TUSAQTAVUT FOR PHASE 2 APPLICATION OF THE MARY RIVER PROJECT FOR THE COMMUNITIES OF IGLULIK AND HALL BEACH

Qikiqtani Inuit Association

August 9, 2019

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Qikiqtani Inuit Association

Qikiqtani Inuit Association's Tusaqtavut for Phase 2 Application of the Mary River Project for the Communities of Igloolik and Hall Beach

FINAL REPORT / August 9, 2019

Qikiqtani Inuit Association

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Thanks and acknowledgements go to Igloolik and Hall Beach community members, elders, knowledge holders, land users, and to QIA staff, and leadership who contributed. This Report could not have been completed without their support and expert knowledge.

Disclaimer:

The information contained in this Report is based on research conducted by Qikiqtani Inuit Association, with support from Firelight Research Inc., as well as published works and archival research. It reflects the understandings of the authors and is not intended to be a complete depiction of the dynamic and living system of use and knowledge maintained by Inuit. It may be updated, refined, or changed as new information becomes available. All mapped information is based on interviews with Igloolik and Hall Beach knowledge holders conducted within constraints of time, budget and scope. Base map data originate from the National Topographic System and Natural Resources Canada. The information contained herein should not be construed as to define, limit, or otherwise constrain the Nunavut Agreement rights of Inuit.

EXECUTIVE SUMMARY

The Qikiqtani Inuit Association (QIA) engaged Firelight Research Inc. to support a Tusaqtavut study specific to the Mary River Project operated by Baffinland (the Project) on northern Baffin Island. This Report provides non-confidential information about existing and anticipated Project interactions, based on knowledge and use data collected during interviews with Igloolik and Hall Beach community members. Mapping interviews focused on the vicinity of the Project, including the terrestrial environment around mine developments and the marine environment surrounding shipping routes.

The Report includes analysis of 38 knowledge and use mapping interviews conducted with 12 Inuit community members from Hall Beach during the period of May 23, 2019 to May 24, 2019, and 26 Inuit community members from Igloolik during the period of May 22, 2019 to May 29, 2019.

The site-specific data clearly demonstrate that Inuit use or have used the Study Area across multiple generations. A total of 983 site-specific values were reported in the Study Area (the Footprint, LSA, and RSA). The Study Area contains numerous important sites that support harvesting of wild foods including marine mammals (including ringed seal and walrus), terrestrial mammals (including caribou), fishing, and Inuit cultural continuity. These include, but are not limited to:

- Marine hunting sites;
- Terrestrial hunting and trapping sites;
- Fishing sites;
- High-value fish habitat;
- Important wildlife habitat, including calving areas for caribou and walrus in the terrestrial and marine environments respectively;
- Important travel routes that are relied upon to access hunting grounds and other communities; and
- Areas relied on for the continuity of Inuit culture, such as teaching areas, campsites, sod houses and gathering places.

The site-specific data show that the Project is situated in an area that is highly valued and has been used by Inuit for generations. This Report documents the historical, current, and desired future use of Inuit and their ancestors within this area, including the coastlines and interior of Baffin Island, northern Melville Peninsula, and northern Foxe Basin, as well as the marine environment including the sea ice and floe edge.

Through discussion and interviews, study participants identified a set of Valued Components (VCs) relating to Inuit knowledge and use that have been and/or continue to be impacted by the Project. These are: Marine Hunting; Terrestrial Hunting; Fishing; Travel, Trails and Habitation; and Cultural Continuity.

Although the Study VCs are interconnected, this Study has identified potential interactions between the Project and each VC. Project interactions and impact

pathways impacting marine mammal harvesting, safe travel inland and on the sea ice, quality of marine mammal habitat, loss and disturbance of hunting areas, and loss of knowledge transmission which emerged from the Study related to the VC of Marine Hunting are as follows:

- Displacement of marine mammals due to acoustic and other disturbances;
- Decreased abundance of valued species in preferred hunting areas;
- Effects on the quality of marine mammals due to contaminants (e.g., dust);
- Effects on the experience of being in preferred areas (e.g., acoustic disturbances, increased traffic);
- Decreased use and loss of use due to the above; and
- Related impacts on food security and knowledge transmission.

Project interactions and impact pathways, including impacts to safety, increasing harvesting efforts and costs, and a loss or disturbance of use of hunting areas with potential impacts to household and community-level subsistence, that emerged from the Study related to the VC of Terrestrial Hunting are as follows:

- Effects on caribou movement and migration patterns due to new rail development (south and north), mineral extraction, and increased rail and marine traffic;
- Acoustic disturbances to terrestrial wildlife, including caribou, from an increase in proposed rail and shipping traffic in combination with existing and permitted (though not yet constructed) increases in air, rail, and shipping traffic in the Study Area;
- Disturbances to seabirds and their nesting areas;
- Impacts on the health of Inuit hunters due to exposure to airborne dust; and
- Effects on terrestrial wildlife health due to contamination from dust dispersion.

Project interactions and impact pathways impacting fish harvesting, including important fish habitat and migration routes, that emerged from the Study related to the VC of Fishing are as follows:

- Effects on fish migration routes, particularly in and around Ikpikitturjuaq and the southern shipping corridor;
- Loss of valued fish habitat in Ikpikitturjuaq and along the southern shipping route;
- Effects on fish populations due to contamination from dust dispersion; and
- Acoustic disturbances from the increase in shipping traffic through Ikpikitturjuaq and southern shipping route.

Project interactions and impact pathways impacting the safety of travel across terrain and seascapes, as well as increasing travel time and harvesting effort, that emerged from the Study related to the VC of Travel, Trails, and Habitation are as follows:

- Disruption to travel and trails across the southern shipping route, due to ice breaking, melting, and competition with increased shipping traffic;
- Negative effects on drinking water quality within the Study Area due to dust dispersion; and
- Loss of use or avoidance of preferred areas for camping due to disruption from developments.

Project interactions and impact pathways impacting knowledge transmission and sense of place that emerged from the Study related to the VC of Cultural Continuity are as follows:

- Negative effects on important archaeological sites due to ground disturbance from development activity;
- Negative effects on the use of preferred areas for knowledge transmission.

The Study Area is important to Study participants in the North Baffin region for the continued use and maintenance of their traditional land use and harvesting practices. Proposed and existing mine activities (and related shipping and road traffic), are having, and would likely in the future continue to have, a direct impact on the ability of Igloolik and Hall Beach members to use the land for harvesting, travel and camping purposes, and by extension reduce their ability to transmit to future generations their IQ, including cultural knowledge, values, and worldview.

This report is not considered to be a full effects assessment of the Project and its potential to impact Igloolik and Hall Beach Inuit community members' values and uses in the Study Area. The results of this Study should be considered alongside the findings from the Qikiqtani Inuit Association's Tusaqtavut for Phase 2 Application of the Mary River Project for Pond Inlet (QIA 2019).

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ACRONYMS AND ABBREVIATIONS

Firelight	Firelight Research Inc.
GN	Government of Nunavut
HTO	Hunters and Trappers Organization
IOL	Inuit Owned Lands
IQ	Inuit Qaujimajatuqangit
km	Kilometre
LSA	Local Study Area
NA	Nunavut Agreement
NTI	Nunavut Tunngavik Inc.
NU	Nunavut
NIRB	Nunavut Impact Review Board
The Project	Mary River Project
The Proponent	Baffinland Iron Mines Corporation
QIA	Qikiqtani Inuit Association
RSA	Regional Study Area
Study	Qikiqtani Inuit Association's Tusaqtavut for Phase 2 Application of the Mary River Project for the Communities of Igloolik and Hall Beach
Study Area	The RSA, LSA, and Footprint combined
VC	Valued Component

1. INTRODUCTION

1.1 OVERVIEW

This Report documents the background, methods, and findings of a QIA Tusaqtavut Study, an Inuit Knowledge and Use Study (the Study), specific to the Mary River Project (the Project) proposed by Baffinland Iron Mines Inc. (the Proponent) on Baffin Island. For the purposes of this Report, the Project refers collectively to existing and permitted project activities (including the Southern Rail, Steensby Port and Southern Shipping Route), as well the proposed Phase 2 developments and activities (including the mine, northern road, northern rail, port, and northern shipping developments).

This Report provides information on current conditions and existing Project interactions, and consideration of anticipated Project interactions based on current and available Igloolik and Hall Beach community IQ data in relation to the traditional lands of the Study participants and in the vicinity of the Project.

This Report includes non-confidential site-specific (i.e., mapped) and qualitative information related to the Project.

The Report is organised into five sections:

- Section 1 presents an overview of the scope of work and Report and Study limitations;
- Section 2 presents background information regarding the communities of Igloolik and Hall Beach and the Project;
- Section 3 presents information on the methods used for the Study;
- Section 4 presents the findings of the Study, including both site-specific and qualitative data; and
- Section 5 summarises the findings and conclusions of the Study.

The Qikiqtani Inuit Association (QIA) engaged Firelight Research Inc. (Firelight) to support a Tusaqtavut study specific to the Project. As detailed in the January 17, 2019 work plan, this includes:

- Detailed budgeting, scoping, work planning, and project management;
- Data and document review of existing data relating to the Project and the Study Area;
- Meetings with QIA to discuss the purpose of the Study and identify key valued components (VCs) and interests related to the Project;
- Development and tailoring of interview and mapping methodologies for the Study;

- Completion of up to 30 individual mapping interviews with Study participants knowledge holders at a scale of 1:50,000 or finer;

- Analysis of interview results, including transcription, post-processing GIS data, preparing maps, and writing a draft non-confidential report;

- Final reporting to communities.

The deliverables will include a Tusaqtavut Study non-confidential report that considers likely Project-specific effects on Inuit resources, knowledge, use and values based on Inuit knowledge and land use. Report components include:

- Identification and discussion of key issues relating to traditional resource use and livelihood specifically relating to the Project;

- Identification and assessment of project-related impact pathways on key Inuit values;

- Maps that indicate Inuit key resources in the vicinity of the Project (including fish, animals, migratory birds, water resources, and others);

- A discussion of the importance of key resources related to livelihood practice, the transmission of Inuit Qaujimajatuqangit, and the current status of knowledge transmission relating to areas or resources near the Project;

- An assessment of likely interactions of the Project on resources and areas of importance to QIA and on IQ, knowledge and use, and associated impact pathways;

- Baseline and assessment methods.

The Report does **not** include:

- An assessment of residual effects of the Project on Inuit knowledge and use;

- A comprehensive assessment of the potential for cumulative effects on Inuit knowledge and use from the Project acting in combination with other developments and human-caused changes in the region;

- Recommendations for mitigation of effects;

- A significance determination regarding anticipated residual and cumulative effects of the Project; or

- Recommendations regarding culturally relevant indicators and strategies for monitoring in the vicinity of the Project.

1.2 LIMITATIONS

This Report has a number of limitations and should only be considered a first step in identifying Igloolik and Hall Beach knowledge and land uses and values that may be impacted by the Project. Limitations of this Report include the following:

- The Study was conducted with the communities of Igloolik and Hall Beach, therefore the values, uses, and Project impacts on members of other affected Inuit communities are not included in this report.

- Not all knowledge holders were able to participate in this Study. Efforts were made to include key knowledge holders active within the Study Area, but many Hall Beach and Igloolik elders, hunters, and community members with important knowledge of the Study Area (i.e., Footprint, LSA, and RSA combined) may have been unable to participate due to time and budget restrictions.

- Data collected for each participant is limited by what the participant was able and willing to report at the time of the interview.

- Some interviews were conducted in Inuktitut using simultaneous translation. Due to time constraints, translated transcription has not taken place. Interview notes indicate when a quote from an interview participant was from the translator at the time of the interview.

- The area demarcated by mapped site-specific use values should be understood to be a small portion of the actual area required for the meaningful practice of a Study participant's way of life. Site-specific mapped values (e.g., cabins and kill-sites) reflect particular instances of use that anchor wider practices of culture, livelihood, and other Inuit rights within a particular landscape. For example, a single fishing site may be mapped with a precise point, but that point does not capture the entire spectrum of related practices and values.

- This Report does not include recommendations on mitigation, monitoring, or compensation measures. Conclusions on monitoring, mitigation, and compensation measures are outside the scope of this Report.

- This Report is based on the understandings and analyses of the authors and is not intended as a complete depiction of the dynamic way of life and living system of use and knowledge maintained by the Igloolik and Hall Beach communities.

- This Report should not be taken as a replacement for other studies that may be required, including but not limited to cumulative effects, socio-economics, diet, IQ studies specific to marine and terrestrial wildlife, and health and wellbeing.

Given the above limitations, this Report can be used as a representational account of only some of the Igloolik and Hall Beach communities' knowledge, land use, and cultural values. It is important to note that the Study does not reflect all current use by

Igloolik and Hall Beach community members in those areas, and **an absence of data does not signify an absence of use or value.**

This Report is non-confidential and is intended for consideration by Inuit, the Nunavut Impact Review Board, agents of the territorial and federal governments, and the Proponent within the Project environmental assessment process. However, all data included in this Report are the property of QIA and may not be used or reproduced outside the Project regulatory process without the written consent of QIA or their delegate. Re-interpretation or analysis of the following results will require input and participation from QIA and the Igloolik and Hall Beach communities.

Nothing in this Report should be construed as to waive, reduce, or otherwise constrain Inuit rights within, or outside of, regulatory processes. This Report should not be relied upon to inform other projects or initiatives without the written consent of the QIA.

2. BACKGROUND

2.1 IGLOOLIK AND HALL BEACH INUIT COMMUNITIES

Inuit have been resident in the northern Foxe Basin and north Baffin region for roughly 1,000 years, when the archaeological record indicates that their ancestors, the Thule people, moved into the eastern Arctic and the Qikiqtaaluk, previously occupied by the Dorset culture (known as Tuniit in Inuktitut) (Desjardins 2013).

Hunting marine and terrestrial creatures has been central to the human occupants of Foxe Basin and northern Baffin Island since time immemorial (Bennett and Rowley 2004; Stenton 1991). Hunting terrestrial mammals including caribou on both the Melville Peninsula and Baffin Island, as well as wolverine, fox, Arctic hare, lemmings, and wolves, provided food and necessary materials for the construction of clothing needed to withstand the cold climate (Bennett and Rowley 2004; Hallam and Ingold 2016; Stenton 1991). Marine mammals such as small whales, walrus, and seals provided necessary materials for clothing and tools as well as essential food, rich in the fats and nutrients required to support life in an environment where vegetable sources of nutrition are limited (Lee and Wenzel 2004; Bennett and Rowley 2004; Desjardins 2013). Fishing, the collection of plants and berries, camping, and soapstone collection have also been part of the Inuit way of life since time immemorial (Bennett and Rowley 2004).The complex and multi-layered culture and body of knowledge comprised of the aforementioned activities and built over generations is encapsulated in the term Inuit Qaujimajatuqangit (IQ) (Tester and Irniq 2008; Wenzel 2004; Karetak et al. 2017).

The seasonal round of harvesting which was traditionally undertaken in the Foxe Basin area, in conjunction with movement between a number of seasonally located camps, began to change with the arrival of a Hudson's Bay Company outpost (Rasing 1994). While whalers had been travelling and harvesting whales in the region for some decades already, substantial social changes were precipitated by the arrival of the Hudson's Bay Company. The 1930s and 1940s saw the arrival of missionaries, the Royal Canadian Mounted Police, and agents of the Federal and Territorial governments. Each wave of arrivals, and the changes they brought, shifted the development of the communities of Igloolik and Hall Beach further towards a settled community and away from the previously seasonally mobile lifeway which the Foxe Basin Inuit had lived (Rasing 1994). While these communities were obliged to adapt to these changes in their environment, as well as the introduction of southern-style schooling and participation in the wage economy, harvesting food from the land and travelling on the land remained important and continue to be central to the identities of Inuit community members (Condon, Collings, and Wenzel 1995; Searles 2002; Rasing 1994; Aporta 2009; Ready 2018).

Igloolik is a primarily Inuit community located on a small island off northern Melville Peninsula, Nunavut. The current population of Igloolik is 1,682 (Government of Canada 2017b). Hall Beach is a primarily Inuit community located on northern Melville Peninsula, Nunavut. The current population of Hall Beach is 848 (Government of Canada 2017a).

Prior to the opening of the Hudson's Bay Company (HBC) Post at Igloolik in 1947 (Rasing 1994), Inuit families lived in scattered camps throughout Fury Strait, Hecla Strait, and Foxe Basin including in the Igloolik and Hall Beach areas, and on the southern shore of North Baffin in areas such as Ikpikitturjuaq (Rasing 1994; Rasmussen 1976). Catholic and subsequently Anglican missions were established at Igloolik beginning in the 1930s, providing further impetus for settlement through the provision of schooling (Rasing 1994). While whalers did visit the region from roughly 1860-1910 (Rasing 1994; Rasmussen 1976), thick pack ice in Foxe Basin meant comparatively little contact with the Inuit camps of the northern Basin. However by the early 1900s equipment such as whaleboats and rifles were introduced to the area by exposure to various ships (Rasing 1994). Until 1947, Iglulingmiut (Inuit from the Igloolik area) travelled to trade at HBC posts at Naujaat (Repulse Bay) or Mittimatalik (Pond Inlet), journeys of several weeks by dog team. Hall Beach was settled during the same period as Igloolik, roughly 70 km to the south. Close family ties link the two communities as prior to settlement the camps and small communities around Foxe Basin were connected by seasonal gatherings and hunts in the pre-settlement period.

2.2 THE MARY RIVER PROJECT

This section provides background information about Baffinland's Mary River Mine Project (Mary River Mine or Mary River Project). For the purposes of this Report, the combination of existing and permitted Mary River Mine developments, along with those proposed as part of Mary River Project Phase 2, are understood to be the proposed full build-out of the Mary River Project. Collectively, these components are referred to as the Project.

2.2.1 The Mary River Mine

The Mary River Mine is situated in the northern interior of Baffin Island, roughly halfway between Ikpikitturjuq (Steensby Inlet) to the south, and Qinngua (Milne Inlet) to the north.

Currently, ore is excavated, crushed, and graded into coarse and fine grades at a facility on site before being trucked via the Tote Road to Milne Port. The Tote Road runs from the mine-site north to Qinngua, largely following Philips Creek. At a port facility at Qinngua, ore is loaded onto ships that transit out of the loading area, past Bruce Head and northeast around Ragged Island into Eclipse Sound. Ships then transit east between the south shore of Bylot Island and the community of Pond Inlet, into Guys Bight, and subsequently Baffin Bay as they proceed to their final destinations.

The mineral deposit that eventually became the Mary River Mine property was initially discovered in 1962. The current operations phase began in 2014 when initial approval was received from the NIRB to operate the mine, with ore first being shipped to Europe during the summer of 2015 (Baffinland Iron Mines Corporation 2019).

Initial applications by Baffinland to the NIRB for the development of the Mary River Project included a Southern Rail transportation corridor (the Southern Rail Corridor) leading south from the Mine Site to a port facility at the head of Ikpikitturjuaq (the Steensby Port). From the Steensby Port, ore would be shipped to Europe via a shipping

route through Foxe Basin (the Southern Shipping Route). Shipping was initially proposed as occurring year-round with the support of ice-breaking vessels. Challenges in achieving funding and downturns in global markets resulted in a revised plan for an Early Revenue Phase (ERP) which Baffinland presented to the NIRB in early 2013. This resulted in Baffinland temporarily shelving the Southern Rail Corridor, Steensby Port, and the Southern Shipping Route. As these project components have been permitted by the NIRB, they are considered part of the Mary River Project for this Study.

In summary, permitted and existing Project components include the following activities:

Steensby Port:

- Construction and operation of an ore dock capable of berthing ore carriers;
- Construction of ore handling and stockpiling facilities;
- Railway and ore unloading infrastructure;
- A new ore crushing facility;
- A camp and related facilities;
- A power plant; and
- A landfill.

Mine site:

- Ore extraction at a rate of 18 million tonnes a year;
- Rail loading facilities for the South Railway;
- A fuel tank farm; and
- Mine maintenance facilities and support administration buildings/facilities (warehouses, shops, etc.).

Mary River transportation corridor (i.e., Southern Rail Corridor):

- Construction of the railway embankment and railway;
- Construction of water crossings;
- Construction and use of multiple laydown areas, shelters, and small equipment shops at each laydown;
- Construction and operation of temporary camp pads and mobile camps; and
- Development and closure of quarries along the railway corridor.

Shipping:

- Shipping year-round with the support of ice-breaking vessels from Steensby Port through Foxe Basin and Hudson Strait to Europe; and

- 20 ore carriers/month shipping frequency during the yearly open water period, and a maximum of 242 transits per year in total.

Exploration:

- Baffinland's mineral exploration program includes active claims in a number of locations near the existing mine on Baffin Island.

2.2.2 The Mary River Project Phase 2 Proposal

The Proponent has submitted an application to the NIRB for a second phase of mining (the Phase 2 Proposal). The Proponent is applying to increase the amount of ore removed from the mine site via the northern Milne Port route, from the current 4.2 million tonnes per annum (mtpa) to 12 mtpa by 2020. To accommodate this increase in production and transportation, the Proponent is also applying to construct an approximately 110-kilometre-long railway (i.e., 'North Railway') which will transport the graded ore to the Milne Port facility (Baffinland Iron Mines Corporation 2018).

The proposed railway routing is largely twinned to the existing Tote Road right of way with the exception of several sites where topography makes twinning technically difficult. The use of the Tote Road will continue while the railway is constructed. While use of the Tote Road for ore movement is proposed to end in 2021 (the North Railway is proposed to be completed and activated by 2020), it will continue to be used to move personnel, fuel, water, and materials for maintenance of the railway (Baffinland Iron Mines Corporation 2018).

Additionally, the Phase 2 application asks for approval for an increase in the number of ships loading and unloading at the Milne Port facility, and an increase in vessel size of a portion of this fleet (Baffinland Iron Mines Corporation 2018). Phase 2 would also involve the construction of further port infrastructure to facilitate proposed increases in ship traffic and increased needs for fuel, as well as increased numbers of port and mine staff (Baffinland Iron Mines Corporation 2018).

In summary, the Phase 2 Project will involve the following activities:

Milne Port:

- Construction and operation of a second ore dock capable of berthing Cape-size ore carriers;

- Expansion of ore handling and stockpiling facilities;

- Railway and ore unloading infrastructure;

- A new ore crushing facility that will be indoors to reduce dust;

- An expanded camp and related facilities;
- An expanded power plant;
- A landfill;
- Increased shipping activities at the port; and
- Increased shipping through Qinngua.

Mine site:

- An increase of the mining rate to 12 million tonnes per year for transportation to the Milne Port facility via the North Railway;
- Additional rail loading facilities for the North Railway;
- An expanded fuel tank farm;
- Installation of wind turbines; and
- Expanded mine maintenance facilities and support administration buildings/facilities (warehouses, shops, etc.).

Mary River transportation corridor (i.e., Tote Road and North Railway):

- Construction of the railway embankment and railway;
- Construction of water crossings (four bridges and 417 culverts);
- Construction and use of multiple laydown areas (up to 14), shelters and small equipment shops at each laydown;
- Construction and operation of four temporary camp pads and two mobile camps;
- Construction of several level crossings for the Tote Road; and
- Development and closure of up to 40 quarries along the railway corridor.

Shipping:

- Expansion of shipping to between early July up to November 15 each year; and
- Increased shipping frequency during the yearly open water period.

3. METHODS

3.1 OVERVIEW

Data for this Study were collected from mapping interviews specific to the Project with 12 Hall Beach community members, conducted between May 23 and May 24, 2019, and 26 Igloolik community members, conducted between May 22 and May 29, 2019. This section details the data collection methodologies used and analyses conducted, including for both quantitative (i.e., mapped) and qualitative data.

3.2 VALUED COMPONENTS

This Report is organised around five valued components (VCs). A VC is defined as an important aspect of the environment that a project has the potential to impact (Hegmann et al. 1999). Valued components may include tangible or biophysical resources (e.g., particular places or species), and may also encompass less tangible social, economic, cultural, health, and knowledge-based values (e.g., place names or IQ regarding a particular area).

For the purpose of this Study, the VCs were chosen to represent the critical conditions or elements that must be present for the continued practice of Study participants culture and that may be impacted by the Project. As such, VCs can range from the direct presence of traditionally hunted animals and gathered plants, to continued habitation, travel, and cultural activities on the land. VCs are also designated to include intangible cultural resources, such as the transmission of knowledge across generations. VCs for this Study, which were determined through a qualitative analysis of the data, are:

- Marine Hunting;
- Terrestrial Hunting and Trapping;
- Fishing;
- Travel, Trails, and Habitation; and,
- Cultural Continuity.

3.3 MAPPING INTERVIEWS

12 Hall Beach community members were interviewed between May 23 and May 24, 2019, and 26 Igloolik community members were interviewed between May 22 and May 29, 2019. Interviews were conducted at the Hall Beach HTO Office and Hamlet Office and in a private residence in Igloolik, Nunavut. Interview teams prioritised the documentation of values within the Local Study Area (LSA) and those in close proximity to the Project. Values within and beyond the Regional Study Area (RSA) were documented where time permitted.

Interview participants were identified and contacted by QIA staff. Participants were chronologically assigned identifier codes in the form of I## or H##. Informed consent was obtained for all interviews (see Consent Form in Appendix 1).

All data included in this Study were collected using the same methodology as described in Sections 3.3.1 and 3.3.2, below. Interviews followed a semi-structured format (see Interview Guide in Appendix 3). Interview and mapping protocols used were based on standard techniques (Tobias 2009; DeRoy 2012).

The Study adheres to the following established best practices for IQ/TK/TLU studies in the regulatory context of a Project-specific proposed Project (Olson et al. 2016):

- **Methods development:** A semi-structured interview guide should be developed with the community to ensure that all questions are culturally appropriate. Development of TLU codes for mapping should be done with the community to ensure appropriateness.

- **Informed consent:** Each participant should read and sign a consent form that clearly indicates who is conducting the Study, its purpose, who will have intellectual property rights over the information shared during the interview, and their rights in the interview process.

- **Semi-structured individual interviews:** To obtain detailed IQ/TK/TLU information, individual interviews should be conducted with a broad cross-section of traditional knowledge holders and land users.

- **Data management:** Recording of participant names, dates of interviews, who conducted the interviews, and how the data is stored is an essential part of IQ/TK/TLU research.

- **Mapping protocols:** Mapping should be conducted with a trained researcher. Mapping codes should be developed with the community before the Study begins and used consistently throughout. Proper documentation of sites, and attribute data should be collected in a consistent manner. Site-specific mapping should be done at a scale of 1:50,000 or better.

- **Established spatial boundaries:** The proposed project, local study area, and regional study area should be clearly indicated on maps during all IQ/TK/TLU interviews.

- **Established temporal boundaries:** The temporal boundaries of the IQ/TK/TLU study should include current use (i.e. use in the participant's lifetime), historical use, and future use.

- **Recording of IQ/TK/TLU interviews:** All interviews should be audio recorded with proper attributions.

- **Data analysis:** Recorded interviews should be transcribed and coded according to themes, or valued components. Map data should be analysed using mapping

software, such as ESRI ArcGIS, to understand the types and density of use in the proposed project footprint, local study area, and regional study area.

Participants had the option to conduct the interview in Inuktitut or English. An interpreter or Inuktitut-speaking QIA staff member was present or available for all interviews. All audio was recorded digitally. Where interpreted material has been used as part of the analysis conducted in the preparation of this Report, this has been indicated in the quote citation.

Verification of the findings of this report was conducted through meetings with six participants from Hall Beach and six participants from Igloolik during the period of August 3-5, 2019.

3.3.1 Site-Specific Data Collection and Analysis

For the purpose of this Report, *site-specific data* are values reported by Igloolik and Hall Beach community members that are specific, spatially distinct, and that may be mapped (however, exact locations may be treated as confidential).

Shape files for the physical Project components were provided by the Proponent. Shipping routes were geo-referenced and digitized using ArcMap for both the northern shipping route (Baffinland 2018) and southern shipping route (Baffinland 2010).

Site-specific data were mapped and managed using a 'direct-to-digital' process in which Google Earth imagery was projected onto a wall or screen. Points, lines, or polygons, geo-referenced at a scale of 1:50,000 or finer, were used to mark areas of reported use and value. Some lines and polygons denoting trails and hunting areas were mapped at a coarser scale (i.e., greater than 1:50,000). Data collection focused on the Footprint (250 m buffer around physical works, shipping routes, and active mineral leases held by Baffinland), Local Study Area (LSA; 5 km buffer around the Footprint, and including important watersheds highlighted by community members as well as the marine environments and islands of Eclipse Sound and Foxe Basin with a 250 m buffer on the shoreline), and Regional Study Area (25km buffer around the mine, northern and southern railway and Tote Road; also the marine environment with a 250 m buffer on the shoreline) with boundaries defined in consultation with QIA staff for Eclipse Sound and extended to the Nunavut Settlement Boundary in Foxe Basin and Hudson Strait). See Figure 1 for a map of the Project and the Study Area.

Maps of site-specific values presented in this Report are generated from data mapped during the interviews. Points are randomised within a 250 m radius and then buffered by one kilometre. A one-kilometre buffer is also generated around each line and polygon. Buffering is done to account for a margin of error and to protect information confidentiality (DeRoy 2012).

Site-specific data were mapped according to five 'Activity Class' categories that were designed to capture multiple aspects of the Study VCs:

- Habitation values (including temporary, occasional, seasonal, and permanent camps and cabins);

- Cultural and spiritual values (including burial sites, birth places, ceremonial areas, place names, teaching sites, and gathering areas);

- Subsistence values (including harvest and kill sites for marine and terrestrial animals, and trapping areas);

- Environmental feature values (including specific, highly valued habitat for caribou, narwhal, walrus, beluga, ringed seal, and char); and

- Transportation values (including trails, water routes, and navigation sites).

The temporal boundaries set for the baseline data collection include past, current, and planned future knowledge and use. For the purpose of this Study:

- A past value refers to an account of knowledge and use prior to living memory, passed down through intergenerational IQ-transfer;

- A current value refers to an account of knowledge and use within living memory; and

- A planned future value refers to anticipated or intended use.

3.3.2 Qualitative Data Collection and Analysis

Qualitative data were also collected during the semi-structured interviews. The knowledge and use values of the Igloolik and Hall Beach communities that have been impacted by the Mary River Project to date were explored, as well as the potential for further effects from the Project, including proposed and reasonably foreseeable future development. Information relating to additional stressors (other cumulative effects causing agents) was also analysed and incorporated into this Report.

The English portions, including translations, of the audio from the interviews were transcribed. Transcripts were then reviewed, coded thematically, and analysed for issues and concerns identified by Study respondents. These data are summarised in Section 4.

All spellings of Inuktitut words used in this report were either verified during interviews, based on spellings encountered in relevant literature from the northern Qikiqtani, or based on the place names in use by the Inuit Heritage Trust (“Inuit Heritage Trust: Place Names Program” n.d.).

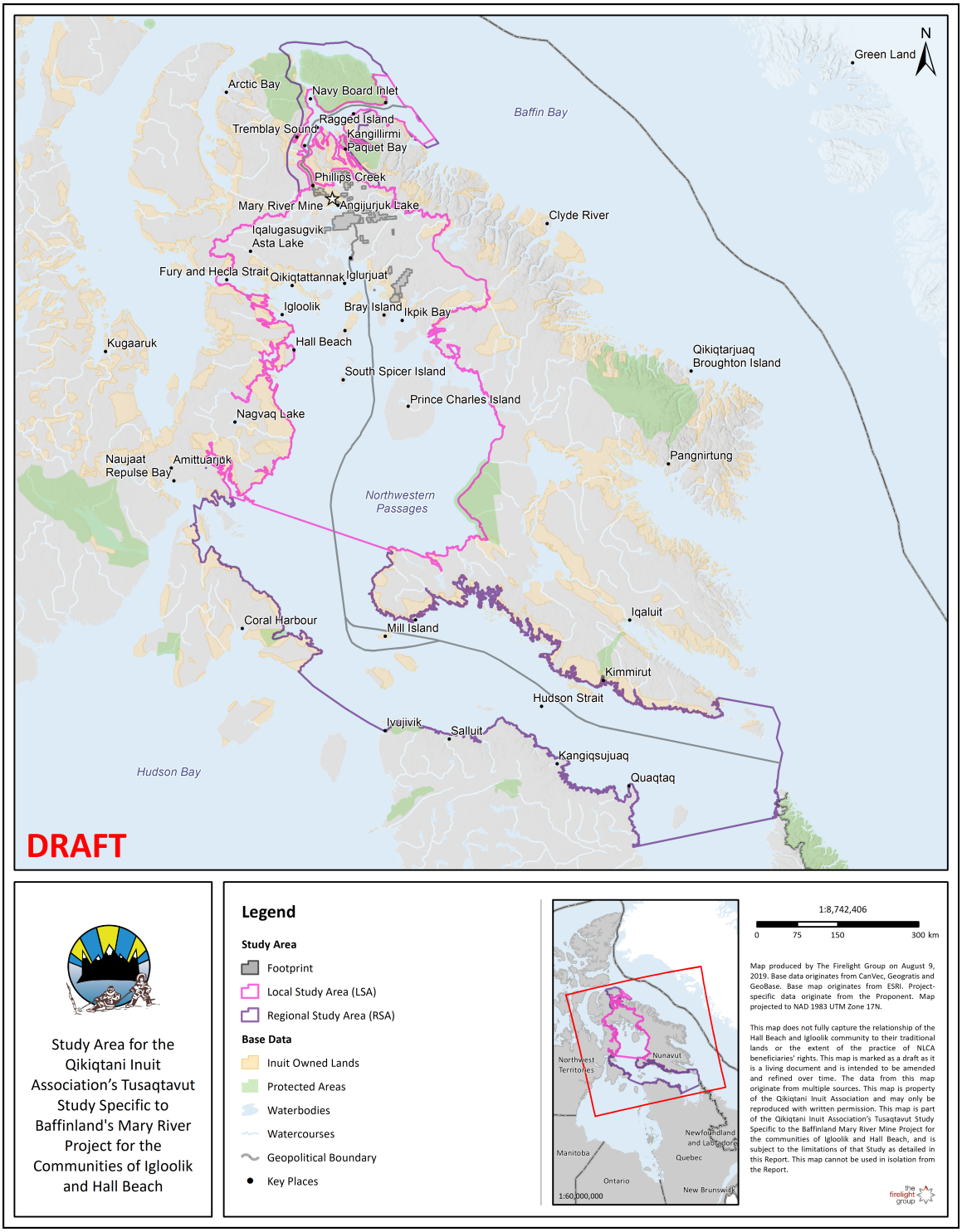

Figure 1: Baffinland Iron Mines Corporation's proposed Mary River Project with the Project Footprint, LSA, and RSA.

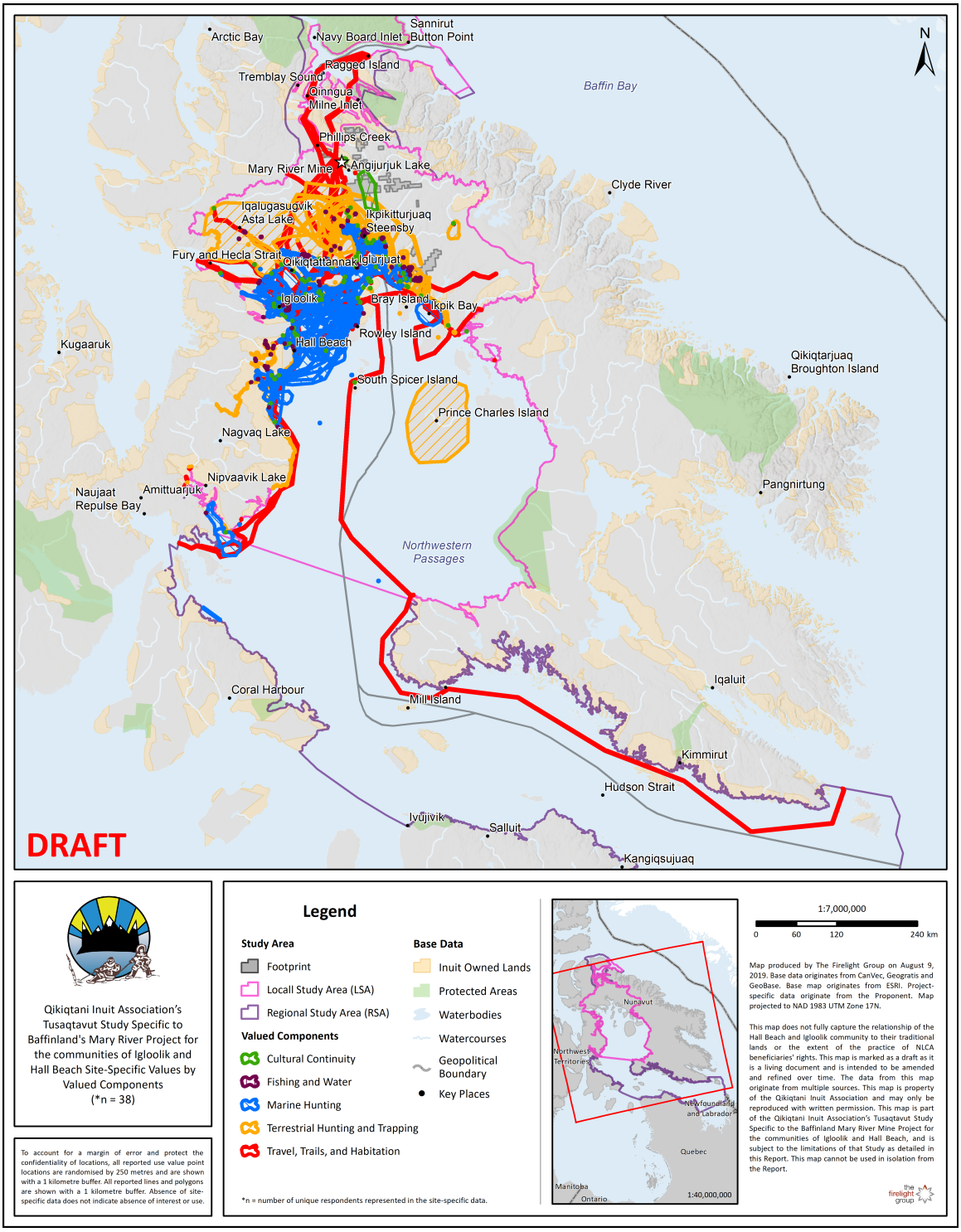

Figure 2: Study participants' reported site-specific values by Valued Component within the Project Footprint, LSA, and RSA.

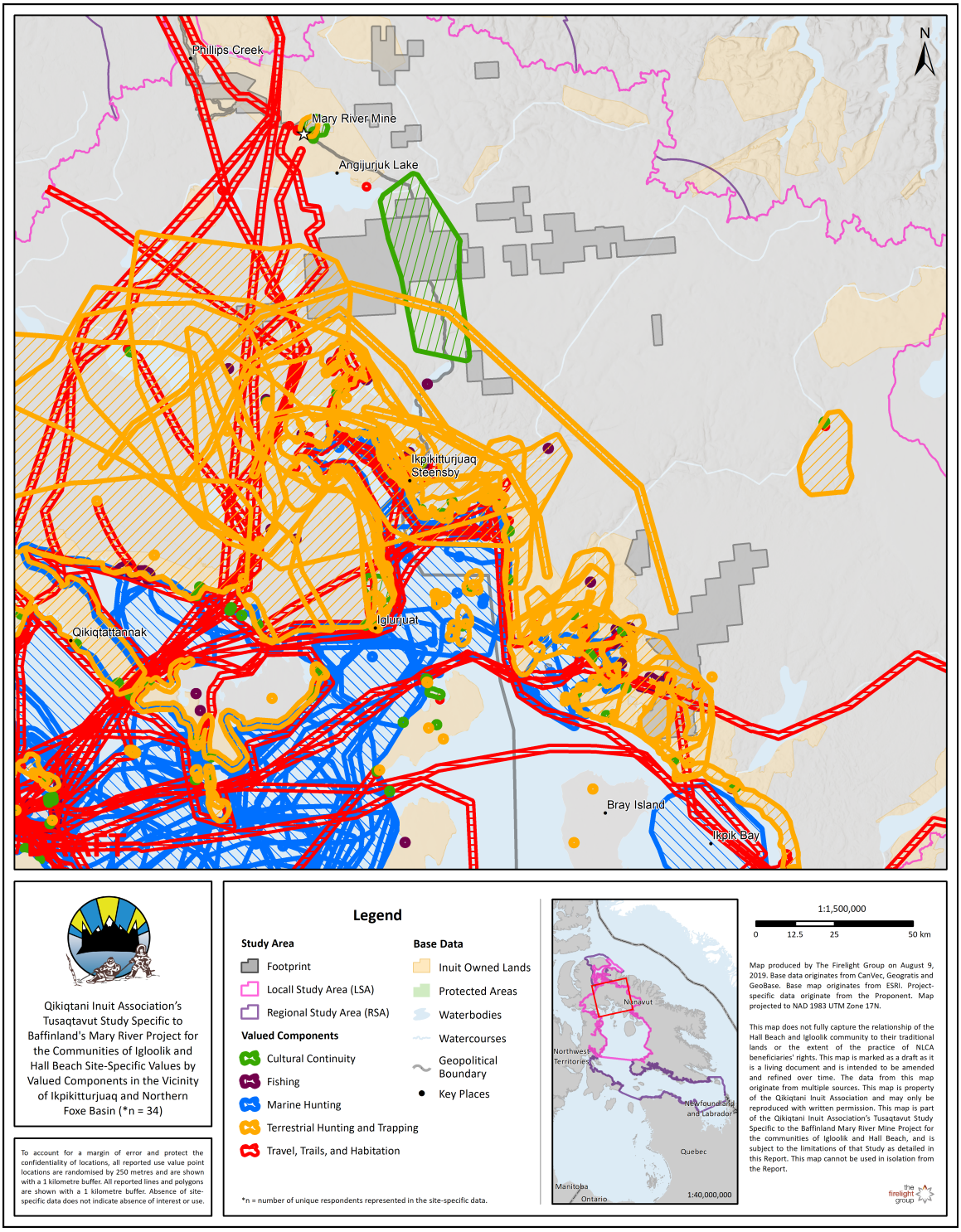

Figure 3: Study participants' reported site-specific values by Valued Component within the Project Footprint, LSA, and RSA, and in the vicinity of Ikpikitturjuaq and Northern Foxe Basin

4. RESULTS

4.1 SITE-SPECIFIC DATA

The site-specific data clearly demonstrate that Study participants use or have used the Study Area across multiple generations. This section summarizes the mapped data from the Study. Detailed qualitative information associated with the spatial data regarding the importance and cumulative effects is located in Section 4.2-4.5 of this report.

The Study Area is integral to Igloolik and Hall Beach community members' travel and hunting in the Study Area. Prior to the mine's construction, community members would camp at or near the airstrip while hunting caribou and wolves. Community members often rely on snowmobile, ATV, and/or dog team trails to access desirable campsites in the vicinity of the present mine. Numerous community members have used and continue to rely on cabins and camps in the interior of Baffin Island, as well as in the vicinity of Ikpikitturjuaq for camping and hunting caribou and walrus throughout the year – often staying for weeks at a time. These camp locations, among other mapped campsites, are often located near important environmental features, such as clean water sources and small lakes where community members fish for char and collect drinking water. This activity often takes place alongside hunting, trapping, and fishing in the Footprint and LSA of the Study Area.

The area surrounding Baffinland's Steensby Port and Southern Shipping Route is an important area for Igloolik and Hall Beach community members. Specifically, Ikpikitturjuaq and the southern shoreline of northern Baffin Island are especially valued for supporting community member's camping, hunting, fishing, and general travel across the landscape.

- **Ikpikitturjuaq and central North Baffin:** Ikpikitturjuaq has been used by Igloolik and Hall Beach community members for generations. Mapped data reveals that community members involved in the Study have been traveling from their homes to Ikpikitturjuaq since as early as the 1950s, and as recently as winter 2019. In their interviews, community members describe Ikpikitturjuaq as an important place for camping, wherein old tent rings can be still seen in multiple sites around the inlet. For many, Ikpikitturjuaq is valued for its marine species (such as fishing for char and hunting seals and walrus), as well as being a year-round access point for reaching terrestrial hunting grounds in the interior of Baffin Island, where caribou may be harvested.

- **Northern Foxe Basin**: The waters, islands and coasts of northern Foxe Basin are described by Study participants as being a primary location and conduit for a range of traditional activities including hunting marine mammals, fishing, camping, and the transfer and teaching of Inuit culture. The shoreline of northern Foxe Basin including Kapuivitt (Jens Munk Island) and the surrounding coast is described by Study participants as being a primary transportation conduit between Igloolik and Hall Beach and Baffin Island. Trails leading into the interior of Baffin Island, including from Igloolik to Pond Inlet are used throughout the

year, and particularly in the winter months for traveling via dog sled and snowmobile to reach inland hunting areas for caribou and geese. Having the ability to travel to Baffin Island is crucial for Igloolik and Hall Beach community members, as many families have deep ties to the area, and caribou from the island are frequently identified as preferred over those from the mainland. Travel routes are in the vicinity of Southern Rail Corridor, and community members stressed the importance of this particular area in order to be able to continue to access their hunting grounds for caribou, as well as permitting the continued movement of caribou throughout Northern Baffin Island.

The marine environment is heavily relied upon by the communities of Igloolik and Hall Beach for subsistence, travel, habitation, and cultural purposes. Mapped values are found throughout Foxe Basin between Alarnaarjuk (Melville Peninsula) and northern Baffin Island. Concentrations of walrus habitat were identified on a number of small islands close to the Steensby Port facility. The shoreline on the Study area is used by the communities of Igloolik and Hall Beach, both historically from the recorded presence of tent rings and old habitation sites, to presently used cabins for marine hunting and camping with families, and planned future cabins in Ikpikitturjuaq.

The Study mapped observed changes to the marine environment since mining-related activities began which include: sites where walrus hunting has been negatively affected by vessel traffic; areas where community members are concerned about potential negative impacts from shipping and mining.

Table 1: Study participants' site-specific use values reported within the Footprint, LSA, and RSA of Baffinland's Mary River Project. Numbers are cumulative with increasing spatial scales (i.e., RSA includes LSA and Footprint).

Valued Components	Within 250 m of the Footprint	Within the Local Study Area (LSA)	Within the Regional Study Area (RSA)
	# of reported values	# of reported values	# of reported values
Marine Hunting	20	274	275
Terrestrial Hunting and Trapping	30	203	203
Fishing	12	99	99
Travel, Trails, and Habitation	40	249	249
Cultural Continuity	12	157	157
TOTAL[1]	**114**	**982**	**983**

4.1.1 Total Reported Site-Specific Values

A total of 983 site-specific values were reported in the Study Area (the Footprint, LSA, and RSA combined; see Table 1 and Figure 2).

As noted in Section 1.2 of this Report, **an absence of data does not signify an absence of use or value**. In addition, sampling was limited; not all Igloolik and Hall Beach knowledge holders were able to participate. The above limitation is a necessary consideration when interpreting the geographic distribution and quantity of mapped values. It is likely that new information regarding Inuit knowledge and use will become available in the future and it is highly recommended that new information should continue to be gathered to augment this preliminary study.

4.1.2 Site-Specific Values Reported in the Footprint

Within the Footprint, Igloolik and Hall Beach community members reported 114 site-specific values. While not every site-specific value recorded includes time information,

[1] In addition to the 983 site-specific values reported in Table 2, nine Plant values were also reported in the Study Area. These nine values were not included in the calculations (i.e., for the percentages) or the totals reported in Table 2. Five of these values were reported in the in the Project Footprint. These values represent three different types of berry and three plant species, all of which are harvested for food.

Inuit use was reported from the 1940s to current (i.e., 2019) and continued use. Site-specific values reported in the Footprint include:

- **Marine Hunting** values including: hunting areas and kill sites for various species, including walrus, narwhal, beluga, ringed seal, and bearded seal; a site where skins from ringed seals and harp seals are processed; and ice leads used for hunting;

- **Terrestrial Hunting and Trapping** values including: hunting areas and kill sites for various species, including wolf, crane and caribou; food cache sites for caribou, fish, duck, seal, and beluga; caribou habitat, including a caribou calving area; caribou migration routes; egg collection sites; and an area where wolves have been seen;

- **Fishing** values including: and sites where char was caught;

- **Travel, Trails, and Habitation** values including: water routes used to access campsites; water routes used to access hunting areas for various species, including caribou, ringed seal, bearded seal, beluga whale, and walrus; water routes used to access fishing sites; trails used to access hunting areas for caribou and wolf; trails used to access fishing sites; trails used to access the floe edge; traditional dog-team trails; gathering places; a site where drinking water was collected; and numerous cabin sites, campsites, and outposts used as bases when traversing the area; and

- **Cultural Continuity** values including: soapstone collection sites; teaching areas; places with an Inuktitut name; and sites where heritage resources, including sod houses and inukshuks, are located.

4.1.3 Site-Specific Values Reported in the LSA

Within the LSA, Igloolik and Hall Beach community members reported 982 site-specific values. While not every site-specific value recorded includes time information, Inuit use was reported from the 1930s to current (i.e., 2019) and continued use.

In addition to the site-specific values described for the Footprint, Inuit also reported the following site-specific values in the LSA:

- **Marine Hunting** values including: hunting areas and kill sites for various species, including bearded seal, beluga whale, bowhead whale, harp seal, narwhal, polar bear, ringed seal, and walrus; a site where walrus meat is processed; food cache sites; walrus calving areas; habitat areas for bearded seal, beluga, narwhal, fish, walrus, and seal; movement corridors for beluga and narwhal; locations where the floe edge is accessed; and areas where various species of animals have been seen, including beluga whale, bearded seal, walrus, polar bear, narwhal, and seal;

- **Terrestrial Hunting and Trapping** values including: hunting areas and kill sites for various species, including caribou, fox, eider, goose, muskox, ptarmigan,

rabbit, and wolf; sites where eggs are collected; sites where caribou meat is processed; sites where caribou meat is cached; valued habitat areas for caribou, fox, birds and wolf; and areas where wolf and caribou have been seen;

- **Fishing** values including: catch sites for char, lake trout, and cod; a site where char is processed and dried; areas where clams are collected; and a number of important freshwater environmental features including an ice-free area, an underground lake and a waterfall;

- **Travel, Trails, and Habitation** values including: a number of locations where people gather for community events; water routes used to access hunting areas, fishing areas and campsites; trails used to access hunting areas, trapping areas, fishing areas, berry picking areas, and campsites; sites where drinking water was collected; and numerous cabin sites and campsites used as bases when traversing the area;

- **Cultural Continuity** values including: birth places of community members; burial sites; a ceremonial site; spiritual sites; teaching areas, where knowledge pertaining to hunting, fishing, and other important cultural practices is transmitted; sites where artefacts and other heritage resources are located; places with an Inuktitut name; and sites where culturally important rocks are collected; and

- **Impacted** values including: an area where there has been a decline in narwhal population; and an area where there has been a decline in caribou population.

4.1.4 Site-Specific Values Reported in the RSA

Within the RSA, Igloolik and Hall Beach community members reported 983 site-specific values. While not every site-specific value recorded includes time information, Inuit use was reported from the early-1930s to current (i.e., 2019) and continued use.

In addition to the site-specific values described for the Footprint and LSA, Inuit participants also reported the following site-specific value in the RSA:

- **Marine Hunting**: an ice lead used by seals.

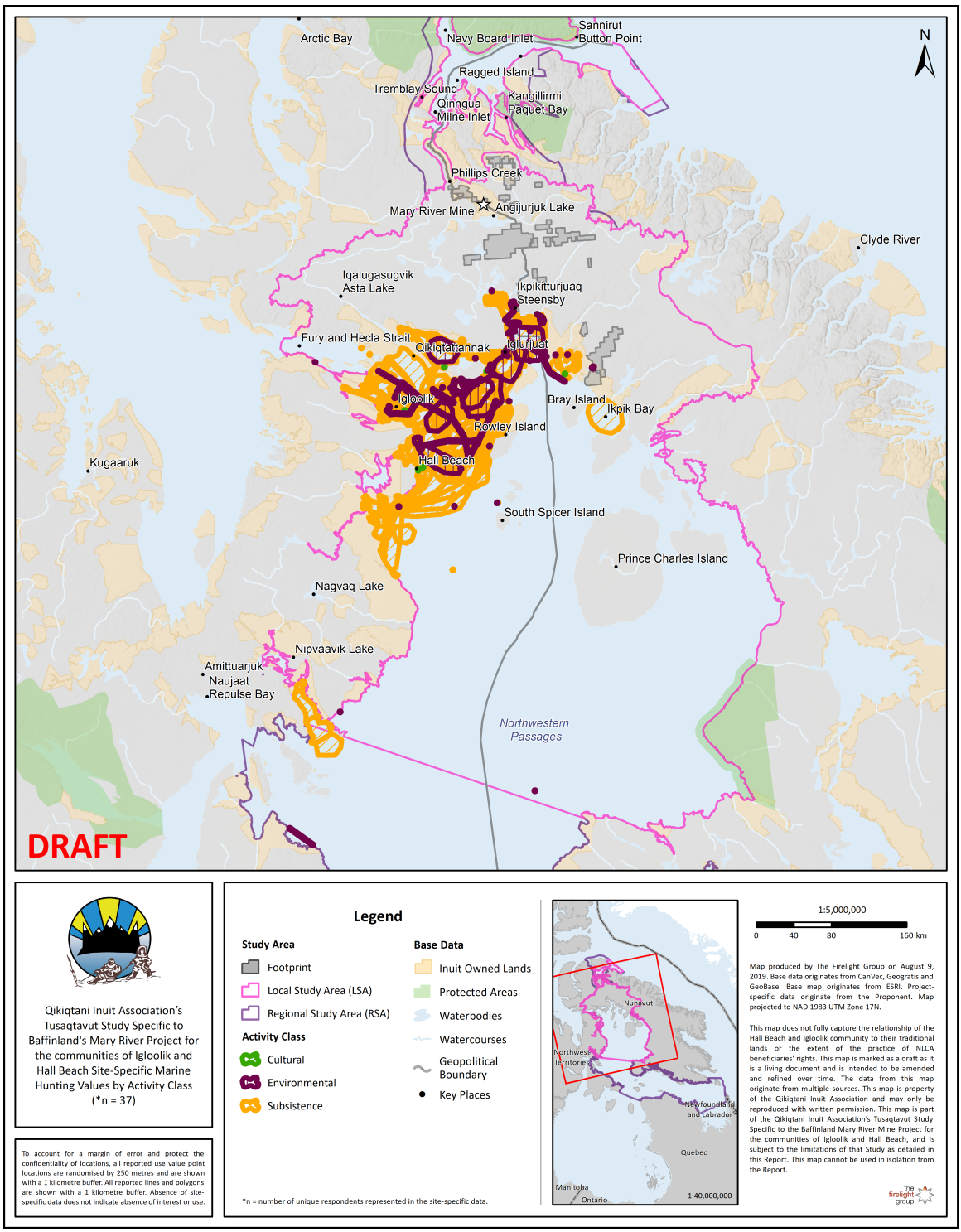

Figure 4: Study participants' reported site-specific Marine Hunting values in the Project Footprint, LSA, and RSA.

4.2 MARINE HUNTING

Section 4.2 provides further details on Inuit-reported site-specific Marine Hunting values by activity class and location. This section also includes a discussion on the importance of Marine Hunting values, and, where applicable, the current impacted baseline conditions and change trends. The qualitative data provides additional crucial context for the interpretation of the site-specific data.

4.2.1 Site-Specific Values

Table 2: Site-specific values for the Marine Hunting Valued Component reported within the Project Study Area, by Activity Class.

Activity Class	Footprint, including 250 metre buffer	Within the Local Study Area (LSA)	Within the Regional Study Area (RSA)
	# of reported values	# of reported values	# of reported values
Environmental	8	57	58
Subsistence	11	207	207
Cultural	1	9	9
Impacted	0	1	1
Total	**20**	**274**	**275**

Description of documented Marine Hunting Values

The following Marine Hunting Values were documented in the Project Study Area, and are organized by Activity Class:

- **Environmental** values including**:** walrus calving areas; habitat areas for beluga, narwhal, seal, bearded seal, and ringed seal; beluga travel corridors; a narwhal travel corridor; floe edge; ice leads; and areas where various species of animals have been seen, including beluga whale, bearded seal, walrus, polar bear, narwhal, and seal;

- **Subsistence** values including: hunting areas and kill sites for various species, including bearded seal, beluga whale, bowhead whale, harp seal, narwhal, polar bear, ringed seal, and walrus; and food cache sites;

- **Cultural** values including: a site where walrus meat is cached; and

- **Impacted** values including: an area where participants reported that there has been a decline in narwhal population.

Geographic Distribution of Recorded Marine Hunting Values

Mapped Marine Hunting values are found throughout Foxe Basin. Particular concentrations of values are to be found in Ikpikitturjuaq of northern Foxe Basin, along the Melville Peninsula, around Rowley Island, near the communities of Igloolik and Hall Beach, and along the western shores of Baffin Island following the southern shipping route.

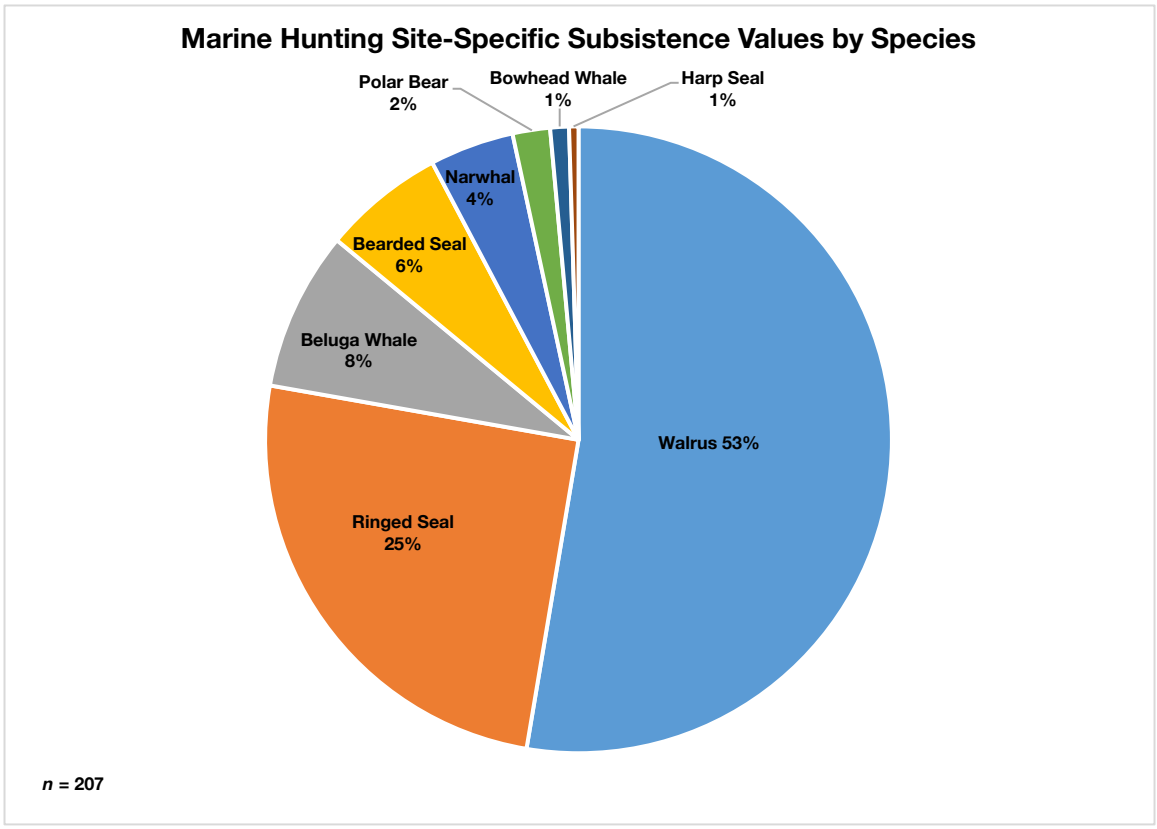

Figure 5: Study participants' reported Marine Hunting site-specific values by species type in the Project Study Area; n= 207.

4.2.2 Importance of Marine Hunting

Marine hunting is integral to the Inuit way of life in both Igloolik and Hall Beach. Marine mammals are hunted throughout the year, with community members often camping on the land together with family and friends and traversing long distances to seek out valued species and preferred hunting areas depending on the season. During winter, marine hunting typically takes place via dog team and snowmobile, while in summer, hunters generally travel by boat.

> *…her family are the only ones that would be living in this little camp [on Kapuiviit] and during the rest of the summer, his, her father would use a rowboat and hunted bearded seals and ringed seals* (I24, 29-May-19)

> *Yeah, he would set out very well on a boat and on dog sled when he goes out to the floe edge to hunt ... There were harp seals, different kinds of seals, ringed seals and harp seals, bearded seals and whales, he can't say particularly where because they roam all over the place.* (I23, 29-May-19, interpreted from Inuktitut)

> *Whenever there's a lot of multi-year ice [near Qaiqsut], that means there's a lot of walrus around, that's where [he and his family] would hunt for the walrus during the summer.* (I12, 27-May-19, interpreted from Inuktitut)

> *And so this [Fury and Hecla Strait] is also where we do a great deal of polar bear hunting in this bay here and also in this area here … and we would have, we would hunt polar bears here during the winter and the floe edge is usually along here going up along here and then into a bay, forming into a bay into Siuraq and then goes down.* (I01, 22-May-19)

Marine hunting often takes place in conjunction with other activities, such as tending camp, terrestrial hunting, and shellfish harvesting. This speaks to the interconnected nature of land- and water-based activities, which together comprise a specific way of life that revolves around seasonal harvesting practices.

> *…all along the shores, closest the shore, of this island, all of all the islands, and the eastern coast [of Foxe Basin], or rather the western coast of Baffin Island, right up to [on the Mainland south of Hall Beach]. Some hunters would walk inland, some were selected to stay in camp to look after the families, and some were selected to do the walrus hunts. So, they were all — they had different tasks and the walrus hunters the fishermen and the inland caribou hunters. Because the summers were too short.* (H10, 24-May-19, interpreted from Inuktitut

> *Ringed seal and sometimes bearded seals. And whenever my in-law wants walrus too ... All the areas that I have gone to in the summer. I hunted seal and caribou at the same time. Sometime bearded … seal. It would be all around the coast. All this area up to here. All the coast area I have hunted seal. All the way up to here [western and northern coast of the Foxe Basin].* (I25, 29-May-19)

> *Steensby, Steensby Inlet and all the way to Igloolik and Hall Beach. All along the shore, there's a huge abundance of ring seals. And they would be very close to the land, to the shore. All along the shore ... As for clams, the ocean floor, what do you call them – shellfish? There's a huge abundance of shellfish in this area.* (H08, 23-May-19, interpreted from Inuktitut)

Study participants identified a variety of valued marine species, including walrus; ringed, harp and bearded seal; polar bear, narwhal; and beluga and bowhead whales.

Walrus was identified as an important food source, in part because a single animal can yield a large quantity of meat. Several Study participants described relying on walrus meat as their primary source of sustenance from a very young age, and some also highlighted its importance as a food source for dog teams. While dog teams are becoming less common due to the increasing prevalence of snowmobiles, walrus continues to be highly valued.

> *He said that when he was born on that little island, they didn't have milk bottles and he was fed, the mother would chew the walrus meat and feed him and that's how he is today ... There's, it's just full of all kinds of fat. There's bearded seals, seals, whales, every kind of animal here, but they are now finding more bearded seals in Igloolik area.* (I15, 28-May-19, interpreted from Inuktitut)

> *He says that walrus is extremely important, mainly because … that would be his — one of his main diet since he could remember, from childhood. And it was not only used for human consumption, but also for the dogs. And that's one of the reasons why they had so many dogs. And it was extremely important and still today it is still very, very important.* (H02, 24-May-19, interpreted from Inuktitut)

Traditionally, walrus is preserved via fermentation in caches. Study participants described various aspects of the fermentation process, including where caches are typically found, and some of the factors involved in producing the best fermented walrus meat. Preparation for fermentation is a communal activity that requires considerable knowledge and experience.

> *And one family would have catch – not one family, but one walrus they would be like on a female we would have anywhere from 9-12 huge sausage-like with the skin outside and also the male would be anywhere from 12-15 huge sausage-like and those would be put in the ground and covered and also it depending on the type of year, whether it's winter – I mean whether it's cold summer or warm summer, the fall climate how far it would go down, how far it should be up and how much gravel should be put on. Hall Beach, apparently, is the best place to make fermented walrus meat and they do have the best meat and mainly because of the gravel. The gravel is much larger in Hall Beach than it is in Igloolik. So, not only walrus, but also seals and ringed seals and bearded seals. They will be harvested and during the summer and would be cached along the shores.* (I01, 22-May-19)

> *On top of the ice they would butcher the walrus, getting it all ready for aging. And before they take it back, they would prepare it all, so that they just put it in the ground when they come back. And it would take a long time to get them all ready for caching…* (H09, 24-May-19)

Seals were similarly identified by Study participants as an important source of sustenance. In particular, silver jar seals (i.e., adolescent ringed seals) are frequently harvested. These animals are preferred by community members because their meat tastes better, likely because they are still nursing.

> *And in Igloolik area, around – for – in Hecla Straits, very rich in Tom cod and the seal tastes like Tom cod. Whereas the – the silver jars, since they're still suckling and they eat mainly, not the Tom cod, but the antipodes, and the – the texture and the taste is very different ... silver jar, whether they're still nursing, whether they're still nursing, you could taste the milk, very rich.* (H06, 23-May-19, interpreted from Inuktitut)

As the quotes below demonstrate, Igloolik and Hall Beach community members also have a long history of using seal for lamp oil and to produce clothing, boots, ropes and dog traces. Preparing the hides of seals and other hunted marine mammals is considered to be an important and valued skill, as it is critical for making clothing and other tools.

> *And during the winter months, from their camp, they would go down to the floe edge and get walrus, seal - ringed seal, and bearded seal. And the reason was to get some oil for the seal oil lamp.* (I13, 28-May-19, interpreted from Inuktitut)

> *They were also hunting for bearded seals to make sealskin boots. Qamiq. Because their skin is better than around Igloolik area to make – to make that and the taste of the walrus is better than around Igloolik area, and it's more tender. [Pause] So they hunted bearded seals.* (I09, 27-May-19, interpreted from Inuktitut)

> *…and every time he caught the seals, her, her mother would then prepare them to make clothing out of them and the bearded seal would be made for soles and also dog traces and ropes, sealskin ropes and they will be pretty busy all through the summer.* (I24, 29-May-19)

> *This would be their walrus hunting area [Parry Bay] during the summer. The ones that they would cache there … They would hunt seals as well. Both in the spring and in the summer. Mainly for food and also for dog food and also, they would hunt bearded seal. They would hunt the bearded seal mainly for dog traces and dog harnesses and also soles for the boots.* (H10, 24-May-19, interpreted from Inuktitut)

> *She – what she remembered the most is that she was cleaning a lot of skins and preparing the skins and the skins that she worked on were ringed seals and also bearded seals…* (I21, 28-May-19, interpreted from Inuktitut)

Like the processing of both hides and food, the harvesting of valued species requires highly specialized knowledge and expertise. Specifically, hunters must know how to successfully harvest different animals, and where and when to go to find particular species. Study participants spoke at length about the knowledge they have acquired in each of these areas through experience and time spent on the land learning from elders and other knowledge holders. For example, some Study participants spoke about the importance of having an intimate knowledge of wind patterns and their effects on sea ice, while others shared valuable knowledge about the relationship between key sea-ice features (e.g., leads) and marine mammal habits and behaviours.

> *As long as the wind is not strong. If it's strong, it makes the ice – the ice will break up. And on the west side, they would hunt walrus when they get the south winds and southwesterly winds ... When they were living here during the summer, the walrus hunting would be from here all the way to Rowley Island.* (I10, 27-May-19, interpreted from Inuktitut)

> *The other interesting observation that he did is that from this point to the point here [in the Frozen Strait], there's a lead. And this is in the month of May … And the lead is approximately 12 km, and it was interesting to see this lead, because it was completely filled with harp seals. Mainly harp seals ... And they estimated that there were over 100,000 harp seals in that lead. And there would be aglus, and some would be basking, and you would also see aglus of the harp seals…* (H08, 23-May-19, interpreted from Inuktitut)

> *And his father would – would nets for seals ... Seals, yeah. In the – in the wintertime, because there would be a crack, a lead ... They would net them for feeding their dogs.* (I05, 27-May-19, interpreted from Inuktitut)

Study participants also provided details regarding the right time of year to hunt silver jar seals; how to gauge which walruses will be easiest to hunt; and how to properly kill a walrus in the water without sinking it. Importantly, the continued transmission of this type of knowledge depends on a variety of factors, including an abundance of animals for Igloolik and Hall Beach members to harvest, sufficient habitat to support these animals, and opportunities for new hunters to spend time out on the water and ice with family members, elders, and other knowledge holders.

> *But silver jar hunting is done only in the month of June and parts of July. So anywhere from three to four weeks ... they're just born and they have that white fur. So during that time when they're still around – in the denning area, when the fast ice is still useable. So that's when they use dog teams.* (I12, 27-May-19, interpreted from Inuktitut)

> *You can tell by looking at the walrus, you can observe them and you can be able to see which ones are easier to hunt and which ones aren't and you can also gauge by the colours of the walruses eyes. If they turn red that means they are disturbed and angry.* (I16, 28-May-19, interpreted from Inuktitut)

> *And walrus would be basking on the ice and they would be a large number of them and we would be trying to kill them instantly and if they're in the water, we would harpoon them first before killing it and we would kill them on the – shoot them on the neck or on the head with a powerful rifle. And the reason why would harpoon it first if it's in the water is they sink very quickly. And they're heavy, hey? They're about a ton and so they would sink and if, if we don't have a floater harpoon, we would use a type of rifle with – and we would shoot it in the lungs until it start getting air locked in and then we would kill it and then it would float and if we don't do it properly, it would sink.* (I01, 22-May-19)

In addition to sharing knowledge about how to hunt marine mammals, Study participants disclosed considerable place-specific knowledge. In particular, Ikpikitturjuaq was frequently discussed by Study participants as a preferred area for hunting marine animals such as seal, walrus, and polar bear. This area was described as having an overall abundance of wildlife, though some participants have noted a decline in more recent years. In the context of traditional use, it is important to note that a sufficiency of resources is required to sustain cultural practices and knowledge associated with the hunting of marine mammals.

> *Yeah, they would go, summertime they would go just about anywhere, there were seals everywhere [in Ikpikitturjuaq], and my little brother used to wait by the shore in our camp and when a seal pops up close enough he would shoot it … Yup and he caught a beluga right from the [eastern] shore one time, too. My father was so proud of him.* (I20, 28-May-19)

> *So he and his sons went out on a canoe [in Ikpikitturjuaq], one time in the '70s … they saw some walrus and things like that. But then he himself saw something that he's never ever seen before … And it was the polar bear. There are two kinds of polar bears … ones that never go on the land, because they're so big. And the ones that roam around the land and the ice. But the one that he saw in the summertime, swimming … bear means 'the one that never gets on the land'. And they're just in the – like polynyas and so on … they just stay in the ice area. So he told his sons … because they'd never seen such a big polar bear … They are very, very large polar bears… they just stay out …on the ice, those great big ones … it was a … male and female polar bear that they saw … They were swimming because it was such a clear – no waves at all.* (H09, 24-May-19, interpreted from Inuktitut)

While Ikpikitturjuaq was identified as an area of particular value for hunting marine animals, Study participants also indicated that they utilize the whole of Foxe Basin for marine hunting. Specifically, they described the islands south of Ikpikitturjuaq, such as the Manning Islands and Kapuiviit, as long-standing areas of importance for hunting valued species such as seals, beluga whales, walrus, bowhead whales, and polar bears.

> *And they actually hunt belugas. The – the routing of the belugas were very close to Hall Beach for long period of time, and now they're more closer to Manning Islands and their route has changed. Maybe because possible shallower waters or noise pollutions from outboards ... Bowheads use this route more now.* (H06, 23-May-19, interpreted from Inuktitut)

> *Since then when they were living in Kapuiviit, he, he doesn't remember too well, but growing up in that area, they hunted everything that they saw. They actually hunted caribou, seals, the types of seals: harped seal, ringed seal, bearded seal, and walrus, mainly walrus, beluga, polar bears, and even … the bowhead just before they were restricted not to hunt bowheads and they actually got a bowhead whale in that area at Qaiqsut down at the point.* (I10, 27-May-19, interpreted from Inuktitut)

During his childhood, belugas would be in from this side [near Kapuivit] and go up following this coast and then go down on this side, and there would be a lot of belugas going back and forth and they would continue going up and then go back down, and some other times when they do come back they'd go up again … that would be the route of the beluga and that would be in the month of August and in that time when he was a child in the month of August would be the warmest month and today it has changed, and he does not know whether they would still go through that area but in the spring when they're hunting for silver jars, they would be hunting silver jars in this channel and also in this side, and that's where they would hunt for silver jars in the spring. And he hasn't been hunting in that area since his childhood but his younger brother Solomon invited him to go there this spring to hunt silver jars so he's looking forward to it, and he knows, he thinks it has changed very rapidly... (H12, 24-May-19, interpreted from Inuktitut)

He doesn't remember exactly what they were hunting here because he was too small. He was a baby there and he remembers things when they were at Kapuiviit. When they were at Kapuiviit, he knows that they were actually walrus hunters and they hunted walrus in this area. And that's the main thing that he remembers, and he remembered one time when the, the parents or they were going hungry. And he remembered the time when his mother actually cooking something and when he went over to see what she was cooking, it turned out they had nothing to eat other than walrus hide and she was actually cooking walrus hide and – because they were very hungry. (I18, 28-May-19, interpreted from Inuktitut)

…that area [Ikpikitturjuaq] is extremely rich with land mammals and sea mammals and the only sea mammal that we don't have in the Steensby in that area is narwhal. And we have lot of walrus in that area. Walrus, seal, ringed seal, harped seal, bearded seal and very rich in fish. (I01, 22-May-19)

Study participants also identified preferred harvesting areas for certain species. For example, Ikpikitturjuaq was described as being a particularly good area for hunting the preferred silver jar seals, primarily in the spring and summer months.

And from here, every spring they would spend their time – they would have their spring camp here. And during that time, they would hunt silver jars mainly in this area, and also, they would continue on going into the Steensby Inlet area, and that's exactly where they would hunt their silver jars. The silver jars are – are baby seals that have lost their white fur or coat, and their coat have turned into adult coats. Then they would spend their spring in that area. And every July, they would move back to their original winter camp. (I13, 28-May-19, interpreted from Inuktitut)

When they moved to this island [Qaiqsut] known as [Calthorpe Islands] … they would – they moved there when they finished hunting, silver jar hunting. When they completed the silver jar hunting, they would move to this island and all summer, they would spend their time there and do a great deal of walrus hunting from this island. (I12, 27-May-19, interpreted from Inuktitut)

Within Foxe Basin, Study participants identified Steensby Inlet, Rowley Island and Manning Island in the north and Spicer Islands in the south as important walrus harvesting areas due to the abundance of walrus in these locations.

> *[O]kay, whenever we're too full of caribou, there's seals, and sometimes, we get walrus out here too, along this coast [Steensby]. Good walrus spot. We used to catch walrus once in a while around this area … And, I know there's lots of walrus going in between these islands [three islands north of Maneetok Island].* (I25, 29-May-19)

> *And every summer when the ice is free of ice, they hunted walrus closest to Rowley Island, Manning island, and they would then hunt it in that area. Mainly walrus…* (I26, 29-May-19, interpreted from Inuktitut)

> *The walrus the he had seen, there were so many of them starting from this island, all the way to Manning Island. Close to Manning Island. That's what he thinks – there was a huge concentration of walrus. (*I22, 29-May-19, interpreted from Inuktitut)

> *When he was a child, the hunters would go out in the dead of winter, whenever the weather's perfect, when they – fast ice is met by new ice that has been formed, they would then hunt walrus where he pointed it out in this region [near Rowley Island] … Yeah, when the new ice formed in that area. But it would break up again, and while it was forming they would hunt walrus there. (*I26, 29-May-19, interpreted from Inuktitut)

> *...sometimes there's lots of ice around there [Spicer Islands] and you can get there in July. There's a lot of moving ice that it's hard to get to, even in the summer time in that area … You will also find dead walrus where they're all together all on top of one another, but if they see a polar bear they will all rush out to go in the water and escaping the polar bear, so they go over the other walruses and sometimes they get smushed.* (H07, 23-May-19, interpreted from Inuktitut)

Study participants also revealed detailed information about the behavioural and migration patterns of whales in the Foxe Basin, including beluga, narwhal, and bowhead whales. Study participants described these patterns as seasonal. Participants noted how whales typically migrate through the Foxe Basin in the spring and fall, moving between their preferred habitat areas. Having an intimate knowledge of whale migration patterns is essential for Inuit whale hunting.

> *As for the belugas, there's a large abundance of belugas on this side [east Side of Foxe Basin]. And also that when the belugas are migrating, they go through there. But most importantly or interestingly enough, along here, going up and then going this way, there seems to be a large and deep, very deep crack in the ocean floor. Either side will be green, and either side of that crack, the dark crack, it will be green. And the reason is it's much shallower. The belugas would use the crack and follow the crack and migrate to this*

> *side … And so the – how the belugas were actually migrating every spring.* (H08, 23-May-19)

> *From the month of September to October … belugas would be going back and forth in this region, along the shore here. And when they're actually visible, they would hunt the belugas.* (I13, 28-May-19, interpreted from Inuktitut)

> *There were narwhals that would come across where they live, and then they would catch them. And – and there were also belugas but there weren't as many ... They would come across where they live along the shore in the fall.* (I05, 27-May-19, interpreted from Inuktitut)

> *Plus, in that area - [Between Pingiqqalik and North Ooglit Islands] … between those islands and the mainland, what I noticed between here, around there … there was - one of my relatives passed away, I had to bring people by boat back and forth. Every day I would see about 50 or 60 bowhead whales feeding, maybe mating - I don't know - but in that area.* (I22, 29-May-19)

> *In the fall, the belugas will come around from here up to here [South Spicer Island to Fury and Hecla Strait]. Some narwhals would come about every once in a while … There's more belugas than narwhals.* (I23, 29-May-19, interpreted from Inuktitut)

When whales would pass nearby during their migration, it was described as an exciting time. As one interview participant explained, although they were too young to participate in whale hunts and travelling with the hunting party, they would eagerly await the arrival of whales, listening and watching for them from the shore.

> *Because the way he was trained by his father about the whales, every spring and summer, he would wake up early in the morning when the sun was just about to come up during the [dawn]. That would be between 2 and 3 in the morning. And every morning he would go out. And when he moved to Igloolik, he has hardly any sleep during those times because he's automatically thinking that he should go down to the beach and listen. And when there's whales close by, he has hardly any sleep.* (I22, 29-May-19, interpreted from Inuktitut)

> *I even remember summertime, fall time maybe. Lunch hour – everybody running down to the beach for narwhal hunting at lunchtime. I was about eight or nine at the time, running on the shore with rocks. Throw them over the whale and the whale would get closer to the land. Throw rocks and they'd get closer and closer. I remember doing that quite often. Because I was too young to join on the boat. So handful of us kids, we'd run on the shore and throw rocks to get them closer, and it would work, them getting closer. (*I22, 29-May-19)

As the preceding quote indicates, like most marine hunting, whale hunting is a communal activity. In this same spirit, the act of sharing seal, walrus and other

harvested marine mammals with one's family and community is a core value for many Igloolik and Hall Beach community members. Study participants described learning this cultural protocol from a young age.

> *The – quite some time ago, an elder, an elderly woman had told her that your, your boys will be growing up and whatever, whenever they got their first catch, always share them and never on the first catch of animals that they've got, do not cache them or have them for yourselves for later use. Whenever they catch an animal for the first time, that's all of that animal should be distributed and shared and she – an elder woman had told her that and all of her children, especially the boys, whenever they got their first animal, she would always share them and the second elder one [personal name] the one that you interviewed, whenever he caught a seal, they – she really likes them and they're usually very delicious and maybe because of the old lady had said to share the first catch and maybe for that reason, she really like the seals that he caught.* (I21, 28-May-19, interpreted from Inuktitut)

> *I'll probably keep hunting until I die around this area. So - plus my kids, they learn they know I hunt all year around, I catch about 150 seals per year, just to give out meat for the hungry people and the elders.* (I22, 29-May-19)

The data above reveal the centrality of marine hunting to the Inuit way of life in Igloolik and Hall Beach. Marine hunting continues to be of considerable importance to Study participants.

4.2.3 Project Interactions

Study participants expressed many concerns about the potential for impacts on Marine Hunting as a result of the Project. Key concerns include displacement of marine mammals due to acoustic and physical disturbances; decreased abundance of valued species in preferred hunting areas; effects on the quality of marine mammals due to contaminants (e.g., dust); effects on the experience of being in preferred areas (e.g., acoustic disturbances, increased traffic); decreased use and loss of use due to the above; and related impacts on food security, knowledge transmission, and cultural continuity.

A primary concern for many Study participants is the potential for disturbance to marine mammals due to an increase in stressors related to Project construction and operations. Specifically, there are fears that the Southern Railway and Southern Shipping Route will cause mammals such as walrus, seals, polar bears, and whales to move out of the Ikpikitturjuaq area. As highlighted in Section 4.2.2, the Ikpikitturjuaq area is a preferred marine hunting area with an abundance of numerous high value species. Accordingly, any impacts to these populations will directly affect Marine Hunting.

> *My question was, thinking for yourself, not the future, not the youth, but you yourself, how do you feel about the routing of the mine, about the rail and this shipping route? ... and [his] answer is, "I'm more concerned about the*

> *sea mammals. Because they will be disturbed. The hunters will be — there'll be definitely less sea mammals to hunt." And also that the sea mammals — the biggest question that he has about the sea mammals is, where would they go from there when there's so much activity in the route. And he's worried about the sea mammals. And also the [polar] bears. Sea mammals meaning whales, seals, and walruses. And if there's so much activity in this route, where would they go from there, and will we have less sea mammals. And he thinks we definitely will have less sea mammals, and what's going to happen? And that's his biggest concern.* (H02, 24-May-19, interpreted from Inuktitut)

Throughout the interviews, Study participants voiced concerns about the effects of acoustic disturbances from development activity in Foxe Basin and Ikpikitturjuaq. The quotes below detail community members' apprehensions regarding the compounded effects of increased sound pollution from shipping traffic moving through these areas should the Southern Shipping Route be developed.

> *He feels that the walrus will also be affected from the shipping route. Because they can hear the ice crushing if [ships are] going through. If they're going through the ice. (*H05, 23-May-19, interpreted from Inuktitut)

> *Say that the ship is here, going up through the ice, and if there's a sonar system at the – because if there's a recording like a sonar recording happening here, they – you could hear the propellers touching the ice and how loud it is. Can you imagine the noise that will be created with more than one ship happening? Okay, like May, in the spring he seen when the ships are going through the ice, from the movement of the engine and the propellers, the seals would quickly go on top of the, the ice and then because of the movement of the ice when they're going through and then the seals would come up. He knows that for sure from experience in Nanisivik when the ship would go through, the, the, the sound up there and you could tell that the seals were so afraid that they would just go wherever they're facing. They would be really trying to get away...* (I08, 26-May-19)

> *…but now we're discovering the biggest danger and impact is the dust and noise pollution. And Pond Inlet is hardly getting any – for centuries, they've been getting narwhals no problem. But for the past two years, hardly any – and hardly any narwhals coming in because of noise pollution … It's because of the noise pollution. Too many – too many huge ships and it must be very deafening in the ocean and [a] good number of the whales are now beaching because of that, of noise pollution...* (I01, 22-May-19)

One Study participant also commented that increased acoustic disturbances may make it more difficult to process walrus directly on the land, which is a key component of walrus hunting due to their large size. This potential impact was attributed to safety concerns related to increased walrus aggression as a result of acoustic disturbances:

> *…He's afraid that the noise of the ships will disturb the walrus. Once they're disturbed then they become aggressive and it will be harder to be safe when*

> *they're butchering the walrus, so that's his concern…* (H07, 23-May-19, interpreted from Inuktitut)

Past Project-related development activities in the Ikpikitturjuaq area have already been observed to affect sea mammal populations. For example, one community member described observing walruses migrating away from the area during Project exploration work. Another identified the decrease in abundance of marine mammals in the Igloolik area as a prime example of how increased noise from development can result in population declines in valued species when combined with other factors such as overuse.

> *About eight years ago when they started exploring the marine ... when they started surveying marine mammals … that's when I stopped going there [Ikpikitturjuaq] because there was, like all the, there is walrus all around this coast here. When they started surveying the marine mammals, all the walrus moved over here [eastern shore of Foxe Basin]…* (I25, 29-May-19)

> *And any animal don't like the noise of any kind. A strange noise of any kind and Igloolik is a prime example. There used to be a lot of sea mammals around Igloolik Island and there's hardly any now. The odd seals would come into the bay and walrus hardly ever comes in. So, there's seals behind the island of Igloolik like for instance in this area. Lot of seals and in this area as well. And whales normally come through here. Belugas and along here and then spend time along here and now as soon as everyone sees them, yeah, we're after them. So, it is – the elder had said we have actually killed the island mainly because it's over, over used and the community had been established and before Inuit were so nomadic they would move around so much.* (I01, 22-May-19)

Still another participant mentioned that it is precisely because the Ikpikitturjuaq area is highly valued for its abundance that Igloolik and Hall Beach residents have fought to protect the area in the past. This again speaks to the importance of Ikpikitturjuaq, which in turn highlights the urgency of residents' concerns respecting this area.

> *At that time, it was abundant with all kinds of animals: caribou, whale ... Belugas, narwhals, fish ... It was because this whole area is so abundant in animals that when they were dealing with the Steensby Inlet that, at first, people were trying to protect that because there was so much animals.* (I11, 27-May-19, interpreted from Inuktitut)

It is also important to recognize that impacts from the Project will take place in addition to changes that interview participants are already experiencing. For example, one participant noted that there is a trend towards less sea ice forming in the northern part of Foxe Basin, which is resulting in walruses congregating in large numbers on islands in that area. They suggested that if icebreaking occurs along the shipping route, the rate of sea ice melting is likely to increase. This in turn will accelerate the spring ice break-up, resulting in a loss of walrus habitat and fewer walrus available for harvesting in that area:

> *Yeah. For the past few years, these ice – haven't had any ice for a few years now, so they [walruses] all be moving to islands … if the icebreaker come through, this area will be breaking up earlier, and it will melt faster if the ice is breaked by an icebreaker… (*H08, 23-May-19)

In the context of the above impacts it is worth noting that when there are fewer animals available to hunt in preferred areas, loss of use can take place because community members may stop hunting in these areas. In some cases, hunters may find new places with abundant species, while in others, hunters may be deterred from hunting as frequently or even altogether (for example, if places where target species are abundant are more difficult and/or expensive to access). Loss of access to preferred hunting areas can result in an interruption in knowledge transmission as the knowledge associated with once-valued sites no longer gets passed down due to lack of use transmitted (see Section 4.6.3 for further information on potential Project impacts to knowledge transmission). Related impacts may include a reduction in sharing practices associated with hunting and decreased food security more generally.

In addition to acoustic disturbances and the possibility of animals moving away from the Ikpikitturjuaq area, several Study participants raised concerns about contamination from rising dust levels due to Project activities. Specifically, there is concern that dust from Project activities in Ikpikitturjuaq and Foxe Basin will increasingly settle on the land, open water, and marine ice, which in turn could lead to contamination of shellfish beds. Study participants worry that this could lead to a corresponding impact on the quality of harvested marine mammal meat, particularly walrus. As the quote below highlights, this is of particular concern in the context of this Project because Ikpikitturjuaq is considered to be unique in part because residents believe it has better tasting marine mammals.

> *But up here, there is no reports about how the animals are being affected by the dust today. He feels that people in Igloolik are now saying, including himself, that before any development starts happening around there, that the, the ocean and the land and the lakes needs to be researched and studied first. And the mammals like walrus, narwhals, seals, seals, ringed seals, bearded seals. So, on – from the mammals that live in the ocean here [Ikpikitturjuaq], people from these area prefer the catch from that area because they, they prefer. So, the clams and the cod that are the food of the animals in the water are better quality than anywhere else. And the taste is not as strong.* (I08, 26-May-19)

Further to this last point, during verification meetings, a Study participant referenced the experience of Pond Inlet residents when speaking of his concerns regarding potential Project impacts in the Ikpikitturjuaq area. This participant suggested that Pond Inlet community members now have concerns about the health of marine mammals due to contamination from existing mining operations. He expressed concern with a similar outcome in Ikpikitturjuaq should the Steensby Port and Southern Shipping Route be developed.

Finally, it is important to note that noise, dust, and increased traffic can disrupt a harvester's enjoyment of harvesting activities in much the same way that these factors

disrupt marine mammals. As the quote below highlights, increased noise and traffic can deter people from continuing to travel to valued areas, which can contribute to loss of use:

> *Actually when Baffinland started their exploration, or the environmental assessment. When they started doing their environmental assessment. That is when I stopped going there because there was too much traffic. The walrus are all around this coast [northeastern coast of Ikpikitturjuaq].* (I25, 29-May-19)

In light of the proposed Project and its constituent components and activities, it is likely that there will be adverse effects on Study participants' Marine Hunting values in the Study Area. In particular, Igloolik and Hall Beach residents are concerned about Project effects on the abundance and quality of marine mammal populations in Ikpikitturjuaq, which is a preferred marine hunting area.

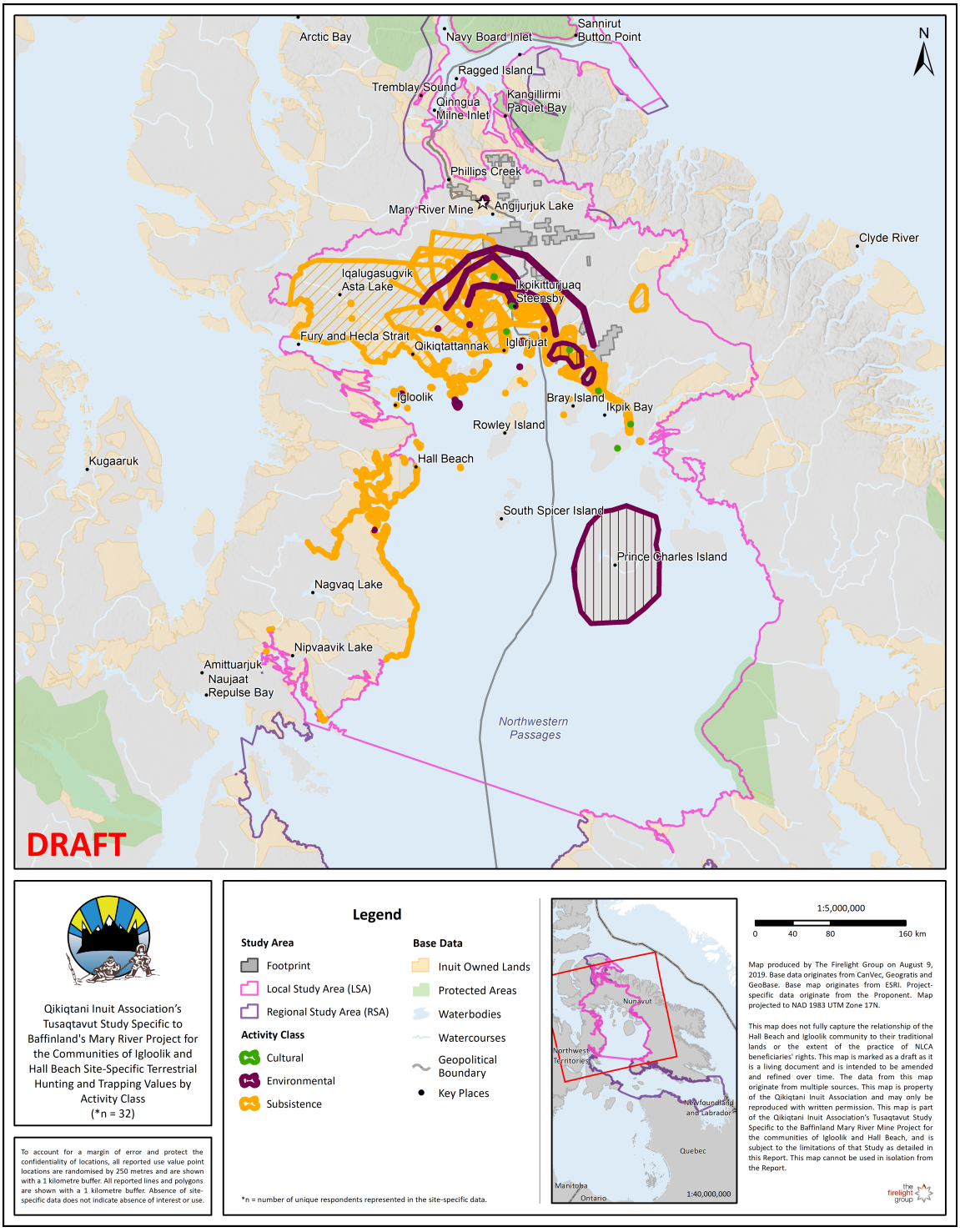

Figure 6: Study participants' reported site-specific Terrestrial Hunting and Trapping values in the Project Footprint, LSA, and RSA.

4.3 TERRESTRIAL HUNTING AND TRAPPING

Section 4.3 provides further details on Inuit-reported site-specific Terrestrial Hunting and Trapping values by activity class and location. This section also includes a discussion on the importance of Terrestrial Hunting and Trapping values, and where possible, the current impacted baseline conditions and change trends. The qualitative data provides additional crucial context for the interpretation of the site-specific data.

4.3.1 Site-Specific Values

Table 3: Site-specific values for the Terrestrial Hunting and Trapping Valued Component reported within the Project Study Area, by Activity Class.

Activity Class	Footprint, including 250 metre buffer	Within the Local Study Area (LSA)	Within the Regional Study Area (RSA)
	# of reported values	# of reported values	# of reported values
Environmental	7	19	19
Subsistence	21	174	174
Cultural	2	9	9
Impacted	0	1	1
Total	**30**	**203**	**203**

Description of documented Terrestrial Hunting and Trapping Values

The following Terrestrial Hunting and Trapping values were documented in the Project Study Area, organized by Activity Class:

- **Environmental** values including: caribou habitat, including caribou calving areas and caribou migration routes; areas where caribou have been seen; valued wolf habitat; a denning area for foxes; valued bird habitat; and areas where wolf, fox, caribou and polar bear have been seen;

- **Subsistence** values including: hunting areas and kill sites for various species, including caribou, fox, eider, goose, snow goose, muskox, ptarmigan, rabbit, and wolf; and sites where eggs are collected;

- **Cultural** values including**:** sites where caribou meat is processed; a number of caribou meat caches; and sites where caribou were butchered; and

- **Impacted** values including**:** an area where a participant has noticed a decline in caribou population.

Geographic Distribution of Recorded Terrestrial Hunting and Trapping Values

Terrestrial Hunting and Trapping Values are found on Baffin Island, both on the eastern and western shores of Ikpikitturjuaq. On Baffin Island, Terrestrial Hunting and Trapping sites are primarily located along the eastern shores of Foxe Basin, south towards Ikpik Bay. Terrestrial Hunting and Trapping values were also mapped inland near Angijurjuk lake and towards Mary River.

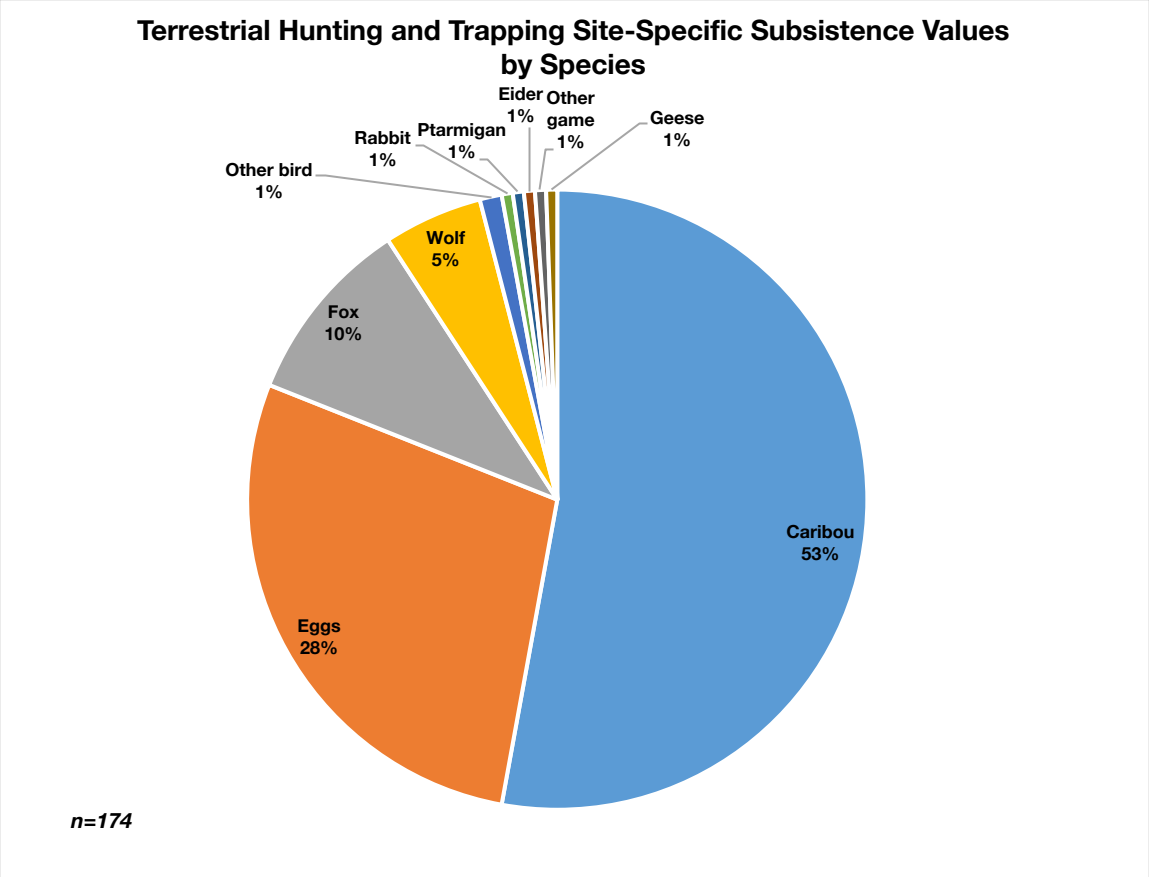

Figure 7: Study participants' reported subsistence Terrestrial Hunting and Trapping site-specific Subsistence values by species type in the Project Study Area; n = 174.

4.3.2 Importance

For the communities of Igloolik and Hall Beach, hunting and trapping on the land (as opposed to in the marine environment, discussed in Section 4.2) are also important for subsistence and cultural continuity. Igloolik and Hall Beach members harvest a range of species (see Figure 7), with caribou being the most frequent target of hunting expeditions. Community members also seek out fowl and their eggs, as well as

furbearing animals such as rabbits, foxes, and wolves. This section of the Report details the cultural importance of hunting and harvesting activities related to these aforementioned species for the Igloolik and Hall Beach communities, and in particular as they relate to the Project.

Illustrating the centrality of caribou to the Study participants' way of life, Study participants frequently recounted memories and stories of past caribou hunts from childhood. Interviewees remembered growing up learning about caribou and hunting them with family.

> *As a child he remembered this is the area they actually hunted caribou, and also, he remembered that his grandfather took him inland in this area, and spent time in this area during the summer… (*I22, 29-May-19, interpreted from Inuktitut)

> *And one time they spent a night approximately in this region on this side of this lake and he remembered that they actually got caribou, some caribous in here and that's where he got his first caribou.* (I18, 28-May-19, interpreted from Inuktitut)

> *And here, he remembered he got his first caribou here, and it's quite interesting the way he told it, is because just before he got his first caribou, his father was telling him, showing him how to hunt the – how to stalk the caribou. And he was actually stalking it, and he tried his best to follow his father's instructions. And when he shot the caribou, it was a big bull, with a lot of fat in it. And he was very, very proud, and he immediately went back to his father. Rather than being praised, he was scolded. And the reason why he was scolded was because he – he did something very wrong. And he'd forgotten that you're actually stalking the caribou, and you've forgotten one thing that I told, and you should have done it. And that is, whenever the caribou is looking at you, you should stop and do nothing. And when it turns away, that's when you should shoot it. And he didn't do that. And for that reason, he got scolded.* (I22, 29-May-19, interpreted from Inuktitut)

> *[near Hall Beach] Yeah, I used go here to caribou hunting, I was little boy … by skidoo I hang around lots of time with the – looking for caribou, this area. I was little boy, I was teenager … Yeah, I was little boy, used to lots of caribou, right now it's gone, now I'm getting older, they getting back now.* (H06, 23-May-19)

The amount of caribou sought and obtained by Igloolik and Hall Beach community members further illuminate their importance as a resource. Interviewees described hunting tens to hundreds of caribou, including, in one instance, directly adjacent to the proposed southern port facility, as seen in the quote immediately below.

> *There were caribou everywhere! Everywhere. One fall after the lake ice froze up, a whole herd just passed by and all the man were getting ready to go out and they got their dogs and qamotiq ready and just as he went out and he started shooting around and all kind of caribou started running everywhere*

> *and all the hunters started shooting everywhere, that was scary, and they must have caught about, I don't know, a hundred, hundred-fifty more. It took them about four or five days to clean all the animals.* (I20, 28-May-19)

> *There were couple big bulls. We go here and ... Oh, maybe we took home at least 10 caribous from there. Then wintertime, we travel from here, passed through this, passed and then we walk here.* (I19, 28-May-19)

> *They tried to get as many caribou as possible during that summer and during the fall, the wind comes and it becomes stormy. So, before that storm comes, they try to gather as many caribou as possible.* (I24, 29-May-19)

Despite the numbers of caribou that may be harvested during a hunt, Study participants emphasised conscious efforts to hunt responsibly. Interviewees were explicitly disdainful of waste and also stressed that taking more than necessary was avoided. The existence of these norms further reveal the value of caribou to the Igloolik and Hall Beach communities.

> *The caribou would come very close. They came so close that you could easily throw a rock at them and they would come by and of course they would run away, but they tried their best not to get the caribou and that's when they started migrating and during the summer they did a lot of caribou hunting mainly for the skin and the meat as well and, and if they wanted to, they could easily overkill, but they never overkill.* (I10, 27-May-19, interpreted from Inuktitut)

> *And you would never leave any part of the animal, every bit of the animal is used. If you happen to leave a piece of the animal behind then you are a wasteful hunter… (*I16, 28-May-19, interpreted from Inuktitut)

Caribou hunting is a year-round activity, although much of it occurs in the summer season. However, locations used and targeted for caribou hunting will change with the seasons and the location of the caribou herds in their migration.

> *And now we go further south and hunted caribou since 2015, all the way up here along here along this coast during for the summer and during the winter in this area and this area and this area and this area. And also along this area here and those are winter hunting grounds for caribou ... And year-round we get caribou in this area here.* (I01, 22-May-19)

Caribou are a highly mobile species that can be widely dispersed on the landscape, a consequence of which is Igloolik and Hall Beach hunters having to travel long distances and stay on the land for long durations. Study participants recalled hunters staying out on the land for months at a time to hunt caribou (see Section 4.5).

> *August, September they go caribou hunting to [Parry Bay] ... That's where they collect water. There's a small river there, Ooglit Island. For caribou hunting. They go there in August, September by canoe to hunt caribou. and*

> *then they'll take their Honda with us on the boat and then they can travel on the land.* (H07, 23-May-19, interpreted from Inuktitut)

> *And all across here he would hunt caribou down to Sarcpa Lake … going down and this is the area that he had spent a great – a great deal of time hunting caribou, both in the summer and winter [central and northern Alarnaarjuk]. Because in the summer he actually hunted along the shorelines and also going further south [north and east coast of Alarnaarjuk].* (I18, 28-May-19, interpreted from Inuktut)

> *They would roam all around in the summer by boat, and up, for caribou.* (I05, 27-May-19, interpreted from Inuktitut)

The practice of caching caribou meat underscores its importance for food security. Despite caribou hunting being a year-round activity, numerous Study participants described the history of caching caribou particularly to be retrieved in the winter months, indicating that hunting success and the availability are not assured.

> *[Ipiutik Lake] And that's where they would cache their caribous, around that area. And in the winter time they would then go and get them by dog team from Kapuivik … Yeah, just caribou hunting … He was a child, couldn't put caribou on the back because he was too young and he had a .22 rifle with him...* (I26, 29-May-19, interpreted from Inuktitut)

> *On this lake they cut up ice into cubes and they were quite high, and they made a thing [caribou meat cache] there and covered it just so that no dog can go in there. It was all frozen and when the Christmas time came they tried bringing a lot of it [caribou meat] back here to Igloolik for my grandparents and everybody.* (I20, 28-May-19)

> *And then they would go caribou hunting in that area. They would caribou hunt here. They would cache the meat of the caribou, because those days there weren't any polar bears so they were able to catch anywhere they wanted and they were also caching the walrus meat as they move.* (I15, 28-May-19, interpreted from Inuktitut)

> *They would cache the caribou and the reason for hunting caribou in that region, region was because mainly for clothing and also sleeping mats, but most importantly, to cache for the winter. And every May, every spring in May they would retrieve these caches and the elders really liked the meat, aged meat. And they would retrieve them in the month of May.* (I24, 29-May-19)

It can be observed from the Study interviews that caribou hunting is a principal cultural activity that is, moreover, intertwined with many other aspects of Igloolik and Hall Beach lifeways, such as, travelling, camping, heritage, and connection with place.

> *For the past 10 years now I've been concentrating on caribou hunting, which I used to do a lot of marine hunting before that and I got interested in the caribou and also the landscapes and also recognizing a lot of the place names, the features of the place names. When we did the oral history project and where they had actually walked and they start walking in the spring and spent the summer there inland and in the fall they would start going back to the campsite and they would bring back skins for winter clothing and also, and also fresh caribou meat. And there would be a huge abundant of caribou in this area [Alanajuk Lake]...* (I01, 22-May-19)

> *They would also hunted caribou during the summer in Iqi where they hunted caribou before at Iqi ... She doesn't know exactly where they are, but every time they tell their stories about their hunting caribou during the summer, they would often – she would often hear the placenames.* (I24, 29-May-19)

The Study participants detailed how they utilise a combination of dog teams, boats, skidoos, and travel on foot to reach caribou hunting grounds that may be hundreds of kilometres from home (also see Section 4.5). Such travel is necessary to find caribou herds in different seasons and years, making access to (and across) the ice, water, and land crucial for caribou hunting.

> *When this – this lake was – had ice, the ice had formed, so by dog team they went through here ... when they got to this side at the river, on the other side of the river, there were lots of caribou and they couldn't cross the river because it was still flowing and the river was flowing, and so they continued going down onto the ice ... and they were able to cross the – the ice onto the other side of the river.* (I12, 27-May-19, interpreted from Inuktitut)

> *They would hunt caribou, there's a big lake, around there is where they hunt caribou on the Baffin Island side by dog team and they would stay inland pretty much.* (I16, 28-May-19, interpreted from Inuktitut)

> *Every time they came back from the caribou hunt during the summer and once they get to Kapuiviit, then they're divided. A boat would bring his family, her family to that camp and they would spend the rest of summer at Nirliviktuuq.* (I24, 29-May-19)

> *Yes, good caribou. And they're usually mixed too, like females and males. Usually more males here, around here and there. All used to be really fat ones too [Kapuiviit Island] ... Here, this area [Ikpikitturjuaq]. This is where my grandparents, great-grandparents lived. This whole area, good for caribou, bull caribou and that's why, where I used to walk for caribou.* (I25, 29-May-19)

Study participants emphasised how caribou are always on the move in their migration patterns, further highlighting the need for both Igloolik and Hall Beach hunters and the animals they harvest to travel freely across the landscape. For instance, one quote below discusses the 50-year caribou migration cycle, while another discusses the decreasing and increasing abundance of caribou along Ikpik Bay, across Foxe Basin from the communities.

> *His grandparents would say caribou return in one lifetime. Like they migrate back in one lifetime, span. Which is 50 something years.* (I25, 29-May-19, interpreted from Inuktitut)

> *We hunted caribou all along here. All along this coast up Ikpik Bay and those we would go there every summer to hunt caribou and we no longer do that, but if we do, we have – we're limited to 10 caribous for the community of Igloolik. So, 10 maybe 5 – no, 10 or 12 yeah 12 caribous per summer or per year...For the whole community of Igloolik, so maybe 5-6 lucky hunters would go there and hunt in this area. And caribou had been abundant most of the time until quite recently. I'd say about 2014, 15 and to date there's now coming back. So, people every summer we would go in these areas for caribous.* (I01, 22-May-19)

Caribou hunting grounds are located in close proximity to the Project, including by the proposed southern marine terminal and along the shores of Ikpikitturjuaq near to the proposed southern shipping route.

> *Once in the full moon, we crossed the river. Yeah, once in the full moon, we crossed the river to go look for caribou hunting [at Tulugalik, near southern port].* (I19, 28-May-19)

> *Even after they – they were living in Igloolik, they would travel to those areas [Ikpikitturjuaq] over here and up here to hunt caribou, because there was abundance of caribou in those areas.* (I05, 27-May-19, interpreted from Inuktitut)

> *There's, there's some few old sites all around [the shores of Ikpikitturjuaq] where Igloolik people would go up and to travel by walking up to because this was a caribou-breeding ground.* (I17, 28-May-19)

> *In that area, it — Steensby Inlet area, there'd be few but not many, but in the fall the caribou would start migrating towards that area, and there would be lot of caribou in that area.* (I12, 27-May-19, interpreted from Inuktitut)

An important consideration is that for many Study participants, the caribou that can be obtained on Baffin Island are preferred to those found on the mainland. Some Study participants differentiate the caribou populations from these two locations based on taste, colour, size, and behaviour, and are willing to travel further distances to obtain Baffin Island caribou especially for their taste.

> *They caught three, by Steensby Inlet. They caught three caribou ... August 2018. He prefers to travel there and hunt caribou in August, because they're nice and fat ... He wants to come back in the area where he hasn't been through, because he wants see it before it starts to get destroyed.* (I15, 28-May-19, interpreted from Inuktitut)

> *Very much so, yeah. And the caribou are tastier in that area than in where because it's a part of Baffin Island. They're much better caribou. When they say it's better caribou it means that they're fatter. Yeah, there's a difference ... There's, the caribou fat is very important to people and that's the difference in this Baffin Island area. The caribou fat is much dense, where in Igloolik, Hall Beach area because they're closer to the, to the ocean, the caribou is not as dense and it's softer. And the caribou around here on Baffin Island side, they don't run away from you as quickly as they do on this area. And they're not as big caribou in this area than they are here. Over on, in this area there are bigger and darker and fur.* (I02, 25-May-19, interpreted from Inuktitut)

> *They can't quite get used to the taste of the caribou they get around here, because they prefer the Baffin Island caribou.* (I09, 27-May-19, interpreted from Inuktitut)

While it is clear that an abundance of effort and time are spent hunting caribou, they are not the only terrestrial species sought and harvested by the Study participants. Trapping for foxes is also an important land use activity, including in areas close to the Mary River mine's southern developments.

> *When they had one child with another young couple, the two couples went up to [Steensby] and they did, they trapped foxes for the winter ... they also went to Tulugalik ... From November to February they actually, they fox trapping.* (I24, 29-May-19*)*

> *For trapping, fox trapping, he actually did trapping with his father and they had the trapline all along here [Southwest of Hall Beach], down to this area, covering this region here. And that's where they had their traplines, and by dog team. And during that time, they did actually have a lot of caribou in this region, all around Hall Lake, and that's where they actually did their caribou hunting and where they got the caribou.* (H06, 23-May-19, interpreted from Inuktitut)

> *Close to the big river, she and her friend would walk and check their traps to see if they had caught foxes. There was a lot of rabbits where they were. Yeah, in that. Further out towards the big river where they would walk and check their traps for fox, foxes. They would get their rabbits where they are, but the foxes were a little bit further up*. (I02, 25-May-19, interpreted from Inuktitut)

Fox furs were also once relied upon to generate income to support livelihoods and facilitate access to the land, for instance, funding the purchase of boats and skidoos.

However, trapping may also be an activity pursued and valued in its own right, rather than for economic benefits.

> *They did some fishing on Hall Lake, and also, his father had some traplines pretty well all over - well close to Hall Beach. And with the foxes that he caught, he was able to purchase skidoos and also a canoe, over a period of time.* (I22, 29-May-19, interpreted from Inuktitut)

> *When his father passed on when he was 9, he didn't set any traps, but he thinks that if they had been there longer, if his father had been still alive, they would have trapped. But he and his younger brother were actually trapping by foot, and the reason was they were training themselves. They didn't need the money for the fox skins. They were actually training themselves to trap.* (I22, 29-May-19, interpreted from Inuktitut)

The Study participants also trap and hunt wolves for their pelts. The proceeding quote underscores the long history of wolf trapping, as a Study participant describes how wolf trapping was once accomplished using caribou bait and boulders.

> *But they landed on top of this hill, and this hill, it was sort of flat at the top, and around that area they found a large trap, boulders were made, flat rocks put either side and there was a large door that was – a big flat rock as a door, and underneath was a caribou leg bone, and at the end of the – the trap, they could see that they actual had put in some meat there, and if the meat is grabbed and pulled, this would be pulled out, and the slate of rock would go down and trap the wolf ... And it was a large wolf trap. And those were made during the time of whoever made those peeping holes and slates and so on. And these were used way before Europeans came in, the use of rifles or guns, but actually they were using harpoons and bow and arrows at that time.* (I12, 27-May-19, interpreted from Inuktitut)

Presently, wolves continue to be trapped and also hunted. Like many cultural land uses, wolf hunting and trapping may be done in combination with or alongside other traditional activities.

> *Oh yes, and springtime we go up here to this lake to do some ice fishing. There's a cabin here. Round here ... No we're ice fishing. We set up nets while we're waiting for the nets we would go caribou hunting or wolf, looking for wolf. I went there with my step-brother just to go wolf-hunting. And we caught two ... just for the skin … The fur, yeah ... We use it for trims. I never really sold any skin … I've caught five wolves in my life and never sold any of it...* (I20, 28-May-19)

> *So it was mainly fish, caribou, and once in a while they would catch wolves, because they were all over there. All over in that area.* (I05, 27-May-19, interpreted from Inuktut)

> *Him and his father would have traps, 'cause there are many many wolves in this area, so they would trap wolves, by trap.* (I05, 27-May-19, interpreted from Inuktut)

Fowl of various kinds, and their eggs, round out the terrestrial species targeted by Igloolik and Hall Beach hunters. Egg gathering appears to be an especially important and common activity among Study participants, many of whom recounted memories of harvesting eggs from numerous species including snow geese, arctic tern, ptarmigan, eider, old squaw, and loons.

> *Gather eggs of all the sea fowls, especially arctic terns on this little long island [Nuvuklit], and also arctic tern eggs in this peninsula, or point – long point.* (H12, 24-May-19, interpreted from Inuktitut)

> *We used to [collect eggs], any kind of eggs, eider, tern, geese, goose, seagull, and I don't know what you call the seabirds, they look like penguins, I don't know the English name for them … Pittiulaaq! … Yeah, these three islands and there were eider eggs there, too.* (I20, 28-May-19)

> *Old squaw, [long-tailed ducks] they [relatives] would walk in land for, to gather eggs. For tern eggs, snow geese, burnt geese, king eiders, and loons.* (H10, 24-May-19, interpreted from Inuktitut)

Study participants described camping and travelling to harvest eggs, particularly in the spring.

> *And when they're in their spring camp, they would gather eggs. From these islands ... They would be completely filled with sea fowl ... They would gather Arctic tern eggs, old squaw eggs, eider eggs ... Geese eggs, and loon eggs.* (I13, 28-May-19, interpreted from Inuktitut)

> *And when they had their camp here, the same spring when they actually hunted the Silver jars [adolescent ringed seals], they were also collected Eider and Old Squaw [long-tailed ducks] and Arctic tern eggs here.* (I12, 27-May-19, interpreted from Inuktitut)

> *Oh yes [we collected arctic tern eggs]! ... They are the best ... Well, we never collected eggs here but on this island, closer to Igloolik ... we would camp somewhere around here, spring time and then arctic terns would have eggs all over, around … Arctic terns would nest here on the bare, where there is no growth, rocks, and there would be eider ducks, goose, geese, everywhere else. Loons would have eggs everywhere else, but arctic terns they would be along here.* (I20, 28-May-19)

> *Siuraq, and they would gather eggs from that island and mostly arctic terns, loon, old squaw, and eiders … And one spring, he only remembered, only one time along that lead were eggs – eider eggs. And there were some eggs at the bottom of the water, ocean floor, and they could see eggs down there.*

> *There were so many eiders. Only once did he remember that that happened, and that would be the end of that*. (I26, 29-May-19, interpreted from Inuktitut)

Although most Study participants emphasised egg gathering as the principal activity relating to fowl, some individuals also described hunting for duck, geese, and ptarmigan. In one instance, an interviewee also detailed a practice of herding geese into rock enclosures, specifically during a period when geese are unable to fly. According to Study participants, fowl hunting usually occurred in the spring and summer.

> *And springtime we go for duck hunting, like geese, geese hunting, this area [Quarman Point] … Along this area. We used to camp here in the point, so I go walk up there by myself looking for geese, I was little boy.* (H06, 23-May-19)

> *They hunted caribou during the summer all along the shore of this lake – or, yeah, this huge lake. And during that time when they were in here, they hunted caribou. And also during that time, they also hunted ptarmigans.* (I13, 28-May-19, interpreted from Inuktitut)

> *And we go in here for caribou hunting, there is walrus here. And then sometimes we go in here camp in one of the bays. I once camped here. Caribou hunting, there is — Yeah [Inuktitut spoken] Cause I have heard, right here, right somewhere here there is a fence, not a fence but rock, piles of rock made into a fence. That they used to herd geese ... Certain time of the month they can't fly when they are changing feathers. They can't fly so they would herd them from here and slaughter them Noapiaptuq.* (I03, 26-May-19)

4.3.3 Project Interactions

One concern among Igloolik and Hall Beach community members is that the combination of the northern and southern rail with two ports on either side of North Baffin Island, would together disrupt and change caribou migration patterns on Baffin Island, with potential consequences for their ability to harvest caribou. Study participants worry that caribou may be unwilling to cross (or have difficulties with) railway lines.

> *When I was [employment position], we had this person come up from Churchill, Manitoba. Some kind of scientist who did some studies in Meladine River near Rankin, or that other mine. Gold mine near Baker Lake. He said – he showed us collared caribou would turn back, not even make it to their calving grounds. When they hit the road, they all turn back. The collared caribou, they all turned back, none of them made it where they used to. And so, that's – the same thing's going to happen with this if we draw a line of a road [sic], put it there, for sure, why don't I just say "ok, go ahead, make the line so that Arctic Bay will get only 10 too. So that Pond Inlet will only be allowed 10. Ok build it". That's if I would get kind of – to fight back. But me, I'm still on the right side of track. For the best of Igloolik, Pond Inlet, Arctic Bay, and they're catching their main meat. If you don't want to cut them off of stuff, don't make the railroad line.* (I22, 29-May-19)

> *I don't feel good about it [Project railways]. I don't like it, and I don't want it built, because I hunted a lot of all kinds of animals in this area, all around, I can see caribou migratory lines where it's about this deep. That's for caribou from thousands of years, I guess, from migrating and stuff.* (I22, 29-May-19)

While some participants expressed uncertainty with the potential for railways to physically impede caribou movement, it was noted that noise from railcar operations would potentially impact their movement. Rail noise would be in addition to noise from existing and increasing air, vehicle, and sea traffic.

> *And whether if this is going to be boundary for caribou because of the railroad. I am not sure. It is slow enough that they can cross it. But how many trains are going to go through there. If there is so many everyday, caribou are migrating right along the coast and they usually end up over here and they are used to migrating over here. So, if they stopped here and they stop coming here and if I want to use less gas, I wouldn't be able to use less gas to find caribou. But rather use more gas to find caribou because it is, there is a barrier. They could cross it, I know they could cross it, but caribou doesn't like noise.* (I25, 29-May-19)

Changes to caribou migration patterns also have the potential to increase the costs of accessing displaced animals, for example by increasing hunters' expenditure on gas, as mentioned above and in the following quote.

> *And, it got too expensive for me to go there with so many activities going on and not promising any caribou whether I would get it or not, cause there is air and sea traffic. That's when I sorta slowed down going there; about eight years ago*. (I25, 29-May-19)

The potential for caribou migration patterns to be impacted by altered magnetic fields caused by ore extraction was noted during verification meetings, with one participant noting their observation of such impacts in the Nanisivik area. The Project would also introduce shipping traffic that may create another barrier to caribou movement. As noted in the quote below, caribou will sometimes swim through the water to reach their destinations, routes that may be disrupted by vessel movements.

> *He feels for sure that caribou coming down from the south from in this area up will be blocked for crossing [by the railway]. Sometimes they go through, the swim through the waters. They can go that way and so, but he feels that, they, there will be a blockage around here ... He feels that he will be blocked himself trying to go past that. From this way, and the caribou from this way.* (H05, 23-May-19, interpreted from Inuktitut)

Study participants also stressed the existing impact of the caribou quota on Baffin Island that currently limits the community of Igloolik to 10 caribou per year. Phase 2 (alongside the reasonably foreseeable development of Phase 1) has the potential to exacerbate the effect of the quota, both by making it more difficult for Study participants to obtain the limited amount of caribou allowed, and potentially lengthening the duration of the quota's implementation by adversely impacting caribou numbers.

And, as previously described in Section 4.3.2, there is a preference among Study participants for Baffin Island caribou compared to mainland herds, based on a number of characteristics.

> *And I moved to Igloolik when they only go to Baffin Island for caribou hunting. They weren't even going to the mainland, and everybody seems to not like mainland for caribou. You'll get lost, or the caribou are too fast running away, all these stuff. They wouldn't like mainland at all, because everybody in Igloolik used to go here for caribou hunting. When that mine thing and explosions started coming in and jets flying in everyday, nowadays what are we given? Ten caribous per year for Igloolik.* (I22, 29-May-19)

> *The caribou up there are different from the caribou where like from here. And people from different places always prefer the caribou meat from this, that is caught from this area [Baffin Island].* (I08, 26-May-19, translated from Inuktut)

> *And so these are the two types of caribou. The caribou on Baffin Island are smaller, lighter in colour, the meat is lighter in colour and also the taste is not as strong as the one in from the mainland. The mainland caribou is the barren-ground caribou. It's much larger and also the meat is darker and the colour of the coat is much, much darker as well.* (I01, 22-May-19)

It is the expectation of some Study participants that the number of caribou in their former hunting grounds on Baffin Island will rebound, absent any further development or industrial disturbance, and that existing low numbers reflect normal caribou population fluctuations and movements. A number of interviewees stated their intent to return to Baffin Island to hunt caribou once the quota is lifted, including due to an attachment to the area (not only because of better caribou for eating).

> *They moved to Igloolik in 1964. They would still keep going back to the hunting grounds in that area [Ikpikitturjuaq and Bray Island] even when they were living in Igloolik. He really wants to go back to his former hunting grounds, but there's a quota for caribou now. But he wants to go back this summer in the area that he just came from.* (I15, 28-May-19, interpreted from Inuktitut)

> *Once the quota is lifted, I am comfortable that I will start hunting caribou over here again. And possibly around here. But mostly this area and this area, where there is good caribou hunts. Once the quota is lifted.* (I25, 29-May-19)

Increase in mining operations and ore transport both north and south would also collectively contribute to an increase in dust dispersal and real and perceived contamination of valued wildlife. Dust dispersion is of concern due to strong winds and existing observations of odd colourations on foxes and rabbits.

> *Where he was just pointing all the foxes and the rabbits are, are pink now. He uses the word red, but the fur is, is affected by the dust. He hasn't heard any information about what is happening there. This is a very windy area, so if they, the railroad goes ahead then they will be that much more affected by*

> *the dust [from the Tote Road]. There's a strong south wind, even some of the areas will be free of snow from the wind. And from the north wind then the same effect will happen down further as you go down towards the southern direction. When, when they're building the railroad, the dust from the earth won't be as bad as the other mineral dust because it's a part of the natural ground. When they're actually building the digging and building the railroad, but once the railroad starts to operate then the dust will start to spread to all that area.* (I08, 26-May-19, interpreted from Inuktitut)

> *One thing he is concerned and disturbed about is the fact that between Mary River and Milne Inlet he has seen foxes and rabbits that are pinks and him seeing pink foxes and rabbits like that it bothers him. He has asked the question whether if there's any other substance that might be in the colour. He was told that it's natural, that it's from the iron ore. But still, it's, because he's never seen them in that colour before it kind of disturbs him.* (H03, 23-May-19, interpreted from Inuktitut)

Concerns with the potential health impacts of hunters being directly exposed to airborne dust were expressed during verification meetings. There is also some apprehension that the dust may be internalised by nearby animals. The effects on the animals, and implications for human consumers, of this kind of contamination are not yet well understood.

> *His, the only concern that he would have is the dust from – yeah, the dust getting into the animals.* (I11, 27-May-19, interpreted from Inuktitut)

Bird populations, and therefore the eggs they provide to the Igloolik and Hall Beach communities, may also be affected by the Project. One Study participant referenced past experiences by elders of infrastructure disrupting seabirds. The potential for the Project to cause more severe effects than on their own cannot yet be discounted.

> *We don't know the impact it will have, but we can compare it with other communities that had been established and we could use those as an examples like the community of Igloolik. We actually had killed – the elders were saying to me that we had actually killed the island and it's no longer alive. Before buildings were built or erected in that area, we had huge abundance of seafowl. It would be a great place to gather eggs. A lot of eggs and if you go to Igloolik now, zoom right into Igloolik.* (I01, 22-May-19)

Finally, it is possible that development of the Project will facilitate future mineral exploration and extraction in the region, multiplying the existing and project effects on Igloolik and Hall Beach hunting and trapping activities.

> *And they know this area [Mary River area] very well. This is a calving ground. The whole area here is the calving ground for caribou and it's been done so for centuries. And every now and then, the one migration of the caribou is one human lifecycle. Equal to one human life cycle, so there will be a large abundant of caribou on one human life and then the next human life they would equal that amount of caribou. And in some place, cases there will be*

> *new caribou at all like now there's hardly any caribou. And, but in about 10-20 years from now, there will be a huge abundance of caribou in this area. And the expected, they deposit here to last a hundred years, which is now maybe another 80 years and that's one deposit. They also discovered nine other deposits or eight other deposits, so it could go on for centuries if the demand of iron is still needed.* (I01, 22-May-19)

During verification meetings, participants highlighted that any negative impacts to the ability of Inuit to successfully hunt terrestrial species would result in decreased food security and increased food cost for the communities of Hall Beach and Igloolik. In light of the proposed Project and its constituent components and activities, it is likely that the Project will interact with Study participants' Terrestrial Hunting values.

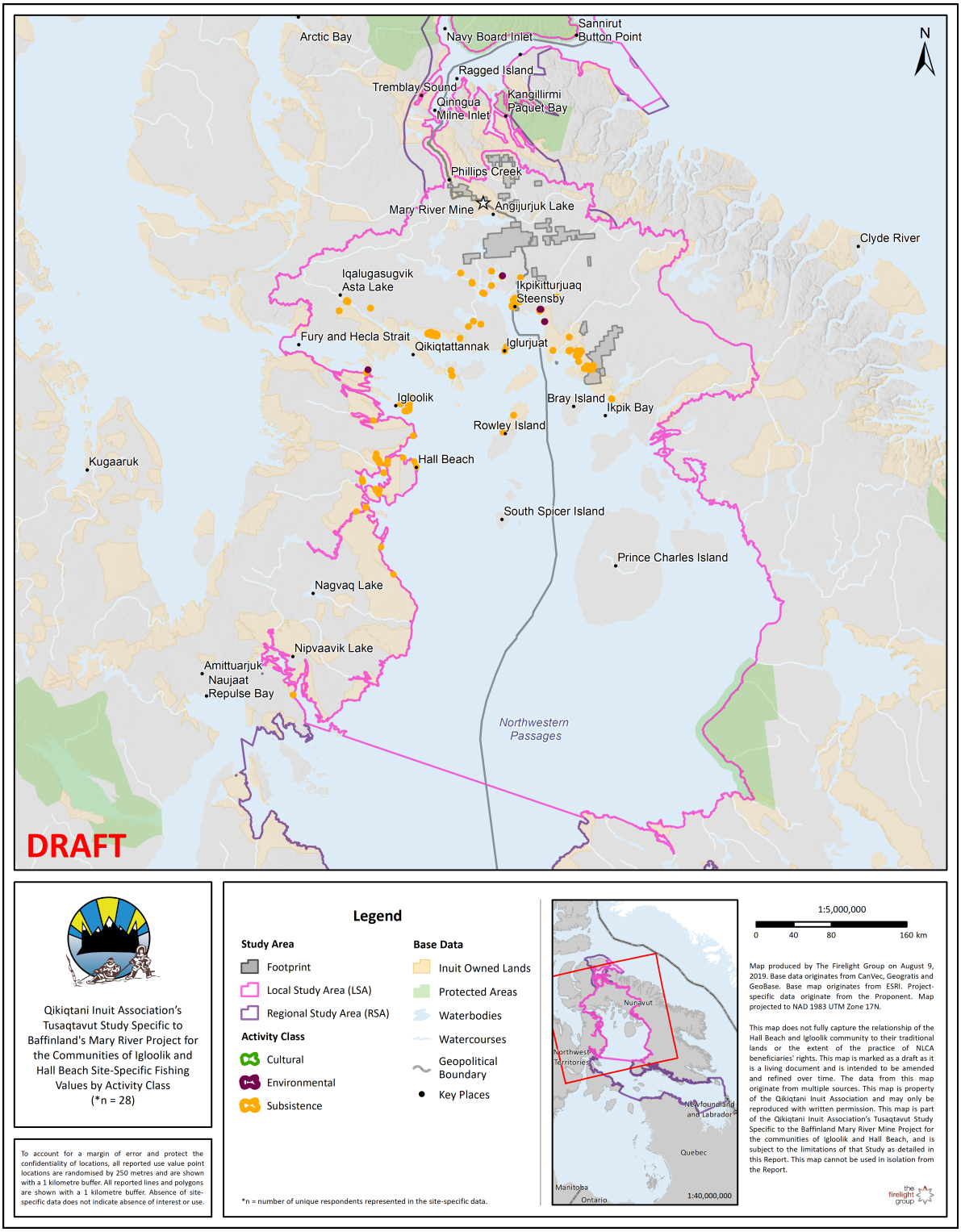

Figure 8: Study participants' reported site-specific Fishing values in the Project Footprint, LSA, and RSA.

4.4 FISHING

This section (Section 4.4) discusses the importance of, impacted baseline for, and Project-related impacts to, the Fishing VC within the Study Area. It draws primarily from data collected during semi-structured interviews.

4.4.1 Site-Specific Values

Table 4: Site-specific values for the Fishing Valued Component reported within the Project Study Area, by Activity Class.

Activity Class	Footprint, including 250 metre buffer	Within the Local Study Area (LSA)	Within the Regional Study Area (RSA)
	# of reported values	# of reported values	# of reported values
Cultural	0	1	1
Environmental	0	5	5
Subsistence	12	93	93
Total	**12**	**99**	**99**

Description of Documented Fishing Values

The following Fishing values were mapped in the Project Study Area, and are organized by Activity Class. Mapped data specific to the Fishing VC include:

- **Cultural** values including: a site where char is processed;
- **Environmental** values including: important hunting areas and animal habitat;
- **Subsistence** values including: catch sites for char, lake trout, and cod; a site where char is processed and dried; and sites where clams are collected.

4.4.2 Importance

During interviews, both Igloolik and Hall Beach community members described fishing as a core cultural practice that is an important component of everyday life. Fishing takes place throughout the year, often alongside other harvesting activities such as walrus and caribou hunting. The following quotes describe some of the connections between fishing and other harvesting practices, demonstrating how different activities

take place concurrently and together make up a web of cultural practices that are linked to specific places on the land and water.

> *I been going here when I was young by snowmobile. That's the best spot, one of the best spot to go for fishing, and at the same time, we would go for caribou hunt on this area ... As soon as we land to Baffin Island, there would be fish, caribou on land.* (I17, 28-May-19)

> *And also during that time when they were actually hunting in this area during that time, they also fished every spring in this lake and in the fall, there's a little creek up here [south shore of Foster Bay]. They would build a, a weir.* (I18, 28-May-19, interpreted from Inuktitut)

> *Everywhere we go there are fish, and there is caribou all over back then. There were plenty and there were a whole lot of ringed seals and bearded seals. But in wintertime the men used to go out walrus hunting so if there was a floe edge somewhere down here they would go down to the floe edge and we young ones were not supposed to go down to the floe edge but we were able to go to the fishing nets, check the nets, and they had fox traps everywhere and wolf traps.* (I20, 28-May-19)

Study participants described the coastline of Baffin Island and eastern Foxe Basin as being an area of abundance for highly valued fish species such as char and cod. One participant spoke of fishing for char at Iqalugasugvik and Ukiuliqsiurvik, while another identified Ikpikitturjuaq as an important fishing area. Summertime was described as a time of particular abundance for char; however, as previously noted, Igloolik and Hall Beach community members fish year-round.

> *Oh yes, we did a whole lot of fishing there [at Ikpikitturjuaq] in the winter time, they had nets set up over here. We travelled by dog team, I don't know how long of the year, and nets under the ice. Yeah, somewhere on these lake. I don't know exactly where. And, uh, summertime there are fish everywhere.* (I20, 28-May-19)

> *Every summer, all the coastline area [north of Hall Beach], the beach area, however you call it, is — there's a lot of fish anywhere, all around, so when you … It was all around in this area, you — you'll catch fish … this summer, they will — people will be putting their nets out in — in the area, and they will definitely catch fish... Yeah, char.* (H09, 24-May-19,)

> *We go up there [Iqalugasugvik] for fishing all year round ... That's Iqaluit, in which we call it Iqaluit just like Iqaluit, Frobisher Bay.* (I17, 28-May-19)

Study participants commonly fish in both freshwater and marine environments. Several referenced fishing in freshwater lakes, at the mouths of rivers, and in bays and inlets on the eastern side of Foxe Basin, including Ikpikitturjuaq. Others shared fond memories of fishing for sea run char in tide pools when the tide is out.

> *This, these lakes [Asta Lake and Gifford River] flow down this way all the way down, yeah. This is the fishing spot. Both in here, further out … There's a deep river going this way all the way, all the way to the ocean on that side, so both people from Igloolik and Arctic Bay would fish. Both people from Arctic Bay and Igloolik fish there.* (I08, 26-May-19, interpreted from Inuktitut)

> *Whenever the tide goes out, that place becomes with lots of little lakes on the ocean, when the main water goes down, the leftover little puddles they have lots of Arctic char. That area. You don't need nets or hooks. you just run in the water and throw them out. You would catch fish with no wounds. No spear wounds, nothing. Just grab them and throw them on the land.* (I22, 29-May-19, interpreted from Inuktitut)

Igloolik and Hall Beach community members use a range of different fishing methods depending on where they are fishing and the time of year. During interviews, study participants mentioned using spears, nets, weirs, and hooks (rod and reel).

> *There is lots of fish there too. Actually this — since Bay Inlet is full of fish, everywhere. All the coast starting from this shore all the way. All the shores have fish. Some you just have to net; some you can reel*. (I25, 29-May-19)

> *There were fish on the beach, but it was funner when we were throwing hooks into the water and catching them. We would have nets. And caribou. And seals.* (I07, 27-May-19)

> *Whenever I am netting fish, I used to catch cod fish too over there. So, there is many all over the place but there is few good ones and this is one of them [South of Cape Lilly].* (I25, 29-May-19)

As the quote below demonstrates, fishing is so deeply engrained in Study participants' culture that there are place names associated with it:

> *She grew up in Nirliviktuuq, but — she was born in Nirliviktuuq, but living, grew up in Kapuiviit area. Kapuiviit means the place of spearing the fish. And the lake itself here is the actual Kapuiviit I think.* (I21, 28-May-19, interpreted from Inuktitut)

Importantly, participants also noted that some fishing areas are preferred over others and returned to year after year because the fish taste better in certain places. In the quote below, Iqalugasugvik (Asta Lake) is identified as one of the best places for harvesting char.

> *We go up here to fish, to the lake here. We go up there to fish ... Yeah, that's the best char around. You just eat. Different area[s] have different taste. This one is really good.* (I03, 26-May-19)

4.4.3 Project Interactions

Igloolik and Hall Beach community members expressed a number of concerns about the potential Project interactions with Fishing values in preferred harvesting areas.

Specifically, they identified concerns about impacts on fish populations and fish migration routes in and around Ikpikitturjuaq, which is a high-value area for harvesting arctic char.

> *He's worried about the fish. In all that area, because there's fish all over in this area [Ikpikitturjuaq]. That's what he's worried about ... He wanted to go in that area in the spring, but it's too late now. There's nothing else much that he's worried about, except the fish, and the dust, because the dust goes all over the place.* (I15, 28-May-19, interpreted from Inuktitut)

> *…His biggest concern is the fish [routes]. And they have, that area [in the vicinity of the southern shipping route] have one of the best fish, and when he say fish it is char and his biggest concern is the fish.* (H10, 24-May-19, interpreted from Inuktitut)

> *At the time, they were first talking about it [the southern port and shipping route], there was opposition because of such an abundance of fish in there at the time...* (I11, 27-May-19)

During interviews, community members also expressed concerns about the impact of dust on fish health. The potential for windborne dust to impact fish in a number of watersheds surrounding the Project was identified by a number of participants during the verification meetings. One Study participant described how dust from the loading of ships at the Nanisivik port affected cod when that mine was still operating, highlighting the need for appropriate studies and mitigation in the context of this Project.

> *And when they're offloading – when they were loading the ships in Nanisivik, they used to have to wait and if there's too much wind, they used to have to wait until the wind dies down because at that time, once the dust hits the ocean, you could see the little flickers of the iron ore on the, on the water. When that happens, the cod would come up and eat – try and eat those and they would actually eat the flickers of iron and then, and then, and then they would die. And they would all be belly up when they're dead and the birds and seals would be all gathering to eat the dead cod. That's a – it is utmost important that all these baseline studies and research and samples are done before, before the railroad is built.* (I08, 26-May-19)

Another participant mentioned concerns about acoustic disturbances to fish, which have potential to be impacted by the noise produced by Project-related marine traffic around Ikpikitturjuaq and along the Southern Shipping Route.

> *She feels that they [fish], they may be affected by the noise of the ships…* (I02, 25-May-19, interpreted from Inuktitut)

In light of the proposed Project and its constituent components and activities, it is likely that the Project will interact with Study participants' Fishing values in the Study Area.

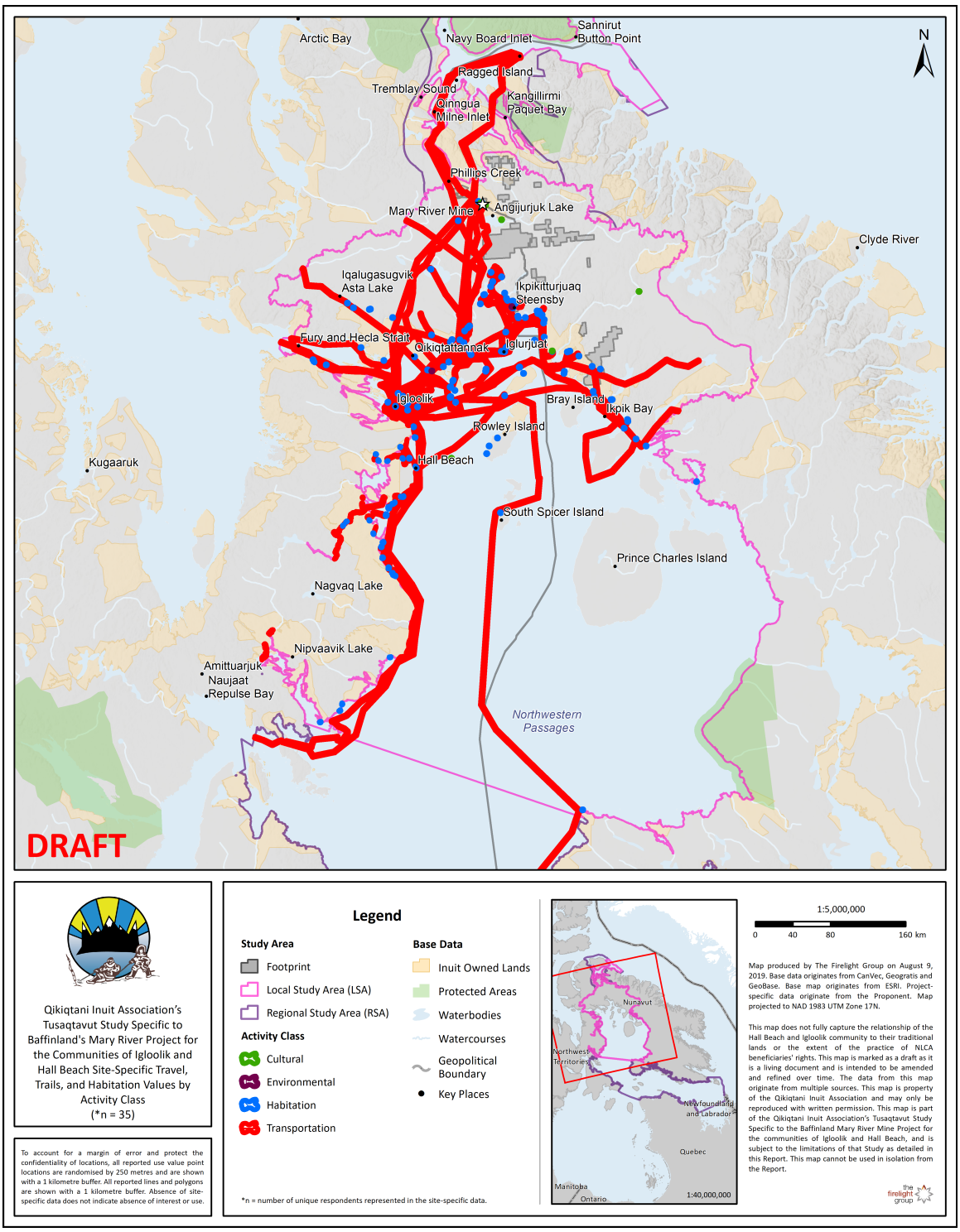

Figure 9: Study participants' reported site-specific Travel, Trails, and Habitation values in the Project Footprint, LSA, and RSA.

4.5 TRAVEL, TRAILS, AND HABITATION

Section 4.5 provides further details on Inuit-reported site-specific Travel, Trails, and Habitation values by Activity Class and location. This section also includes a discussion on the importance of Travel and Trails values, and where possible, the current impacted baseline conditions and change trends. The qualitative data provides additional crucial context for the interpretation of the site-specific data.

4.5.1 Site-Specific Values

Table 5: Site-specific values for the Travel, Trails, and Habitation Valued Component reported within the Project Study Area, by Activity Class

Activity Class	Footprint, including 250 metre buffer	Within the Local Study Area (LSA)	Within the Regional Study Area (RSA)
	# of reported values	# of reported values	# of reported values
Cultural	2	6	6
Environmental	1	2	2
Habitation	14	191	191
Subsistence	**1**	**3**	**3**
Transportation	22	47	47
Total	**40**	**249**	**249**

Description of Documented Travel and Trails Values

The following Travel, Trails, and Habitation values were documented in the Project Study Area, organized by Activity Class:

- **Cultural** values including**:** gathering places, including places where people from Hall Beach, Clyde River, Igloolik, Arctic Bay, Pond Inlet, Qikiqtarjuaq and Pangnirtung meet and camp;

- **Environmental** values including: places with favourable environmental conditions for human habitation;

- **Habitation** values including: places where the Inuit camp and rest while hunting, fishing, trapping and traversing the land;

- **Subsistence** values including**:** sites used for drinking water collection while travelling and camping out on the land; and

- **Transportation** values including: water routes used to access campsites; water routes used to access hunting areas for various species, including caribou, ringed seal, bearded seal, beluga whale, and walrus; water routes used to access fishing sites; trails used to access hunting areas for caribou and wolf; trails used to access fishing sites and cabins; a trail used for trapping; a trail used for berry harvesting; trails used to access the floe edge; and traditional dog-team trails.

Geographical Distribution of recorded Travel, Trails, and Habitation Values

A large number of recorded site-specific Travel,Trails and Habitation values can be found on the sea ice along the shoreline of Foxe Basin, in particular around the Fury and Hecla Strait. A high density of habitation values are reported in the Ikpikitturjuaq area. Extensive Travel and Trails sites were also recorded throughout northern Baffin Island where Inuit have travelled on trails to Pond Inlet and into the interior regions of Baffin Island.

4.5.2 Importance

For the Inuit of Igloolik and Hall Beach, travel across the sea ice, land, and open water are central to their way of life. Trails are essential for accessing important camp locations, hunting sites, and other valuable areas, many of which community members have been accessing for generations. For community members, traveling across the land and sea occur on a year-round basis, relying on snowmobiles, boats, dog teams, and foot to traverse the lands, waters, and sea ice. As evinced through the interviews, travel methods, routes, and patterns are frequently adapted to the changing seasons.

Interview participants discussed their reliance on a vast network of trails across the Qikiqtani region. Community members spoke about traveling hundreds of kilometres from Igloolik to access valued areas, including the area now covered by the Mary River Mine, to hunt caribou, gather with Inuit from other communities, and to harvest other important resources.

> *And so we've been there since and people had – those type of people were nomadic. They're always moving around and I have relatives all over and these connected by dog teams only. So, with Mary River, people were connecting at times too during the summer…* (I01, 22-May-19)

> *He's travelled all over close to [Naujaat]. He knows all that area and then onto Baffin Island area and down and up there and he's gone up this far. He said he came here to Igloolik and he's been mainly working as a wage earner, but he goes out hunting and stuff on weekends and holidays. He's travelled all over even up to, up to the Milne area. He's travelled all over that area over*

> *time. 1950, no '60s. 1960s. There was all kinds of caribou. So, in the '50s, when they go out caribou hunting, that's the – they would come across the people that were exploring for, exploring in that area in the '50s.* (I08, 26-May-19, interpreted from Inuktitut)

> *…1982 with [personal name] again we travelled from Igloolik by skidoo, two skidoos, from Igloolik to Mary River. And that's way before Baffinland and we met with people from Hall Beach, Arctic Bay, Pond Inlet, Clyde River, Qikiqtarjuaq at that time known as Broughton Island and Pangniqtuuk. And they all went there by skidoo and we all met in one spot without knowing. And the reason was they were gathering soapstone. They were actually getting soapstone. And [personal name] and I went up there to collect some soapstone as well … that's the furthest north by skidoo that I've gone is at Mary River.* (I01, 22-May-19)

The Mary River Mine site, which is in the heart of the Study Area, was widely reported by interview participants as being a place where people regularly travel to and through. One participant highlighted the network of lakes and rivers near the mine site that form a trail. Community members travel on this trail, all the way from Igloolik to Pond Inlet.

> *...Mary River. There's all kinds of lakes here. All these, all these lakes are flowing – the river flows to all these lakes and are connected with water from river flowing through these lakes. People from Igloolik – there's a route [to Pond Inlet]. He's going to go from Igloolik to and follow the trail.* (I08, 26-May-19, interpreted from Inuktitut)

While travelling through the area where the Mary River Mine is now situated, a number of participants recorded locations used to source drinking water. Collecting drinking water while out on the land is an important aspect of traditional travel, and access to safe drinking water sources is required to enable Inuit travel to continue unimpeded.

> *And they got their drinking ice—drinking water from the ice, from this lake [southeast of Mary River Aerodrome].* (H02, 24-May-19, interpreted from Inuktitut)

> *... August, September they go caribou hunting to [Parry Bay] ... That's where they collect water. There's a small river there. (*H07, 23-May-19*)*

In addition to traveling, hunting and gathering near the Mary River Mine site, interview participants also spoke about traveling to other important hunting camps in the Ikpikitturjuaq area and near Saattut. Camps in these locations have been used for generations, traveling by dog team to access hunting camps during seasonal rounds.

> *[Trail from Cape Thalbitzer to Igloolik Island] And we made a permanent camp at Kangiqilimajuk. This is known as Kangiqilimajuk, this bay here and we spent so much time in this area. We travelled by dog team, hunted by dog team. We hunted caribou ... And he showed me all the placenames all along this coast, which had been used for centuries, and for centuries it's been used for hunting caribou and also wolf hunting and also in the Steensby*

> *Inlet area, all this marine life like … belugas, bowheads, and walrus, ringed seals, harp seals, and square flippers were hunted during the summer. And during the winter they would hunt along the floe edge…* (I01, 22-May-19)

> *And this is known as Amittuarjuk ... and there used to be an outpost camp here [at Kapuiviit Nuvua] and the original camp that had been used for centuries is along here. And there would be, these are mostly marine hunting camps. Years when there was a large abundance of caribou, caribou would be on this island [Siuraq] as well and people will be hunting caribou on that island and I did some hunting on that island as well. We, in the fall, we would hunt walrus along here too like in late September and also in Siuraq, which is an island.* (I01, 22-May-19)

Traveling across the land, ice and sea is central to Igloolik and Hall Beach residents' way of life. The quotes above detail how community members continue to travel and camp at the same locations as their ancestors had for generations. One participant highlighted how they return to the same area as their ancestors every year. This is described as an opportunity to visit ancestors' burial sites and old houses, in addition to hunting seals and other animals during the journey.

> *This little island [Qisut] is a main stop on our way to Baffin Island. Usually in the summer time we pass through here and stop here. This is a burial place. Ruins of sods houses there. And there is walkways, walk paths in this little island. We stop here for tea, while we wait for the weather to calm down.* (I03, 26-May-19)

> *They have some cabins there [shore near Qikiqtattannak and Pittiulaaliik islands]. I always go back. Every year we go back. My grandparents are buried up there. And a lot of good hunting. Beautiful seal pups. In June we would go up there. Sometimes we are hunting we see polar bears hunting while we are hunting. They are hunting while we are hunting.* (I03, 26-May-19)

Prior to the creation of the Igloolik and Hall Beach settlements, residents and their ancestors lived a seasonally semi-nomadic lifestyle. Families and occasionally multi-family groups would travel between different camps or outpost camps according to a seasonal cycle predicated on the availability of important resources. As explained by participants, shifting camps was an important cultural practice done in part to allow the resources of an area to recover, and never exhausting one area by staying too long.

> *His parents used to say that after they living in one camp for a certain time period, they, it was – they were required, it was a requirement in the culture, to move away to cool the land down ... He thinks about a year or two they, they would purify, cool down the town ... And then they can return after a time, so he says that's why ... He's heard that from his forefathers and he thinks that's why here in Igloolik and that there's so many deaths happening because the land has never been purified and cooled down. People living permanently here.* (I11, 27-May-19, interpreted from Inuktitut)

> *He does not remember too well, but he know for a fact that he actually – they actually spent a lot of time in that area and also up the coast into Steensby. And so because they lived a nomadic life, they never really stayed in one spot.* (I10, 27-May-19, interpreted from Inuktitut)

Seasonal shifts and the locations of certain camps were also important for maintaining family and social connections with neighbouring groups and communities. Numerous interview participants discussed how they would meet with other people on the land and set up camps, including at Ikpikitturjuaq, Qaiqsut, and on the DEW line. One participant described how they would use Inukshuks as land markers to know where to meet other people to set up camp.

> *There's all this area, you might want to mark that. All this area is full of Inukshuks as landmarks, traditional landmarks. And this is the meeting area too. His parents, friends, they didn't know that there were other people that were going to be around there but his parents kept seeing his tent, they thought it was a tent, and when they went to ensure that it was a tent, people from Pond Inlet were there and they met. So they travel.* (I15, 28-May-19, interpreted from Inuktitut)

> *In the month of August, people from Igloolik and also people from Hall Beach, surrounding areas of Hall Beach, would come to this area [On Baffin Island across from Ullit Island] to hunt caribou all along this coast, and at one time they had their camp right here ... [He and his family] would have their camp there ... [T]hey would meet lot of people who are actually hunting caribou ... in that area.* (I12, 27-May-19, interpreted from Inuktitut)

> *…we went through this [central Baffin Island] – we were just going wolf hunting, so we were just going – we left my camp … then to a DEW line somewhere here, and then we decided that we were close enough to Clyde River, so we went to Clyde River.* (I07, 27-May-19)

> *There were seven of them with their relatives. 1955 her grandfather – her grandfather Maniq, her grandfather, Maniq, passed away in 1955 in May. May 1, 1955, he passed away and they moved, they came here to Igloolik to buy supplies for the summer. So, before they're down by the big river is to the shore. Her mother's brother, her uncle, was with them then and she remember him crossing with a small little boat crossing that big river coming to them, to their, to their camp and that's when they moved to Steensby Inlet.* (I02, 25-May-19, interpreted from Inuktitut)

> *Every winter they would go there [Qaiqsut] and every spring. They would move there during the spring by dog team, by dog team. and they would spend the whole summer there on that island, right there … When they were on that island every summer they would hunt walrus, the west coast of the island, it's approximately in this area here, that's where they would hunt the walrus, and he remembered the DEW line being there because when they were short of gas they would go and buy some gas from the DEW line.* (H12, 24-May-19, interpreted from Inuktitut)

As part of their semi-nomadic lifestyle, Inuit would set up camps at strategic locations for varying periods of time, frequently rotating between the same seasonal camps on an annual basis. Camps were often set up along shorelines of the Foxe Basin, ideally situated next to valued marine and terrestrial hunting areas.

> *My uncle had a, had an outpost camp there [Rowley River] once and there's an outpost camp where that right in that area and yeah it's a really good land. Very good fish, very good bearded seal, seals, caribou, polar bears.* (I04, 25-May-19)

> *And then he also remembered that the narwhals starting to come, and they were actually hunting narwhals along the shore here [Lyon Inlet]. And during that time, he remembered his family. Every spring would spend – would have their main camp at Maluksitaq which is this point here [between Cape Edwards and Kingaarjuk Hill], and it's a very traditional camping area. And people had been camping there for centuries, and it used to be one of the favourite places for camping in the spring and the summer, but what happened is that bears started to come in. And every spring they hunted silver jars in this inlet, and when they actually came back to the camp, all their tents would be ripped by polar bears and a lot of their food would be eaten, and so his mother got tired of polar bears, and being scared of the bears. They actually moved to this inlet and they moved their camp in there and they've been camping there ever since.* (I22, 29-May-19, interpreted from Inuktitut)

> *And they [his great-grandparents, and grandparents] – the reason why they lived in that area [near Kappuivik] was because of abundance of walrus and seals, a good area for hunting*. (H11, 24-May-19, interpreted from Inuktitut)

> *When we were living here [Isuqtuq], we travelled everywhere here [around Ikpikitturjuaq]. Seals – seal hunting, beluga, caribou, fish – we mostly fish here because it's fun.* (I07, 27-May-19)

> *[near Iviksukuni] As a boy when he was first getting out by dog team with his parents, they spent some time at [Iviksukuni] … He remembered they were there by dog team and they went up there and they had an igloo that had a liner inside, and when that occurred, that's where the igloo was, and then this hill and in the winter they would go on close to … [Isulijaakuluk] to get caribou, and they would hunt caribou in that vicinity, and as he got older, the caribou would migrate further south and there were a lot more caribou further south.* (H12, 24-May-19)

> *There's all kinds of campsites along the shore, people camp everywhere. Sometimes, even when we camping there we would go further down south and do some more tern egg hunting, picking. Every summer we would camp on this southern part for egg-picking. And in the early spring we would camp further up here [north of Nirlirnaqtuup], either here around this area where other families would have tents here. And we would go seal hunting on the ice.* (I20, 28-May-19)

> *They would – they had their camp right here. These are, these are cabins here. That's where they were. And during the summer, this bay here is full of wildlife and she really enjoyed being there mainly because she could also watch caribou swimming across. And also there's wolves around and the men would do some wolf hunting as well.* (I21, 28-May-19, interpreted from Inuktitut)

Community members described making camp structures out of a variety of materials from the land and sea. More permanent structures were often made out of wood, sod and stone. In some cases, materials like skins or canvas would also be incorporated. Participants described using materials including arctic hare and arctic willow as insulation. In certain areas such as Nuvuklit, the remnants of old sod houses used by community member's ancestors are still visible today.

> *Approximately here [Nuvuklit] there are old sod houses and old stone houses and it's interesting there because he, his father showed him there what they were, and you could actually see very tiny little houses and there's maybe two of them, and we have a legend, the little people – we call them the little people, they're very small, known as [Inuktitut], and they had dwellings in that area and there were two of them. He doesn't know whether there were actually two or one, but they were there and his father showed him where they were*. (H12, 24-May-19, interpreted from Inuktitut)

> *Yeah, both – they lived in a sod house as well as one with a wooden frame, and canvas – covered with canvas and insulated with Arctic hare.* (I05, 27-May-19, interpreted from Inuktitut)

> *He must have been born in a sod house [near Kapuiviit Nuvua] and the sod houses are there, because every summer they would go down to … the islands, and then every fall they would go back to Kapuiviit to their old sod house.* (I12, 27-May-19, interpreted from Inuktitut)

> *They have, they have three places where they have their – it's not really a sod house, but it's a mixture of canvas and wooden structures for dwelling. And they have one here too.* (I23, 29-May-19, interpreted from Inuktitut)

> *There weren't a whole of like other vegetation that they picked for food, but there was a lot of arctic willow to insulate their sod houses.* (I21, 28-May-19, interpreted from Inuktitut)

While traveling on the land and spending time in camps, it is common practice for Inuit harvesters to cache hunted meat for future consumption. These food caches not only provide Inuit with security against future shortages, but also form a part of the network of trails across the Study Area, as community members return to their caches to retrieve the stored meat.

> *They spent one winter here at Nirliviktuuq ... her father would, by dog team, would go get some dog food at Qaiqsut. At Qaiqsut they would, he would get the fermented walrus meat ... her father would get the cached meat from*

> *Qaiqsut, those islands, and then in the month of May he went back to Iqi by dog team to get the aged or rather the cached caribou.* (I24, 29-May-19, interpreted from Inuktitut)
>
> *They would go back to Kapuiviit in the fall. After they have buried the cache of the walrus meat from*. (I21, 28-May-19, interpreted from Inuktitut)

The data collected during interviews with participants reveals the highly specialized knowledge required to safely and efficiently travel across the land and sea. Inuit of Igloolik and Hall Beach discussed how important it is for them to spend time on the land with their elders to learn about travel and living off the land. The persistence of traveling spending time on the land is a critical component of community members' affinity for their way of life.

> *It make me feel extremely comfortable on the land. I feel more at home on the land than I am in a building or in a city or a town. And that's why I go out every chance I have on the land no matter anywhere on the land no matter where I am and that's why I love travelling and by boat or by skidoo.* (I01, 22-May-19)
>
> *Yeah, I've been going up there even to here. And with my parents because in September when my father used to work, he always had two weeks off on that starting from that long weekend, so I always missed the first days, first week of school and we camp every year for two weeks out on the land.* (I04, 25-May-19)

4.5.3 Project Interactions

Interview participants expressed concern about additional development and its effects on Travel, Trails and Habitation values. In particular, the Southern Rail Corridor, Steensby Port and Southern Shipping Route has some Study participants concerned that shipping traffic will impede their access to the east side of Foxe Basin. This concern was expressed in relation to travel year-round, due to the possibility of ship wake as well as icebreaking impacting travel routes across Foxe Basin.

> *…just thinking about it, and if they're going to go through into Steensby and up to the port in the dead of winter and their ships will continue using that route, what's going to happen to the hunters, and how are they gonna cross the system if they want to hunt on the other side in the dead of winter? That's one of the concerns that he has, is how will the hunters go to the other side.* (I14, 27-May-19, interpreted from Inuktitut)
>
> *So, in the future when there is traffic here. I am just thinking, are we going to try to beat them or what? I guess so, hey? The wake is what I am scared of ... Travel by speed so when you go into the ships wake that bouncing away. That is what I am scared of.* (I03, 26-May-19)

Despite changes to their semi-nomadic lifestyle, Study participants continue to use and value camp sites within the Study area, as detailed in Section 4.5.2. A number of

project developments, particularly Steensby Port, may negatively impact the ability of Inuit from Hall Beach and Igloolik to use campsites in Ikpikitturjuaq. One participant highlighted that existing Project-related traffic in Ikpikitturjuaq has already impacted their ability to use an important camp site.

> *I don't know if they are still there or not. I am not usually stationary but this is one of the main camps I go to. When did they put in — actually when Baffinland started their exploration, or the environmental assessment. When they started doing their environmental assessment. That is when I stopped going there because there was too much traffic.* (I25, 29-May-19)

Participants expressed concern with drinking water sources near campsites and travel routes being contaminated by dust generated by Project activities. Uncertainty over the potential health impacts of consuming contaminated water and a prohibition on drinking water from sources near the mine site has reduced participants' confidence in the safety of drinking water from areas showing dust deposition.

> *He's saying that there's no studies done at all on how the, the water content is safe for animals or human beings. He's saying that if there was studies done, samples done, then, then they're not providing that information to, to them because he hasn't heard anything about the results.* (I08, 26-May-19)

> *…It's hard to say [if he would drink water now from an area near Mary River Aerodrome] ... Because he hasn't seen [the mine]. (H02, 24-May-19, interpreted from Inuktitut)*

> *So, people that are travelling around here are not allowed to take the water, but the Baffinland is welcoming travellers to provide them with water. They're not allowed to take water or drink the snow like melted snow because, because – so, they're not readily – the water is not readily available anymore because of the too, because of too much of the mineral content in the waters. So, they're not allowed to drink it because of this red stuff from the mineral dust. From the dust that goes around.* (I08, 26-May-19)

In light of the proposed Project and its constituent components and activities, it is likely that there will be adverse effects on Study participants' ability to travel and camp in preferred locations, negatively impacting Travel, Trails and Habitation values.

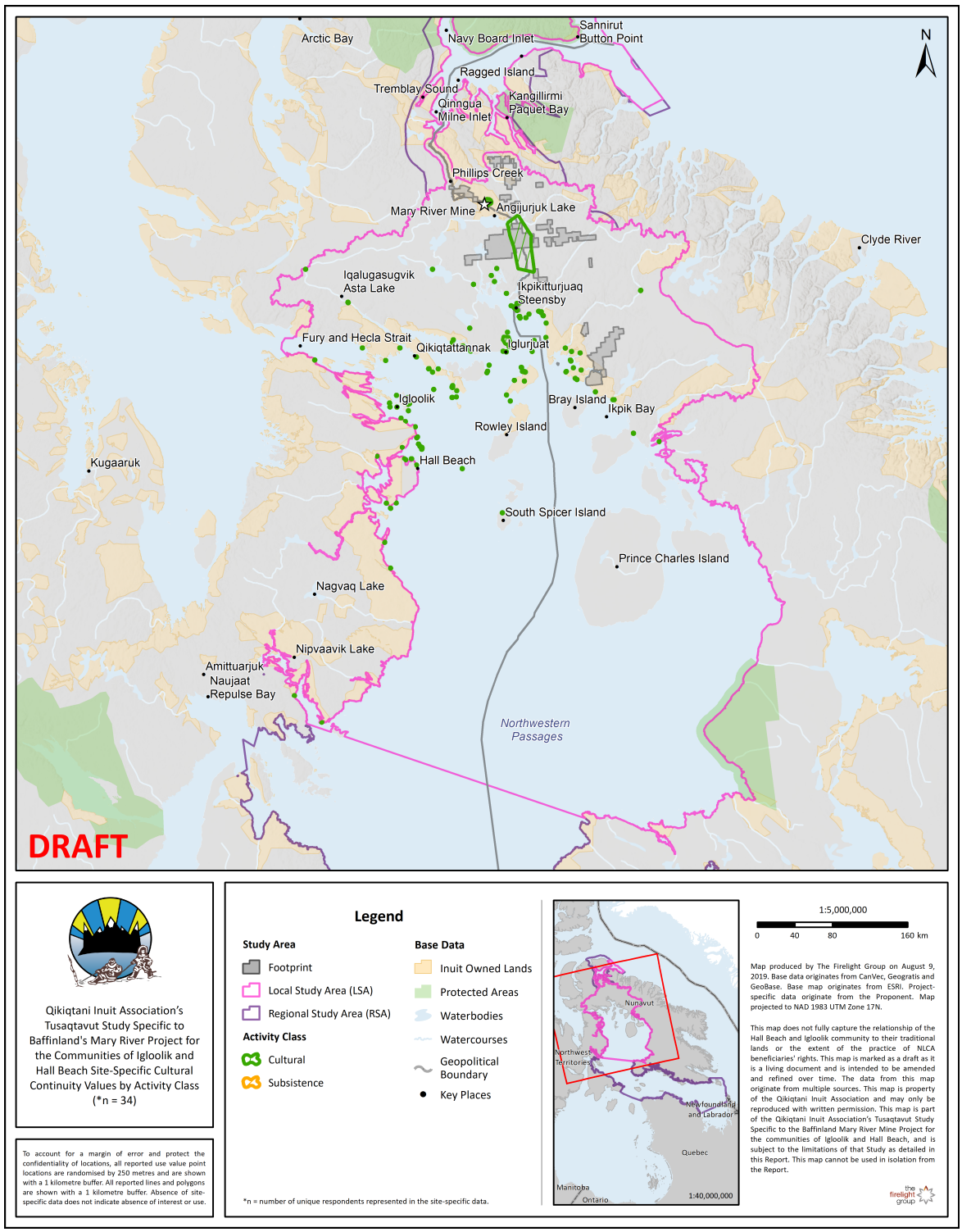

Figure 10: Study participants' reported site-specific Cultural Continuity values in the Project Footprint, LSA, and RSA.

4.6 CULTURAL CONTINUITY

Section 4.6 provides further details on the site-specific Cultural Continuity values reported by Igloolik and Hall Beach community members, by Activity Class and location. This sections also includes a discussion on the importance of Cultural Continuity values, and where possible, on current impacted baseline conditions and change trends. The qualitative data provide additional context for the interpretation of the site-specific data.

4.6.1 Site-Specific Values

Table 6: Site-specific values for the Cultural Continuity Valued Component reported within the Project Study Area, by Activity Class.

Activity Class	Within the Footprint, (250 m)	Within the Local Study Area (LSA)	Within the Regional Study Area (RSA)
	# of reported values	# of reported values	# of reported values
Cultural	12	157	157
Total	**12**	**157**	**157**

Description of Documented Cultural Continuity Values

The following Cultural Continuity values were documented in the Project Study Area, organised by Activity Class:

- **Cultural** values including**:** birth places; burial sites; ceremonial sites; sites of spiritual significance; soapstone collection sites; teaching areas; places with an Inuktitut name; and sites where heritage resources, including sod houses and Inukshuks, are located.

Geographic Distribution of Recorded Cultural Continuity Values

Recorded site-specific Cultural Continuity values can be found throughout northern Foxe Basin, with higher densities around Igloolik Island, on the island of Kapuiviit, and in the Ikpikitturjuaq area. Concentrations of sites were also recorded on Aivirjuaq (north of Hall Beach).

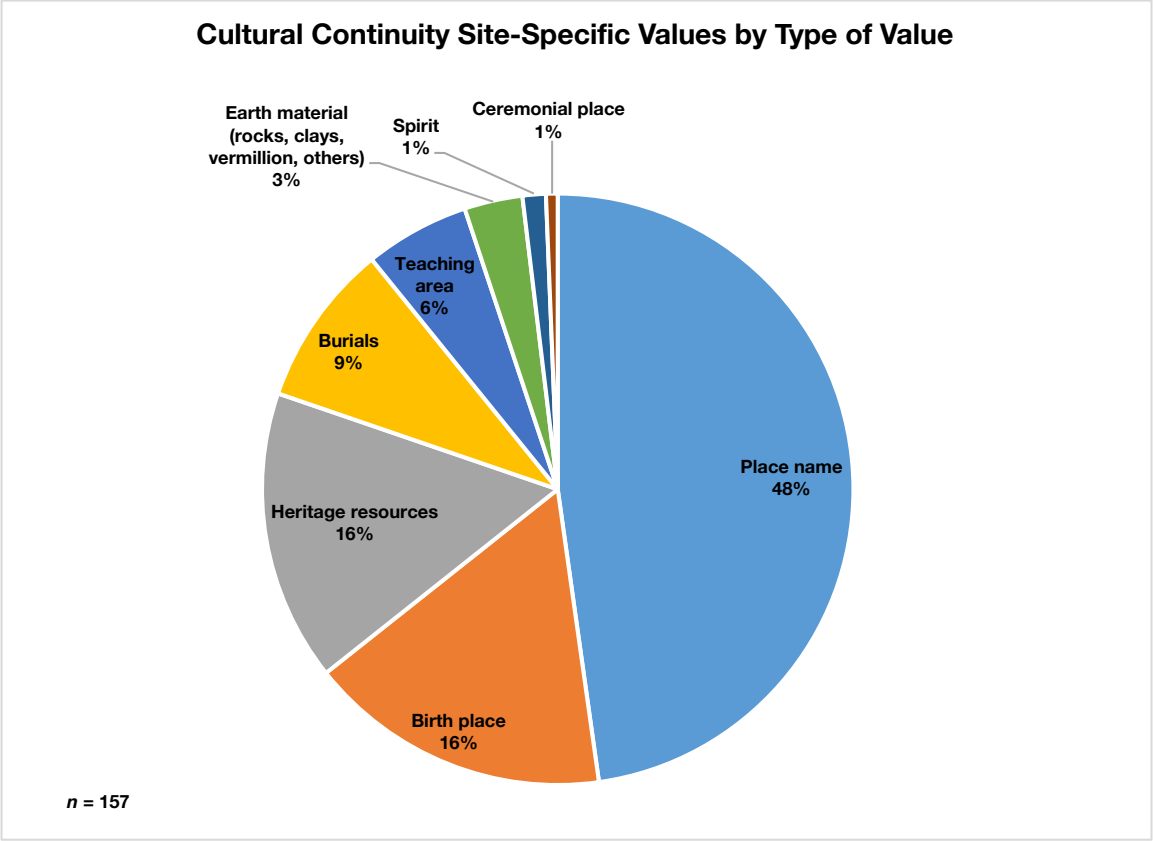

Figure 11: Cultural Continuity site-specific values reported in the Project Study Area by type of value; n = 157

4.6.2 Importance

Cultural continuity includes those intangible and tangible values and activities that are central to Study participants' ability to transmit cultural knowledge and IQ across generations. Cultural continuity in this report refers to knowledge and practices relating to the integrity of Inuit culture, including:

- knowledge transmission;
- cultural knowledge regarding resources, hunting, and travel;
- valued places on the land; and
- IQ including knowledge of principles, protocols and values.

The cultural continuity of Study participants is dependent on their ability to accrue and transmit this knowledge through teaching, observation, and spending time on the land, all of which contribute to a sense of identity, wellbeing, and connection to the land.

The depth of cultural knowledge held by Study participants reflects the complex circumstances of community members' connection to the land and its resources. One

study participant illustrated this connection by detailing the importance of country food and the ways in which it is prepared, and the linkages between country food and wellbeing – particularly in cold climates.

> *The reason why the country food, the food that Inuit hunt is so important is that we live in the Arctic where it's very cold climate, -40, -60; in the winter time if you eat raw meat, it will sustain you, it will help you to keep warm much longer than the time of food that you would cook even though you may have a very nicely cooked meal, it's not going to keep you warm as much if it's [a]storm out[side] ... One of the most important points is that even if the country food is eaten, but if it's cooked and prepared, it's not as, it won't help you to keep warm as much as the fresh, fresh caribou or the fresh, fresh food, country food where even, as soon as you cut it, if you eat the meat it will help you to keep warm much longer. He feels that's why it's so important ... And it is also important because of wellbeing. When you start craving for different kinds of country food, you almost smell it and things like that. I mean when you eat what you are craving for it helps your body for wellbeing.* (H04, 23-May-19, interpreted from Inuktitut)

The sharing of specific cultural knowledge arises from various approaches to knowledge transmission within families, communities, and in particular, between generations. For many Study participants, land-based learning is central to their ability to successfully navigate the land and harvest important resources. Land-based learning discussed by Study participants often occurs through social transmission of skills and teachings, such as how to navigate the land and where to hunt.

> *My background, my grandmother and my grandfather taught me where the places are, where to go for hunting purposes, for walrus hunts, seal hunt, fishing, caribou hunt, it's all there.* (I17, 28-May-19)

> *My grandparents were the oldest, but I would go with my brother-in-law. He's passed away now, but I would go with my brother-in-law. He was the only one who can, able to teach me the hunting purposes and all that travelling, getting to know the land, getting to know whatever what's all survivaling.* (I17, 28-May-19)

Study participants highlighted the ways in which certain individuals in Igloolik and Hall Beach acquire specialized techniques and cultural knowledge while on the land, depending on the specific areas and hunts that they were focused on. Thus, time spent on the land with different elders can result in diverse experiences of knowledge transmission, and unique teachings regarding different practices or species. One participant who had opportunities to travel and be instructed by different elders discusses this below.

> *My trip with [personal name], we hunted caribou and he taught me how to build an igloo, how to handle dogs, how to recognize animals, how to butcher caribou, and how to survive without any modern technology and he taught me what it feels like to be starving and what is cold, what is, how you would react to cold and try and survive on your own. And I learned all that*

> *from him and we meant to be there for about a week to three weeks and I was enjoying it so much, I forgot about time and then we backtrack to go home and by the time we got home, it was June 4th ... And we spent 6 months without seeing any other human being and we spent time out there and we had only one ammunition left and no tea – no store bought food. We lived off the land mainly on caribou and seal and we had enough dog food and we had about 18 dogs and we had to feed them every other day and to preserve the meat, so that it would last longer.* (I01, 22-May-19)

> *And he taught me all this and then the following year; another elder … he took me, I forgot the date, the exact date, but in February, I'd say February 12th, between February 12th and February 16th during that time and we went a little further north than this or rather northwest. And we spent most of our time not in here, but not in here, we spent most of our time in this area right here and this is also by dog team. And we hunted caribou, mainly caribou and we had our main camp in an igloo I think in here if I'm not mistaken. Yeah, in this area and we spent three months in this area and then in late, no early May we start heading back to Igloolik and he did exactly the same as [personal name] did a year before, taught me how to build igloos and to correct my building ability and recognize, able to recognize now – I learned different techniques from [personal name] and [personal name] had his better known for raising dogs. He was a very good dog handler, whereas [personal name] is more caribou person, hunting caribou more.* (I01, 22-May-19)

Knowledge associated with food preservation and preparation is another important component of teaching and passing on important cultural knowledge between generations. For example, one Study participant noted that the eldest in the group taught others how to prepare walrus meat for caching, as detailed below:

> *They were taught by the eldest how to prepare the walrus meat for caching and aging, and it has to be tightly closed, where the – the skin has to be tightly closed for a good quality aged walrus meat. They didn't do as much fishing in those days because there were – they – everyone had a lot of dogs, and they needed a lot of dog food to hunt.* (H09, 24-May-19)

> *So the younger people that were going to help out to cache the walrus … would have to start caching them right away once they come ashore. So how they prepare the … the skins, tie them all together tightly, and all the meat is in there, and the skin is the covering, and they just put it underground for caching, so.* (H09, 24-May-19)

For many Inuit residents of Igloolik and Hall Beach, the ability to bring younger generations onto the land in order to pass along cultural knowledge is of great importance to their collective identity and the strength of IQ. In many instances, as detailed below, the instruction between generations is passed down within families, with community members bringing their children and grandchildren on the land to participate in activities such as hunting, survival, and other cultural activities.

> *It is extremely important [to bring children and grandchildren out on the land] because I'm actually, I'm not preaching or teaching IQ, I'm practicing it. And it is important for me to carry on that tradition by passing it on the next of kin, your children, your grandchildren, and even now have two great grandchildren.* (I01, 22-May-19)

> *When her husband wanted to move to that area from Igloolik, he thought – she thought he was going there just to, to go to a place that he really likes to go and he, she thought it was just for him, but it turned out that her husband was actually going there to teach the younger, the older boys how to hunt and how to survive. And for that reason, she finally understood why he wanted to go there.* (I21, 28-May-19, interpreted from Inuktitut)

> *And it is important because if I don't go on the land or if I – for a period of one year, if I don't go on the land, I don't know what I would be. And it, it helps me think a lot and every weekend I try my best to be on the land. And teach my grandchildren. My grandchild, my grandson learned to build and igloo and he's now 18. He got his two bears, lot of caribou, learn to butcher a caribou and now he has to learn to butcher a walrus and seal.* (I01, 22-May-19)

> *Because, because I've been taking my kids out, they're like experienced hunters to other kids whenever they go out camping with other families, they say they taught this other kid how to do – or how to tie a knot. They usually do that. They usually do that.* (I04, 25-May-19)

> *Well I have a son now and daughter who've never seen that camp. It would be nice to show them where I started out my life.* (I20, 28-May-19)

One Study participant emphasized the importance of teaching children "the old way of life," which includes the knowledge of how to utilize traditionally available resources and embrace Inuit ways of being on the land.

> *The father [priest] wanted to establish an outpost camp and that's when they actually moved there and spent the whole winter at Atanikuluk ... One of the reasons why they spent the whole winter there at the outpost camp was because he, they feel that they had teach the children the old way of life where they would use blubber for oil on the seal oil lamp and able to sleep in a snow house, igloo, and able to, able to live the old way of life without any southern aid…* (I24, 29-May-19)

Spending time on the land and teaching younger generations the skills and techniques involved in hunting contributes to a sense of community and connection among Study participants, particularly when these activities represent times of family cooperation and bonding. One participant notes that hunting silver jars (adolescent ringed seals) becomes a family activity when children are out of school for the summer.

> *It [silver jar meat] is important. Hunting silver jars is still very important, mainly because of the meat, and also the weather is much better, warmer, and he*

> *enjoys hunting the silver jars at this time … And the reason is – one of the reasons is that the school is out, and the children are able to come along with their families, and the whole family – it's a family affair thing, hunting silver jars.* (H04, 23-May-19, interpreted from Inuktitut)

As the transmission of cultural knowledge often occurs on the land through the social transmission of skills and experiences, the ability of Study participants to meet and gather with one another in certain areas is central to their way of life. For many Study participants, certain places on the land hold memories of gatherings and collective activities such as hunting, or gathering soapstone.

> *…they will be more than one families going into this area … Once they come back from Iqi back to Kapuiviit, all the families would gather at Kapuiviit…* (I24, 29-May-19)

> *Igloolik artist were not the only people to go to Mary River site when it was old site back then probably 15-20 years ago. We used to go up there from Pond Inlet people would go, Arctic Bay, artists would go, Pang, Pang people, Clyde River, all the artists would gather to meet there and collect soapstone from Mary River when it was old sit, but there used to be some few cabins and few equipment's, but we were going there for soapstone. Collect soapstone almost when it, when the rock boomed up we used to go there and I think that's the best time that we started to collect soapstone from that land.* (I17, 28-May-19)

> *And this one is where people actually meet and people would meet here [Nulujaak] way before the mine was – or way before prospectors find the deposits, iron-ore deposits. But my late father … being the pilot and a prospector. He discovered the deposit, iron-ore deposit back in the late 1960s. And my father was his guide and they – it was well known by Inuit for centuries the type of rock. Very hard rock and they think it's [Inuktitut] meaning future metal. And people have known it and so people actually meet in this area both from Pond Inlet area and Igloolik area during the summer looking for caribou.* (I01, 22-May-19)

The transmission of cultural knowledge for Study participants encompasses the ways of being and ways of knowing, as embodied in the concept of IQ and practiced by Study participants. Cultural continuity involves the ways in which Study participants relate to their surroundings, including the protocols and principles that govern their beliefs, relationships with animals and the landscape, and practices on the land. Study participants highlight examples of Inuit belief that they enact in their daily lives, such as traditional laws and the appropriate ways of respecting the animals that they hunt.

> *One thing he would like to make very clear is that in the past and today, we have a law that is a traditional law that we should always follow and he follows them accordingly. And that is never overkill and never take an animal that you don't need and if you do kill an animal, take the whole animal, not just a part of it. And this is the rule that he follows religiously. And he does not kill just for the sake of killing it and which is completely against the rules*

> *and not just to be a – part of an animal should not be taken, but the whole animal should be taken and used accordingly and whenever you see an animal you would observe the animal if you have enough food, you don't need the animal and you just observe it.* (I10, 27-May-19, interpreted from Inuktitut)

> *He's saying that Inuit are more concerned about the animals than Greenpeacers because they, because it is their food, they want to treat them well, and they will only get what they need for survival and for food for the family and the community. So they are more conscientious, than the people that are in the Greenpeace world.* (H04, 23-May-19, interpreted from Inuktitut)

> *They are so protective and so caring of the animals that they won't go as far as naming an animal and make it into a song. You can make a song out of its skin, or the tusks or whatever, or the colour of the animal, but not the animal itself. He also earlier said that they are so protective of them that they were not going to make any kind of jokes about the animals ... If you are going to write a song about polar bear, you cannot say the name polar bear, but qakuqtaq, meaning white, the colour would mean that of the polar bear. ... You have to be respectful in that, where you don't say the name of the animal but the colour.* (H04, 23-May-19, interpreted from Inuktitut)

> *You should always be fearful of the animals because they can hear you. You can never so sure that you're going to get them…* (I16, 28-May-19, interpreted from Inuktitut)

In addition to protocols and cultural knowledge governing relationships with animals and guiding the hunting process, Study participants detailed their beliefs in the importance of providing for others through hunting. Meat is often distributed and shared, particularly when celebrating the first animal hunted by an individual.

> *[on the importance of shooting his first polar bear] It was a great deal for his mother, mainly because they strongly believe that any animal that has been caught by the first time by an individual – and that individual, when he got his first seal, or first bear, they would bring it back and every single piece of that meat would be distributed and shared. And so it will be – they would not have anything for themselves. But the reason is that in the future, they will be better hunters, and they will be able to provide for their family and their community.* (H04, 23-May-19, interpreted from Inuktitut)

> *But we usually share. Put on the radio that we got fresh meat, come over and people has some*. (I04, 25-May-19)

For many Study participants, their relationship to their surroundings is governed by a sense of connection and familiarity with the land. Certain places on the land have become familiar markers for Study participants, such as the use of rocks for making Inukshuks and providing others with navigational guidance.

> *And this spot right here, there is an inukshuk built by my grandfather.* (I25, 29-May-19)

> *Two markers, looks like slate, like flat rocks, pointers, and the pointers seem as if they're pointing into that direction at the creek. And there's a creek right here.* (I12, 27-May-19, interpreted from Inuktitut)

Igloolik and Hall Beach community members' sense of connection to the land is fostered in part by the known history of their ancestors in the area. Below, one Study participant notes the importance of oral history in detailing her grandparents' experience on the land.

> *…in 1955, they went to another area where her mother's mother had starved to death ... This is completely related to this, but away from this because of that starvation, which is quite important to her. Very important to her because it's of her grandmother and grandparents and they starved. She doesn't know exactly where they are, but there's an oral history... there's a recording of a person who had just passed on by the name ... who actually witnessed that area and told and he recorded that story of the starvation and where they were ... Her grandfather had caches around close to this little glacier ... he actually lost all of his cache and for that reason, they had starved.* (I24, 29-May-19)

The qualitative data presented within this Section (4.6.2) illustrates that the cultural continuity of Study participants is associated with the interconnected relationship between communities, the land, and its natural resources. The ability of Study participants to access valued areas used for hunting, gathering, and teaching is central to the persistence and integrity of their cultural identity and ways of relating to one another and their surroundings.

4.6.3 Project Interactions

As mentioned in Section 4.5.2, environmental features such as land markers are important cultural features of the land. When speaking about Baffin Island near Ikpikitturjuaq, one participant discussed an important navigational feature that is embedded in the landscape. The participant expressed concern that potential developments in the area could lead to this marker being destroyed.

> *There are very important archaeological sites in this area [on Baffin Island near Ikpikitturjuaq], and those definitely should not be disturbed, and there's a very large structure that was built so many years ago, it's a very old structure, and in one mountain you have to go through, if you have to go through it, go through it, and that should not be disturbed, and if it's disturbed he feels that there's something very wrong will happen to all of us... the archaeological siting and archaeological evidence should not be disturbed, and there's one area where you could actually look through and it shows you exactly where you should be going, and that's very important, and that's something that should not be destroyed or not even disturbed, where it*

> *shows the route that you should take.* (H12, 24-May-19, interpreted from Inuktitut)

The potential for the Project to also impact cultural heritage sites and artefacts including sod houses and Thule sites was also highlighted by participants. These sites are crucial expressions of Inuit history, ancestry and cultural identity on the land and many participants felt they should not be damaged or disturbed under any circumstances. One participant emphasised the need for any area identified for potential development to be carefully inspected for heritage resources prior to any development taking place.

> *Traditional sod houses … archaeologists should clearly indicate the old – there's old tent sites and old Thule houses around there [Ikpikitturjuaq] and people aren't allowed to disturb any of those. And it should be considered urgent to address all that before the development happens there. And the different organizations such as NIRB, Inuit Heritage Trust, and archaeological people should have a clear picture of how it looks now.* (I08, 26-May-19)

Participants frequently discussed the potential for Cultural Continuity values to be negatively affected by ongoing Mary River Project-related developments. Participants expressed strong concern that developments occurring across the hunting and travelling territories of Igloolik and Hall Beach would reduce opportunities for younger generations to hunt and practice traditional Inuit activities. While important cultural practices such as hunting, traveling, and working as a community are still practiced, several participants discussed how traditional patterns and behaviours associated with those activities are changing.

> *For my grandchildren sake, because I know they are not going to be hunting like I am hunting today. Maybe it is better for them. But there will always be hunting at one point or the other. All my descendants will be hunting one way or the other. Whether it is only spring time or summer time. Not all seasons like I am doing now, but one season for sure. Like spring or summer. And this area is the best hunting area [Ikpikitturjuaq].* (I25, 29-May-19)

> *And so today it is very different from the past. And more people were actually working together … Only the family members would be working for their own family member and caching walrus meat or caching caribou and it only for the families. Not for the whole camp or the community. In the past it was for the whole camp and today it is only for the family members.* (H10, 24-May-19, interpreted from Inuktitut)

In light of the proposed Project and its constituent components, it is likely that the Project will interact with Study participants' Cultural Continuity values.

4.7 PRELIMINARY CONSIDERATION OF CUMULATIVE EFFECTS

A comprehensive cumulative effects assessment was not conducted during this research as it is outside the scope of this Study. While the focus of Study interviews was on potential impacts from the Mary River Project, interviewees voiced a number of concerns with impacts that may add to or act synergistically with effects from existing mining, mine-associated activities, and other developments on Study participants' knowledge and use. These include cumulative effects from the Mary River Project as a whole as well as from additional developments, activities, and human-caused changes.

The data presented in this section serve to underscore that Project impacts on Igloolik and Hall Beach culture (both existing and potential) are likely to be compounded by additional stressors. In short, the cumulative effects from the mine and from other stressors are likely to constrain Igloolik and Hall Beach community members from using their land and waters in the unencumbered way they are used to, and also disrupt the conditions required for their cultural continuity.

Loss of sea ice from near the Study Area has the potential for negative implications for sea mammals, as numerous animals rely on the ice for their habitat. One participant observed seeing walrus concentrated on an island due to ice not forming.

> *…they counted the walrus, they did a survey on the walrus from here to there all inside the northern part of Foxe Basin ... And at one point there were so many walrus in that little long island, Amittuarjuk which we pointed out earlier, this one here, and there were so many walrus basking on that island, and the reason was that all of these islands were occupied by walrus for one reason. At one certain time of that period of time, there was a lot less ice forming here [centre of Foxe Basin], and there was not as many ice as before, and become more open. For that reason most of the walrus were basking on the islands, on the island shorelines. And also that on this side [west side of Foxe Basin], there were less walrus on this side but there were more walrus on this side. And – But he knows, even though they did the observation from here to this point, they never did this part [south west coast of Foxe Basin]. Because he know for a fact that there are a lot of walrus along here as well, but hardly any on this side. And the people from Cape Dorset actually hunt their walrus around [Mill Island], and there's a lot of walrus around here as well [coast north of Cape Dorset]. A huge abundance of walrus at this area. And also up there, and all along the shallow areas [around the Foxe Basin].* (H08, 23-May-19, interpreted from Inuktitut)

A major concern for Study participants is the noise disturbances from smaller vessels, which were observed to affect walrus as well. One participant described walrus sensitivity to motor boats, including avoidance behaviours. Another participant has observed that walrus numbers typically decline in areas where boats tend to travel.

> *And for the walrus, huge abundant of walrus around Igloolik Island before motorboats came in until we start scaring them off because of noise pollution.* (I01, 22-May-19)

> *Himself, he had noticed that there is a huge decline of walrus … Yes, it's more boats, and the boats are faster. And for those reasons, they think that's one of the reasons why walrus has declined. (*H04, 23-May-19, interpreted from Inuktitut)

In addition to the loss of sea ice as being critical to supporting valued marine life habitat and associated harvesting activities, one community member expressed concerns about the broader impact of climate change on floe edges to support marine hunting. As described below, if floe edges are receding, this will force community members to travel further for beluga whales.

> *There are changes due to climate change probably he says, along, all along the shore is not as deep anymore so they have to go where you, the floe edge, more so, they have to go further out [to hunt belugas].* (H03, 23-May-19, interpreted from Inuktitut)

Effects from the Project on the Igloolik and Hall Beach communities' habitation sites and sense of place would also be in addition to existing effects from non-mining ship traffic. Igloolik and Hall Beach community members are familiar with the impacts from shipping traffic near their homes, as shipping is one of the primary means for getting supplies into the communities. One interview participant discussed how sea mammals are already being disturbed by ships traveling through the Foxe Basin.

> *Once in a while, they'll see walrus but, around, when the ship goes like … So the walrus will hide [around the north end of Koch Island] when the ships go through there around [the east side of Koch Island] ... When the supply ships come through. (*H01, 23-May-19, interpreted from Inuktitut)

In addition to concerns about impacts to marine life and impacts from non-Project marine traffic, Study participants also discussed cumulative impacts and their effect on their way of life. Since the Inuit of northern Foxe Basin settled in the communities of Igloolik and Hall Beach, some elements of Inuit life in these communities has changed. This change has left some community members feeling negatively about permanent settlements, referring to Igloolik and Hall Beach as refugee camps.

> *This is what we now live in, refugee camps. We call them refugee camps. We were all over the place one time*. (I03, 26-May-19)

In sum, potential effects from the Project on the Igloolik and Hall Beach communities' knowledge and use must be considered in combination with effects from other sources, including climate change, non-mining marine traffic, tourism, and forced settlement. Given that the evidence suggests that there will be measurable adverse effects from the Project on Inuit use and values, a full and proper assessment of cumulative effects on Inuit culture, resources, and land use is necessary in the Study Area. To date, that has not been conducted. As a result, predicted interactions provided in this Report are necessarily conservative as they are based on Project-specific information. Because cumulative effects may render Igloolik and Hall Beach VCs more vulnerable to disturbance, this Study strongly recommends that a full cumulative effects assessment be conducted.

5. CONCLUSION

5.1 SUMMARY

This Study of Baffinland's proposed Project outlines existing and potential impacts from the Mary River Mine on Marine Hunting; Terrestrial Hunting and Trapping; Fishing; Travel, Trails and Habitation; and Cultural Continuity values.

Based on the data collected for this Study, it is possible to state with a high degree of confidence that the Study Area is of great importance to the communities of Igloolik and Hall Beach. The site-specific data clearly demonstrate that people from both communities use or have used the Study Area across multiple generations. A combined total of 983 site-specific values were reported in the Study Area (the Project Footprint, LSA, and RSA), including (but not limited to):

- Marine hunting sites;
- Terrestrial hunting and trapping sites;
- Fishing sites;
- High-value fish habitat;
- Important wildlife habitat, including calving areas for caribou and walrus in the terrestrial and marine environments respectively;
- Important travel routes that are relied upon to access hunting grounds, fishing areas and other communities; and
- Areas relied on for the continuity of Inuit culture, such as teaching areas, campsites, sod houses and gathering places.

Although the Study VCs are interconnected, this Study has identified potential interactions between the Project and each VC. Project interactions and impact pathways impacting marine mammal harvesting, safe travel inland and on the sea ice, quality of marine mammal habitat, loss and disturbance of hunting areas, and loss of knowledge transmission which emerged from the Study related to the VC of Marine Hunting are as follows:

- Displacement of marine mammals due to acoustic and other disturbances;
- Decreased abundance of valued species in preferred hunting areas;
- Effects on the quality of marine mammals due to contaminants (e.g., dust);
- Effects on the experience of being in preferred areas (e.g., acoustic disturbances, increased traffic);
- Decreased use and loss of use due to the above; and
- Related impacts on food security and knowledge transmission.

Project interactions and impact pathways, including impacts to safety, increased harvesting efforts and costs, and a loss or disturbance of use of hunting areas leading

to potential impacts to household and community-level subsistence that emerged from the Study related to the VC of Terrestrial Hunting are as follows:

- Effects on caribou movement and migration patterns due to new rail development (south and north), mineral extraction, and increased rail and marine traffic (Phase 1 and Phase 2);
- Acoustic disturbances to terrestrial wildlife, including caribou, from an increase in proposed rail and shipping traffic in combination with existing and permitted (though not yet constructed) increases in air, rail, and shipping traffic in the Study Area;
- Disturbances to seabirds and their nesting areas;
- Impacts on the health of Inuit hunters due to exposure to airborne dust; and
- Effects on terrestrial wildlife health due to contamination from dust dispersion.

Project interactions and impact pathways impacting fish harvesting, including important fish habitat and migration routes, that emerged from the Study related to the VC of Fishing are as follows:

- Effects on fish migration routes, particularly in and around Ikpikitturjuaq and the southern shipping corridor;
- Loss of valued fish habitat in Ikpikitturjuaq and along the southern shipping route;
- Effects on fish populations due to contamination from dust dispersion; and
- Acoustic disturbances from the increase in shipping traffic through Ikpikitturjuaq and southern shipping route.

Project interactions and impact pathways impacting the safety of travel across terrain and seascapes, as well as increased travel time and harvesting effort, that emerged from the Study related to the VC of Travel, Trails, and Habitation are as follows:

- Disruption to travel and trails across the southern shipping route, due to ice breaking/melting and competition with increased shipping traffic;
- Negative effects on drinking water quality within the Study Area due to dust dispersion; and
- Loss of use or avoidance of preferred areas for camping due to disruption from developments.

Project interactions and impact pathways impacting knowledge transmission and sense of place that emerged from the Study related to the VC of Cultural Continuity are as follows:

- Negative effects on important archaeological sites due to ground disturbance from development activity;
- Negative effects on the use of preferred areas for knowledge transmission.

Overall, it is anticipated that these effects will impact the ability of Study participants to harvest valued species (e.g., walrus, seal, beluga, caribou, char); access valued harvesting and camping sites; use existing travel routes; enjoy time spent on the land and water in relative peace and quiet; and pass IQ (knowledge, values, and worldview) down to younger generations. It is also anticipated that travel costs may increase for Igloolik and Hall Beach residents, should they be forced to travel further afield to harvest resources and practice their culture. Ripple or spin off effects may include loss of use due to increased costs, and impacts on knowledge transmission and cultural continuity.

In addition, Study participants stated that cumulative effects have already impaired their ability to practice culturally important activities in the Study Area. As such, the Project may create additional or synergistic adverse effects on the Study participants' lands, cultural knowledge and use of lands, practice of rights, and wellbeing. From the findings of this Study, it is recommended that a full and comprehensive evaluation of potential cumulative effects that may emerge from this Project in interaction with past, present, and reasonably foreseeable future anthropogenic activities be undertaken.

In summary, the current and future Mary River Mine activities (and related shipping and road traffic), would potentially have a direct impact on Igloolik and Hall Beach harvesting, land use activities and ability to transmit IQ between generations.

5.2 CLOSURE

Should you wish to discuss any aspect of this Report further, please do not hesitate to contact Rachel Olson at 604-563-2245.

Sincerely,

ORIGINAL SIGNED

Rachel Olson, PhD

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I01, 22-May-2019. Transcript of May 22, 2019 Interview from the Qikiqtani Inuit Association's Tusaqtavut Study Specific to the Baffinland Mary River Mine Project, Phase 2 for the communities of Igloolik and Hall Beach

I02, 25-May-2019. Transcript of May 25, 2019 Interview from the Qikiqtani Inuit Association's Tusaqtavut Study Specific to the Baffinland Mary River Mine Project, Phase 2 for the communities of Igloolik and Hall Beach

I03, 26-May-2019. Transcript of May 26, 2019 Interview from the Qikiqtani Inuit Association's Tusaqtavut Study Specific to the Baffinland Mary River Mine Project, Phase 2 for the communities of Igloolik and Hall Beach

I04, 25-May-2019. Transcript of May 25, 2019 Interview from the Qikiqtani Inuit Association's Tusaqtavut Study Specific to the Baffinland Mary River Mine Project, Phase 2 for the communities of Igloolik and Hall Beach

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I16, 28-May-2019. Transcript of May 28, 2019 Interview from the Qikiqtani Inuit Association's Tusaqtavut Study Specific to the Baffinland Mary River Mine Project, Phase 2 for the communities of Igloolik and Hall Beach

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I24, 29-May-2019. Transcript of May 29, 2019 Interview from the Qikiqtani Inuit Association's Tusaqtavut Study Specific to the Baffinland Mary River Mine Project, Phase 2 for the communities of Igloolik and Hall Beach

I25, 29-May-2019. Transcript of May 29, 2019 Interview from the Qikiqtani Inuit Association's Tusaqtavut Study Specific to the Baffinland Mary River Mine Project, Phase 2 for the communities of Igloolik and Hall Beach

I26, 29-May-2019. Transcript of May 29, 2019 Interview from the Qikiqtani Inuit Association's Tusaqtavut Study Specific to the Baffinland Mary River Mine Project, Phase 2 for the communities of Igloolik and Hall Beach

APPENDIX 1: ENGLISH LANGUAGE CONSENT FORM

CONSENT FORM
INUIT QAUJIMAJANGIT COLLECTION

THIS SCRIPT IS FOR READING TO A PARTICIPANT BEFORE AN INTERVIEW DURING INUIT LAND USE / INUIT QAUJIMAJANGIT DATA GATHERING

Purpose:
QIA is collecting Inuit Qaujimajangit (IQ) to support protecting and advancing the rights and interests of Qikiqtani Inuit. The knowledge you share will be stored in a QIA computer database. The knowledge will be used for the NIRB review of the Phase 2 application for the Mary River Project.

Consent:
We will ask you about your knowledge on areas of traditional Inuit land use and Inuit knowledge about the land. We ask you to consent to have your responses during the interview recorded on maps, in notes, and in audio recording. You may respond in any way you are comfortable. You do not have to answer questions and you can end the interview when you want to. If QIA takes any pictures or filming of this interview, I consent to QIA using my image.

You agree to give QIA permission to use the knowledge you share to defend the rights and values of Inuit under the Nunavut Agreement, for the Mary River Project or any other work QIA does in the best interests of Inuit. You agree QIA will not own the knowledge you share but that QIA must protect the knowledge you share when QIA uses it.

You understand you can ask QIA to provide me a copy of the knowledge you share, but that QIA may also keep a copy for its work. You give QIA permission to publically use any personal information about you, including your name, that is part of the knowledge you share during this interview.

Privacy:
QIA respects our Inuit members and their privacy. We follow the Canadian law about privacy that has rules about collecting, using and disclosing personal information. That is why we have this script.

When we use the knowledge you share, your individual responses will not be linked to your name so your privacy is protected in our reports. We will keep your personal information safe by using computers with passwords. We will only keep your personal information as long as it is relevant for the work of QIA, or for as long as the law requires.

If you want to know more about how your privacy is protected at QIA, please ask the interviewers and they will tell you how to contact QIA.

Agreement:
Do you have any questions? If you agree to what was said, we will write down your name on a list. We will give you a copy of this letter so you have it.

_____	_____	_____
Name	Date	Place

APPENDIX 2: INUKTITUT LANGUAGE CONSENT FORM

qia.ca

ᐊᖏᕈᑦ ᑎᑎᕋᕐᕕᖓᖅ
ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖏᓐᓂᒃ ᓄᐊᑦᑎᓂᕐᒥ

ᑖᒃᑯᐊ ᐅᖃᓕᒫᖅᑕᐅᖃᑦᑕᓂᐊᖅᑐᑦ ᐊᐱᕐᓱᖅᑕᐅᓂᐊᖅᑐᒧᑦ ᐊᐱᕐᓱᖅᑕᐅᕆᐊᓚᐅᖕᒋᓐᓂᖓᓂ ᐃᓄᐃᑦ ᓄᓇᒥᒃ ᐊᑐᖃᑦᑕᕐᓂᖏᓐᓂᒃ / ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖏᓐᓂᒃ ᑎᑎᖅᑲᓂᑦ ᓄᐊᑦᑎᒍᑕᐅᔪᓂᑦ

ᐱᔾᔪᑎᖓ:
ᖁᐱᖅᑕᓂᒃᑯᑦ ᓄᐊᑦᑎᓯᒪᑕ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖏᓐᓂᒃ ᐃᑲᔪᖅᑐᑎᒃ ᓴᐳᔾᔨᓂᕐᒥᒃ ᓯᕗᒧᐊᑦᑎᑦᑎᕙᓪᓕᐊᓂᕐᒥᓪᓗ ᐱᔪᓐᓇᐅᑎᓂᑦ ᐊᒻᒪᓗ ᐃᓚᐅᕝᕕᒋᔪᒪᓯᒪᔭᖏᓐᓂᒃ ᖁᐱᖅᑕᓂ ᓄᓇᓖᑦ ᐃᓄᐃᑦ. ᖃᐅᔨᒪᔨ ᖃᐅᔾᔨᑎᑦᑎᒍᑎᓯ ᑐᒃᑯᖅᑕᐅᖃᑦᑕᓂᐊᕐᓂᓚᑕ ᖁᐱᖅᑕᓂᒃᑯᑦ ᖃᕋᓴᐅᔭᒃᑯᑦ ᑎᑎᖅᑲᖁᑎᖃᕝᕕᖓᓂ. ᖃᐅᔨᒪᓂᕆᔭᐅᔪᑦ ᐊᑐᖅᑕᐅᓛᖅᑐᑦ ᓄᓇᕗᒥ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ ᕿᒥᕐᕈᓂᖓᓂ ᑐᖏᓕᐊᓂ ᐱᓕᕆᐊᖕᖓᓂᑦ ᑐᔾᔭᕋᐅᑕᐅᓯᒪᔪᓄᑦ ᓄᐃᔭᓕᕆᓂᕐᒥᑦ.

ᐊᖏᕈᑦ:
ᐃᓚᖓᓂᒃ ᐊᐱᕆᓂᐊᖅᑐᒍᑦ ᖃᐅᔨᒪᔨ ᒥᒃᓵᓄᑦ ᐱᔾᔪᑎᓕᓐᓄᑦ ᐃᓄᐃᑦ ᐊᑐᖃᑦᑕᕐᓂᖏᑦ ᐊᒻᒪᓗ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᖏᓐᓂᑦ ᓄᓇᐅᑉ ᒥᒃᓵᓄᑦ. ᐃᓚᖓᓂᒃ ᐊᐱᕆᔪᒍᑦ ᐊᖏᖅᑯᓐᓂᑦ ᑭᐅᔪᑎᑦ ᐊᐱᕐᓱᖅᑕᐅᑎᓐᓄᑦ ᑎᑎᕋᖅᑕᐅᔅᑯᓐᓄᑦ ᓄᓇᙳᐊᓂᑦ, ᑎᑎᕋᖅᑕᖏᓐᓂᑦ, ᐊᒻᒪᓗ ᓂᐱᓕᐅᖅᑕᐅᔪᓂᑦ. ᑭᐅᔪᓐᓇᖅᑐᑎᑦ ᖃᓄᑐᐃᓐᓇᕐᓂᐊᖅ ᐃᓱᕕᑦ ᐊᑲᐅᒋᔭᕐᓂᒃ. ᑭᐅᖃᑦᑕᓇᐊᑐᙵᕐᑐᑎᑦ ᐊᐱᖅᑯᑎᓂᑦ ᐊᒻᒪᓗ ᖃᖓᑐᐃᓐᓇᕐᓂᐊᖅ ᓄᖅᑲᕈᒪᓕᕈᕕᑦ ᐊᐱᕐᓱᖅᑕᐅᓂᕐᓂᑦ ᓄᖅᑲᕈᓐᓇᖅᑐᑎᑦ. ᖁᐱᖅᑕᓂᒃᑯᑦ ᐊᒃᓯᓕᐅᕆᓐᓂᖅᑲᑕ ᐅᕙᔾᔫᓐᓂᑦ ᑕᕐᓇᔫᓴᓕᐅᕆᓐᓂᖅᑲᑕ ᑕᕝᕙᓂ ᐊᐱᕐᓯᓂᕐᒥ, ᐊᖏᕐᑐᖓ ᖁᐱᖅᑕᓂᒃᑯᑦ ᐊᑐᕆᓐᓇᕐᓂᕐᓴᖅᑐᑎᑦ ᐊᔾᔨᓐᓂᒃ.

ᐊᖏᖅᑐᑎᑦ ᖁᐱᖅᑕᓂᒃᑯᑦ ᐊᑐᕆᓐᓇᕐᓂᕐᓴᖅᑐᑎᑦ ᐃᓚᖓᑦ ᖃᐅᔨᒪᔭᖏᓐᓂᒃ ᐅᖃᐅᓯᕆᓴᖅᑕᖏᓐᓂᒃ ᓴᐳᔾᔨᓗᑎᑦ ᐱᔪᓐᓇᐅᑎᖏᓐᓂᑦ ᐅᐱᓐᓇᔭᖏᓐᓂᓪᓗ ᐃᓄᐃᑦ ᒪᓕᒃᑐᑎᑦ ᓄᓇᕗᑦ ᐊᖏᖅᑲᑎᒌᒍᑎᖏᑦ, ᓄᐃᑕᓐᓇᓂᕐᒧᑦ ᐅᕙᔾᔫᓐᓂᑦ ᖃᓄᑐᐃᓐᓇᖅ ᐊᓯᖏᓐᓄᑦ ᐃᖅᑲᓇᐃᔮᖏᓐᓄᑦ ᖁᐱᖅᑕᓂᒃᑯᑦ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ ᐃᓄᐃᑦ. ᐊᖏᖅᑐᑎᑦ ᖁᐱᖅᑕᓂᒃᑯᑦ ᓇᒻᒥᓂᖅᑯᑎᖃᕐᓯᔾᔪᖏᓐᓂᖏᓐᓂᒃ ᐃᓚᖓᑦ ᖃᐅᔨᒪᔭᖏᓐᓂᒃ ᐅᖃᐅᓯᕐᓂᑦ ᑭᓯᐊᓂ ᖁᐱᖅᑕᓂᒃᑯᑦ ᓴᐳᔾᔨᒋᐊᓖᑦ ᐃᓚᖓᑦ ᖃᐅᔨᒪᔭᖏᓐᓂᒃ ᐅᖃᐅᓯᕆᓴᖅᑕᖏᓐᓂᒃ ᖁᐱᖅᑕᓂᒃᑯᓐᓄᑦ ᐊᑐᖅᑕᐅᓕᕋᐃᑉᐸᑕ.

ᑐᑭᓯᔪᑎᑦ ᐊᐱᕆᔭᐅᓇᕋᐃᑦ ᖁᐱᖅᑕᓂᒃᑯᓐᓄᑦ ᓇᓕᖅᑲᖓᓂᒃ ᑐᓂᓯᔭᐅᔪᒪᓗᑎᑦ ᖃᐅᔨᒪᔭᓂᑦ ᖃᐅᔨᑎᑦᑎᒍᑎᑦᓯᕋᑕᖅᑕᓂᑦ, ᑭᓯᐊᓂ ᖁᐱᖅᑕᓂᒃᑯᑦ ᐱᓯᒪᑦᑎᒍᓐᓇᕐᓂᕐᓴᖅᑐᑎᑦᑕᐅᖅ ᓇᓕᖅᑲᖓᓂᒃ ᐃᖅᑲᓇᐃᔮᖏᑦ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ. ᖁᐱᖅᑕᓂᒃᑯᑦ ᐊᖏᖅᑕᑎᑦ ᐃᓄᓕᒫᓄᑦ ᓵᖅᑭᑎᑦᑐᑎᒃ ᐊᑐᕆᓐᓇᕐᓂᕐᓴᖅᑐᑎᑦ ᓇᓕᑐᐃᓐᓇᖏᓐᓂᒃ ᐃᓚᖓᑦ ᒥᒃᓵᓐᓂᖅᓴᑲᓐᓂ ᑎᑎᖅᑲᓂᑦ, ᐱᖃᑦᔭᐅᑎᓪᓗᒍ ᐊᑏᑦ, ᑖᓐᓇ ᐃᓚᒌᔭᐅᓪᓗᓂ ᖃᐅᔨᒪᔭᓄᑦ ᐅᖃᐅᓯᕆᓴᖅᑕᓄᑦ ᑕᐃᒪᓂ ᐊᐱᕐᓱᖅᑕᐅᓂᖏᓐᓂᑦ.

ᖃᐅᔨᒪᔭᐅᔭᓇᐊᖅᑳᖏᑦᑐᑦ:
ᖁᐱᖅᑕᓂᒃᑯᑦ ᓂᑲᒍᓱᒃᑐᑎᒃ ᐃᑉᐱᒍᓱᑦᑎᐊᖅᑐᑦ ᐃᓄᖕᓂᑦ ᐃᓚᒋᔭᐅᔪᓐᓂᑦᑎᖕᓂᑦ ᐊᒻᒪᓗ ᖃᐅᔨᒪᔭᐅᔭᓇᐊᖅᑳᖏᓐᓂᖏᓐᓂᒃ. ᒪᓕᒐᕐᑐᒍᑦ ᑲᓇᑕᒥᐅᑦ ᒪᓕᒐᖏᓐᓂᑦ ᖃᐅᔨᒪᔭᐅᔭᓇᐊᖅᑳᖏᑦᑐᑦ ᒥᒃᓵᓄᑦ ᒪᓕᒐᖅᑯᑎᖏᑦ ᓄᐊᑦᑎᓂᕐᒥ, ᐊᑐᖅᑕᓂᕐᒥ ᐊᒻᒪᓗ ᓴᐳᔾᔨᑦᑎᖅᑕᓂᕐᒥ ᐃᓅᑦ ᒥᒃᓵᓄᑦ ᑐᑭᓯᒋᐊᕐᑎᒃᓯᓐᓂᑦ. ᑕᐃᒫᒃ ᑖᓐᓇ ᐱᔾᔪᑎᒋᓪᓗᒍ ᑎᑎᕋᕐᓯᒪᕗᖅ.

ᐊᑐᕋᐃᒍᑎᒍ ᖃᐅᔨᒪᔭᑎᑦ ᐅᖃᐅᓯᕆᓴᖅᑕᑎᑦ, ᓇᒻᒥᓂᖅ ᑭᐅᔪᑎᒋᓯᒪᔭᑎᑦ ᐃᓚᖓᑦ ᐊᑎᖓᓄᑦ ᐊᑕᖅᑲᑦᑕᔾᔪᑎᑦ ᑕᐃᒫᒃ ᖃᐅᔨᒪᔭᐅᔭᓇᐊᖅᑳᖏᓐᓂᑦ ᓴᐳᑎᔭᐅᓯᒪᓂᐊᕐᒪᑦ ᐅᓂᒃᑲᓕᐊᖅᑎᓐᓂᒃ. ᐃᓚᖓᑦ ᒥᒃᓵᓄᑦᓯᑦ ᑎᑎᖅᑲᐃᑦ ᓴᐳᑎᓯᒪᓂᐊᕐᒪᑕ ᐊᑐᖅᑕᐅᔪᓐᓂᑦ ᖃᐅᔨᒪᔭᐅᓄᑦ ᐃᓯᕈᑎᖃᓇᐊᓕᓐᓂᑦ. ᐃᓚᖓᑦ ᒥᒃᓵᓄᑦᓯᑦ ᑎᑎᖅᑲᐃᑦ ᐱᓯᒪᓂᐊᕐᒪᑕ ᐊᑐᖅᓂᓕᒫᖏᓐᓂ ᑭᓯᐊᓂ ᖁᐱᖅᑕᓂᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᖏᓐᓄᑦᑐᐊᖑᓪᓗᑎᒃ, ᐅᕙᔾᔫᓐᓂᑦ ᒪᓕᒐᖅ ᒪᓕᒃᖢᒍ ᐊᑯᓂᐅᑎᒋᔪᓇᐊᖅᑲᓂᖓ ᒪᓕᒃᖢᒍ.

ᐊᖏᕈᑦ ᑎᑎᕋᖅᕕᔅᓴᖅ
ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖏᓐᓂᒃ ᓄᐊᑦᑎᓂᕐᒥ

ᑐᑭᓯᒃᑲᓐᓂᕈᒪᒍᕕᑦ ᖃᓄᖅ ᖃᐅᔨᒪᔭᐅᔪᓇᐊᖅᑲᖏᓐᓂᑦ ᓴᐳᑎᔭᐅᓯᒪᒻᒪᖔᖅ ᕿᑭᖅᑕᓂᒃᑯᓐᓂᑦ, ᐊᒥ ᐊᐱᕆᓂᐊᖅᑯᑎᑦ ᐊᐱᕐᓱᖅᑎᓂᑦ ᑖᒃᑯᐊ ᐃᓕᓐᓂᒃ ᐅᖅᑲᐅᔾᔨᓂᐊᕐᖓᑕ ᖃᓄᖅ ᐅᖅᑲᖅᕕᖅᑲᕈᓐᓇᕐᒪᖔᕐᐱᑦ ᕿᑭᖅᑕᓂᒃᑯᓐᓂᑦ.

<u>ᐊᖏᖅᑲᑎᒌᒍᑦ</u>
ᐊᐱᖅᑯᑎᔅᓴᖅᑲᖅᑮᑦ? ᐊᖏᕈᕕᑦ ᐅᖅᑲᐅᓯᐅᕙᓄᑦ, ᑎᑎᕋᖅᓂᐊᖅᑕᕗᑦ ᐊᑏᑦ ᑎᑎᕋᖅᕕᒋᕙᑦᑕᑎᖓᓂ. ᐃᓚᖓᓄᑦ ᑐᓂᓯᓂᐊᖅᑐᒍᑦ ᓇᓚᖅᑲᖓᓂᒃ ᑖᔅᓱᒪ ᑎᑎᖅᑲᐅᑉ ᑕᐃᒪᒃ ᐱᓯᒪᓂᐊᕋᕕᐅᒃ.

ᐊᑎᖓ	ᐅᓪᓗᖓ	ᓇᒥ

Interview Guide for Qikiqtani Inuit Association Knowledge and Use Study for Baffinland's Mary River Iron Mine Project

This guide includes:

- Interview questions;
- Mapping notes; and
- Mapping codes.

INTRODUCTION

[Complete the interview checklist, and then read with **audio and video recorders on** at the start of each interview.]

Today is [date]. We are interviewing [participant name] for the Qikiqtani Inuit Association knowledge and use study for Baffinland's Mary River Iron Mine Project. Thank you for coming.

My name is [name] and my co-researcher(s) is/are [name]. We're at the [building/office] in [community] in Nunavut. [Participant name] has read and signed the consent forms, and we have assigned him/her participant ID [number]. We have explained the purpose of the Study, mapping process, and interview plan. We will be mapping in Google Earth at 1:50,000 or better.

Primary Goal: to document community knowledge and use in the area of the Project. We'd like to know how you have used these areas, as well as what you may know about how community members have used it.

1. BACKGROUND AND EXPERIENCE

Personal Information

- Full name?
- Place of birth?
- Age and year of birth?
- Where you were raised?

- Beneficiary of the Nunavut Land Claims Agreement?
- Parents' and grandparents' names?

1. GENERAL USE QUESTIONS

Be sure to ask the following questions with Google Earth centred on and displaying the entire Study Area. Questions in Section 2 are designed to give an overview of the parts of the Study Area that are important to participants, and how they use this area and its resources.

Have you ever used the area around the Project?

For hunting / trapping / fishing / camping / plant gathering / passing on traditional knowledge or language / gatherings or ceremonies?

- If yes:
    - When?
    - What do you do there?
    - Who with?
    - How did you learn about this area?
- If no:
    - Why?

Have your family or community members ever used the area around the proposed Project, or areas nearby?

- If yes:
    - What activities did they do there?
- If no:
    - Why?

Is the Project area important to you / your family / your community? Why?

Relevant information to include:

How they learned about the Project area;

First hand experience;

*Second hand knowledge (map with *);*

Trapline number(s) of individual / family members;

Other named family members; and

Remember to spell out all proper names.

2. HABITATION

PERMANENT HABITATION (PX) AND TEMPORARY HABITATION (TX)

Can you show us places you have stayed overnight?

- Examples: a cabin you built or used; campsite; tent; and other temporary or permanent structures.

How many times have you stayed there?

- Once or short-term (less than 3 days; TX); and
- More than once or long-term (more than 3 days; PX).

When did you first stay there?

When was the last time you stayed there?

Suggested prompts for detailed knowledge and use on habitation:

Describe the location / the conditions

Why do you go there?

How did you find out about this place? / Who showed it to you?

What do you like about the place?

What activities do you do when staying there?

What does this place mean to you?

Is this place important to you / your family / community? Why?

Is this place important to sustaining your culture / way of life? How?

Do you teach younger generations there (mark as TA)?

How would you explain the importance of this place to the government / industry?

3. TRAVEL ROUTES

TRAIL (TR)

Can you show us routes you have travelled by foot, quad, snowmobile or truck, etc. (usually for hunting, trapping, gathering plants, accessing camping or fishing areas, etc., rather than driving on a highway)?

- When did you first use this route?
- When did you last use this route?
- What did you use this route for (e.g., for hunting or plant gathering, or to reach fishing, camping, or other locations)?

Can you show us old trails that have been used by community members (map with *)?

- When was this route used?
- Who was using this route?
- What did they use it for (e.g., for hunting or plant gathering, or to reach fishing or camping sites, or other locations)?

WATER ROUTE (WR)

Can you show us routes where you have travelled along creeks, lakes, rivers or on the ocean by boat?

- When did you first use this route?
- When did you last use this route?
- What did you use this route for (e.g., for hunting, fishing, or to reach campsites of other locations)?

Can you show us old water routes that used to be used by community members (map with *)?

- When was this route used?
- Who was using this route?
- What did they use it for (e.g., for hunting, fishing, or to reach campsites of other locations)?

Notes for mapping trails or water routes:

Travel routes and all linear features should be controlled.

Follow the actual route and natural features (not a straight line from A to B).

*Include relevant modifiers after the site code (e.g., *,?,+,$).*

Suggested prompts for detailed knowledge and use on transportation:

How did you learn about this route?

What do you do when you are travelling along here?

Is this the only route to get from point A to B, or is there an alternative?

Is this a new route, or a well-travelled, well-recognized route?

Is this route important to you / your family / community? Why?

Is this route important to sustaining your culture / way of life?

What is the farthest point that you have travelled along this route?

4. HUNTING, TRAPPING, FISHING, AND GATHERING PLANTS AND RESOURCES

See codes at back of this guide for species – these may also be used as prompts.

HUNTING AND TRAPPING

Can you show us places where you have killed or trapped mammals or birds?

Prompt by most important species first, e.g. caribou, ringed seals, ptarmigan... See codes at the back of this guide. For each value:

- Which species?
- When?
- Why (e.g., to feed you / your family / your community, or for other uses such as medicines, crafts, or sale)?

FISHING

Can you show us places where you have caught fish? For each value:

- Which species?
- When?

- Why (e.g., to feed you / your family / your community, or for other uses such as for medicines, ceremonies, sale, or simply to enjoy fishing / catch-and-release; catch-and-release and no catch should be marked as EF)?

Suggested prompts for detailed knowledge and use for killed or trapped mammals, birds, and fish:

Why do you hunt / trap / fish?

Who taught you how to hunt / trap / fish (mark as TA)? Where?

Have you taught anyone how to hunt / trap / fish (mark as TA)? Who? Where?

How important are these animals / birds / fish to your daily life?

What did you do with the meat or fur?

How many people can an animal feed (individual / family / community)? For how long?

What does it mean to you to be able to hunt / trap / fish?

Are these animals / birds / fish important to sustaining your culture / way of life? How?

How would you explain the importance of these animals to the government / industry?

Are any of these animals / birds / fish hard to find? Which ones?

HARVESTING BERRIES, OTHER PLANTS, OR FUNGI

Can you show us places where you've collected:

- Berries or other food plants?
- Medicine plants?
- Mushrooms or other fungi?
- Plants for crafts or other uses?

For each value:

- Which species?
- When?
- Why (e.g., to feed you / your family / your community, or for other uses such as medicines, crafts, ceremonies, or sale)?

Suggested prompts for detailed knowledge and use:

How important are these medicines / plants / fungi / resources to your daily life?

Who taught you about collecting and using medicine / plants / fungi / resources (mark as TA)? Where?

Have you taught anyone about collecting and using medicine / plants / fungi / resources (mark as TA)? Who? Where?

Are these medicines / plants / fungi / resources important to sustaining your culture / way of life? How?

How would you explain the importance of these medicines / plants / fungi / resources to the government / industry?

Are any of these medicines / plants / fungi / resources hard to find outside of the Project area and nearby areas?

Who were you with when gathering plants / fungi / other resources?

5. ENVIRONMENTAL FEATURES

ENVIRONMENTAL FEATURES (EF)

Can you show us the locations of good habitat or environmental features that are important for mammals / birds / fish / plants?

Examples:

- *Calving or mating areas;*
- *Overwintering areas; and*
- *Fish spawning areas.*

ENVIRONMENTAL FEATURE CORRIDOR (EC)

Can you show us routes that animals use to move across the area?

6. CULTURAL USE

GATHERING PLACE (GP)

Can you show us important places where your community holds or attends gatherings?

- When?
- Who (e.g., use by you / your family members / your community / many communities)?
- What happened there?

Examples:

- *Inuit games;*
- *Drum dancing; and*
- *celebrations.*

TEACHING AREA (TA)

Can you show us places that are used for teaching knowledge to children or others?

- When?
- Who (e.g., use by you / your family members / your community / many communities)?
- What was taught there? How?

Can you show us any places that have special knowledge or stories associated with them?

- Who told you about this place and the stories? When?

Examples:

- *Tuniit stories;*
- *Animal spirit stories; and*
- *Histories.*

BURIAL (BU)

Can you show us places where Inuit people are buried or where their remains are (e.g., cremation)?

- Know first hand or heard from family / community members?

PLACE NAME (PN)

Can you show us any places that have special place names?

Include for each mapped site in Google Earth description field of the dialogue box:

- *First and last use (day / month / season and year / decade); and*
- *Include the place name and translation.*

7. IMPAIRED USE

Specific and general impaired use due to impacts from industry and other environmental or social changes

GENERAL IMPAIRED USE (GL) AND SPECIFIC IMPAIRED USE (SL)

Can you show us any general areas or specific sites where you used to hunt / gather / fish / camp/ practice other rights, but do not go anymore because of impacts from industry or other reasons?

- What did you used to do there? Why (e.g., hunting because there were lots of caribou)?
- When did you last use that place?
- Why did you stop using that place?

Include for each mapped site in Google Earth description field of the dialogue box:

First and last use (day / month / season and year / decade); and

Reason for avoidance.

Suggested prompts for detailed knowledge and use:

Why can you no longer go to this area?

What activities did you used to do in this area?

How often did you go to or use this area?

Can you do those activities somewhere else?

How does it make you feel that you can no longer go to or use this area?

How has the loss of use impacted you / your family / your community?

Has the loss of use impacted your culture / way of life? How?

How would you explain the importance of this area to the government / industry?

How would you explain the impact that not being able to use the area has had on you to the government / industry?

KNOWLEDGE OF USE BY OTHER COMMUNITY MEMBERS (*)

After you have covered a participant's personal use, and if there is still time, you may want to ask about their knowledge of how other community members use the area. You may do this particularly for important areas, if the participant does not have much personal experience of an area, or if you are trying to collect historical use data.

Can you show us places where members of your family or community or your ancestors have:

- Camped or stayed in cabins?
- Killed or trapped animals or birds?
- Caught fish?
- Collected berries / plants / water / other resources?
- Attended ceremonies or gatherings?
- Travelled across the area?
- Other activities?

8. PROJECT IMPACT QUESTIONS

Make sure industry data and participant's mapped sites are on the screen. If need be, have project descriptions and images for participant's reference. Be open to discussion of impacts beyond the scope of the RSA where appropriate.

Refer back to the participant's use in the Study area, e.g. if they do a lot of fishing and to the initial checklist completed at the beginning of the interview to determine key project components for the participant.

Baffinland's Mary River Iron Mine Project includes the following primary project components:

- A tote road and railway corridor with associated crossings, infrastructure and traffic
- A port facility and associated refueling, processing, loading and unloading and shipping traffic
- An active open pit iron mine with associated excavations

Ask the following questions for each of the above Project Components (depending on the participant's previous responses – e.g. if an avid seal hunter consider focusing on port and shipping facilities and routes)

Use the following as a tool to order these responses and guide future questioning – notably when asking about project interactions, and impact pathways:

VC	SCOPE	PROMPTS
☐ *Hunting*	☐ *Marine* ☐ *Terrestrial*	*Key Species?*
		What activities, during what seasons?
		Key locations and sites?
☐ *Fishing*	☐ *River* ☐ *Ocean*	*Key Species?*
	☐ *Net fishing* ☐ *Jigging* ☐ *Casting*	*What activities, during what seasons?*
		Key locations and sites?

Access	*Travel* *Camping*	*Key routes?*
		What activities during what seasons?
		Key locations and sites?
Sense of Place	*soapstone quarries,* *burial sites and* *cultural activities/sites,* *opportunities for teaching and learning* *general attachment to a place or enjoyment of a place)*	*Key Species? Cultural Activities*
		What activities, during what seasons?
		Key locations and sites?

Based on your understanding of the project and these primary components, do you think it will affect:

- Your (hunting/ fishing/ access to the land/ sense of place)?
    - If so, how?

- Would these occurrences impact you directly or indirectly?
    - Is the impact displaced (e.g. are there other animals/features of the landscape they will impact)?
- Are impacts seasonal?
- Do you think these impacts will extend beyond the life of the project? Why?
- Will these impacts extend to other community members?
    - Who will feel them?

The above process describes the sorts of information around projected impacts and pathways that we are attempting to solicit from the interview participant. It is important to ask probing questions that solicit opinions and experiences without leading the interview participant.

Do ask: What do you think will happen? Why? How will it impact you?

Don't ask: Will (x, y, z) happen?

What do you think the most important issues are for your community to focus on in relation to the Project?

Are there any other important places or issues related to the Project that you think we should be documenting today?

Are there other community members that we should talk to?

Note: You may want to ask some of these questions earlier in the interview, for example if a participant has talked a lot about caribou hunting in the Study area, ask them if they think the Project will impact their hunting, and why.

CONCLUSION

Read with audio and video recorders on after every session.

Today is [date]. We have just finished interviewing [participant name] for the Qikiqtani Inuit Association knowledge and use study of Baffinland's Mary River Iron Mine Project. Thank you for coming.

My name is [name], my co-researcher(s) is/are [name(s)] and we are here at [office/building] in [community/town]. We've given [participant name] participant ID [#]. We've mapped a total of [#] sites in Google Earth at 1:50,000 or better, and recorded a total of [#] tracks on the digital recorder. Notes are recorded in/on [notebook/computer]. This interview has taken approximately [#] hours [#] minutes.

MAPPING CODES

HABITATION AND TRANSPORTATION

PX = Permanent Habitation
TR = Trail
TX = Temporary Habitation
WR = Water Route
DX = Boat launch/mooring

ENVIRONMENTAL FEATURES

EC = Environmental Feature Corridor
EF = Environmental Feature
WR = Winter Range
WQ = Polynya
VS = Visual Sighting
SF = Spawning Area
HF = Habitat Feature
DN = Den/ Nest Location
CV = Calving Area

TERRESTRIAL MAMMAL KILL SITES

CA = Caribou
PZ = Polar Bear
LM = Lemming
OG = Other Game

MARINE MAMMAL KILL SITES

KW = Orca
DO = Dolphin
BZ = Bowhead Whale
BW = Beluga Whale
PG = Harp Seal
OR = Walrus
NW = Narwhal
MX = Muskox
MW = Minke Whale
UJ = Bearded Seal
RZ = Ringed Seal

FURBEARING KILL SITES

FO = Other Fur Bearer
FX = Fox
TP = General Trapping Area
WO = Wolf
WV = Wolverine
WE = Weasel

BIRD KILL SITES

FL = Falcon
GE = Goose
HA = Hawk
OB = Other Bird
SJ = Snowy Owl
SW = Swan
RY = Raven
WM = Sea Birds
SN = Sandpipers
PT = Ptarmigan
PF = Puffin
OS = Snow Goose
MZ = Murre
LO = Loon
GU = Guillemot
FA = Fulmar
EI = Eider

FISH CATCH SITES

DV = Dolly Varden
OF = Other Fish
WF = Whitefish
ZR = Roe (herring)
ZL = Smelt
TB = Turbot
SZ = Shrimp
PY = Capelin
PL = Pollock
PD = Scallop
LC = Lingcod
KB = Crab

HL = Halibut
HE = Herring
GS = Greenland Shark
CR = Char

GL = General Loss
SL = Specific Loss

PLANTS & OTHER RESOURCES

BA = Barks (crafts, construction, etc.)
BE = Berries/Wild Fruit
DP = Dye Plant
FP = Food Plant (roots, bulbs, cambium)
FU = Fungus
WG = Willow
FW = Firewood
MP = Medicine Plant
ME = Mosses/lichens
OP = Other Plant
AP = Aquatic Plant

OTHER RESOURCES

EG = Eggs
EM = Earth Material (rocks, clays, etc.)
FE = Feathers
CL = Clams
AM = Mussels
KE = Kelp/ Seaweed
WA = Water (drinking water etc.)

CULTURAL USE

BU = Burial
BP = Birthplace
CP = Ceremonial Place
DR = Drying Rack
PN = Place Name
SP = Spirit
TA = Teaching Area
PR = Processing meat/hides
HR = Heritage Resource
GP = Gathering Place
FS = Food Storage (cache)

IMPAIRED USE

CHECKLIST – ACTIVITY TRACKING

Use the following as a tool to order these responses and guide future questioning – notably when asking about project interactions, and impact pathways:

VC	SCOPE	PROMPTS
☐ *Hunting*	☐ *Marine* ☐ *Terrestrial*	*Key Species?*
		What activities, during what seasons?
		Key locations and sites?
☐ *Fishing*	☐ *River* ☐ *Ocean*	*Key Species?*
	☐ *Net fishing* ☐ *Jigging* ☐ *Casting*	*What activities, during what seasons?*
		Key locations and sites?
☐ *Access*	☐ *Travel* ☐ *Camping*	*Key routes?*

		What activities during what seasons?
		Key locations and sites?
Sense of Place	*soapstone quarries,* *burial sites and* *cultural activities/sites,* *opportunities for teaching and learning* *general attachment to a place or enjoyment of a place)*	*Key Species? Cultural Activities*
		What activities, during what seasons?
		Key locations and sites?

MAPPING NOTES

Map all points, lines and polygons at an eye height of approximately 10km or less (1:50,000 or better)

Label each site consistently in the NAME FIELD of the site properties dialogue box (see ex.)

- Each code should indicate
  - Site use
  - Site number
  - Modifiers (if relevant)
  - Source (participant ID)
- Modifiers (after the site number)
  - Firsthand knowledge has no modifier
    - Example: TX01-S08 (member with ID# S08 reports first mapped temporary shelter place where she has camped)
  - Secondhand knowledge is mapped with a *
    - Example: TX01*-S08
  - Approximate spatial information is mapped with a ?
    - Example: TX01?-S08
  - If the participant was present but did not take part in an activity, map with a +
    - Example: BE01+-S08
  - Commercial use (including guiding/outfitting) is mapped with a $
    - Example: TX01$-S08
  - If multiple modifiers are used, a code could look like: TX01*?$-S08

All other information goes in the DESCRIPTION FIELD of the dialogue box (see example)

Transportation routes and all linear features should be controlled

- Zoomed in to less than 10km eye height
- Follow the actual route and natural features (not a straight line from A to B)

Include for each mapped site in Google Earth DESCRIPTION FIELD of the dialogue box

- First and last use (day / month / season AND year / decade)
- Frequency of use
- Species (if relevant)
- Number and names of members who were present
- Any additional information you are told

Other

- Keep list of place names
- Spell out proper names and place names where possible for the recording

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Qikiqtani Inuit Association