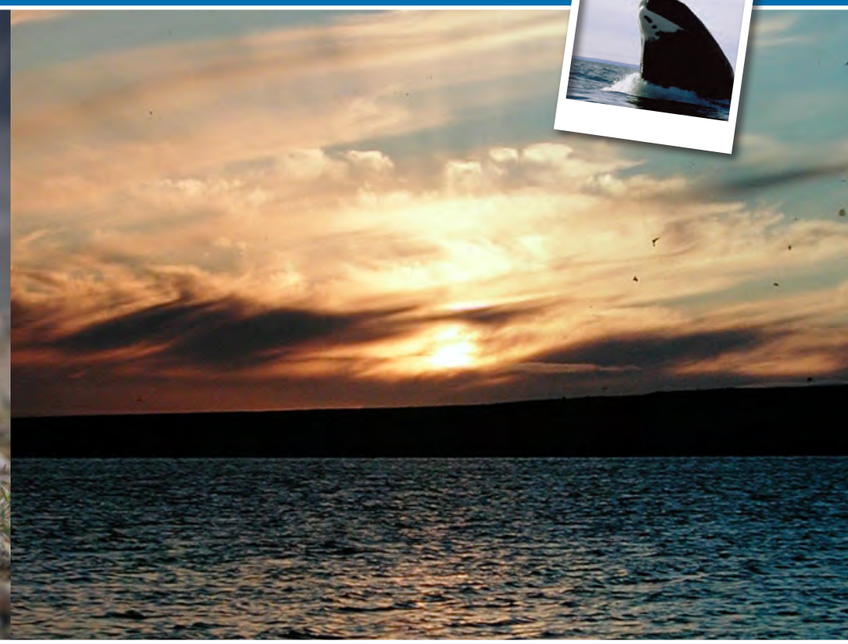
NUNAVUT
COASTAL RESOURCE INVENTORY



Gjoa Haven

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Department of Environment
Avatiliqiyikkut
Ministère de l'Environnement

NCRI

Nunavut Coastal Resource Inventory – Gjoa Haven
2011

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EXECUTIVE SUMMARY

This report is derived from the Hamlet of Gjoa Haven 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. The NCRI has since been completed in the following communities:

- 2008 Kugluktuk and Chesterfield Inlet
- 2009 Arctic Bay and Kimmirut
- 2010 Sanikiluaq
- 2011 Qikiqtarjuaq and Gjoa Haven
- 2012 Iqaluit, Repulse Bay, and Grise Fiord

This report presents the findings of the coastal resource inventory of Gjoa Haven, which was conducted in November 2011.

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 Gjoa Haven, Nunavut; and
- Key recommendations on both the use of this study as well as future initiatives.

During the course of this project, Gjoa Haven was visited on two occasions: an initial scoping/consultation meeting in October 2011, followed by on-site interview sessions from November 23-27, 2011. 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 1.5 - 4 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. Interviews with elders across the Territory have become quite common; however, due to regional differences the information gathered between each community deserves individual attention. Each community is unique in terms of its physical environment, oceanographic setting, organisms present, and the interests and approaches of its hunters and trappers. One might even suggest that each community should be and has been treated independently in a series of pilot projects. This approach significantly limits certain aspects that can be taken for granted and simultaneously encourages a continuous process of refinement of interview materials and methodologies.

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. Defining the extent of resources varies by community and "near the coast" may include species and activities 50 miles or up to 100 miles inland.

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

Figure 1: Map of Nunavut

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.

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 Gjoa Haven 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?

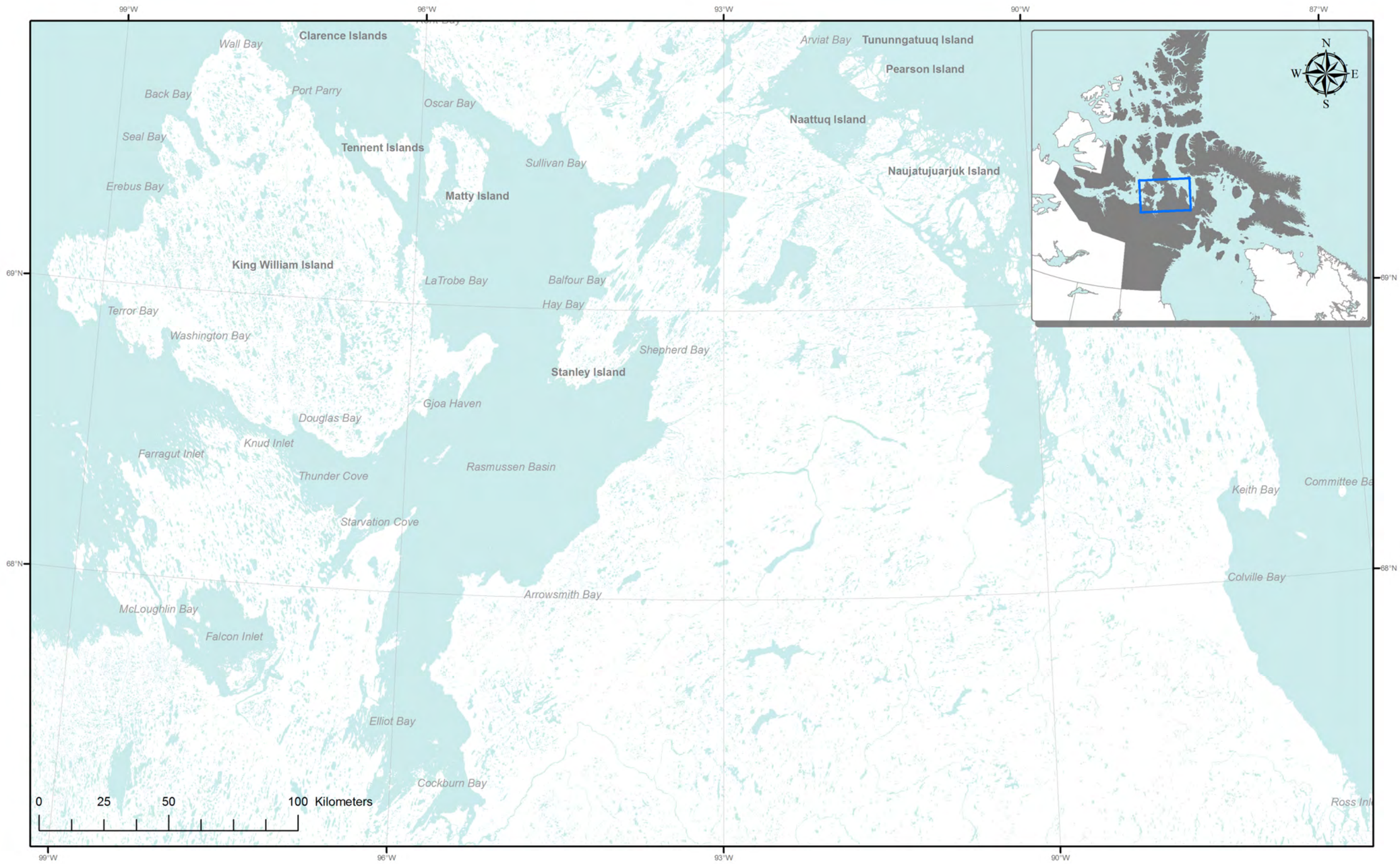
COMMUNITY VISITS

Gjoa Haven was visited on two occasions to complete this project: once for the initial consultations and again for the on-site interviews. Additional consultation with the local hamlet office and Hunters and Trappers Organization (HTO) was conducted by phone in order to save time and resources. The on-site interview sessions were conducted November 23-27, 2011, and a follow-up visit to present the finished report and supporting material to the community will occur in the future. The scoping session was designed to put into place all of the elements that were required to properly conduct the interviews. The HTO formally agreed to support this initiative by providing 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

Figure 2: The study area extent discussed in the Gjoa Haven interviews



resources; present and future environmental changes; 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 1.5 - 4 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 28-31).

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 100 km from Gjoa Haven in all directions. This area extends into Rasmussen Basin, Chantrey Inlet, and Simpson Strait.

HUNTING/FISHING

Gjoa Haven 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.

- Participants noted that species abundance varies from year to year
- Some interviewees indicated that seal abundance has increased in some areas but has decreased in others
- Interviewees indicated that the polar bear population is increasing. They would like to see more polar bear tags for the area
- It was noted that an increase in the muskox quota for King William Island would be beneficial

HEALTH, SIZE, AND PRESENCE

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

- An increase in polar bear size was noted by interviewees

- Interviewees have observed diseased char in the area. A change in the taste of char and its colour was also noted. It was believed that char flesh is paler because of a shift in diet
- A difference in the taste of seal meat was observed depending on the time of year and the area. An interviewee indicated that where they grew up, there are more rock cod and therefore the seals tasted different than the ones in Gjoa Haven
- Interviewees noted that in areas where seals migrate, they are thinner
- Whitefish were indicated to now be smaller and have whiter meat
- It was indicated that shrimp are more abundant in areas with high currents and colder water temperatures, such as Oscar Bay

CHANGES UNDERWAY

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

- Interviewees noted a change in the surface of the land
- Some participants were concerned about the safety of sea ice, with ice taking longer to freeze in the fall and melting earlier in the spring. These different ice conditions are causing travel issues
- Interviewees were concerned about polar bears and grizzly bears coming into town more frequently and damaging infrastructure

ECONOMIC DEVELOPMENT

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

- An interviewee was concerned about increased use of store bought clothing. They would like to see traditional clothing available to harvesters
- The interviewees indicated that a functioning community freezer would be beneficial. The HTO has a community freezer which is closed due to high operational costs
- It was noted that a food processing plant would be beneficial to the area to sell and provide country food and provide employment
- Participants noted that a commercial fishery would be beneficial to the community
- Some participants noted that funding and infrastructure is needed in order to further economically develop the area
- Interviewees indicated that tourism could be a viable industry including cruise ships, ecotourism, and hiking and archaeological tours of King William Island. However, interviewees were concerned about the impact of cruise ships on wildlife and the input of waste to the local landfill. Interviewees felt that the current tourism industry does not benefit the community financially and that tourism opportunities drawing visitors specifically to Gjoa Haven are required
- It was noted that tourism could be partnered with research to benefit the community on such projects including polar bears
- Interviewees were concerned about the increase in marine transportation with regards to disturbing wildlife, marine pollution, and possible oil spills.

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 which specialized in hunting marine mammals.

OCEANOGRAPHIC FACTORS THAT CONTRIBUTE TO OPEN WATER

The Hamlet of Gjoa Haven is located on the southeast part of King William Island, adjacent to the Rasmussen Basin. The community is located 300 kilometres above the Arctic Circle (approx 68° N, 96° 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).

LAND-FAST LEADS (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 GLOBAL WARMING

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). 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 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.

Figure 3. Campsites

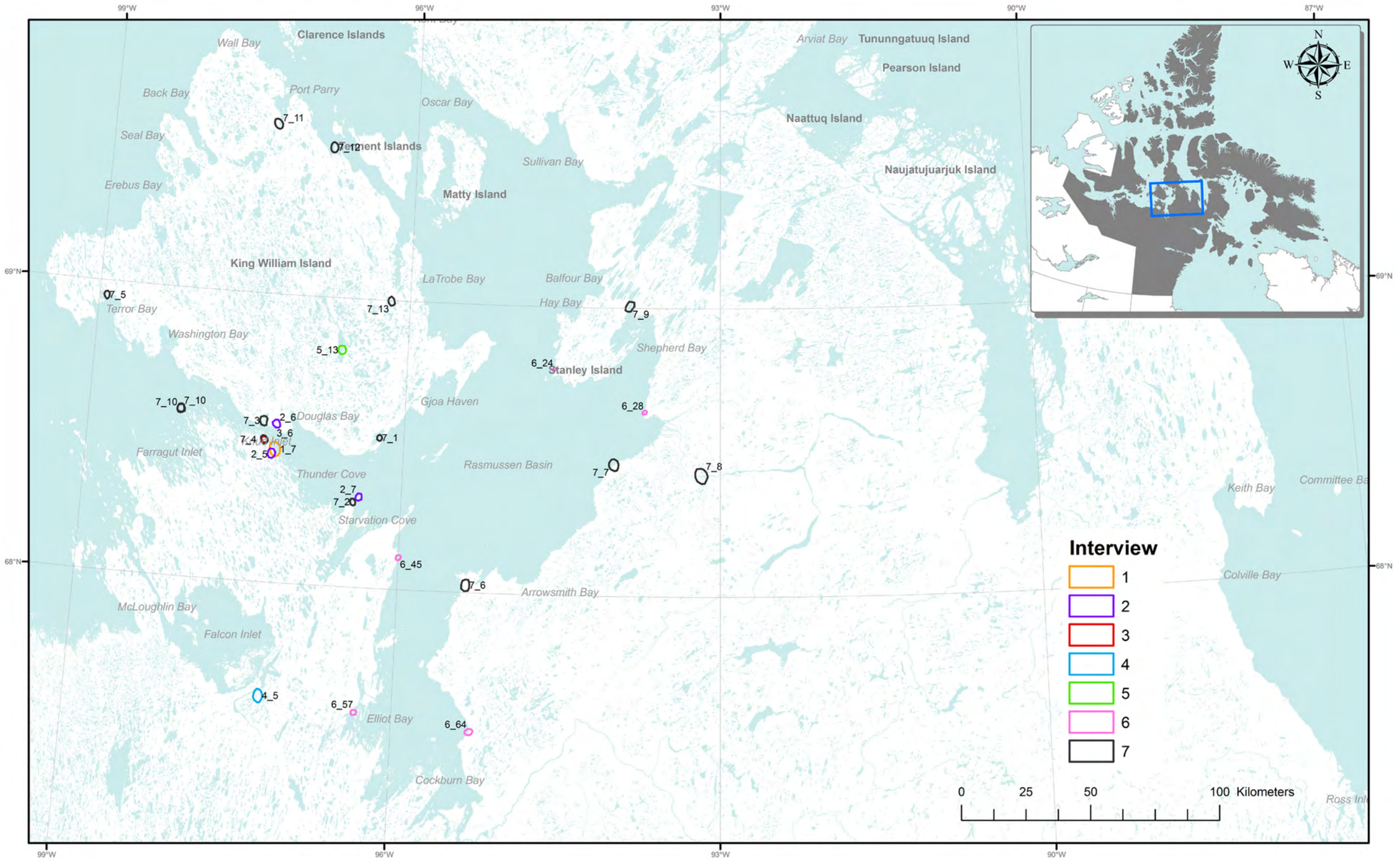


Table 2. Camp sites

MAP CODE	INTERVIEW CODE	COMMENTS
1_7	GJOA_1_1111	Spring/summer camp
2_5	GJOA_2_1111	Fishing camp - Kamigluk
2_6	GJOA_2_1111	Malirualik
2_7	GJOA_2_1111	Spring camp
3_6	GJOA_3_1111	Umiujaq - Spring and summer camp - they dry fish and caribou in July for winter supplies
4_5	GJOA_4_1111	Fishing and caribou hunting camp
5_13	GJOA_5_1111	Spend a lot of time at the camp, setting fish nets and to dry fish
6_28	GJOA_6_1111	Fishing Camp
6_45	GJOA_6_1111	Fishing camp, and spring caribou hunt
6_24	GJOA_6_1111	Fishing camp
6_64	GJOA_6_1111	Fishing camp
6_57	GJOA_6_1111	Fishing camp
7_1	GJOA_7_1111	Main camp, goes back every spring. He has cabins there
7_2	GJOA_7_1111	Char, whitefish, and trout fishing camp
7_3	GJOA_7_1111	Fishing camp in the summer and spring
7_4	GJOA_7_1111	Fishing camp
7_5	GJOA_7_1111	Fishing camp
7_6	GJOA_7_1111	Fishing camp
7_7	GJOA_7_1111	Fishing camp
7_8	GJOA_7_1111	This is where he caught his first polar bear
7_9	GJOA_7_1111	Summer fishing camp
7_10	GJOA_7_1111	Whitefish fishing camp - seals are abundant in this area
7_10	GJOA_7_1111	Summer fishing camp
7_11	GJOA_7_1111	Sealing camp
7_12	GJOA_7_1111	Weir fishing camp
7_13	GJOA_7_1111	Main camp, goes back every spring. He has cabins there

Figure 4. Travel Routes

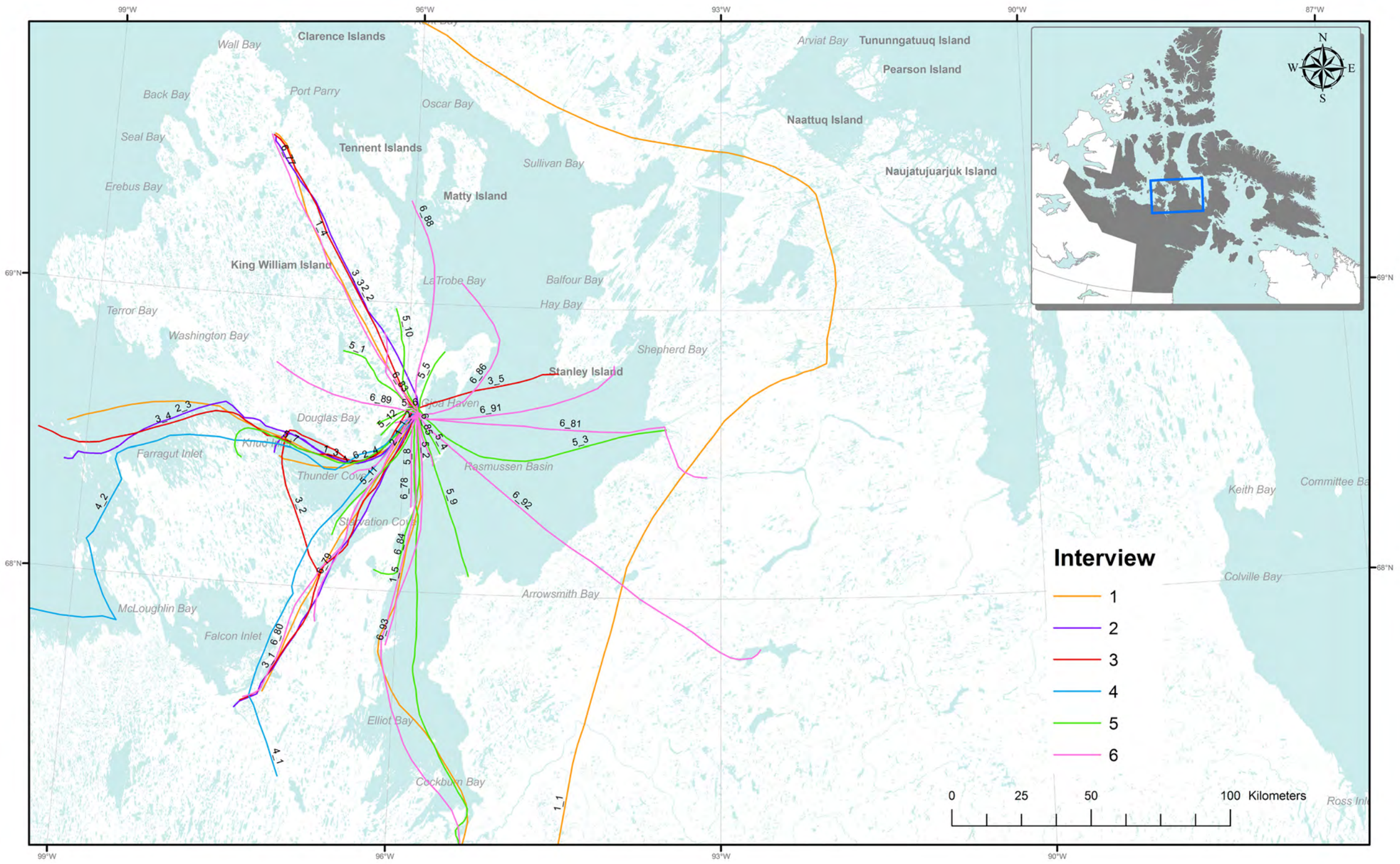


Table3. Travel Routes

MAP CODE	INTERVIEW CODE	MONTHS	COMMENTS
1_1	GJOA_1_1111		Travel extent
1_2	GJOA_1_1111		Fishing travel route
1_3	GJOA_1_1111		Bearded seal hunting travel route
1_4	GJOA_1_1111		Winter/fall fishing travel route
1_5	GJOA_1_1111		Trout fishing travel route
1_6	GJOA_1_1111		Summer camp travel route
2_1	GJOA_2_1111	Oct to Nov	Whitefish fishing route by snowmobile
2_2	GJOA_2_1111		Char fishing travel route
2_3	GJOA_2_1111	Spring	Bearded seal hunting travel route
2_4	GJOA_2_1111		Caribou hunting travel route by boat
3_1	GJOA_3_1111		Whitefish fishing travel route
3_2	GJOA_3_1111		Fishing travel route
3_3	GJOA_3_1111		Arctic Char fishing travel route
3_4	GJOA_3_1111		Seal hunting travel route
3_5	GJOA_3_1111		Caribou hunting travel route
4_1	GJOA_4_1111		Dog team travel route - walked further south for caribou hunting
4_2	GJOA_4_1111		Boat route
5_1	GJOA_5_1111		Summer fishing travel route for trout
5_2	GJOA_5_1111		Char fishing travel route by skidoo
5_3	GJOA_5_1111	May	Travel route for fishing, geese and caribou hunting
5_4	GJOA_5_1111	June	Travel route geese and duck hunting
5_5	GJOA_5_1111	July	Travel route for muskox hunt
5_6	GJOA_5_1111	August	Travel route for muskox hunt
5_7	GJOA_5_1111	August	Caribou hunting travel route by boat
5_8	GJOA_5_1111	May	Trout fishing travel route to Back River
5_9	GJOA_5_1111	May	Trout fishing travel route
5_10	GJOA_5_1111	July	Travel route for char fishing - fish by weir
5_11	GJOA_5_1111	Apr, May	Trout fishing travel route
5_12	GJOA_5_1111	Spring and August	Trout fishing at Quuqa
6_77	GJOA_6_1111		Winter fishing travel route
6_78	GJOA_6_1111		Spring fishing travel route
6_79	GJOA_6_1111		Spring and winter fishing travel route
6_80	GJOA_6_1111		Whitefish fishing travel route
6_81	GJOA_6_1111		Summer Fishing travel route
6_83	GJOA_6_1111		Winter and summer (weir) fishing travel route
6_84	GJOA_6_1111		Winter fishing travel route
6_85	GJOA_6_1111		Seal hunting travel route
6_86	GJOA_6_1111		Seal hunting travel route
6_88	GJOA_6_1111		Bearded seal hunting travel route
6_89	GJOA_6_1111		Caribou hunting travel route
6_91	GJOA_6_1111		Summer caribou hunting travel route
6_92	GJOA_6_1111		Winter caribou hunting travel route
6_93	GJOA_6_1111		Caribou hunting travel route

Figure 5. Areas of significance for other reasons

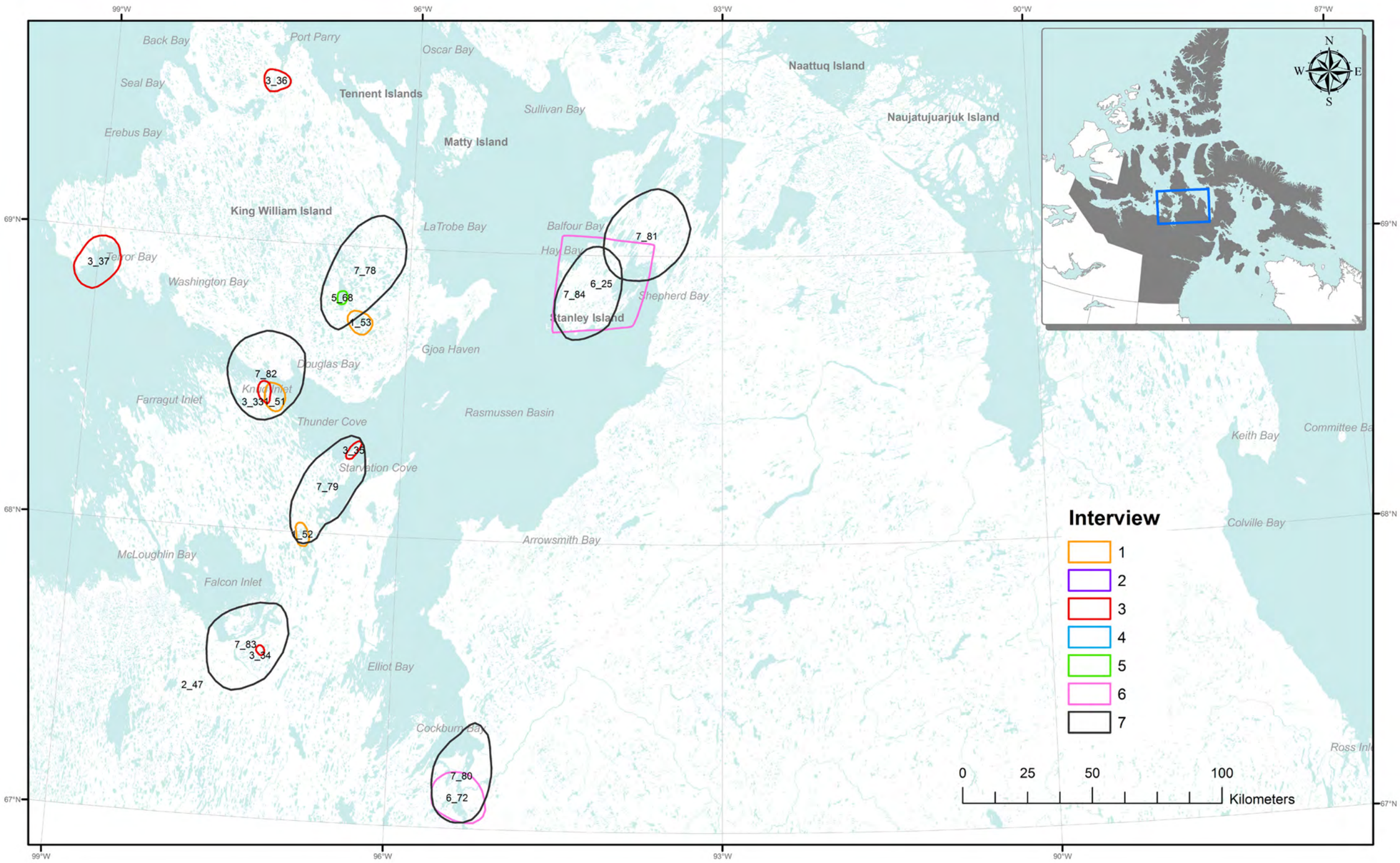


Table 4: Areas of significance for other reasons

MAP CODE	INTERVIEW CODE	COMMENTS
1_51	GJOA_1_1111	Most important to them; good fishing in the area and abundant with wildlife. A good place to dry fish and meat
1_52	GJOA_1_1111	Most important to them; good fishing in the area and abundant with wildlife. A good place to dry fish and meat
1_53	GJOA_1_1111	This area is abundant with fish good fishing in the area.
2_47	GJOA_2_1111	This is the area where he grew up - thinks about it all the time
3_33	GJOA_3_1111	Good fishing in the area; abundant in caribou.
3_34	GJOA_3_1111	Good fishing in the area; abundant in caribou. This area is said to be abundant with different wild life, according to elders
3_35	GJOA_3_1111	Lots of fish when migrating, caribou and other land animals.
3_36	GJOA_3_1111	Good tasting fish, lots of seals. This area is said to be abundant with different wild life, according to elders
3_37	GJOA_3_1111	Good fishing, lots of seals and other animals. This area is said to be abundant with different wild life, according to elders
5_68	GJOA_5_1111	Fishing area
6_72	GJOA_6_1111	Back River - This is where his ancestors came from - it is a major river
6_25	GJOA_6_1111	Caribou calving and hunting area
7_78	GJOA_7_1111	No development in this area
7_79	GJOA_7_1111	No development in this area
7_80	GJOA_7_1111	No development in this area
7_81	GJOA_7_1111	No development in this area
7_82	GJOA_7_1111	No development in this area
7_83	GJOA_7_1111	No development in this area
7_84	GJOA_7_1111	Caribou calving and hunting

Figure 6. Probability of occurrence for Arctic Char

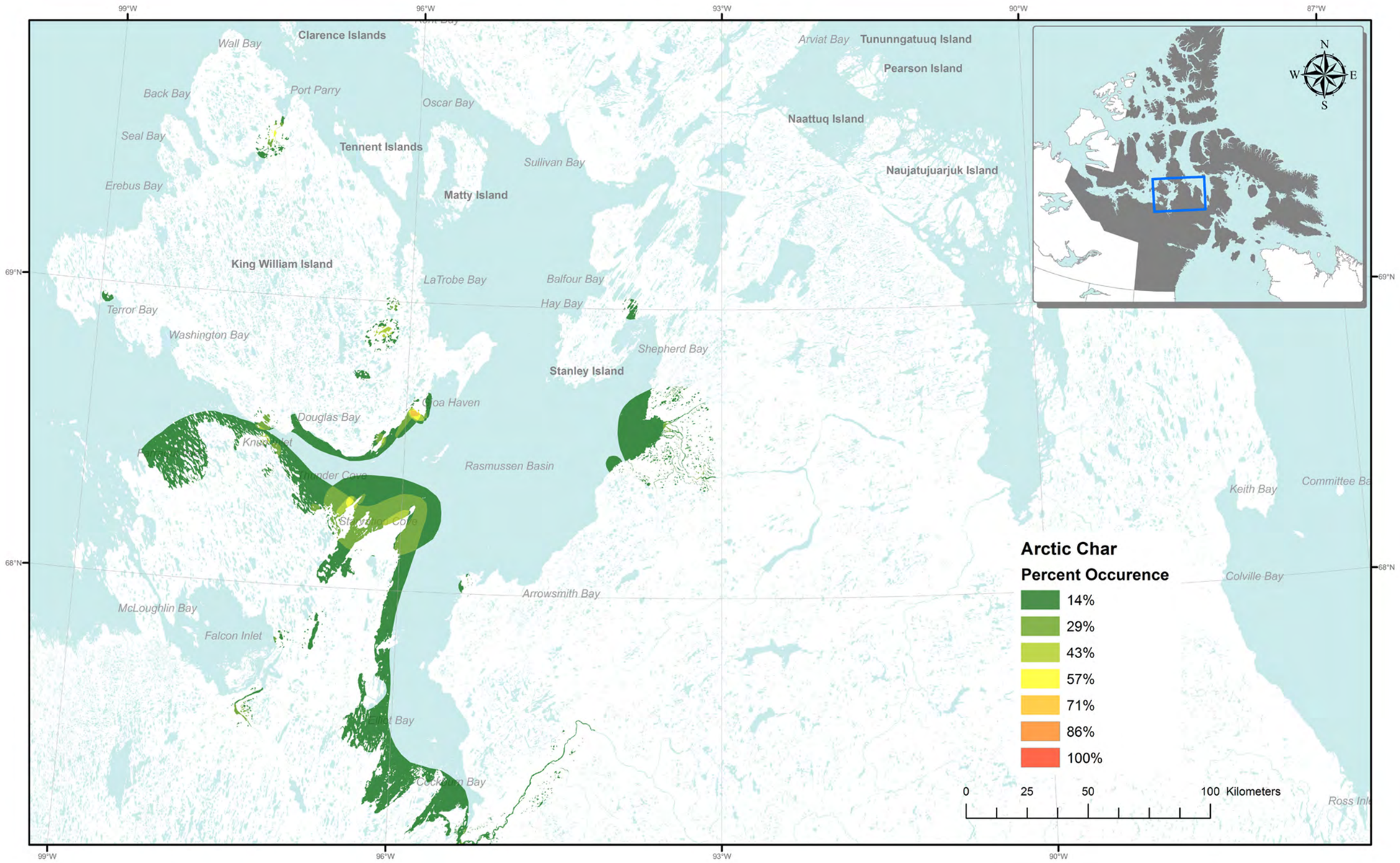


Table 5: Probability of occurrence for Arctic Char

MAP CODE	INTERVIEW CODE	MONTHS	COMMENTS
1_8	GJOA_1_1111	Oct to Apr	
1_9	GJOA_1_1111	Jul, Aug	
1_10	GJOA_1_1111	Jul, Aug	
1_11	GJOA_1_1111	Jul, Aug	
1_12	GJOA_1_1111	Jul, Aug	
1_13S	GJOA_1_1111	End of Nov	
2_9	GJOA_2_1111	Year-round	
2_10	GJOA_2_1111	Jul, Aug	
2_11	GJOA_2_1111	Jun to Aug	Char migrate along the coast
2_12	GJOA_2_1111	June	abundant in the area
2_13	GJOA_2_1111	August	
2_14	GJOA_2_1111	August	
3_7	GJOA_3_1111	July	
3_8	GJOA_3_1111	Oct, Nov	
3_9	GJOA_3_1111	November	
3_10	GJOA_3_1111	Jul, Aug	
5_16	GJOA_5_1111	May	
5_17	GJOA_5_1111	May, Jun	
5_18	GJOA_5_1111	May, Jun	
5_19	GJOA_5_1111	Jul, Aug	
5_20	GJOA_5_1111	August	
5_21	GJOA_5_1111	Jul, Aug	Fish with gill nets
5_22	GJOA_5_1111		
5_23	GJOA_5_1111	May, Jun, Oct	
6_66	GJOA_6_1111	Jul to Sep	There is char everywhere, people prefer their own special places
6_30	GJOA_6_1111	Year-round	
6_43	GJOA_6_1111	Jun, Jul	
6_53	GJOA_6_1111	Oct to Apr	
6_56	GJOA_6_1111	Oct to Apr	
6_32	GJOA_6_1111	Year-round	
6_15	GJOA_6_1111	Oct to Apr	
6_36	GJOA_6_1111	Year-round	
7_14	GJOA_7_1111	Jun to Sep	Migrate north in the spring, migrate back south in the fall
7_15	GJOA_7_1111	Jul to Sep	
7_16	GJOA_7_1111	Jul to Sep	
7_17	GJOA_7_1111	Jul to Sep	
7_18	GJOA_7_1111	Year-round	Fish in the summer with weir, winter with gill nets
7_19	GJOA_7_1111	Jul to Sep	
7_20	GJOA_7_1111		
7_21	GJOA_7_1111		
7_22	GJOA_7_1111		
7_23	GJOA_7_1111		
7_24	GJOA_7_1111		
7_25	GJOA_7_1111		
7_26	GJOA_7_1111		
7_27	GJOA_7_1111		

Figure 7. Probability of occurrence for Lake Trout

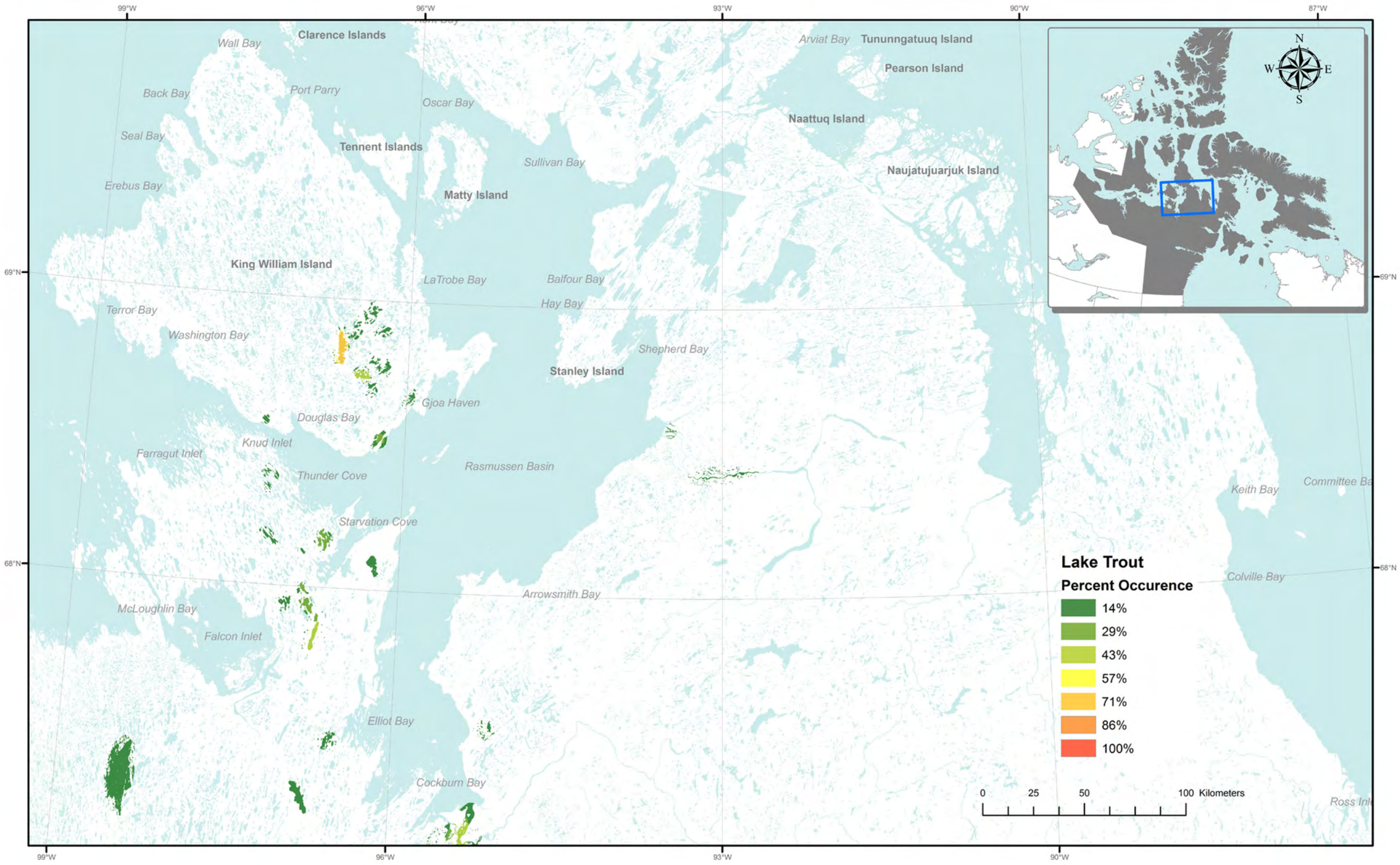


Table 6. Probability of occurrence for Lake Trout

MAP CODE	INTERVIEW CODE	MONTHS	COMMENTS
1_14	GJOA_1_1111	Mar to Jul	
1_15	GJOA_1_1111	May	
1_16	GJOA_1_1111	November	Community fishing derby area
1_17	GJOA_1_1111	November	
1_18	GJOA_1_1111	November	
2_15	GJOA_2_1111	Year-round	
2_16	GJOA_2_1111	Year-round	
2_17	GJOA_2_1111	Year-round	
2_18	GJOA_2_1111	Year-round	
2_19	GJOA_2_1111	Year-round	
2_20	GJOA_2_1111	Year-round	
2_21	GJOA_2_1111	June	
3_11	GJOA_3_1111	Apr, May	
3_12	GJOA_3_1111	Oct, Nov	
3_13	GJOA_3_1111	Oct to Jun	
3_14	GJOA_3_1111	Apr, May	
5_24	GJOA_5_1111	Jun to Aug	She dries fish in this area
5_25	GJOA_5_1111	Jun to Aug	She dries fish in this area
5_26	GJOA_5_1111	Jun to Aug	
5_27	GJOA_5_1111	May	
5_28	GJOA_5_1111	May, Jun	
5_29	GJOA_5_1111	May	Fishing at Back River
5_30	GJOA_5_1111	August	
5_31	GJOA_5_1111	August	
5_32	GJOA_5_1111	May	
5_33	GJOA_5_1111	May, Oct	
6_67	GJOA_6_1111	Oct to Apr	
6_54	GJOA_6_1111	Oct to Jun	
6_59	GJOA_6_1111	Oct to Jun	A lot of trout in this lake
6_27	GJOA_6_1111	Oct to Apr	
6_33	GJOA_6_1111	Oct to Apr	
6_65	GJOA_6_1111	Oct to Apr	
7_28	GJOA_7_1111	Sep to Apr	Mainly fall and winter with gillnets
7_29	GJOA_7_1111	Spring and Summer	
7_30	GJOA_7_1111		
7_31	GJOA_7_1111		
7_32	GJOA_7_1111	Nov to May	
7_33	GJOA_7_1111	Jul to Sep	
7_34	GJOA_7_1111	Oct Nov	

Figure 8. Probability of occurrence for Lake Whitefish

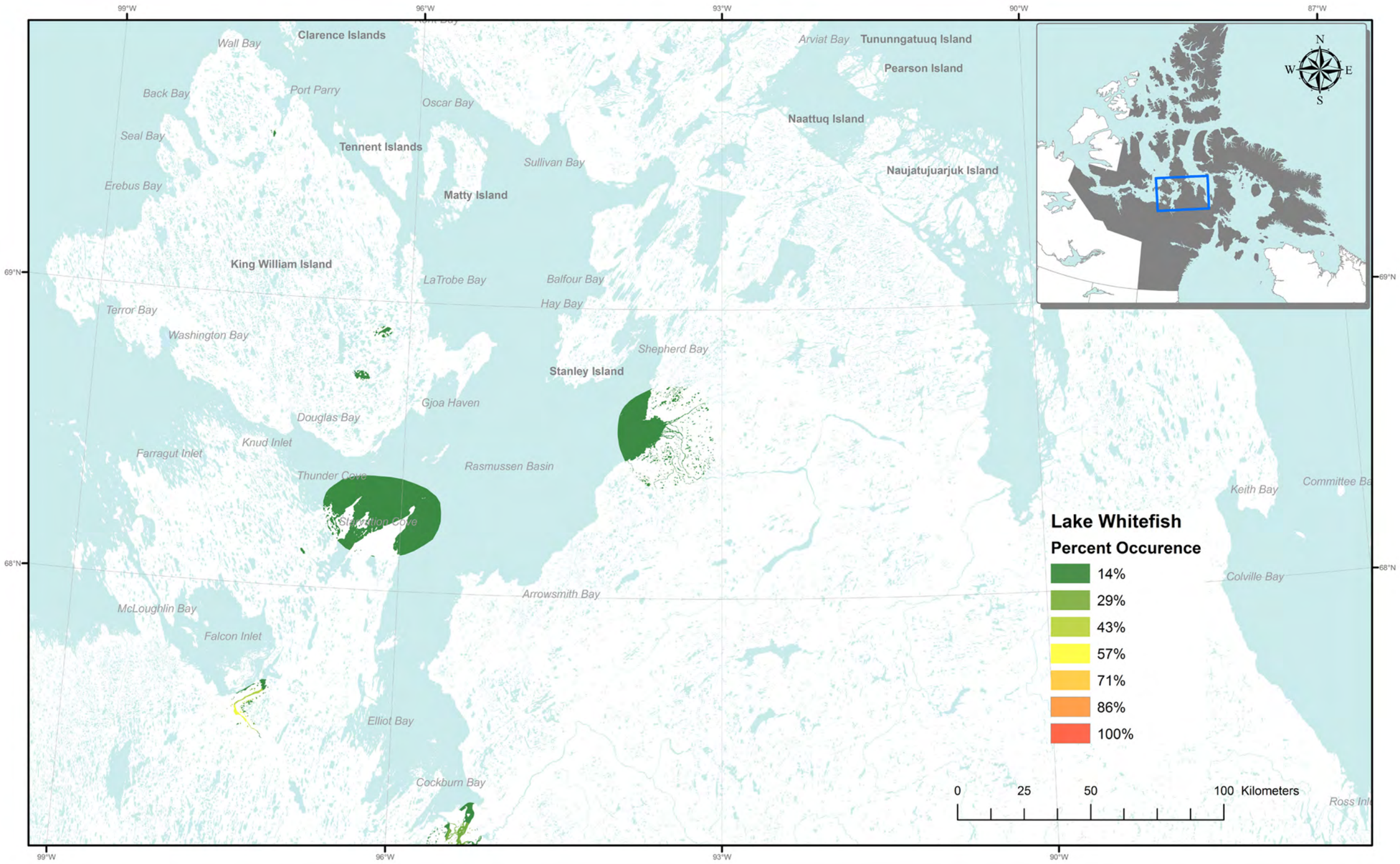


Table 7. Probability of occurrence for Lake Whitefish

MAP CODE	INTERVIEW CODE	MONTHS	COMMENTS
1_20	GJOA_1_1111	November	
1_21	GJOA_1_1111	November	
1_22S	GJOA_1_1111	November	
1_23S	GJOA_1_1111	November	
2_22	GJOA_2_1111	Oct, Nov	
6_14	GJOA_6_1111	Oct to Apr	Port Perry - Whitefish are often found in the same lakes as char
6_61	GJOA_6_1111	Oct to Apr	Kellett River - a lot of fish
6_44	GJOA_6_1111	Jun, Jul	
6_68	GJOA_6_1111	Sep to Apr	
6_31	GJOA_6_1111	Year-round	
7_35	GJOA_7_1111	Oct, Nov	
7_36	GJOA_7_1111	Oct, Nov	

Figure 9. Areas of Occurrence for Broad Whitefish, Round Whitefish, and Mountain Whitefish

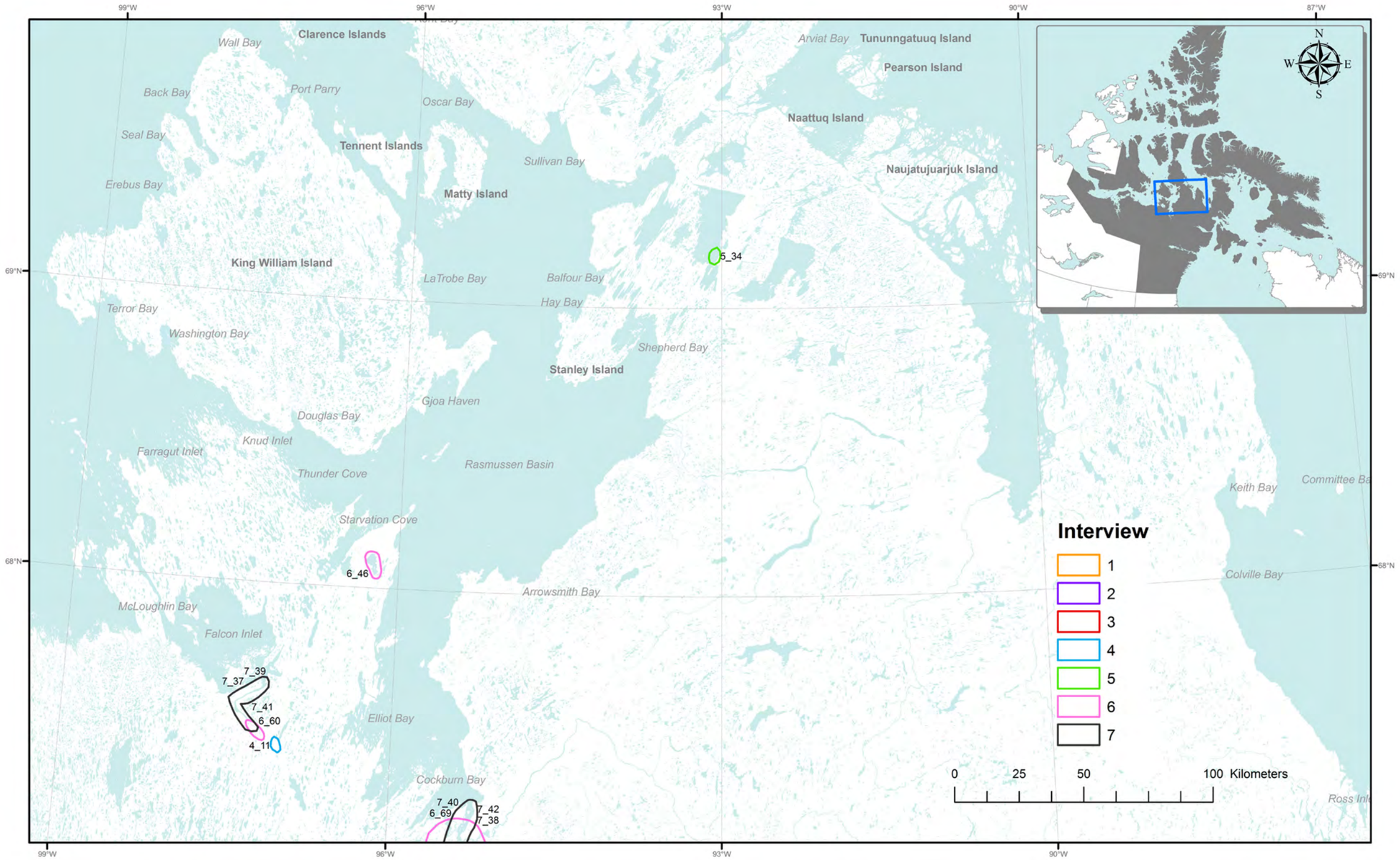


Table 8. Areas of occurrence for Broad Whitefish, Round Whitefish, and Mountain Whitefish

MAP CODE	INTERVIEW CODE	SPECIES	MONTHS
4_11H	GJOA_4_1111	Broad Whitefish	
5_34	GJOA_5_1111	Broad Whitefish	October
6_60	GJOA_6_1111	Broad Whitefish	Oct to Apr
6_46	GJOA_6_1111	Broad Whitefish	Oct to Apr
6_69	GJOA_6_1111	Broad Whitefish	Oct to Apr
7_37	GJOA_7_1111	Broad Whitefish	Oct, Nov
7_38	GJOA_7_1111	Broad Whitefish	Oct, Nov
7_39	GJOA_7_1111	Round Whitefish	Oct, Nov
7_40	GJOA_7_1111	Round Whitefish	Oct, Nov
7_41	GJOA_7_1111	Mountain Whitefish	Oct, Nov
7_42	GJOA_7_1111	Mountain Whitefish	Oct, Nov

Figure 10. Areas of occurrence for Lake Cisco, Least Cisco, and Arctic Cisco

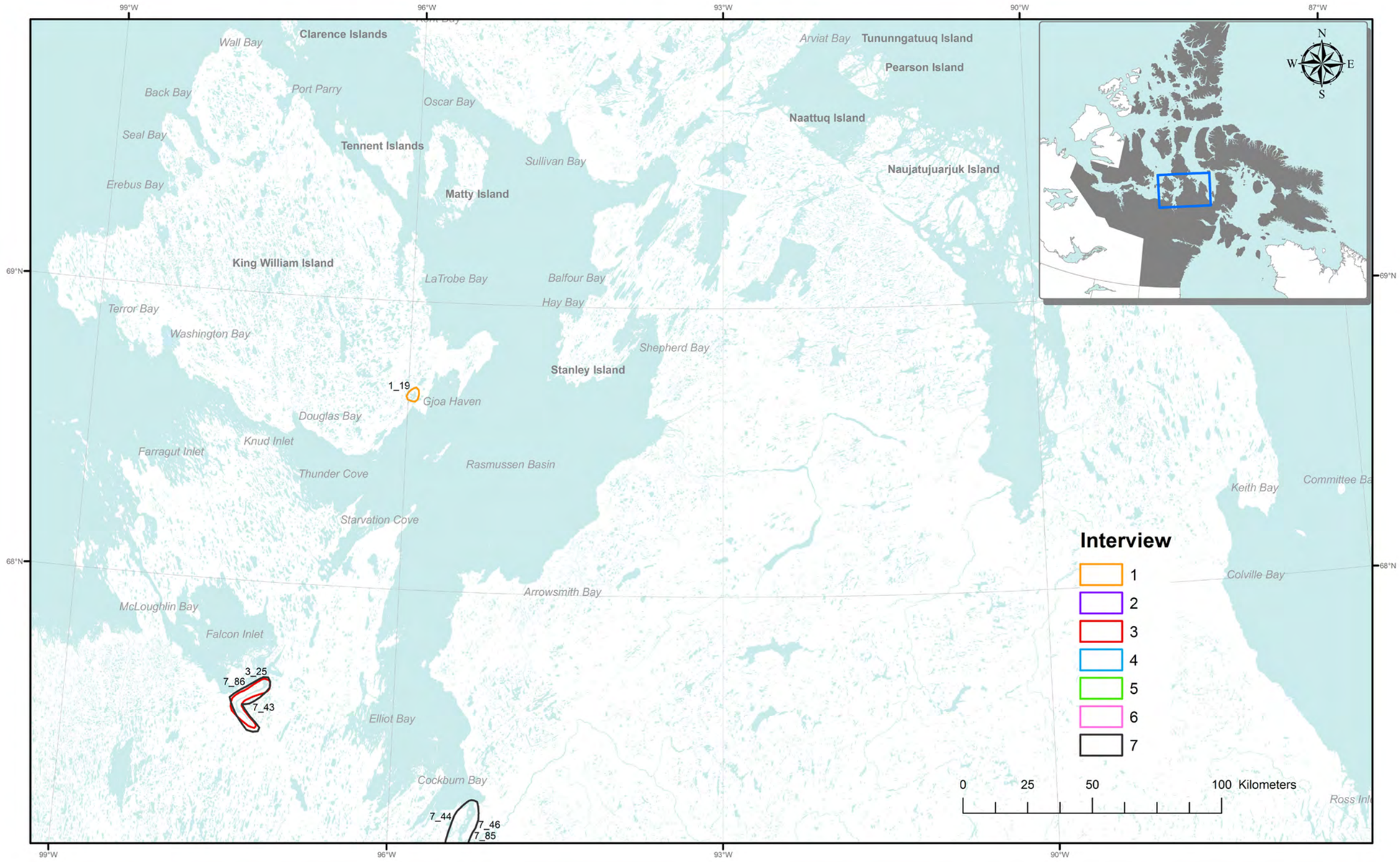


Table 9. Areas of occurrence for Lake Cisco, Least Cisco, and Arctic Cisco

MAP CODE	INTERVIEW CODE	SPECIES	MONTHS	COMMENTS
1_19	GJOA_1_1111	Lake Cisco	November	
3_25	GJOA_3_1111	Lake Cisco	Oct, Nov	Good tasting fish in the area
7_43	GJOA_7_1111	Lake Cisco	Oct, Nov	
7_44	GJOA_7_1111	Lake Cisco	Oct, Nov	
7_46	GJOA_7_1111	Least Cisco	Oct, Nov	
7_85	GJOA_7_1111	Arctic Cisco	Oct, Nov	
7_86	GJOA_7_1111	Arctic Cisco		

Figure 11. Areas of occurrence for Burbot

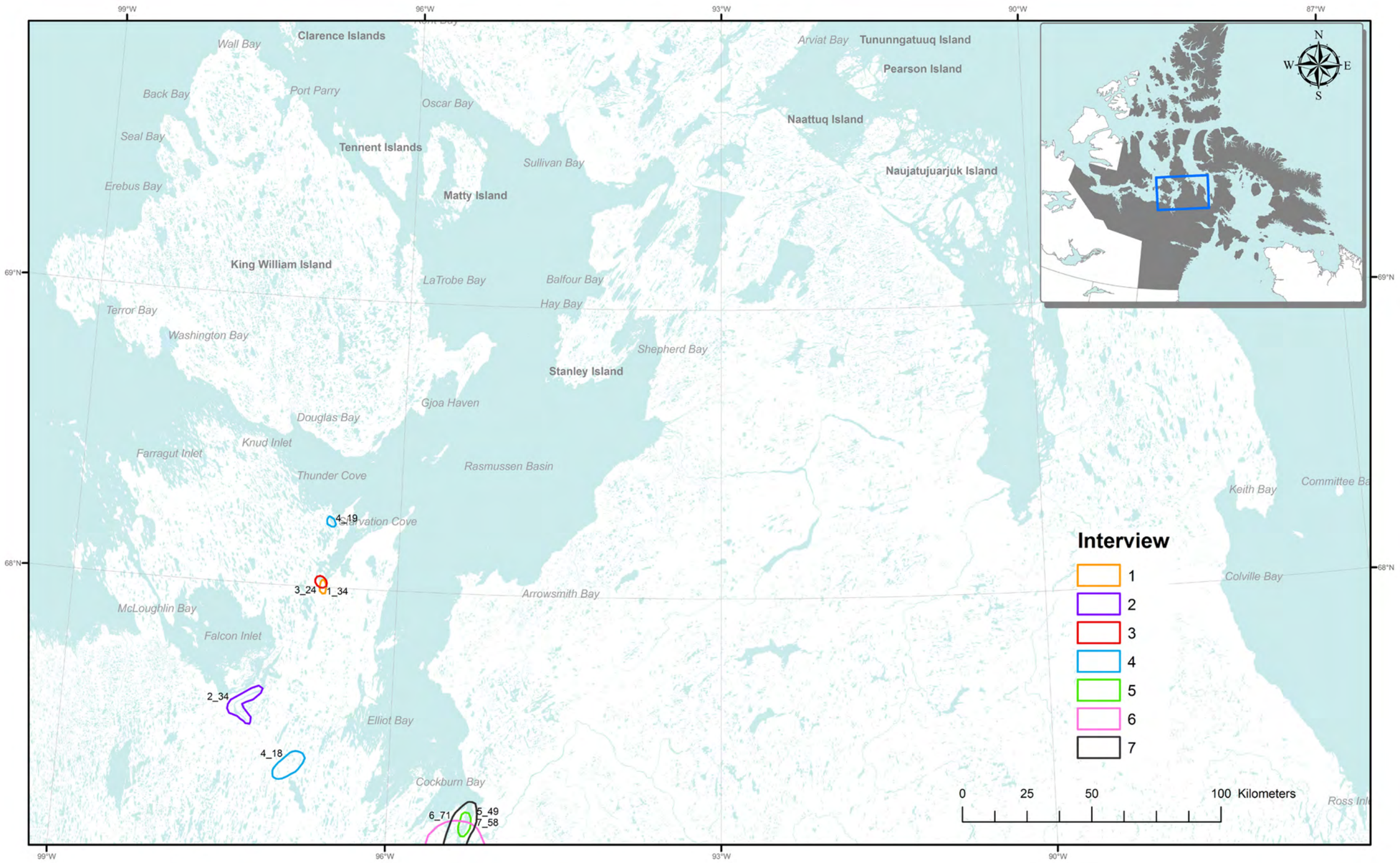


Table 10. Areas of occurrence for Burbot

MAP CODE	INTERVIEW CODE	MONTHS	COMMENTS
1_34	GJOA_1_1111	Jul, Aug	
2_34	GJOA_2_1111	Oct, Nov	Rare, gets caught in gillnets
3_24	GJOA_3_1111	August	
4_18H	GJOA_4_1111	Fall	
4_19H	GJOA_4_1111	Fall	
5_49	GJOA_5_1111	May	
6_71	GJOA_6_1111	Oct to Apr	
7_58	GJOA_7_1111	Jun to Sep	Fished at Back River area only

Figure 12. Areas of occurrence for Arctic Grayling

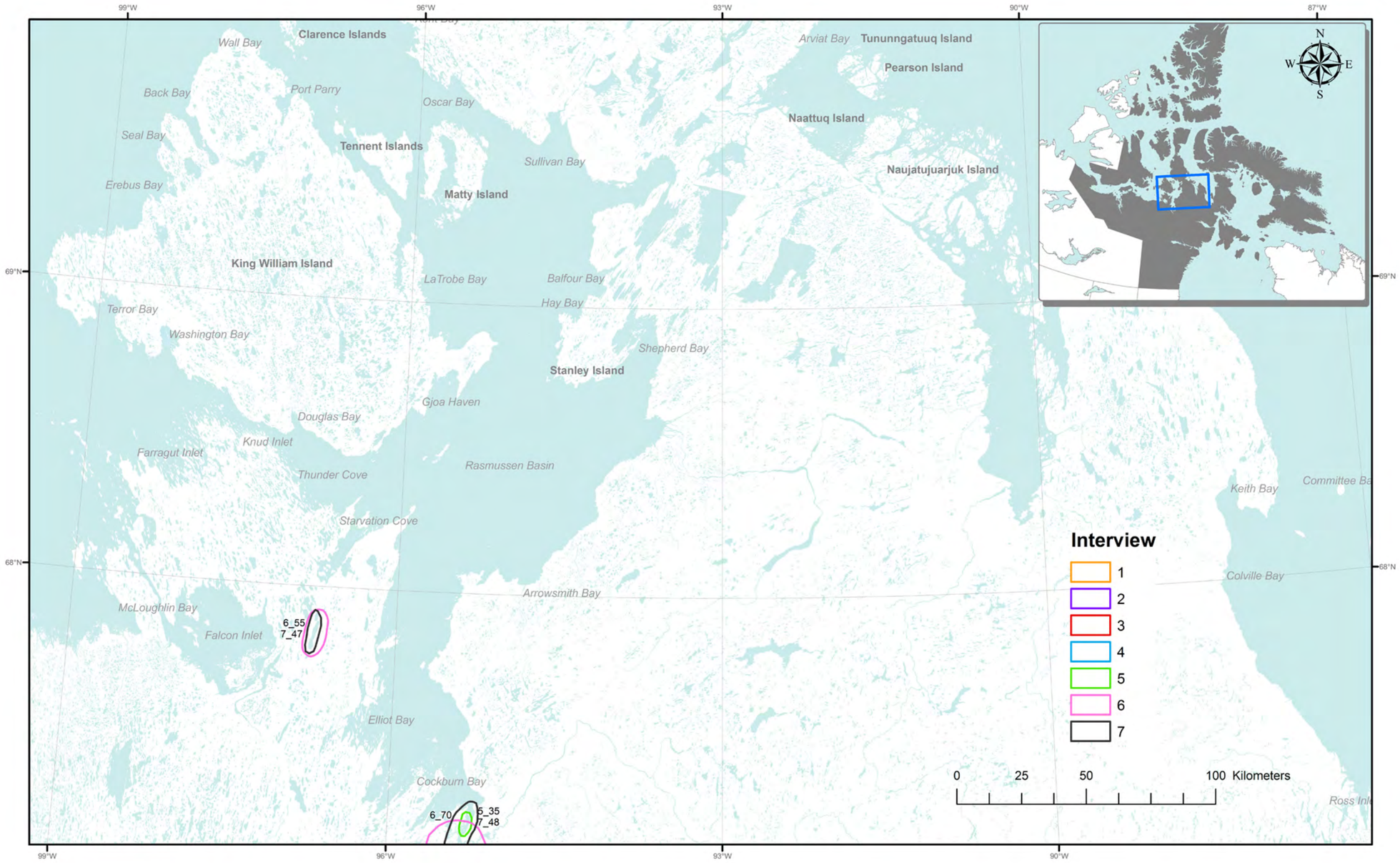


Table 11. Areas of occurrence for Arctic Grayling

MAP CODE	INTERVIEW CODE	MONTHS	COMMENTS
5_35	GJOA_5_1111	May	
6_55	GJOA_6_1111	Oct to Apr	Mainland only
6_70	GJOA_6_1111	Oct to Apr	Mainland only
7_47	GJOA_7_1111	Oct, Nov	Sees it only on the mainland, not on King William Island
7_48	GJOA_7_1111		

Figure 13. Areas of occurrence for Arctic Cod*, Greenland Cod*, and Atlantic Cod*

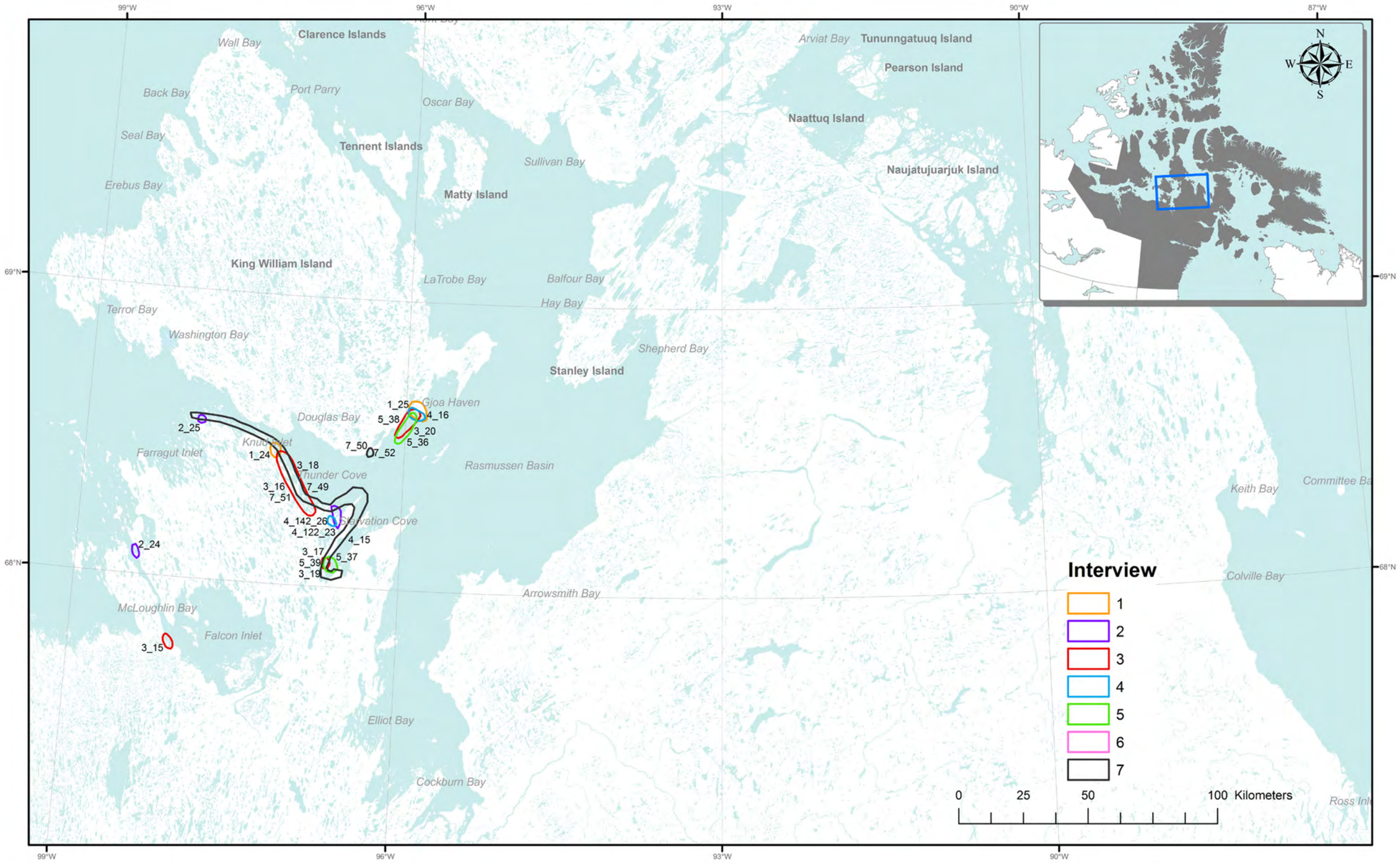


Table 12. Areas of occurrence for Arctic Cod, Greenland Cod, and Atlantic Cod

MAP CODE	INTERVIEW CODE	SPECIES	MONTHS	COMMENTS
1_24	GJOA_1_1111	Arctic Cod	Jun, Jul	
1_25	GJOA_1_1111	Arctic Cod	Nov, Dec	
2_23	GJOA_2_1111	Arctic Cod	Mar, Apr	
2_24	GJOA_2_1111	Arctic Cod	Mar to May	
2_25	GJOA_2_1111	Arctic Cod	Mar to May	
3_15	GJOA_3_1111	Arctic Cod	April	
3_16	GJOA_3_1111	Arctic Cod	April	
3_17	GJOA_3_1111	Arctic Cod	April	
4_14	GJOA_4_1111	Arctic Cod	October	
7_51	GJOA_7_1111	Arctic Cod		
7_52	GJOA_7_1111	Arctic Cod		
2_26	GJOA_2_1111	Greenland Cod	Mar, Apr	
3_18	GJOA_3_1111	Greenland Cod	April	
3_19	GJOA_3_1111	Greenland Cod	April	
3_20	GJOA_3_1111	Greenland Cod	April	
4_15H	GJOA_4_1111	Greenland Cod	May	
4_16	GJOA_4_1111	Greenland Cod	October	
5_38	GJOA_5_1111	Greenland Cod	May to Aug	
5_39	GJOA_5_1111	Greenland Cod	August	
4_12H	GJOA_4_1111	Atlantic Cod	May, Jun	
5_36	GJOA_5_1111	Atlantic Cod	May to Aug	
5_37	GJOA_5_1111	Atlantic Cod	August	
7_49	GJOA_7_1111	Atlantic Cod		
7_50	GJOA_7_1111	Atlantic Cod		
2_27E	GJOA_2_1111	Greenland Cod	Year-round	Everywhere
6_93E	GJOA_6_1111	Greenland Cod	Year-round	Everywhere
6_91E	GJOA_6_1111	Atlantic Cod	Year-round	Everywhere
6_92E	GJOA_6_1111	Arctic Cod	Year-round	Everywhere. Get caught in nets, he doesn't fish them specifically

Figure 14. Areas of occurrence for Winter Flounder, Starry Flounder, and Arctic Flounder

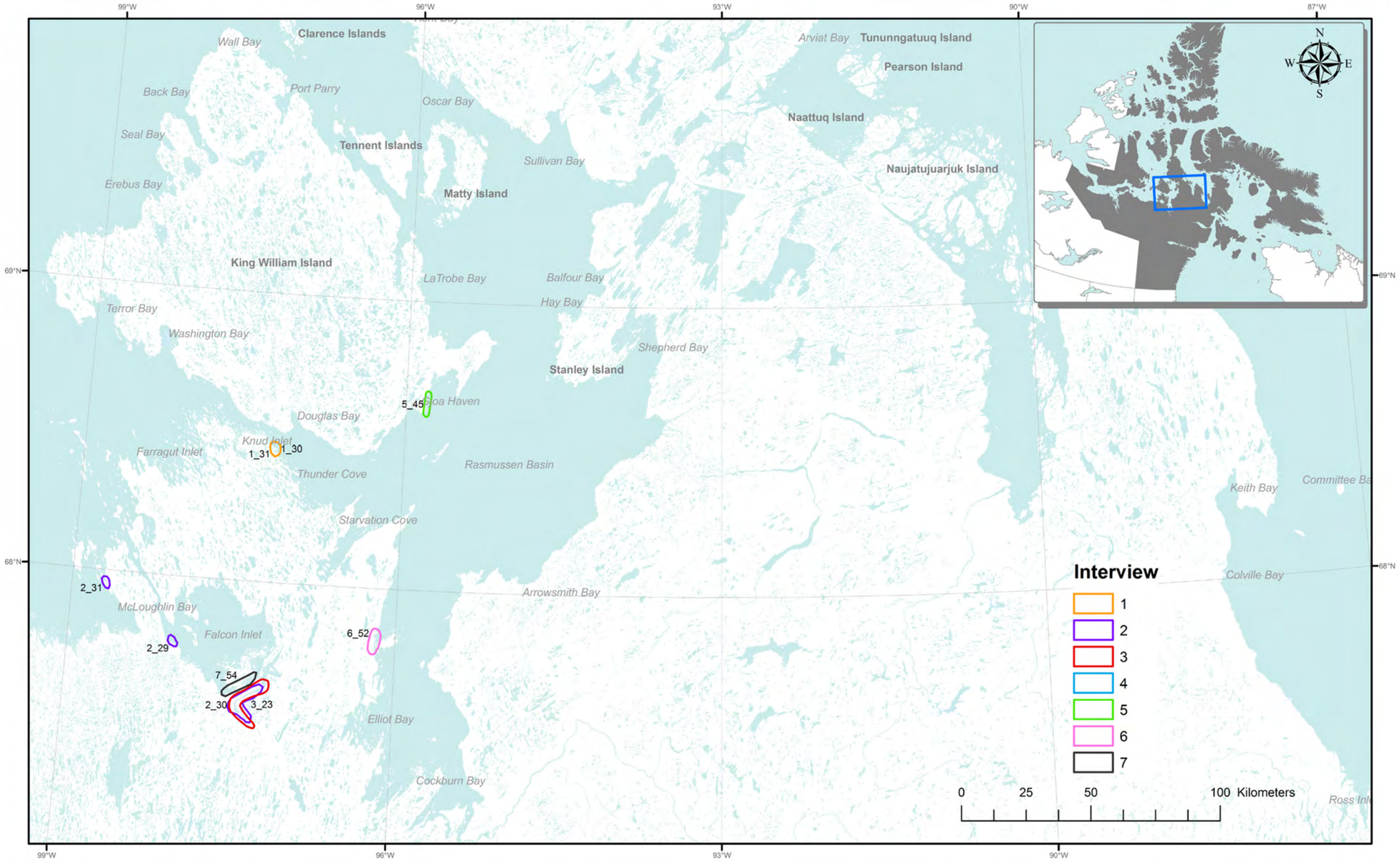
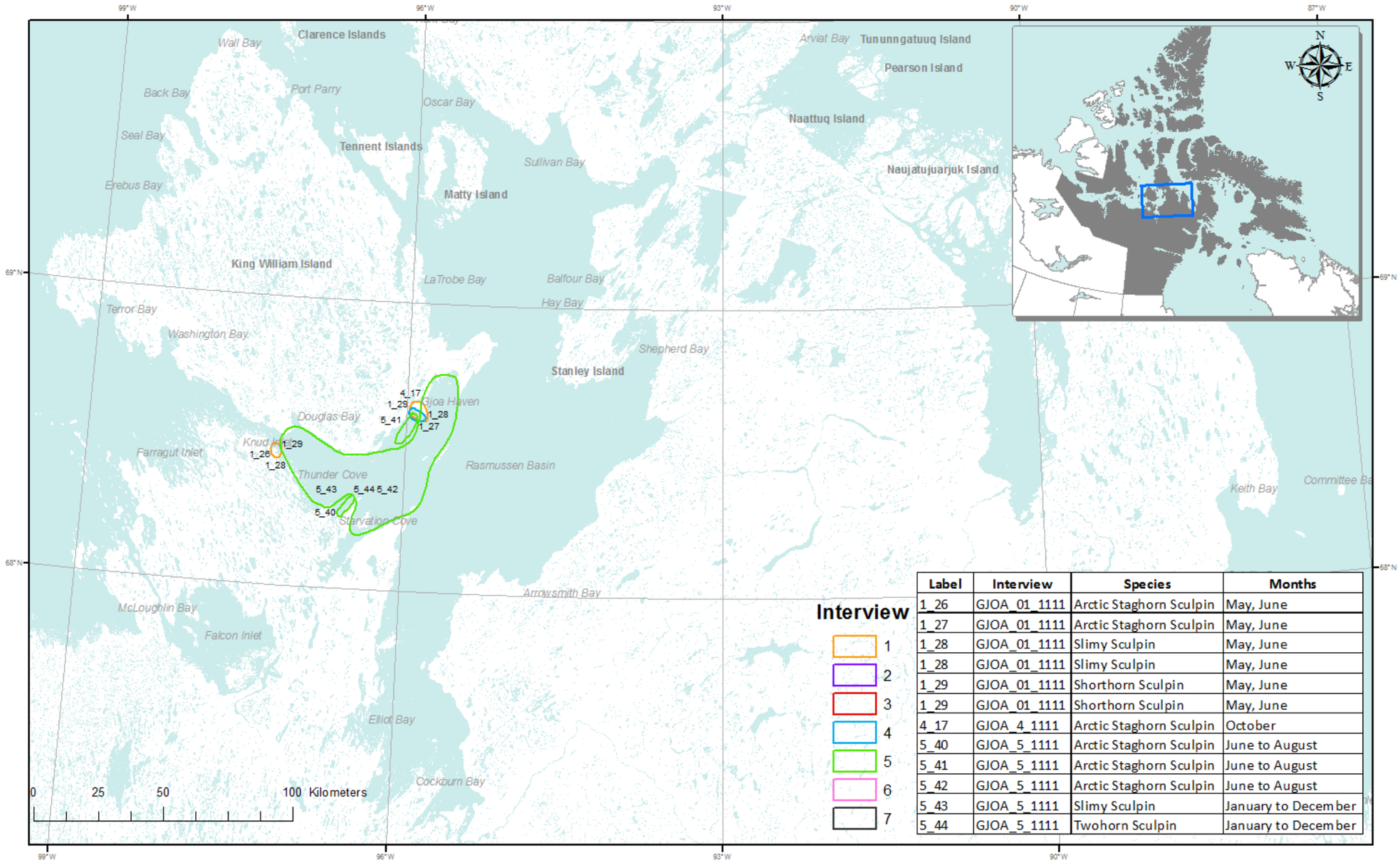


Table 13. Areas of occurrence for Winter Flounder, Starry Flounder, and Arctic Flounder

MAP CODE	INTERVIEW CODE	SPECIES	MONTHS	COMMENTS
1_30	GJOA_1_1111	Winter Flounder	May, Jun	
2_29	GJOA_2_1111	Winter Flounder	July	
2_30	GJOA_2_1111	Winter Flounder	July	
2_31	GJOA_2_1111	Winter Flounder	July	
3_23	GJOA_3_1111	Winter Flounder	November	They don't fish them, usually get caught in nets
5_45	GJOA_5_1111	Winter Flounder	August	
6_52	GJOA_6_1111	Starry Flounder	Jul to Sep	
7_54	GJOA_7_1111	Starry Flounder		Found anywhere rivers flow into the ocean
1_31	GJOA_01_1111	Arctic Flounder	May, Jun	

Figure 15. Areas of occurrence for Arctic Staghorn Sculpin*, Slimy Sculpin, Shorthorn Sculpin*, and Twohorn Sculpin*



Label	Interview	Species	Months
1_26	GJOA_01_1111	Arctic Staghorn Sculpin	May, June
1_27	GJOA_01_1111	Arctic Staghorn Sculpin	May, June
1_28	GJOA_01_1111	Slimy Sculpin	May, June
1_28	GJOA_01_1111	Slimy Sculpin	May, June
1_29	GJOA_01_1111	Shorthorn Sculpin	May, June
1_29	GJOA_01_1111	Shorthorn Sculpin	May, June
4_17	GJOA_4_1111	Arctic Staghorn Sculpin	October
5_40	GJOA_5_1111	Arctic Staghorn Sculpin	June to August
5_41	GJOA_5_1111	Arctic Staghorn Sculpin	June to August
5_42	GJOA_5_1111	Arctic Staghorn Sculpin	June to August
5_43	GJOA_5_1111	Slimy Sculpin	January to December
5_44	GJOA_5_1111	Twohorn Sculpin	January to December

Table 14. Areas of occurrence for Arctic Staghorn Sculpin, Slimy Sculpin, Shorthorn Sculpin, and Twohorn Sculpin

MAP CODE	INTERVIEW CODE	SPECIES	MONTHS	COMMENTS
1_26	GJOA_1_1111	Arctic Staghorn Sculpin	May, Jun	
1_27	GJOA_01_1111	Arctic Staghorn Sculpin	May, Jun	
4_17	GJOA_4_1111	Arctic Staghorn Sculpin	October	
5_40	GJOA_5_1111	Arctic Staghorn Sculpin	Jun to Aug	
5_41	GJOA_5_1111	Arctic Staghorn Sculpin	Jun to Aug	
5_42	GJOA_5_1111	Arctic Staghorn Sculpin	Jun to Aug	
1_28	GJOA_1_1111	Slimy Sculpin	May, Jun	
1_28	GJOA_1_1111	Slimy Sculpin	May, Jun	
5_43	GJOA_5_1111	Slimy Sculpin	Year-round	
1_29	GJOA_1_1111	Shorthorn Sculpin	May, Jun	
1_29	GJOA_1_1111	Shorthorn Sculpin	May, Jun	
5_44	GJOA_5_1111	Twohorn Sculpin	Year-round	
2_28E	GJOA_2_1111	Arctic Staghorn Sculpin	Year-round	Everywhere
3_21E	GJOA_3_1111	Arctic Staghorn Sculpin	Year-round	Everywhere
6_94E	GJOA_6_1111	Arctic Staghorn Sculpin		Everywhere
3_22E	GJOA_3_1111	Twohorn Sculpin	Year-round	Everywhere
6_95E	GJOA_6_1111	Shorthorn Sculpin		Everywhere
6_96E	GJOA_6_1111	Mailed Sculpin		Everywhere

Figure 16. Areas of occurrence for Capelin*, Ninespine Stickleback*, Polar Eelpout, and Inconnu

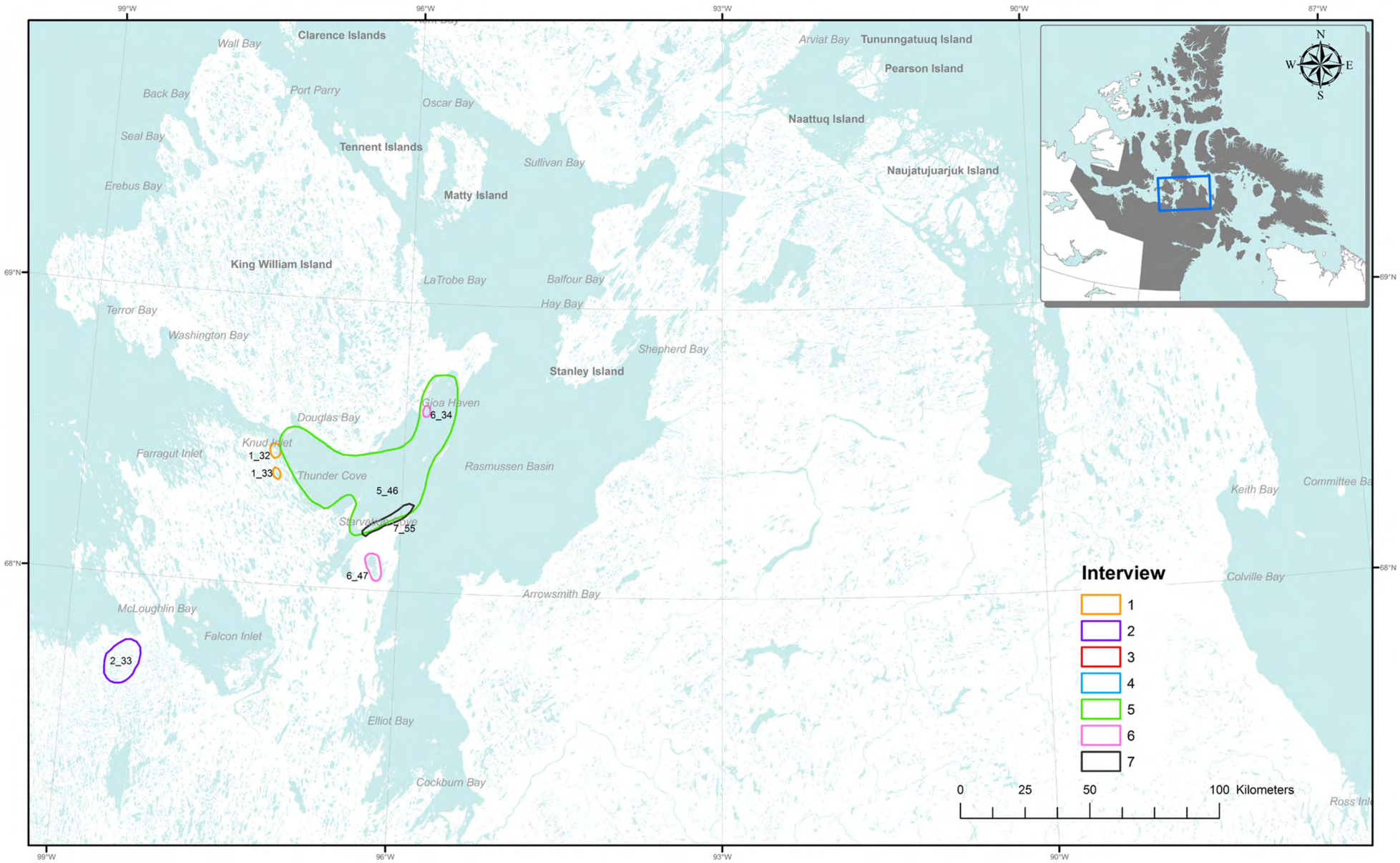
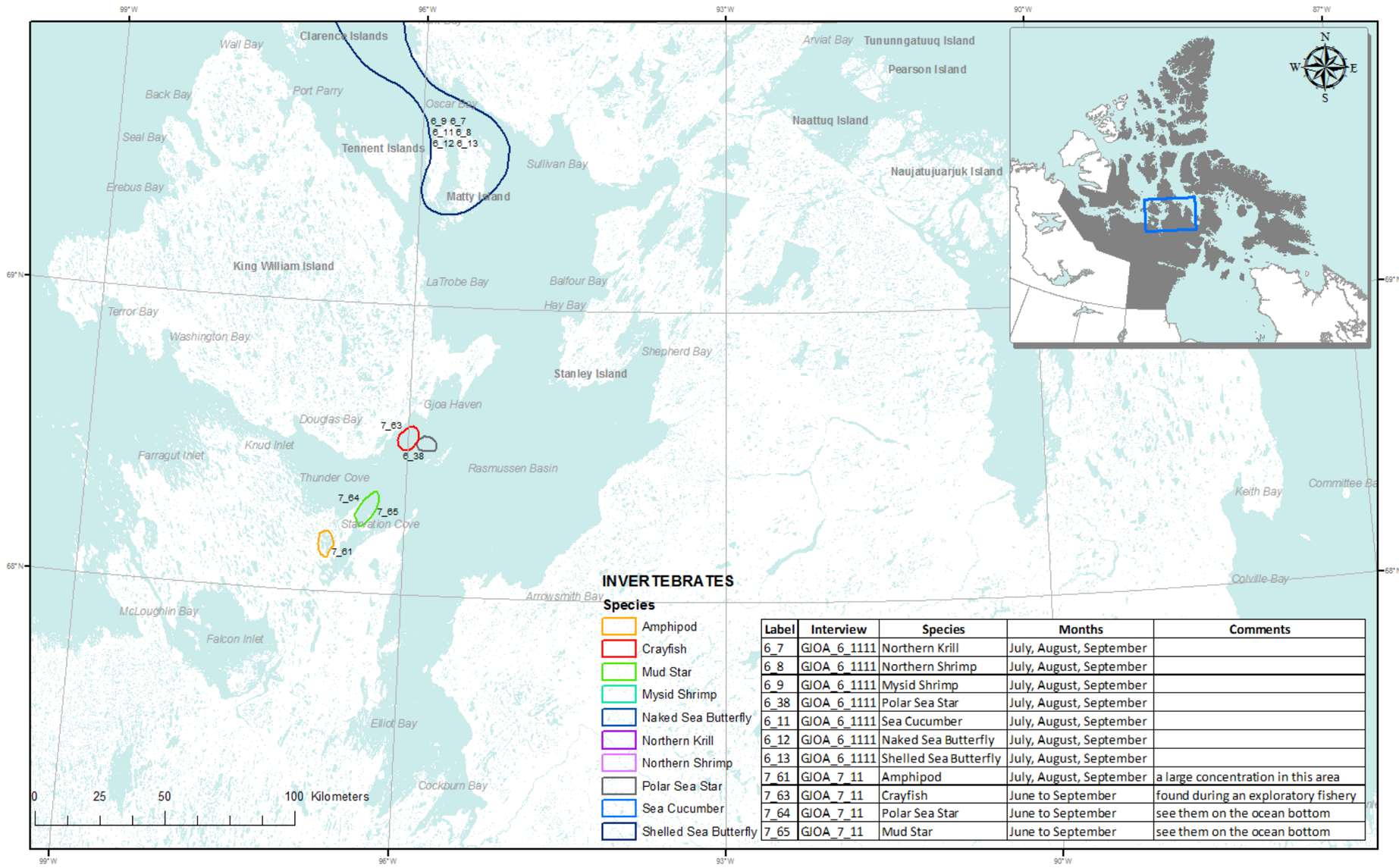


Table 15. Areas of occurrence for Capelin, Ninespine Stickleback, Polar Eelpout, and Inconnu

MAP CODE	INTERVIEW CODE	SPECIES	MONTHS	COMMENTS
1_32	GJOA_1_1111	Capelin	May, Jun	
5_46	GJOA_5_1111	Capelin	Jul, Aug	
7_55	GJOA_7_1111	Capelin	Jun to Aug	
1_33	GJOA_1_1111	Ninespine Stickleback	August	They harvest them when they are abundant
2_33	GJOA_2_1111	Ninespine Stickleback	May to Jul	Found in wetland on the mainland
6_47	GJOA_6_1111	Inconnu	Oct to Apr	
6_34	GJOA_6_1111	Polar Eelpout	Jul to Sep	
2_32E	GJOA_2_1111	Capelin	August	Everywhere
6_97E	GJOA_6_1111	Capelin		Everywhere
6_98E	GJOA_6_1111	Pacific Herring		Everywhere
6_99E	GJOA_6_1111	Ninespine Stickleback		Everywhere
7_56E	GJOA_7_1111	Ninespine Stickleback	Jun to Sep	Everywhere. All freshwater
6_100E	GJOA_6_1111	Threespine Stickleback		Everywhere
7_57E	GJOA_7_1111	Threespine Stickleback	Jun to Sep	Everywhere. All freshwater

Figure 17. Areas of occurrence for Arctic Moonsnail, Flexed Gyro, Clam, Blue Mussel, Northern Horse Mussel, Whelk, Tortoiseshell Limpet, Toad Crab, and Sea Urchin*



Label	Interview	Species	Months	Comments
6_7	GJOA_6_1111	Northern Krill	July, August, September	
6_8	GJOA_6_1111	Northern Shrimp	July, August, September	
6_9	GJOA_6_1111	Mysid Shrimp	July, August, September	
6_38	GJOA_6_1111	Polar Sea Star	July, August, September	
6_11	GJOA_6_1111	Sea Cucumber	July, August, September	
6_12	GJOA_6_1111	Naked Sea Butterfly	July, August, September	
6_13	GJOA_6_1111	Shelled Sea Butterfly	July, August, September	
7_61	GJOA_7_11	Amphipod	July, August, September	a large concentration in this area
7_63	GJOA_7_11	Crayfish	June to September	found during an exploratory fishery
7_64	GJOA_7_11	Polar Sea Star	June to September	see them on the ocean bottom
7_65	GJOA_7_11	Mud Star	June to September	see them on the ocean bottom

Table 16. Areas of occurrence for Arctic Moonsnail, Flexed Gyro, Clam, Blue Mussel, Northern Horse Mussel, Whelk, Tortoiseshell Limpet, Toad Crab, and Sea Urchin

MAP CODE	INTERVIEW CODE	SPECIES	MONTHS	COMMENTS
5_50	GJOA_5_1111	Arctic Moonsnail	Jul, Aug	
6_49	GJOA_6_1111	Arctic Moonsnail	Jul to Sep	
5_51	GJOA_5_1111	Flexed Gyro	Jul, Aug	
6_50	GJOA_6_1111	Flexed Gyro	Jul to Sep	
5_52	GJOA_5_1111	Clam	Jul, Aug	Sees them attached to Kelp
6_39	GJOA_6_1111	Clam	Jul to Sep	
7_59	GJOA_7_1111	Clam	Jun to Sep	Seen anywhere along the coast, on sea weed
5_53	GJOA_5_1111	Mussel	Jul, Aug	Sees them attached to Kelp
6_40	GJOA_6_1111	Mussel	Jul to Sep	
6_41	GJOA_6_1111	Northern Horse Mussel	Jul to Sep	
6_48	GJOA_6_1111	Whelk	Jul to Sep	
6_51	GJOA_6_1111	Tortoiseshell Limpet	Jul to Sep	
6_37	GJOA_6_1111	Toad Crab	Jul to Sep	
7_66	GJOA_7_1111	Sea Urchin	Jun to Sep	See them while fishing
6_102E	GJOA_6_1111	Sea Urchin	Jul to Sep	Everywhere

Figure 18. Areas of occurrence for Northern Krill, Northern Shrimp, Mysid Shrimp, Polar Sea Star, Sea Cucumber, Naked Sea Butterfly, Shelled Sea Butterfly, Amphipod*, and Crayfish

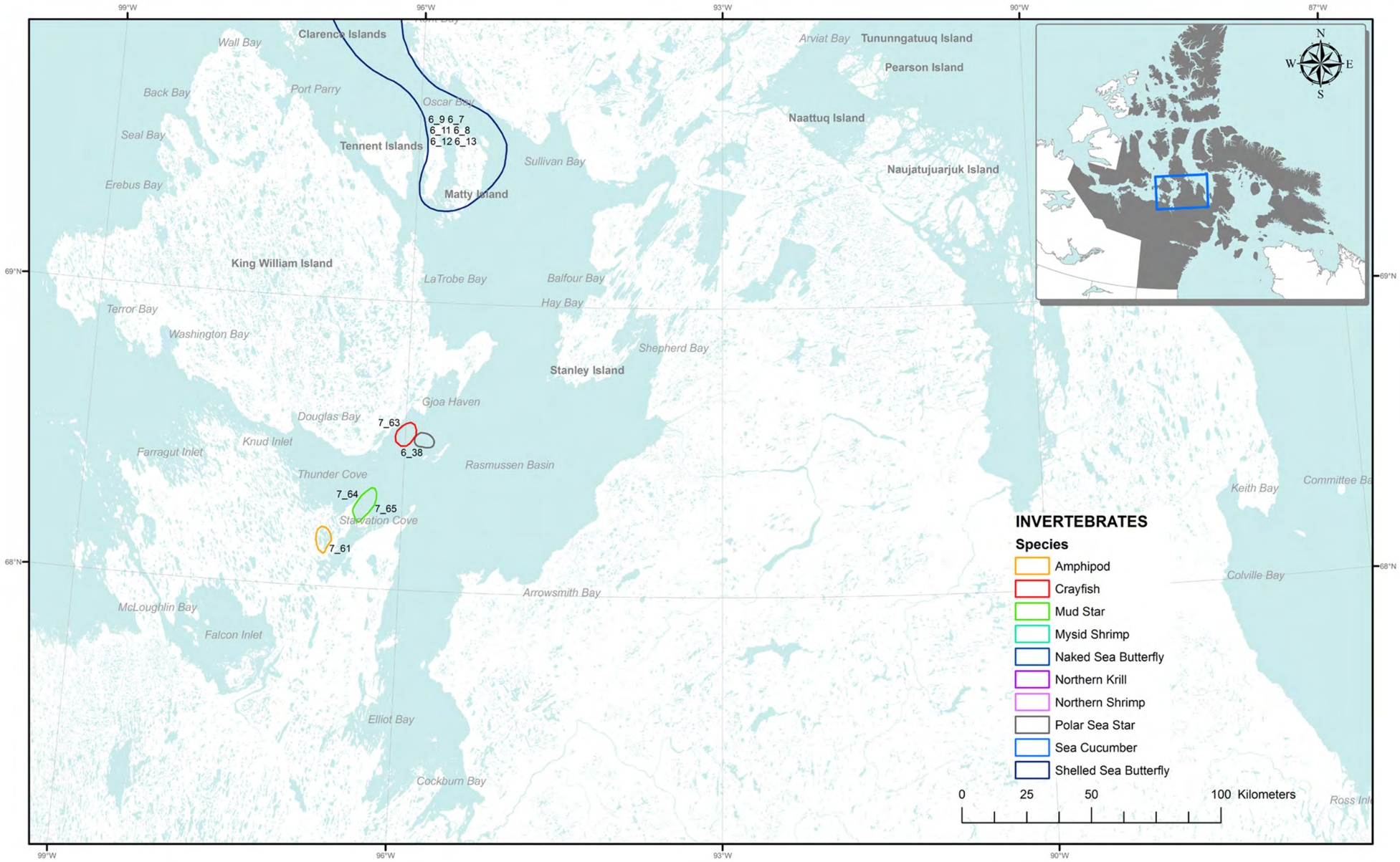


Table 17. Areas of occurrence for Northern Krill, Northern Shrimp, Mysid Shrimp, Polar Sea Star, Sea Cucumber, Naked Sea Butterfly, Shelled Sea Butterfly, Amphipod, and Crayfish

MAP CODE	INTERVIEW CODE	SPECIES	MONTHS	COMMENTS
6_7	GJOA_6_1111	Northern Krill	Jul to Sep	
6_8	GJOA_6_1111	Northern Shrimp	Jul to Sep	
6_9	GJOA_6_1111	Mysid Shrimp	Jul to Sep	
6_38	GJOA_6_1111	Polar Sea Star	Jul to Sep	
7_64	GJOA_7_1111	Polar Sea Star	Jun to Sep	See them on the ocean bottom
6_11	GJOA_6_1111	Sea Cucumber	Jul to Sep	
6_12	GJOA_6_1111	Naked Sea Butterfly	Jul to Sep	
6_13	GJOA_6_1111	Shelled Sea Butterfly	Jul to Sep	
7_61	GJOA_7_1111	Amphipod	Jul to Sep	A large concentration in this area
7_63	GJOA_7_1111	Crayfish	Jun to Sep	Found during an exploratory fishery
6_101E	GJOA_6_1111	Amphipod	Jul to Sep	Everywhere
7_61E	GJOA_7_1111	Amphipod	Jul to Sep	Everywhere. A large concentration in this area
7_62E	GJOA_7_1111	Amphipod	Jun to Sep	Everywhere
2_35E	GJOA_2_1111	Jellyfish	Jun to Aug	Everywhere
5_55E	GJOA_5_1111	Jellyfish	Jul to Sep	Everywhere. Sees them when traveling by boat
6_103E	GJOA_6_1111	Jellyfish	Jul to Sep	Everywhere
6_104E	GJOA_6_1111	Ctenophore	Jul to Sep	Everywhere

Figure 19. Probability of occurrence for Ringed Seal*

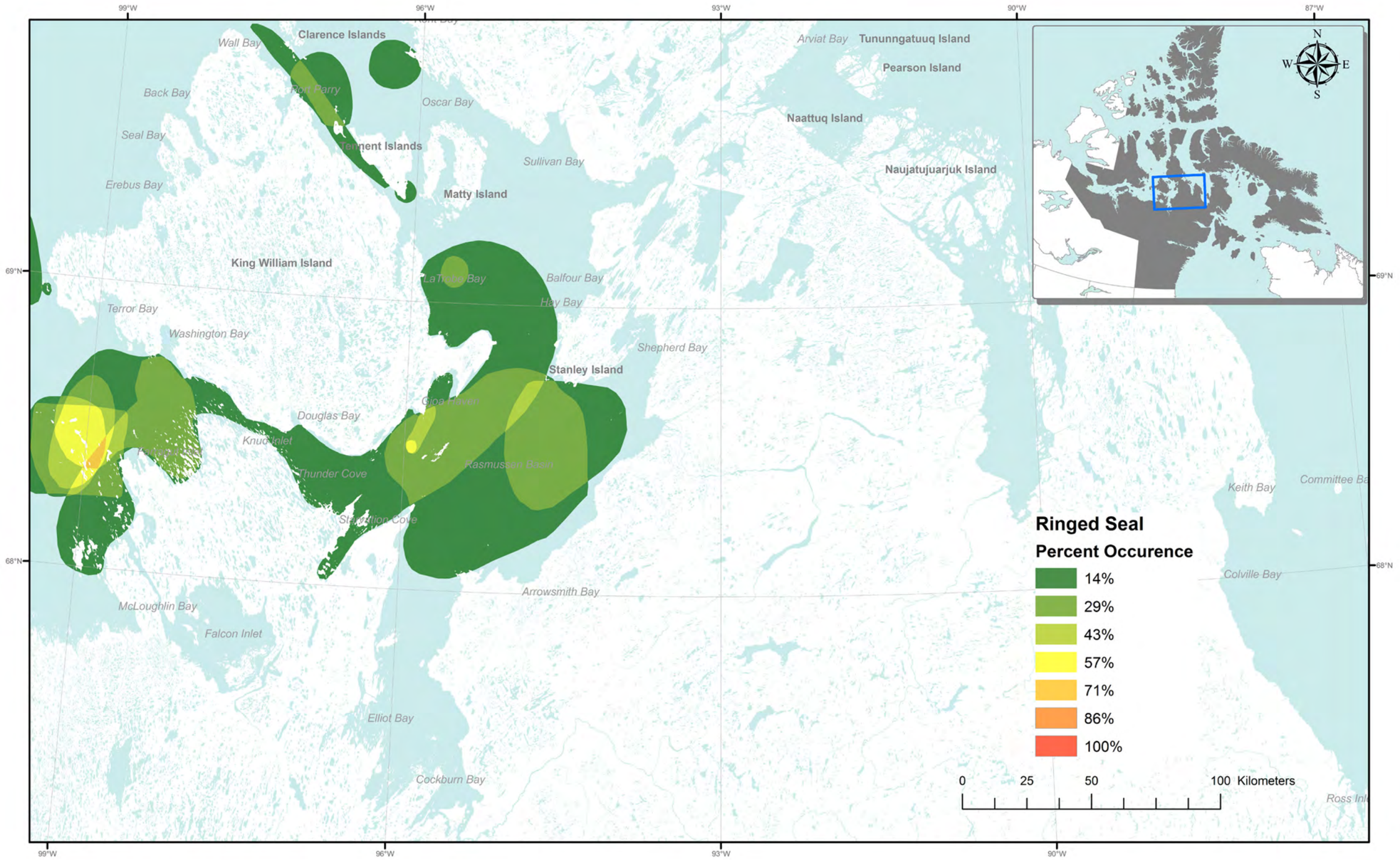


Table 18. Probability of occurrence for Ringed Seal

MAP CODE	INTERVIEW CODE	MONTHS	COMMENTS
1_40	GJOA_1_1111	May to Oct	
1_41	GJOA_1_1111	May to Oct	
2_37	GJOA_2_1111	September	
2_38	GJOA_2_1111	June	Ringed seal are plentiful in the area
2_39	GJOA_2_1111	September	
3_27	GJOA_3_1111	May	Seals pup everywhere - no specific spot
3_28	GJOA_3_1111	May	
4_20H	GJOA_4_1111	Jun to Aug	
5_58	GJOA_5_1111	Oct to Jun	
6_3	GJOA_6_1111	Year-round	
6_75	GJOA_6_1111	Year-round	
6_20	GJOA_6_1111	Year-round	
6_16	GJOA_6_1111	Year-round	
7_68	GJOA_7_1111	Year-round	Sherman Basin every year
5_59E	GJOA_5_1111	Oct to Jun	Ringed seals are seen everywhere

Figure 20. Probability of occurrence for Bearded Seal

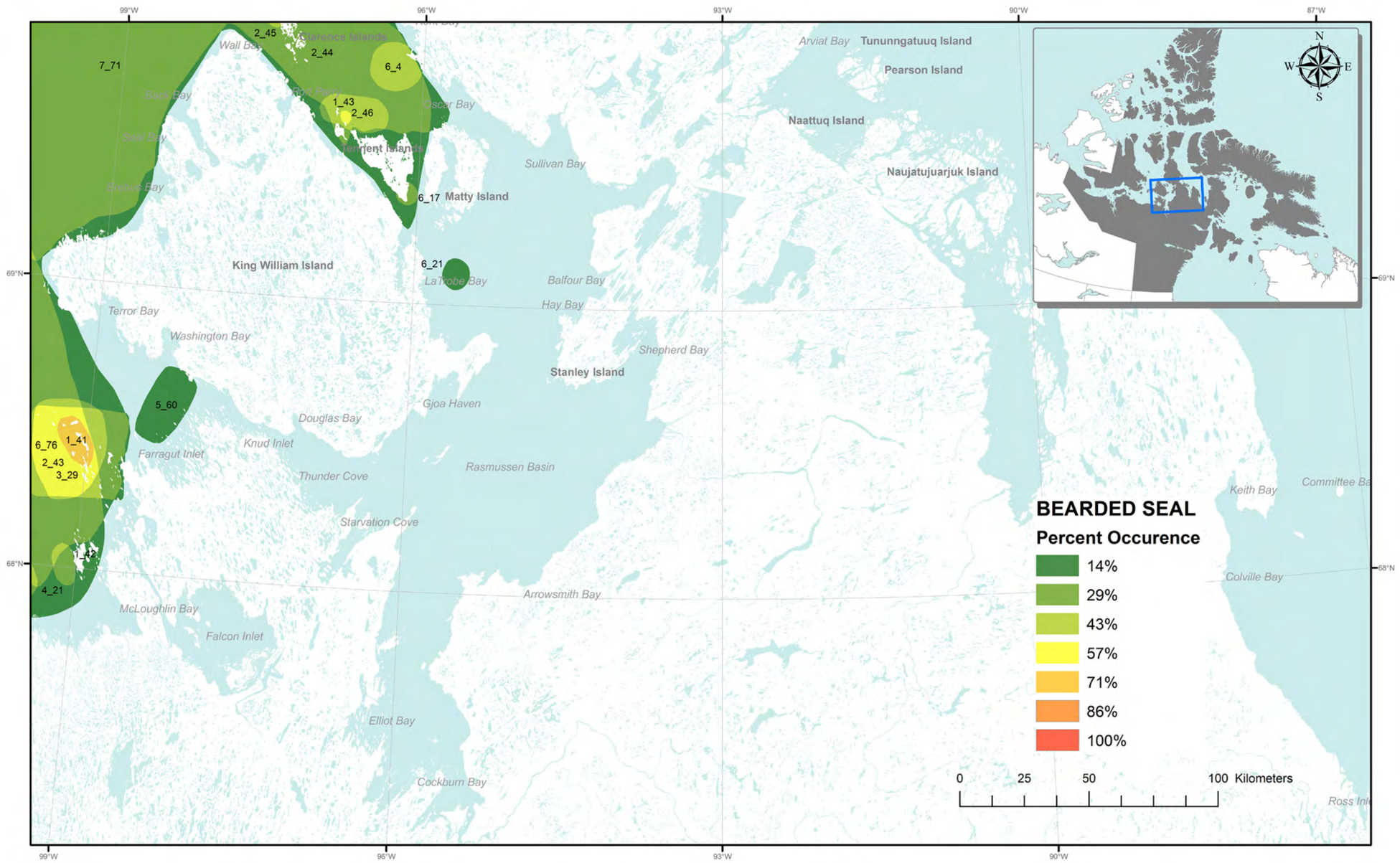


Table 19. Probability of occurrence for Bearded Seal

MAP CODE	INTERVIEW CODE	MONTHS	COMMENTS
1_41	GJOA_1_1111	Apr to Jun	
1_43	GJOA_1_1111	Apr to Jun	
2_43	GJOA_2_1111	Year-round	
2_44	GJOA_2_1111	Year-round	
2_45	GJOA_2_1111		Abundant in the area
2_46	GJOA_2_1111		Abundant in the area
3_29	GJOA_3_1111	May	Bearded seals have a migration pattern, the location is off the map
4_21	GJOA_4_1111	July	
5_60	GJOA_5_1111	Apr, May	
6_4	GJOA_6_1111	Year-round	
6_17	GJOA_6_1111	Year-round	
6_21	GJOA_6_1111	Year-round	
6_76	GJOA_6_1111	Year-round	
7_71	GJOA_7_1111	Dec to May	Same range as the Polar bear

Figure 21. Areas of occurrence for Hooded Seal, and Harp Seal

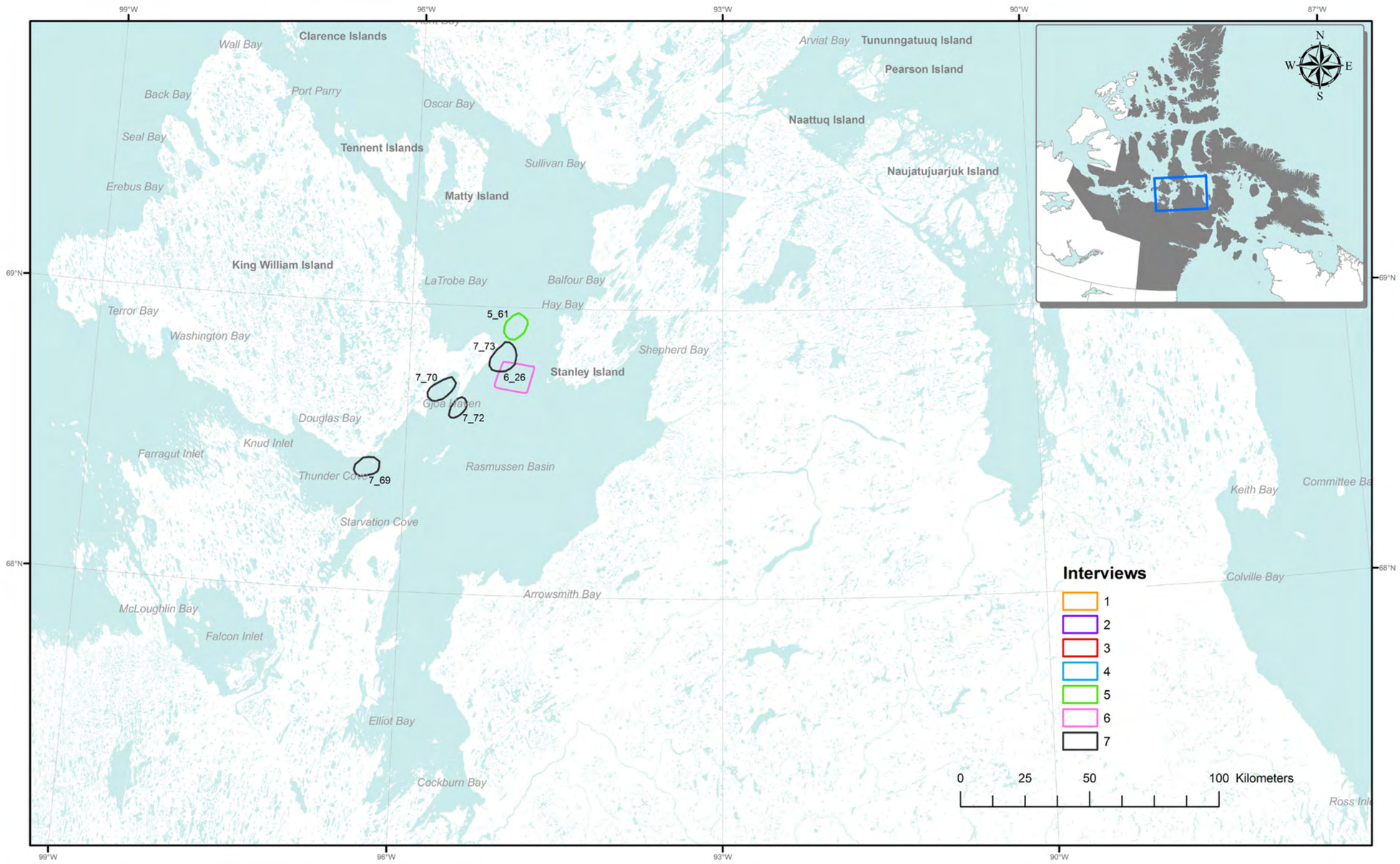


Table 20. Areas of occurrence for Hooded Seal, and Harp Seal

MAP CODE	INTERVIEW CODE	SPECIES	MONTHS	COMMENTS
5_61	GJOA_5_1111	Hooded Seal	May	Saw one with binoculars, someone from the community caught one a few years ago
6_26	GJOA_6_1111	Hooded Seal	October	Saw one about ten years ago
7_72	GJOA_7_1111	Hooded Seal	November	Shot one in the fall
7_73	GJOA_7_1111	Hooded Seal	May, Jun	Found dead in the spring
7_69	GJOA_7_1111	Harp Seal	November	Found one on the ice - he lost its hole Occasionally see them near Gjoa Haven
7_70	GJOA_7_1111	Harp Seal	November	Caught one in this area last week

Figure 22. Probability of occurrence for Polar Bear

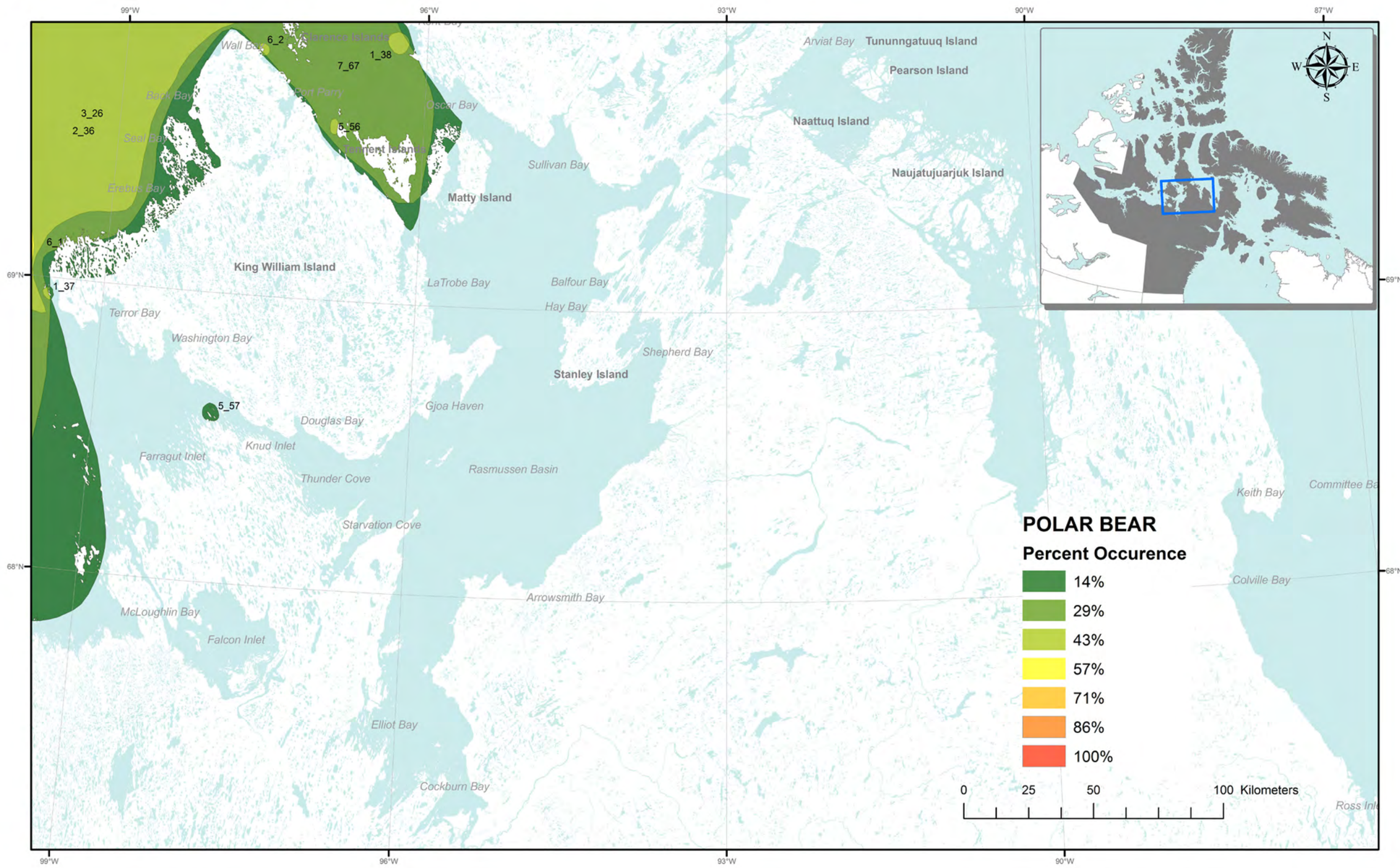


Table 21. Probability of occurrence for Polar Bear

MAP CODE	INTERVIEW CODE	MONTHS	COMMENTS
1_37	GJOA_1_1111	End of April	
1_38	GJOA_1_1111	April	
2_36	GJOA_2_1111	Apr, May	
5_56H	GJOA_5_1111	Oct to May	People from the community hunt polar bears in this area
5_57	GJOA_5_1111	May, Jun	People from the community hunt polar bears in this area
6_2	GJOA_6_1111	Dec to May	Polar bears are hunted anywhere along the ocean west of King William Island
6_1	GJOA_6_1111	Dec to May	
7_67	GJOA_7_1111	Dec to May	Occasionally near Gjoa Haven but mostly to the North and West

Figure 23. Probability of occurrence for Narwhal, and Bowhead Whale

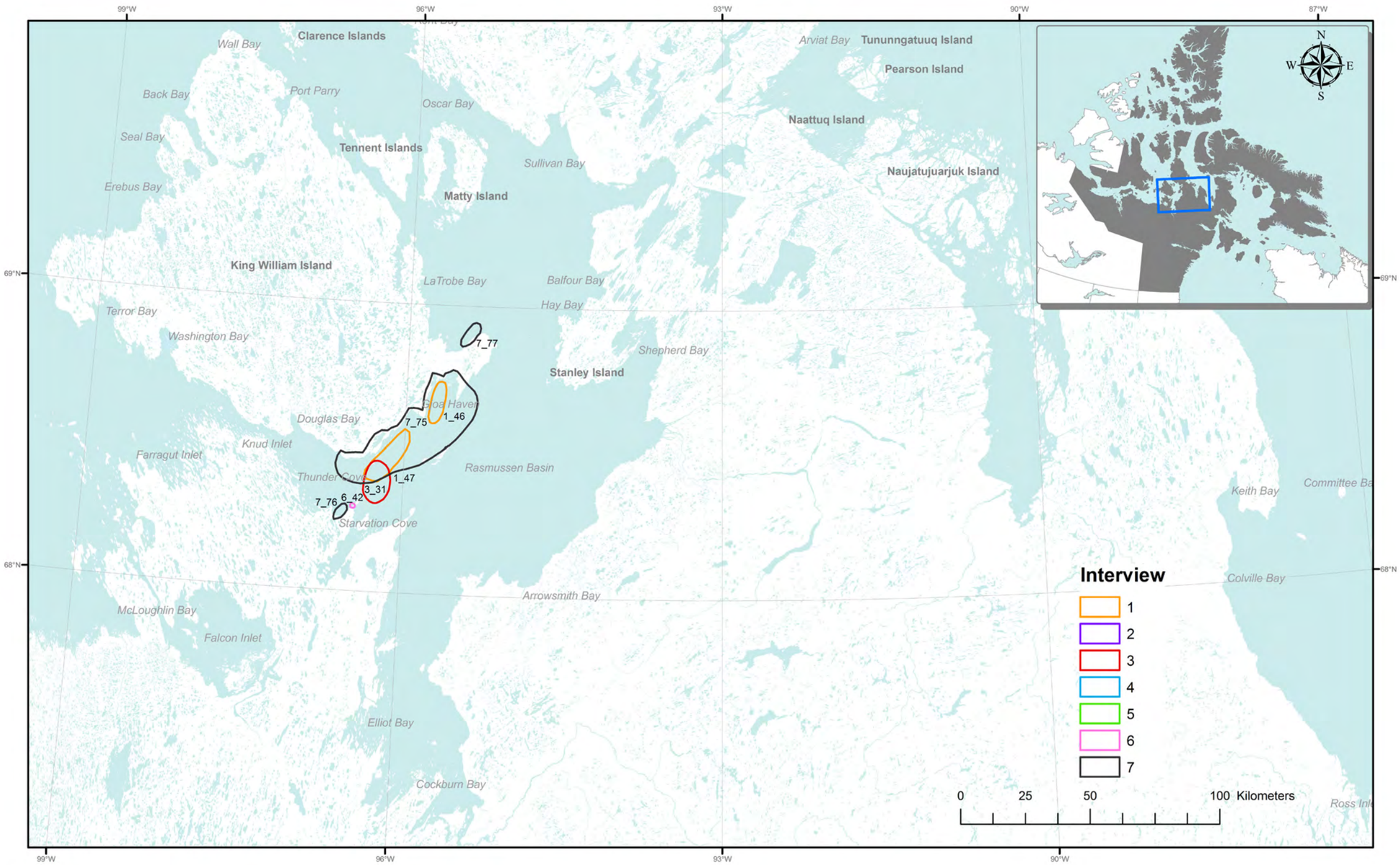


Table 22. Probability of occurrence for Narwhal, and Bowhead Whale

MAP CODE	INTERVIEW CODE	SPECIES	MONTHS	COMMENTS
1_46	GJOA_01_1111	Narwhal	August	
1_47	GJOA_01_1111	Narwhal	August	
3_31	GJOA_3_1111	Narwhal	August	
7_75	GJOA_7_1111	Narwhal	September	
6_42	GJOA_6_1111	Bowhead Whale	Aug, Sep	Richardson Point, a young one landed five years ago. Saw an adult looking for it during that time
7_76	GJOA_7_1111	Bowhead Whale		Dead young one
7_77	GJOA_7_1111	Bowhead Whale	May	Dead adult

Figure 24. Probability of occurrence for Beluga Whale

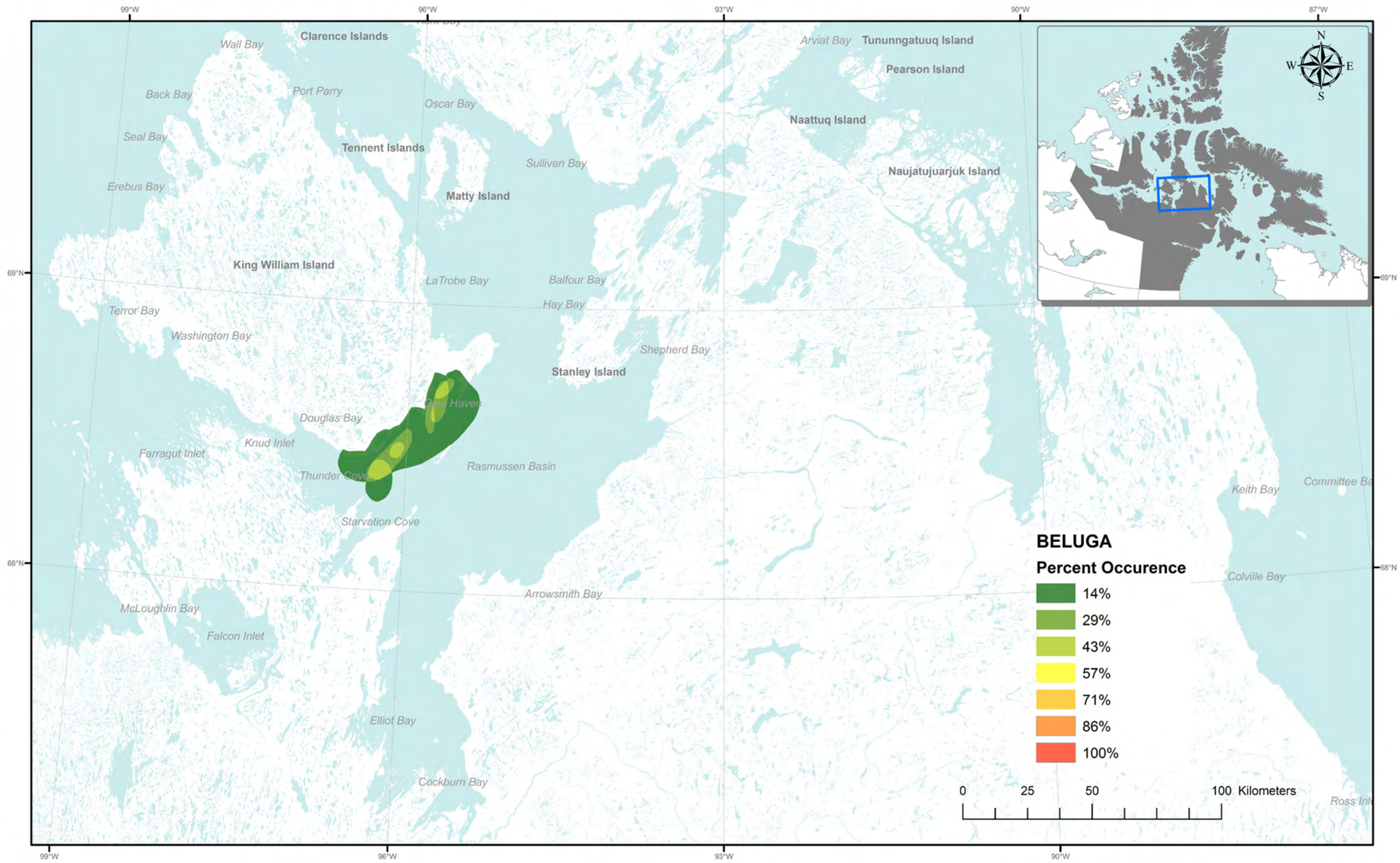


Table 23. Probability of occurrence for Beluga Whale

MAP CODE	INTERVIEW CODE	MONTHS
1_44	GJOA_01_1111	August
1_45	GJOA_01_1111	August
3_30	GJOA_3_1111	August
4_22	GJOA_4_1111	August
5_62	GJOA_5_1111	August
5_63	GJOA_5_1111	August
7_74	GJOA_7_1111	September

Figure 25. Pupping areas for Ringed Seal

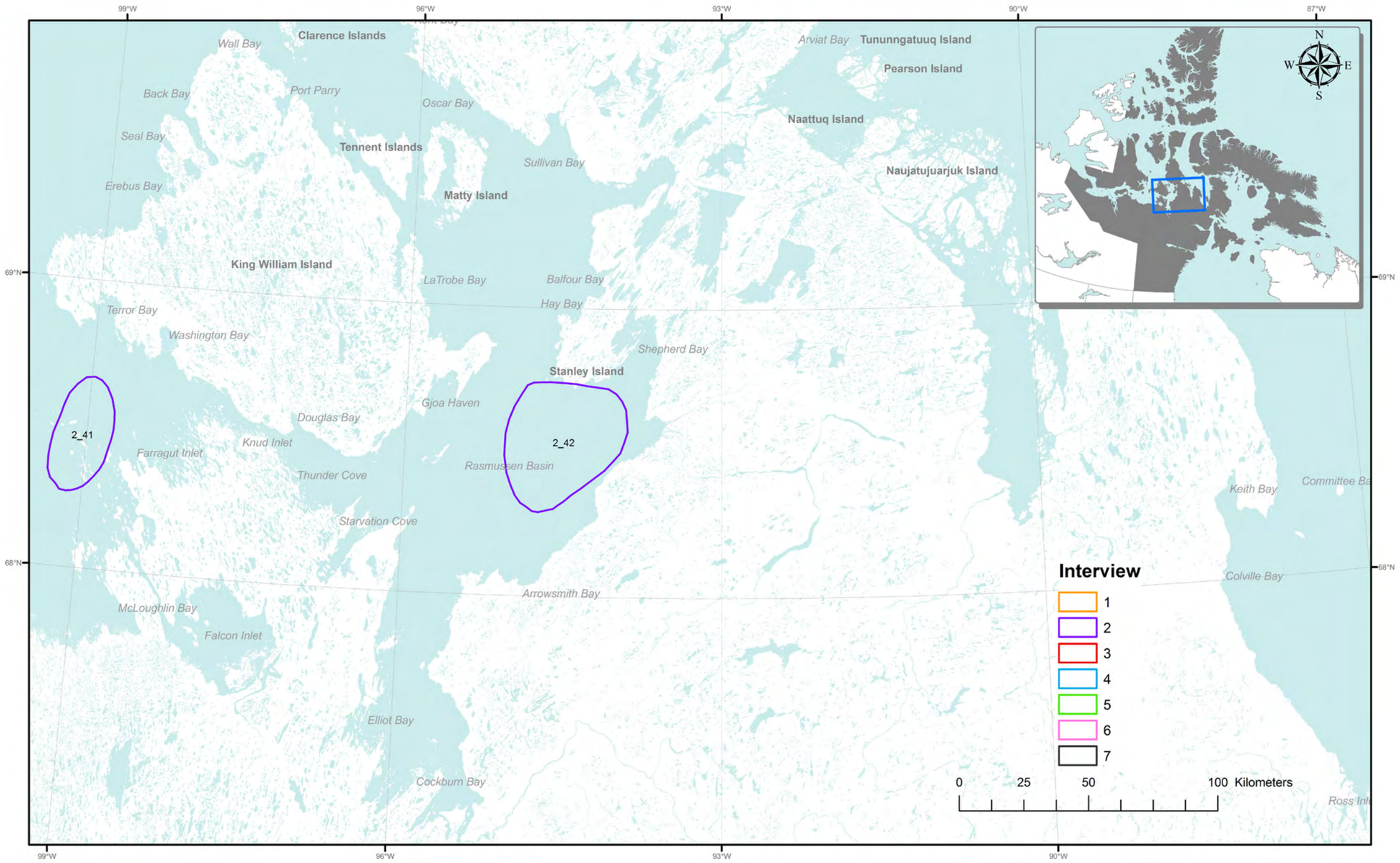


Table 24. Pupping areas for Ringed Seal

MAP CODE	INTERVIEW CODE	SPECIES	MONTHS
2_41S	GJOA_2_1111	Ringed Seal	
2_42S	GJOA_2_1111	Ringed Seal	

Figure 26. Areas of occurrence for Variable Leaf Pondweed, Alpine Pondweed, Hollow Stemmed Kelp, Whitestem Pondweed, Floating Buttercup, Edible Kelp, and Mare's Tail

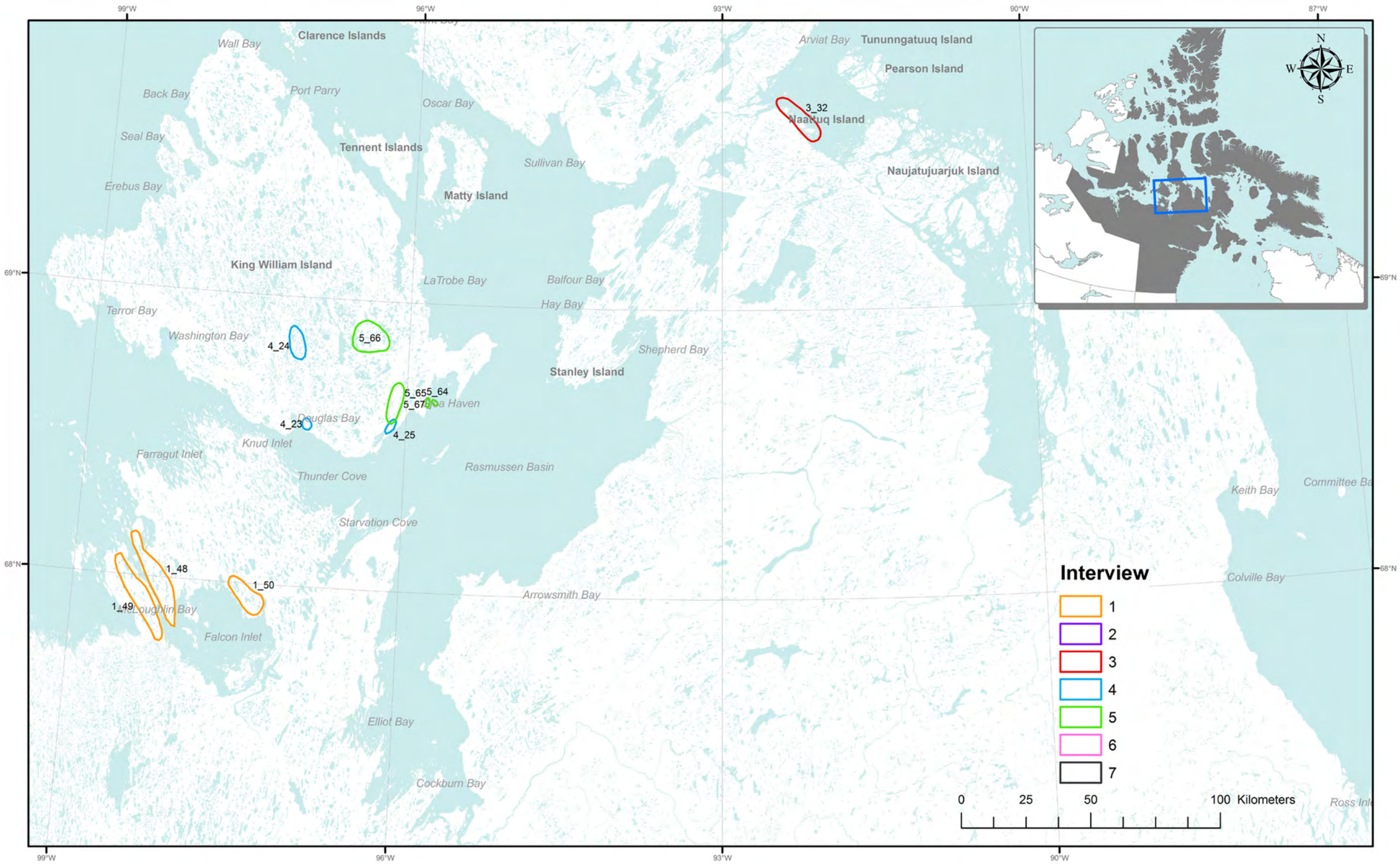


Table 25. Areas of occurrence for Variable Leaf Pondweed, Alpine Pondweed, Hollow Stemmed Kelp, Whitestem Pondweed, Floating Buttercup, Edible Kelp, and Mare's Tail

MAP CODE	INTERVIEW CODE	SPECIES	MONTHS	COMMENTS
1_48	GJOA_01_1111	Variableleaf Pondweed	Jul to Sep	
1_49	GJOA_01_1111	Variableleaf Pondweed	Jul to Sep	
4_23	GJOA_4_1111	Variableleaf Pondweed	July	
5_67	GJOA_5_1111	Variableleaf Pondweed	Jul, Aug	
1_50	GJOA_01_1111	Alpine Pondweed	Jul to Sep	
3_32	GJOA_3_1111	Hollow Stemmed Kelp		Ate it as a child with people from Cape Dorset in Talokyoak
4_24	GJOA_4_1111	Whitestem Pondweed	July	
4_25	GJOA_4_1111	Floating Buttercup	June	
5_64	GJOA_5_1111	Hollow Stemmed Kelp	Jul, Aug	
5_65	GJOA_5_1111	Edible Kelp	Jul, Aug	
5_66	GJOA_5_1111	Mare's Tail	Jul, Aug	Everywhere around ponds in the area

Figure 27. Areas of occurrence for Snow Goose, Canada Goose, Common Eider, and King Eider

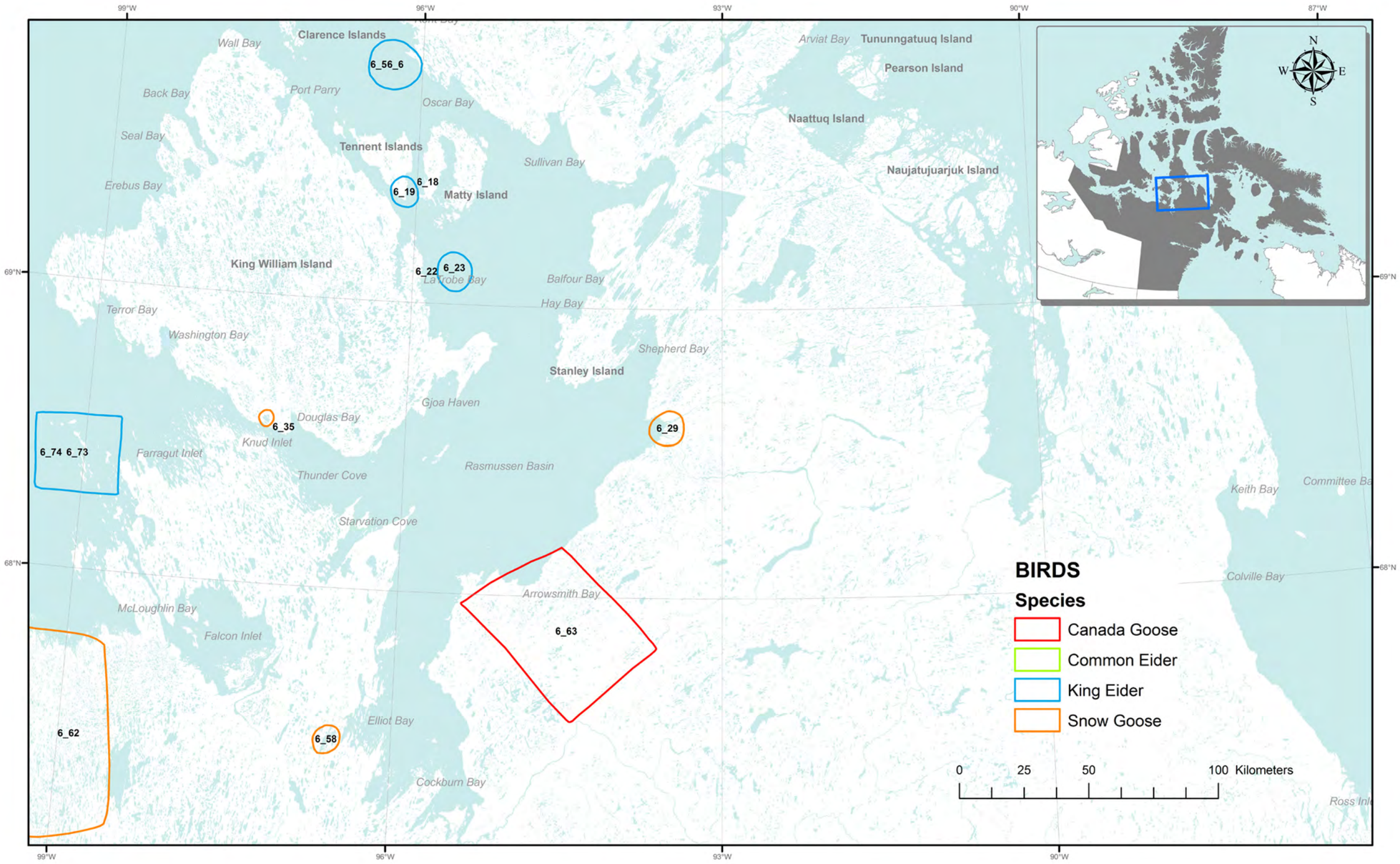


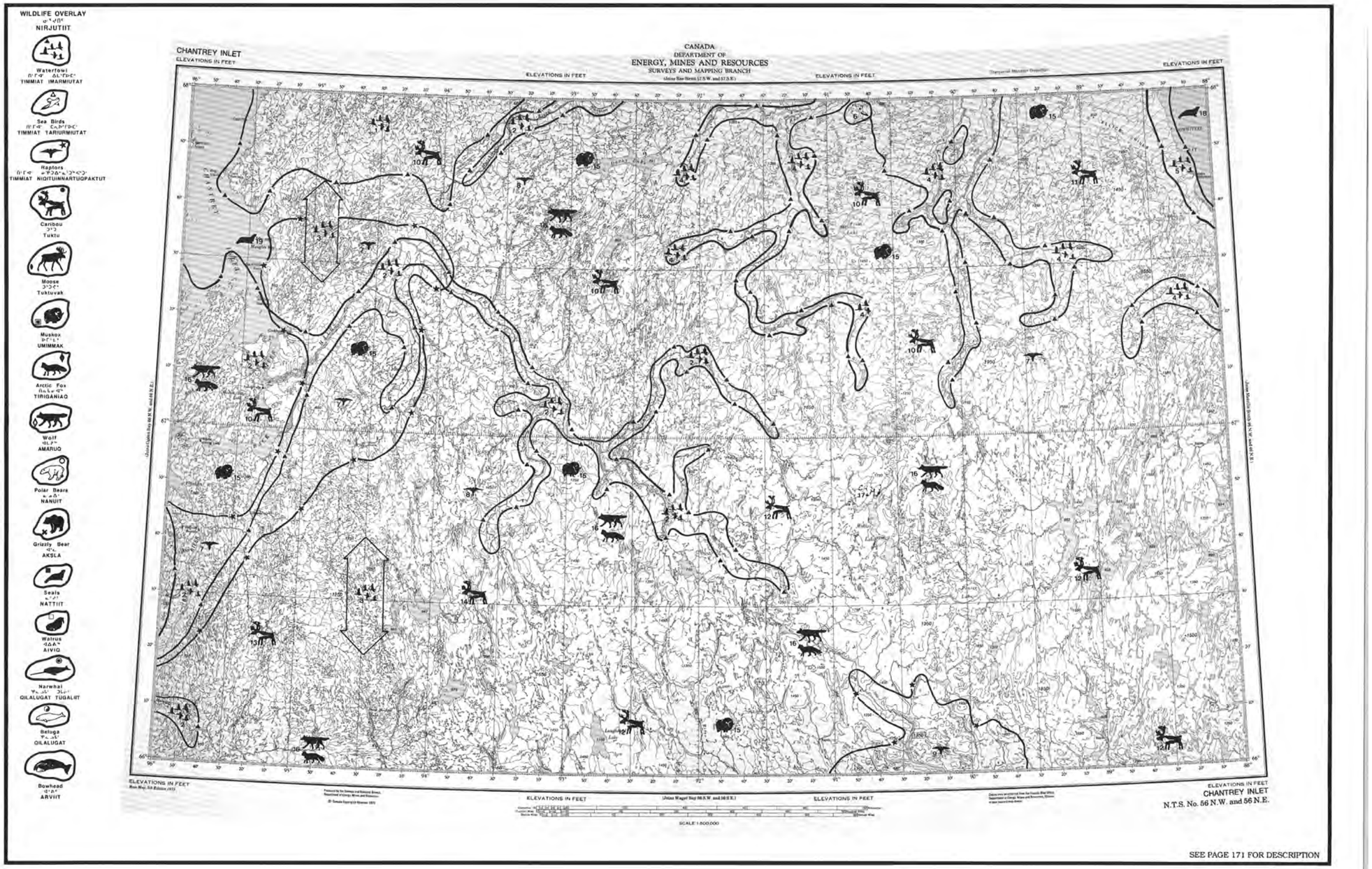
Table 26. Areas of occurrence for Snow Goose, Canada Goose, Common Eider, and King Eider

MAP CODE	INTERVIEW CODE	SPECIES	COMMENTS
6_29	GJOA_6_1111	Snow Goose	Lots of snow geese in this area - staging area
6_58	GJOA_6_1111	Snow Goose	The two islands in this area are covered with snow geese all summer
6_35	GJOA_6_1111	Snow Goose	Queen Maud Sanctuary
6_62	GJOA_6_1111	Snow Goose	Queen Maud Sanctuary
6_63	GJOA_6_1111	Canada Goose	A lot of Canada Geese in this area. Brant are found in the same areas as Canada geese
6_5	GJOA_6_1111	Common Eider	
6_19	GJOA_6_1111	Common Eider	
6_22	GJOA_6_1111	Common Eider	
6_73	GJOA_6_1111	Common Eider	
6_6	GJOA_6_1111	King Eider	
6_18	GJOA_6_1111	King Eider	
6_23	GJOA_6_1111	King Eider	
6_74	GJOA_6_1111	King Eider	

Table 27. Rock Ptarmigan

MAP CODE	INTERVIEW CODE	SPECIES	COMMENTS
6_105E	GJOA_6_1111	Rock Ptarmigan	Everywhere

Figure 28. Nunavut Atlas Chantry Inlet



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 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 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 Atorquait 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 Curtis and Stewart lakes and to 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 Kellet 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 snow mobile travel route between Repulse Bay and Pelly Bay during winter. Caribou or seals may be hunted while travelling.

8RB Residents of Repulse Bay hunt 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 Qamanialuk Lakes. In the past Repulse Bay hunters have traveled 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 from 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 residents 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 Haven 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 winterkill. Each of these rivers has recently been tested to assess its potential for commercial productivity.

Inuit from Gjoa Haven fish in Chantry 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 conjunction 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's potential sustainable yield of Arctic Char. The Hayes is one of several rivers in the area 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 2300kg (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 participate in an experimental commercial fishery involving several points along Chantrey Inlet. Test quotas of 2,270kg round weight were assigned to each 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 4500kg round weight of anadromous Arctic char to be taken from 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 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 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 shorebirds. 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 populations 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 moulting large Canada geese and lesser numbers of snow geese. A few swans and sandhill cranes can also be found nesting along some rivers and wetlands associated with the Back River.

During summer, the lower portions of Back River are used by numerous molting Canada geese and lesser numbers of snow geese. Lowlands along 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 ducks. Snowy owls are particularly abundant here, but their abundance and nesting activity is likely regulated by the availability of the cyclic prey species, namely the 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 provide some important habitat for birds, particularly waterfowl. This area receives the greatest use by molting geese, mostly non-breeding Canada geese 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 shorebirds, waterfowl, loons, and gulls.

6 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 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.

6 SEABIRDS

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

7 RAPTORS

Scattered steep 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 those areas 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 the 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 by peregrine and gyrfalcons for nesting 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 much 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 in the Rasmussen Basin to the west appear to be used predominantly as summering range by caribou.

11 CARIBOU

This area contains important 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 Melville herd and appears to be ideal winter range for the caribou. The costal lowlands along the west side of Committee Bay and lowlands associated with the 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 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. If significant numbers of caribou do utilize this area consistently from year to year for calving, this area would be designated critical for caribou.

13 CARIBOU

Small numbers of barren-ground caribou can be found throughout the year in this unbounded area. Higher densities of caribou have been reported wintering in the Franklin Lake and Hermann 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 the 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 in this likely move east 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 this 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 in 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.

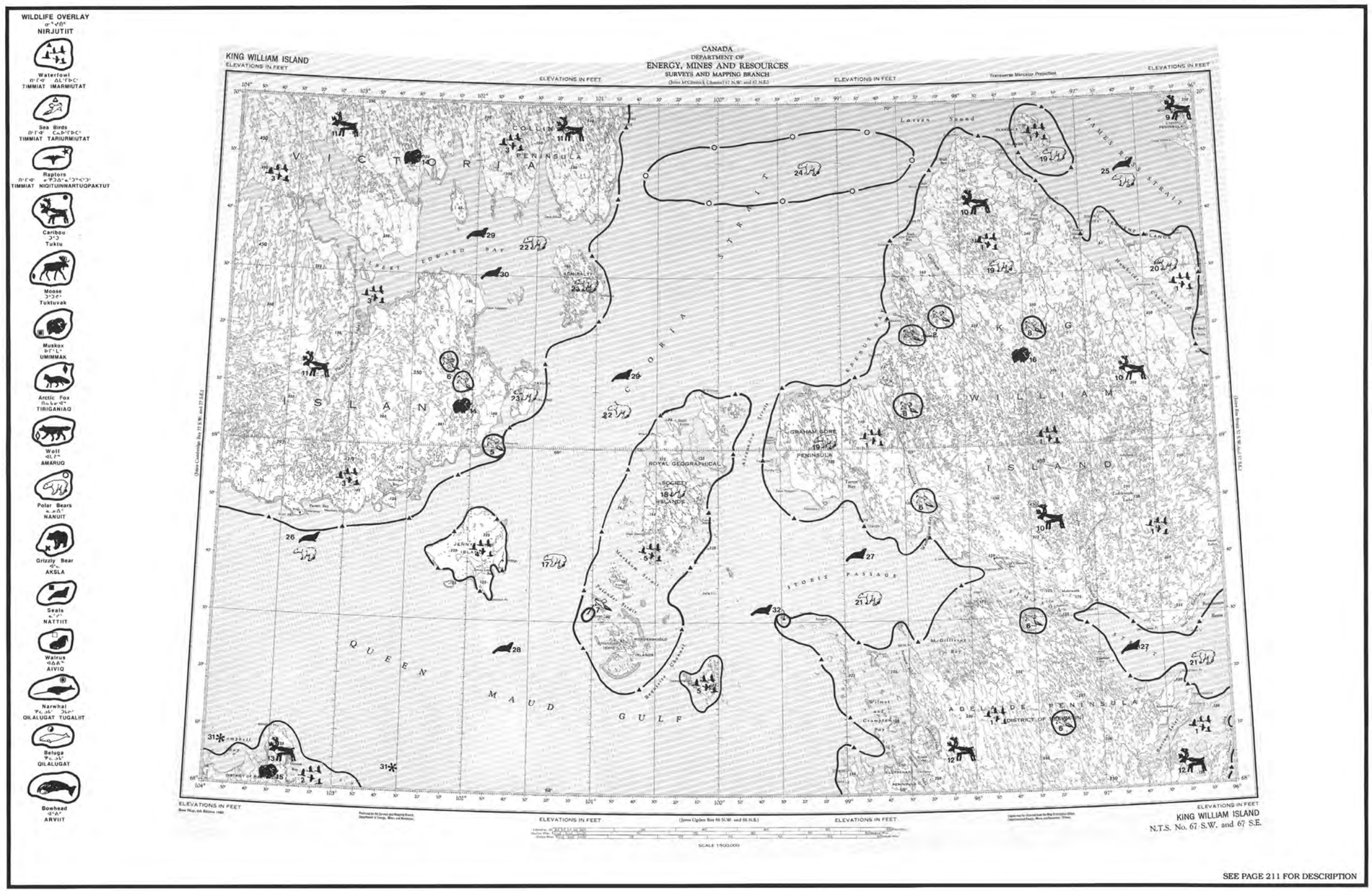
18 SEALS

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.

Figure 29. Nunavut Atlas King William Island



SEE PAGE 211 FOR DESCRIPTION

KING WILLIAM ISLAND

INUIT LAND USE

1CB As many as 25 Cambridge Bay hunters may travel by snowmobile during mid to late winter to hunt polar bears near Gateshead Island, to the north, and on the ice of M'Clintock Channel. The NWT Wildlife Services estimates that up to two thirds of the Cambridge Bay polar bear quota of fifteen are taken in Victoria Strait.

2 This portion of Victoria Strait is currently unused for resource harvesting due to rough ice.

3GH Gjoa Haven hunters occasionally take several polar bears during March along the west side of King William Island.

4GH Gjoa Haven hunters travel through Humboldt Channel to the Clarence Islands enroute to Pasley Bay and Tasmania Islands polar bear-hunting area. In October, one family from Gjoa Haven makes an early fall camp to fish for Arctic char at the head of Port Parry.

5GH & SB Hunters from both Gjoa Haven and Spence Bay hunt on the ice of James Ross Strait for polar bears during winter. Spence Bay hunters also hunt bearded seals on the ice during March and April while polar bear hunting.

6SB Spence Bay hunters use the west side of Boothia Peninsula as a travel route during winter, enroute to Pasley Bay and Tasmania Islands, polar bear hunting area. Seals and caribou are hunted along the travel route.

7SB Much of this area is currently little used for resource harvesting, however, Spence Bay residents used the area in the past for caribou and waterfowl hunting and arctic fox trapping.

8GH This portion of King William Island is heavily trapped for Arctic fox each winter. The eighty General Hunting License holders have trapped over 5,000 Arctic fox in a recent winter, with many being trapped in this area. The western portion of King William Island is heavily hunted for waterfowl (especially geese), each summer six families from Gjoa Haven camp at the head of Douglas Bay in spring and fall to fish for Arctic char. Lake trout and land locked Arctic char are taken under the fall ice by both nets and by jigging.

9GH This part of King William Island is used for caribou hunting and fishing by Gjoa Haven.

10GH Hunters from Gjoa Haven take half their quota of fourteen polar bears from this portion of Queen Maud Gulf each winter. Ringed and bearded seals are also hunted at this time with several dozen ringed and bearded seals being harvested in this area each winter. This area is noted for its relatively large bearded seal population.

11GH Simpsn Strait, Storis Passage, and Wilmot and Crampton Bay are used by Gjoa Haven residents for ringed seal and waterfowl hunting by motor boat during open water. Half of Gjoa Haven's estimated annual harvest of 150 ringed seals may come from Simpson Strait, near the settlement.

12GH Hunters and trappers from Gjoa Haven use this important travel route to reach Chantrey Inlet Outpost Camp located just south of this map area. 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 Back River for Arctic char, lake trout and whitefish during May and June and for waterfowl and seal hunting during summer. Seals are hunted on the ice during mid April to June.

13GH Gjoa Haven hunters have harvested most of their estimated annual take of 1,000 caribou from this portion of the Adelaide Peninsula during recent winters. The hunters must travel farther south during some winters to find caribou. Arctic fox are trapped throughout the Adelaide Peninsula each winter. Gjoa Haven hunters have reported that muskox have moved onto the Adelaide Peninsula during recent winters and have requested a muskox hunting quota from the Northwest Territories Wildlife Service.

14GH Barrow Inlet is a main winter travel route between the Gjoa Haven settlement and the Sherman Inlet Outpost Camp located just south of the map area. Three families from Gjoa Haven live year round at the outpost camp.

15GH Sherman Inlet is used as a travel route between the Gjoa Haven Settlement and the Sherman Inlet Outpost Camp and Queen Maud Gulf.

16 This portion of Queen Maud Gulf is currently unused for resource harvesting.

17CB The whole of southeastern Victoria Island is extensively used for Arctic fox trapping by Cambridge Bay residents. This large area extends from Surrey Lake and Byran Bay vicinity in the west to Albert Edward Bay in the east. Traplines in this area, or those which extend to the north yield approximately one thousand foxes annually, according to an NWT Wildlife Service's estimate. Although special trips to hunt caribou do occur, much of the hunting area occurs in conjunction with trapping. The HTA estimates that as many as 200 caribou may be harvested annually, in the Fergusen lake area and a further 50 to 100 caribou may be hunted to the west of Wellington Bay northwest of the map area. The rest of this southeast corner of the island may yield as many as 150 caribou annually, winter caribou hunting is especially common in the vicinity of Albert Edward Bay to the north. Trappers also hunt muskox. Activity is also high in the area in spring and summer when ducks, geese and swans are hunted. No harvest numbers are available but most Cambridge Bay hunters welcome the annual change of diet and presumably take at least several birds each. Domestic fishing for Arctic char also occurs in numerous small lakes from spring throughout fall.

18CB Sea ducks are hunted along the coast in spring and summer, around Jenny Lind Island, and Admiralty Island to the north, and throughout this portion of Queen Maud Gulf. Although no estimates of the annual take are available, a hunter may take several dozen ducks. This activity usually occurs in conjunction with seal hunting. Using motor boats and rifles, hunters take mostly ringed seals, but also bearded seals. The Cambridge Bay HTA estimates that several hundred seals may be taken annually throughout Queen Maud Gulf.

19GH & CB Cambridge Bay and Gjoa Haven hunters travel by snowmobile during mid to late winter to hunt polar bears near the Royal Geographical Society Islands on the ice of Victoria Strait. The NWT Wildlife service estimates that a third or more of the Cambridge Bay annual polar bear quota is taken in Victoria Strait. In summer as many as six hunters may hunt ringed seals from motor boats in this area.

20CB Seal hunting by several Cambridge Bay hunters extends to the east of Queen Maud Gulf. Ringed seals are the main species taken. This area is also used by hunters from the Perry River Outpost Camp on the mainland to the south.

21CB Residents of Cambridge Bay use the Ellice River as an Arctic char fishery.

22CB Arctic char are netted at Jayko Lake during fall by several Cambridge Bay families. The Cambridge Bay HTA reports that an annual commercial Arctic char quota of 11,400kg has been established for this lake. This area is part of a larger hunting and trapping area.

23CB Sea ducks are hunted along the coast, in late spring and summer around Admiralty Island, and Jenny Lind Island to the south, and throughout this area. Although no estimates of the annual take are available, a hunter may take several dozen ducks. This activity usually occurs in conjunction with seal hunting. Using motor boats and rifles, hunters take mostly ringed seals, but also some bearded seals. The Cambridge Bay HTA estimates that several

hundred seals may be taken annually throughout Queen Maud Gulf.

24CB Arctic char are netted in this lake during fall by several Cambridge Bay families. The Cambridge Bay HTA reports that an annual commercial Arctic char quota of 4500kg has been established for this lake. This area is part of a larger hunting and trapping area.

NOTES ON DOMESTIC AND COMMERCIAL FISHERIES

Fish, particularly anadromous Arctic char, are an important food for residents of Gjoa Haven. Between March and December, fishermen from the community range as far south as Black River east to Murchison River, west to Terror Bay, and north to Port Parry. Travelling by snowmobile in the spring and fall and by boat in the summer they net, jig or spear Arctic char, lake trout, least and Arctic cisco, and cod.

From March to June and October to December fish are netted or jigged through the ice of freshwater lakes. Landlocked Arctic char and lake trout are caught in Tasekyoak Lake, in the Swan lakes, and many unnamed lakes on southern King William Island and Adelaide Peninsula.

During July and August, nets are set along the Southern coast of King William Isalnd, between gladman Point and Schwatka Bay and along the northern coast of Adelaide Peninsula, between Farraught Inlet and the east side of Barrow Inlet. Anadromous Arctic char, Arctic cisco and cod are the main species caught.

During July Anadromous Arctic char are also speared as they pass beneath pans of ice in the Richardson Point-Machonochie Island area. A late ice breakup and abundance of char make the area ideal for spear fishing. Some jigging also takes place.

In May and June, anadromous Arctic char and least cisco are netted or jigged through the ice of this unnamed lake (69°01'N,99°07'W).

Residents of Gjoa Haven catch anadromous Arctic char between April and October in the Port Parry area. In April, May, June, and October, they are netted or jigged through the ice of freshwater lake; and, in late August and early September, they are netted as they migrate into the river at the south end of Port Parry. In the past, anadromous Arctic char were speared during their spring and fall migrations at a saputit located near the river mouth.

During August and early September, Gjoa Haven residents net anadromous Arctic char near the mouth of this unnamed river (69°01'N,96°07'W), and at a nearby lake (69°01'N,96°04'W). A saputit is located near the river mouth.

In the past Inuit speared anadromous Arctic char at a saputit located near the head of Koamavok Lake and at the narrows where the river system enter Albert Edward Bay (69°41'N,103°30"W; 69°42"N, 103°27"W). Until recently families who lived near Albert Edward Bay year round fished the lakes now used for sport and commercial fishing. Today, Inuit sport fishing guides, commercial fishermen and trappers do most of the domestic fishing in the area. The guides angle or occasionally gillnet Arctic char and lake trout from the lakes used for sport fishing and commercial fishermen keep a portion of their catch for domestic use. Hunters and trappers from Cambridge Bay and their families jig for Arctic char at the head of Albert Edward Bay through the spring ice in May and June and gillnet char in an unnamed lake (69°14'N, 102°05'W) in the fall.

Fishermen involved in the commercial fishery of the Ellice River dry part of their catch for winter domestic use.

Cambridge Bay residents seldom fish in the shallow lakes and streams along the coast of the portion of Victoria Island shown on this map.

Arctic Char Lodge has operated a sport fishing camp at Nakashook Lake since 1966. Guests angle for lake trout and anadromous Arctic char in Jamesee, Nakashook, Komatik, Enrigose and Kaomayok lakes in several unnamed lakes which flow into Albert Edward Bay (69°23'N, 103°49'W; 69°23'N, 103°57'W; 69°24'N, 103°45'W; 69°41'N, 103°37'W; 69°42'N, 103°29'W; 69°43'N, 103°44'W; 69°43'N, 103° 40'W; 69°47'N, 103°17'W). fishing takes place during July to August, and in recent years there have been over 150 guests per season. To prevent overfishing fisheries management personnel have monitored fish catches since 1966. The lodge did not operate in 1982.

Fishermen from the Ikaluktutiak Co-operative in Cambridge Bay have commercially fished this unnamed river (69°42'N, 103°17'W) since 1975. Fishing takes place during the upstream run of char in late August and usually involves five fishermen. In 1981, fish managers counted over 136,000 char in the upstream run and they recommended that the quota remain at 13,600kg round weight (rnd) of anadromous Arctic char.

In 1977, the Ikaluktutiak Co-operative requested that commercial fishing quotas on landlocked Arctic char be assigned to eleven small lakes in this map area, (69°02'N, 103°17'W; 69°04'N, 103°01'W; 69°04'N, 103°14'W; 69°04'N, 103°55'W; 69°06'N, 103°40'W; 69°09'N,104°00'W; 69°09'N, 102°57'W; 69°11'N, 103°55'W; 69°12'N, 103°50'W; 69°14'N, 103°31'W; 69°22'N, 103°10'W). The Co-operative planned to provide fresh fish for the community, and longer employment for commercial fishermen and fish plant employees by gill netting these and other landlocked lakes during the winter. Quotas were assigned, ranging from 550 to 2600kg, but only a few lakes near Cambridge Bay were fished.

Quotas on commercially caught anadromous Arctic char, 4,500kg rnd were established for two unnamed rivers which drain into Albert Edward Bay (69°56'N, 101°25'W; 69°16'N, 102°00'W). Both areas were opened for fishing between 1979 and 1981 but the only fishing reported was in 1979 when fishermen netted the upstream run of char in the river on Collinson Peninsula. Members of Gjoa Havens HTA net anadromous Arctic char at Port Parry between October and December. The fishery is conducted to provide fish to members of the community who are unable to fish. The quota of 2,268kg rnd was filled in 1978 and has been fished annually since 1977.

In 1980, a test fishery permit was issued for anadromous Arctic char in an unnamed lake on the Graham Gore Peninsula (69°00'N, 99°14'W). No data is available.

The Ellice River has been fished annually since 1970 by members of Cambridge Bay's Ikaluktutiak Co-operative who gill net anadromous Arctic char at the river mouth between mid August and early September. Fish are gutted on site and then taken to the Co-operative processing plant in Cambridge Bay where they are cleaned and frozen. The annual catch is variable but in 1982 the char quota of 9,100kg rnd was filled. The Co-operative sells fish within the community and markets the excess through the Freshwater Fish Marketing Cooperation in Edmonton Alberta. Some whitefish are caught incidental to the char.

To establish the economic feasibility of establishing a fish processing plant in Gjoa Haven, commercial test fisheries were conducted between 1979 and 1982 at seven localities in the Gjoa Haven area. Fishermen harvested primarily anadromous Arctic char, and incidentally, lake trout, Arctic cisco, and lake whitefish. Studying the catch, fish managers found that the Muchison River which has been fished sporadically since 1973, can support a commercial fishery and they recommended that the present quota, 9,100kg rnd of anadromous Arctic char, be maintained. They found that the Back River, which is already harvested by sports and domestic fishermen, can support a commercial fishery, and recommended that it be assigned a quota of 9100kg rnd. A provisional quota of 4500kg rnd, was recommended for the Hayes River, until it is known whether the river supports a discrete char population. A provisional quota can be assigned to the Kingark River, provided there is a fall upstream char run and subject to stock identification through a tagging program coincident with the fishery.

Elliot Bay and Tern Lake were found to have commercial potential but more research is needed before quotas can be assigned. No quota was recommended for Mangles Bay, where the char are itinerants from other river systems. A decision will be made concerning the processing plant sometime in 1983.

In 1980, a commercial test fishery permit was issued for anadromous Arctic char in an unnamed lake (69°00'N, 99°14'W). No data is available.

WILDLIFE

1 WATERFOWL

This large area which extends to the adjacent map area to the east encompasses Adelaide Peninsula, King William Island and many of the adjacent small islands. It 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 red-throated and yellow-billed loons, pomarine, parasitic and long-tailed jaegers, 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 non-breeding birds that are likely associated with the goose populations that 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 Canadas, does occur on Adelaide Peninsula and King William Island. Non-breeding geese utilizing this wildlife area likely number 7,000-14,000 snow geese, 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 in the nearby nesting areas. Whistling swans and Canada geese are widely dispersed throughout the 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 oldsquaws 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 is part of an extensive lowland area that encompasses much of the entire Queen Maud Gulf region and which provides very important habitat for many thousands of migratory birds. Birds found in the map area include Canada geese, snow geese, white-fronted geese, brant, whistling swans, king eiders, oldsquaw, sandhill cranes, snowy owl, glaucous gull, jaegers, loons, and a large variety of shorebirds.

3 WATERFOWL

This is only a portion of a large wildlife area which extends onto the adjacent map sheets to the northeast and west and which encompasses most of southeastern Victoria Island. This wildlife area provides very important habitat for a large number and diversity of birds. Much of this entire area is characterized by patchy, well vegetated lowlands that are interspersed with numerous small, shallow tundra ponds and lakes. These areas provide prime nesting habitat for many birds species that breed in the region and include such species as: Canada goose, snow goose, white-fronted goose, brant, king eider, common eider, oldsquaw, whistling swan, sandhill crane, glaucous gull, Sabine's gull, Arctic tern, Arctic loon, yellow-billed loon, red-throated loon, snowy owl, ptarmigan, jaegers, and a large variety of shorebirds. This area also provides important habitat for large numbers of non-breeding birds especially waterfowl that occupy the area during the critical molting period. Densities of birds are particularly high within the portion of this wildlife area covered by this map.

4 WATERFOWL

Jenny Lind Island provides very important habitat for birds likely upwards of 4,000 snow and blue geese utilize this island for nesting and molting. Small numbers of many other birds also utilize the island for breeding and include such species as Canada goose, oldsquaw, king eider, whistling swan, sandhill crane, and glaucous gull.

5 WATERFOWL

The Royal Geographical Society Island provides some important habitat for birds although the overall densities of birds occurring in these islands appear to be somewhat lower than those found on nearby King William Island and southeastern Victoria Island. Birds utilizing habitats within these areas include Canada geese, brant, whistling swans, king eiders, oldsquaws, Arctic terns, glaucous gulls, snowy owls, jaegers, and loons.

6 SEABIRDS

Some of the small islands within these areas support small nesting colonies of glaucous gulls.

7 SEABIRDS

Numerous gulls and Arctic terns utilize this small island for nesting.

8 SEABIRDS

Some of the islands within these areas support small nesting colonies of glaucous gulls.

9 CARIBOU

Boothia Peninsula provides important year round range for caribou. The greatest concentrations of the likely 1,000-2,000 barren-ground caribou that inhabit this area occur on the northern half of the Peninsula. The area of Boothia Peninsula covered by this map is used mainly as summering range for the occasional caribou.

10 CARIBOU

Inuit report that a few caribou may be found on occasion on northern King William Island. These caribou likely wander over periodically from Boothia Peninsula.

11 CARIBOU

This area is unbounded and includes all of Victoria Island. Victoria Island provides year round range for a caribou population that may number approximately 8,000, the vast majority of which are found throughout the year on the western half of the island. Although the status of this island caribou population is unknown, it does appear to be highly productive. Wolf predation, unlike the situation found among caribou populations immediately south of Victoria Island on the mainland, does not appear to be an important factor in the overall mortality of this population, as wolves are extremely scarce on the island. This population also does not appear to be subjected to the periodic severe winter conditions, that may be characteristic of the High Arctic islands immediately to the north, and which has resulted in recent years in the near extinction of some of these northern islands' caribou populations. The caribou population of Victoria Island appears to consist of two more or less distinct races of caribou. A Peary type caribou appears to be confined mainly to northern Victoria Island mostly west of the Shaler Mountains. Throughout the rest of the island the caribou population is thought to be

made up mainly of an intergrade between barren-ground and Peary caribou. Little is known about the seasonal movements of caribou on Victoria Island. They do not appear to make concentrated long distance migrations but rather short distance seasonal shifts in their range. The map area is thought to be used mostly as wintering range by small numbers of caribou.

12 CARIBOU

Adelaide Peninsula is presently utilized by small numbers of caribou year round. This area appears to be used most extensively by caribou as summer range. During this season, caribou may be concentrated in coastal areas along the east and west sides of the peninsula.

13 CARIBOU

Small number of barren-ground caribou may be found on occasion within this area. The area appears to receive use by caribou year round.

14 MUSKOX

Most of the population of approximately 13,000 muskox thought to inhabit Victoria Island can be found on suitable ranges throughout the year within the boundaries of this large important area which generally includes most of the more extensively vegetated regions of this island. On Victoria Island these better vegetated areas occur mostly on elevations below 300 meters. Most of the present muskox population appears to be concentrated on the northwestern end of Victoria Island.

The overall muskox population of Victoria Island appears to be increasing. Further and perhaps even dramatic increases in the number of muskox over much of their range on Victoria Island are likely to occur. General trends in habitat selection have been noted for muskox. Muskox grazing areas are often near or along the coast or in lowlands below 150 meters in elevation. These lowland areas provide range for many muskox throughout much of the year. Some selection for slopes and ridges with windswept areas of exposed vegetation in late winter, and south facing slopes with early snow melt patches in early spring, is thought to occur. These areas are likely more critical during those winters and springs when unusual snow conditions make foraging in the lowlands extremely difficult. Only a few muskox currently inhabit the map area. Within the area, muskox are associated mostly with the better vegetated lowlands.

15 MUSKOX

The well vegetated sedge lowlands found within this map area provide important year round range for small numbers of muskox.

16 MUSKOX

A small herd of approximately 10 muskox was observed in 1982 on northern King William Island by local Inuit hunters. Indications are that muskoxen had not been observed previously on the island for at least several decades.

17 POLAR BEARS

Polar bears range throughout the Queen Maud Gulf during the winters and spring but are most abundant around Jenny Lind, Norgenskiold and the Royal Geographical Society islands. They tend to concentrate at the flow edges and on the unstable offshore ice where subadult ringed seals are to be found.

18 POLAR BEARS

Polar bears are known to have maternity dens on the Royal Geographical Society Islands.

19 POLAR BEARS

The northern portion of King William Island, the Clarence Islands and the Graham Gore Peninsula make up a major feeding and maternity denning area for polar bears. The abundance of ringed seals in these areas is especially important for females and their cubs emerging from their dens in the spring, and for pregnant females that must deposit additional fat before giving birth in the coming winter.

20 POLAR BEARS

Maternity denning of polar bears is suspected to occur on the Tennent Islands although quantitative data is unavailable.

21 POLAR BEARS

Data obtained from hunting reports reveal that polar bears range in very low densities during the winter throughout Queen Maud Gulf and the Storis Passage and in Simpson Strait.

22 POLAR BEARS

Suitable ice conditions and an abundant food supply encourage high numbers of polar bears to spend the winters along this portion of the Victoria Island coastline.

23 POLAR BEARS

Polar bears are known to have maternity dens during winter on Admirality, Taylor and the Royal Geographical Society Islands. These areas also constitute an important seal feeding ground for polar bears. The complexity of the coastline delays the breakup of ice in the summer and hastens the freezeup in the fall, thus prolonging the period during which polar bears are able to hunt seals. Such an extended hunting period may be especially important for females and their cubs emerging from dens in the spring and for pregnant females that must deposit additional fat before giving birth during the coming year.

24 POLAR BEARS

Gjoa Haven hunters report that polar bears mate in this area.

25 POLAR BEARS AND SEALS

Ringed seals occur in low numbers in Victoria Strait off the west coast of King William Island. They are found in higher numbers in James Ross Strait where ice often remains year round. As there is little or no movement of ice out of James Ross Strait, the amount of open water depends solely on melting.

Bearded seals prefer the pack and pan ice over the shallow water areas of the map area. Although there is no supporting quantitative evidence it is suspected that bearded seals tend to concentrate along the northeast coast of King William Island amongst the Clarence , Tennent, and Matty Islands.

Polar bears range throughout the winter in low numbers on the permanent ice of Victoria Strait. They are found in higher numbers around the northern coast of King William Island and throughout James Ross Strait.

26 POLAR BEARS AND SEALS

Although found sporadically throughout the shallow waters of Queen Maud Gulf bearded seals are believed to be especially plentiful in the Markham Strait area south of the Royal Geographical Society Islands.

Although the bearded seal is quite abundant throughout most coastal portions of the map area it is found in limited numbers east of Sturt Point. Polar bears are uncommon along this portion of the Victoria Island coastline possibly because of the presence of hunters.

27 SEALS

Ringed seals are found year round throughout the marine portion of this map area, but they are particularly numerous on the stable, land fast ice found along the coastlines. From freezeup in the fall to breakup in the early summer, adult ringed seals actively exclude sub-adult seals from the preferred stable ice located in deep bays. This restricts the sub-adult ringed seals to less stable ice of offshore

areas. During periods of open water, ringed seals appear to disperse among the ice floes.

The less common, solitary bearded seal prefers the pack and pan ice found farther offshore. They may tend to concentrate somewhat in the area extending from the Royal Geographical Society and Nordenskiold Islands east to Simpson Strait and Wilmot and Crampton Bay, but there is no quantitative evidence to support this.

28 SEALS

The area between Sturt Point and Jenny Lind Island appears to be a rich area for seals. Pilots and Inuk hunters report that this area, particularly where the ice forms large cracks, has a high concentration of seals during spring and summer.

29 SEALS

Ringed seals occur year round off the eastern coast of Victoria Island. They are particularly numerous in Albert Edward Bay and around the islands because of the persistence of ice into the summer weeks. Bearded seals are less common than ringed seals but are encountered along tide cracks over the relatively shallow waters throughout the area.

30 SEALS

A harp seal was seen in Albert Edward Bay during the summer of 1976. Their occurrence in this area is rare. The permanent ice of the Arctic Archipelago is thought to bar the harp seal from the western Arctic.

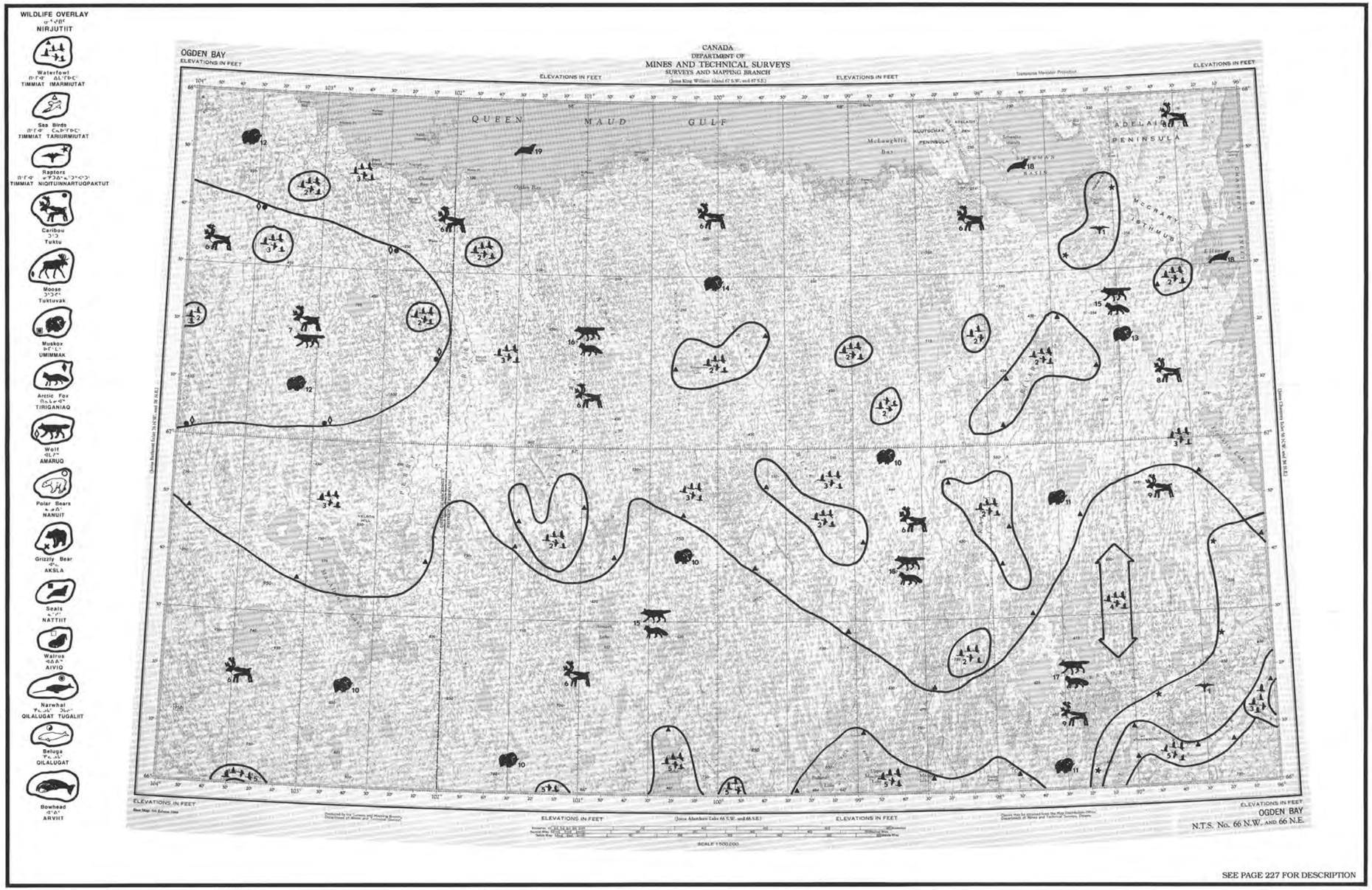
31 NOTE

This critical wildlife area consists of the Queen Maud Gulf Migratory Bird Sanctuary. This sanctuary was established in 1961 principally to protect the nesting grounds of the endangered Ross goose and contains critical and important habitats for a wide variety of wildlife species.

32 SEALS

Gjoa Haven hunters report that bearded seals haul out on these islands.

Figure 30. Nunavut Atlas Ogden Bay



OGDEN BAY

INUIT LAND USE

1CB This area along the Perry River and Queen Maud Gulf is important for hunting and trapper by Inuit from Cambridge Bay. Caribou are hunted in spring, summer and fall, and ducks and geese are hunted in spring and summer. Traplines for Arctic fox extend along the coast and up the Perry River. Fishing for Arctic char and whitefish is important in most of the rivers and inland lakes. Ringed and bearded seals are hunted along the coast in spring and summer.

2CB & GH This large area along Queen Maud Gulf is used regularly by Inuit from Cambridge Bay for hunting and trapping. Barren-ground caribou are hunted in spring, summer and fall and Arctic fox are occasionally trapped in winter. Ducks, geese and other waterfowl are also hunted throughout this area. Wolves, wolverines and muskox are hunted when encountered. Inuit from Gjoa Haven may hunt caribou and muskox. Ringed and bearded seals are sometimes hunted along the coast during spring and summer.

3 No recent hunting or trapping has been reported in this area. However, in the past Inuit from Cambridge Bay and Gjoa Have hunted caribou and wolves and fished in the larger lakes throughout the area.

4GH This large area is an important hunting area for Inuit from Gjoa Haven. Caribou are hunted year round. In winter occasional trapping for Arctic fox takes place near McNaughton Lake and along the coast of Queen Maud Gulf. Wolf, wolverine and muskox are also hunted. Ducks, geese and other wildfowl are hunted during summer. Bearded and some ringed seals are hunted in the Queen Maud Gulf, Chantrey Inlet, Sherman Basin and in McLoughin Bay during spring and summer. In addition, Inuit from Cambridge Bay and from the outpost on the Perry River occasionally hunt barren-ground caribou.

5GH & BL This area is used mainly for wolf, wolverine, and caribou hunting by the residents of Gjoa Haven. Occasionally residents of Baker Lake travel along the Back River to fish and hunt. Camps on the Back River may be used at these times.

6BL This area is used mainly for muskox and caribou hunting and fishing by the residents of Baker Lake.

7CB & GH This area is used by the Inuit from Cambridge Bay and Gjoa Haven for hunting caribou. The barren-ground caribou move through in spring and fall and are hunted during those seasons. Inuit from Cambridge Bay also fish and hunt waterfowl in the MacAlpine Lake area.

NOTES ON COMMERCIAL FISHERY

The Perry River has been fished commercially by Inuit from Cambridge since 1971. The 11,340kg round weight quota on char is usually filled each year.

WILDLIFE

1 RAPTORS

Cliffs throughout this area are used by raptors for nesting. Nesting areas of peregrine falcons and gyrfalcons are considered critical to their survival.

2 WATERFOWL

Many of the islands within some of these lakes are used by Ross' and snow geese for nesting. These areas are considered critical due to the high density of nesting geese within portions of these areas.

3 WATERFOWL

This area provides very important habitat for many thousands of migratory birds, particularly several species of waterfowl.

Within this portion of the area can be found several small nesting colonies of snow and Ross' geese. All the rivers in close proximity to the nesting colonies serve as important routes for the initial dispersal and feeding activity of the colonies of geese with their newly hatched broods. Although many of the brood rearing geese likely remain along or in areas adjacent to the rivers, over the summer some disperse throughout the entire area, wherever suitable feeding meadows are available. Large Canada geese use the many rivers throughout this area for molting.

A few sandhill cranes and whistling swans may nest throughout this area.

Snowy owls are particularly abundant within this area, but their abundance and nesting activity is likely regulated by the availability of the cyclic prey species, namely the lemming.

4 WATERFOWL

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

5 WATERFOWL

Sandy beaches associated with sedge meadows which flood in spring within this area are used by large Canada geese for molting between June 15 and July 30. The number of Canada geese using the entire Back River system is estimated to be between 5,000 and 10,000. Once these birds regain flight they disperse throughout the area, remaining in small scattered flocks until their fall migration south.

6 CARIBOU

This unbounded area provides year-round range for a resident caribou population up to 10,000 in the area between Queen Maud Gulf in the north and Garry Lakes to the south. The northern portion of this area is thought to be used most extensively as summer range while the southern portion is used most extensively as winter range. The isthmus and narrows in MacAlpine Lake are important water crossings for caribou.

7 CARIBOU AND WOLVES

This large area which extends to the west is the calving ground of the Bathurst caribou herd which has been estimated at 150,000 animals. Only certain portions of the outlined calving area may be used in any one year, and segments of the herd may even calve outside of the boundary indicated. The entire area should be considered critical to the survival of the herd.

Numerous non-denning wolves can be found in close association with the caribou on the calving grounds, preying heavily on the vulnerable newborn calves.

8 CARIBOU

Small numbers of barren-ground caribou can be found here throughout the year. This unbounded area is thought to be used primarily as summer range.

9 CARIBOU

Barren-ground caribou can be found in small numbers throughout the year in this unbounded area. Small concentrations of wintering caribou have been reported from the Franklin Lake and Hermann River areas. There is some indication that the central part of this area may be used by small numbers of caribou for calving.

10 MUSKOX

This large area supports a high density population of muskox. Most of these animals are found concentrated on the meadows along the rivers and streams.

11 MUSKOX
In the past, muskox in small numbers were known to have occupied the area along the Back River. Present indications are that muskox, if present, within this area are extremely scarce. During the past two decades the muskox population in the Queen Maud Gulf region to the northwest has increased dramatically, which may result in either the re-establishment or build-up of the muskox population within this unbounded area sometime in the near future.

12 MUSKOX
This large area which extends to the west, supports a high-density population of muskox, estimated at over 1,000. Most of these animals are found concentrated on the sedge meadows and willow plains along the many rivers and streams.

13 MUSKOX
Although there appears to be an abundance of excellent muskox range throughout the area, particularly along the Kaleet River, muskox are either non-existent or extremely scarce in the area. During the past two decades, the muskox population in the Queen Maud Gulf region immediately to the west has increased dramatically, which should soon result in either the re-establishment or rapid build-up of the muskox population within this unbounded area.

14 MUSKOX
This supports a high-density muskox population. The number of muskox residing within the area is estimated at over 400. Most of the animals are found concentrated on the sedge meadows along the Simpson River.

15 WOLVES AND ARCTIC FOXES
Sandy areas throughout this unbounded area are used by wolves and Arctic foxes for denning.

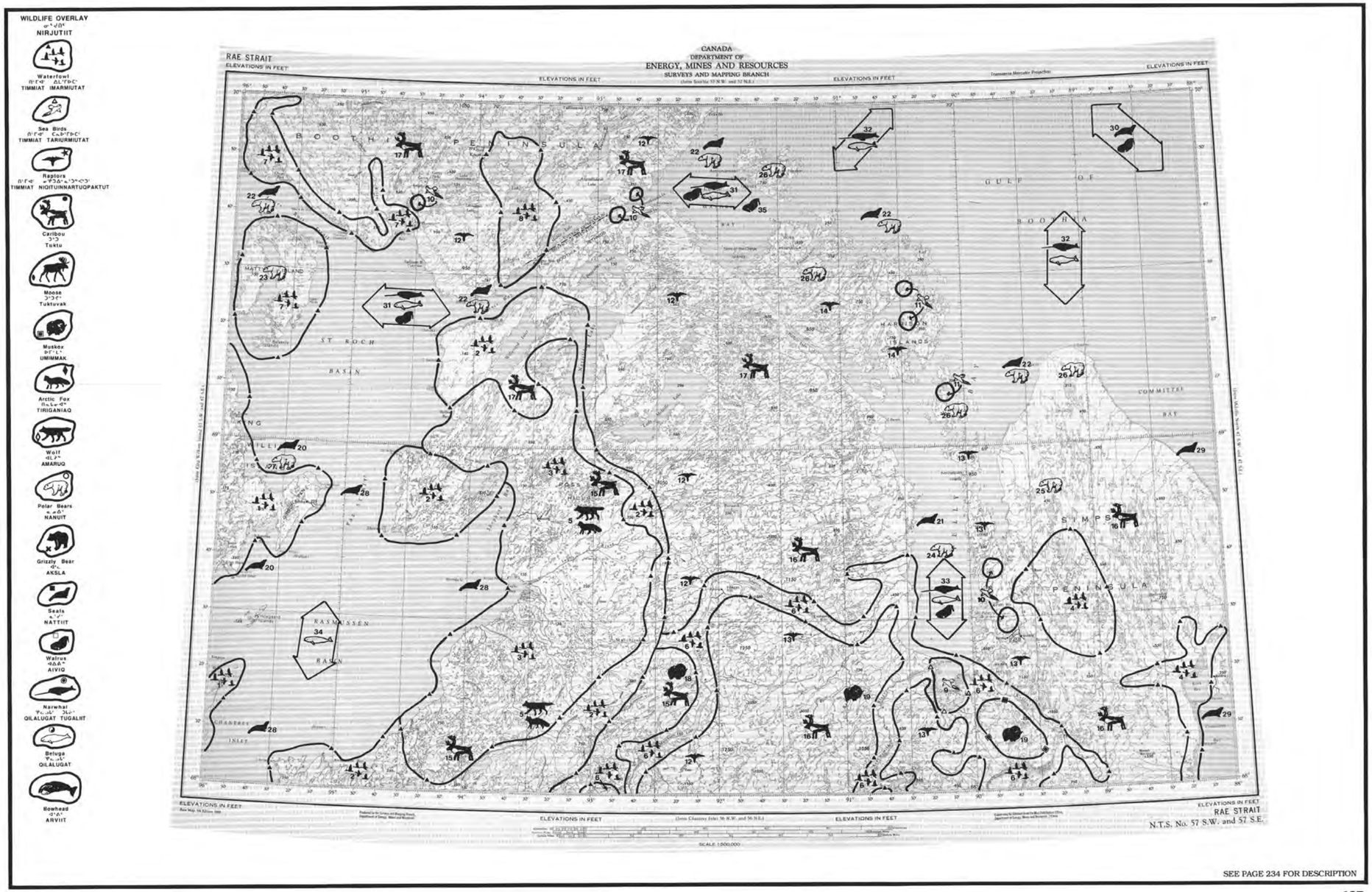
16 WOLVES AND ARCTIC FOXES
Inuit hunters and trappers report that the area along the Pitok River is important as a denning area for Arctic foxes and wolves.

17 WOLVES AND ARCTIC FOXES
Sandy areas, particularly eskers throughout the southern half of this unbounded area, provide denning habitat for Arctic fox and occasionally wolves. Inuit hunters and trappers report that areas along the Back River and surrounding the large lakes associated with the Montresor River are particularly important for Arctic fox denning.

18 SEALS
Chantrey Inlet is reported to have a good ringed seal population. A few ringed seal and the occasional bearded seal can be found in Sherman Basin. Harbor seals have also been observed in Sherman Basin

19 SEALS
Ringed seals can be found in good numbers throughout the Queen Maud Gulf.

Figure 31. Nunavut Atlas Rae Strait



SEE PAGE 234 FOR DESCRIPTION

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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.

3SB During winter several Spence Bay trapper harvest many Arctic fox from a trapline along the east side of Rae Strait.

4GH & SB A few hunters from Gjoa Haven periodically hunt caribou in this area. Several hunters from Gjoa Haven may hunt wolves near Muchison Lake in spring while traveling between Pelly Bay and Gjoa Haven by snowmobiles. Hunters from Spence Bay travelled this far south from their settlement in past years during winter to hunt caribou.

5SB, PB & GH This travel route is used each winter by residents of Spence Bay and Pelly Bay for travel between settlements.

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 rout 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 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 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 numerous river mouths along the west shore of the bay. Waterfowl are commonly hunted at this time in conjuction with summer seal hunting.

12PB While most of the Simpson Peninsula and adjacent offshore areas to the northwest are currently unused for resource harvesting, hunters from Pelly Bay used to travel throughout this area during winter to hunt caribou. Some Arctic foxes are trapped along the west side of the peninsula and Pelly Bay hunters have hunted caribou throughout the Simpson Peninsula in the recent past.

13PB & RB These travel route 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 Territorries has established an annual quota of 15 polar bears for this area each winter by Pelly Bay hunters. Fisheries Canada has established a test fishery in Keith Bay with a quota of 4,500kg 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 Kellet River has had an annual commercial quota of 9,000kg of Arctic char established by Fisheries 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 Kellet River. Several hunters from Pelly Bay travel south along the Kellet, Atorquait and Arrowsmith rivers by snow mobile each year 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 the 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.

17PB Two Pelly Bay families have a winter camp on the north end of the Simpson Peninsula for Arctic fox trapping.

18PB Pelly Bay hunters hunt polar bears and ringed seals throughout the 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 snow mobile between the two settlements.

21SB Virtually all of the 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 north of Thom Bay, mostly during winter. Arctic fox traplines are set primarily along the coast and the Wildlife Services 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 Arctic char are established at the mouth of the Garry River where an estimated 900kg of char are harvested yearly by 4 to 5 families and upstream from Saglak Inlet during fall and spring. Lake trout are taken during fall, winter and spring by jigging through the ice, and by rod during summer. Hansteen, Jekyll, Ishlutuk and Kanggikjuke lakes are important for lake trout fishing and Redfish Lake is used for both char and trout fishing. Netsilik Lake has had a commercial char quota established of 5,500kg of lake trout and whitefish. Many families camp on middle lake during summer, 4 to 5 families camp at the outlet to 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 Bay 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. Seal are hunted during winter (October) on the ice and during summer (July and August by motor boat; or 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 enroute to polar bear hunting areas in the north during winter and occasionally during summer, enroute to caribou hunting areas.

23SB This travel route is used during winter by many hunters and fishermen from Spence Bay travelling by snow mobile 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 AND 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 from 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 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 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 over winter in fresh water. The Garry and Netsilik rivers and outlet stream to Middle and Krusenstern lakes are netted annually and char are speared at a saputit on the outlet to Krusenstern Lake and 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 3000kg round weight. Netsilik Lake was last commercially fished in 1978 and there are not catch statistics available for the Agnew River area which has a char quota of 4500kg round weight.

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

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 population 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 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 oldsquaw 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 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 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 freezeup.

3 WATERFOWL

This central or core area of the Rasmussen Basin Lowlands which generally lies between 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 corner 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 numbersof 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. Watefowl 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 Rasmussen 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 of 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 observations 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
Favourable 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 and a few bearded seals occur year-round in Pelly Bay.

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 Braclay 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.

FINAL THOUGHTS

INTERVIEW PROCESS

The interview process was judged to be reasonably effective, even though both format and execution were quite relaxed. The process was well defined and the use of photos and maps ensured that the same material was considered from one interview to the next. This provided a solid, reproducible structure that encouraged rigor, permitted immediate interviewee inter-comparisons, and allows for future community assessments. Interviews took from 1.5 - 4 hours, depending on the depth of the individual's knowledge, the amount of marine-specific information they possessed, and the extent to which responses prompted supplementary questions. Since the process was focused on coastal resources, it generally excluded mammals considered primarily terrestrial, such as caribou, muskoxen or arctic fox, while embracing polar bears and a broad array of birds that range widely over both.

Despite general satisfaction with the process, some prior reservations warrant comment. First, the interview process was initially conducted in the present tense, with the implicit assumption that all responses were addressing contemporary, immediate or very recent experience with the species under discussion. However, unless explicitly excluded, the information offered may represent temporal integration of experiences over some indeterminate period. Hunters who have traveled and hunted these areas for decades could provide responses drawn from observations made indiscriminately in the short, medium or long term. For these reasons, interviewees were routinely informed that contemporary data was those observations made since 2000, and data offered from observations before that date should be accompanied with an indication of the observation date. These latter observations were analyzed, identified, and archived independently of contemporary data.

A second issue addresses the designation "Everywhere". Sometimes an interviewee, in response to a question about an animal's distribution, indicated that they were observed to be present "Everywhere". Everywhere is a very subjective descriptor that, without additional qualifiers, is not very useful. Essentially, it refers to the geographic extent of the respondent's knowledge, and unless that knowledge is further defined, its utility is limited. Consequently, all interviewees were asked at some point to delineate the extent of their travels. That information was recorded and subsequently displayed (see Appendix 1) where it can be located and used to identify what is meant by "Everywhere" for a specific interviewee.

MAPS AND DATA

The map format was chosen (given the broad geographic reach of the interviewee's responses) to provide a synoptic view of the collected data. A common scale of 1:1,700,000 was chosen for all maps in this document (with only a few exceptions), in order to permit easy comparisons. For some species, this scale showed the breadth of the distribution and the inter-connectedness of seemingly disparate locations; while for others, especially where distributions were modest or localized, the advantages were less obvious.

The scale used on maps obtained from the Nunavut Atlas (1992) is larger because the geographic area of interest is smaller. In addition, one must keep in mind that the data collected for the Nunavut Atlas was actually collected in the early 1970's and so it represents conditions that were extant 35 years ago. Some comparisons are possible but they must be made with caution.

Harvest data available from the Nunavut Wildlife Management Board (NWMB) Study (2004) is not represented in this report. The difference between these two studies is that the Coastal Inventory was attempting to ascertain the qualitative geographic distribution of species while the NWMB's primary concern was harvest statistics.

The present data set was never conceived as a stand-alone product. It represents a snapshot in time of observations made by individuals within a community who have considerable experience hunting, fishing and trapping in the region surrounding that community. These data are considered within the context provided by other studies but have limitations, just as those did that preceded it. For a full picture it is necessary to view these findings as one of many complementary data sets.

GOVERNANCE

Collection of resource information through the process of IQ interviews can have many different values for a community, including cultural, social, historical, and economic. All of these, with the exception of the economic value, are more or less self-evident. However, translating a living marine resource into an economic benefit, while simultaneously addressing the issue of sustainability, requires some consideration of resource governance.

Acquiring knowledge about available resources can be empowering, and the acquisition of those resources can lead to prosperity and well-being. The NCRI attempts to identify the location and abundance of mammals, fish, birds, invertebrates, and plants so that this information can be used for a number of reasons, among them economic development. However, the exploitation of a resource requires important decision-making, a reasonable definition of expectations and limits, empowerment of individuals, and accountability. In other words, a sustainable approach to resource utilization requires a vision or goals, coupled with an implementation plan. The resource should be thoughtfully governed from the outset.

COMBINING TRADITIONAL ECOLOGICAL KNOWLEDGE (IQ) AND SCIENTIFIC KNOWLEDGE

Inuit Qaujimajatuqangit, or Traditional Inuit Ecological Knowledge, is unique in that it is qualitative, intuitive, holistic, spiritual, empirical, personal, and often based on a long time-series of observations (Berkes 2002). These characteristics are often cited as limitations, due to the reliance on long-term memory or that it is qualitative and subjective. Conversely, traditional ecological knowledge is particularly useful for recording historical data that are unattainable in any other manner. Perhaps as the sole device to fully understand and manage coastal resources traditional knowledge could be challenged, while a complementary coupling with the scientific method could produce important synergies resulting in a very powerful tool.

The scientific approach embraces all available evidence and postulates a theory that attempts to predict future changes. The accuracy of the prediction is a measure of the completeness of scientific understanding. Understanding the reasons for change is important because that information is central to any attempt to mitigate or influence long term effects, such as climate change. Addressing the root cause is a more certain approach than attempting to influence the symptoms. A critical factor in the scientific method is the availability and reliability of data available for analysis. The Arctic, because of size, complexity, and manpower limitations, does not often have an adequate supply of scientific observations. However, one underutilized data source is traditional knowledge where species, locations, processes and events have been monitored for generations. By bringing traditional knowledge and science together into a complementary working relationship there will be significant benefits for all stakeholders.

CLIMATE CHANGE

Over the past 20 years, an increasing number of arctic researchers have commented on the possibility of climate change and global warming and the predicted impacts on the marine environment (Tynan and DeMaster, 1997; Michel, C., R. Ingram and L.R. Harris, 2006; Ford et al, 2008a, 2008b; Moore and Huntington, 2008). Many changes may occur in recurrent open water sites, with the potential to affect many coastal resources. Specific impacts are predicted on water stratification and its role in nutrient renewal, the balance between multi-year and annual ice, the duration and location of open water, the impacts of tidal mixing, and topographic upwelling. These physical changes could then influence the marine food web; such as, 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. In other words, change may occur in our physical world that could alter the biological system, including the human component.

The Nunavut Coastal Resource Inventory initiative was undertaken to provide information that could inform decision-making in the areas of resource management, economic development, conservation, environmental assessment, and the mitigation of anticipated climate change effects. In order to be effective, each intervention will require baseline resource information plus knowledge about the factors that are driving change. Assessment of environmental change will be considered for both direct human activity (resource extraction) and significant systemic changes (climate change). Climate change may lead to warmer average temperatures, altered wind patterns, changes in precipitation, increasing freshwater input, and modified ocean circulation. Alteration of these factors would directly affect the physical marine environment and, ultimately, coastal marine resources as well. In order to mitigate, ameliorate, or influence these anticipated changes it would require considerable information about the factors that drive both the physical and biological environments, as well as their interconnectedness. There are two immediate sources for that information: traditional ecological knowledge and scientific knowledge.

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Hamlet of Gjoa Haven

Gjoa Haven HTO Board Members and Chairpersons

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APPENDIX 1
INTERVIEWEE BIOGRAPHIES

INTERVIEW	NAME	BACKGROUND
GJOA_1_1111	Ruth Qirqut Jimmy Qirqut	Ruth was born in 1942 at Avatarpak where she grew up, but moved to Gjoa Haven after the school was built. She has been fishing and hunting since she was a child. Jimmy was born in 1935 at Kamigluk and grew up at Kaliptarhiuvik. He moved to Gjoa Haven in the late 1960's. He started hunting when he was thirteen years old and is still actively hunting year round. They hunt bearded seal, ringed seal, geese, fish, muskox, and caribou.
GJOA_2_1111	Saul Arlaluk	Saul was born in 1946 at Hingalik and grew up at Kaliptarhiuvik. He moved to Gjoa Haven in 1964. He started hunting at age nine and still hunts actively, but less in the winter now. He predominately hunts whitefish, arctic char, lake trout, ringed seal, bearded seal, caribou, muskox, eider duck, Canada goose, and white goose.
GJOA_3_1111	Tommy Tavalok Mary Tavalok	Tommy was born in 1948 at Tajarnigjuaq and grew up at Ahiaq. He moved to Gjoa Haven in 1958 and started fishing and hunting when he was twelve years old. Mary was born in 1938 at Qatguuraq and grew up in Gjoa Haven. She has lived in Gjoa Haven for most of her life. She started fishing and hunting when she was eleven years old. They primarily hunt, but are not limited to, arctic char, caribou, ringed seal, whitefish, and lake trout.
GJOA_4_1111	Sarah Ullikataq	Sarah was born in 1939 at Kuunajuk (Perry River). She grew up in the same area and moved to Gjoa Haven in the early 1970's. She started fishing at a very young age. She no longer hunts, but fishes year round.
GJOA_5_1111	Alissa Kameemalik	Alissa was born in 1938 at Qaggiuraq. She grew up near Gjoa Haven at Quqirruq. She has lived in Gjoa Haven for 32 years. She started fishing and hunting when she was nine years old with her grandfather. She is still actively hunting on her own. She primarily hunts caribou, ringed seal, polar bear, muskox, arctic hare, arctic fox, bearded seal, arctic char, lake trout, landlocked char, arctic cod, and sculpin.
GJOA_6_1111	Willy Aglukkak	Willy was born in 1970 in Fort Gray, NWT. He grew up in Taloyoak and Gjoa Haven. He has lived in Gjoa Haven for 30 years. He started fishing and hunting when he was three or four years old. He is still actively hunting and primarily hunts caribou, muskox, polar bear, wolf, wolverine, arctic char, lake trout, whitefish, ringed seal, bearded seal, and beluga.
GJOA_7_1111	Bob	Bob was born in 1938 near Taloyoak and grew up near the Fort Ross area. He has lived in Kingait and Gibson Peninsula and around Gjoa Haven area for most of his life. He has been hunting for as long as he could remember. He primarily hunts ringed seal, bearded seal, arctic char, whitefish, trout, cisco, caribou, and migratory birds.

APPENDIX 2
ACRONYMS AND ABBREVIATIONS

CRI – COASTAL RESOURCE INVENTORY

CLEY – DEPARTMENT OF CULTURE, LANGUAGE, ELDERS AND YOUTH

CWS – CANADIAN WILDLIFE SERVICE

DFO – DEPARTMENT OF FISHERIES AND OCEANS

DOE – DEPARTMENT OF ENVIRONMENT

DSD – DEPARTMENT OF SUSTAINABLE DEVELOPMENT

ED & T – DEPARTMENT OF ECONOMIC DEVELOPMENT AND TRANSPORTATION

GC – GOVERNMENT OF CANADA

GN – GOVERNMENT OF NUNAVUT

HTO – HUNTER/TRAPPER ORGANIZATION

INAC – INDIAN AND NORTHERN AFFAIRS, GOVERNMENT OF CANADA

IQ – INUIT QAUJIMAJATUQANGIT

IPCC – INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

NRCAN – NATURAL RESOURCES CANADA

NRI – NUNAVUT RESEARCH INSTITUTE

NTI – NUNAVUT TUNNGAVIK INCORPORATED

NWMB – NUNAVUT WILDLIFE MANAGEMENT BOARD

APPENDIX 3
GJOA HAVEN - BIRD SIGHTINGS COMMENTARY

SPECIES	SPECIES NOTED THROUGH NCRI SITE INTERVIEW	GODFREY (1986): DISTRIBUTION AND RANGE	SNYDER (1957) DISTRIBUTION AND RANGE	RICHARDS & WHITE	C.W.S.NWT/ NU CHECKLIST SURVEY DATABASE	PECK (ROM) BREEDING EVIDENCE	FRASER (1957)	JOHNS., PEPPER, ET AL (2000)	MACPH. & MANNING (1959)	COMMENT RESTRICTED TO SPECIES REPORTED THROUGH NCRI INTERVIEW ONLY.
Greater White-fronted Goose		x	x	MB	x	4 nests		x	x	
Snow Goose	x	x	x	MB	x	1 nest	x	x	x	ok
Brant	x	x	x	MB	x		x			ok
Cackling Goose		x		MB	x					
Canada Goose	x	x	x breeds	MB	x	3 nests	x breeds	x	x	ok
Tundra Swan		x	x breeds	MB	x	1 nest	x breeds	x	x	
Northern Pintail				MB	x			x		
Canvasback				A			x			
King Eider	x	x	x breeds	MB	x	2 nests	x breeds	x	x	ok
Common Eider	x		x	MB	x		x breeds		x	ok
Long-tailed Duck		x	x	MB	x		x breeds	x	x	
Red-breasted Merganser			x	MB				x		
Willow Ptarmigan		x	x breeds	PB	x		x breeds		x	

SPECIES	SPECIES NOTED THROUGH NCRI SITE INTERVIEW	GODFREY (1986): DISTRIBUTION AND RANGE	SNYDER (1957) DISTRIBUTION AND RANGE	RICHARDS & WHITE	C.W.S.NWT/ NU CHECKLIST SURVEY DATABASE	PECK (ROM) BREEDING EVIDENCE	FRASER (1957)	JOHNS., PEPPER, ET AL (2000)	MACPH. & MANNING (1959)	COMMENT RESTRICTED TO SPECIES REPORTED THROUGH NCRI INTERVIEW ONLY.
Rock Ptarmigan	x	x	x breeds	PB	x		x breeds	x	x	ok
Red-throated Loon		x	x breeds	MB	x	1 nest	x breeds	x	x	
Pacific Loon		x	x breeds	MB	x	1 nest	x breeds	x	x	
Common Loon				MB	x					
Yellow-billed Loon		x	x	MB	x		x		x	
Rough-legged Hawk		x	x	MB	x				x	
Gyrfalcon		x	x	PB					x	
Peregrine Falcon		x	x	MB	x		x breeds		x	
Sandhill Crane		x	x	MB	x		x	x	x	
Black-bellied Plover		x	x breeds	MB	x		x breeds	x	x	
American Golden-Plover		x	x breeds	MB	x	8 nests	x breeds	x	x	
Semipalmated Plover		x	x	MB	x		x	x	x	
Ruddy Turnstone		x	x breeds	MB	x	2 nests	x breeds	x	x	
Red Knot				MB	x					
Sanderling		x		MB	x		x		x	
Semipalmated Sandpiper		x	x breeds	MB	x	4 nests		x	x	
Least Sandpiper				MB	x					

SPECIES	SPECIES NOTED THROUGH NCRI SITE INTERVIEW	GODFREY (1986): DISTRIBUTION AND RANGE	SNYDER (1957) DISTRIBUTION AND RANGE	RICHARDS & WHITE	C.W.S.NWT/ NU CHECKLIST SURVEY DATABASE	PECK (ROM) BREEDING EVIDENCE	FRASER (1957)	JOHNS., PEPPER, ET AL (2000)	MACPH. & MANNING (1959)	COMMENT RESTRICTED TO SPECIES REPORTED THROUGH NCRI INTERVIEW ONLY.
White-rumped Sandpiper		x	x	MB	x	3 nests	x	x	x	
Baird's Sandpiper		x	x breeds	MB	x		x	x	x	
Pectoral Sandpiper		x		MB	x	1 nest	x	x	x	
Dunlin		x	x	MB	x			x	x	
Stilt Sandpiper				MB	x	2 nests		x		
Buff-breasted Sandpiper		x	x breeds	MB	x			x		
Wilson's Snipe				A	x					
Red-necked Phalarope		x		MB	x					
Red Phalarope		x	x breeds	MB	x	2 nests	x breeds	x	x	
Herring Gull			x	MB	x		x breeds		x	
Thayer's Gull				MB	x				x	
Glaucous Gull		x	x breeds	MBw	x	1 nest	x breeds	x	x	
Sabine's Gull		x	x breeds	MB	x		x breeds		x	
Arctic Tern		x	x breeds	MB	x		x breeds			
Pomarine Jaeger		x		MB	x		x breeds		x	
Parasitic Jaeger		x	x breeds	MBw	x		x	x	x	
Long-tailed Jaeger		x	x breeds	MB	x	1 nest	x breeds	x	x	

SPECIES	SPECIES NOTED THROUGH NCRI SITE INTERVIEW	GODFREY (1986): DISTRIBUTION AND RANGE	SNYDER (1957) DISTRIBUTION AND RANGE	RICHARDS & WHITE	C.W.S.NWT/ NU CHECKLIST SURVEY DATABASE	PECK (ROM) BREEDING EVIDENCE	FRASER (1957)	JOHNS., PEPPER, ET AL (2000)	MACPH. & MANNING (1959)	COMMENT RESTRICTED TO SPECIES REPORTED THROUGH NCRI INTERVIEW ONLY.
Black Guillemot				MBw					x	
Snowy Owl		x	x breeds	PB	x		x	x	x	
Short-eared Owl				MB					x	
Common Raven		x	x	PB	x		x		x	
Horned Lark		x	x breeds	MB	x			x	x	
American Pipit		x	x breeds	MB	x		x breeds		x	
Lapland Longspur		x	x breeds	MB	x	4 nests	x breeds	x	x	
Snow Bunting		x	x breeds	MB	x	1 nest	x breeds	x	x	
Yellow-rumped Warbler			x	A						
Savannah Sparrow				MB			x			
White-crowned Sparrow		x		MB	x					
Hoary Redpoll		x		MBw					x	

Note: This report covers birds as noted in Ukkusiksalik National Park, per: CWS/Environment Canada

Note: Names and arrangements according to the A.O.U. Checklist (1998) and Supplements

Note: Comments are restricted to sightings claimed by NCRI interviewee. When comments like “highly unlikely, unlikely and doubtful” are used, it means that additional evidence is required.

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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/frosm 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.

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Parasitic Jaeger, Thayer's Gull, Arctic Tern, Black Guillemot, Snowy Owl, Horned Lark, Common Raven, Snow Bunting, Dark-eyed Junco, Common Loon)

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