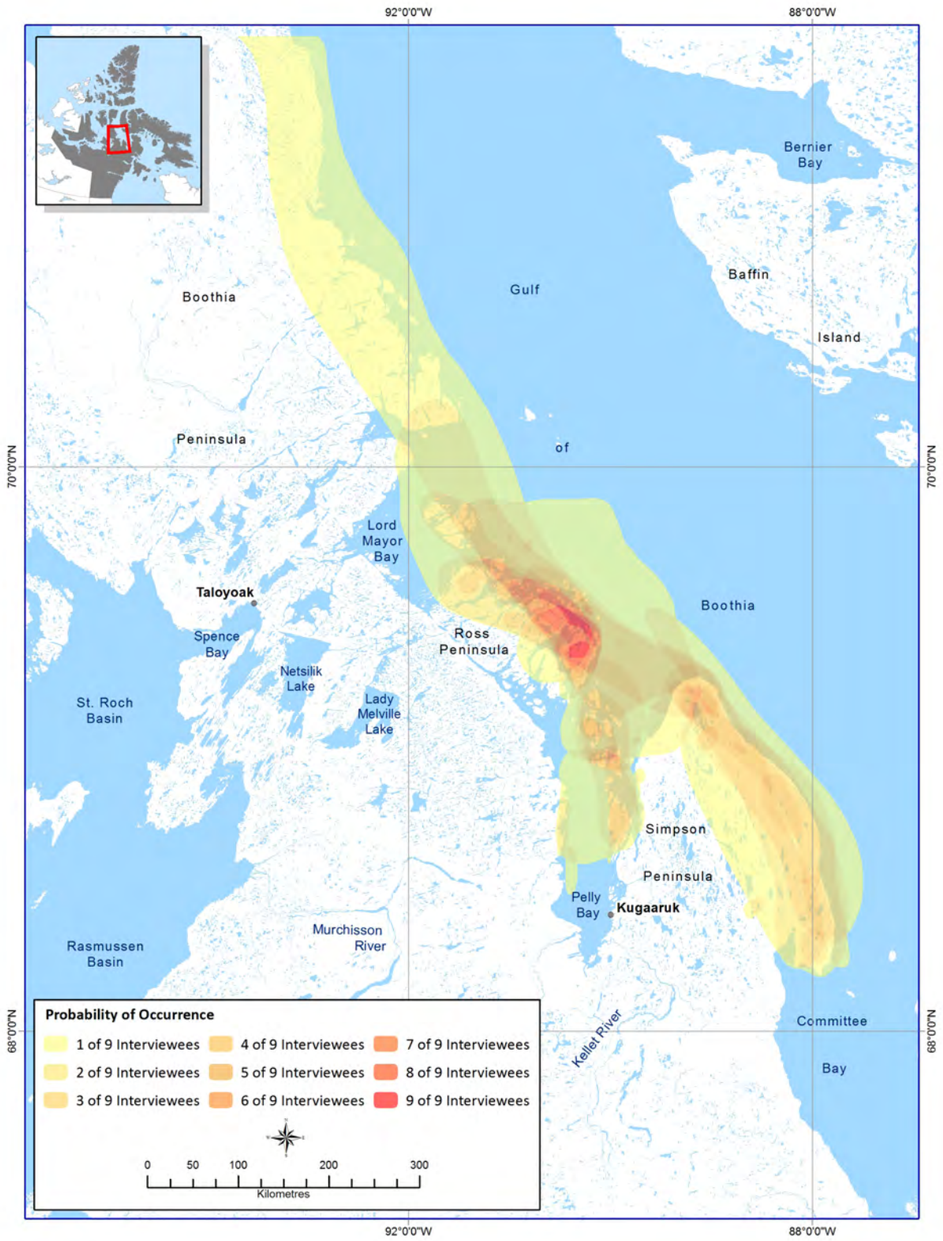


Figure 33. Polar Bear Areas of Occurrence

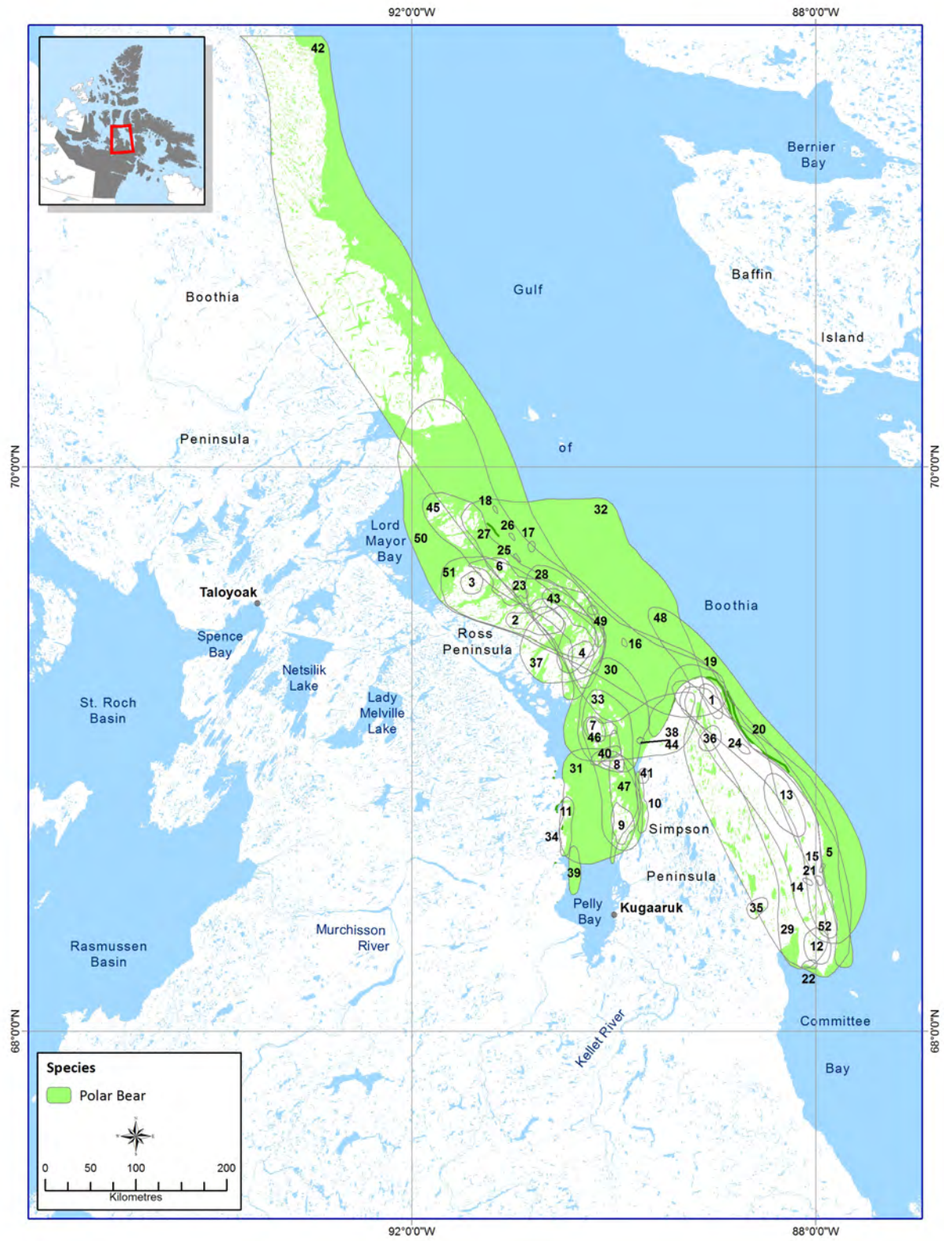


Table 34. Polar Bear Areas of Occurrence

MAP #	INTERVIEW	CODE	MONTHS	COMMENTS
1	1	S		They come up on the land to dig dens, the cubs leave the dens in fall to go hunting with the mothers
2	1	S		They come up on the land to dig dens, the cubs leave the dens in fall to go hunting with the mothers
3	1	S		They come up on the land to dig dens, the cubs leave the dens in fall to go hunting with the mothers
4	1	S		They come up on the land to dig dens, the cubs leave the dens in fall to go hunting with the mothers
5	1			See along the shore when seal pupping
6	1		Summer	Amongst Islands
7	1		Summer	Amongst Islands
8	1			
9	1		Summer	
10	1			Along shore hunting seal
11	1			Along shore hunting seal
12	1	S		They come up on the land to dig dens, the cubs leave the dens in fall to go hunting with the mothers
13	1	S		They come up on the land to dig dens, the cubs leave the dens in fall to go hunting with the mothers
14	2			
15	2			Caught one
16	2			With cubs
17	2			Caught one
18	2			Caught one
19	2		See them before the ice freezes	
20	2		Fall	Lots of tracks along the coast
21	2	S		Denning areas
22	2	S		Denning areas
23	2	S		Denning areas
24	2	S		Denning areas
25	2			
26	2			
27	2			
28	3	S		Come out of the dens around May, in earlier fall they go to the east shore
29	3		Summer	There are always polar bears near the rivers
30	3		Summer	Lots of people hunt the bears here in summer
31	3			See bears on ice in winter and swimming in the summer
32	4		Mar-Apr	In open water looking for food while going to Taloyoak
33	4		Summer	See them on islands where people harvest narwhal
34	4			Along mainland where people are hunting narwhal
35	4	S	Nov-Mar	On flat high plateaus, leave the dens in March
36	4	S	Nov-Mar	On flat high plateaus, leave the dens in March
37	4	S	Nov-Mar	Denning in rocky mountains
38	5		Fall and Winter	
39	5		Fall	
40	5		Fall	Got my first polar bear somewhere around here 10ft 3"
41	5	S	October	Could see polar bear sliding in and out of den
42	6			
43	6			
44	6			
45	8	S		
46	8	S		
47	8			Around Islands
48	8			Move around in this area, not restricted. Bears mate in April and den in December, the males will come out of dens in March or April, the mothers and cubs come out in May. Polar bears are finding more caches of seal meat. More difficult to stay in a long
49	8			A male polar bear attacked and ate another bear here
50	9		Mar-Apr	
51	9	S	Oct-Mar	Den in the hills once enough snow in October, start coming out in March
52	9	S		

Figure 34. Walrus Areas of Occurrence

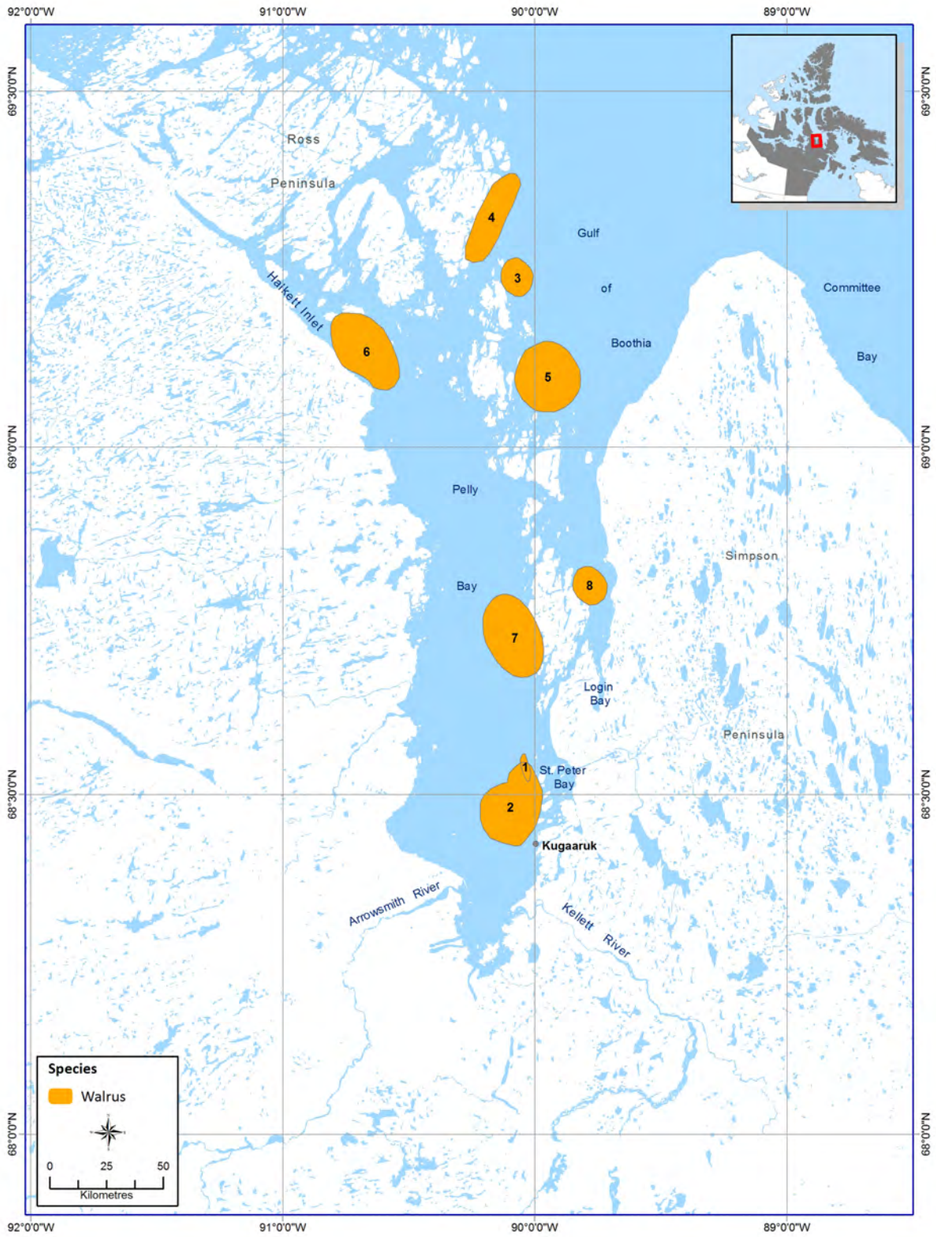


Table 35. Walrus Areas of Occurrence

MAP #	INTERVIEW	CODE	MONTHS	COMMENTS
1	1			Saw one close to town once, don't know why we don't get walrus here
2	3	H	Summer	A while ago another hunter caught one here
3	6			
4	6			
5	9		Mid Aug to early Sep	
6	9			
7	9			
8	9		Summer	Last summer a tourist saw one across form his cabin

Figure 35. Ringed Seal Probability of Occurrence

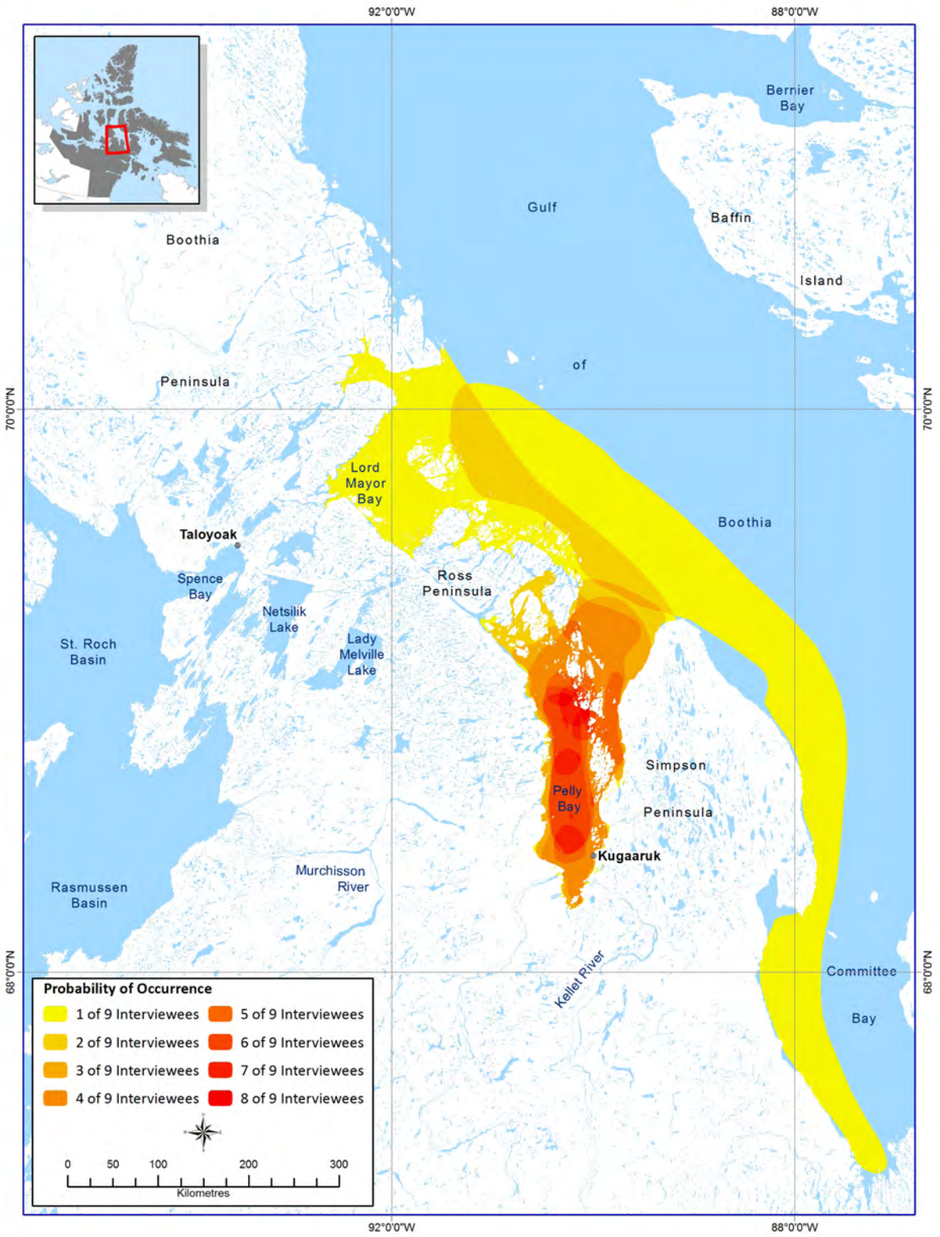


Figure 36 . Ringed Seal Areas of Occurrence

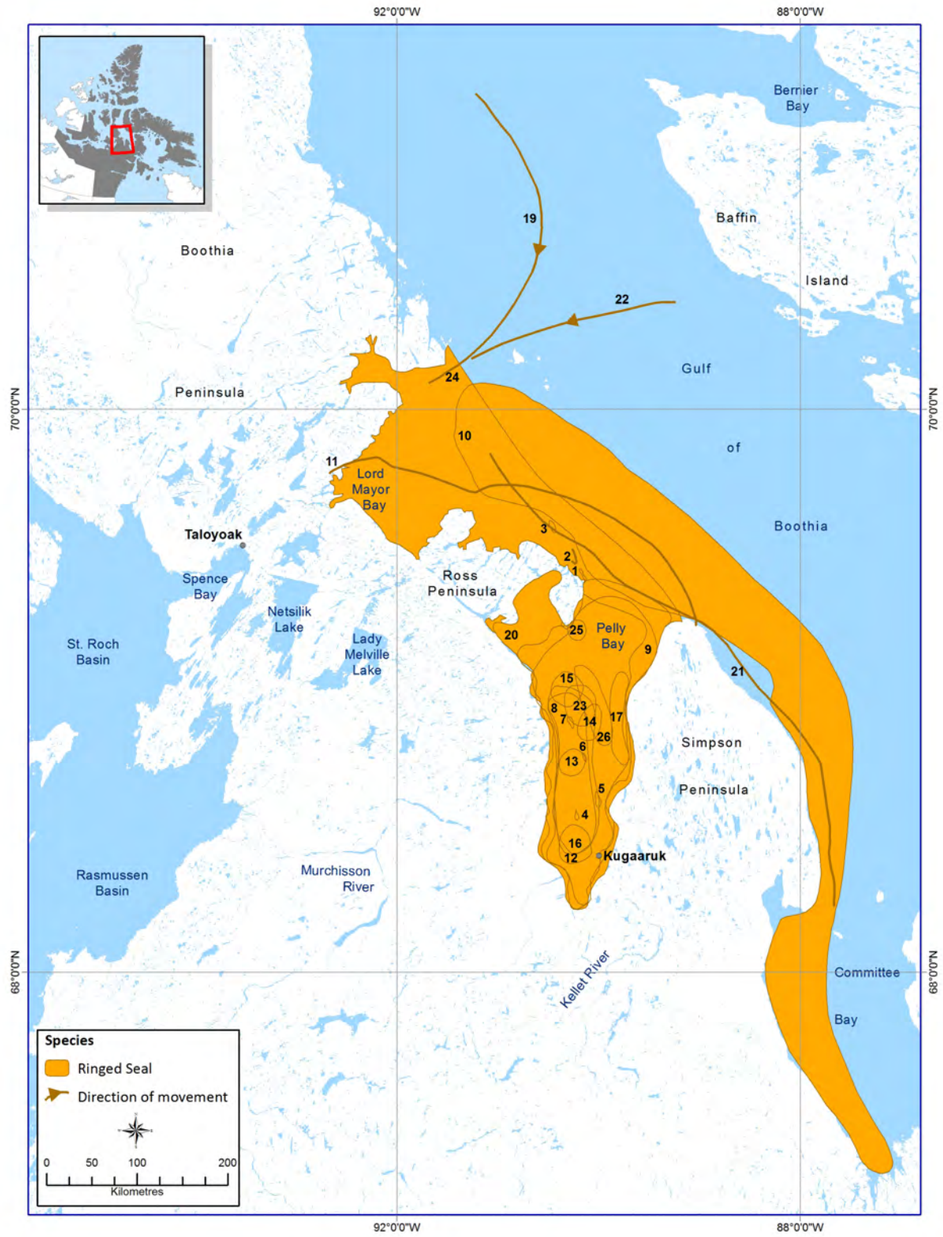


Table 36. Ringed Seal Areas of Occurrence

MAP #	INTERVIEW	CODE	MONTHS	COMMENTS
1	2		Spring	See Polar Bear track too
2	2		Spring	See Polar Bear track too
3	2		Spring	See Polar Bear track too
4	2			Hunting them at seal holes
5	2			Hunting them at seal holes
6	2			Hunting them at seal holes
7	2			Hunting them at seal holes
8	2			Hunting them at seal holes
9	3			All mixed together all over the bay
10	3	S		
11	4			Spread out everywhere on ice inside of this line
12	4		August	Form large groups when the ice melts, 50 or more to a group. Some of them will pop up right next to the boat while people are hunting narwhal
13	4		August	Form large groups when the ice melts, 50 or more to a group. Some of them will pop up right next to the boat while people are hunting narwhal
14	4		August	Form large groups when the ice melts, 50 or more to a group. Some of them will pop up right next to the boat while people are hunting narwhal
15	4		August	Form large groups when the ice melts, 50 or more to a group. Some of them will pop up right next to the boat while people are hunting narwhal
16	5	S	Spring, Summer, Fall	See them everywhere, probably all year but can't see them in the winter
17	5	S		Same as the polar bear denning area, this year there are icebergs and it is really rough/hard to go there
19	8	M		
20	8			All in the bay, start mating in late summer, spring is when baby seals arrive
21	8			Hunting areas, when full moon we don't go hunting because the currents are too strong. We go out on the 1/2 - 1/4 moons
22	8	M		
23	8		Spring	Lots of seal holes close together, some holes are smaller than others. Seals in the bay are bigger, probably because there is more habitat. The open water seal are skinnier
24	9	S		All over Pelly Bay
25	9			
26	9			

Table 37. Ringed Seal Everywhere Data

INTERVIEW	MONTHS	COMMENTS
1		See and hunt them everywhere, they den out on the ice
6		

Figure 37. Harp Seal Areas of Occurrence

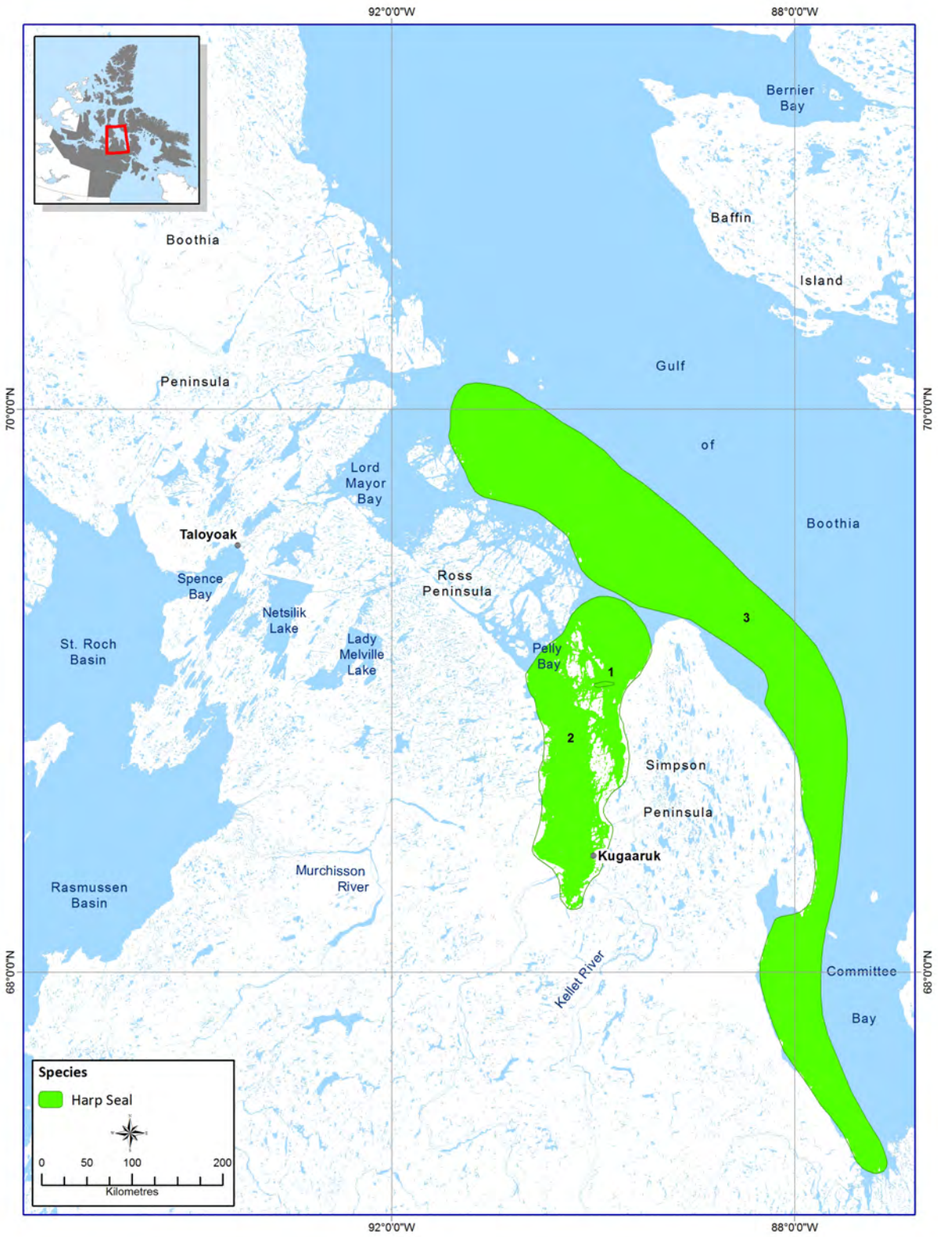


Table 38. Harp Seal Areas of Occurrence

MAP #	INTERVIEW	CODE	MONTHS	COMMENTS
1	1		Summer	Very rare in area
2	3			All mixed together all over the bay
3	3	S		

Figure 38. Bearded Seal Probability of Occurrence

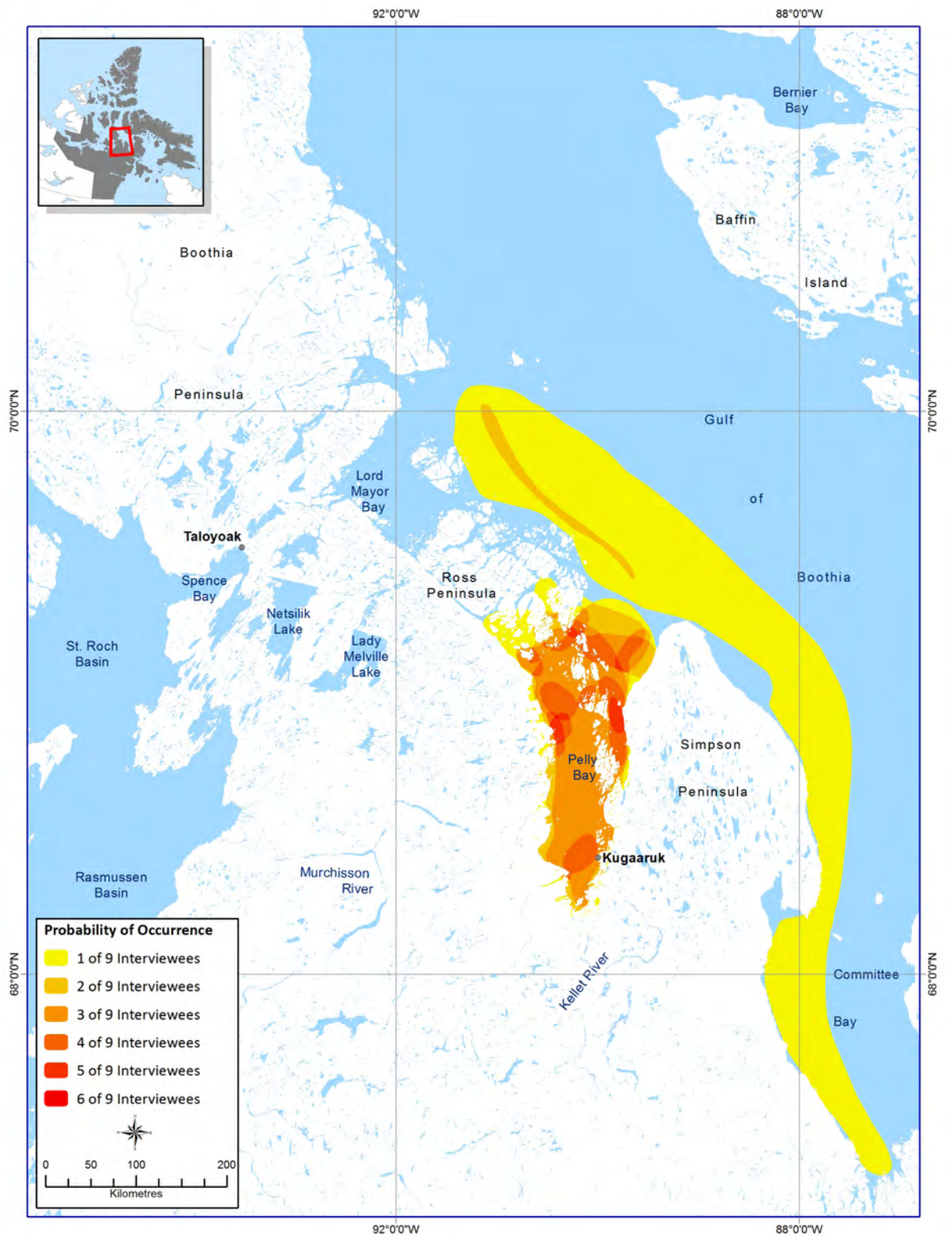


Figure 39. Bearded Seal Areas of Occurrence

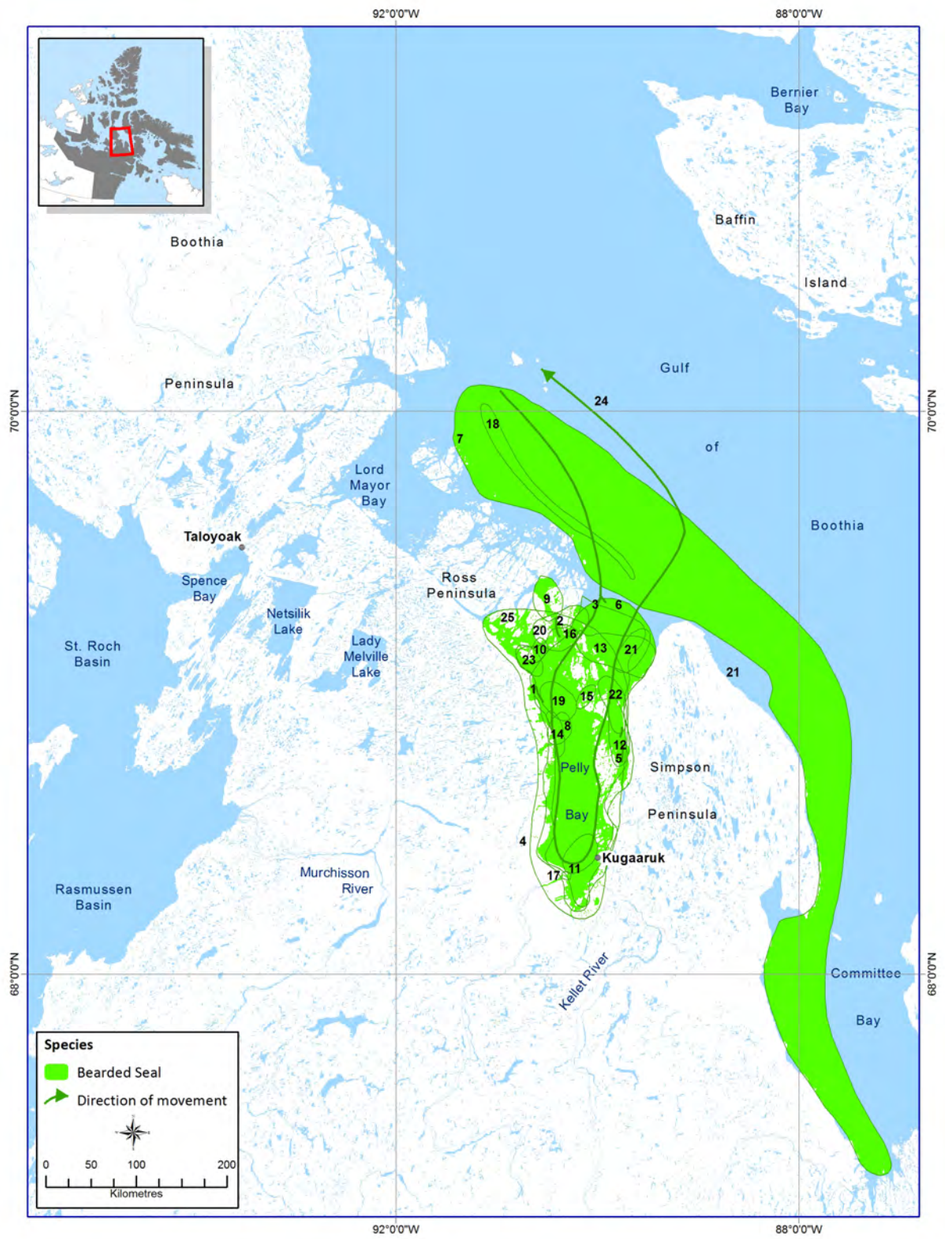


Table 39. Bearded Seal Areas of Occurrence

MAP #	INTERVIEW	CODE	MONTHS	COMMENTS
1	2		Summer	
2	2		Summer	
3	2		Summer	
4	2		Summer	
5	2		Summer	
6	3			All mixed together all over the bay
7	3	S		
8	4			Hunt them in summer
9	4			Hunt them in summer
10	4			
11	4		September	
12	4	S		See them denning on the ice
13	4			Hunt them in summer
14	5		Fall	
15	5			
16	6			
17	7			Have seen bearded seals in the mouth of this river
18	8		Winter	Along the floe edge
19	8			Used to be lots here
20	8			Use the hide for rope on sleds and Qamutik. Seal are more common here recently, finding them using outboard motors
21	8			
22	9			Seen seals with octopus's, brittle star's and squid in their stomachs
23	9			Seen seals with octopus's, brittle star's and squid in their stomachs
24	9	M	Jun-Oct	Enter the bay in early summer, a few stay through the winter
25	9			All over Pelly Bay

Table 40. Bearded Seal Everywhere Data

INTERVIEW	MONTHS	COMMENTS
1		Less abundant than the Ringed seal but spread out all over, use the skin for kamiks and rope

Figure 40. Beluga Whale Probability of Occurrence

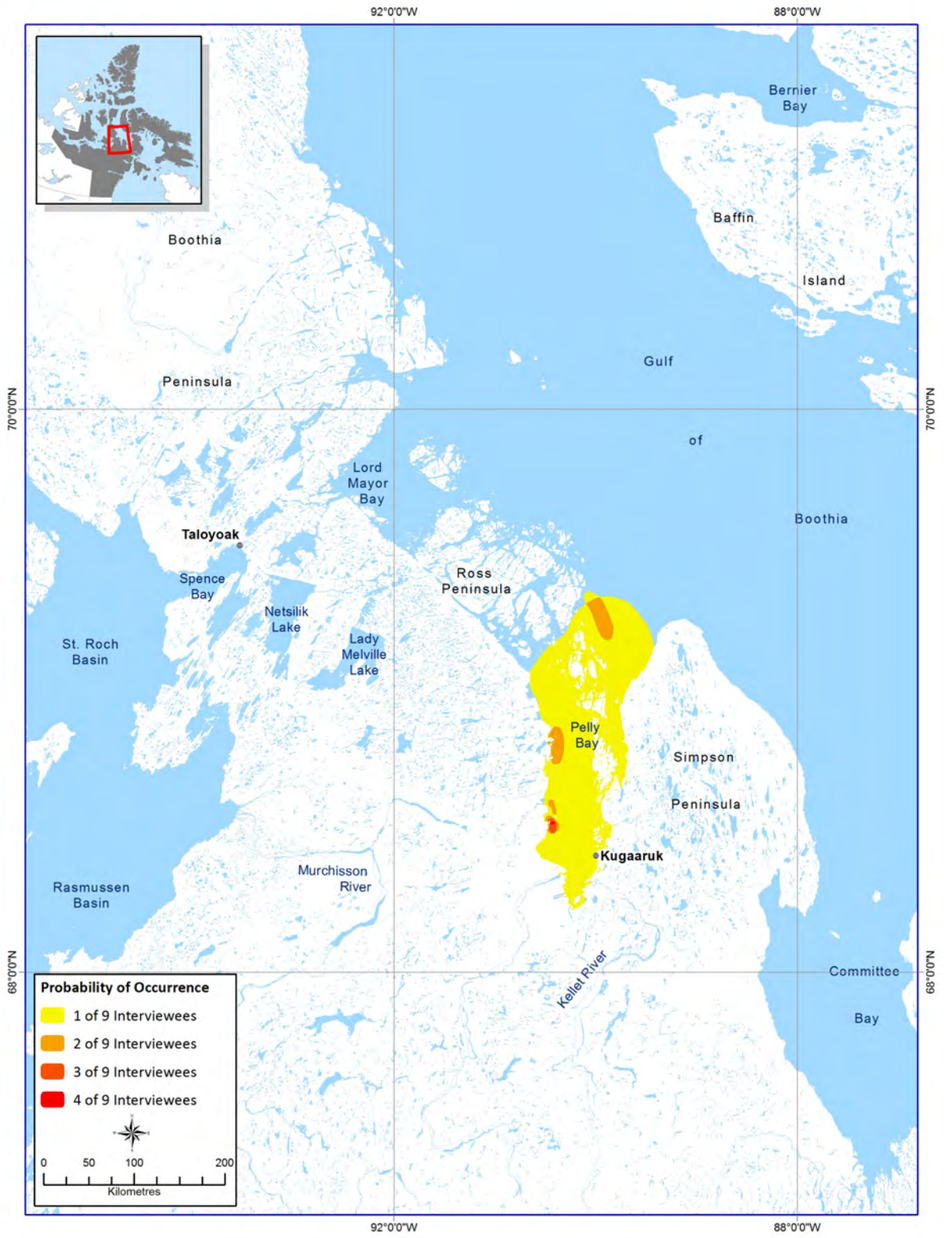


Figure 41. Beluga Whale Areas of Occurrence

Table 41. Beluga Whale Areas of Occurrence

MAP #	INTERVIEW	CODE	MONTHS	COMMENTS
1	1		Summer	Rarely get these, one guy caught one here last year
2	1	H		
3	3			Rarely found, but seen around the bay
4	3	M		Come down from the north in the summer, head back up out of the bay by the end of Oct.
5	4		September	Across from town during the bowhead hunt, one was harvested last year
6	5			One beluga was caught the other was spotted but the hunters didn't go after it, I arrived too late to see it
7	6			
8	8	M	Jun-Aug	Less of them then the narwhals
9	9			2 were harvested here

Figure 42. Narwhal Whale Areas of Occurrence

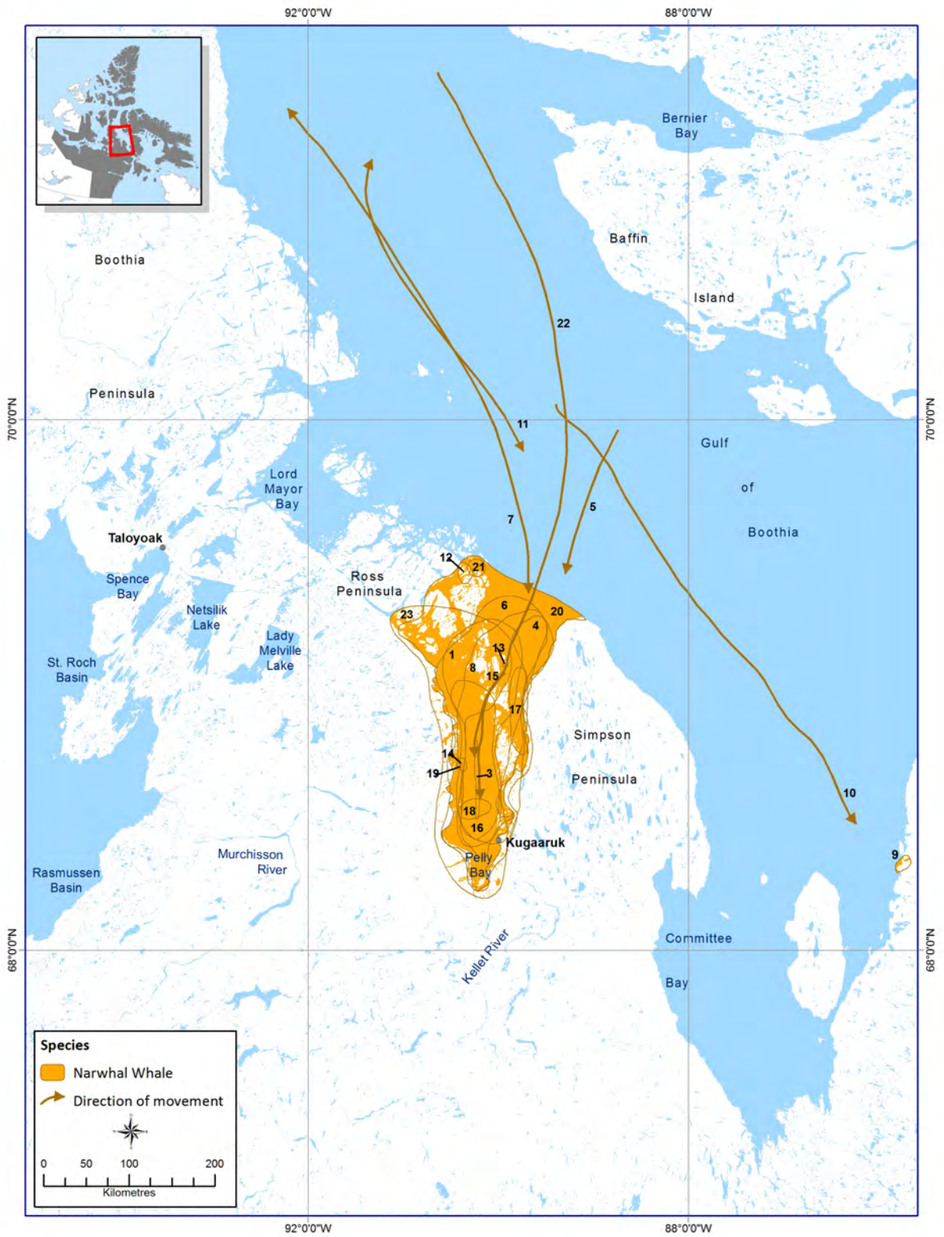


Table 42. Narwhal Whale Areas of Occurrence

MAP #	INTERVIEW	CODE	MONTHS	COMMENTS
1	1		Jul to Nov	See lots of them everywhere, enter bay in July then leave in November when the ice starts freezing up
3	2			
4	2			
5	2	M	Aug-Oct	Whales enter the Bay in late summer (Aug-Sep) then head out again in late Oct. When there is lots of ice at the north end of the bay the whales are lucky because we can't follow them
6	3			Throughout the bay
7	3	M		Come down from the north in the summer, head back up out of the bay by the end of Oct.
8	4		July	All over the bay and by shore feeding and diving
9	4			When working on the DEW line site
10	4	M		Saw hundreds and thousands of them. They came in from the north and were feeding on cod that were trapped in amongst the ice
11	4	M	May	Come from Arctic Bay in May and go to Figure 42, Label 8 in July
12	4		November	Found narwhal tusks on ice this year
13	4			Where people start to hunt narwhal
14	4			Hunting area used later once the narwhal have moved
15	4	M		Movement pattern
16	5			When you turn the motor off they will come and surround the boat and make noise with their mouths
17	5			
18	5			Saw a baby narwhal come up for air, didn't make any noise. The mother was very angry and aggressive, charged at the boat
19	5			Where I caught the double tusked narwhal, thought it was 2 whales at first when I saw the 2 tusks
20	6		Summer	Within this line throughout the entire bay, sometimes it is packed with narwhal
21	6			Where Lionel found a dead narwhal and tusk, it was stranded in the ice and polar bears ate it
22	8	M	Jun-Aug	Someone from Arctic Bay said they come in this way
23	9			Hunted all over Pelly Bay

Figure 43. Killer Whale and Sperm Whale Areas of Occurrence

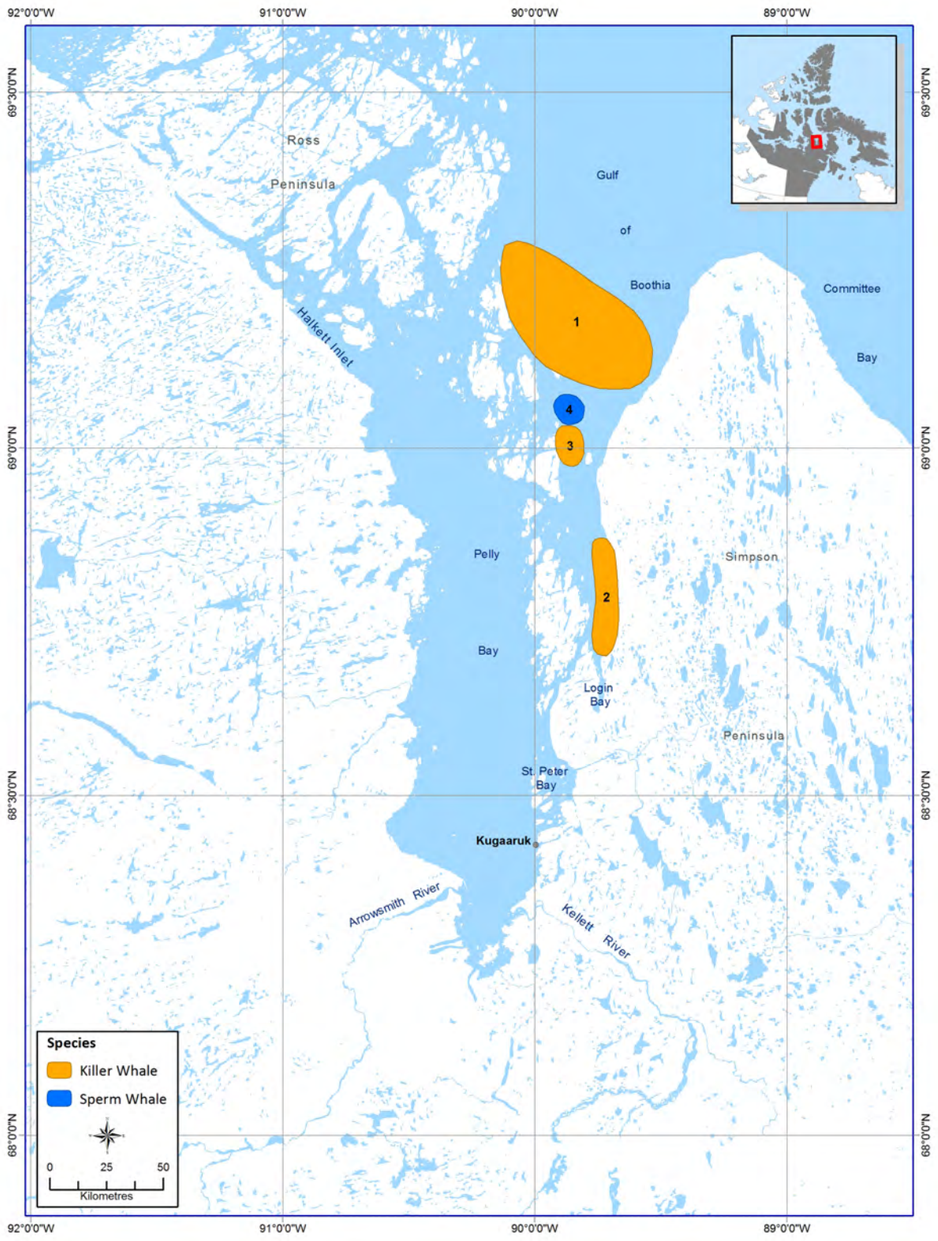


Table 43. Killer Whale and Sperm Whale Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	3		Orca		Some other hunters saw them 2-3 years ago
2	9		Orca		Saw a single animal around the Logan Bay area
3	9		Orca		Single animal
4	8	H	Sperm whale	Summer	Had taken students out to harvest polar bear and saw it. It was bigger than a bowhead and brownish in colour

Figure 44. Bowhead Whale Probability of Occurrence

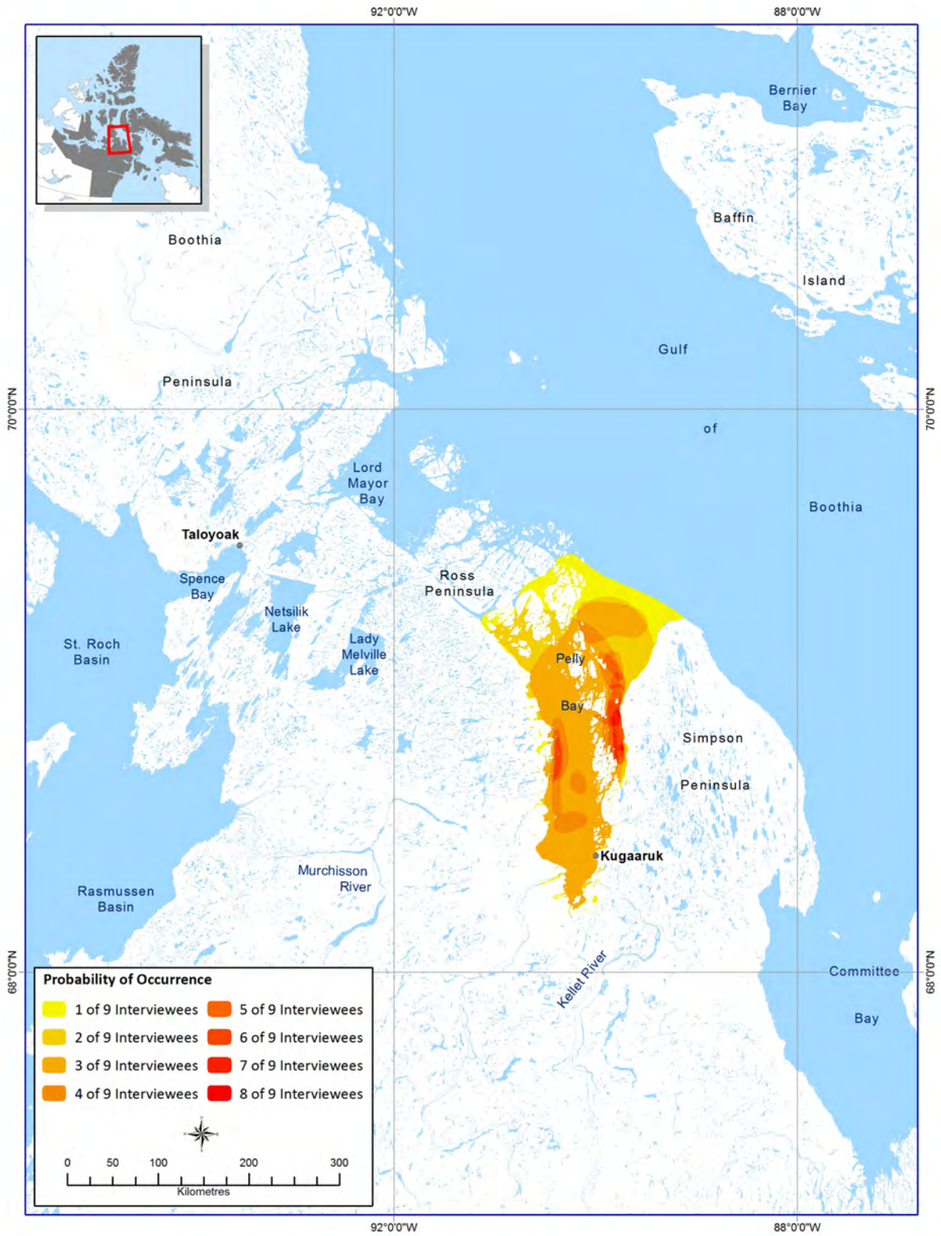


Figure 45. Bowhead Whale Areas of Occurrence

Table 44. Bowhead Whale Areas of Occurrence

MAP #	INTERVIEW	CODE	MONTHS	COMMENTS
1	1			Few in number
2	1		Jun to Sep	More common later in the summer
3	1		Jun to Sep	More common later in the summer
4	1		August	Saw them here with his wife
5	2	A	Sep-Oct	Lots last year
6	2		Sep-Oct	
7	2	A	Sep-Oct	Lots last year
8	2	A	Sep-Oct	
9	4		Summer	Bowhead all over feeding in this area, 2-3 have been caught here
10	4		September	Last years' bowhead hunt on Sept. 1, it was 31 feet long
11	4			First ever hunted about 5 years ago
12	4			Caught one here 3 years ago. Always drag the whales back to town to butcher them there, takes 8-10 hours
13	5		Aug-Sep	Heard they come from Arctic Bay. They come into Pelly Bay at high tide to get between the islands and the hunters are waiting for them
14	5		Aug-Sep	
15	5		Aug-Sep	
16	6		Summer	Every summer lots of bowhead whales, in fall and winter they go back out to the Gulf of Boothia
17	7			
18	8		Summer	They come into the bay at high tide and go out at low tide. I don't use the floe edge to hunt anymore so I don't see them in winter
19	9		Late Aug-early Sep	All over Pelly Bay, use same migration route as the narwhal
20	3			Throughout the bay
21	3	M		Come down from the north in the summer, head back up out of the bay by the end of Oct.

Figure 46. Edible and Hollow Stemmed Kelp Areas of Occurrence

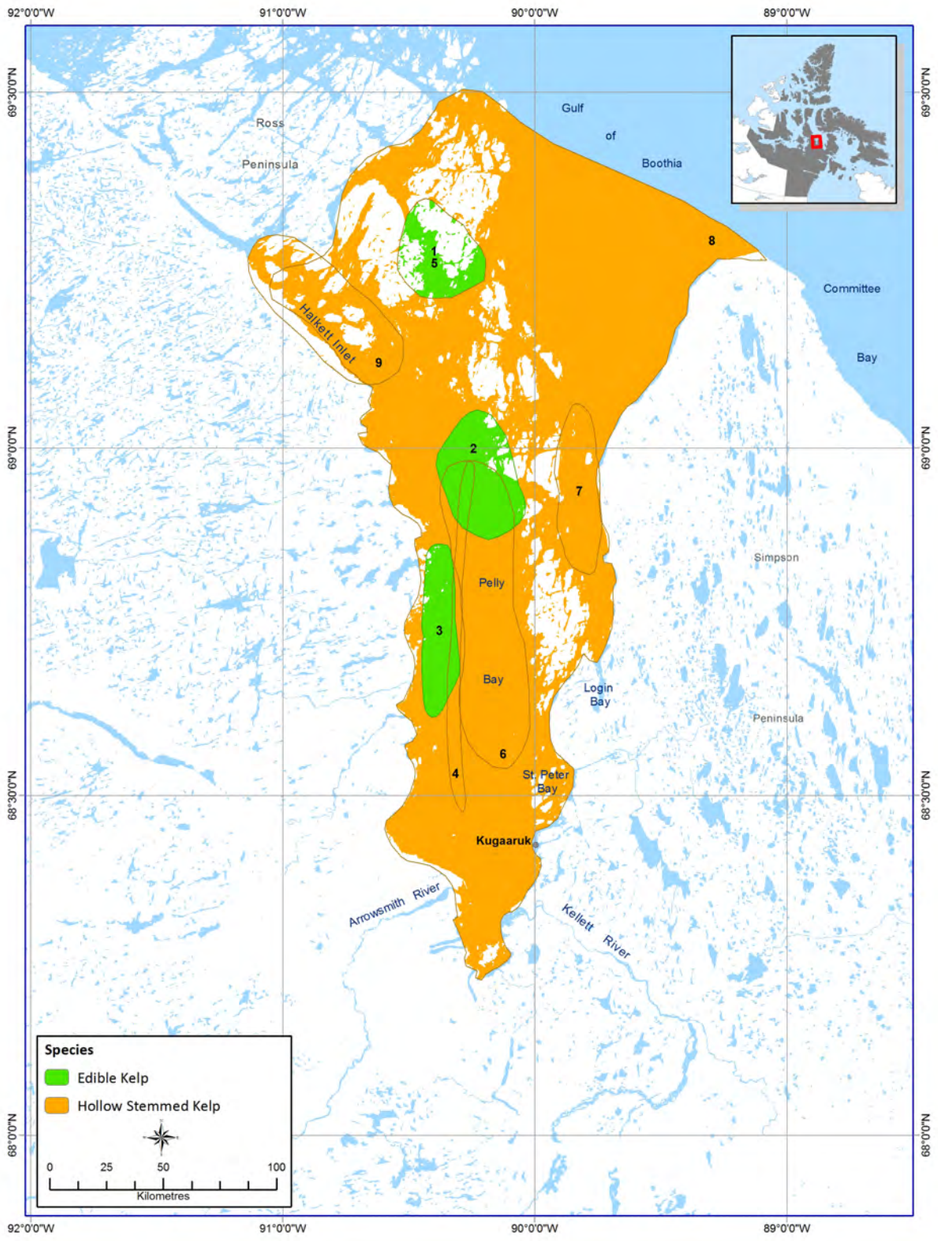


Table 45. Edible and Hollow Stemmed Kelp Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	4		Edible kelp	Year-round	
2	4		Edible kelp	Spring	Find in seal holes
3	5		Edible kelp	September	
4	2		Hollow stemmed kelp		Some are very long
5	4		Hollow stemmed kelp	Year-round	
6	5		Hollow stemmed kelp		See them everywhere in the ocean, sometime think they're rope when they are floating
7	5		Hollow stemmed kelp		See them everywhere in the ocean, sometime think they're rope when they are floating
8	6		Hollow stemmed kelp		See along the shore and floating through the bay when it is calm
9	9		Hollow stemmed kelp		

Figure 47. Bladder Wrack, Floating Buttercup, Goose Grass, Mare's Tail and Sea Colander Areas of Occurrence

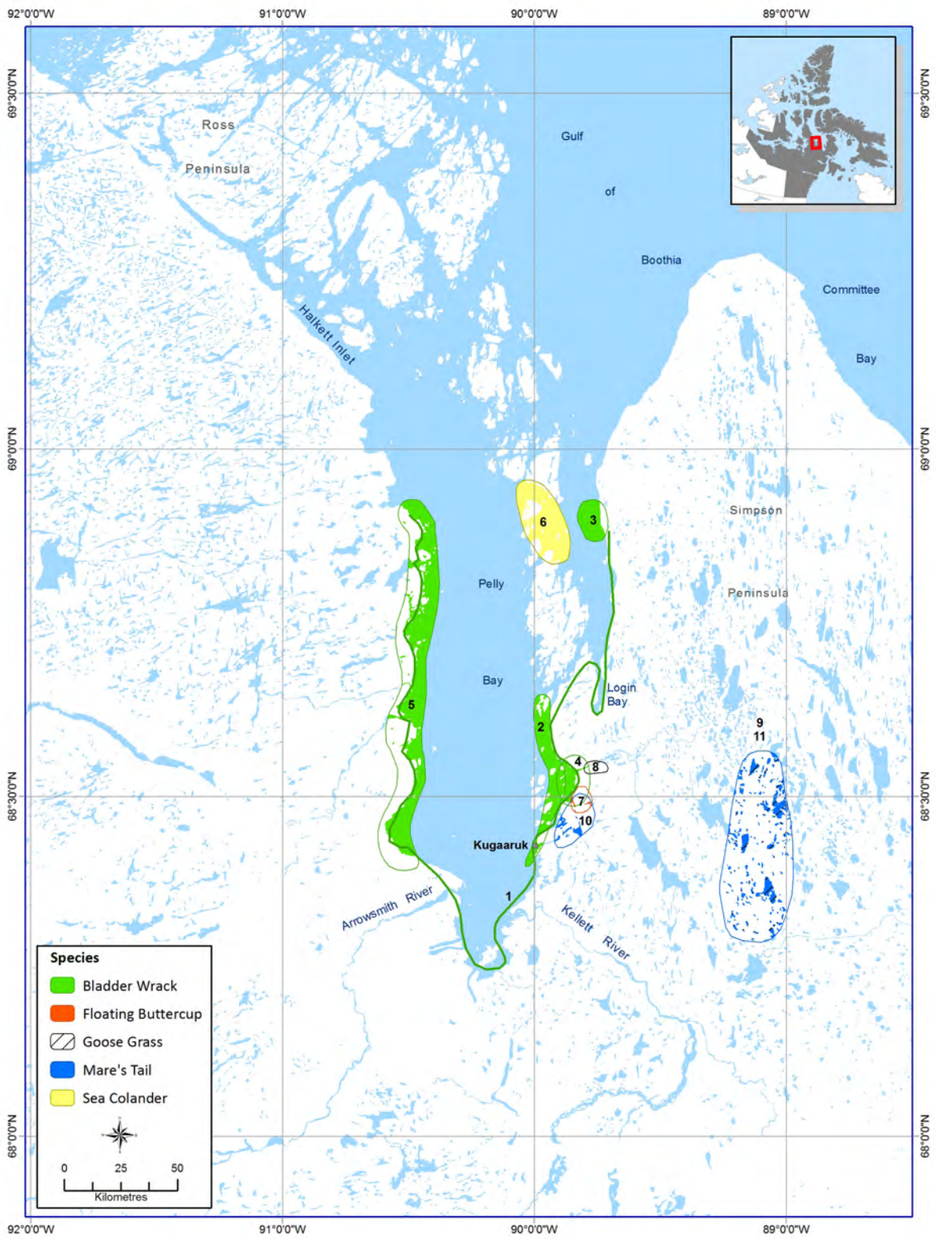


Table 46. Bladder Wrack, Floating Buttercup, Goose Grass, Mare's Tail and Sea Colander Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	2		Bladder wrack		Along the shore
2	5		Bladder wrack	Jul-Sep	Right on the shore
3	9		Bladder wrack		In the intertidal zone
4	9		Bladder wrack		In the intertidal zone
5	9		Bladder wrack		In the intertidal zone
6	9		Sea colander		
7	4		Floating buttercup		Near a waterfall south of Kugaaruk
8	2		Goose grass		On the edges of lakes
9	5		Goose grass		See them in little lake a lot when I go caribou hunting
10	4		Mare's tail		In and around ponds
11	5		Mare's tail	Aug-Sep	

Table 47. Bladder Wrack, Floating Buttercup, Eel Grass, Goose Grass Everywhere Data

INTERVIEW	SPECIES	MONTHS	COMMENTS
4	Bladder Wrack		All along the shore, see it at low tide
5	Floating Buttercup		Everywhere around lakes
6	Eel Grass		In lakes and along lake shorelines
6	Goose Grass		Along rivers and in the mouths of lakes

Figure 48. Barnacle, Canada, Greater White-fronted and Snow Goose Areas of Occurrence

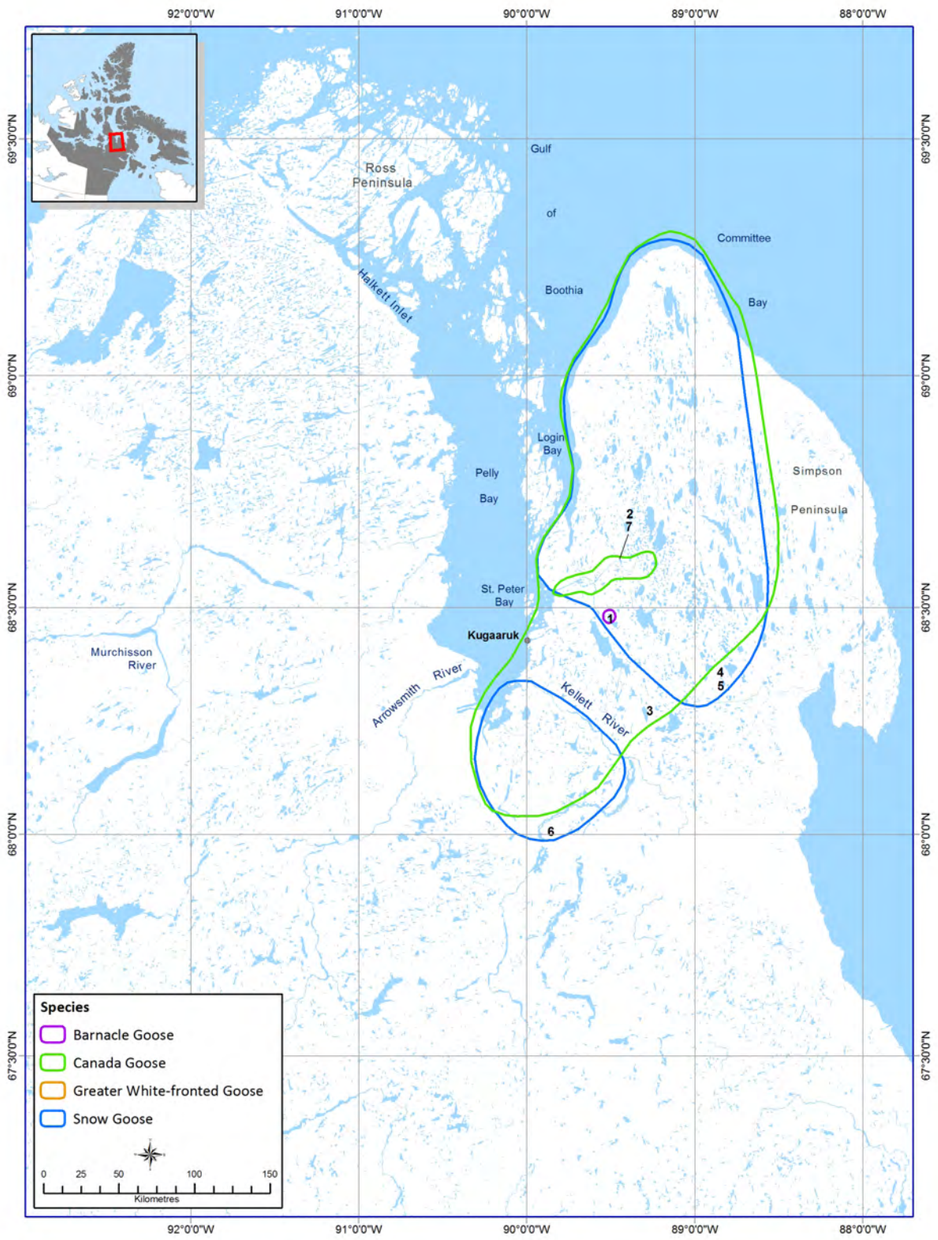


Table 48. Barnacle, Canada, Greater White-fronted and Snow Goose Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	7		Barnacle Goose		Just the single bird last year
2	7		Canada Goose		Around Kugaaruk River
3	7		Canada Goose		Spend time around creeks on flat land
4	7		Greater White-Fronted Goose		Around the shore, spending time in sandy places. They don't eat meat, we find sand and small pebbles in their stomachs
5	7		Snow Goose		Greater in numbers than Greater white-fronted geese
6	7		Snow Goose		More abundant here
7	7		Snow Goose		Around Kugaaruk river, don't see them on west side of Pelly Bay

Figure 49. Glaucous-winged and Mew Gull Areas of Occurrence

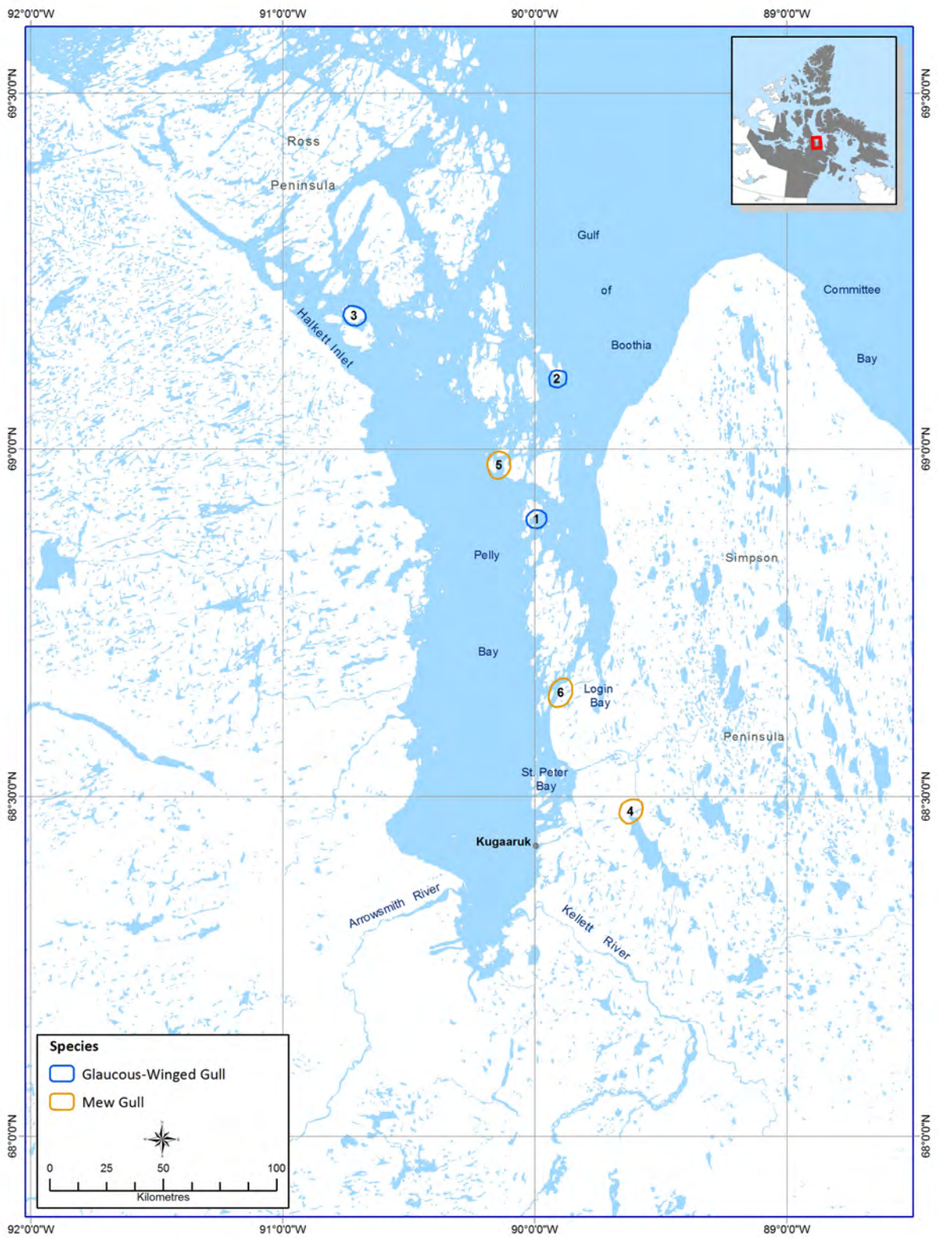


Table 49. Glaucous-winged and Mew Gull Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	7	S	Glaucous-winged gull		On the northeast side of this island
2	7	S	Glaucous-winged gull		On channel up this island
3	7	S	Glaucous-winged gull		On the south side of Igloolik Island
4	7	S	Mew gull		In a valley with a channel at a place called "Nowraigulak"
5	7	S	Mew gull		Small islands that are not on the map
6	7	S	Mew gull		Used to nest on an island here before the 1990's

Table 50. Icelandic and Glaucous-winged Gull Everywhere Data

INTERVIEW	SPECIES	MONTHS	COMMENTS
7	Icelandic Gull		
7	Glaucous-winged gull		Nest on small islands near likes instead of on cliffs like other gulls

Figure 50. Bald Eagle, Osprey, Snowy Owl, Peregrine Falcon and Red-legged Hawk Areas of Occurrence

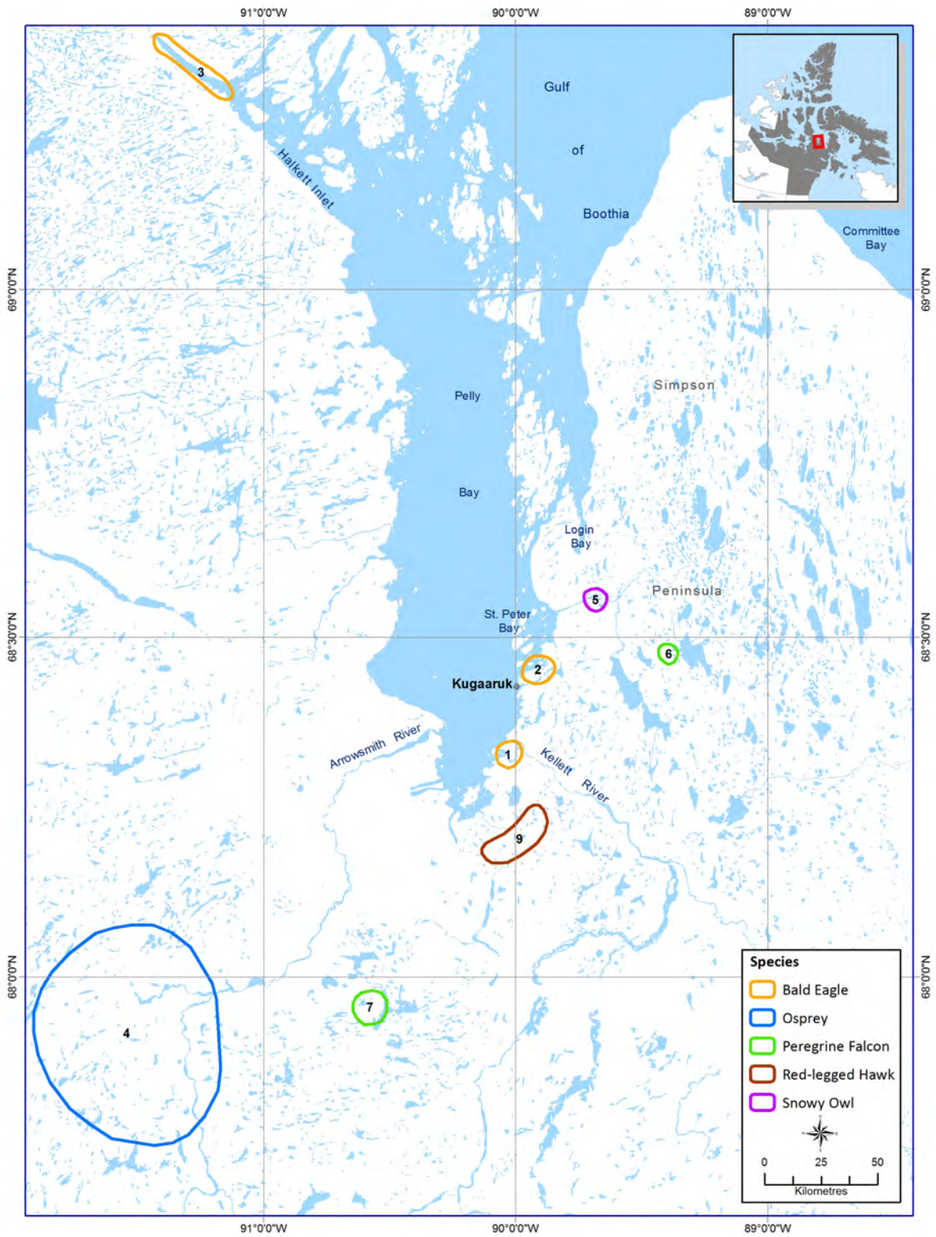


Table 51. Bald Eagle, Osprey, Snowy Owl, Peregrine Falcon and Red-legged Hawk Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	7	S	Bald eagle		Nesting on cliffs facing the sea, nest are made of twigs
2	7		Bald eagle		
3	7	S	Bald eagle		On the way to Taloyoak
4	7	H	Osprey		Would see them chasing and catching ptarmigan in flight
5	7	N	Snowy owl		Saw 3 small ookpiks here, smallest was about 5 inches tall
6	7	S	Peregrine falcon		
7	7	H	Peregrine falcon		Somewhere in this area saw nesting long ago
9	7		Red-legged hawk		Seen occasionally here

Table 52. Osprey and Peregrine Falcon Everywhere Data

INTERVIEW	SPECIES	MONTHS	COMMENTS
7	Osprey		
7	Peregrine Falcon		Can barely see them while flying they are so fast, see them on cliffs and on tundra

Figure 51. King Eider, Long-tailed Duck, Red-throated Loon, Yellow-billed Loon and Thick-billed Murre and Sandhill Crane Areas of Occurrence

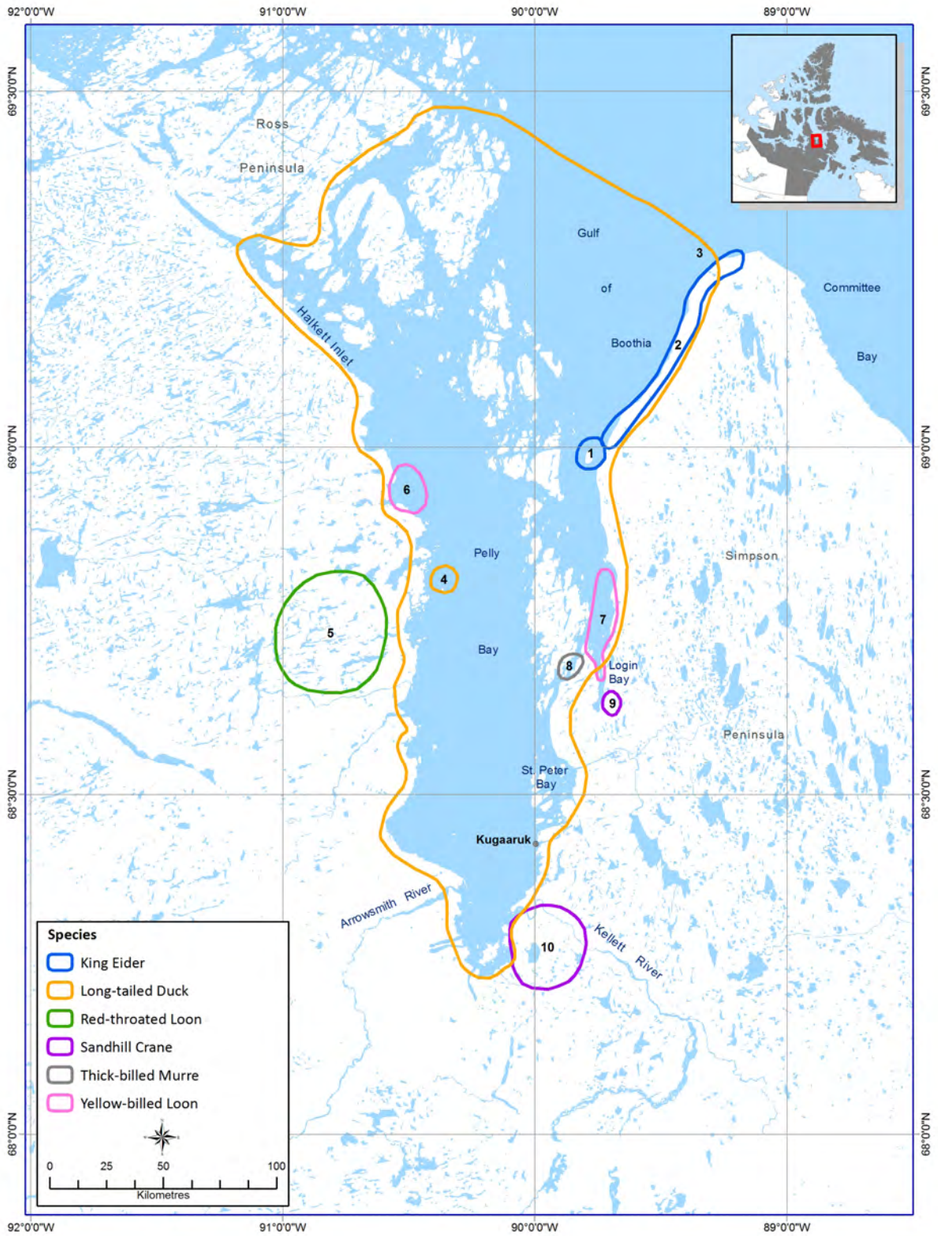


Table 53. King Eider, Long-tailed Duck, Red-throated Loon, Yellow-billed Loon and Thick-billed Murre and Sandhill Crane Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	7		King Eider		On the island in Pelly bay around the shore
2	7		King Eider		Along the shoreline of northern Simpson Peninsula
3	7		Long-tailed Duck	Spring	Along the shore, "may be vegetarians like the other geese"
4	7	S	Long-tailed Duck		See then nesting on little islands that are not on the map, and at little lakes
5	7		Red-throated Loon		
6	7		Yellow-billed Loon		Feeding on the ocean
7	7		Yellow-billed Loon		Feeding on ocean, near some islands
8	7		Thick-billed Murre		
9	7	S	Sandhill Crane	Early Aug	Saw one with young ones near shore while going to cabin
10	7		Sandhill Cane		Seen in Pelly Bay area, near sandy shores and mouth of Kellet River

Table 54. Red-throated Loon, Yellow-billed Loon, Common Loon, Arctic Loon, Lapland Longspur, Rudy Turnstone and Sanderling Everywhere Data

INTERVIEW	SPECIES	MONTHS	COMMENTS
7	Red-throated Loon		
7	Arctic Loon		
7	Common Loon		
7	Yellow-billed Loon		
7	Lapland Longspur		
7	Rudy Turnstone		Out on the tundra
7	Sanderling		

Figure 52. American Robin, Arctic Tern, Baird's Sandpiper, Pomarine and Long-tailed Jaeger Areas of Occurrence

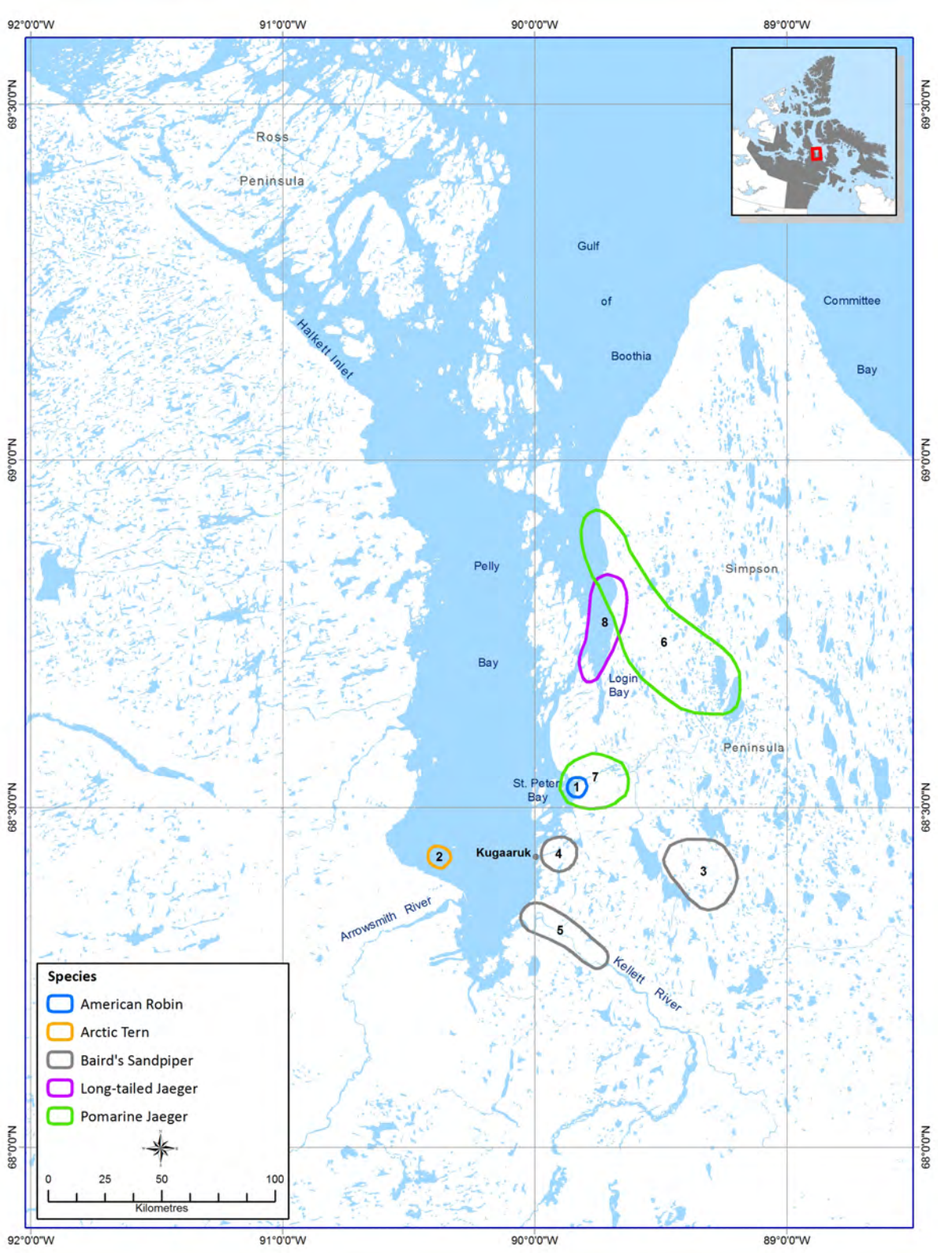


Table 55. American Robin, Arctic Tern, Baird's Sandpiper, Pomarine and Long-tailed Jaeger Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	7	H	American robin		One robin laid blue eggs inside of a broken toy airplane
2	7	S	Arctic Tern		Large numbers nesting at localized sites, out on islands
3	7		Baird's Sandpiper		
4	7		Baird's Sandpiper		
5	7		Baird's Sandpiper		
6	7	S	Pomarine jaeger		Nest out on the tundra, not around lakes like loons
7	7	S	Pomarine jaeger		
8	7		Long-tailed jaeger		

Table 56. American Golden Plover, Baird's Sandpiper, Common Ringed Plover, Common Raven, Long-tailed Jaeger, Snowy Owl and Red Knot Everywhere Data

INTERVIEW	SPECIES	MONTHS	COMMENTS
7	Baird's Sandpiper		
7	Long-tailed Jaeger		Nest anywhere on dry tundra
7	Red Knot		Swim on shore of lakes, and seawater
7	American Golden Plover		Nest on tundra and shores of lakes, very protective of their eggs
7	Common Ringed plover		Around ponds
7	Snowy Owl		Nest anywhere where there is an abundance of lemming and ground squirrel
7	Common Raven		Eat peoples frozen meat and dog food, more in Kugaaruk than in Gjoa Haven
7	Snow Bunting		

Figure 53. Rock Ptarmigan and Tundra Swan Areas of Occurrence

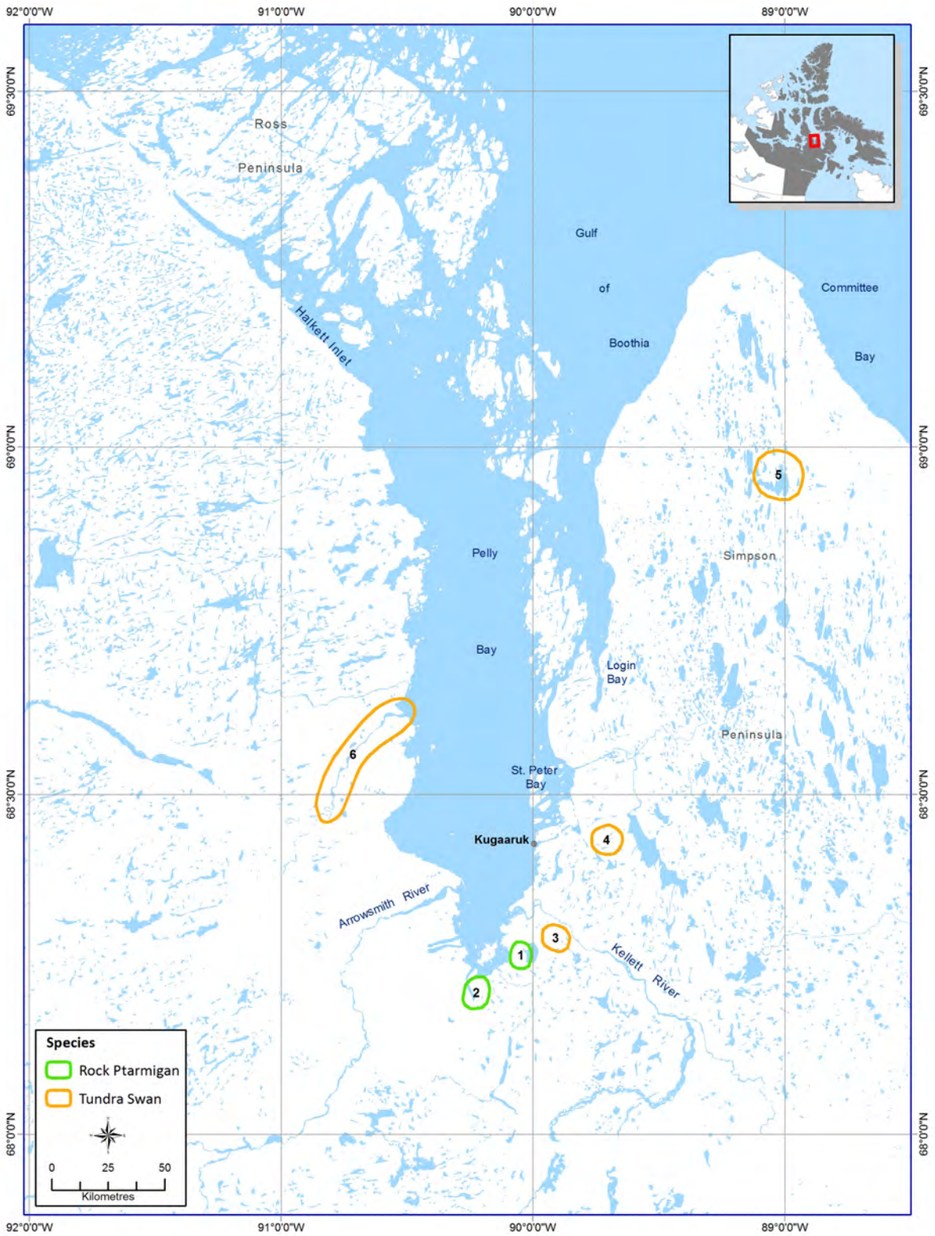


Table 57. Rock Ptarmigan and Tundra Swan Areas of Occurrence

MAP #	INTERVIEW	CODE	SPECIES	MONTHS	COMMENTS
1	7	S	Rock ptarmigan		
2	7	S	Rock ptarmigan		
3	7		Tundra Swan		Saw a pair of geese with babies, they were very protective
4	7		Tundra Swan		
5	7	S	Tundra Swan		Saw a pair with eggs
6	7	H	Tundra Swan		As a young person would see swans flying over (Arrowsmith River)

Table 58. Rock Ptarmigan, Willow Ptarmigan and White-tailed Ptarmigan Everywhere Data

INTER-VIEW	SPECIES	MONTHS	COMMENTS
7	Willow Ptarmigan		
7	Rock Ptarmigan		
7	White-tailed Ptarmigan		

Figure 54. Kugaaruk (Pelly Bay) Community Map

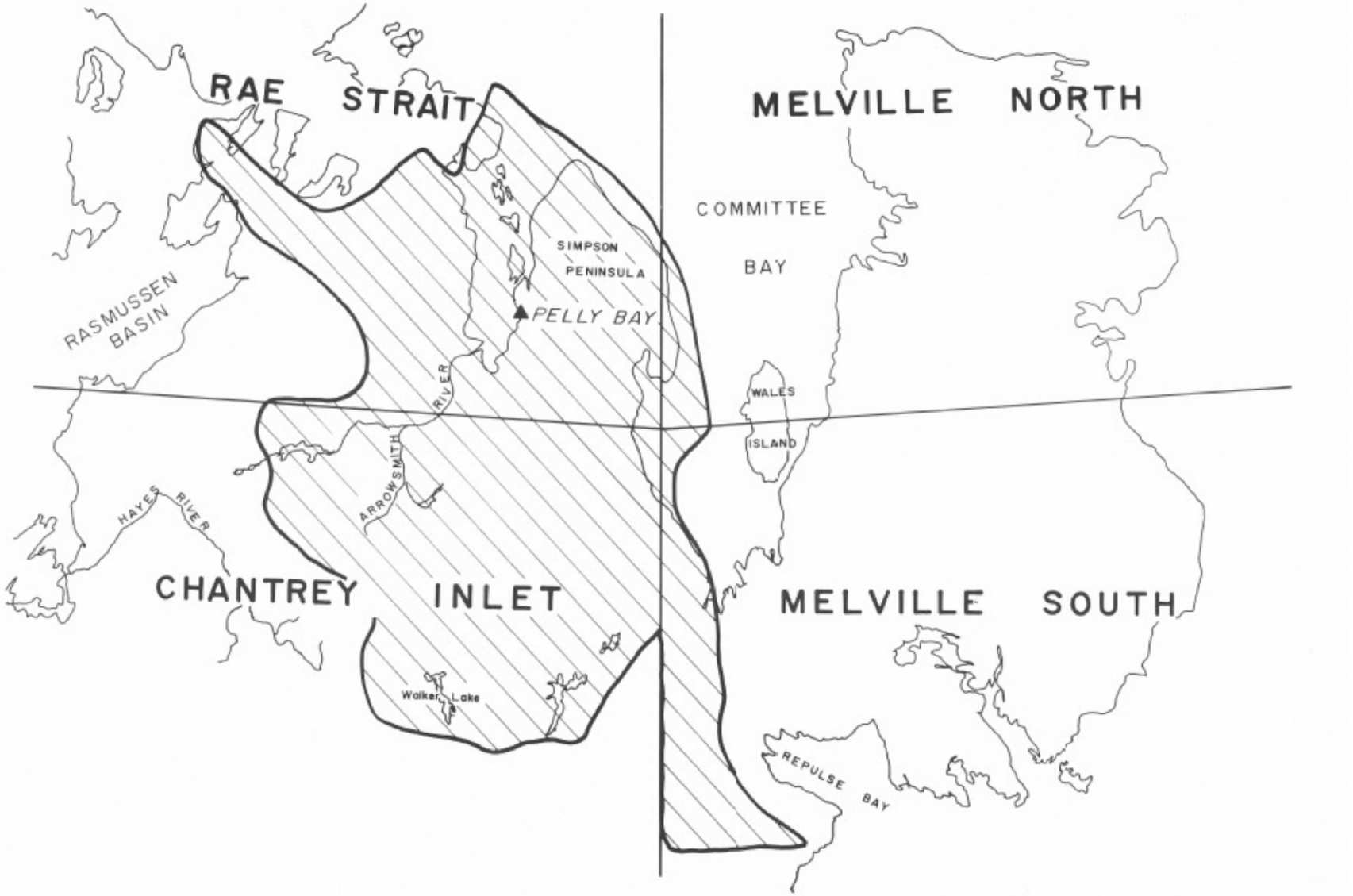


Figure 55. Rae Strait Land Use Map

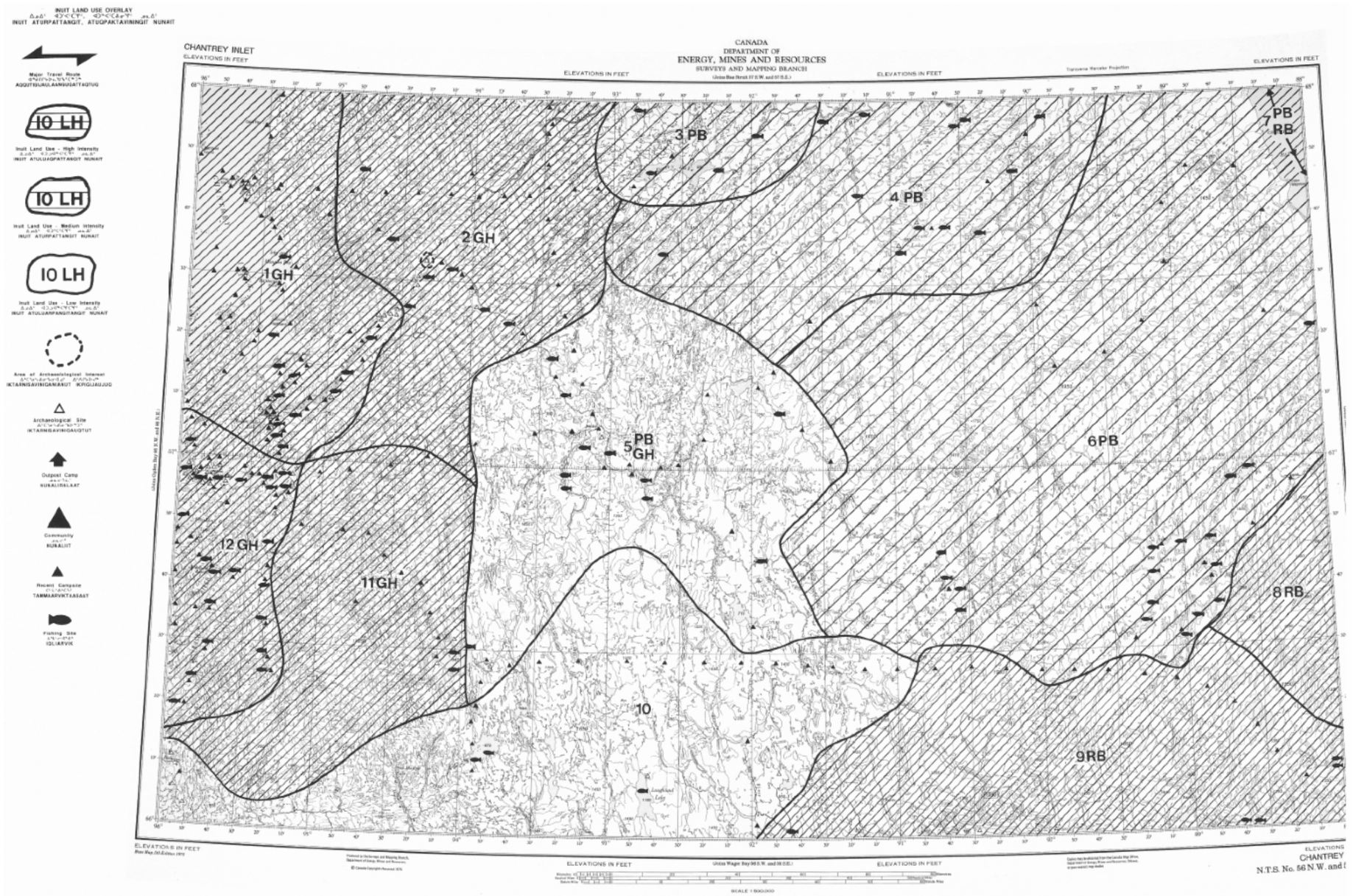
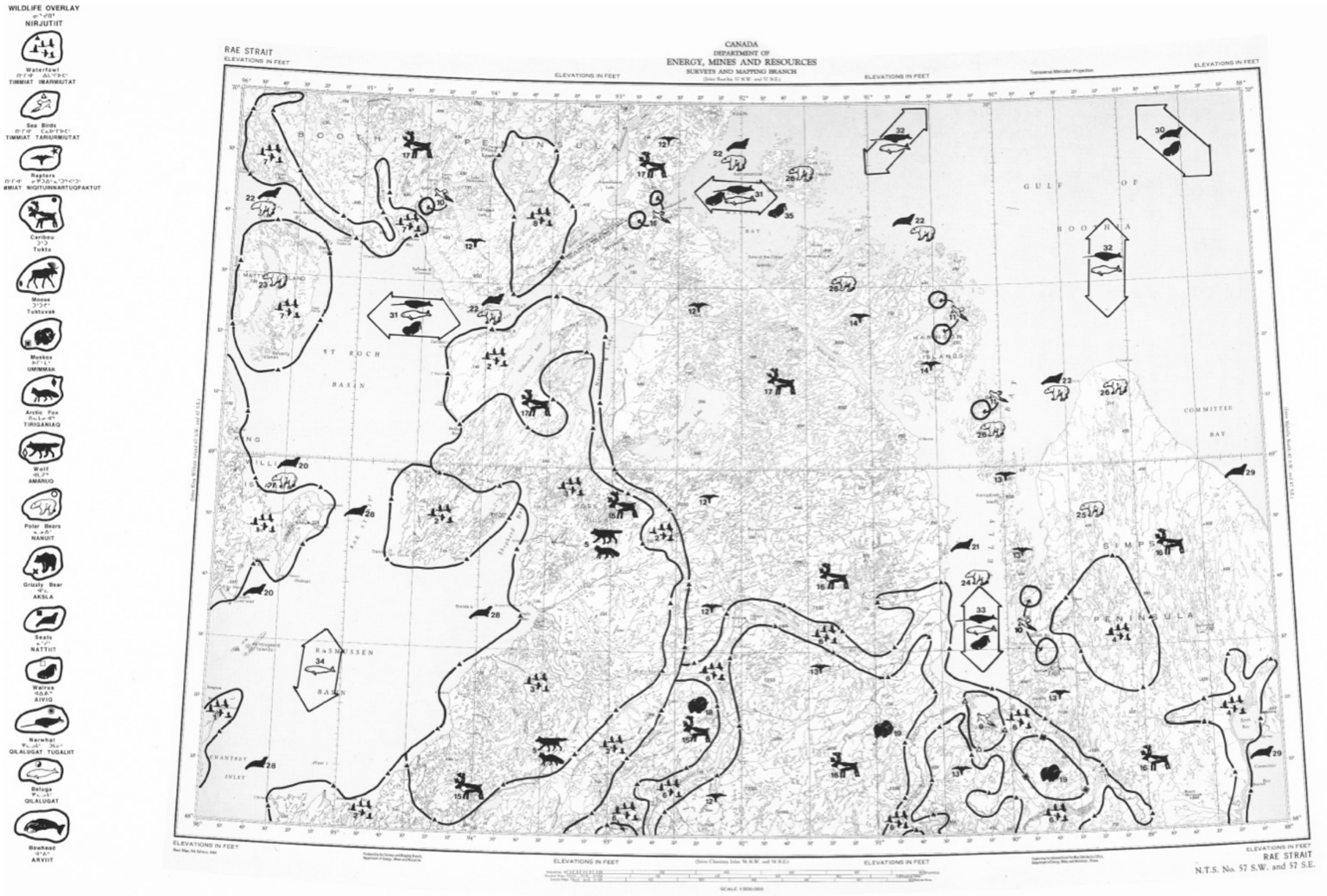


Figure 56. Rae Strait Wildlife Description Map



RAE STRAIT

INUIT LAND USE

1GH
This portion of King William Island is heavily trapped for Arctic fox each winter. The 80 General Hunting License holders trapped over 5,000 Arctic fox in a recent winter in this area which extends westward on King William Island. The Swan Lakes vicinity is heavily fished for migrating Arctic char and for lake trout during spring and fall. The area around the Gjoa Haven settlement is heavily hunted for waterfowl (especially geese) each spring.

2GH & SB
Most of Rasmussen Basin is currently little used for resource harvesting. One Gjoa Haven family has applied for a government-funded Outpost Camp at Cape Britannia northeast of Chantrey Inlet. Hunters and trappers from both Gjoa Haven and Pelly Bay have hunted seals and waterfowl throughout this area in the past.

6SB &PB
While much of this area is currently of little use for resource harvesting, Spence Bay hunters and trappers have hunted caribou and trapped Arctic fox here in the past and Pelly Bay hunters have hunted caribou here.

7GH, SB & PB
This winter travel route is heavily used by residents of Gjoa Haven, Spence Bay and Pelly Bay for travel between the three settlements.

8GH & PB
This travel route is well used for travel by Inuit between Gjoa Haven and Pelly Bay during winter and spring.

9GH
Fisheries and Oceans Canada has established a test fishery at the mouth of the Murchison River and a commercial quota is being determined. White fronted and snow geese are hunted periodically during some summers by Gjoa Haven hunters at the mouth of the Inglis and Murchison Rivers.

10GH
Hunters and trappers from Gjoa Haven use this important travel route to reach the Chantrey Inlet Outpost Camp. This route is used year round by snowmobile in winter and by motor boat during summer. Caribou are hunted when seen along the route. Gjoa Haven residents also use this route for travel to the Back River for Arctic char, lake trout and whitefish fishing during May and June and for waterfowl and seal hunting during summer, seals are hunted on the ice during mid-April to June.

11PB
Most of the 50 Pelly Bay General Hunting License holders utilize the many fish and wildlife resources of the entire Pelly Bay vicinity. A government quota of 5 narwhals has been established for Pelly Bay. Up to 10 Polar bears are taken each year, mostly along the west shore of Pelly Bay. Most Pelly Bay hunters harvest ringed seals and some bearded seals throughout Pelly Bay, hunting by motor boat during the open water period and on the ice during winter. Arctic foxes have been heavily trapped on both sides of Pelly Bay in past years. Many Pelly Bay families establish spring and summer Arctic char fishing camps at the numerous river mouths along the west shore of the bay. Waterfowl are commonly hunted at this time in conjunction with summer seal hunting.

13PB & RB
These travel routes between Pelly Bay and Repulse Bay, and along Committee Bay, are used by residents of both settlements each winter, travelling by snowmobile. Caribou or seals may be hunted if seen while travelling. The Government of the Northwest Territories has established an annual quota of 15 polar bears for this area each winter by Pelly Bay hunters. Fisheries and Oceans Canada has established a test fishery in Keith Bay with a quota of 4,500 kg of Arctic char.

14PB
This is the main Arctic fox trapping area for Pelly Bay residents. Most of Pelly Bay's annual harvest of 1,000 foxes comes from this area. The mouth of the Kellett River has had an annual commercial quota of 9,000 kg of Arctic char established by Fisheries and Oceans Canada; however, the Pelly Bay residents prefer to use the char resource for domestic consumption. Virtually every resident fishes for Arctic char under the ice each winter at the mouth of the Kellett River. Several hunters from Pelly Bay travel south along the Kellett, Atorquait and Arrowsmith rivers by snowmobile each winter to hunt caribou.

15PB
Most residents of Pelly Bay fish for Arctic char during winter under the ice of Barrow Lake and the mouth of Kugajuk River. Char are also taken with nets during summer in St. Peter Bay. This entire area is heavily trapped for Arctic fox during the winter.

16SB & GH
Spence Bay and Gjoa Haven hunters and trappers formerly hunted polar bears and ringed seals and trapped Arctic fox in Lord Mayor Bay and in the vicinity of the Astronomical Society Islands and Ross Peninsula in early fall. Now the polar bear hunting season has been changed to later in the winter and the rough ice present at that time precludes use of this area.

18PB
Pelly Bay hunters hunt polar bears and ringed seals throughout winter and also hunt seals during summer using motor boats on the open water from the Harrison Islands south throughout Pelly Bay.

19SB
Much of this area is currently little used for resource harvesting; however, Spence Bay residents used these areas in the past for caribou and waterfowl hunting and Arctic fox trapping.

20PB & SB
This winter travel route is used by residents of Pelly Bay for travel by snowmobile between the two settlements.

21SB
Virtually all of the approximately 50 General Hunting License holders use this area around the Spence Bay settlement for hunting, fishing and trapping year round. The Northwest Territories Wildlife Service reports that approximately 700 caribou may be shot in this area and north to Thom Bay, mostly during winter. Arctic fox trap lines are set primarily along the coast and the Wildlife Service estimates a current annual winter harvest of 1,500 foxes. Harvest 20 years ago often exceeded 6,000 foxes around Spence Bay. Fall camps for spearing of Arctic char are established at the mouth of the Garry River where an estimated 900 kg of char are harvested yearly by 4 to 5 families and upstream from Sagjak Inlet during the fall and spring. Lake trout are taken during fall, winter and spring by jigging through the ice, and by rod during the summer. Hansteen, Jekyll, Ishlutuk and Kangikjuke Lakes are important for lake trout fishing and Redfish Lake is used for both char and trout fishing. Netsilik Lake has had a commercial quota established of 5,500 kg of lake trout and whitefish. Many families camp on Middle Lake during summer. Four to five families camp at the outlet of Netsilik Lake during spring and summer and several at Netsiksiuvik Inlet. Most landlocked Arctic char are caught during fall by jigging through the ice. Waterfowl hunting is generally done in conjunction with seal hunting from motor boats during open water. Polar bears are seldom hunted near Spence Bay but are hunted further north, mostly during December, March and April.

22SB
Josephine and Spence bays are heavily utilized year-round by most Spence Bay residents for Arctic char fishing and ringed seal hunting. Arctic char are netted both under ice in fall and spring and by boat in open water during summer. Seals are hunted during winter (October) on the ice and during summer (July and August) by motor boat in open water. The Northwest Territories Wildlife Service estimates the current annual seal harvest at 400 during summer and 100 during winter. Seals are hunted along James Ross Strait to Cape Victoria and a sealing camp is set up at Josephine Bay during summer. James Ross Strait is used as a year-round travel route by Spence Bay hunters, both en route to polar bear hunting areas in the north during winter and occasionally during summer, en route to caribou hunting areas.

23SB
This travel route is used during winter by many hunters and fishermen from Spence Bay travelling by snowmobile to hunt caribou, seal and polar bear and to fish for Arctic char and lake trout further north.

24SB & PB
This travel route is used during winter by residents of both Spence Bay and Pelly Bay for travel by skidoo between the two settlements. Arctic fox traps are set along the route by some Spence Bay trappers.

25GH & SB
Most of St. Roch Basin is currently little used for resource harvesting. Hunters and trappers from both Gjoa Haven and Spence Bay hunted polar bears, seals and waterfowl and trapped Arctic fox along portions of St. Roch Basin during past years.

NOTES ON DOMESTIC COMMERCIAL FISHERIES

Fish, particularly anadromous Arctic char, are an important food for residents of Spence Bay. Between March and December, fishermen from the community range south to Sheperd Bay and north to the lakes near Bellot Strait. Travelling by snowmobile in the spring and fall and by boat in the summer, they net, jig, spear or angle Arctic char, lake trout, lake whitefish, cod and cisco.

From March to June and October to December, fish are netted or jigged through the ice of fresh water lakes and marine bays. Land-locked Arctic char and lake trout are caught in Pangnikto, Jekyll, Kangikjuke, Ishluktuk, Redfish and Hansteen lakes; anadromous Arctic char, lake trout, possibly anadromous, are caught in Middle and Krusenstern lakes and the lakes east of Balfour Bay (e.g. 69°08'N, 94°00'W). During this period, cod are jigged for through the ice of Spence Bay and Willersted Inlet.

During July and August, nets are set along the shores of Spence Bay and Netsiksiuvik Inlet to catch Arctic char and cod. Arctic char and lake trout are angled and sometimes netted, usually from shore, at summer camps and near the community.

In late August and early September, anadromous Arctic char are netted or speared in the rivers as they return upstream to overwinter in fresh water. The Garry and Netsilik rivers and outlet streams to Middle and Krusenstern lakes are netted annually and char are speared at a saputit on the outlet to Krusenstern Lake and in the Garry River.

During October and November, commercial fishermen from Spence Bay net Arctic char in Lord Lindsay Lake, Netsilik Lake and the Agnew River area. Lord Lindsay Lake has been fished annually since 1977 and has an anadromous char quota of 3,000 kg round weight. Netsilik Lake was last commercially fished in 1978 and there are no catch statistics available for the Agnew River area which has a char quota of 4,500 kg round weight.

In 1981, commercial test-fishing permits were issued for Netsilik, Lady Melville and Pangnikto lakes. Further data is not available.

The following text on wildlife is reprinted verbatim from the 1992 Nunavut Atlas (map shown in Figure 56).

1 WATERFOWL
This is only a very small portion of a large wildlife area which extends onto the adjacent map area to the north and west, and which encompasses all of Adelaide Peninsula, King William Island and many of the adjacent small islands. This wildlife area provides very important habitat for a large number and diversity of birds. Much of this entire region is characterized by extensive well-vegetated lowlands that are interspersed with numerous small, shallow tundra ponds and lakes. These areas provide prime nesting habitat for many of the bird species that breed in the region and include such species as Canada goose, king eider, oldsquaw, whistling swan, sandhill crane, glaucous and Sabine's gulls, Arctic tern, Arctic loon, red-throated and yellow-billed loons, pomarine and parasitic jaegers, long-tailed jaeger, snowy owl, rock ptarmigan and several species of shorebirds.

Adelaide Peninsula and King William Island appear to be particularly important for swans. Likely between 1,000-2,000 and 3,000-4,000 whistling swans utilize Adelaide Peninsula and King William Island, respectively, for breeding, brood rearing and molting. These areas are also important, particularly during the critical molting period, for large numbers of geese. These geese appear to be mostly non-breeding birds that are likely associated with the goose populations that nest mainly in the Queen Maud Gulf Migratory Bird Sanctuary and in the Rasmussen Basin. Nesting activity by a small percentage of geese, mostly Canada geese, does occur on Adelaide Peninsula and King William Island. Non-breeding geese utilizing this wildlife area likely number 7,000-14,000 snow, 5,000-10,000 Canada geese, 500-1,000 white-fronted geese and 750-1,500 brant. The numbers of geese within this area may fluctuate substantially from year to year and would likely be dependent upon the relative breeding success of the nearby nesting areas. Whistling swans and Canada geese are found widely dispersed throughout this entire area. Concentrations of molting snow geese have been observed in the interior of Adelaide Peninsula, mostly in association with the larger lakes. On King William Island, concentrations of molting snow geese have been observed along the Douglas River system and on the northwest side of the island between Collinson Inlet and Riviere de la Roquette. King eiders and old squaw are common throughout much of this area. Scattered concentrations of molting ducks, likely non-breeders have been observed in coastal areas, mostly in association with the large, ice-free inlets.

2 WATERFOWL
This large area which extends mainly onto the map area to the north, comprises the Rasmussen Basin lowlands - a region of recent marine emergence that is poorly drained, well-vegetated, and contains numerous shallow lakes, ponds and meandering rivers and streams. The region encompassing these lowlands provides both important and critical habitat for a large number and diversity of birds. Up to 46 species of birds have been recorded in this area. Most of these, which include such species as whistling swan, white-fronted goose, Canada and snow geese, brant, king eider, oldsquaw, sandhill crane, snowy owl, glaucous and Sabine's gulls, Arctic tern, Arctic and red-throated loons, pomarine and parasitic jaegers, long-tailed jaeger, rock ptarmigan and at least 12 species of shorebirds, nest within these lowlands. A 1976 estimate has placed the overall summering bird population in the area at over 1,500,000.

The Rasmussen Basin lowlands are particularly important as a breeding and molting area for large numbers of waterfowl, including a significant percentage (3-5%) of the continental populations of whistling swans and white-

fronted geese. Estimates (1976) place the waterfowl population utilizing these lowlands of 5,000-6,000 whistling swans, 10,000 white-fronted geese, 5,000-6,000 snow geese, 30,000-35,000 king eiders, 10,000-15,000 old squaws and 500-1,000 Canada geese. A large percentage of the waterfowl found summering on these lowlands are thought to be non-breeding birds. Significant numbers of other birds that are also associated primarily with marine and aquatic habitats that include cranes, loons and an estimated (1976) 500,000 shorebirds, the most numerous being the red phalarope, also utilize this area.

Migratory birds begin arriving on the lowlands in late May and early June. At this time many of the rivers and streams, which provide most of the early open water within the area, are particularly important for waterfowl and other water birds for staging as they await the snow melt off the nesting areas. By mid-September most migratory birds have moved south with the exception of the eiders and oldsquaws, many of which remain in the area until freeze-up.

3 WATERFOWL

This central or core area of the Rasmussen Basin Lowlands which generally lies below 60 meters in elevation is critical habitat for birds. The highest densities of many of the bird species inhabiting the entire lowlands region, particularly whistling swans, white-fronted and snow geese, king eider, oldsquaw and the large variety of shorebirds utilize this area for nesting, brood-rearing and molting. This area is particularly critical for swans and white-fronted geese.

Although snow geese nest in scattered locations throughout the lowland area, most nesting activity is concentrated in three main colonies which are located in the extreme southwest comer and near the north end of this Critical wildlife area, Molting and brood rearing snow geese appear to remain concentrated, mostly in the vicinity of these colonies.

Both king eiders and oldsquaws are common summer residents within this area and are widespread nesters throughout the lowlands. The rivers, larger lakes, and particularly coastal waters are important areas for molting birds. Most brood rearing activity appears to be associated with the coastline and on tundra lakes and ponds, likely near the nesting sites. High densities of shorebirds summer in these lowlands. These birds are widespread through the lowlands. The highest densities have been recorded in coastal areas, particularly north of the Inglis River.

4 WATERFOWL

This area with its many lakes and well-vegetated lowlands provides some important habitat for birds that include waterfowl, loons, gulls and shorebirds. This area may be particularly important for small numbers of nesting, brood-rearing and molting waterfowl that includes Canada geese, snow geese, white-fronted geese and oldsquaws.

The coastal area along the west side of Committee Bay is used most extensively by non-breeding birds - king eiders, oldsquaws, and Canada geese - for molting. These areas also provide some important habitats that are utilized for nesting and brood rearing by a variety of shorebirds, waterfowl, loons and gulls.

5 ARCTIC FOXES AND WOLVES

Sandy areas, particularly eskers, which are found throughout much of this map area, provide prime denning habitat for Arctic fox and wolf.

6 WATERFOWL

The rivers, coasts, and associated lowlands, within this area, provide some important habitat for birds, particularly waterfowl. These areas receive their greatest use by molting geese, mostly non-breeding Canadas that occur in many small scattered flocks along the rivers and coasts. The rivers themselves and coastal waters are important in that they provide a relatively safe refuge from predators for molting geese, particularly during the flightless period when they are most vulnerable. Some of the small, shallow lakes found throughout this area may be particularly important for small numbers of nestling, brood-rearing and molting waterfowl that include Canada geese, snow geese, white-fronted geese and oldsquaws. Some important habitats for other birds, which include loons, gulls and a variety of shorebirds may also be found within this area.

7 WATERFOWL

Matty Island provides some important habitat for nesting, brood rearing and molting by small numbers of birds that include whistling swans, brant, Canada geese, king eiders, oldsquaws, glaucous gulls, jaegers, loons and a variety of shorebirds.

That portion of the area encompassing Oscar Bay and north contains well-vegetated meadows and many tundra lakes and ponds, and appear to be especially productive for birds, mostly waterfowl. Waterfowl species that utilize this wildlife area for nesting, brood-rearing and molting include snow geese, Canada geese, oldsquaws, king eiders and whistling swans. Coastal areas are of particular importance for molting birds, mostly ducks. Because of the habitats available within this area, other birds utilizing the area would include gulls, jaegers and loons.

8 WATERFOWL

This area, which is well-vegetated and has many ponds and lakes distributed throughout has been reported to contain high densities of breeding birds that include several species of shorebirds, Canada geese, white-fronted geese, oldsquaws and Arctic terns. The larger lakes within this area are likely used most extensively by molting birds.

9 SEABIRDS

This is an important area for a small concentration of gulls that utilize the area for feeding and nesting. The area supports at least three small colonies of nesting glaucous gulls.

10 SEABIRDS

These areas support small to moderate-sized colonies of cliff nesting gulls, Approximately 25-50 breeding pairs of gulls, likely glaucous gulls, nest at the colony near the mouth of the Garry River. The two gull colonies, likely of glaucous gulls, located near Netsiksiuvik and Sagvak Inlets are reported to number approximately 50 and 100 breeding pairs respectively. A mixed colony of Thayer's and glaucous gulls located along the coast to the southwest of Felix Harbour is reported to number approximately 150 breeding pairs. The largest colony is on Korvigdjuak Island and supports approximately 100-200 breeding pairs of gulls. The gull colonies to the north and south of Pelly Bay support about 75-125 breeding pairs. These colonies contain either or both glaucous and Thayer's gulls.

11 SEABIRDS

These areas support small colonies of nesting gulls. The colonies range in size from approximately 15 breeding pairs in the northern-most colony on this map area to about 50 breeding pairs in the Harrison Islands colony. These colonies contain either or both glaucous gulls and Thayer's gulls.

12 RAPTORS

The steep cliffs scattered throughout the Precambrian uplands along the eastern and north-central portions of this area, particularly the escarpment that forms the eastern boundary of the Rasmussen Basin lowlands, contains prime nesting habitat for raptors. Because of their relatively small overall population sizes, nesting success is particularly critical for peregrine and gyrfalcons. All areas used by peregrines and gyrfalcons for nesting are designated critical. Peregrine falcons and rough-legged hawks are reported to be abundant within this area. The occasional gyrfalcon and golden eagle may also nest in the area.

13 RAPTORS
Raptors, mostly rough-legged hawks and peregrine falcons appear to be relatively abundant within this area. The occasional gyrfalcon may also be found nesting here. This area immediately south of Pelly Bay, in the vicinity of the Arrowsmith River, appears to be particularly productive habitat for golden eagles.

14 RAPTORS
Within this area raptors do not appear to be particularly abundant. The area is used most extensively by rough-legged hawks, some peregrine falcons and perhaps the occasional gyrfalcon.

15 CARIBOU
Barren-ground caribou occur in small numbers within this area year-round. The hilly terrain surrounding the Murchison River may be particularly favoured by wintering caribou. The well-vegetated lowlands along the Murchison River and the Rassmusen Basin to the west, appear to be used predominantly as summer range by caribou.

16 CARIBOU
This area contains some important habitat for barren-ground caribou. The herd affiliation of the caribou utilizing this area is unknown. This area may receive seasonal use by some caribou of the Wager herd. Much of the upland areas appear to be ideal winter range for caribou. The lowland eastern portion of this map area, particularly the coastal lowlands along the west side of Committee Bay and lowlands associated with the larger rivers throughout the map area, appears to receive the most extensive use by caribou during summer.

17 CARIBOU
Barren-ground caribou occur within this area year-round. The numbers o caribou within the area at any given time is likely small. The hilly terrain surrounding Krusenstern Lake may be particularly favoured by wintering caribou which are thought to move into this area during fall or early winter, from the north. The well-vegetated lowlands in the Rasmussen Basin and west of the Josephine River, appear to be used predominantly as summering range by a few caribou.

18 MUSKOX
In the past, muskox have occupied the areas along the Murchison River. Hunting likely eradicated this population as observation of muskox have not been reported from this area in recent years. The dramatic increase in the muskox population in the Queen Maud Gulf region to the west may result in future reestablishment of muskox within this area.

19 MUSKOX
Favorable muskox ranges within this area include the lowlands associated with the various rivers and the coastal lowlands along the west side of Committee Bay.

20 SEALS
Inuit from Gjoa Haven and Spence Bay report that ringed seals, occurring in groups of moderate densities, and bearded seals, occurring individually and in much lower densities, are found in all waters surrounding King William Island.

21 SEALS
Inuit hunters report that moderate numbers of ringed seals and a few bearded seals occur year-round in Pelly Bay.

22 SEALS AND POLAR BEARS
Ringed seals are found year-round throughout the marine portion of this map area but are particularly numerous on the stable land-fast ice found along the coastlines. They are not randomly and independently distributed but rather, are found in groups or clumps. The less gregarious bearded seals occur sporadically and in lower numbers. A particular area of concentration seems to be along the northeast coast of King William Island south of Matty Island.

During the winter and spring, polar bears concentrate on the ice to hunt seals, particularly at the floe edges and on the unstable offshore ice. Here are found the greatest concentrations of sub-adult ringed seals which are inexperienced and easier to capture. These yield an energy value equivalent to that of the adult ringed seals found on the more stable ice closer to shore. A few bearded seal are also taken regularly.

23 POLAR BEARS
Matty Island and the southeast coast of the Boothia Peninsula are suspected to be important maternity denning areas. The southwest coast of the Boothia Peninsula and other coastal areas of the map area are inadequately surveyed for polar bear dens.

24 POLAR BEARS
Polar bears are present on the ice in Pelly bay between autumn and spring where they hunt seals prior to breakup in the summer. The persistence of ice in the Bay during the first weeks of summer allows the bears to prolong their hunting of seals.

25 POLAR BEARS
The northern portion of the Simpson Peninsula is known to be a large and important maternity denning area for polar bear. This region, particularly along the east coast from the tip of the peninsula as far south as Keith Bay, constitutes an important feeding ground for bears which range here during winter, and for female bears and their cubs which emerge from their dens in spring.

26 POLAR BEARS
The northern portion of the Simpson Peninsula, the Northern Archipelago and the Harrison and Astronomical Islands make up a large and important maternity denning area for polar bears. This region, particularly along the coasts of the islands and in the bays, also serves as a major feeding area.

27 POLAR BEARS
Polar bears are known to range along the northeast coastline of King William Island. The presence of people at Gjoa Haven discourages the polar bears from moving too close to the settlement.

28 SEALS
Ringed seals are found year-round throughout the marine portion of this area but they are particularly numerous on the land-fast ice in the bays and along the coastlines. Bearded seals, occurring sporadically, are found farther offshore, in areas of moving pack and pan ice.

29 SEALS
Inuit from Pelly Bay report that ringed seals are found throughout the year along the west coast of Committee Bay. They are formerly harvested during the winter off Cape Barclay near the mouth of Keith Bay.

30 SEALS AND WALRUS
The ranges of the harp seal and the Atlantic walrus have been documented to include the northern half of the Gulf of Boothia tapering eastward into Foxe Basin. Both species are absent from most of the study area because of the barrier of solid ice in Queen Maud Gulf, Victoria Strait and M'Clintock Channel.

31 NARWHALS, BELUGAS AND WALRUS
Sightings of both narwhals and belugas in Spence and Lord Mayor Bays have been reported, although in recent years such occurrences have become quite rare. In 1953 it was reported that walruses were sometimes harvested in

Lord Mayor Bay. Also reported was a single walrus sighting near the mouth of Spence Bay. The latter is considered to be an extralimital occurrence as it is outside of what is thought to be the usual range of the walrus.

32 NARWHALS AND BELUGAS

In June narwhals leave their wintering grounds in the open pack ice areas of Davis Strait and enter the leads into Pond Inlet, Jones Sound and Lancaster Sound. Some of the whales entering Lancaster Sound turn into Prince Regent Inlet. Periodically the migration route extends into Lord Mayor, Pelly and Committee Bays.

33 NARWHALS, BELUGAS AND WALRUS

Narwhals, belugas and walruses, although uncommon, appear in the Pelly Bay area during years when there is a limited amount of floating ice.

White whales and narwhals, the latter being more abundant, are sometimes hunted along the southwest coast of Pelly Bay. In 1975 the residents of Pelly Bay reported taking seven narwhal.

A walrus was shot at Pelly Bay in 1949. Walrus killings in more recent years include one at the mouth of Kellett River and another at the northern end of St. Peter Bay.

34 BELUGAS

Belugas have occasionally been seen as far south as Rasmussen Basin, north of Chantrey Inlet. Two were sighted in this area in August of 1982.

35 WALRUS

Hunters report occasional harvesting of walrus in the mouth of Lord Mayor Bay, particularly in the vicinity of the Astronomical Society Islands.

Figure 57. Chantrey Inlet Land use map

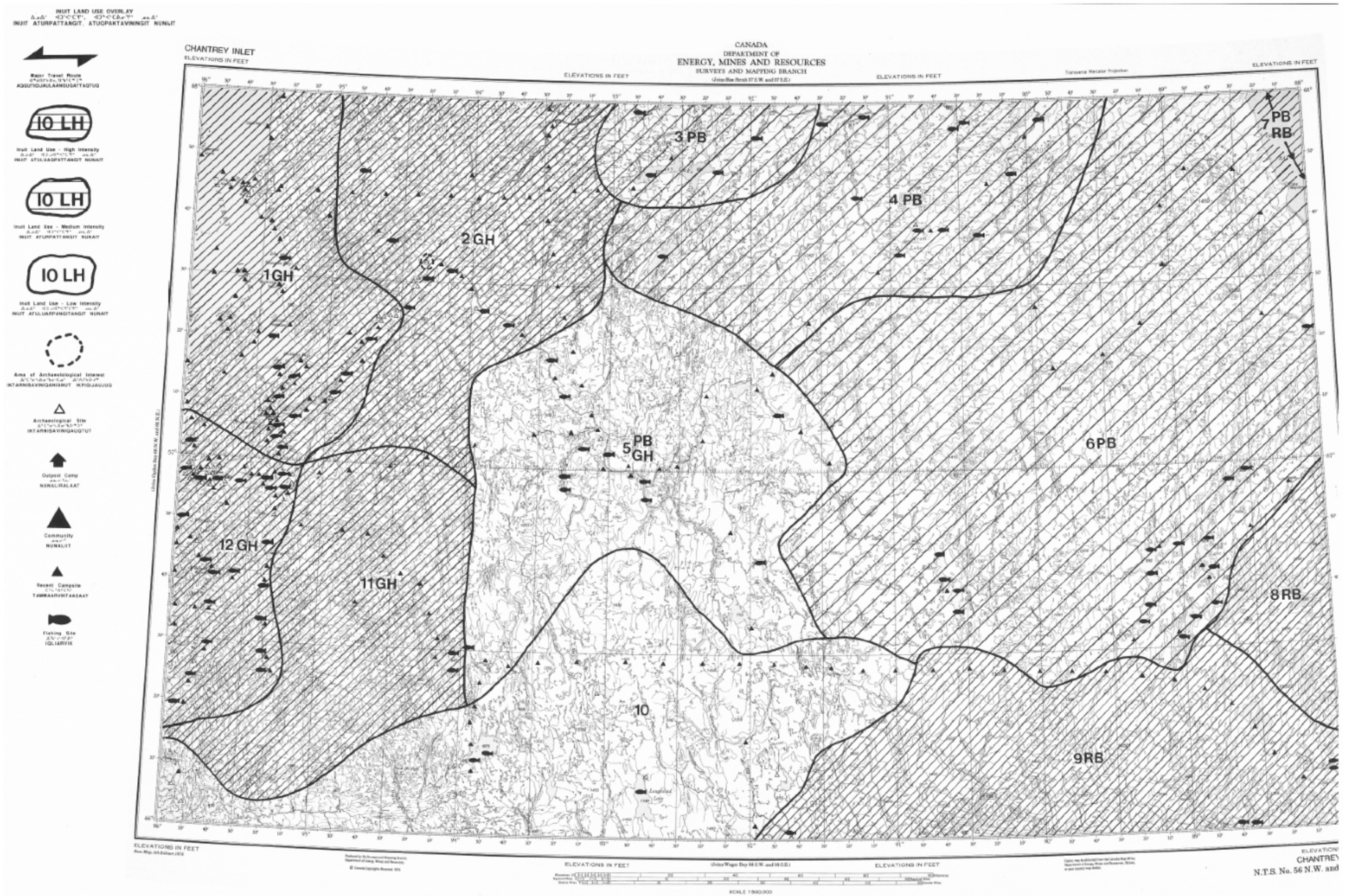
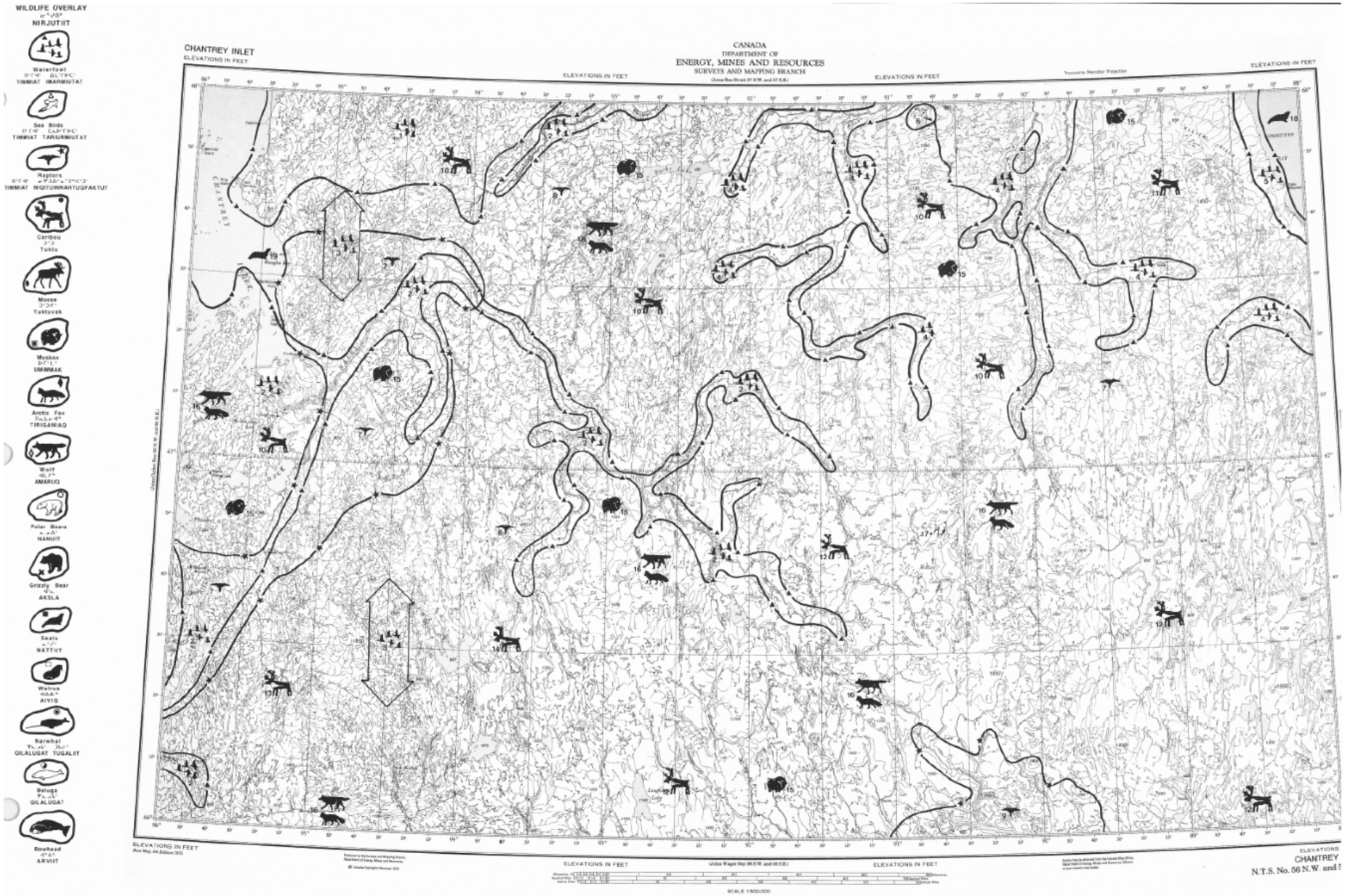


Figure 58. Chantrey Inlet Wildlife Description Map



CHANTREY INLET

INUIT LAND USE

1GH
This area along Chantrey Inlet is an important hunting and trapping area for Inuit from Gjoa Haven. Caribou are hunted year round throughout this area. In winter, Arctic fox are trapped also wolves and wolverine are trapped or hunted near the Black River. Ducks, geese, and other wildfowl are hunted during summer. Ringed seals are hunted in Chantrey Inlet during spring and summer.

2GH
This area is mainly used for caribou hunting by the residents of Gjoa Haven. In addition, wolf, fox, muskox, geese and ducks are also hunted.

3PB
Several hunters from Pelly Bay occasionally travel as far as Darby Lake by snowmobile to hunt caribou.

4PB
Several hunters from Pelly Bay occasionally travel this far south along the Arrowsmith, Kellett and Atorquat rivers by snowmobiles to hunt caribou. An old, traditional Inuk campsite exists on the north side of Frost Lake.

5PB & GH
While this area appears to be currently unused for resource harvesting, hunters from both Pelly and Gjoa Haven used to travel to the Hayes River area from their settlements to hunt caribou.

6PB
While most of this area appears to be currently unused for resource harvesting, hunters from Pelly Bay used to travel to the Curtis and Stewart lakes and to the Walker Lake and Hayes River area, from their settlement during winter to hunt caribou. Several hunters from Pelly Bay may also travel by snowmobile down the Kellett River to the Curtis and Stewart lakes vicinity in late winter (April) to hunt caribou,

7PB & RB
The west side of Committee Bay is used as a snowmobile travel route between Repulse Bay and Pelly Bay during winter. Caribou or seals may be hunted while travelling.

8RB
Residents of Repulse Bay hunt along caribou along the west shore of Roes Welcome Sound, east of the map area.

Several Arctic fox traplines extend west from Repulse Bay to just east of Qamaniakluk Lakes. In the past, Repulse Bay hunters have travelled as far west as Stewart Lake during winter to hunt caribou.

9RB
The Government of the Northwest Territories has established an outpost camp on the shore of Wager Bay. Several families from Repulse Bay live year round at this camp, hunting, fishing and trapping. During some winters, they may use this area for caribou hunting and Arctic fox trapping.

10
Very little hunting or trapping has occurred in this remote area in recent years. However, use of this area may increase in the future.

11GH
This area is used mainly for caribou hunting by residents of Gjoa Haven. Occasionally residents of Baker Lake will travel along the Back River to fish and hunt caribou, muskox and wolves.

12GH
This area, which extends to the west, is an important hunting area for Inuit of Gjoa Haven. Caribou are hunted in September, and during the winter, at well known crossings along Franklin Lake and the Back River. In the winter, Arctic fox trapping occurs and is supplemented by fishing in the larger lakes. Ducks, geese, and other wildfowl are hunted in summer.

NOTES ON DOMESTIC AND COMMERCIAL FISHING

The upper Hayes River and its tributary, Laughland Lake, and an unnamed lake (66°30'N, 94°00'W) have all been domestically fished for lake trout and or Arctic char in the recent past, by resident of Gjoa Haven who lived near the mouth of the Back River. These areas are seldom fished today.

Residents of Pelly Bay fish the Arrowsmith and Kellett rivers and residents of Gjoa Have fish the Hayes River. Domestic Arctic char fisheries occur annually at the river mouths between late August and October. Once Ice has formed in October, fish in isolated pools of the river are netted before they winter kill. Each of these rivers has recently been tested to assess its potential commercial productivity.

Inuit from Gjoa Have fish in Chantrey Inlet and along the Back and Hayes rivers. The Back River above Franklin Lake is popular for domestic fishing.

The Back River, downstream of Franklin Lake, is a traditional fishing area for Inuit families from the Baker lake region. Fishing is of primary importance in summer, and is done in conjuction with hunting and trapping at other times of the year.

In 1982, residents of Gjoa Haven conducted a test fishery at the mouth of the Hayes River to assess the river potential sustained yield of Arctic char. The Hayes is one of several rivers in the are being tested to assess the economics of establishing a commercial fish-processing plant at Gjoa Haven.

Brown River, between Brown and Ford Lakes has a quota on commercially caught anadromous Arctic char of 2300 kg (round weight). There is no record of the area having been commercially fished. Lake trout and Arctic char inhabit Brown River.

In the fall of 1979, Inuit fishing crews from Gjoa Haven participated in an experimental commercial fishery involving several points along Chantrey Inlet. Test quotas of 2,270 kg round weight were assigned to each of the Back River (near the mouth of the Hayes River) and Irby and Mangles Bay. A fisheries management crew monitored the catch and reported the Back River quota was successfully attained.

A test permit, issued in 1981, allowed 4500 kg round weight of anadromous Arctic char to be taken from the Curtis River. There is no record that fishing took place.

WILDLIFE

1 WATERFOWL

This large area which extends to the areas to the north and west comprises the Rasmussen Basin lowlands – a region of recent marine emergence that is poorly drained, well vegetated, and contains numerous shallow lakes, ponds and meandering river and streams. The region encompassing these lowlands provides both important and critical habitat for a large number and diversity of birds. Up to 46 species of birds have been reported in this area: these include whistling swan, white-fronted goose, Canada and snow geese, brant, king eider, oldsquaw, sandhill crane, snowy owl, glaucous and Sabines gulls, Arctic tern, Arctic and red-throated loons, pomarine jaeger, parasitic and long tailed jaegers, rock ptarmigan and at least 12 species of shore birds. Most of these nest within these lowlands. A 1976 estimate has placed the overall summering bird population in the area at over 1,500,000.

The Rasmussen Basin lowlands are particularly important as a breeding and molting area for large numbers of waterfowl, including a significant percentage (3-5%) of the continental population of whistling swans and white fronted geese. Estimates (1979) place waterfowl populations utilizing these lowlands at 5,000-6,000

whistling swans, 10,000 white fronted geese, 5,000-6,000 snow geese, 30,000-35,000 king eiders, 10,000-15,000 oldsquaws and 500-1,000 Canada geese. A large percentage of the waterfowl found summering on these lowlands are thought to be non-breeding birds. Significant numbers of other birds that are also associated primarily with marine and aquatic habitats include cranes, loons, and an estimated (1979) 500,000 shorebirds, the most numerous being the red phalarope, also utilize this area.

Migratory birds begin arriving on the lowlands in late May and early June. At this time many of the rivers and streams, which provide most of the early open water are particularly important for waterfowl. And other water birds for staging as they await the snowmelt in the nesting areas. By mid September most migratory birds have moved south with the exception of the eiders and oldsquaws, many of which remain in the area until freezeup.

2 WATERFOWL

This area which extends to the west, provides habitat for several species of birds, mainly waterfowl. In spring, areas of open water (tundra melt ponds, fast flowing, and flooded river banks) are used for staging mainly by Canada geese, snow geese, whistling swans and sandhill cranes. During summer, this area is used by numerous molting large Canada geese and lesser numbers of snow geese. A few swans and sandhill cranes can also be found nesting along some of the rivers and wetlands associated with the Back River.

During summer, lower portions of Back River are used by numerous molting Canada geese and lesser numbers of snow geese. Lowlands along the rivers, particularly those associated with the mouth of the Hayes River, are used for breeding by numerous whistling swans, sandhill cranes, red-throated loons, and duck. Snow owls are particularly abundant here, but their abundance and nesting activity is likely regulated by the availability of cyclic prey species, namely lemming.

3 WATERFOWL

Many species of waterfowl, including thousands of snow and white fronted geese and lesser numbers of whistling swans, Canada geese, and sandhill cranes migrate north in spring and south in fall throughout this area.

4 WATERFOWL

The rivers and associated lowlands within this area provides some important habitat for birds, particularly waterfowl. This are receives the greatest use by molting geese, mostly non-breeding Canadas that occur in many small scattered flocks along the rivers. The rivers themselves are important in that they provide a relatively safe refuge from predators for molting geese, particularly during the flightless period when they are most vulnerable. This area also provides some important habitats that are utilized for nesting and brood-rearing by a variety of shore birds, waterfowl, loons, and gulls.

5 WATERFOWL

The coastal area along the west side of Committee Bay is used most extensively by non-breeding birds king eiders, oldsquaws, and Canada geese, for moulting. These areas also provide some important habitats that are utilized for nesting and brood rearing by a variety of shore birds, waterfowl, loons and gulls.

6 SEABIRDS

A small breeding colony, approximately 20 pairs of gulls, utilize a small island on the west side of this lake for nesting.

7 RAPTORS

Scattered deep cliffs throughout this area, which extends to the west and north, are used by rough-legged hawks, peregrine falcons, and perhaps the occasional gyrfalcon for nesting.

8 RAPTORS

Much of this area, particularly bordering the Hayes and Murchison rivers, contains prime nesting habitat for raptors. Peregrine falcons and rough-legged hawks are the most common raptors found nesting within this area. The area may also be utilized by the occasional nesting gyrfalcon and golden eagle.

9 RAPTORS

This area forms a small part of a large area of numerous steep cliffs encompassing much of Wager Bay, that is used for nesting by peregrine falcons, rough legged hawks and the occasional gyrfalcon. The Wager Bay area has been identified as one of the most productive nesting areas for the endangered peregrine falcon. Because of their relatively small overall population sizes, nesting success is particularly critical for peregrine falcons and gyrfalcons. All areas used for nesting by peregrine falcons and gyrfalcons are designated critical.

10 CARIBOU

Barren-ground caribou occur within this area year round. The numbers of caribou within the map area, at any given time, is likely small. Caribou appear to make the most extensive use of most of this area during winter. The hilly terrain surrounding the Murchison and Hayes rivers may be particularly favoured by wintering caribou. The well vegetated lowlands along the Murchison River and Rasmussen Basin to the west appear to be used predominantly as summering range by caribou.

11 CARIBOU

This area contains import habitat for barren-ground caribou. The herd affiliation of the caribou utilizing this area is unknown. This area may receive seasonal use by elements of both the Wager herd and Meville herd and appears to be ideal winter range for the caribou. The coastal lowlands along the west side of Committee Bay and lowlands associated with larger rivers in the area, appear to receive extensive use by many caribou during summer.

12 CARIBOU

This area contains important and perhaps even critical habitat for barren ground caribou. The herd affiliation of the caribou of the Wager Herd. The present population status of this herd is unknown. Population estimates have placed the size of this herd as high as 100,000 to 300,000 (1986). Much of this map area is likely used most extensively by caribou as winter range. Caribou that winter within this area would likely move in spring to summering ranges either south to the immediate vicinity of Wager Bay or north to Committee Bay. Caribou have also been reported on a number of occasions, calving in the vicinities of Pearce, Curtis and Stewart lakes. The overall importance of this area as a calving ground is unknown.

13 CARIBOU

Small numbers of barren-ground caribou an be found throughout the year in this unbounded area. Higher densities of caribou have been reported wintering in the Franklin Lake and Herman River areas in the western portion of this area. It is possible that caribou wintering here may move west across the Back River to calve.

14 CARIBOU

Barren-ground caribou occur within this area year round. Most caribou utilizing this area likely belong to the Wager Herd. The numbers of caribou within this area, at any given time, likely varies considerably. Caribou appear to make the most extensive use of much of this area during winter. The hilly terrain surrounding the Hayes River may be particularly favoured by wintering caribou. Most caribou wintering I this area likely move west to calve. Important summering ranges for these caribou are likely in the immediate vicinity of Wager Bay to the southeast and Committee Bay to the northeast.

15 MUSKOX
In the past, muskox in small numbers were known to have occupied the area encompassing the Back, Hayes and Murchison rivers. Hunting may have eradicated the small population. Intensive surveys throughout the region during the mid 1970s failed to reveal any muskox within this area. During the past two decades, the muskox population of the Queen Maud Gulf region immediately to the west has increased dramatically, which may result in the re-establishment of muskox within this area sometime in the near future.

16 WOLVES AND FOXES
Sandy areas, particularly eskers throughout the southern portions of this unbounded area, provide denning habitat which may be used by arctic fox and the occasional wolf.

17 POLAR BEARS
In August 1982, a solitary polar bear was sighted at the northern tip of Walker Lake.

18 SEALS
Inuit from Pelly Bay report that ringed seals are found throughout the year along the west coast of Committee Bay.

19 SEALS
Chantrey Inlet is reported to have a good ringed seal population.

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The Community of Coral Harbour
Hamlet of Kugaaruk
Kugaaruk HTO Board Members and Chairpersons

Department of Environment, Government of Nunavut

Interviewees — Kugaaruk (Makabie Nartok, Jocelino Sigglik, Christian Nalunciao, Richard Kakkiaiun, Levi Iluitok, Barthalimow Nirlungayuk, Emiliano Qirngnuq)

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Department of Fisheries and Oceans Canada

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APPENDIX 1
INTERVIEWEE BIOGRAPHIES

NAME	BACKGROUND
Makabie Nartok	Makabie was born in 1950 at a lake south west of the community of Kugaaruk. He grew up travelling between travelling from just south of the current settlement of Kugaaruk to the islands at the north end of Pelly Bay up until the 1970's. He has lived in and around the community of Kugaaruk for 64 years. He has been going out on hunts since he was old enough to hold a fish spear, between the ages of 5 and 7 years old. He continues to actively fish and hunt, primarily hunting seals between the months of November and June on the sea ice.
Jocelino Sigglik	Jocelino was born in 1963 at the gravel pit area of Kugaaruk. He grew up in the community, and became married to his wife in 1980. He began fishing and hunting at the age of 12. He primarily still hunts seals between the months of June and July, and has since reduced the amount of time he spends fishing and hunting polar bears.
Christian Nalunciao	Christian was born on the sea ice in 1940. He was raised travelling around Pelly Bay, travelling north in the spring then would head back south with his family. He moved to the community of Kugaaruk (then called Pelly Bay) when the community began to be comprised of permanent structures. He began to be taught how to hunt at 10 years old and has since learned many different ways to harvest from the land. He still hunts although less than when he was younger; spending winter hunting caribou and spring seal hunting for food.
Richard Kakkiaiun	Richard was born in 1995 in Yellowknife NWT. He has spent his entire life living in Kugaaruk. He started camping when he was very young, and began heading out far to hunt and fish at 12-13 years old. He has been trapping for animals since 14-15 years old. He is a year-round active hunter and fisher within the community. He spends a large amount of time during the summer hunting narwhal, and ptarmigans which are his favourite to eat.
Levi Iluitok	Levi was born in 1941 on a small Island in Pelly Bay that does not appear on this map. He grew up travelling around Pelly Bay spending most of his time on the west side of the bay and travelling south to lakes in the summer. He began hunting and fishing as a young boy and still goes out fishing in early fall but has since stopped fishing in winter. He has lived in the community since before permanent houses began to be build in 1965-66.
Barthalimow Nirlungayuk	Barthalimow was born in 1938 on the Boothia Peninsula. Moved around as a young child living off of fish and seal. Between the ages of 9 and 10 his parents died and he travelled south where he was picked up by family that brought him south to Pelly Bay. When he arrived in town the only buildings were the stone church and the priests house, all the Inuit lived in igloos on the bay. He began going out to hunt on his own when he was 13 years old. At the time it was only once a young man can hunt and build an igloo that he could take a wife. He still goes out hunting but has slowed down since he was young. As a young man he was taught how to use a special igloo for seal hunting. It was oval in shape, was built out on the sea ice around a seal hole. Snow on the surrounding ice would be piled up around it so no light could enter, and the igloo would be back lit. This would allow the hunter to see the seal but prevent the seal from seeing the hunter. This method was highly successful for hunting seals by harpoon.
Emiliano Qirngnuq	Emiliano was born in 1950 at a camp on the Kellet River. As a small child he travelled around the length of Pelly Bay. His family would travel to Kugaaruk in May-June before heading back out on the land. He did not become a permanent resident until 1960. Between 9 and 10 years old his father took him out and started teaching him how to hunt; he began travelling out on his own at the age of 15. He is still a year-round active fisher and hunter catching char, trout, marine mammals, and geese.

APPENDIX 2
ACRONYMS AND ABBREVIATIONS

CWS – CANADIAN WILDLIFE SERVICE

DFO – DEPARTMENT OF FISHERIES AND OCEANS

DOE – DEPARTMENT OF ENVIRONMENT

GN – GOVERNMENT OF NUNAVUT

HTO – HUNTER/TRAPPER ORGANIZATION

IQ – INUIT QAUJIMAJATUQANGIT

IPCC – INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

NCRI – NUNAVUT COASTAL RESOURCE INVENTORY

APPENDIX 3
BIRD EVALUATION

SPECIES	GODFREY	SNYDER (1957)	CWS	MISC.	RICHARDS & WHITE (2008)	NCRI INTERVIEW	COMMENTS ON NCRI SPECIES ONLY BY J. RICHARDS
Snow Goose		B			MB	X	likely
Brant	B				MB		- -
Cackling Goose	B	B			MB		surprised not noted
Canada Goose	B	B	x		MB	X	Definite; agree
Tundra Swan	B		x		MB	X*	Definite; agree
King Eider	B	B			MB	X	Definite; agree
Common Eider	b				MBw		- -
Long-tailed Duck	B	B			MB	X*	Definite; agree
Willow Ptarmigan	B	B			PB	X	Definite; agree
Rock Ptarmigan	B	B			PB	X	Definite; agree
Red-throated Loon	B	B			MB	X	Definite; agree
Pacific Loon	B	B			MB	X*	definite: agree - now called Pacific Loon
White Pelican				x	M		- -
Rough-legged Hawk	B	B			MB	X	Definite; agree - not Red-legged as listed
Golden Eagle		B			MB		- -
Gyrfalcon	B	B			PB		surprised not noted
Peregrine Falcon	B	B			MB	X*	Definite; agree
Sandhill Crane	B	B			MB	X*	Definite; agree
Black-bellied Plover	B	B			MB		surprised not noted
American Golden-Plover	B	B			MB	X*	Definite; agree
Semipalmated Plover	B	B			MB		suggest this was seen; not C. Ringed Plover
Ruddy Turnstone	B				MB	X	likely
Red Knot	b				MB	X	likely
Sanderling	b				MB	X	likely
Semipalmated Sandpiper	B				MB		- -
White-rumped Sandpiper	B	B			MB		surprised not noted
Baird's Sandpiper	B				MB	X	Definite; agree

SPECIES	GODFREY	SNYDER (1957)	CWS	MISC.	RICHARDS & WHITE (2008)	NCRI INTERVIEW	COMMENTS ON NCRI SPECIES ONLY BY J. RICHARDS
Dunlin	B	B			MB		surprised not noted
Red Phalarope	B	B			MB		surprised not noted
Sabine's Gull		B			MB		- -
Thayer's Gull	B	B			MB		surprised not noted (see notes below)
Iceland Gull	B				MB	X	Definite; agree - not Icelandic as listed
Glaucous Gull	B				MB	X*	Definite; agree not Glaucous-winged as noted
Arctic Tern	B	B			MB	X*	Definite; agree
Parasitic Jaeger	B	B			MB		surprised not noted
Long-tailed Jaeger	B	B			MB	X	Definite; agree
Snowy Owl	B	B			PB	X*	Definite; agree
Common Raven	B	B			PB	X	Definite; agree
Horned Lark	B	B			MB		surprised not noted
American Pipit	B	B			MB		surprised not noted
Lapland Longspur	B	B			MB	X	Definite; agree
Snow Bunting	B	B			MBw	X	Definite; agree
Hoary Redpoll	B				MB		- -

"X" noted through interviews
"*" noted as breeding through interviews

SPECIES NOTED THROUGH INTERVIEWS, BUT NOT ON BASELINE LIST FOR KUGAARUK: COMMENTS

SPECIES	COMMENTS BY J. RICHARDS
Greater WhitefrontedGoose	possible
Barnacle Goose	possible, but very rare
Whitetailed Ptarmigan	very unlikely; a bird of the western Arctic, Yukon, etc.
Yellowbilled Loon	possible
Common Loon	possible
Pomarine Jaeger*	likely
Mew Gull*	unlikely; a bird of the western Arctic. Suggest they're seeing Thayer's Gull.
Bald Eagle*	possible
Osprey	possible but unlikely
Common Ringed Plover	no doubt confused with Semipalmated Plover
Thickbilled Murre	likely
American Robin	possible

Note: Glaucous-winged Gulls are found on the west coast of Canada; rarely inland in the Arctic.

BASELINE BIBLIOGRAPHY

CWS NWT/NU Checklist Survey (hosted by CWS, Yellowknife) **and eBird Canada.**

Godfrey, W. E. 1986. Birds of Canada. (Revised edition) National Museums of Canada, Ottawa. 595 pp

Richards and White. 2008. Birds of Nunavut: A Checklist. 22 pp

Snyder, L. L. 1957. Arctic Birds of Canada. University of Toronto Press. 310 pp

Godfrey & Snyder – 'B' in these two columns denote breeding range for each species. It does not mean that the species has actually been recorded as breeding in the specific checklist area itself.

Richards & White (2008) – denotes general status for the geographic area (ie; Arctic Islands (north of 60), James Bay Islands, or Mainland), and does not imply that a record exists for each species in the specific checklist area.

Names and arrangement according to: American Ornithologists Union Check-List of North American Birds, 1998, and annual Supplements.

RICHARDS & WHITE CODES:

P = Present: all or part of the population present throughout the year

M = Migrant: migrates to/from or through the region on a regular basis

V = Vagrant: uncommon migrant, or outside of normal range

A = Accidental: rare; very few records

E = Extinct

B = Breeding confirmed: active nest or flightless young

b = Breeding suspected: pair in suitable habitat or in courtship

w = Winter records available when/where open water, ice floe-edge, polynyas exist

CODES FOR SPECIES LIST:

B = breeding

b = breeding suspected

x = reliably observed

Canada Goose was split by the AOU in 2004 into Canada Goose and Cackling Goose. The literature prior to 2004 does not always differentiate between the two. For current breeding range, I have used a map presented by Mallory, *et al.* 2005, as well as a map presented by Sibley, 2004.

Mallory, M. L., A. J. Fontaine, and H. Boyd. 2005. 'Breeding and non-breeding range of Canada, *Branta canadensis*, and Cackling geese, *Branta hutchinsii*, in the eastern Canadian arctic. *Canadian Field-Naturalist* 119(4):483-489.

Sibley, D. A. 2004. Identification of Canada and Cackling Goose, updated Oct. 7, 2004. 14pp www.sibleyguides.com/canada_cackling.htm

Arctic Loon underwent a name change several years ago, and is now called Pacific Loon.

SUPPORTING BIBLIOGRAPHY

Thompson, R. 2007. A bird of a different feather. *Northern News Service* Aug. 30, 2007 (White Pelican)

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Department of Environment
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