

APPENDIX 4C
LAND USE REPORT



**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**LAND USE IN THE VICINITY OF THE MARY RIVER PROJECT
(REF. NO. NB102-00181/2-12)**

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MARY RIVER PROJECT

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EXECUTIVE SUMMARY

The Mary River Project (“the Project”) is a proposed iron ore mine and associated facilities located on North Baffin Island, in the Qikiqtani Region of Nunavut. The location of the Project is shown on Figure 1.1. The Project involves the construction, operation, closure, and reclamation of a 21 million tonne-per-annum (Mt/a) open pit mine that will operate for 21 years. The high-grade iron ore to be mined is suitable for international direct shipment after crushing and screening with no secondary processing or concentrating required. Three Mt/a of iron ore will be transported via an upgraded existing tote road to Milne Inlet where it will be stockpiled for shipment during the open water season. A new railway system will transport an additional 18 Mt/a of ore from the mine to a new all-season deep-water port and ship loading facility in Steensby Inlet, for overseas shipment through Foxe Basin. Shipping will take place year round using a dedicated fleet of cape-sized ice-breaking ore carriers, non-icebreaking ore carriers, and conventional ships.

The information collected herein provides an overview of the history of the region, information on land use during the contact-traditional period, and a more detailed overview of current land use activities in the North Baffin and Foxe Basin areas. Published sources, personal communications, and the Projects own Mary River Inuit Knowledge Study (MRIKS) were used to describe land use in the Mary River Project and surrounding areas. This information will ensure that past and present land use is considered in the planning and environmental assessment of the Project.

Human habitation of the region extends back at least 4,000 years. The historic period of a region is defined as that point where human activities are documented in written record (McGhee, 1978). The historic period of the North Baffin region begins in the late 16th century with the first European whaling and exploration in areas adjacent to Baffin Bay. Two ships that over-wintered in the Igloodik in 1822 and 1823 provide the first record of Euro-Canadian exploration in the Foxe Basin area.

The Hudson Bay Company, the Royal Canadian Mounted Police (RCMP), and the church established themselves at different times in the vicinity of each of the existing communities, as early as 1921 (Matthiasson, 1991). The establishment of these institutions, as with the whalers before, influenced land use and settlement patterns through the mid-twentieth century. The establishment of DEW-line sites in Foxe Basin also influenced land use patterns, with Inuit settling near the DEW-line sites seeking part time employment and for trade. Traditional land use patterns changed substantially with the movement of the Inuit into permanent settlements as a result of federal policy and housing initiatives in the 1950s (QIA, 2006; Matthiasson, 1991).

Contemporary Inuit land use was determined through consideration of the Nunavut Wildlife Harvest Study (Priest and Usher, 2004), interviews and discussions with local communities, and the results of the MRIKS.

Connection with the land continues to be an important aspect of Inuit life and is evident in current land use patterns. Although Inuit now live in permanent settlements, travel and camping continue to be important aspects of Inuit life. Travel routes have been identified linking all the communities of north Baffin Island (Clyde River, Pond Inlet, Arctic Bay, Igloolik, and Hall Beach). Travel is an important land use practice of the Inuit as it enables the development of connections to the land, enables individuals to meet with family and friends from other communities, and enables hunting and gathering.

Contemporary harvesting activities on North Baffin include wildlife hunting, marine mammal hunting, freshwater and marine fishing, berry picking, egg gathering, sea resource harvesting, and land resource harvesting such as soapstone.

Ice is an important component of land use activities, as much of the travel engaged in by residents is on land fast ice. Land fast ice is often used to reduce travel time and to access the floe edge for hunting purposes.

Both the North Baffin and Foxe Basin regions have been subject to scientific study for decades. Local outfitting resources are available in local communities for tourism activities such as kayaking, nature viewing and polar bear hunting. Cruise ships visit the North Baffin region each summer, specifically the region around Bylot Island and Sirmilik National Park.

Northern Baffin Island, specifically Lancaster Sound, was the focus of oil and gas exploration in the late 1970s. Interest in developing oil and gas resources in the area continues today, though recent proposed seismic programs have legally impeded at this time. The Nanisivik Mine was a lead-zinc mine that operated near Arctic Bay from 1976 to 2002. More recently, mineral exploration activities across Nunavut, including the North Baffin region, have increased. The Nunavut Land Claim Agreement (1993) contains provisions to recognize Inuit rights to establish outpost camps and to access deposits of carving stone.

Land in the region is predominantly Crown-owned land and Inuit-owned lands (IOL), with communities situated on Commissioner's lands. Land use in the region of the Project is guided by the North Baffin Regional Land Use Plan, whereas Foxe Basin, including the communities of Igloolik and Hall Beach (the Akunnig planning region), does not have an approved regional land use plan. Once approved the Nunavut Land Use Plan will supersede all existing land use plans and provide land use guidance for all of Nunavut.

Several parks exist in the vicinity of the Project. Sirmilik National Park of Canada, established in 2001, is one of Canada's newest national parks and covers a considerable landmass with four separate land parcels. The Bylot Island Bird Sanctuary is located within Sirmilik National Park, affording it overlapping legal protection and restrictions on land use. Tamaarvik Territorial

Park, located adjacent to the community of Pond Inlet and Little Salmon River, is a relatively small park used mainly for camping.

The Project does not overlap with any terrestrial protected areas and/ or known critical habitats such as national or critical wildlife areas. Access to Milne Port would be through Baffin Bay into Eclipse Sound or around Bylot Island through Navy Board Inlet. Both paths are adjacent to Sirmilik National Park and Bylot Island Bird Sanctuary, and in proximity to key marine bird habitat sites near Cape Graham Moore or Cape Hay on Bylot Island. No interactions are expected along the southern shipping route through Hudson Strait and Foxe Basin.

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SECTION 1.0 - INTRODUCTION

1.1 BACKGROUND

The Mary River Project ("the Project") is a proposed iron ore mine and associated facilities located on North Baffin Island, in the Qikiqtani Region of Nunavut. The location of the Project is shown on Figure 1.1. The Project involves the construction, operation, closure, and reclamation of a 21 million tonne-per-annum (Mt/a) open pit mine that will operate for 21 years. The high-grade iron ore to be mined is suitable for international direct shipment after crushing and screening with no secondary processing or concentrating required. Three Mt/a of iron ore will be transported via an upgraded existing tote road to Milne Inlet where it will be stockpiled for shipment during the open water season. A new railway system will transport an additional 18 Mt/a of ore from the mine to a new all-season deep-water port and ship loading facility in Steensby Inlet, for overseas shipment through Foxe Basin. Shipping will take place year round using a dedicated fleet of cape-sized ice-breaking ore carriers, non-icebreaking ore carriers, and conventional ships.

1.2 SCOPE OF REPORT

This report summarizes the land uses within the area potentially affected by the development and operation of the Mary River Project.

The land use study area was delineated based on both historical land use (Milton Freeman Research, 1976) and more contemporary land use (Priest and Usher, 2004).

This report includes land use information on both the north and south Baffin regions; however, the report concentrates primarily on the north Baffin region as a result of the location of the bulk of the Project, and because of the greater anticipated interaction between the mine and surrounding land use activities. Project shipping activities through Hudson Strait are also expected to result in a minor interaction with the land use activities of the communities of Cape Dorset and Kimmirut.

SECTION 2.0 - NORTH BAFFIN REGIONAL HISTORY

The following examination of the human history of the land use study area is subdivided into three time periods: pre-historic, proto-historic and historic periods. While it is not common for Inuit to divide their past along these lines,¹ this section has been structured in this way to provide the reader with a simple method of understanding the human history of the study area.

The first sub-section documents the archaeological past of the Inuit and their predecessors. The second section provides proto-historic period information of Inuit sites bearing evidence of contact with Euro-Canadians,² while the third section describes the history of the area as revealed in Inuit oral tradition and Euro-Canadian documentation.

Crowe (1969) identified the following key physical and biotic conditions that shaped a notable continuity in historical human settlement patterns of northern Foxe Basin since 2,000 B.C.: shallow marine water, ocean currents, ice conditions, and an abundance of game resources.

Crowe's study of the sequential occupancy of northern Foxe Basin by pre-contact peoples reveals a variety and richness of game resources, with walrus as a prime factor. Secondly, the study highlights the temporal and spatial continuity in human settlement as a result of the stability of resources. Subsequently, Crowe determined a common 'core' area of occupancy as being the north western coast of Foxe Basin, an area from Siorarsuk Peninsula in the north to Cape Jermain in the south. Away from the core area the variety and abundance of game species decreases and hunting conditions become less favourable. A lower level of human occupancy with smaller game numbers of core species is discernible in such areas as Agu Bay, Steensby Inlet and Piling Bay. Certain isolated areas offered enough advantages in terms of game availability and favourable ice conditions to permit a third degree of small sporadic settlement, as at Garry Bay.

2.1 PRE-HISTORY

The pre-historic period refers to human activity that took place before the advent of documentary, or written sources. Human habitation of the region extends back at least 4,000 years based on current archaeological data (McGhee, 1978). Features and artefacts found at north Baffin archaeological sites have been grouped by archaeologists to represent cultural evolution over time. Based on changing assemblages (types of artefacts and features), archaeologists have identified at least five distinct technologies, often referred to as separate cultures, preceding the modern Inuit.

Arctic Small Tool Tradition (2,000-800 BC)

The Arctic Small Tool tradition (ASTt) has two variants in Arctic Canada: Independence I and Pre-Dorset. According to McGhee (1978), artefacts of the ASTt appeared suddenly on the

¹ "For example, in our culture we do not divide the past from the present so we do not like to use terms such as "prehistory." Our history is simply our history." (Communications Department, 2006).

² Euro-Canadians: non-Inuit of European or Canadian ancestry. Called in the Inuktitut language *qallunaat* (plural) or *qallunaq* (singular)

landscape, and their technology bears no resemblance to that of earlier Aboriginal peoples, likely representing a new movement of people, possibly from Siberia, across Canada into Greenland. Jorgen Meldgaard called the pre-Dorset culture of northern Foxe Basin the Sarqaq culture, after similar discoveries in western Greenland (Crowe, 1969). These early inhabitants were likely sub-arctic people who may have made yearly journeys to the barrenlands and coastlines following the herds of caribou as they migrated north. Upon discovering the other resources offered there, they developed tools and techniques to enable year-round habitation of these regions.

Tunit: Dorset (3,000 – 1,000 years ago)

Inuit legend tells of an ancient race called the Tunit, who lived in the Canadian Arctic before the ancestors of the present Inuit arrived. It seems likely that the legendary Tunit are the culture known archaeologically as the Dorset, whose sites are found across much of the central and eastern Canadian Arctic (McGhee, 1978). The Dorset culture has two archaeological expressions: Dorset and Independence II sites. Independence II sites appear to be concentrated in regions removed from the Project study area (Cornwallis, Bathurst, Devon and Ellesmere Islands and the Pearyland region of northern Greenland) and will not be discussed further in this report.

Dorset culture is thought to have developed in the Foxe Basin area around three thousand years ago. The Dorset period is also referred to as “tradition” because of the wide distribution and time depth of more than 1,500 years in the Eastern Arctic, although most refer to it as a distinct “culture.” The Middle Dorset period (2,000-1,500 BP³) is associated with climatic warming, but decline in population and abandonment of some areas. The Late Dorset period (1,500-1,000 BP) includes population increase and expansion into the Canadian High Arctic and N.W. Greenland.

Dorset-Norse-Thule Contact

According to oral traditions, the Tunit were a large and gentle race, whom the Thule, the ancestors of the modern Inuit, encountered on their spread eastward. McGhee (1978) notes that, while Inuit mythology contains a variety of stories about different races of human and subhuman peoples, the stories of the Tunit stand out with their depth of detail and are site-specific to locations with evidence of Dorset occupation. It is possible that these stories relate actual experiences between the two peoples (McGhee, 1978). In the Pond Inlet area, modern Inuit tell of a Tunit man who was so strong that 13 of his footprints remain pressed deep into the sod at a site along Navy Board Inlet where he is said to have carried an entire walrus over his shoulder. Modern Inuit demonstrate, by walking in the footsteps, how the load was so great that it made the man stumble.

Archaeologists generally agree that there was contact between the Tunit and the Thule, but the reasons for the Dorset disappearance and their replacement by the Thule is poorly understood (Park, 2006). It has been speculated that the Dorset were simply out-competed during Thule expansion, as there exists little evidence of conflict (Park, 2006).

³ In quoting McGhee the convention used was “Before Present” to be consistent with McGhee’s text.

Nunguvik, an archaeological site on the western side of Navy Board Inlet, was recently identified by Patricia Sutherland of the Canadian Museum of Civilization as bearing evidence of Norse contact (Sutherland, 2006). This site, among others recently excavated in Nunavut, exhibits strong archaeological evidence of contact, including a 3 m length of spun rabbit 'wool' stylistically comparable to samples from a Norse farmstead in Greenland. More work will be conducted in the future by the Canadian Museum of Civilization to understand this period of early contact (Sutherland, 2006).

Thule (1,000 A.D. - 1,600 A.D)

The peoples known archaeologically as Thule are the direct ancestors of modern Inuit culture, and the second great "pan-Arctic" tradition following the Dorset. The Thule are noted for their rapid eastward expansion across the entire Arctic, aided by the new technologies of umiaks (large boats capable of carrying entire families) and by dog sleds. These two methods of travel allowed the Thule to travel year-round in both open water and over sea ice. Thule sites include features such as semi-subterranean whalebone and sod houses in winter and evidence of tent camps in summer.

The assemblages of Thule sites feature tools to hunt ringed seal, walrus and caribou, but the favoured prey was the bowhead whale. Archaeologically, there appears to be a strong emphasis on bowhead whaling through the use of drag floats attached to the harpoon line. Complex social organization would have been needed to take a bowhead, as the community would need to work together to hunt and process the large whale (Orchard, 2006a). The amount of food that resulted from hunting bowhead, where even a small whale could weigh seven tons, meant that Thule life was richer and more secure than that of their predecessors.

The whale resource was not fully exploited by earlier cultures of the Sarqaq and the Dorset, however, for comparison the Thule's exploitation of the Greenland whale resource did not bring about any change in the regional pattern of settlement. The Thule built close to the old Sarqaq and Dorset villages staying close to the east coast of Melville Peninsula (Crowe, 1969).

Inuit (1,600 A.D- present)

Climatic change in the 14th century is widely credited with causing the Thule people to modify their way of life into the way of life of the various historic Inuit groups. The whaling areas of the High Arctic were abandoned and populations appear to have moved southward (Morrison, 2006). Bowhead whaling as the main means of subsistence disappeared from most of Canada, resulting in a less secure existence. This change in resource base meant that Inuit moved their camps and villages more frequently than their Thule ancestors, and, in many areas the old sod and whalebone winter house were abandoned in favour of the iglúviaq, or snow-house, signalling a return to the more hand-to-mouth lifestyle of hunters of smaller sea mammals. In the Pond Inlet region, where seasonal hunting provided the incentive to remain in one area for an extended period, many people continued to live in the sod-houses of their ancestors. To this day, many elders in Pond Inlet remember growing up in sod-houses.

2.2 PROTO-HISTORIC PERIOD

The proto-historic period represents an indistinct boundary between the archaeological and documented past. Oral tradition is used to establish when Euro-Canadian influences first reached different groups of Inuit in the study area and is an important resource that captures the Inuit perspective of cultural contact with Euro-Canadians as well as the Dorset and Norse.

Artefacts and oral tradition indicate that the spread of goods and disease often preceded actual contact with Euro-Canadians.⁴ Therefore, the presence of Euro-Canadian goods in an archaeological site is not taken as sole evidence of contact. Inuit who had not themselves been in contact with Euro-Canadians may have accessed material goods through trade or personal connections with Inuit who had, or by scavenging wrecked ships and abandoned camps and caches. *“People started to find out that the items the white man brought were useful. Slowly, not immediately, I think, they learned how to use them”*, says Cornelius Nutarak (Eber, 1996).

2.3 HISTORIC PERIOD

The historic period is defined as that point where human activities are documented in the written record. This happened at different times across the study area; the historic period for the Inuit of the Pond Inlet area began at a different time than for the Inuit of the Foxe Basin. History is also documented in the oral traditions of the Inuit, allowing knowledge of an area to stretch back several generations to an informant's ancestors.

The historic period of the North Baffin region began in the late 16th century with the first whaling and exploration in areas adjacent to Baffin Bay. Crowe (1974) notes that by 1590, 350 whaling ships from European nations were hunting bowhead whale in the waters between Greenland and Baffin Island. Exploration, often with the dual purposes of seeking a route through the Northwest Passage and for fur trading, was also underway at this time. Royal Navy explorers sent by the British government were often the first outsiders that Inuit met. Poorly clothed and outfitted, the success of these early voyages of exploration often depended on the assistance and guidance of Inuit.

The first record of exploration in the Project study area was in 1822 and 1823, when two ships commanded by Parry and Lyon over-wintered near Igloolik. Crowe (1974) notes that it was likely the strict discipline of the British Navy that prevented these early interactions from having as much an effect and influence on the Inuit as the later encounters with whalers. Crowe (1969) extracted from Parry's work that the Inuit of northern Foxe Basin were part of a larger linguistic group and cultural group inhabiting the region/ communities now known as Pond Inlet, Arctic Bay, Repulse Bay and Wager Bay. Although any one group would be identified by its region of residence, travel between the regions was frequent and most of the adults known to Parry had lived in several or all of the main locations.

⁴ The choice of the term Euro-Canadians is based on the fact that the early contact period was as much a meeting of Inuit and Europeans (specifically British and Scottish peoples) as it was a Canadian experience (Matthiasson, 1991).

The history of the establishment of each of the communities within the North Baffin study area are provided below, discussed in proximity to the Mary River Project site.

2.3.1 Pond Inlet

The first regular, ongoing contact between Inuit and Europeans in the Pond Inlet region began in the 1820's, when whalers established semi-permanent stations in the area (Crowe, 1974). As well as attracting local Inuit, the Igloolik Oral History collection relates that Igloolik Inuit would travel overland through the Mary River area to Pond Inlet to trade with the whalers. The whalers quickly learned of the profits to be gained by trading with Inuit for furs and other locally made goods.

The whalers were the first source of European goods for most Inuit, through trade, by employing Inuit and paying with goods, and also through Inuit scavenging shipwrecks and abandoned stations. As a result of contact with the whalers, Scottish culture had the first and most profound influence on the Inuit. This is evident in many of the activities and materials originating from Scotland, such as bannock and certain styles of music and dancing such as jigs and reels that have been adopted into Inuit culture. The impact of Canadians (i.e., the Canadian government compared with European whalers) was secondary until almost one hundred years later (Matthiasson, 1992).

Traditional Inuit tools and technologies were gradually replaced with rifles, wooden boats and wool clothing, while traditional foods were supplemented by sugar, tea and floury bannock. Moreover, the whalers brought wage labour, new diseases and new genes; Eber (1996) notes that "... it is a rare Inuk who has no whaler ancestry." Historical records demonstrate the link between the whalers and disease. A study by W. Gillies Ross (Eber, 1996) illustrated using ship log books how disease spread to regions visited by certain ships with sick crew members. Tuberculosis, measles and venereal disease had a major impact on Inuit who had no resistance to such illness. By 1950, one in five Inuit suffered from tuberculosis (Crowe, 1974). Diseases, along with the introduction of new material goods and new ways of thinking, dramatically changed the Inuit way of life.

By the late 1800s the whaling industry was in decline and an economic relationship based on fur trading developed between Inuit and Euro-Canadians. In the Pond Inlet area many whalers became free traders who encouraged the trapping of fox, though whaling continued until at least 1919. By 1921 the Hudson's Bay Company (HBC) had established a post at what became known as Pond Inlet. The first of the Arctic's "big three," the HBC was soon followed by the missionaries and the RCMP. The RCMP post in Pond Inlet, established in 1923, represented the first real contact between Inuit and the Canadian government. Although the presence of posts attracted Inuit to more or less settle in the Pond Inlet area, Matthiasson (1974) records that the three institutions mentioned above actively encouraged the Inuit to remain on the land. The HBC wanted the Inuit to trap, the missionaries to remove Inuit from the bad influences around the posts, and the RCMP wished the Inuit to remain on the land as a means of reducing social problems associated with access to liquor.

By the 1930's Inuit were more or less familiar with Canadian economics, religion and law, but interactions with Canadians, apart from the HBC, missionaries and RCMP, remained limited until 1953 when the Department of Northern Affairs and National Resources was created. The Canadian government refers to this time as one where the government "encouraged" Inuit to live in permanent settlements, instead of their seasonal camps. The use of the word 'settlement' is telling; these were not villages established by choice, but settled through policy. The Inuit version of this time period is one of forced relocation, lack of choice, children taken away and sled dogs, their main mode of mobility, shot (Matthiasson, 1992). In either case, the settlement of Pond Inlet was soon supported by government agencies, health and social services, and a housing program. The first federal day school was opened in 1961. As Matthiasson (1974) records, the structure of the permanent settled way of life for Inuit was formed by this time.

Still, the lifestyle of living on the land appealed to Inuit, who were reluctant to give up their traditional way. In 1963 there were 15 households in Pond Inlet with a total of 280 people, while 41 households remained living in camps around the area of Eclipse Sound and Navy Board Inlet (Matthiasson, 1992). Inuit of the camps were content living a traditional lifestyle with new technologies such as rifles and camp stoves, and visited the settlement only for trade and social reasons. There are many elders in Pond Inlet who have strong feelings and memories regarding these camps, and the lives lived there before the final movements to the settlements. Though Pond Inlet remained a hub of activity and trade, identity was based on camp residence.

The broader term Tununermiut refers to the people of the North Baffin region, including Pond Inlet and all the surrounding camps, but this was further subdivided between the Mittamatalikmiut (or Mittamatalingmiut) of the settlement, and the people of the individual camps, as marked by the place name of the camp with the suffix 'miut', indicating the people of a certain place. In spite of this sense of identity, by the mid 1960s, nearly all Inuit in Canada lived in these new settlements.

Arctic Bay

Arctic Bay is referred to by local Inuit as Ikpiarjuk, meaning "the pocket;" a reference to the sheltered location of the community, 'tucked' into a bay surrounded by high hills.

Captain William Adams was the first non-Inuk recorded to have seen Arctic Bay; entering the bay in 1872 with his whaling ship, the Arctic (Damas, 2002). Another ship named the *Arctic*, an official Canadian government steamship under the command of explorer Joseph E. Bernier, wintered in the bay in 1910-1911, where Bernier functioned as a whaling inspector, letting American ships know that they were in Canadian waters (Kenney, 2004). It appears that little other European or Canadian contact was made with the Inuit of this region until the 1920's.

A Hudson's Bay Co. post was established at Arctic Bay in 1926 but closed the following year. This closure required Inuit in the area to travel vast distances to trade and this has been linked to hardship and starvation in the region (Damas, 2002). This impact was one of the occurrences which resulted in the Canadian government establishing some degree of control over the placement of HBC posts in the Arctic (Damas, 2002). According to Damas (2002), "It would appear that Ottawa had assumed the position that posts should be located in regions that were in or near the traditional Inuit ranges of movement." The post was re-established in 1936, when Inuit originally from Pangnirtung and Cape Dorset were relocated here from the unsuccessful HBC post at Dundas Harbour on Devon Island (QIA, 2006). The HBC, in addition to trading furs, also required assistance from the Inuit during the yearly re-supply of the post. Damas' text (2002) records the words of an HBC employee at the Arctic Bay post who noted in his annual report of 1941-42 that,

"These Natives are required annually to work cargo when the ship arrives, and hunt from the post for a few weeks every year. With such a short season of open water it is too bad that that these natives spend so much time around the post, as it spoils their sealing to some extent which in turn reacts on their winter trapping."

In Damas' opinion, this underscores the seasonal cycle of Inuit gathered around the posts; the HBC encouraged a period of time to be spent in the vicinity of the posts, while also encouraging the Inuit to continue traditional harvesting for subsistence and commercial harvesting for trade (2002).

Christianity became a permanent fixture in the lives of local Inuit when the Anglican Church built a mission at Moffet Inlet, south of Arctic Bay, in 1937. It closed 10 years later, after the accidental shooting and subsequent death of Canon John Turner (QIA, 2006). A Roman Catholic mission operated in Arctic Bay for a short time in the 1930s, with the Anglicans and Catholics sharing a chapel.

The third of the Arctic's "big three," the RCMP, as agents of the Canadian government, were not as prominent a presence in Arctic Bay during the early settlement period as they were in other Baffin communities. RCMP from the detachment in Pond Inlet were responsible for undertaking patrols to Arctic Bay through the period leading up to about 1960, when a permanent detachment appears to have been established in Arctic Bay (Damas, 2002).

A federal Department of Transport weather station operated here between 1942 and 1952 and provided year-round employment for the Inuit, giving them incentive for them to settle in one place, and contributed to the same pattern of "in-gathering" noted in other Baffin communities during the 1950's (Damas, 2002). In 1955, a group of nineteen Inuit left Arctic Bay for the new colony of Resolute. Damas does not note the reason for this, and so it is unclear why this movement took place, and whether it was a result of government policy. In general, the RCMP tried to discourage Inuit from settling near the HBC post and it is noted from their reports that the police "exerted pressure on the

population to remain as dispersed as possible” (Damas, 2002). This resulted, according to the statistics of 1958, in only 20% of the total population of 170 Inuit living in the region residing at the post in Arctic Bay (Damas, 2002). Throughout the 1950s Inuit appear to have preferred living in the surrounding camps rather than settle in Arctic Bay itself.

As with most other Baffin Island communities, the present town developed as a result of government policy and housing initiatives in the 1960s (QIA, 2006). By 1963 the Canadian government, through the Department of Indian and Northern Affairs, had a representative in Arctic Bay and the policy of social housing was acted upon to deal with the increasing number of Inuit who were settling in the community. As in other northern communities, the creation of a federal day school in the 1959 functioned as an attraction for Inuit and many of the houses built during the 1960's were constructed to deal with the influx of families present as a result of their children attending the school (Damas, 2002). In spite of the “in-gathering,” subsistence living from local resources continued throughout this period.

Mineral exploration, and the development of a lead-zinc mine at nearby Nanisivik (“the place where you find things”) transformed Arctic Bay in the 1970's and was a major influence on the community until its closure in 2002, as it brought about increasing reliance upon a wage economy. Arctic Bay is connected by a 21-kilometre all-weather road to Nanisivik. The closure of the mine has resulted in Inuit seeking other forms of employment, such as exploring the options offered by tourism in the adjoining Sirmilik National Park. The federal government is currently undertaking a feasibility study of constructing a naval facility in Nanisivik (Department of National Defence, 2008).

2.3.2 Igloolik

The Igloolik area (“Place of Iglus”) shares much of the prehistory as noted in the preceding paragraphs. Igloolik Inuit, or Iglulingmiut, are the modern descendants of the Thule. The QIA (2006) notes that *“many Igloolik people are descended from members of Qidlarssuaq migration to Greenland in 1800s.”*

The first contact between Iglulingmiut and Europeans is thought to be when Captain William Edward Parry and George Lyon of the British Navy, in search of the Northwest Passage, overwintered with the ships *Fury* and *Hecla* in 1822-23. Parry's and Lyon's published journals are among the earliest detailed accounts of Inuit life and social organization in the Canadian Eastern Arctic (MacDonald, 2006). The island of Igloolik was also briefly visited in 1867 and 1868 by an American explorer, Charles Frances Hall, in his futile search for survivors of the Franklin Expedition, which vanished in 1847.

In 1913, Alfred Tremblay, a French-Canadian prospector with Captain Joseph Bernier's expedition to Pond Inlet, extended his mineral exploration overland to Igloolik, guided by Inuit. According to Igloolik oral tradition, Tremblay was said to have “captured” Igloolik Island by discharging a revolver into the ground (MacDonald, 2006).

The Igloolik area was visited by members of Knud Rasmussen's 5th Thule Expedition, although not by Rasmussen himself, in 1922. Therkel Matthiassen, an archaeologist with the expedition, recorded that Igloolik Island was central to local Inuit, and the majority of Iglulingmiut lived there seasonally during the autumn to mid-winter (Damas, 2002). In January, the people moved to camps on the sea ice to harvest walrus and seal, with these large winter camps breaking up in the spring as people moved further in search of seal. The groups subdivided further in the summer with the break-up of the sea ice. Matthiassen (1991) recorded that younger men travelled inland at this time to hunt caribou, while the older males would stay along the coast to hunt marine mammals (Damas, 2002). These separate groups reconvened in the Igloolik area as the seasons changed and people began to live off stored food again. According to John MacDonald (2006) of the Nunavut Research Institute, "The Expedition's published reports provide extensive, accurate accounts of Iglulingmiut social, economic, cultural, and intellectual life in the era just prior to regular contact with the larger world".

Permanent Euro-Canadian presence in Igloolik occurred later than in most regions of the North. The first of the Arctic's "big three" to be established in Igloolik was the Roman Catholic Mission in 1931 (Damas, 2002). Unlike comparable populated areas, the Igloolik people did not have regular access to trade goods during the first two decades of the twentieth century. Where the Tununermiut of the Pond Inlet area had regular to semi-regular access to trade with whalers and HBC, the Iglulingmiut had to make 500-600 mile round-trip journeys to Pond Inlet or Repulse Bay to trade (Damas, 2002). The Hudson's Bay Company did not establish a post in Igloolik until 1936, and it was closed for the duration of World War II, reopening in 1946. The 1940's brought the last of the "big three," and the first official representation of the Canadian government; the RCMP. Regular visits of the RCMP to Igloolik began in 1944, with officers travelling from the Pond Inlet detachment to provide services to the community. Igloolik did not receive its own RCMP detachment until 1964.

The history of the present community of Igloolik is, in general, the same story shared by all Canadian Arctic communities. Increasing federal government interest in the Arctic resulted in a series of initiatives in the 1960s designed to concentrate Inuit in specific areas. The process, including the establishment of schools, government offices and health centres, began in Igloolik in 1955 with the first children from the area being sent to Chesterfield Inlet for residential school. In 1959, the first government administrator arrived in the community, and by the mid-1960s, a school, a nursing station, and a RCMP detachment were permanently established, as well as the Anglican Mission and the Igloolik Co-operative Ltd. (MacDonald, 2006). During this time, an increasing number of Inuit moved from their traditional home bases on the Northern Foxe Basin to Igloolik. As with other settlements in the eastern Arctic, Igloolik grew rapidly as Inuit families from surrounding camps moved into the community to avail themselves of services offered by government agencies (QIA, 2006).

The story of Iglulingmiut is, however, one of cultural strength in spite of enforced changes and cultural transition. In 1971 the Inummarit Society was established to preserve Inuit

cultural traditions in Igloolik. The society produced a magazine and helped to create a museum in the community. The construction of the Igloolik Research Centre in 1974 by the Federal Department of Northern Affairs, and subsequent research projects run through the Centre helped to support the value of traditional knowledge in the community (MacDonald, 2006).

Support for the preservation of Inuit knowledge was further solidified in 1985 with the commencement of the Igloolik Oral History Project, an on-going, co-operative effort between the Igloolik Research Centre (Nunavut Research Institute) and the elders of Igloolik. John MacDonald noted that as of June 1999 the project has collected and translated approximately 450 interviews (some 5,000 pages of translation) covering all aspects of Iglulingmiut traditions and is widely used by schools in the Baffin Region, the media, and researchers (MacDonald, 2006). In 1999 the Inullariit Society received the Department of Indian Affairs and Northern Development's 1998 Northern Science Award in recognition of the Society's "exceptional contributions to increasing public understanding of Inuit knowledge and skills" (MacDonald, 2006). Other projects, such as the films of Isuma Productions ("Atanarjuat: The Fast Runner") have brought Inuit beliefs and values to international audiences. Today, Igloolik is considered by many to be one of the most culturally intact of the Nunavut communities, and its traditions are guarded with particular care (Delegation of Churchill Hudson Bay 2001-2006).

2.3.3 Hall Beach

Hall Beach is referred to by local Inuit as Sanirajak, "the place that is along the coast". According to QIA (2006), Hall Beach was created in 1957 when the Cold War triggered the establishment of a chain of Distant Early Warning (DEW) radar sites, set up in a line along the 70th parallel to monitor Canadian air space in the far north. According to Damas (2002) the building of DEW-line sites beginning in 1955, had the side effect of attracting and concentrating Inuit to the areas in and around the installations. Along with the founding of DEW-line site, a nursing station was also established in 1957 (Damas, 2002). Other products of federal government policy followed, including a federal day school in 1967 (Damas, 2002).

By 1960, there were 300 qallunaat (white people) living on the site and about 260 Inuit. A variety of factors likely influenced the movement of Inuit from traditional camps and into the community of Hall Beach during the 1960s. The majority appear to have moved to the community to take advantage of government housing programs, health care and opportunities for work and education (QIA, 2006). Damas' text "Arctic Migrants, Arctic Villagers" quotes Vestey's unpublished MA Thesis research concerning Inuit movement into the community of Hall Beach, and notes that was generally voluntary (Damas, 2002). In many cases, the elder members of families were interested in moving closer to established nursing stations, and their extended families would move with them.

Now, Hall Beach is known for the wealth of sea mammals found in the waters of the Foxe Basin. Strong currents maintain areas of thin ice and open water throughout the

year, facilitating the hunting of seal, walrus and beluga. Now Fox-MAIN, the Hall Beach radar station, uses the advanced North Warning Radar System that has replaced the outdated DEW-line technology, and the old twin 120- foot tall antennas now serve as landmarks for aircraft and hunters.

2.3.4 Clyde River

Clyde River is referred to by local Inuit as Kangiqtugaapik, meaning “nice little inlet.” Clyde River, also known historically as “Clyde,” is located in a fjord on a shallow gravel ridge surrounded by high hills. The origin of the present community can be linked to the establishment of a Hudson's Bay Company post in 1922 / 23, and that company's efforts to relocate Inuit from other areas of the Baffin region to Clyde River to exploit the plentiful fur resources in the area (Netcentrics Corporation, 2006)

Wenzel has documented that in 1951 there were approximately 120-140 Inuit living in, and in close proximity to Clyde River (Damas, 2002). Of this, five or six families, representing around 30 people, lived in the immediate area of the HBC post.

In 1954, a US Coast Guard weather station was constructed nine miles north of Clyde River at Cape Christian, in order to aid the navigation of ships and airplanes flying into and out of Thule, Greenland (Government of Canada, 2006). This installation, along with a Department of Transport facility in Clyde River, attracted Inuit in the same way that DEW-line sites did. Wenzel states that the local RCMP charged the men stationed at these sites with giving away food, clothing and fuel, which they believed caused the Inuit to loiter around the sites, rather than supporting themselves through hunting (Damas, 2002). The RCMP set about actively discouraging the ‘in-gathering’ of Inuit around the installations and posts, and by the mid-1950's the situation was “greatly improved” with only three families settled at Clyde River (Damas, 2002). This follows the pattern seen in most other Baffin communities during the 1950's; Inuit were drawn by the presence of trading and government installations, but the majority remained in outlying camps.

The process of concentrating Inuit in Clyde River, in spite of the efforts of the RCMP, appears to have progressed through the 1960's. In 1961, a federal day school opened, and likely contributed to families remaining in the community (Damas, 2002). Wenzel has hypothesized that the advent of motorized transport, such as snowmobiles and outboard motors, allowed Inuit to be centralized in the communities, allowing them to go on the land to harvest traditional food with a mode of transport that allowed for “relative ease of return” on a daily basis (Wenzel, in Damas, 2002). By the late 1960's, only two families remained living in camps outside of the settlement (Damas, 2002).

Today, the community of Clyde River is one of the Baffin communities that did not receive de-centralized government departments after the creation of Nunavut in 1999. Instead, the people of this community have chosen to seek other forms of economic development, such as working towards the creation of the Isabella Bay bowhead sanctuary as both a

protected area and a means to stimulate their tourism industry. This industry is also based on polar bear sport hunting and international climbers in the fjords north of the community.

SECTION 3.0 - TRADITIONAL LAND USE ACTIVITIES

This section summarizes available documented information on traditional land use. The nature of this information is spatial and not quantitative; the information is primarily contained in maps and quantitative information such as harvest data is not available. The following documented information was utilized.

- **Inuit Land Use and Occupancy Project:** Documented Inuit land use patterns throughout the Nunavut Settlement Area for pre-permanent settlement and post-permanent settlements periods.
- **Crowe 1969 - Cultural geography of Northern Foxe Basin:** Describes continuity in the pattern of occupation of northern Foxe Basin over the past 4,000 years
- **Mary River Inuit Knowledge Study:** Summarizes Inuit traditional knowledge referred to as *Inuit Qaujimajatuqangit* (IQ) in relation to land use that was collected through a series of workshops and interviews in the northern and southern Baffin regions
- **Nunavut Wildlife Harvest Study:** A recent land use information in the form of participation rates in wildlife harvesting, and harvest numbers by species
- **Nunavut Coastal Resource Inventory - Igloolik Pilot Project:** A collection of information on coastal resources and activities which uses Igloolik as a pilot project

3.1 INUIT LAND USE AND OCCUPANCY PROJECT

The traditional land use of the Project study area by local Inuit is well documented. In the late 19th and early 20th centuries, early explorers documented the location of settlements and travel routes. The *Inuit Land Use and Occupancy Project* (ILUOP) was a plan by the Department of Indian Affairs and Northern Development (DIAND) to document Inuit land use patterns throughout the Nunavut Settlement Area for two main time periods: the pre-permanent settlement contact-traditional period (1920 to the 1950s/ 1960s), and following the expansion and occupation of the permanent settlements from the 1950s or 1960s (depending on when the movement into permanent settlements took place) to 1974.

Milton Freeman Research Ltd. (1976) compiled historic trapping and wildlife harvesting areas used prior to and after government-initiated permanent settlements which had been documented by early explorers. Some of the earliest documentation of occupancy of the study area was recorded on maps from the late 19th and early 20th centuries (Figure 3.1). In the 20th century, Inuit occupancy and movements were influenced by the presence of fur trading posts, from which Inuit people obtained goods through trade. Historic settlements and travel routes are shown on Figure 3.2. Trapping was an important means to generate income or, more commonly, materials for barter with fur trading posts for goods. Historic trapping routes are shown on Figure 3.3. The trapping routes are defined as belonging to either Arctic Bay and Pond Inlet, or Igloolik and Hall Beach. The two time periods are represented:

- Prior to the establishment of permanent settlements through government initiatives (prior to 1959 in Arctic Bay and Pond Inlet) and (prior to 1965 in Igloolik and Hall Beach); and
- From either 1959 or 1965 until the end of data collection in 1974.

For the communities of Hall Beach and Igloolik, wildlife harvest areas for pre-permanent settlement periods (pre-1965) are presented in Figure 3.4; wildlife harvest areas for post-settlement periods (1965-74) are presented in Figure 3.5. Wildlife harvest areas for the communities of Arctic Bay and Pond Inlet are shown in Figure 3.6 (pre-1959) and in Figure 3.7 (1959-74). Supplemental land use information, collected during the Inuit Land Use and Occupancy Project (DIAND, 1982b) is presented in Figure 3.8. These figures illustrate the distribution of harvesting activities by each community. These historic land use references provide a useful backdrop to the more contemporary resources discussed in Section 3.3. The distribution of the most accessible wildlife in northern Foxe Basin is illustrated in Figure 3.9.

Information in the Igloolik Oral History collection relates that people from Igloolik, Pond Inlet, and possibly Arctic Bay and Clyde River, travelled overland through the Mary River area to Pond Inlet to trade with the European whalers, and later with the Hudson Bay Company (HBC) post before HBC was established in their area. Caribou hunting continued in the study area into the historic period, and soapstone quarrying intensified as economic diversification was encouraged. As noted, most Inuit remained on the land until the 1950s, and even after this period continued using the land, though in a more limited capacity.

3.2 CROWE 1969 - CULTURAL GEOGRAPHY OF NORTHERN FOXE BASIN

Crowe (1969) describes continuity in the pattern of occupation of northern Foxe Basin over the past 4,000 years. In the past 150 years, a time of cross-cultural contact and economic change, the Iglulingmiut Inuit have retained the essence of their culture and geographic distribution that dates back to prehistoric times. The Inuit of Foxe Basin adapted to a number of changes including new technologies (e.g. rifles and boat motors) and new economies (e.g. trapping/trade and fiat money). The trapping and fur trading economy led to the settlement pattern referred to as a camp system. Social groupings often resembled or duplicated those of pre-contact time, as illustrated in Figure 3.10. Historical settlements of northern Foxe Basin are illustrated in Figure 3.11. The transformation from a dispersed population to a central one created some social malaise and significantly changed the cultural geography of the people and the region. The change in settlement patterns between the boom of fur trading and changeover to permanent settlements is shown in Figure 3.12. Foxe Basin's pre-historic settlement patterns are discussed in Section 2.3.

3.3 MARY RIVER INUIT KNOWLEDGE STUDY

Consultation with stakeholders for the Mary River Project has focused on the Inuit communities proximate to the Project sites, and has included the public, local and regional Inuit organizations, the Government of Nunavut, and federal agencies with a mandate relevant to the Project.

Inuit of the Baffin Region enjoy a rich oral tradition. This tradition has influenced how Baffinland has engaged local communities. The emphasis has been on establishing a presence in the region, meeting not only once but several times and within the communities, and recording in-person discussions. Since the dominant language is Inuktitut, with regional dialects across

Baffin Island, translation using local interpreters has been an important element in the consultation process. Translation that enables effective comprehension has been the goal at meetings and in the translation of written materials.

The Mary River Inuit Knowledge Study (MRIKS) was undertaken by Baffinland from 2006 through 2010. In 2006 the study started in Pond Inlet. Workshops and interviews with elders were undertaken in the communities of Arctic Bay, Clyde River, Hall Beach, Igloolik, and Pond Inlet between 2007 and 2010. Workshops were held in the South Baffin communities of Cape Dorset and Kimmirut during 2010.

Information collected at the workshops in North Baffin communities was coded by key words or nodes using qualitative analysis software. References to land use and traditional knowledge of land use were extracted from the information. The scope and methodology of the study is provided in a separate report by Knight Piésold Ltd. (Knight Piésold Ref. No. NB102-00181/11-A-11, Rev. 0, October 11, 2010).

Land use information gathered from the MRIKS is summarized below. In addition, reference to the Nunavut Land Claims Agreement (NLCA) is provided to provide regulatory context for current land use activities in the study area.

3.4 TRAVEL ROUTES

Travel routes are an important aspect of Inuit life culturally, socially, and for subsistence purposes. Culturally, travel routes are a method through which the Inuit are able to connect with the land, similar to the way their ancestors were connected to the land. Travel routes are socially important to residents in the North Baffin region by enabling individuals to travel to other communities to visit with friends and family members. Hunting is an important source of food and traditional source of clothing for residents in the North Baffin region. The travel routes used by residents provide access to many hunting and camping locations. In the summer, land routes are used for accessing caribou hunting grounds while water routes are used to access marine mammal hunting areas. In the winter, travel along land fast ice is used to access hunting areas for marine mammals such as seals, walrus, and whales.

Inuit travel extensively throughout the North Baffin region. Figure 3.13 and Figure 3.14 illustrate land travel, ice travel, and water travel routes identified by interviewees and workshop participants in the communities of Arctic Bay, Clyde River, Hall Beach, Igloolik, and Pond Inlet. Certain travel routes are used more frequently than others. For instance, communities in close proximity have a greater abundance of travel routes as a result of their cultural and familial links. Several land travel routes are located in proximity to the Project mine site, the area having been noted by workshop participants to be a common travel route between Pond Inlet and Igloolik. A main travel corridor is south through the Phillips Creek watershed or adjacent to the Milne Inlet Tote Road. While some people travel all the way to Mary River, many people head South towards Igloolik and, to a lesser extent, Steensby Inlet once they get to Katiktok Lake. At Steensby Inlet, travel is around the perimeter of Steensby Inlet and across the mouth of the landfast ice.

Travel routes identified by workshop participants from Cape Dorset and Kimmirut are illustrated in Figure 3.15. Ice travel is limited to the land fast ice, which according to workshop participants tends to be very narrow west of Cape Dorset. Much of the travel in the South Baffin Region is in close proximity to the coast and into the fjords that line the coastal area. Longer distance travel is taken between the communities of Cape Dorset and Kimmirut to Iqaluit, Coral Harbour, toward Repulse Bay and north to Pangnirtung.

The value of travel for the Inuit was highlighted by interviewees and workshop participants.

If it's possible to travel during the summer then you can also learn more about the land you're travelling through... You get to see a lot of it. If you travel keeping in mind what people older than you have told you about the land then you actually get to experience it. I personally like to travel on land. Yep. You can travel through places other people have travelled through before therefore you may have heard about the land you're travelling on already. It's challenging and fun at the same time travelling through different areas and trying to memorize them. It's very helpful as you may have to travel through the same area more than once. You get used to that area before you know it. It is enjoyable and a very good experience. It can also keep you healthier. (Ipeelie Koonoo, Arctic Bay)

We also like to spend time traveling on the land simply to see the beauty of the land. Seeing damaged land is difficult to us. (Participant, Clyde River)

We've gone through that route on our way to Igloolik. We've travelled through there going back and forth from Pond Inlet to visit relatives by snowmobile. (Attaguttak Kunuk, Arctic Bay)

Getting out on the land helps you in your mind and body. You have more energy when you are out on the land. It gives you strength... (James Qillaq, Clyde River)

We would travel by foot and spend the summer there and do that almost every year. That would be my family. Mostly my father. His older brother would spend time there to cache some meat and to hunt sea mammals. (Ipeelie Koonoo, Arctic Bay)

We mostly travelled on the sea ice then and now. We use to travel by dog team all on the sea ice. (Paul Ejangiaq, Arctic Bay)

These travel routes are not just used today – the main travel routes have been used for hundreds or even thousands of years – from dogteam use in the past to snowmobile use today. (Jayko Alooosoo, Pond Inlet)

Yes. At the time people used dog teams, they would have traveled distances. Not everybody had boats. A long time ago before boats were introduced hunters

would travel on the water using qajaqs. Since the ice is smoother than the land it would be used as soon as ice formed on the sea. The sea ice has always been used for traveling. Hunters hunt in and on it as it has seals. Dogs use seal meat for nourishment and people use the fat as fuel. The sea ice has always been important to people...

Trails are only made by people traveling. When people hunt they make sure to travel routes not used by others. Hunters make sure to travel on routes that have no trails. Yes, the straight lines are trails most often used and this one used in the winter is used even though there's another route elsewhere. The land here is flatter. When one travels distances they always connect to a main trail. Yes, and this inlet has trails used both by dog team and snowmobile. This line represents a common route made both by dog teams and snowmobiles. That's right, this was a trail commonly traveled by dog team to the Igloodik area. It's a trail used by dog teams traveling north. This is the north. The trail leading north is also used frequently and the route used to travel to Ukirasaarjuk is also used often... It's a trail used both by dog teams in the past and currently by snowmobiles. (AB-13, Arctic Bay)

Old stories also let us know where the best routes are. Also, we go where the animals go, and so our routes will follow where the animals are. (Elijah Panipakachoo, Pond Inlet)

3.4.1 Camps

Outpost camps are defined in the NLCA as “a camp occupied by families or other groups of Inuit who occupy the particular location on a temporary, seasonal, intermittent, semi-permanent or a year round basis for the purposes of wildlife harvesting and the associated use and enjoyment of lands...”

Inuit have an inherent right to camp throughout Baffin Island. Article 7 of the NLCA (1993) outlines the right of Inuit to occupy outpost camps as tenants-at-will, with provisions for establishing land tenure as well as a process for the government to withdraw lands from use as outpost camps if a proposed land use conflicts with the current occupancy.

Historically, individuals and families move between camps according to the season and animal availability. Much of this discussion is historical context; however, many of the camps are still used today. Inuit have traditionally not remained at one camp for too long because the land would get “hot” and sickness would spread. To allow the land to recover and “cool down” individuals would wait for a couple of years before visiting the same location.

They move according to the seasons, in winter was different place where animals were plentiful and in the spring they moved to another place to gather food. They moved their camps according to how many animals.

They did not stay in one too long even if animals did because the land would get “hot” sickness would spread. People had to leave that area for a while and let the land “cool down” (Percy, Hall Beach)

They would stay in one place in winter and spring and then afterwards would move somewhere else depending on animals. They would move away and come back a few years after the land recovered ‘cooled’ down. They would not leave camps forever; just leave for couple of years to let the land recover. (David, Hall Beach)

We did not dwell in one place, we moved place to place... We lived in a sod house for a long time, because I was not used to living in a sod house all the time, I was sick of it. It was not moving but waiting that got me. (Ishmael Katsak, Pond Inlet)

They moved by month by month, season to season depending on the animals. (Timothy, Hall Beach)

Camps could be located anywhere, especially when hunting or travelling. Most camps are located on the coast, reflecting the importance of marine wildlife and travel routes on the sea and land fast ice.

There are seasonal camps where we would have stayed for longer periods of time and camps we would have used daily on the trail. The daily camps could have been anywhere. I suggest we only show seasonal camps or camps that we have used regularly. (Workshop Participant, Arctic Bay)

As hunters, if we need to sleep, we often just spend the night in a place that is suitable, we don’t travel to a special place to camp if we are out hunting. There are lots of tent rings on the land that were used when people were out caribou hunting inland on Baffin Island. (IG-06, Igloolik) When traveling, we might stay anywhere on the coast, or inland. (Participant, Arctic Bay)

There are also many camps located on the sea ice. We would use these while seal hunting. (Workshop Participant, Arctic Bay)

The importance of the camps is tied to country food harvesting and the ability to hunt and gather food. This is evidenced by MRIKS participants indicating that certain camp locations are important to them because the availability of certain species such as caribou, walrus, and seal.

We would camp close to the animals in the summer, and then move in the winter. The land is good for camping if the animals are near. (IG-15, Igloolik)

*We would move our camps if the animals were better in another area.
(IG-06, Igloodik)*

Where ever you see tent rings, those are the areas that are considered good places to camp, and it is because of the animals or fish that are nearby, not because of the land. (IG-16, Igloodik)

*Pond Inlet and Arctic Bay people would go where there were caribou for clothes. The caribou sinew was important for thread in making clothes. In the summer, when out caribou hunting, the parts of caribou were used for bedding and shared with others who were not as fortunate as us.
(David, Hall Beach)*

Good camp locations not only depend on animal abundance but also on site accessibility and ground cover. For example, in terms of boat travel, participants noted that camps should be located in areas which facilitate bringing boats to shore; such as gravel shorelines where water that is not too shallow. Gravel ground cover was indicated as best for tenting locations, while sand and moss ground cover was best for building a sod house. In the winter the preferences were determined by the quality of snow for building snowhouses.

The best environment for camping has gravel for tenting areas - moss has insects, and sand is not good for food storage. (Jaypeetee Palluq, Igloodik)

Also, sand was good for people making sod house - sand was put in between the rock base of the sod house to stabilize it. We chose areas with sand, gravel and moss – with those three things we could build a sod house. We would use flat stones for floor tiles and for the base of the qammaq (sod house)... People had preferences for where they like to camp. Some people like the mossy areas, other people liked the grassy areas. Most people chose the area because of the animals that were available. Upon the completion of the sod house, you could build a porch out of thin pieces of ice, so the light would come in, but was also good for cold storage of meat. (IG-06, Igloodik)

A good place to bring up your boat is important as well – good gravel rather than big boulders, and not too shallow – this is important for choosing a place. The places along the shore with tent rings are usually places where you can bring a boat in. (Arsene Ivalu, Igloodik)

The locations change completely in the winter. The place is then selected on the quality of snow for building snowhouses. (IG-16, Igloodik)

Figures 3.16 and 3.17 illustrate the locations where participants indicated they have camped and where they have heard of ancestors or other individuals having camped. Many of the camps currently used by the Inuit have been also been identified as

ancestral camps by workshop participants and interviewees. Past camp locations are identified by Inukshuks, items made or used by ancestors, placement of rocks to form houses and tent rings, and animal bone remains. One participant noted the significance of these camps in enabling Inuit to follow in the footsteps of their ancestors.

It's not only us today who are camping in those places or traveling in those places, we are following in the footsteps of our ancestor who also camped and traveled in those places. We want to be able to do the same things that our ancestors did. Those dots and lines are not just representing our generation, but our ancestors as well. It amazes us when we try to reach these areas now (inland, including Mary River), and we realize that our ancestors did this trip every year. We are following the knowledge given to us by our ancestors. Baffin Island is very important to us, and we will pass this information to our children and grandchildren, and we want them to see the land, and they need to not have the land destroyed. We also want to share the old camps, inuksuit and all the old sites on the land with the younger generations. (James Qillaq, Clyde River)

Many of the camps that we currently stay at are also camps that were used in the past. Some of these camps are so old that we don't know who originally stayed there. (Workshop Participant, Arctic Bay)

In the Project study area most camp sites are located around Steensby Inlet along the coast extending west of the port facilities. The greatest concentration of camps is located at the proposed Steensby Port. Most of the camps identified in the study area are locations MRIKS participants camped at in their lifetime, though some were identified to have only been used historically. Few current camp locations have been identified along the proposed railway route and around the Mary River mine site. There are a number of camps located along the Milne Tote Road. Although some of the camp sites within the Project study area are not currently used, workshop participants indicated the use of the camp sites in the past.

In the summertime people used to camp there [Mary River] to harvest caribou while the skins were suitable for clothing. All the caribou migrate through that area. Mary River is a traditional calving ground [and] breeding ground for caribou. ... people were camping there to harvest caribou to get some caribou skins for their clothing, for socks and also for children's clothing. Calves were harvested for children's clothing... It's been like that ever since everyone can remember. (Jochabed Katsak, Pond Inlet)

In southern Baffin, camp locations are primarily located along the coast line and within fjords (see Figure 3.18). Workshop participants identified only a few camping locations inland, which differs from the North Baffin region where camp locations are common

inland. The concentration of camps along the coast coincides with marine mammals as being staples of the Inuit diet in the communities of Cape Dorset and Kimmirut.

There are a number of seasonal camps (active or inactive) in the region, identified by members of the Mittimatalik Hunters and Trappers Organization. Additional camp sites are being identified through discussions with the other communities in the region. The approximate location of known seasonal camps is shown on Figure 3.21.

3.4.2 Water

Water was identified to be of primary importance for well-being as it is used for drinking water and as a source of food.

Only when you have good drinking water are you more lively and when you don't have good drinking water it is unpleasant and you always look for a source of good drinking water... When you're at Qaurnak in the summertime and the icebergs arrive you have an excellent source of drinking water... When we were camping out there we had excellent drinking water. Water is very important to our livelihood. (Jochabed Katsak, Pond Inlet)

We made sure to camp nearby water sources such as lakes, rivers and streams so we had water nearby our camp... This has always been one of the case for all time, when choosing a camp site, we had to be sure to have a water source nearby... Lakes and rivers are all important as we camp or live around those for our water source and we fish off the lakes and rivers during the run... Having water is essential to us and water keeps us alive. (Elijah Panipakoocho, Pond Inlet)

It's vitally important you get some water for drinking purposes. But, lakes are also important because when I go fishing to a lake and I stay there for a long time and when I become thirsty I can drink the water from the lake. Yea, there are a whole lot of lakes in this area here. For example, the residents of Pond Inlet we go to this lake to go fishing. (PI-03, Pond Inlet)

We have always had to live nearby lakes for our water source and we even use it as storage or deep freeze with our meat supplies. This lake is where the river runs from where we fish. ... These lakes are very, very important to me. Some campers camp where there are no lakes, and in early fall they have no water source at all, so it is important to live or camp nearby lakes. (Ikey Kigutikkarrjuk, Arctic Bay)

Drinking Water

While out on the land, hunters and travellers continue to consume water from ice, snow, lakes and rivers.

Our waters are frozen for longer periods of time. There is a lot of snow that we can also use for water. They are clean as they are frozen more than half the time. Outside of the community there are lakes that have

clean water. Lakes up here freeze often and there is an abundance of it to be used for drinking. There is a lot of that in our environment. We can get our water anywhere. We can either use ice or snow. (AB-13)

To ensure water that is safe is consumed while out on the land Inuit commonly observe the water to see if it is foggy or murky, since it is believed that clear water is the best water to consume. Some indicate that the changes to drinking water are not dramatic but that as a result of safety concerns nowadays people generally boil their water before consuming it as drinking water. Water from glaciers was identified by workshop participants and interviewees as the best available water.

Having good water....Some of the rivers are really good water, the smaller rivers aren't good as much because they have little bugs in them. Also the icebergs are very good water. My late husband use to tell me where there is good water... where the sea ice can't freeze near the glacier, he used to say that it is very good water. Myself, I like the iceberg water and the larger rivers. (Letia Kyak, Pond Inlet)

For the most part, the icebergs are clear. There is also not clear ice. You can tell if the ice is clear so it will be good for drinking water. (Calab Ootoova, Pond Inlet)

Having good water is fun, its good. Some of the water in the rivers are not that good, the icebergs are usually the best water. Even some of the rivers that come from the mountains, that comes from sirmiq are usually good water. Some of the rivers that go through moss are not generally good water. (Daniel Komangapik, Pond Inlet)

After there's no longer some ice we didn't just fetch water from ordinary streams but major rivers seemed to have better drinking water source and also rivers have little germs... we were discouraged from drinking from small streams or lakes. Only we were told to drink water from major rivers such as if the river had gravel bottom. That's a very good drinking water and everyone has known that for a long time... if it's for making tea then you can easily identify if it's poor source of drinking water and the tea tends to turn black and you can tell that it is not good drinking water by sampling the tea you can notice it right away so tea is an excellent source of identifying the quality of drinking water because they tend to turn black and then you know. (Jochabed Katsak, Pond Inlet)

When you wash with it, even using hot water, it has bubbles for a few minutes and then the bubbles vanish faster... we can tell that it's not good water... The water from the sea ice or through purification is good water and it can get very bubbly. We can tell with bad water even if we cannot smell it, good water is always clear... (PI-11, Pond Inlet)

Like there are some rivers which can smell of sod or ground as well, it's just a river. Even in the summertime you can smell the sod or the ground by drinking water. As long as it's not glacial ice that'd be considered unsafe drinking water... ice, glacial ice, iceberg waters are very good drinking water source, as long as it didn't come from a lake which has some fish... (PI-03, Pond Inlet)

Food Source

The lakes and rivers area source of food, fish are caught from their depths and mammals are hunted from the water.

I can try and say, for incidence our fathers, mothers we grew up with them and adore them because we were fed by them that's obvious and our waters are places where we get our food from, for that reason we adore the land because we get our food from the land and adore the places where we grew up in. (Calab Ootoova, Pond Inlet)

Arctic Bay people usually go there to fish we don't want the river to be spoiled... it is their source of food we don't want it spoiled at all this area, the river is important because of that. (Koonoo Oyukuluk, Arctic Bay)

I really like the lakes; you can catch fish and hunt from them. When you don't get to go out of the community, I like it when people bring you fish and that's why the lakes are important to me. (Piuyuq Tatatuapik, Arctic Bay)

The ones that are lakes or rivers because they have fish they are important. This is the one I know they are important is because the rivers have fish. (Josiah Kadlutsiak, Igloodik)

3.4.3 Harvesting

Hunting and harvesting continue to be important activities in Inuit culture as country foods remain dietary staples and a source of warmth. Respecting the land and the animals is an important aspect of harvesting. It was noted that conservation was practiced by the Inuit, in that only what was needed was hunted and harvested and nothing was left behind, including fat was burned to provide heat in the winter.

Up here in the arctic we rely on the wildlife for food due to the fact that we cannot grow vegetation up here... The wildlife in the arctic is very important to us because they are our only source of food... we rely on them to survive. (Paul Ejangiaq, Arctic Bay)

We were instructed to take care of our lands and animals in our traditional and customary laws. We were taught not to waste kill or to abandon carcasses on the land ever, nothing was to be wasted... Every part of the animal harvested that could be utilized was taken home, so that the land was unpolluted and left in its natural state. (Elijah Panipakoocho, Pond Inlet)

Any wildlife is very important to us, especially as older people, we rely on country food very much... if you haven't had country food for a while you tend to get cold easily and you want to have country food as your diet and it's very comforting for the body so that is how I rely on country food... basically, it's a medicine. For example, if I'm out hunting in the springtime or winter and I had some non-country food for breakfast then I would be very cold and if I do harvest a seal I would eat liver and drink some blood and my feet would start warming up right away. So, it's very important, country foods are very important to us to eat. (PI-03, Pond Inlet)

Traditional harvesting included hunting game such as caribou and storing the meat for consumption in the winter. Similarly, seals and other marine animals were cached for later use. Caches ensured that there would be food throughout the winter for one's family and to share with others.

I would catch enough to cache [hunted seal or narwhal] for the winter. It would mainly be in the spring as this area is teeming with seals basking in the sun during springtime. There would be enough seal here to cache for the winter. It wouldn't just be for that either. People coming from this area would expect to have something when they came through our camp. We would try to catch more than we would use as the food would be shared. When I was growing up, I remember my parents catching more than they could use in anticipation that it would be shared with others. (Ipeelie Koonoo, Arctic Bay)

Yes, the caribou we caught in the late or fall, we would cache it for wintertime. To feed our families and others in times when game was low... My father cached food for winter use habitually. My father, Qiliqti cached food to make sure people had food when they needed it. (Ishmael Katsak, Pond Inlet)

...they tried to cache some fish which they would be able to eat during the winter... so people were able to survive from their caches and when a lot of people cache their fish and they would sustain the people all throughout the winter, even sometimes in the springtime ... (PI-03, Pond Inlet)

Cache sites were located throughout the region. If a caribou was killed the pelt was immediately harvested and the meat stored close to the kill site. Similarly, marine animal caches were located close to the shoreline.

Caches can be found almost anywhere on the land and on the coast. After a successful hunt, hunters would travel to the closest location that was appropriate to cache food. This includes caches of caribou meat and marine mammal meat. (Workshop participant, Arctic Bay)

Caches – inland caches are usually for caribou. They are located as close to the kill site as possible. The only exceptions would be if the caribou was killed in a mossy or wet area, and then the meat would be cached at the closest suitable place (rocks, gravel, dry) (Workshop participant, Igloolik)

Walrus caches can be found on almost any gravelly beach near where walrus are hunted. (Workshop participant, Igloolik)

Fish caches can be found at the mouth of rivers – long caches indicate fish cached for human consumption as they would be placed side by side, not touching, and hung to dry inside the cache. Fish cached for dog food would just be placed in a regular round cache. (Workshop participant, Igloolik)

Almost anywhere there is a camp site, there is a cache site. (Workshop participant, Arctic Bay)

An elder noted that meat preparation varied for each animal in order to ensure it aged properly and remained suitable for consumption during the winter.

They were the best food produced even if it was aged meat, it was really delicious. As long as it is for human consumption, the (food) was not allowed to let the sunlight shine on it. The sunlight damaged the quality of the meat. That is how they used to produce caches and they tried to ensure that they are hidden away from the sun (Jochabed Katsak, Pond Inlet)

Caribou

The most commonly harvested land game is caribou. Caribou are harvested predominately on northern Baffin Island during the summer season. Participants stated that caribou seem to follow long migration patterns and return to an area only once their food source has grown back. Caribou in the North Baffin region migrate through the Mary River Project area, and this is where most caribou hunting currently occurs.

Caribous are the most important, they are very good meat, I want there to be caribou all the time. But the caribous go where they want to go; even when there is a mine I think that area will always have caribous. But caribou need to keep moving, after they graze in one area they have to move to another area. And we have heard that the caribous eat take a long time to grow, that's why they go to other areas, when they can't graze anymore. (Daniel Komangapik, Pond Inlet)

For those of us who are traditional harvesters, we value the most animals that are here year round; seals, fish, caribou, and Arctic hare. Those we value the most as we can live on them year-round. (Elijah Panipakoocho, Pond Inlet)

When people are hunting for certain wildlife it seems that the wildlife populations are increasing more and more. It's just like caribou hunting. When all kinds of people started hunting caribou, then you see more and more caribou arriving. That's the way it is... Then people started saying that... everything is decreasing but the Inuit did not believe those because they know for a fact that populations fluctuate. (Jochabed Katsak, Pond Inlet)

As a child our elders said that when the vegetation grows back the caribou will come back. All animals that were too abundant at one point have died off too. But, they will all come back. A lack of caribou is a problem for us currently... Traditional knowledge teaches us not to speak negatively of the animals. I believe that today. (David Imnqaut, Igloodik)

We used to walk a long way inland during summer to look for caribou to make clothing because the next season was winter and we needed to survive. We needed caribou to make clothing and needed the meat to eat for the winter. Today it is different. They say look for caribou by boat and they don't see caribou. No wonder. Now they do not use the hides. They are just thrown all away. That is not right. (Workshop participant, Kimmirut)

Sea Mammals

Sea mammals commonly harvested in North Baffin include walrus, narwhal, whale and a variety of seals. Walrus are most common west of the nominal shipping route in Foxe Basin. Harvesting concentrated along the coast in South Baffin include walrus, whales and seals. Workshop participants indicated that they mainly rely on sea mammals as a source of food and traditionally for other uses.

Whales, walruses, seals, ring seals and harp seals are in Baffin Island waters... This area has all the wildlife you need. In those days they went narwhale hunting at the flow edge by qajaq so they can use the tusk for

tent poles. They had no access to wood for tent poles then. They are trying to collect tusks bowhead whale bones to frame a hut. They used bowhead whale bones to frame their huts and tents. (Attaguttak Ipeelee, Arctic Bay)

The seal, above all, is the animal most important to us. It is there when other animals are not. The seal was the only animal that everyone relied on. It is our livelihood. (Workshop participant, Igloodik)

[Marine mammals] are our food source and those of us who always have dog team, we use it for dog food too, also food for people, and we use them for food. We also use the skins for KAMIIT [Eskimo boots] and others, bearded seal skins for ropes and Kamiit soles. (IG-02, Igloodik)

The floe-edge is very important to us because that is the first place marine mammals migrate to, like whales and other marine mammals. When and if there is no floe-edge it takes longer for the marine life to make it to our shores. (Ikey Kigutikkarrjuk, Arctic Bay)

Fishing

In North Baffin, year round fishing locations were identified in the vicinity of Steensby Inlet and Milne Inlet. In South Baffin, fishing locations were identified primarily around Cape Dorset and some inland lakes east of Cape Dorset. Fishing facilitates a connection with the land.

Land is very important and it a pleasure to be there. And you get connected to the land and the lakes have fish in them... This has significant importance to me as it has fish and there is a lake there. (Jobie Issigaitoq, Arctic Bay)

Rivers are used as routes to the sea by char as long as the lake doesn't have a waterfall for a river. Around June 1st or close to June the char start running down the rivers to go fatten themselves in the sea. They start going back to the lakes around August after they have gained weight. They go to the sea to gain weight. Those thing are, yes, very important to me. (AB-13, Arctic Bay)

...inukshuks are markers especially where there are fish or if it had been jigged at so there will be an inukshuk... (Calab Ootoova, Pond Inlet)

Yes, all of the lakes which contain fish are vital even those that don't have fish but the rivers of these lake are very important. In the past they used to set up weirs when they were trying to catch fish in the summertime. The rivers used to have weirs. (Jochabed Katsak, Pond Inlet)

Waterfowl Hunting

Waterfowl hunting and harvesting locations were identified along the coastal areas of South Baffin, primarily between the communities of Cape Dorset and Kimmirut. In North Baffin, important locations for waterfowl were identified south of Milne Inlet, throughout Pond Inlet, and on Bylot Island.

I know that the king Eider usually come here first. Even if they don't live here all year round they came here in April even sometimes in late March too. When they are caught they are tastily when cooked... On the flow edge, before they have egg the King eider feeds there. Over here where the sea is very deep the King eider are not as fat as in near Igloodik. They are so fat that they can't even fly off, when they are that fat; they are very good to eat. Very tasty like snow geese when they first come here too. (PI-09, Pond Inlet)

Inuit hunt ducks during spring only when they are starting to nest. That is when the Inuit hunt them. We do not want to touch them when the eggs are in the nest and the young are starting to form. We do not want to eat them then. In the fall when the young fly, then the Inuit hunt them again. Right now they are in their nests and the eggs are fresh food for families. In a bit, when the young are starting to form, we will leave them alone. We do not kill just to kill, we hunt to eat. (Workshop participant, Kimmirut)

All islands are nesting/harvesting grounds for ducks. (Workshop participant, Cape Dorset)

In Bylot Island on the tundra where is not watery or swampy, there they usually have their nesting's.... We don't eat Snow Goose as much as before because they are being studied and those has tags on. During the spring they use to make dried Snow Goose but now I never seen anyone making them... (Letia Kyak, Pond Inlet)

They used to go hunt for ducks at the floe edge and nowhere else and also that's one area and also at the other floe edge did people go hunt for ducks. Whenever there's open area (of water) did people go hunt for ducks as winter was approaching and they became fat and started to return down south. Ducks are not our (main) diet. (Jochabed Katsak, Pond Inlet)

Berry Picking

Workshop participants identified that most berry picking sites are located in the northeast area of the North Baffin region as illustrated in Figure 3.19. Within the Project study area,

Steensby Inlet and the coastal area east of the Inlet were identified as berry picking locations. Berry picking and the collection of vegetation resources is important.

There is also things growing in our land, like the pink small flowers, sweet green leaves, fury like flowers, roots, yes what are those? Blueberries and black berries. These are the kind of things we have here in north they grow in our land. This is very important to me...
(Isaac Shooyook, Arctic Bay)

Egg Picking

Egg picking locations were identified during a workshop along the coast of Foxe Basin. The results have been displayed in Figure 3.26, which shows special places in the North Baffin region. The MRIKS study identified several species targeted.

I used to go egg picking for snow goose in Bylot Island, but I never went egg picking for king eider here in Pond Inlet. When I was younger, I used to go egg picking near Igloolik on the Islands nearby and close to lakes. Here in Pond Inlet I never really see anyone eat king eider ducks eggs.
(PI-09, Pond Inlet)

We used to go egg picking for Snow Goose and King Eider in Bylot Island. King Eider were mostly laying in a little island but now I don't know because I don't go out camping as much before. (Letia Kyak, Pond Inlet)

For example furmars nest in the cliffs. Murres and seagulls also nest in the cliffs. On the other hand the kaguit nest anywhere other than cliffs. Inuit collect their eggs up there because they nest on the land.
(Attaguttak lpeelee, Arctic Bay)

The first one was the small island where the ducks and the geese nest as well as the other birds. There is a mixture of bird nests on that island. The reason I know is because that is where we went to collect eggs from. I think there are nesting places all over that area but I don't know them personally. (Piuyuq Tatatuapik, Arctic Bay)

Virtually all islands in Foxe Basin have birds nest and are used for collecting eggs (Workshop participant, Igoolik)

Rock and Mineral Resource Harvesting

Rock and mineral resources such as soapstone and flint are other resources traditionally harvested by the residents of the North Baffin region. Stones harvested by Inuit in North Baffin are illustrated in Figure 3.20. Interviewees noted there are soapstone deposits in the vicinity of the Project that have traditionally been harvested, including one

of particular significance. As well, other soapstone deposits were reported to be located in North Baffin. Flint was reported to be located at Angmaat.

We used to go [to Mary River] to go pick up soapstone. We would take the soapstone to Pond Inlet. The soapstone at Mary River is good quality stone. (Ipeelie Koonoo, Arctic Bay)

After they gathered all the soapstone, then everyone started having oil lamps (qulliq) and in the wintertime, it would be warmer and pots would be created and eating utensils and people used to have pots from that same area. You can't really polish the stone and you can't make carvings out of that soapstone... there is a green soapstone which is quarried from Mary River... there is flint at Angmaat. (Jochabed Katsak, Pond Inlet)

The only place that I know is at Nulujaak (Mary River) near the camp they had set up, up at the hill, in a gully there is some variety carving stones that some people quarried and stones for making pots can be found at Tuapak, and marble, Nallua has some marble. (Calab Ootoova, Pond Inlet)

It's in this part of the ocean adjacent to Tuapat. There is really good soapstone... Soapstone under water is deep blue... Late Niaqutsiaq onced quarry soapstone to make a large qulliq. The soapstone that goes under water is deep deep blue. You can see all the areas where people have quarry the soapstone all the way up the hill and people wrote their names on the soapstone and a lot of people that wrote their names have passed on. The soapstone is soft enough to write your name. It is very good soapstone. (Attaguttak Ipeelee, Arctic Bay)

Soapstone Rights in Relation to the Nunavut Land Claims Agreement

North Baffin communities, like much of Nunavut, have a long heritage of carving using natural materials, including soapstone and animal bone. Individual carvers sell their work to tourists and to the local co-operative. Carving stone is often difficult to obtain and thus known deposits are important to communities, and there is always an interest in identifying new deposits of carving stone.

In recognition of this heritage and interest in carving stone, Article 19 of the Nunavut Land Claims Agreement (NLCA) (1993) includes provisions regarding Inuit access to carving stone deposits. Key tenets of Article 19, Part 9, *Rights to Carving Stone*, include that the government shall notify the Designated Inuit Organization (DIO) of the discovery of any carving stone deposits on Crown lands; the right for the DIO (and only the DIO) to obtain an exclusive quarry lease or title to the land in exchange of other Inuit Owned Land (IOL); and the right for an Inuk to remove up to 50 cubic yards

per year of carving stone from Crown lands without a permit provided that no significant damage or interference with use and quiet enjoyment of the land occurs.

A number of carving stone deposits within the Project study area were identified during a review of INAC files in Iqaluit (Government of the Northwest Territories, 1972; Milton Freeman Research, 1976), and the approximate locations of these are shown in Figure 3.21. Additional carving stone deposits may be identified during future IQ studies carried out for this project.

North Baffin communities were consulted in public meetings with respect to access to deposits during the Project's operations. One soapstone deposit of note was identified several kilometres southeast of the Project mine site. A land reserve was established at this location in the early 1970s but the reserve was cancelled in 1976. Members of the Pisiksik Working Group in Pond Inlet indicated that these soapstone deposits are still actively used by the community (Pisiksik Working Group, personal communication, 2006). During the Project's bulk sample program, the soapstone deposit was still accessed by Inuit and Baffinland brought soapstone to the community of Pond Inlet to facilitate traditional harvesting.

Non-mammal Sea Resources

Residents in the Project land use study area identified various harvested sea resources including seaweed, clams, mussels, and other fish. Figure 3.22 illustrates the locations in North Baffin where sea resources are collected. In North Baffin, ocean resource collection areas are concentrated east of the nominal shipping route toward Igloolik and Hall Beach. To a lesser degree, residents of Pond Inlet and Arctic Bay harvest sea resources, such as seaweed and clams, at select points around their communities.

Clams and mussels and kukiuja (a kind of bivalve) were harvested after storms tossed them up on the beach but were also eaten from the walrus' stomach. Different types of seaweed were used. (Workshop participant, Igloolik)

The shallower places tend to have more mussels and clams. (Workshop participant, Hall Beach)

We don't get very big tides around Arctic Bay, so we don't have many areas for harvesting clams or seaweed. The tides are what bring these things in. (Workshop participant, Arctic Bay)

At Steensby Inlet where the ships will be docked there are clams, fish, eels and other sea resources.

Ikipkitturjuaq has lots of fish in summer time and have clams and everything in that where they are planning to land their ship in Ikipkitturjuaq. It has eels and fish in summer time that one has so many

things...This area is very important to us that the planned route of the ship. And the one they would land their ship is abundant with all kinds of necessities even the bottom of the sea it has clams and other things and this area is very important to me. (IG-11, Igloodik)

There are lots of clams around Steensby Inlet. (Workshop participant, Hall Beach)

Sea resource harvesting is more common in southern Baffin than northern Baffin Island. The concentration of sea resource harvesting activities in the South Baffin region is illustrated in Figure 3.23. Workshop participants noted that seaweed is collected all along the coast, while fishing locations are concentrated around Cape Dorset. Char are most common near Kimmirut.

It is important for you to understand that the further north you go, the less people rely on the small things from the ocean (mussels, clams, seaweed). The south Baffin people collect these, but the further north you go, the more people rely on the larger animals. (Jayko Alooloo, Pond Inlet)

We eat clams and mussels, but we prefer to harvest them from the stomachs of walrus, rather than collecting them. We have so many large things to eat that we haven't really had to look for the small things. (Workshop participant, Igloodik)

The same is for seaweed – other Inuit may collect it, but Iglulingmiut really haven't had much interest in it. (Workshop participant, Igloodik)

Clams are only gathered in September and anywhere on the coastline close to Hall Beach and only after storms when they are thrown onto the shore. Clams are found on coast north of Hall Beach and mussels are found on the coast south of Hall Beach... People eat the clams from the contents of the walrus stomach... Picking clams is done more in southern Baffin. Here clams are more readily eaten from the stomach of the walrus than digging for clams for food... Bull kelp is harvested in Igloodik in July. Sea urchins, whelk (or other twisted snail shell). The further south you live in Foxe Basin the more reliance there is on smaller marine food. In the north Inuit have larger animals and don't need to harvest the small ones. (Workshop participant, Hall Beach)

3.4.4 Ice

Results of community consultation highlight the importance of ice for Inuit life and culture by enabling travel and access to food. Three types of ice are commonly referred to by the Inuit, including drift ice, pack ice, and land fast ice. Drift ice is ice floating on the surface

of the water, and pack ice consists of large masses of drift ice. Pack ice can be freely floating or blocked by drift ice. Land fast ice, or fast ice, is sea ice that has frozen along coasts or to the sea floor in shallow water. The floe edge is the edge of the land fast ice. Unlike drift or pack ice, land fast ice does not move.

Participants described sea ice⁵ as being used for hunting marine mammals during the winter and spring. Marine mammals are a staple food in Inuit diet, while their pelts continue to be used for clothing. The floe edge used by marine mammals including bearded seals, harp seals, walrus, narwhal, beluga, and whale. Inuit hunters capitalize on these concentrations of marine mammals, using the floe edge extensively.

Why it's important is it's our hunting, hunting, we love to hunt so much as Inuit as it is our source of meat, it's our only source to collect meat... Coming from this area we hunt walrus on the sea ice and that's why it's very important, important, we call it very important from, from the sea ice, coming from the sea ice we have walrus. (David Irngaut, Igloodik)

[Sea ice] is important because Inuit hunt all things or whales or seals these things using the sea ice they go out hunting in spring and winter, it is very important. (Koonoo Oyukuluk, Arctic Bay)

... one that is most important is when the sea begins to freeze up in early winter (thin ice) is that hunters hunt seals in aglus (breathing holes) for their food. During this time of the year, food can be very scarce if the caribou are too far to hunt or inaccessible because of thin ice or open water areas. We need the sea ice to travel to hunting areas in winter and spring, without the sea ice; those hunting grounds are inaccessible and we need the sea ice to travel further distances to find game. (Elijah Panipakoocho, Pond Inlet)

Polar bears also rode on the ice pans and when multiyear ice started arriving, people started searching for polar bear. And they say "there is a polar bear there". Then they would go after the polar bear and harvest it... These ice pans would also bring a lot of walrus. They would be basking out on the sea ice. Also this multiyear ice coming from the Resolute Bay area or Devon Island, it would bring a lot of marine mammals such as walrus. (Jochabed Katsak, Pond Inlet)

[Sea ice] is a hunting ground, they go walrus hunting, seal hunting, and for people going to trap foxes sea ice is used to travel with these things. It is very important, the sea ice. (Muctar Akumalik, Arctic Bay)

⁵ The term 'sea ice' was used in the translation of workshop notes and interviews; however for the purposes of the report and consistence with other sources this is interpreted to mean 'land fast ice'.

Since the beginning seals have been our main diet and that is why seal hunting is very important to us and as well as for the whales. [The floe edge] is very important for the hunters. (Paul Ejangiaq, Arctic Bay)

Participants also reiterated the importance of the sea ice for travel. An elder from Arctic Bay noted that the high mountains inland make travel difficult and the sea ice allows for an easier travel route, adding that the “sea ice affects our lives” (Isaac Shooyook). Other interviewees noted that the sea ice allows greater flexibility in travel, enabling travel wherever the sea ice is formed.

The sea ice is very important to Inuit. Because it is very important we travel mostly by sea ice now a day. We don't travel through land anymore, as sea ice is better now. Sea ice is very important. We travel on sea ice and it is safe to travel. It is our only main travel route now. (Jobie Issigaitoq, Arctic Bay)

It is more level and less rough through the ice. When we travelled through the ice, we were able to go longer distances, because the land has cliffs and it's almost impossible to travel by land. (PI-11, Pond Inlet)

Our land, the land, some of it is not possible to travel on so when there is ice we are freer to go anywhere using the sea ice... it makes it possible for us Inuit to cross, Inuit are able to cross through the ice, that's why it's important, because the Inuit can travel whichever they want to crossing the sea ice, for example, if it were summer they're not as free to go anywhere, but as soon as it freezes up, then they can go wherever they want whenever they want as long as the weather is good. (Olayuk Naqitarvik, Arctic Bay)

Participants from Southern Baffin indicated that the land fast ice is narrow in areas close to Cape Dorset and, therefore, travel on the fast ice near the coast line.

The area to the west of Cape Dorset has a very narrow band of shorefast ice, hence winter travel is very near the shore. (Workshop participant, Cape Dorset)

The floe edge is an important part of Inuit culture and life throughout Baffin Island. Several elders indicated that floe edge was more important to Inuit life in the past when seal fat was still used for qulliqs (oil lamps); however, the majority of individuals participating in community consultations indicated the continued importance of the floe edge.

It's important because our ancestors were able to stay alive without any rifles, without anything, only harpoons and bows, using the ice for animals. They were using the sea ice very much. (Jaipity Palluq, Igloodik)

...they could collect seal, bearded seal, and whale blubbers in the spring... June, June or July are the main months they started collecting seal blubber, so they can save the fat for winter, and they could only save fat for winter use on the sea ice, so they'll have plenty of fat because they couldn't get light, kerosene and gasoline. So the sea ice was used for hunting sea mammals. The sea ice was used a lot. If they lived on the mainland, they would do whatever to reach the sea ice. Even if they had no rifles but they could catch animals on the sea ice. That's why they love the sea ice more than the mainland because it's more means of survival. (IG-15, Igloodik)

It is important to us because we rely on the sea for our marine life. When the ice was freezing up in places, we hunt in the thin ice using harpoons through the ice. That is once the sea ice froze enough that we could travel on it, although it was still quite thin and dangerous. Also hunters gauged by the thickness of the ice by poking it. When it froze over, although the ice was still quite thin, hunters hunted seal by looking under the ice for seal. If they spotted it, they harpooned from above. That is how we hunted seal during the freeze up. That is why sea ice is so important to us, it also sustained us. (Ishmael Katsak, Pond Inlet)

Since the ice is smoother than the land it would be used as soon as ice formed on the sea. The sea ice has always been used for traveling. Hunters hunt in and on it as it has seals. Dogs use seal meat for nourishment and people use the fat as fuel. The sea ice has always been important to people. (AB-13, Arctic Bay)

The results of the community consultation noted changes to the ice within the North Baffin region have been observed overtime. The most commonly cited change to the ice was that break-up occurs earlier, the ice forms later, and the ice pack is not reaching historically observed thicknesses. An elder from Igloodik noted the importance of Inuit understanding the ice and ensuring its continued formation every season as much of their survival depends upon it.

All Inuit (human beings) are all too precious not to be cautious. When they traveled by dog team, they would stop regularly to check the ice if it's safe enough and they did that all the way. The ice freeze up was earlier then and today ice freeze up is later... The cracks on the ice were much deeper than they are now a days. It was not like now. It seems

like the ice warms up a lot earlier than the land. (Attaguttak Ipeelee, Arctic Bay)

It used to be so much thicker. Now it is so much thinner. And the floe edge used to be further down, now it is much closer now. It is very different now. I think the water is much warmer now and the ice seems to be thick but it moves. When the weather is clear skies, the ice form very quickly, and it thickens very quickly. Now a days that doesn't seem to happen anymore. The ice doesn't form as thick, it is very different now. This fall I knew right away the ice was safe to travel as it had formed for four days now. I started to travel but the ice was very thin and not safe to travel on. Even with the cold weather the ice forms not as thick and it isn't safe all the time. (Jobie Issigaitoq, Arctic Bay)

When I was a child, we had lived here (pointing on the map) and the ice formed earlier, and the ice here would become thick, would thicken quicker, now it's changed so much, since way back then, has changed so much the ice is now thinner, now this area doesn't have any ice at all over here (pointing on the map) because it has changed so much it is now going this way (pointing on the map) That's what has changed (IG-15, Igloodik)

The IQ study mapped the historical extent of the floe edge and the location of prominent leads. There was variability in the noted extent of the floe edge in individual interview results, though most describe a similar boundary. During Marine Mammal Workshops in Igloodik, Kimmirut, and Cape Dorset a single land fast ice boundary was defined by workshop participants. Figures 3.24 and 3.25 contrast the land fast ice extent recorded by satellites with the IQ provided by workshop participants.

3.4.5 Special Places

During the IQ study participants noted numerous spiritual and special places within the Project study area. Figure 3.26 illustrates the location of special places as identified by workshop participants. Most of the special places identified are located west of the project site and west of the nominal Foxe Basin shipping route. Figures 3.27 and 3.28 illustrate the location of special places as identified by interview participants.

Earth Eggs

Earth eggs are believed to hatch animals such albino caribou, albino seal, etc. They look like regular eggs except they are said to appear in unusual locations. The eggs should not be disturbed and animals hatched from an earth egg should not be killed as the weather will turn bad, often for months. Earth egg locations are specified on Figure 3.26 and have been identified at sites around Foxe Basin: one between Igloodik and Hall

Beach, one just outside of Igloolik, one approximately 100 km southeast of Steensby Inlet, and one further to the southeast of Foxe Basin.

Earth eggs – these are eggs that at first glance may look exactly like a regular egg, but they will be in a place that is unusual. Sometimes you will find them partly protruding from the earth or surrounding stones. They will not be in regular nests. Often, they will appear translucent as well, like you can see the yolk from the outside. These eggs will hatch animals like albino caribou, albino seals, etc. The earth is their mother, and these eggs and animals should never be disturbed. If a person disturbs an earth egg the weather will turn bad, often for months. If a person kills an animal hatched from an earth egg, the same thing can happen. Abraham Ulayuruluk told a story about a woman who collected an earth egg while gathering eggs and boiled it up and ate it, and immediately it became so foggy that she could not see. It is believed that the earth is its mother and grieves for its' earth eggs by producing bad weather. Scientists or people working on the Baffinland project should be told about these earth eggs, how to identify them, and why not to disturb them. (Jaypeetee Palluq, Igloolik)

Earth Eggs I hear lay on the ground half buried. From what I hear of Earth Eggs is that they are never to be tampered with – if you see one leave it alone. If you happen to break one the weather will turn foul- very foggy and wet – it does something to the weather. (Nicolas Arnatsiaq, Igloolik)

The Story of Ataguttaaluk

The story of Ataguttaaluk is important in Inuit culture, as it highlights the importance of survival. It tells of the survival of an Inuit woman who had to eat her deceased husband and children in order to survive while out on the land. The location of the story of Ataguttaaluk is called Inukturnik and is believed to be southwest of the Project mine site near Inukturnik Lake.

The importance of this story was made evident by comments from workshop participants, the naming of a school in Igloolik in honour of Ataguttaaluk, and by requests by her ancestors, who were interviewed as part of the IQ study, to have the area protected in her memory.

Here is a bit of history on Inukturnik; Where Ataguttaaluk, my father's (Bernard Ikummaq) mother survived on Human Flesh. Prior to the incident of the survival drama, the lake had been known as Ikiqtuuq (where caribou had been hunted by chasing the caribou into the lake and hunted by qajaq) until the late 1800s. The ordeal started off as just another group of families migrating from north Baffin to the Amittuq area

to connect with other family members that were in the Avvaja area. The three families travelled by dog teams from Mittimatalik going to Igloodik soon after freeze-up (late Nov.- early Dec.) and along the way they dug-up their caribou meat caches and also hunted caribou based at Ikiqtuuq where hunting was good. One family continued on towards Avvaja and the other two families stayed in the area and were to follow the other family at a later date. Soon after the first dogteam left for Avvaja heavy snows came and snowed for a lengthy period of time and became too deep to travel anywhere. The brief time of plenty did not last for much longer so therefore the dogs started starving off until there were none left. The two men walk about looking to hunt for caribou but could not get very far due to the deep snow where in some places it was beyond waist-deep. The two became so exhausted and weak that both became sickly and died at the location. Ataguttaaluk's husband gave his spouse permission to ingest him so that she could survive to tell what happened and she had an extensive family to get home to. The other woman lasted for some time longer and also became weak and sickly and died also, there were also two children that also died before the woman did. Ataguttaluk survived on her own until she got found just before the snow buntings came (May). The people who tell of finding a human that was beyond recognition recognized her by her teeth and it turned out they were closely related. (Theo Ikummaq, Igloodik)

That peak that is here (pointing on the map) is also a place I'm not allowed to go to, my granny, my grandmother's survival place, this Inukturnik [place to eat human being]... Ever since I was a child I've tried going...but when I reached some place it would become foggy even in winter, it would be foggy and I wouldn't be able to reach it... This place where Ataguttaaluk survived after the rest of her family died of starvation and she was the sole survivor. (Theo Ikummaq, Igloodik)

As we travelled way up inland, we were told that we have arrived at a place called Inukturnik (place of cannibalism). Where cannibalism was exercised. How did they know about the place names. Every year, every springtime from the time they were young until they reached maturity they had always frequented the area. (Jochabed Katsak, Pond Inlet)

Other Special Places

Special Places Workshop participants noted the importance of old Tunit sites, places of giants, and places of where little people lived. These special places are mapped in Figure 3.26.

On the trail to Igloodik, many legendary stories and activities took place but I cannot pin point the actual locations on the map, such activities took place during transit to Igloodik and Pond Inlet which would include the

Mary River area, there are too many to list, we could spend all day detailing them on the map, this whole area would be covered... You can also include the areas that are not on the map, towards Clyde River, it would be the same for that area too (Gamaillie Kilukishak, Pond Inlet)

...in Nalluat called Nunguvik, there is a set of foot prints through the soily areas, then through the gravel, then through the soily areas again, about the size of one foot or larger, I was a child in 1937, while I was growing up there, we knew about those foot prints, nobody was able to tamper with them, oh!, the foot prints were made by the giants, our parents have heard about them, even our elder have heard about them, we still can see the foot prints today... just foot prints, that walked through the seashore and through the soily area, carrying a whole walrus, and the insides too, I have heard that it carried a heavy object, but it amazed people, even if these words are not true, the foot prints are indestructible. (PI-11, Pond Inlet)

There is a spot in the middle of Baffin Island where people from Clyde River and Igloolik used to meet. There are three graves there – two of Inuit and one of a 'bigfoot' (Thule person) in between them. Inuit Knowledge says that the 'bigfoot' grave should not be disturbed. (Timothy, Hall Beach)

I haven't heard of any places there but I think there are Ijiraqs [part human part caribou - singular]; some Ijiqat [plural of Ijiraq] and Tarriaksuk [shadowy figures], Tarriaksuks and Ijiraq are different. The Tarriaksuks aren't scary {yes} the Ijiraq's are like caribou, kind of looks like a caribou. (IG-16, Igloolik)

This area ... from Angugaattartaluk to Iglurjuaq it is a very beautiful place. Ittukuvik is around here. Not too long ago, I wanted to have an outpost camp... I think it was about three years ago my father told me when he was still alive you cannot live there. Why I really like it. You might be thankful for things that are not real and they might bring you home things that are not visible. What they are not visible? It is a place for people that appear to be real but disappear out of nowhere... This is called Inunngnak because there are small people, very small people. They are called Inunngnak because they are the most powerful, they used to be most aggressive within all small people those Inunngnak... Iglurjuaq has Tarriaksuq (people who suddenly disappear)... There would be real people who sit on the snow trying to get onto their qamutik when they would see those people looking like their relatives and they would suddenly disappear. (laughs). When they are facing you, you are able to see them... if they move like this, if they position like this it is

called tukittuq (visible from the side) when you see from their side, then they disappear those are Tarriaksuk. (Leah Kalluk, Arctic Bay)

One participant noted that the advent of religion made some individuals abandon their traditional beliefs, resulting in new generations of Inuit being unaware of their ancestral beliefs or the location of special places. This may result in some special places not being accurately identified or not identified at all.

No, I don't know about those, even the sacred places and mythical events. I used to ask, my late grandmother when I was old enough to ask. We were asked to abandon those things when the religion came in. My grandmother never used to tell me stories about it.
(Daniel Komangapik, Pond Inlet)

Archaeological and Burial Sites

The locations of archaeological and burial sites identified by interview participants are illustrated in Figures 3.27 and 3.28. Workshop participants identified on Figure 3.29 historical sites containing old man-made items and features which included Inukshuks and other stone arrangements, remnants of sod houses, tent rings and caches. Gravesites that were identified by workshop participants are illustrated in Figure 3.30.

In your study area there are lots of archaeological and cultural resources – Inuksuit, camps, caches. These are from our ancestors hunting and surviving and I want to make sure that these are protected. (Louis, Arctic Bay)

Traditional land uses like old camp sites cover the coasts. (Jaypeetee, Arctic Bay)

It is a known fact that all of the land was occupied by people. There are examples of occupation all over, even in what seem to be barren spots, of rock piles, inukshuks, etc. (Percy, Hall Beach)

Our ancestors have always hunted walrus and this can be seen in the archaeology sites that are found all around. (Workshop participant, Igloodik)

Only a few archaeological and burial sites were identified by interviewees within the Project study area. An in depth discussion of the archaeological features of the area is provided by Pinard and Burnham (2010).

3.4.6 Looking after the Land

The land continues to be an important part of Inuit life and the importance of its protection was highlighted by workshop participants. Participants described both traditional and contemporary approaches to looking after the land.

The traditional approach to land conservation was based off a nomadic lifestyle, whereby groups would move to areas of resource abundance, moving off those lands when resources were diminished. The workshop participants described letting overused land “cool down” allowing it to replenish itself. Subsistence harvesting refers to harvesting only what is needed for survival and was identified as a historical and contemporary resource management technique used by Inuit.

Living in one camp for a long time is not good; it has to be cooled down the camp. For example we live in the community of Igloodik, we tend to create problems easily... I've heard of that it has to be cooled down the land; the community has to be cooled down. (IG-01, Igloodik)

Every part of the animal harvested that could be utilized was taken home, so that the land was unpolluted and left in its natural state... Inuit are totally reliant on wildlife as we have no other food sources that are indigenous in our land, we do not have agriculture so we cannot rely on plant life for our sustenance... That is why we have to conserve our wildlife and manage our local resources properly (wildlife)... We still tend to and need to conserve, respect and manage wildlife as we have always done as Inuit, we cannot rely solely on or afford cash economy only for our livelihood. In our lives we Inuit and wildlife are interconnected, interdependent and have learnt to co-exist together in harmony. (Elijah Panipakoocho, Pond Inlet)

If people have an attitude towards them that is negative then they will not stay in that area... If they have an attitude towards wildlife that is negative in any way or if they argue about the wildlife in a way that upsets them. Be it about polar bears or any other wildlife or seal and other sea mammals. (Ipeelie Koonoo, Arctic Bay)

Maintaining a clean landscape was the most commonly cited concern with respect to caring for the land. Participants identified removing garbage and hunter scraps as important land management ethos. One participant noted that too many resources should not be taken from the land.

When we moved, we ensured that nothing was left behind to ensure that wildlife remained in that area because if the wildlife starts smelling some food, they won't frequent the area... Even when we left the area all you could see was the cache. Even the tent rings were removed and

everything was left very clean... Even though the sled was fully loaded, we would put all the bones and take them with us... Those bones which they did not cook were left behind on the ice (in the summer) so that the ice would float away... Even dog feces were put on the ice because people were worried that wildlife might smell them. (Jochabed Katsak, Pond Inlet)

We can take care of the land by keeping it clean. In the past there wasn't that much garbage such as cans for food. When we started bringing food to go hunting, the things that we buy from stores and they were not very expensive. In the past we use to leave the garbage behind, and we were supposed to keep it clean. Right now we are aware of the garbage and we are taking care of it, and we want to keep the land clean. (Daniel Komangapik, Pond Inlet)

The only possible way [to look after the land] is to make sure that miners, prospectors don't work the land too much, is the only way we can care for it; make sure they don't ruin it and the animals. (Jaipity Palluq, Igloodik)

3.5 NUNAVUT WILDLIFE HARVEST STUDY

Supplementing information gathered in the IQ studies, the Nunavut Wildlife Harvest Study (Priest and Usher, 2004) is a comprehensive description of recent traditional land use activities. The Nunavut Wildlife Harvest Study was conducted pursuant to Article 5.4.1 of the Nunavut Land Claims Agreement (NLCA). The objective of the study was to determine current harvesting levels and patterns of Inuit use of wildlife resources. Harvest data was collected over a five-year period from June 1996 to May 2001, with the final report issued in August 2004.

Today, many people in the region permanently reside in communities, but spend time on the land pursuing traditional activities, notably subsistence wildlife harvesting. Country foods remain a critically important component of the Inuit diet. Country foods usually cost significantly less than other groceries in community stores. Country food is also considered by Inuit to be healthier than store-bought food.

Contemporary⁶ winter transportation on the land is by snowmobile, as the use of dog teams for transportation has diminished considerably, yet not entirely. Outpost or seasonal hunting camps are common with Inuit spending weeks and even months on the land.

Hunters were identified as occasional, active, or intensive hunters; and harvest was defined as animals struck and retrieved. Fieldworkers in each community contacted local hunters on a monthly basis to record harvest levels. For the five North Baffin communities of Arctic Bay, Clyde

⁶ For the purpose of this discussion, contemporary land use refers to land use activities that have occurred within the last decade (2000-2010).

River, Hall Beach, Igloolik and Pond Inlet, efforts were made to obtain harvest data from all hunters in each community. Table 3.1 summarizes the number of hunters who registered and reported harvests as part of the study for the communities of Arctic Bay, Clyde River, Hall Beach, Igloolik and Pond Inlet. The table also lists the 2001 population of each community. Comparing the number of registered hunters against the 2001 population aged 15 years of age or older for each community suggests that approximately half (41.8% to 65.3%) of the people in the region were identified as occasional, active or intensive hunters. The highest percentage (65.3%) of people in a community who identified themselves as hunters was in Arctic Bay and Nanisivik. This is likely because Nanisivik was a mine town, and consequently a greater percentage of the community consisted of people of working age (fewer elderly) who were more likely to engage in hunting. A representative of the Mittimatilik Hunters and Trappers Organization suggested is likely that the survey underestimated the percentage of hunters in some communities as he felt that the census in Pond Inlet was not complete and that there were hunters who did not participate in the study (Alooloo, personal communication, 2006).

The number of registered hunters in each community was also compared against the number of active hunters (hunters who made at least one kill during the year). This is only a rough estimate of the hunter participation rate since it assumes that everyone who hunts is successful. About 75% to 90% of registered hunters harvested within the year, suggesting a high participation rate (and perhaps success rate).

The Nunavut Wildlife Harvest Study (Priest and Usher, 2004) also documented reported harvest locations for most wildlife species surveyed. Figures 3.31 through 3.38 present harvest data by community in the North and South Baffin regions for the following species:

- Caribou (Figures 3.31 and 3.32);
- Marine Mammals (Figures 3.33 and 3.34);
- Waterfowl and Waterfowl Eggs (Figures 3.35 and 3.36) and
- Fish (Figures 3.37 and 3.38).

The harvest locations were colour-coded by community to illustrate where hunting activities were concentrated relative to the origin of the hunter.

A total of 49 wildlife species were reported to be harvested by at least one of the five North Baffin focus communities during the study period. This included caribou, polar bear, wolves, two fox species (arctic and coloured), four species of seals, walrus, narwhal, beluga, a large number of waterfowl and bird eggs, and a small variety of fish. The total number of registered hunters in each community harvesting a given species is shown on Table 3.2. Table 3.3 presents the annual harvest numbers for each species, by community, for each of the five years of the study period as well as the 5-year mean.

The study had several limitations. For instance, the study indicated that ringed-seal was the most commonly harvested mammal in each community, yet ringed-seal harvest locations were not included in the study. Therefore a key harvesting metric was not represented in Figures 3.31 to

3.38. In addition, through the duration of harvest study, caribou were in relatively high abundance. During periods of high or low caribou abundance harvest activities shift accordingly to utilize the resource. Because caribou abundance has decreased since the study, harvest effort may have shifted to other wildlife species (i.e., seals, narwhal, fish, etc.).

The Nunavut Wildlife Harvest Study suggests that hunting activities in the South Baffin region do not extend far beyond the community of hunter origin relative to the North Baffin region. In addition, hunting activities on South Baffin occur mainly inland and along coastal and near-shore areas. As such, in South Baffin no interaction is anticipated between traditional harvesting and Project activities.

3.6 NUNAVUT COASTAL RESOURCE INVENTORY - IGLOOLIK PILOT PROJECT

The Nunavut Coastal Resource Inventory is a collection of information on coastal resources and activities focussing on Igloolik as a pilot project. The inventory's aim is to:

- Provide the foundation for an integrated coastal management plan
- Provide essential information to enable protection of important coastal areas
- Facilitate environmental impacts assessments, sensitivity mapping, and community planning

The inventory gathered information through interviews with knowledgeable individuals (primarily elders) from Igloolik about archaeological sites, including sod houses, rock houses, and camp sites, and other coastal resources around Igloolik and northern Foxe Basin. Generally, information gathered through MRIKS correlated with the camp and important marine harvest areas identified in the Nunavut Coastal Resource Inventory.

SECTION 4.0 - NON-TRADITIONAL LAND USES

4.1 INDUSTRY

4.1.1 Mineral Exploration

Mineral exploration activities in Nunavut have intensified to record levels since 2006. The Government of Nunavut indicates that mineral exploration activity in the territory exceeded annual expenditures of \$150 million in 2004 and \$200 in 2006. It is expected that in 2010, mining will contribute \$500 million to the GDP. (Government of Nunavut, 2010)

Figure 4.1 shows active mineral claims and prospecting permits in the North Baffin and Foxe Basin areas. At present, most exploration activities by other proponents in proximity to the Mary River Project are preliminary and undefined. The exception is the Roche Point Iron Ore Project which has been disclosed by the proponent but has yet to enter into the NIRB process.

4.1.2 Mineral Production

There are currently two operating mines in the eastern Arctic:

- The Raglan Mine, which is a large nickel/copper mine in the Nunavik region of northern Quebec, approximately 100 km south of Deception Bay; and
- The Meadowbank Mine, which is located approximately 100 km north of Baker Lake in Nunavut's Kivalliq region

The Polaris Mine, located on Little Cornwallis Island in the high arctic, ceased production in September 2002 and mine closure works were completed by September 2004. The Nanisivik Mine, located about 20 km from Arctic Bay, closed in 2003.

4.1.3 Other Industrial Activities

DEW line decommissioning and clean-up operations are being coordinated by the Department of National Defence (DND) and Indian and Northern Affairs Canada (INAC). Decommissioning of the sites began in 1993, with clean-up operations focused on managing contamination from soils, landfills, and site debris. Decommissioning and clean-up activities are scheduled to conclude in 2012.

Preliminary investigations suggest Baffin Bay contains sizeable oil and gas deposits. To date, exploration has been limited to geophysical surveys. More intensive exploration remains a possibility in the future, but none is scheduled at this time.

4.1.4 Community Re-Supply

All Nunavut communities rely on an annual re-supply of non-perishable goods and fuel by marine shipping, locally referred to as a “sea-lift”. Sea-lifts are generally scheduled for August and September, during the ice free season. Sea-lifts are highly anticipated by communities, when everything from snowmobiles and heavy equipment to non-perishable food items are received.

4.1.5 Commercial Fisheries

In 1985 the Department of Fisheries and Oceans (DFO) assessed a number of rivers in the Foxe Basin for potential commercial fisheries. Refer to Figure 4.2 for the DFO arctic char commercial fishing quotas for North Baffin Rivers. The DFO established quotas for each river but no commercial fisheries developed, although representatives from the community of Igloodik have expressed an interest in public meetings.

4.2 TOURISM

Tourism activities in the North Baffin area are staged primarily out of Pond Inlet. These include visits by southern based cruise ships, community-based adventure tourism (e.g. floe edge tours, kayaking, etc.) and other activities that have been defined as tourism-related such as film documentaries.

A number of tour companies offer arctic cruises that include itineraries with trips to Baffin Bay and Lancaster Sound, often stopping in Pond Inlet. According to a Nunavut Tourism study conducted in 2003, the main tour companies active in the region include Adventure Canada, Peregrine Adventures, and Quark Expeditions. These tour companies book space on five ships: Akademik Ioffe, Kapitan Khlebnikov, Clipper Adventurer, and Hanseatic. Operators run eastern arctic tours starting as early as the third week of July, ending in mid-September (Elverum, 2006). One to eight cruise ships dock at Pond Inlet each summer.

Adventure based tourism is a growing industry in North Baffin. Adventure tourism activities in the North Baffin region include dog sledding, skiing, snowmobiling, floe edge tours, whale watching, bird watching, hiking, sea kayaking, hunting, and fishing.

April through August are the busiest periods for adventure tourism in Nunavut. Winter-based tourism activities include skiing, snowmobiling, dog sledding, and wildlife viewing at the floe edges. Most open water activities take place in August, following breakup of the land fast ice. Tourism opportunities in the open water season include sea kayaking, hiking, and wildlife viewing.

Local Hunters and Trappers Organizations (HTOs) are responsible for the allocation of hunting and fishing tags based on annual government derived quotas for hunting and fishing activities. In some cases the HTOs also act as an outfitter and provide guiding services.

Nunavut Tourism (2006) identified the following:

- 7 outfitters located in the 5 North Baffin Communities close to the Project
- 10 outfitters based in South Baffin communities
- 14 outfitters based either in southern Canada or United States

The above adventure tourism or outfitting companies identified the following communities as their areas of service (# of outfitters):

- Pond Inlet (11)
- Arctic Bay (5)
- Igloolik and/or Hall Beach (9)
- Clyde River (1)

The Nunavut Quest is a long distance dog race held in the North Baffin and Foxe Basin regions every April since 1999. The course changes from year to year but generally runs between the communities of Pond Inlet, Arctic Bay, Igloolik and Clyde River. In April 2006, the race started in Arctic Bay and ended in Igloolik. Each community involved in the competition has a organizing/fund raising committee (Elverum, personal communication, 2008).

Nunavut offers some of the most prestigious and unique North American big-game trophy hunting opportunities attracting sport hunters from around the world. Sport hunting opportunities exist for polar bear, walrus, caribou, and wolves in the North Baffin region. By international agreement, Nunavut's polar bear hunts must be conducted by the traditional method using dog teams. Until 1994, only Inuit hunters could hunt walrus, but now a very limited hunting season has been opened for non-resident hunters. Non-resident hunters can keep the tusks (subject to export laws), while the walrus meat must stay in the community to be shared amongst the residents. Walrus sport hunts are facilitated primarily through outfitters in Igloolik and Hall Beach.

Sport fishing is undertaken throughout Nunavut. Sport fishing is a destination activity in some parts of the territory such as in Kivalliq region; however, in the land use study area sport fishing is generally opportunistic, undertaken while pursuing other tourism activities.

SECTION 5.0 - REGIONAL LAND USE PLANNING

Land use planning in Nunavut is mandated by the NLCA to be the responsibility of the Nunavut Planning Commission (NPC). The land use study area of the Mary River Project spans the North Baffin, Akunnig, and South Baffin land use planning regions. At present, only North Baffin has an approved land use plan. There are no approved regional land use plans for the Akunnig and South Baffin Regions. The major tenets of the approved North Baffin Regional Land Use Plan are summarized below.

Background

Land use planning in the North Baffin Region began in 1979, as a result of a Federal Environmental Assessment and Review Process (EARP) panel review of a proposal to drill an offshore exploratory well for oil and gas in Lancaster Sound. The EARP Panel concluded that a decision on drilling in Lancaster Sound could not be made until the government had considered the broader issues of all potential uses of the area. Following completion of a green paper (DIAND, 1982a), a consultation process with local communities sponsored by the Crown, and the establishment of the Lancaster Sound Regional Land Use Planning Commission, the Lancaster Sound Plan was approved in 1990. Subsequently, the Keewatin Regional Land Use Plan was submitted in 1991.

Following the ratification of the Nunavut Land Claims Agreement in 1993, planning work previously carried out by the Nunavut Planning Commission Transition Team (NPCTT) was superseded by the Nunavut Planning Commission (NPC). In 2000, the NPC issued revised land use plans for Keewatin and Lancaster Sound, the latter being renamed the North Baffin Regional Land Use Plan.

5.1 THE NORTH BAFFIN REGIONAL LAND USE PLAN

5.1.1 North Baffin Regional Land Use Plan Objectives

The North Baffin Regional Land Use Plan (NBRLUP) (2000) provides guidance indicating that all land use in the North Baffin region should be subject to principles of conservation, communication, and development.

With respect to mineral exploration and development, the objectives of the North Baffin Regional Land Use Plan (NPC, 2000) are as follows:

- *To encourage mineral exploration and production while protecting wildlife resources and maximizing economic benefits to the region;*
- *To improve the knowledge of mineral potential throughout the planning region as part of the necessary base for effective decision making;*

- *To ensure that the communities are prepared to take advantage of the economic opportunities offered by exploration and production;*
- *To ensure that mining exploration, production and abandonment proceed with minimal adverse effects on the environment and the communities; and*
- *To increase local knowledge of the location of carving stone within the region.*

With respect to marine and terrestrial transportation, the North Baffin Regional Land Use Plan (2000) outlines the following objectives:

- *To ensure that adverse effects on wildlife and harvesting activities are minimized, while shipping rights, safety and economic considerations are respected;*
- *To improve communication and understanding between the shipping industry, government regulators and the communities about activities and concerns, so that conflict can be resolved;*
- *To exchange traditional and scientific knowledge as a means of improving communication, understanding and trust between all parties; and*
- *To ensure that when shipping takes place all effects are monitored so that future activities can be improved.*

The following provides a discussion of the conformity requirements described in the NBRLUP.

5.1.2 Terms of the North Baffin Regional Land Use Plan

The terms of the NBRLUP (2000) are summarized in Appendix C of the NBRLUP. Land use activities in North Baffin must conform to these requirements. The key conformity requirements with respect to a mining project are as follows:

- *All land users shall refer to the land values and concerns in Appendix G and to the “Areas of Importance” map to determine important land values and concerns in areas where they plan to work, and modify plans to conserve this values (Term 3.2.1);*
- *All parties wishing to develop a transportation corridor must submit a detailed application for an amendment, that includes a transportation corridor route alternatives assessment (Term 3.5.11);*
- *The NPC and either NIRB or a panel will publicly review the application, and if the proposal meets the application guidelines, may request the ministers to amend the plan to include the new transportation corridor (Term 3.5.12);*

- *All mining proposals shall include plans with financial guarantees for the eventual closure of the site, addressing risks to human health, safety and the environment and meeting legal obligations (Term 3.6.5);*
- *Mining exploration companies and mine operators shall continue to minimize the negative effects of their activities on the environment (Term 3.6.6); and*
- *Special hunting restrictions shall be enforced by mine operators and land managers at mine sites and along transportation routes to prevent over harvesting of wildlife (Term 3.6.9).*

5.1.3 NBRLUP Designated Areas of Importance

The North Baffin Regional Land Use Plan categorizes the region using the following categories:

- Essential Areas
 - Areas essential to the community for harvesting, essential for the biological productivity of wildlife (i.e., critical habitat) or protected areas
- Important areas
 - Of great importance to communities for harvesting or for biological productivity, but less than essential area (i.e., important wildlife habitat but there is alternative habitat)
- General use areas
 - A smaller proportion of the harvest comes from these areas, or the area is used by only limited species or for limited periods of time
- Areas of unknown or little known importance
 - These areas are not used much by the community and thus little community information is available

The Akunnig Planning Region includes the eastern Kitikmeot communities of Gjoa Haven, Taloyoak and Kugaaruk (Pelly Bay) and the Melville Peninsula communities of Igloolik and Hall Beach (NPC, 2006). Geographically, this planning region extends west to include King William Island, with the Boothia Peninsula and Melville Peninsula centrally located in the planning region, and extends east to include the Northern Foxe Basin and the north-west coast of Baffin Island. There is no draft of approved plan for this region.

SECTION 6.0 - LAND OWNERSHIP

6.1 MARY RIVER PROJECT MINING CLAIMS

The Mary River Project includes three mining leases (#2483, 2484, 2485) that are 100% owned by Baffinland Iron Mines Corporation (Figure 6.1).

The three mining leases are entirely surrounded by Inuit Owned Land (IOL), administered by the Qikiqtani Inuit Association (QIA), which is the regional Designated Inuit Organization (DIO).

6.2 MILNE INLET TOTE ROAD

The historical road built between Milne Inlet and the Mary River site in the 1960s was upgraded to serve as the tote road for the Project's bulk sample program. The road will be maintained for use during the Project's construction and operation phases. The road is recognized as an existing easement for public access in Article 21 of the NLCA. The road is listed by NLCA Schedule 21-2 as follows:

Milne Inlet Tote Road Public Access Easement

From Milne Inlet to the Mary River mine on Baffin Island on the route shown as Milne Inlet Tote Road on the property descriptions for Inuit Owned Lands Parcels: PI-16/37G, 47H; PI-17/37G; PI-19/37G, 47H, 48A

6.3 AIRSTRIPS

A total of three airstrips were constructed as part of exploration activities in the 1960s, as shown on Figure 6.1. Project exploration activities have utilized the Mary River and Milne Inlet airstrips.

6.4 INUIT OWNED LAND

IOL in the vicinity of the Project is administered by the QIA. IOL parcels recognize and protect areas of importance and/or economic value to Inuit. For example, the land may have importance as a traditional travel route, it may contain known heritage resources, and/or the area may be important area for harvesting or resource exploitation (e.g. soapstone or other minerals). The cultural value(s) for which IOLs were established is not public information.

The IOL designation may be specific to surface rights, subsurface rights, or both surface and subsurface rights (Figure 6.1). Throughout Baffin, the DIO is responsible for managing surface rights and Nunavut Tunngavik Inc. (NTI) is responsible for managing subsurface rights.

Figure 6.1 shows the location of IOL in the vicinity of the Mary River Project. The surface and subsurface rights surrounding the Mary River mining lease are predominantly IOL land. The Milne Inlet Tote Road Public Access Easement overlaps with IOL land.

6.5 CROWN LAND

Crown land in Nunavut, with the exception of Commissioner's land or IOL, is administered by INAC pursuant to the *Territorial Lands Act*. Most of the land south of the Mary River mine site is Crown land. Project components on Crown Land include the railway, Steensby Inlet port, and a section of the Milne Inlet Road south of Katiktok Lake. Authorizations on Crown land required from INAC include: Type A land use permits, land leases, quarry permits, and water leases. Because the Project footprint on Crown land is greater than 640 acres, an Order-in-Council must be obtained from Cabinet before the Minister of INAC can issue relevant authorizations. Baffinland has previously obtained authorizations for infrastructure and activities associated with the exploration phase and baseline study of the Project. In addition, authorizations have been obtained for exploratory drilling and camp construction along the proposed railway and at Steensby Inlet.

6.5.1 Commissioner's lands

Commissioner's lands are Crown lands administered by the Nunavut government, such as municipal lands and territorial parks. The Project does not overlap with any Commissioner's lands.

SECTION 7.0 - DESIGNATED AREAS

7.1 PARKS

There are two parks in the North Baffin region, Sirmilik National Park and Tamaarvik Territorial Park (see Figure 7.1).

Sirmilik National Park

Established in 2001, the park is bordered by Lancaster Sound and Baffin Bay to the north and east, Admiralty and Elwin Inlet to the west, and Pond Inlet and Eclipse Inlet to the south. The nearest settlement to the park is Pond Inlet located south of Bylot Island. The park is distinguished for its natural and cultural heritage, including sea bird colonies, whales, polar bears, and archaeological sites. The park is visited by tourists between May and September who come to experience the ecology and remoteness of the area, and to take part in backcountry camping, ski touring, and boating activities. A management plan for Sirmilik National Park has not yet been completed by Parks Canada.

Tamaarvik Territorial Park

Tamaarvik Territorial Park is a small park located adjacent the community of Pond Inlet and next to the Little Salmon River. The park was established to support tourism development in the region through the provision of camping facilities in close proximity to a variety of natural and historic features, including the remnants of a Thule village.

7.2 CONSERVATION AREAS

Conservation areas are sites awarded protection to safeguard valued biophysical or cultural features. The following areas are defined as conservation areas by Article 9 of the NLCA (1993):

- National wildlife areas;
- National Marine Conservation Areas;
- Migratory bird sanctuaries;
- World Heritage Convention / Natural and Cultural Sites;
- Wildlife sanctuaries;
- Critical wildlife areas;
- Convention on Wetlands of International Importance for Waterfowl (Ramsar Sites);
- Other areas of particular significance for ecological, cultural, archaeological, research and similar reasons.

The following describes designated conservation areas located on Baffin Island.

7.2.1 National Wildlife Areas

A National Wildlife Area (NWA) designation provides conservation status that precludes most human activities in the designated area, except for activities deemed compatible

with conservation. NWAs area administered by the Canadian Wildlife Service (CWS), a subsection of Environment Canada.

The Ninginganiq National Wildlife Area (Isabella Bay) was established in 2010 near the community of Clyde River. The establishment of this NWA was a community-based initiative to protect important summering habitat of the endangered arctic population of bowhead whales (Environment Canada, 2005). This NWA is in proximity to a proposed shipping lane being considered by the Project, between Milne Inlet and Europe.

7.2.2 National Marine Conservation Areas

National Marine Conservation Areas are marine areas, wetlands, estuaries, islands, and coastal areas, as well as the species that reside there, that are managed for sustainable use with nested zones of greater protection where necessary. A feasibility assessment for a new National Marine Conservation Area in Lancaster Sound was undertaken in 2009. The study area is outlined in Figure 7.1.

7.2.3 Bird Sanctuaries

The *Migratory Birds Convention Act* (1994) prohibits the disturbance of migratory birds, their eggs, and their nests from hunting, trafficking, and commercialization. In northern Canada, Aboriginal people have the right to carry firearms in migratory bird sanctuaries for traditional hunting and trapping purposes.

There are three Migratory Bird Sanctuaries in the Baffin region, shown on Figure 7.1. The closest to the Mary River Project is the Bylot Island Migratory Bird Sanctuary (1,263,500 ha), which overlaps with Sirmilik National Park.

7.2.4 Critical Wildlife Areas

Critical Wildlife Areas designated areas to protect migratory birds and endangered species. The Government of Nunavut's Department of Environment has identified three Critical Wildlife Areas for caribou calving on Baffin Island (see Figure 7.1) (Settingington, 2005). These include the Baird Calving Area, Dewar Calving Area, and the Longstaff Calving Area. These three areas are located in central-eastern Baffin Island.

7.2.5 Convention on Wetlands of International Importance (Ramsar Sites)

The Convention on Wetlands of International Importance, more commonly known as the Ramsar Convention, is an international treaty for the conservation and sustainable use of wetlands. Canada has 37 Ramsar Sites, five of which are located in Nunavut, and one of which is located on Baffin Island (Natural Resources Canada, 2005). The Dewey Soper Ramsar Site (Ramsar site no. 249), part of the Dewey Soper Migratory Bird Sanctuary, is described as *"An intertidal zone with a series of raised beaches and a marshy plain of mosses and sedges, dotted with shallow lakes and swamps, drained by many small,*

slow-flowing streams. The area supports the largest goose colony in the world (30% of those breeding in Canada) and more than one million during moulting, as well as abundant numbers of various other breeding species. Mammals include Rangifer arcticus, large numbers of which summer here before migrating to winter on Baffin Island.” (Ramsar Convention Secretariat, 2005).

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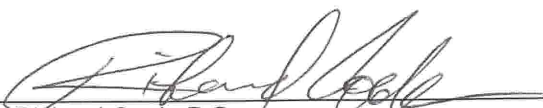
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SECTION 9.0 - CERTIFICATION

This report was prepared and approved by the undersigned.

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TABLE 3.1

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

LAND USE IN THE VICINITY OF THE MARY RIVER PROJECT

HUNTER PARTICIPATION IN THE NUNAVUT WILDLIFE HARVEST STUDY (1996-2001)

Hunter Response Categories	Arctic Bay & Nanisivik	Clyde River	Hall Beach	Igloolik	Pond Inlet
Hunters Registered ¹ (at least once during the year)	310	245	181	307	408
Total Hunters (registered ¹ and estimated not registered ²)	318	246	184	307	409
Hunters Interviewed ¹ (at least once during the year)	300	240	179	292	395
Harvested ¹ (at least once during the year)	240	217	164	254	312
Mean Monthly Response Rate ¹ (%)	98	97	88	90	85
Statistics Canada Reported Population (2001) ⁴	475	455	350	735	715
Analysis (Calculated)					
Percentage of Population Who Hunt (%)	65.3	53.8	51.7	41.8	57.1
Percentage of Hunters who harvested (%)	77.4	88.6	90.6	82.7	76.5

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Notes:

1. Information extracted from Table 32 (Arctic Bay), Table 76 (Clyde River), Table 124 (Hall Beach), Table 148 (Igloolik), and Table 240 (Pond Inlet) of the Nunavut Wildlife Harvest Study (Priest and Usher, 2004).
2. Table 10 of the Nunavut Wildlife Harvest Study (Priest and Usher, 2004) reports estimates for the number of unregistered hunters.
3. Totals represent mean values over the five-year study period of June 1996 through May 2001.
4. Population aged 15 and over based on 2001 Census by Statistics Canada (2006).

TABLE 3.2

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

LAND USE IN THE VICINITY OF THE MARY RIVER PROJECT

TOTAL NUMBER OF HUNTERS BY COMMUNITY HARVESTING EACH SPECIES (1996-2001)

Species	Arctic Bay & Nanisivik	Clyde River	Hall Beach	Igloolik	Pond Inlet
Caribou	131	106	128	205	240
Musk-ox	5	n/a	1	n/a	3
Polar bear	n/d	n/d	23	n/d	n/d
Wolf	17	10	9	27	21
Arctic fox	31	36	47	42	35
Coloured fox	1	10	4	n/a	41
Wolverine	n/a	n/a	7	2	n/a
Arctic hare	82	74	34	42	109
Arctic ground squirrel	n/a	n/a	7	1	n/a
Seals (unspecified)	n/a	4	n/a	n/a	1
Ringed seal	195	190	125	210	270
Bearded seal	26	47	77	102	59
Harp seal	22	43	18	17	49
Hooded seal	n/a	1	n/a	n/a	8
Walrus	10	1	82	117	13
Narwhal	75	37	11	21	110
Beluga	31	1	11	31	4
Geese (unspecified)	n/a	n/a	12	n/a	n/a
Snow goose	105	63	67	106	157
Canada goose	4	54	14	29	7
Brant goose	6	2	3	n/a	1
White-fronted goose	n/a	n/a	n/a	n/a	3
Old squaw	1	1	3	3	1
Pintail	n/a	n/a	n/a	4	n/a
Eider duck	20	81	70	76	38
Red-breasted merganser	n/a	n/a	n/a	n/a	1
Tundra swan	n/a	n/a	3	4	n/a
Greater scaup	n/a	n/a	1	n/a	n/a
Common loon	2	1	n/a	n/a	n/a
Arctic loon	1	n/a	2	n/a	n/a
Red-throated loon	1	7	11	4	2
Black guillemot	3	1	3	n/a	6
Thick-billed murre	4	4	n/a	n/a	8
Ptarmigan	96	131	71	86	157
Sandhill crane	3	2	n/a	1	6
Eggs (unspecified)	n/a	1	3	2	n/a
Goose eggs	43	57	38	122	65
Duck eggs	1	5	23	58	2
Arctic tern eggs	n/a	6	21	40	n/a
Seagull eggs	12	19	6	10	1
Black guillemot eggs	n/a	n/a	3	1	n/a
Thick-billed murre eggs	n/a	n/a	n/a	n/a	33
Fish (unspecified)	n/a	n/a	6	n/a	n/a
Arctic char	175	174	143	213	244
Lake trout	10	n/a	126	67	n/a
Burbot	n/a	1	n/a	n/a	n/a
Arctic cisco	n/a	4	20	n/a	n/a
Least cisco	n/a	1	n/a	n/a	n/a
Cod	12	59	3	8	4
Sculpin	22	109	n/a	6	15
Turbot	n/a	1	n/a	n/a	n/a
Clams	3	51	10	1	1
Mussels	n/a	n/a	2	n/a	n/a

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Notes:

- Information extracted from Table 34 (Arctic Bay), Table 78 (Clyde River), Table 126 (Hall Beach), Table 150 (Igloolik), and Table 242 (Pond Inlet) of the Nunavut Wildlife Harvest Study (Priest and Usher, 2004).
- Totals represent mean values over the five-year study period of June 1996 through May 2001.
- n/d = no data available.
- n/a = not applicable; information on this species was not requested from hunters, likely because the species is not hunted in the area.

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TABLE 3.3

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

LAND USE IN THE VICINITY OF THE MARY RIVER PROJECT

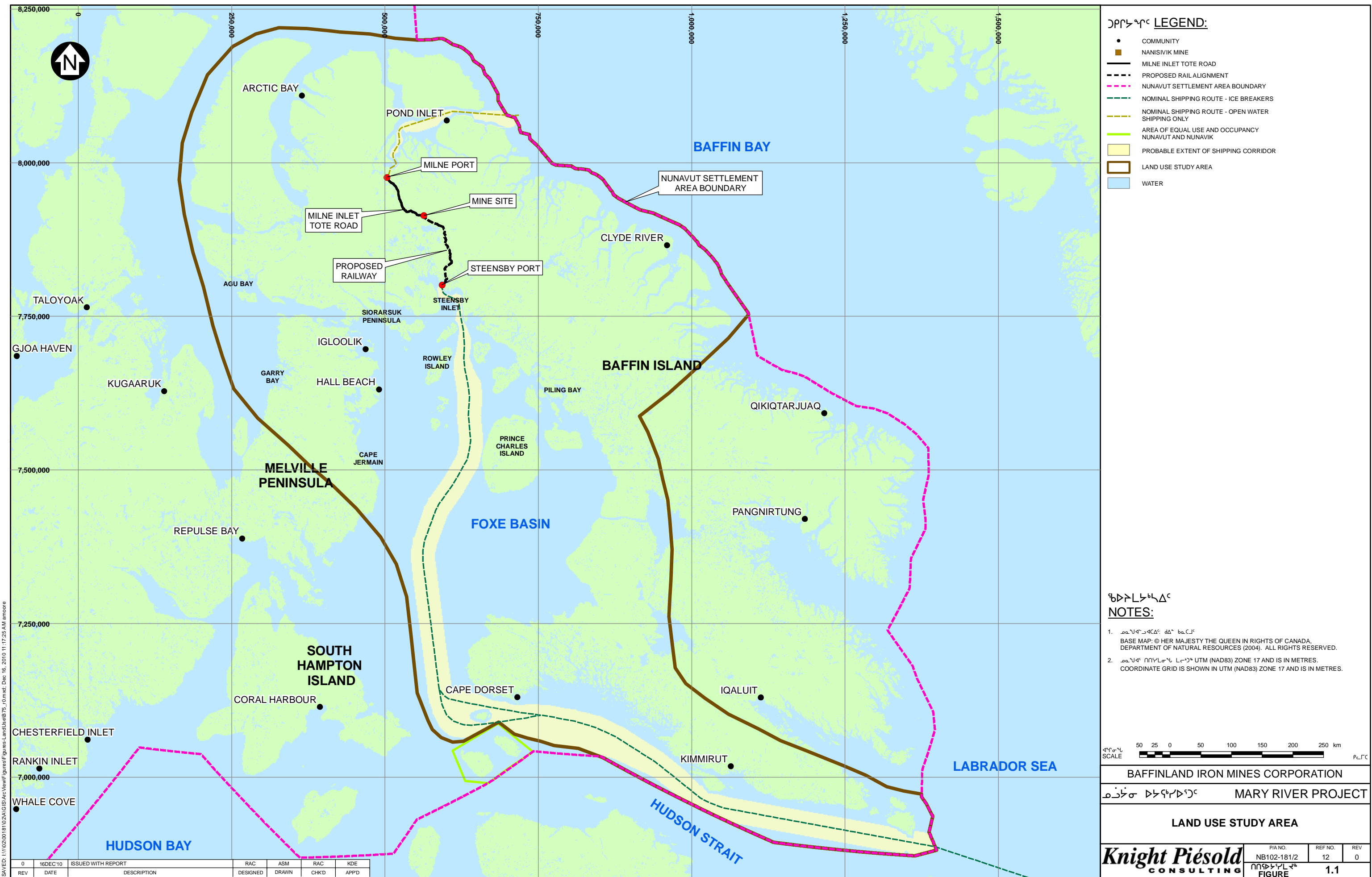
ANNUAL AND 5-YEAR MEAN HARVEST ESTIMATES BY COMMUNITY (1996-2001)

Species	Arctic Bay & Nanisivik						Clyde River						Hall Beach						Igloolik						Pond Inlet					
	1996/97	1997/98	1998/99	1999/00	2000/01	5-Yr Mean	1996/97	1997/98	1998/99	1999/2000	2000/01	5-Yr Mean	1996/97	1997/98	1998/99	1999/2000	2000/01	5-Yr Mean	1996/97	1997/98	1998/99	1999/2000	2000/01	5-Yr Mean	1996/97	1997/98	1998/99	1999/2000	2000/01	5-Yr Mean
Caribou	1246	855	760	568	463	778	381	387	354	400	222	349	1055	791	838	699	665	810	1916	1486	1897	1785	1421	1701	2169	2534	1847	1466	1123	1828
Musk-ox	1	0	2	0	3	1	n/a	n/a	n/a	n/a	n/a	n/a	1	0	0	0	0	<1	n/a	n/a	n/a	n/a	n/a	n/a	0	0	2	0	2	1
Polar bear	13	12	12	10	8	11	11	13	0	12	10	9	6	7	8	6	5	6	12	9	6	10	11	10	16	22	20	17	15	18
Wolf	7	13	15	16	15	13	2	6	2	1	4	3	8	0	2	3	0	3	13	5	18	24	8	14	20	8	20	16	1	13
Arctic fox	200	160	23	8	178	114	92	38	6	21	22	36	334	282	175	27	195	203	248	266	40	81	346	196	150	18	7	1	15	38
Coloured fox	1	1	0	0	2	1	2	5	3	3	3	3	0	0	0	0	4	1	n/a	n/a	n/a	n/a	n/a	n/a	32	9	14	12	20	17
Wolverine	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1	2	4	0	1	2	0	0	1	0	1	<1	n/a	n/a	n/a	n/a	n/a	n/a
Arctic hare	207	108	131	104	129	136	40	55	63	53	65	55	70	16	4	9	18	23	80	12	42	13	24	34	139	110	147	63	64	105
Arctic ground squirrel	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1	0	2	3	5	2	3	0	0	0	0	1	n/a	n/a	n/a	n/a	n/a	n/a
Seals (unspecified)	n/a	n/a	n/a	n/a	n/a	n/a	8	0	0	1	0	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	1	0	0
Ringed seal	1544	1199	1366	1502	1639	1450	2764	2235	1437	1884	1700	2004	837	690	622	702	435	657	2138	1790	1538	1894	1633	1799	2311	1938	1702	2436	2178	2113
Bearded seal	15	21	6	18	10	14	26	18	20	22	10	19	52	67	81	74	63	67	77	68	63	103	97	82	23	46	10	29	30	28
Harp seal	8	8	18	14	2	10	9	8	26	10	11	13	13	18	8	9	3	10	7	3	2	29	0	8	23	50	19	11	43	29
Hooded seal	n/a	n/a	n/a	n/a	n/a	n/a	0	0	1	0	0	<1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1	7	0	0	0	2
Walrus	3	5	2	1	3	3	1	0	0	0	0	<1	88	108	80	113	87	95	159	139	121	174	168	152	7	2	8	1	5	5
Narwhal	77	67	71	82	73	74	8	11	20	5	55	20	3	3	7	0	3	3	2	0	23	7	2	7	127	71	75	145	176	119
Beluga	27	3	8	6	24	14	0	1	0	0	0	<1	0	10	2	6	11	6	14	10	41	0	4	14	6	1	0	0	0	1
Geese (unspecified)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	723	0	0	0	0	145	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Snow goose	635	243	304	160	610	390	100	149	41	31	121	88	66	133	149	66	249	133	385	275	323	123	377	297	634	785	332	318	610	536
Canada goose	1	1	0	2	0	1	24	36	47	34	53	39	3	3	16	25	20	13	45	32	14	44	39	35	0	4	0	10	2	3
Brant goose	0	4	9	1	9	5	0	3	0	0	0	1	0	31	0	1	3	7	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	2	0	<1
White-fronted goose	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	5	52	11
Old squaw	0	3	0	0	0	1	0	0	0	0	4	1	0	0	4	0	9	3	0	1	1	1	0	1	0	0	0	1	0	<1
Pintail	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4	0	2	0	0	1	n/a	n/a	n/a	n/a	n/a	n/a
Eider duck	19	21	10	11	19	16	250	76	86	79	172	133	244	217	198	116	154	186	262	73	131	186	234	177	53	22	13	30	33	30
Red-breasted merganser	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	1	0	<1
Tundra swan	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	2	0	0	3	1	2	2	2	0	0	1	n/a	n/a	n/a	n/a	n/a	n/a
Greater scaup	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0	10	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Common loon	0	2	0	0	0	<1	1	0	0	0	0	<1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Arctic loon	0	0	0	1	0	<1	n/a	n/a	n/a	n/a	n/a	n/a	0	0	8	0	0	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Red-throated loon	3	0	0	0	0	1	19	7	4	2	2	7	0	7	3	18	13	8	0	0	6	13	0	4	0	0	0	4	0	1
Black guillemot	0	0	3	0	0	1	0	0	0	0	1	<1	5	1	0	0	1	1	n/a	n/a	n/a	n/a	n/a	n/a	5	2	2	0	2	2
Thick-billed murre	0	3	4	0	2	2	0	1	4	0	0	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	9	2	4	2	3
Ptarmigan	718	831	461	493	351	571	1159	1818	1434	531	1129	1214	686	230	128	257	149	290	777	194	224	406	209	362	1269	1039	860	645	817	926
Sandhill crane	0	0	1	0	2	1	0	0	1	0	1	<1	n/a	n/a	n/a	n/a	n/a	n/a	0	0	1	0	0	<1	3	2	0	3	1	2
Eggs (unspecified)	n/a	n/a	n/a	n/a	n/a	n/a	1	0	0	0	0	<1	947	0	0	0	0	189	0	0	0	0	20	4	n/a	n/a	n/a	n/a	n/a	n/a
Goose eggs	629	108	1241	83	717	556	423	318	48	41	787	323	0	313	809	859	1613	719	0	2257	3814	335	6094	2500	444	1838	1155	1224	2811	1494
Duck eggs	0	0	0	0	1	<1	0	12	25	5	0	8	0	138	852	271	560	364	0	457	482	515	686	428	0	0	0	3	1	1
Arctic tern eggs	n/a	n/a	n/a	n/a	n/a	n/a	24	11	3	1	8	9	0	38	20	434	150	128	0	638	271	404	490	361	n/a	n/a	n/a	n/a	n/a	n/a
Seagull eggs	14	4	21	12	112	33	20	22	33	73	18	33	0	6	49	26	90	34	0	3	34	6	122	33	0	0	10	0	0	2
Black guillemot eggs	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	4	0	48	16	14	0	0	0	0	27	5	n/a	n/a	n/a	n/a	n/a	n/a
Thick-billed murre eggs	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2665	0	264	10077	0	2601
Fish (unspecified)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	442	0	0	0	0	88	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Arctic char	8874	11101	8579	10842	11789	10237	6951	8682	10442	9382	6860	8463	9524	5834	6081	6151	5449	6608	10315	13165	14240	15495	15997	13842	10344	10632	11369	16012	12214	12114
Lake trout	4	6	32	0	0	8	n/a	n/a	n/a	n/a	n/a	n/a	617	363	504	752	539	555	25	31	49	183	281	114	n/a	n/a	n/a	n/a	n/a	n/a
Burbot	n/a	n/a	n/a	n/a	n/a	n/a	0	0	1	0	0	<1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Arctic cisco	n/a	n/a	n/a	n/a	n/a	n/a	0	0	40	3	0	9	0	318	9	0	1	66	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Least cisco	n/a	n/a	n/a	n/a	n/a	n/a	0	1	0	0	0	<1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Cod	157	160	72	370	3	152	33	143	241	713	332	292	0	0	0	130	78	42	0	0	284	140	31	91	5	3	0	19	1	6
Sculpin	67	18	52	32	2	34	589	5376	1325	908	694	1778	n/a	n/a	n/a	n/a	n/a	n/a	0	0	336	61	0	79	38	18	4	132	43	47
Turbot	n/a	n/a	n/a	n/a	n/a	n/a	109	189	89	12	43	88	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Clams	0	29	25	203	0	51	6971	14066	9795	15057	766	9331	0	13	0	90	219	64	114	0	0	0	0	23	3	0	0	0	0	1
Mussels	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	69	42	22	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

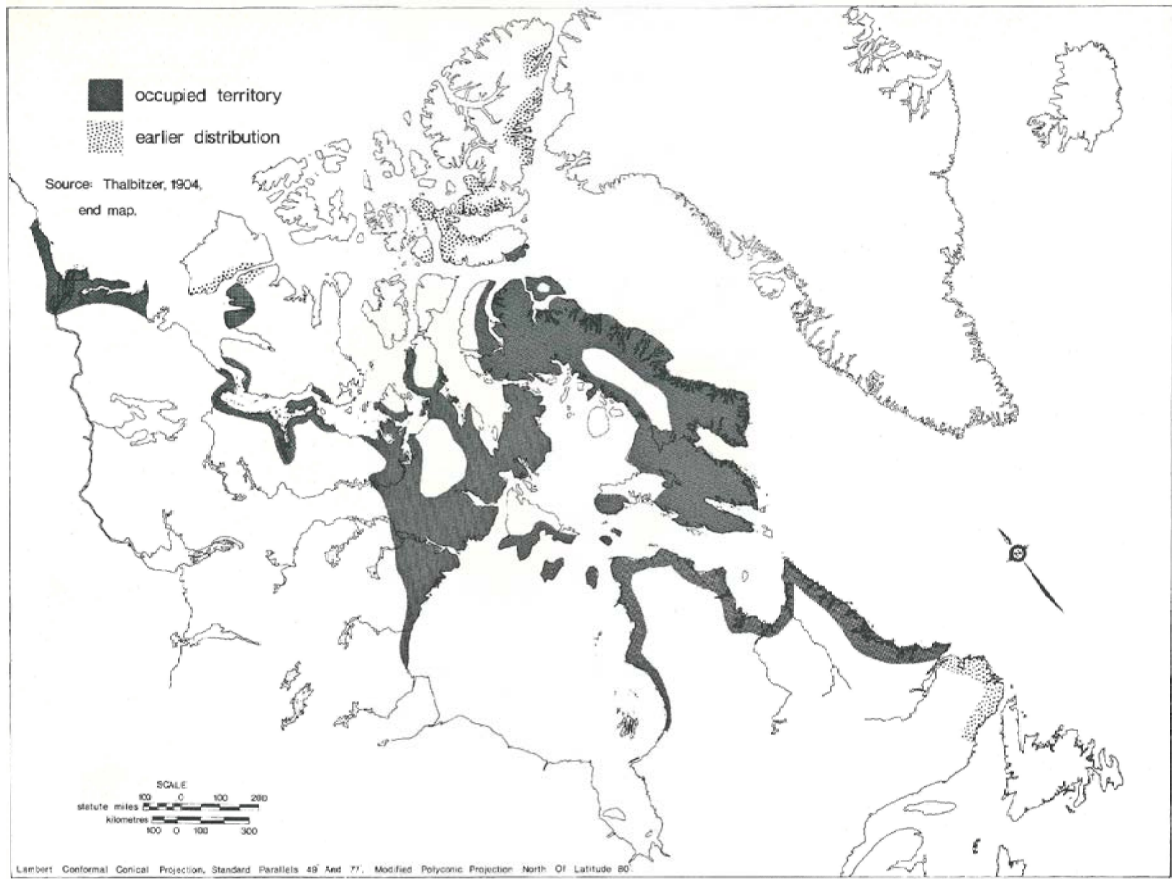
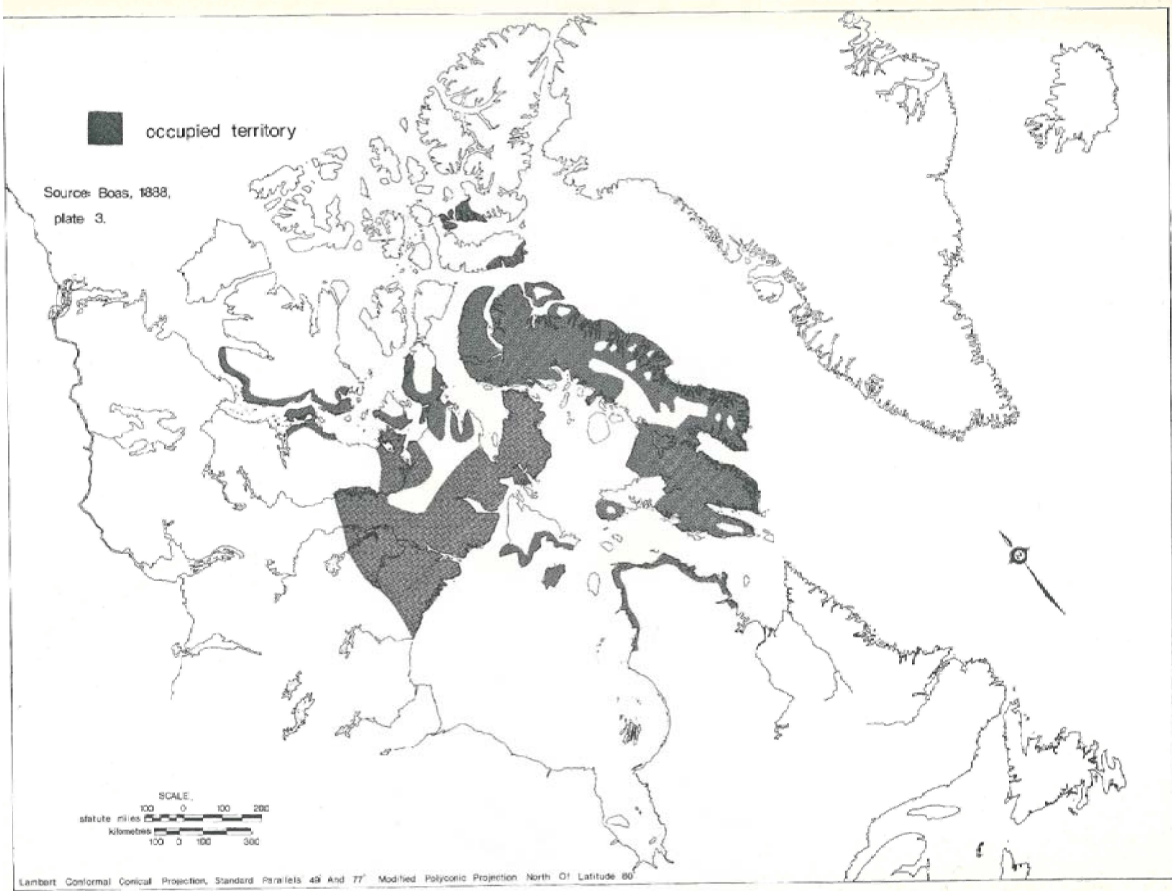
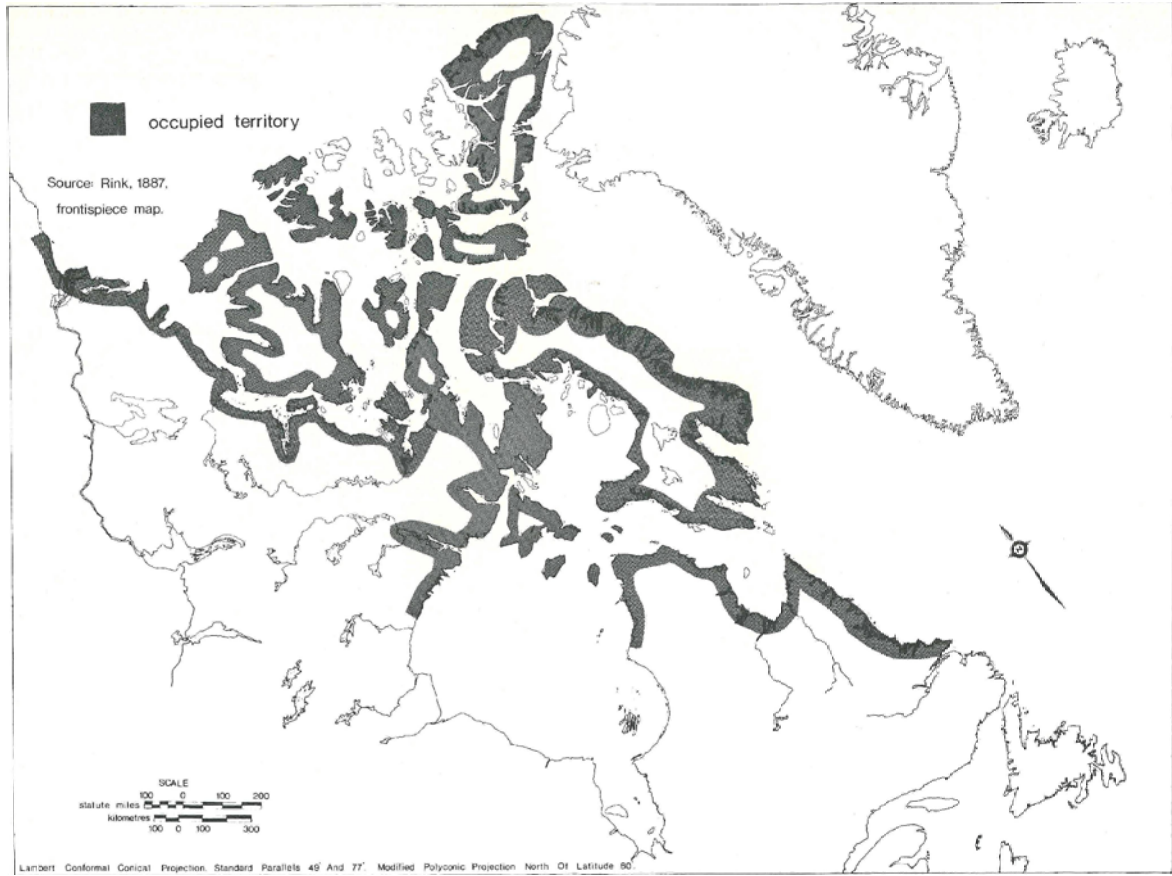
I:\1102\00181\02\A\Report\Report 12, Rev. 0 (Land Use)\[Tables.xls]Table 3.3

Notes:

- Information extracted from Table 31 (Arctic Bay), Table 75 (Clyde River), Table 123 (Hall Beach), Table 147 (Igloolik), and Table 239 (Pond Inlet) of the Nunavut Wildlife Harvest Study (Priest and Usher, 2004).
- n/a = not applicable; information on this



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NOTES:

1. IMAGES FROM MILTON FREEMAN RESEARCH LIMITED (1976).

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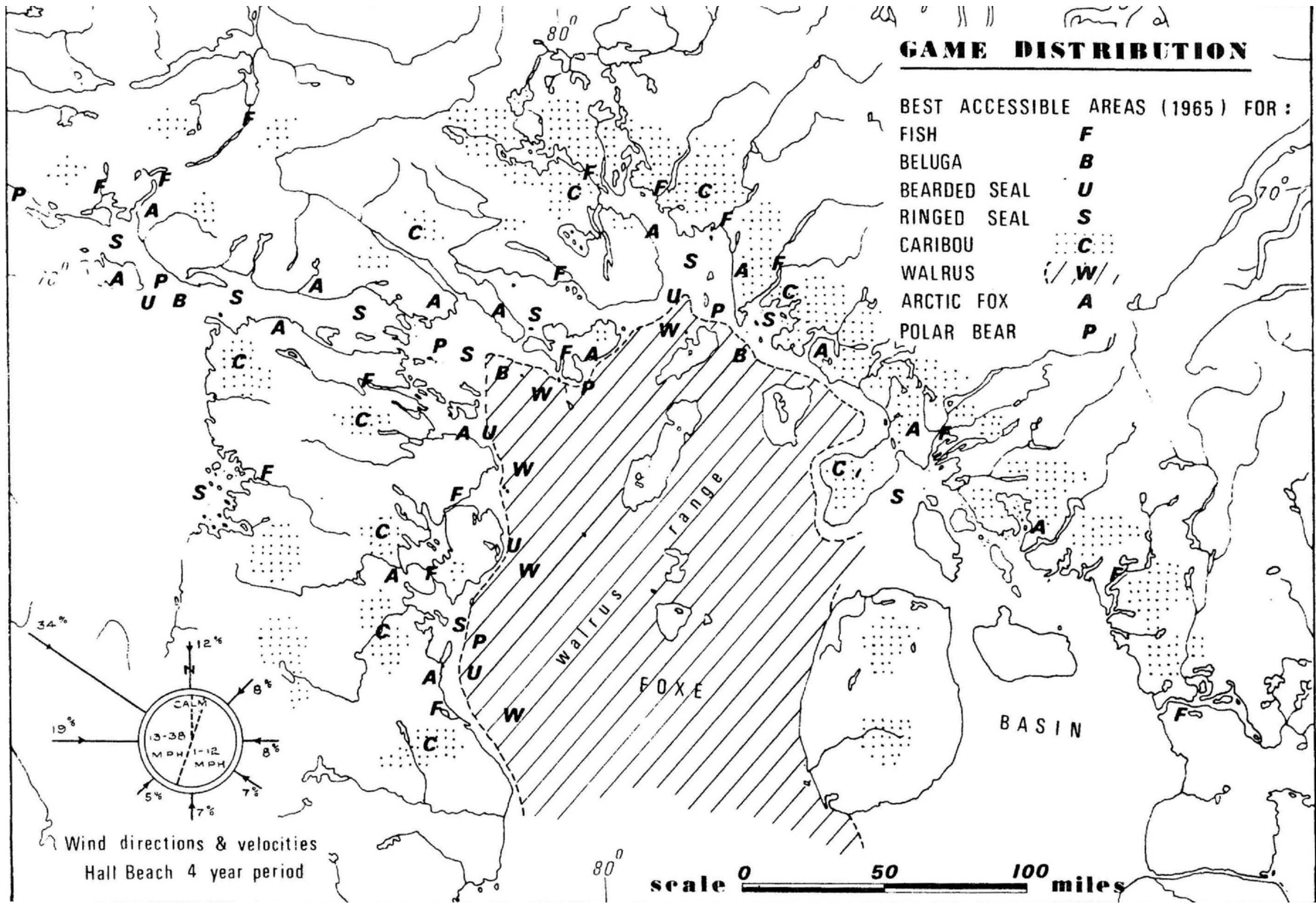
ᑭᓄᓐᓂᓐᓂᓐᓂᓐᓂᓐ MARY RIVER PROJECT

19TH AND EARLY 20TH CENTURY RECORDS
OF OCCUPIED TERRITORY

Knight Piésold
CONSULTING

PIA NO. NB102-181/2	REF NO. 12	REV 0
FIGURE 3.1		

0	16DEC'10	ISSUED WITH REPORT	RAC	SM	RAC	KDE
REV	DATE	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D



NOTES:

"MAP 3" FROM CROWE, 1969.

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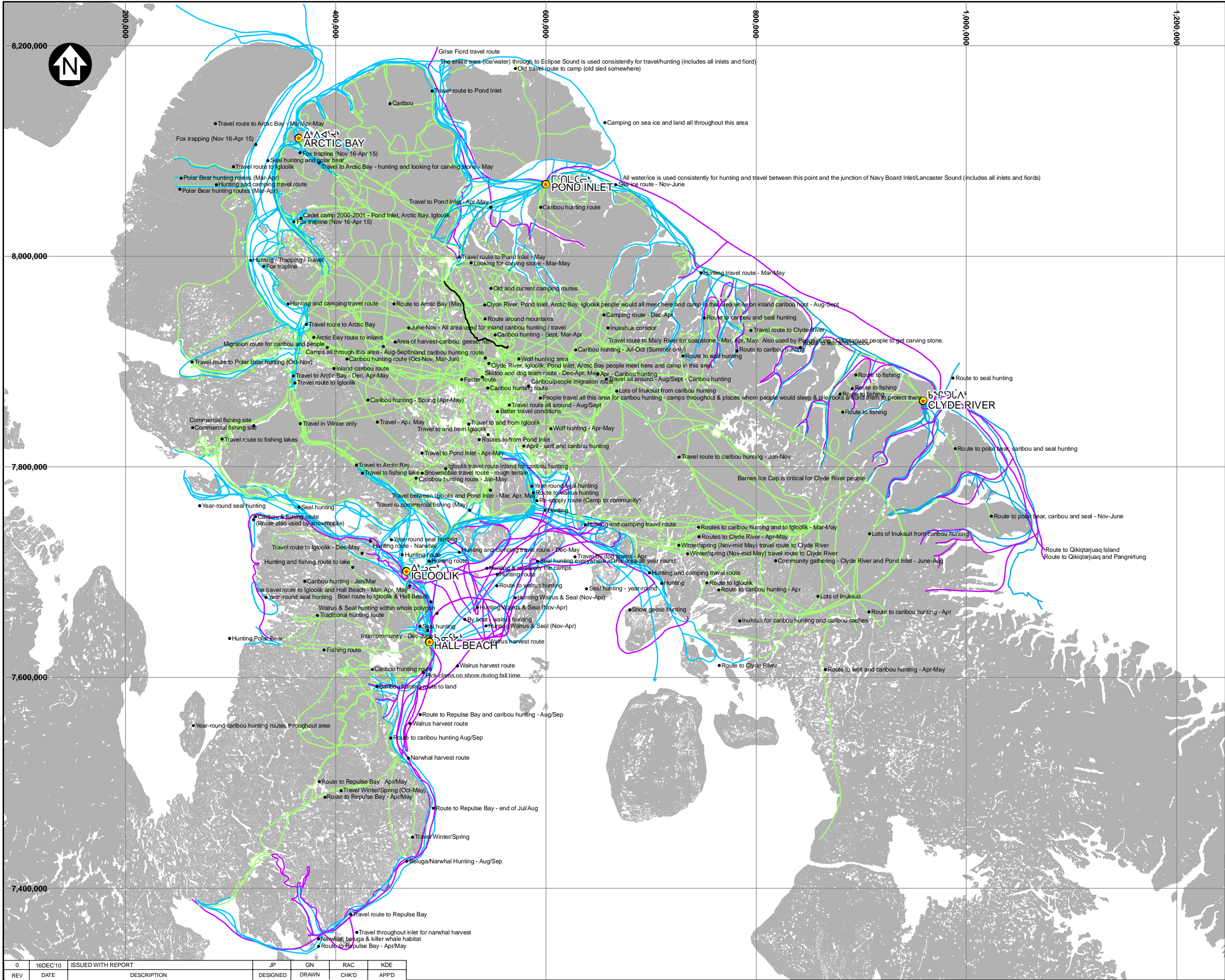
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NB102-181/2	12	0
FIGURE		3.9

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REV	DATE	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D

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LEGEND:

- ᐃᑭᑦᐅᑦᐅᑦ ᐃᑭᑦᐅᑦᐅᑦ
- ᐃᑭᑦᐅᑦᐅᑦ ᐃᑭᑦᐅᑦᐅᑦ
- ᐃᑭᑦᐅᑦᐅᑦ ᐃᑭᑦᐅᑦᐅᑦ
- ᐃᑭᑦᐅᑦᐅᑦ ᐃᑭᑦᐅᑦᐅᑦ

ᐃᑭᑦᐅᑦᐅᑦ

NOTES:

- ᐃᑭᑦᐅᑦᐅᑦ ᐃᑭᑦᐅᑦᐅᑦ
- ᐃᑭᑦᐅᑦᐅᑦ ᐃᑭᑦᐅᑦᐅᑦ
- ᐃᑭᑦᐅᑦᐅᑦ ᐃᑭᑦᐅᑦᐅᑦ

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BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

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TRAVEL ROUTES - NORTH BAFFIN REGION (WORKSHOP RESULTS)

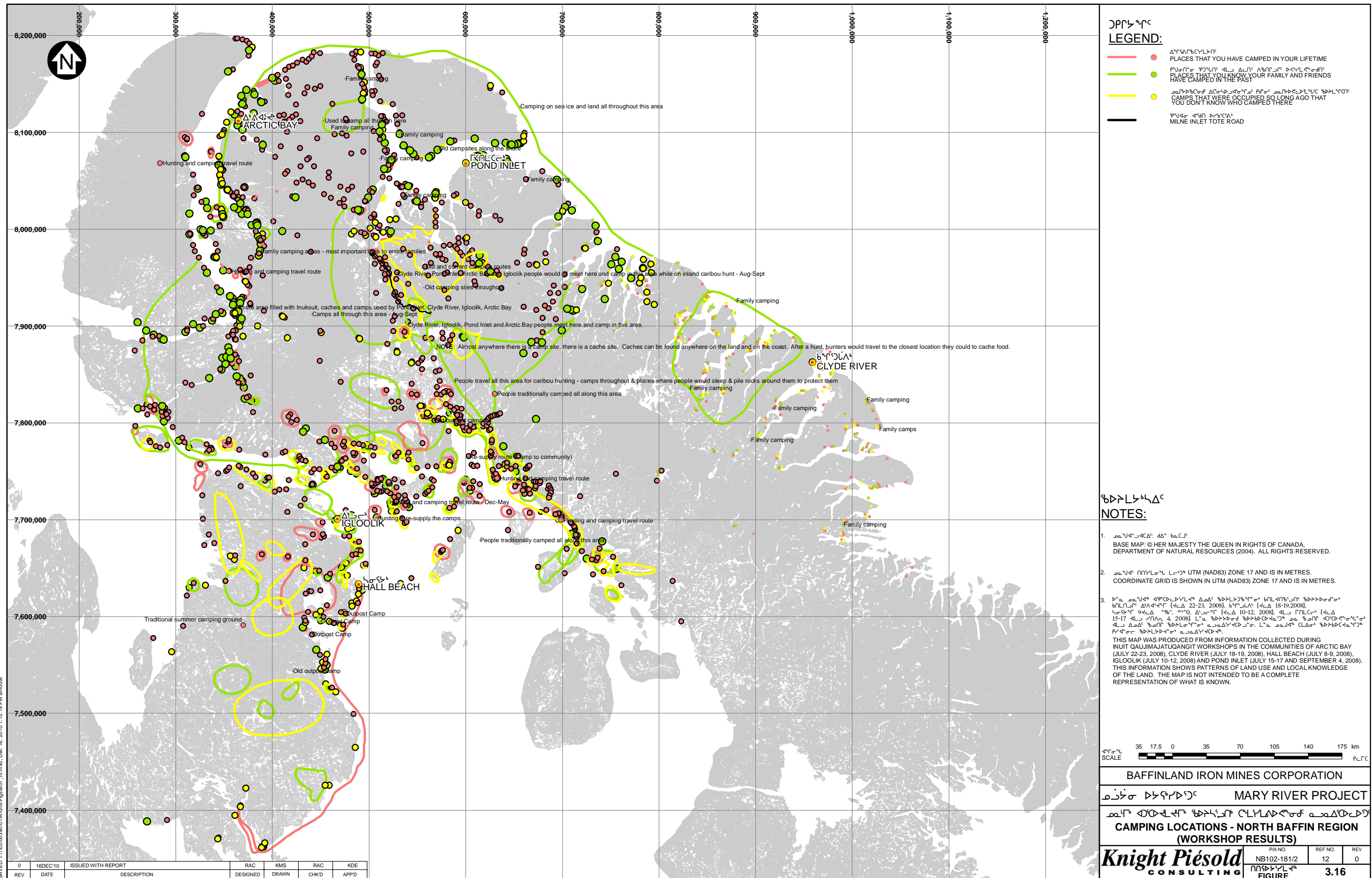
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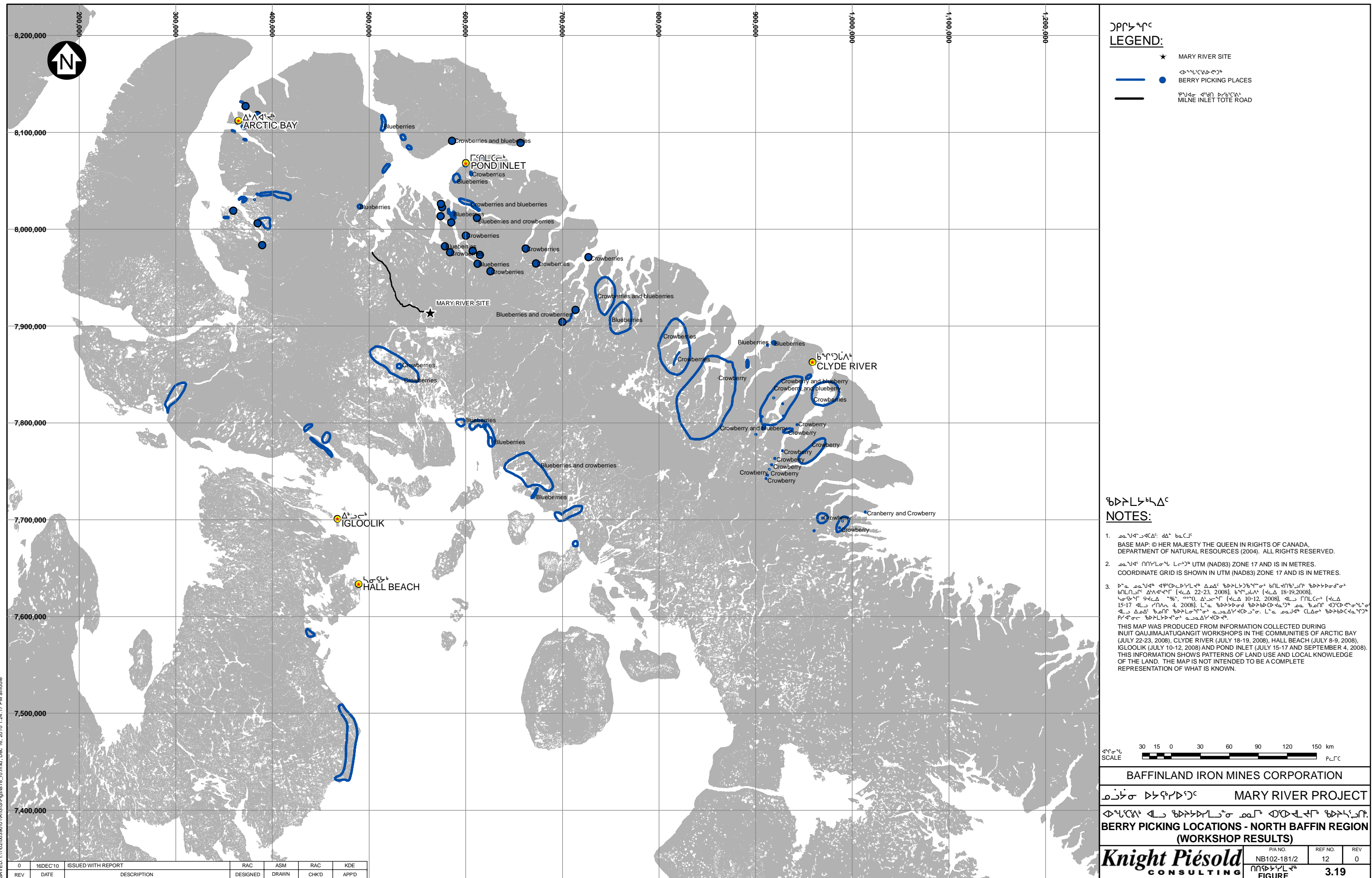
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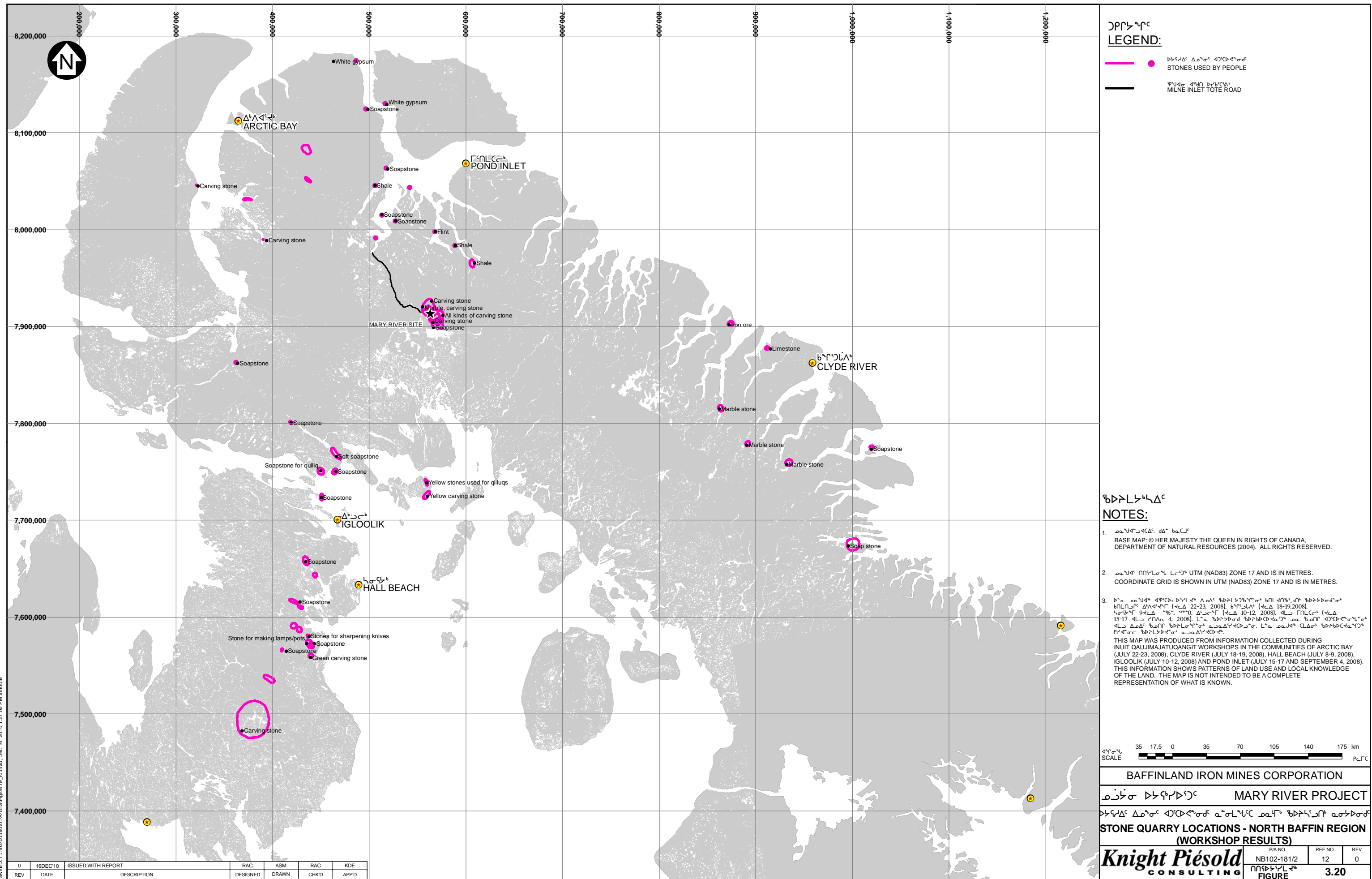
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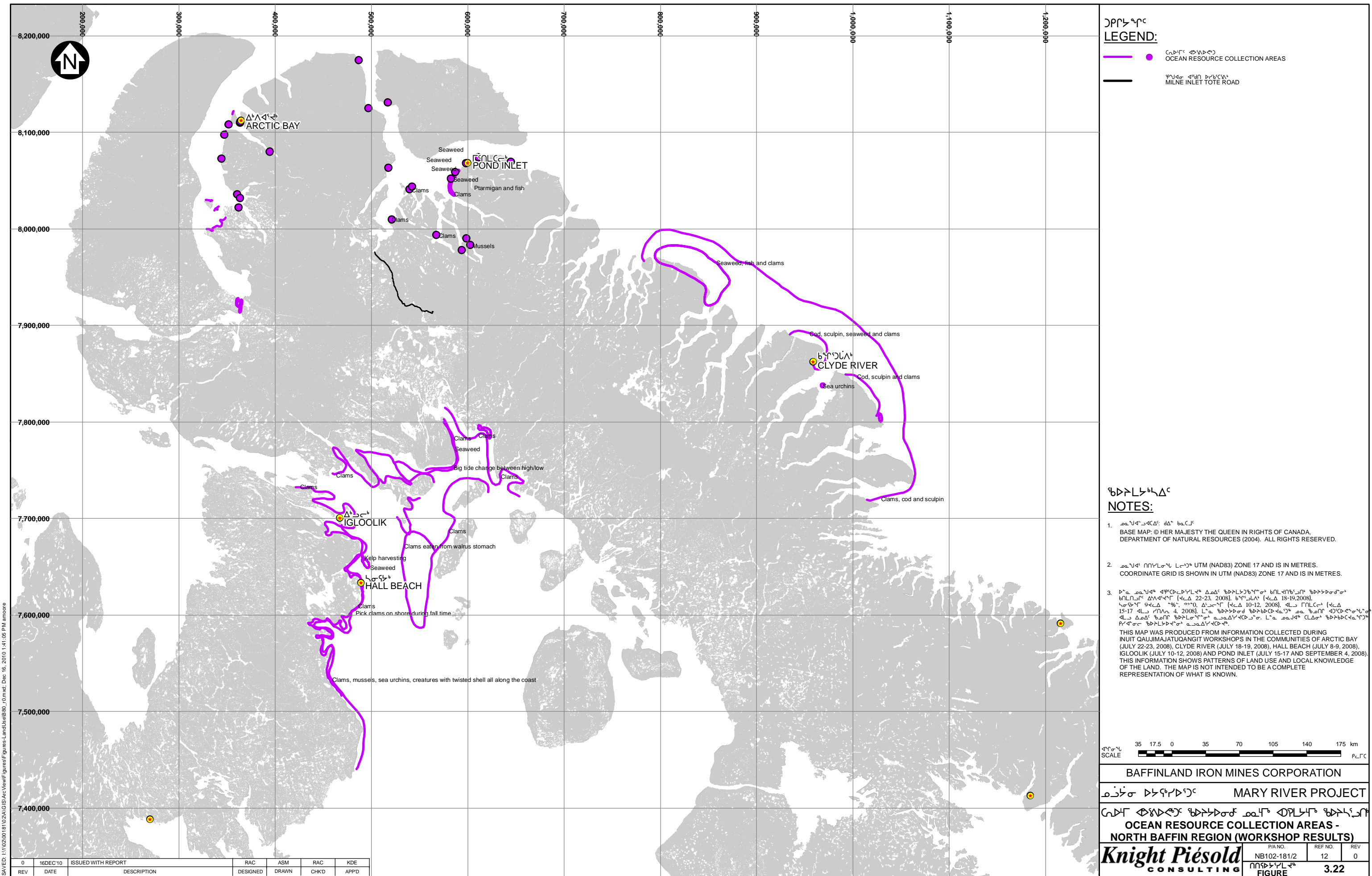
REV 0

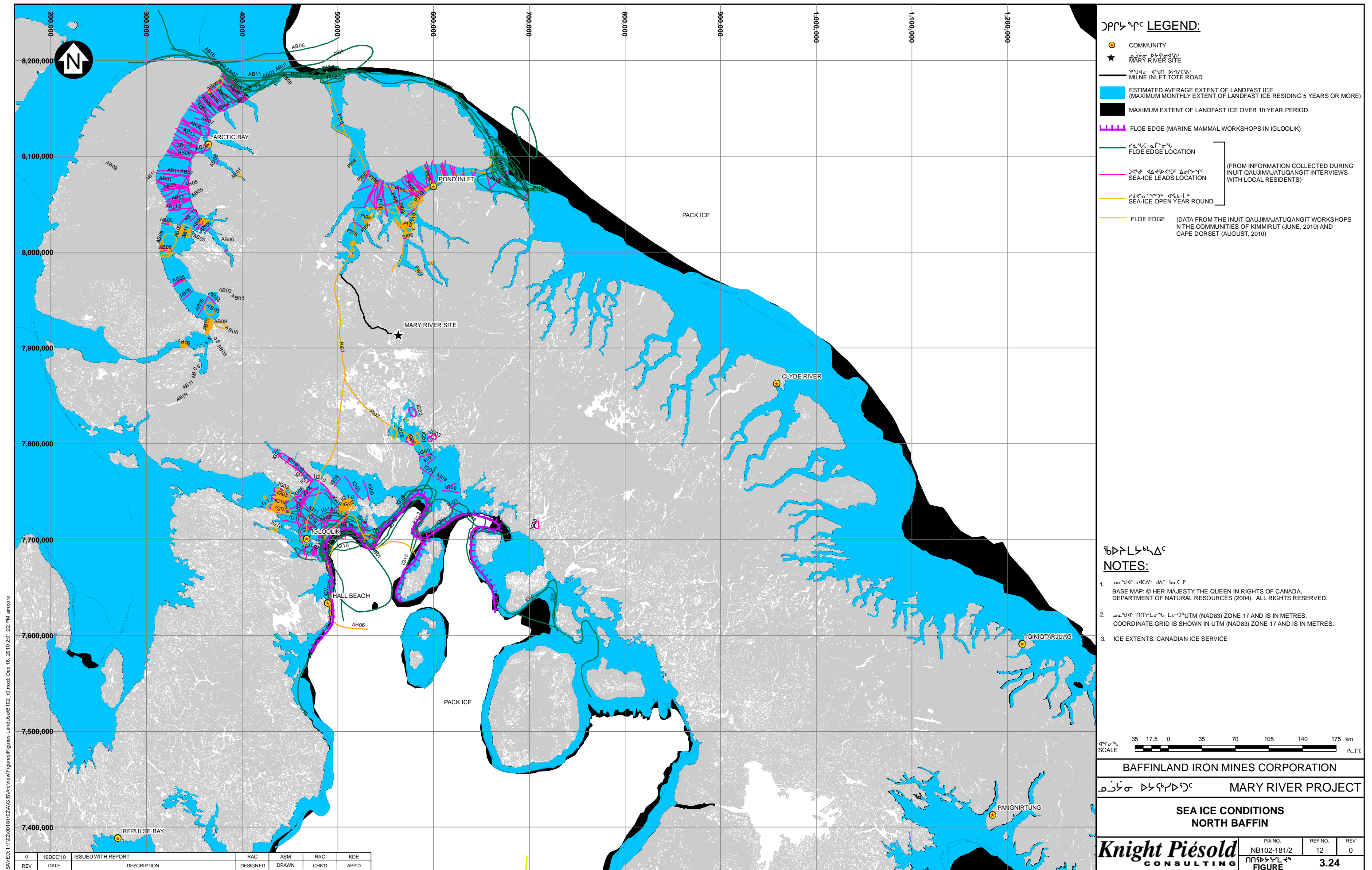
FIGURE 3.13

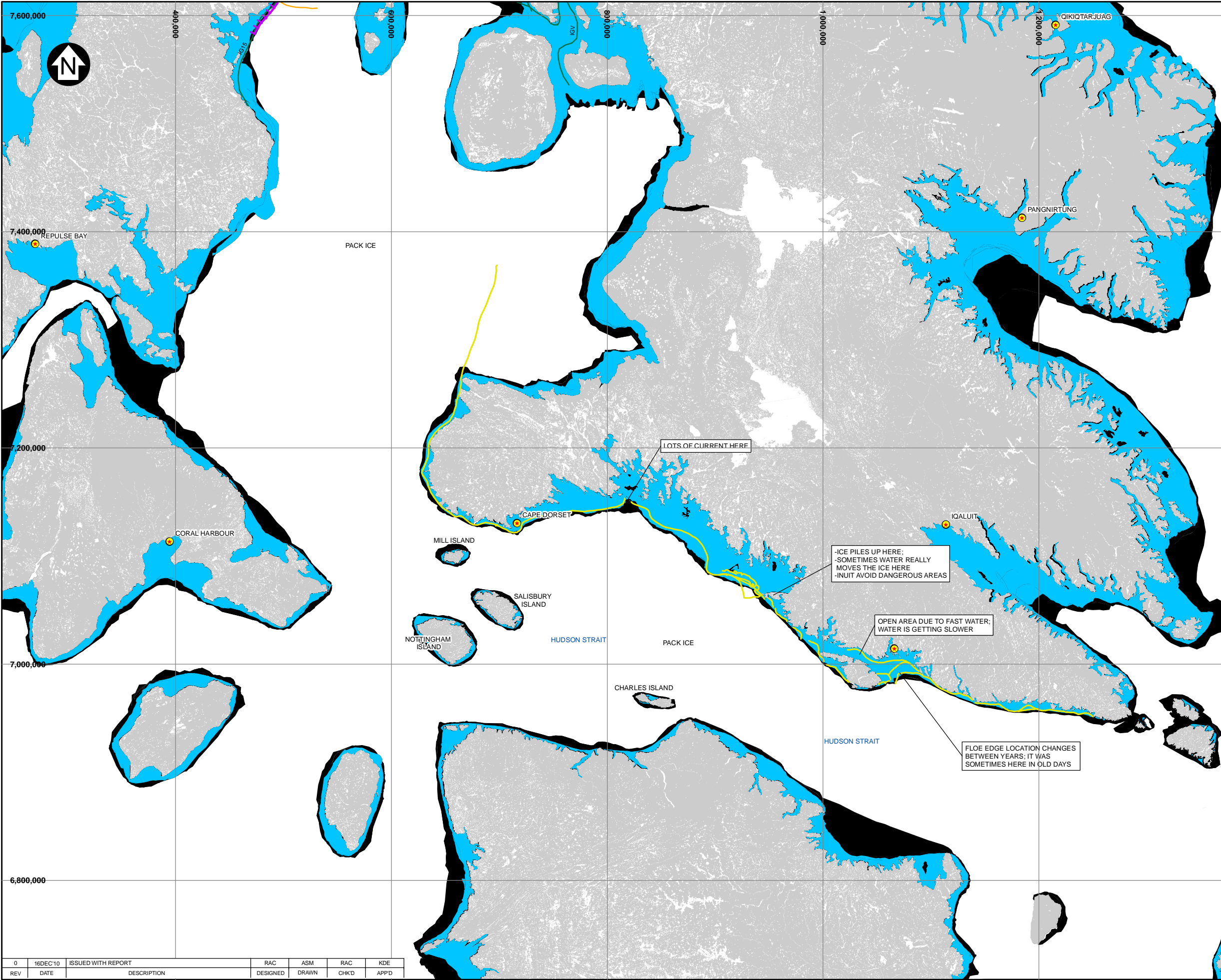












ᐅᑦᑭᑦᑭᑦᑭᑦ LEGEND:

- COMMUNITY
- ESTIMATED AVERAGE EXTENT OF LANDFAST ICE (MAXIMUM MONTHLY EXTENT OF LANDFAST ICE RESIDING 5 YEARS OR MORE)
- MAXIMUM EXTENT OF LANDFAST ICE OVER 10 YEAR PERIOD
- FLOE EDGE (MARINE MAMMAL WORKSHOPS IN IGLOOLIK)
- FLOE EDGE LOCATION
- SEA-ICE LEADS LOCATION
- SEA-ICE OPEN YEAR ROUND
- FLOE EDGE (DATA FROM THE INUIT QAUJIMAJATUQANGIT WORKSHOPS N THE COMMUNITIES OF KIMMIRUT (JUNE, 2010) AND CAPE DORSET (AUGUST, 2010))

ᑭᑦᑭᑦᑭᑦᑭᑦ NOTES:

- ᐅᑦᑭᑦᑭᑦᑭᑦ ᐅᑦᑭᑦᑭᑦᑭᑦ ᐅᑦᑭᑦᑭᑦᑭᑦ
BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA, DEPARTMENT OF NATURAL RESOURCES (2004). ALL RIGHTS RESERVED.
- ᐅᑦᑭᑦᑭᑦᑭᑦ ᐅᑦᑭᑦᑭᑦᑭᑦ ᐅᑦᑭᑦᑭᑦᑭᑦ UTM (NAD83) ZONE 17 AND IS IN METRES. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
- ICE EXTENTS: CANADIAN ICE SERVICE

ᐅᑦᑭᑦᑭᑦᑭᑦ SCALE 35 17.5 0 35 70 105 140 175 km

BAFFINLAND IRON MINES CORPORATION

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SEA ICE CONDITIONS
SOUTH BAFFIN

Knight Piésold
CONSULTING

P/A NO. NB102-181/2	REF NO. 12	REV 0
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FIGURE 3.25

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0	16DEC'10	ISSUED WITH REPORT	RAC	ASM	RAC	KDE
REV	DATE	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D

