QIKIQTANI INUIT ASSOCIATION'S TUSAQTAVUT STUDY SPECIFIC TO BAFFINLAND'S PROPOSED PHASE 2 OF THE MARY RIVER PROJECT FOR THE COMMUNITIES OF ARCTIC BAY AND CLYDE RIVER

Qikiqtani Inuit Association
May 28, 2021

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Qikiqtani Inuit Association

Qikiqtani Inuit Association's Tusaqtavut Study specific to Baffinland's proposed Phase 2 of the Mary River Project for the communities of Arctic Bay and Clyde River

FINAL REPORT / May 28, 2021

Qikiqtani Inuit Association

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Thanks and acknowledgements go to Arctic Bay and Clyde River 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 Arctic Bay and Clyde River 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 (the Study) for the communities of Arctic Bay and Clyde River specific to Phase 2 of the Mary River Project (the Project) operated by Baffinland Iron Mines Inc. (the Proponent) on northern Baffin Island. This Report (the Report) provides non-confidential information about existing and anticipated Project interactions, based on knowledge and use data collected during interviews with Inuit participants from Arctic Bay and Clyde River. 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 45 Inuit knowledge and use mapping interviews conducted with 19 Inuit from Arctic Bay during the period of November 3, 2020 to November 5, 2020, and 26 Inuit from Clyde River during the period of October 19, 2020 to October 23, 2020.

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

The site-specific data clearly demonstrate that Arctic Bay and Clyde River community members use or have used the Study Area across multiple generations. A total of 494 site-specific values were reported in the Study Area (the Footprint, LSA, and RSA), with 182 reported by Arctic Bay participants and 312 reported by Clyde River participants. As shown in this data, the Study Area contains numerous important sites that support harvesting of wild foods including marine mammals (including narwhal and seal), terrestrial resources (including caribou, geese, and birds eggs), and fish (including Arctic char). Mapped sites include, but are not limited to:

- Sites and areas used for terrestrial harvesting, marine hunting and fishing that provide the food sources that underpin Inuit food sovereignty in the region;
- Important wildlife habitat, including calving areas for caribou and narwhal 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 culture, such as soapstone collection areas, areas used for transmission of knowledge and IQ, campsites, and gathering places used by numerous communities.

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

including the Mary River area, Milne Inlet, Navy Board Inlet, Foxe Basin, and Eclipse Sound.

Although the Study VCs are interconnected, this Study has identified potential interactions between the Project and each VC. Participants anticipate the following potential interactions between the Project and their Marine Hunting values:

- Impacts to important marine species habitat and migration routes due to increased shipping traffic (including congestion and noise);
- Displacement of marine species from the Study Area due to increased shipping traffic (including congestion and noise);
- Reduced marine hunting opportunities due to the above interactions;
- Reduced animal quality due to perceived or actual contamination of marine species by shipping activities such as ballast water exchange and fuel leaks or spills;
- Avoidance of harvesting in the Study Area due to perceived contamination; and
- Impacts to sea ice harvesting routes due to dust and changes in ice due to shipping activity.

Participants anticipate the following potential interactions between the Project and their Terrestrial Harvesting values:

- Impacts to caribou movement patterns due to increased Tote Road (during construction) and rail traffic (including noise and other disturbances);
- Reduced availability of caribou in preferred hunting areas;
- Displacement of animals including snow geese, ptarmigan, weasel, and rabbits due to increased Project activities;
- Wildlife mortality risks while crossing Tote Road and rail crossings;
- Contamination of animals and animal habitat due to dust settling on vegetation and water sources;
- Contamination of food plants due to dust settling on vegetation and water sources;
- Avoidance of preferred harvesting areas due to perceived and actual contamination; and
- Impacts on access to important country food sources due to all of the above impacts.

Participants anticipate the following potential interactions between the Project and their Fishing and Freshwater values:

- Increased contamination of snow, ice, and water bodies from dust caused by Project components associated with the mine and the Tote Road, in areas with existing contamination as well as pristine areas currently without contamination;
- Deterrence from traveling to impacted areas due to perceived or actual contamination of freshwater sources out on the land;
- Dust contamination of drinking water sources in communities, as well as the reservoir at the mine site;
- Impacts to wildlife health due to consumption of water sources contaminated by dust from Project activities; and
- Impacts to fish health due to dust contamination of water and fish habitat.

Participants anticipate the following potential interactions between the Project and their Travel, Trails, and Habitation values:

- Impaired use of marine travel routes used to access camps and marine hunting areas due to increased shipping activity; and
- Impaired access to terrestrial hunting areas due to the construction and operation of the Northern Railway.

Participants anticipate the following potential interactions between the Project and their Cultural Continuity values:

- Disruptions to physical heritage sites including archaeological evidence, through Project construction and operation;
- Disruptions to "sense of place" through decreased ability of Inuit to connect with nature and spend time in places that are culturally and spiritually meaningful, due to Project activities;
- Disconnection from culture due to the above disruptions; and
- Psychosocial impacts such as increased substance abuse due to the above disconnection and disruptions.

Participants anticipate the following potential interactions between the Project and their Food Sovereignty values:

- Impacts to the harvesting VCs listed in Sections 4.2.4, 4.3.4, and 4.4.4 directly impacting participants' ability to access country foods;
- Overall reduced availability of country foods;

- Reduced confidence in the health of country foods due to concerns with dust and other potential contaminants from Project activities;
- Increasing food costs causing increased pressure on country food sources; and
- Increased travel costs due to the need to travel farther to access preferred country foods.

In summary, impacts from the Mary River Project, working in combination with impacts from a range of other stressors, will have a direct impact on the ability of Inuit from Arctic Bay and Clyde River to continue resource harvesting, travelling across and using the land and transmit cultural knowledge and IQ between generations in the Study Area.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

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 Study specific to Baffinland's proposed Phase 2 of the Mary River Project for the communities of Arctic Bay and Clyde River
Study Area	The RSA, LSA, and Footprint combined
VC	Valued Component

1. INTRODUCTION

1.1 OVERVIEW

This Report (the Report) documents the background, methods, and results of a Tusaqtavut study (the 'Study') for the communities of Arctic Bay and Clyde River specific to the Mary River Project Phase 2 (the Project) proposed by Baffinland Iron Mines Inc. (the Proponent) on Baffin Island. For the purposes of this Report, the Project refers collectively to mine, road, rail, port, and shipping developments and activities proposed as part of Phase 2. The continuation of effects from the existing Mary River Project is also considered, along with those from reasonably foreseeable future expansions to the south already permitted for the full Project build-out. However, a full cumulative effects assessment is beyond the scope of this Study.

This Report provides baseline information on the importance of the Study Area for Inuit knowledge, use and practice of culture, along with consideration of anticipated Project interactions and impact pathways on Inuit knowledge and use. Information presented in this report is based on current and available Arctic Bay and Clyde River Inuit Qaujimajatuqangit (IQ) date in relation to the traditional lands of the Arctic Bay and Clyde River Inuit and within in the vicinity of the Project.

This Report includes non-confidential site-specific (i.e., mapped) and qualitative information related to the Project. For the purpose of this Report, site-specific data are knowledge and use values reported by Arctic Bay and Clyde River participants that are specific, spatially distinct, and that may be mapped (exact locations of values may be treated as confidential).

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 Project and the communities of Arctic Bay and Clyde River;
- Section 3 presents information on the methods used for the Study;
- Section 4 presents the findings of the Study, including both the 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 September 28, 2020 service request, this includes:

- Work with QIA staff to conduct virtual community scoping meetings

- Work with QIA staff to conduct 60 IQ mapping interviews with knowledge holders in Arctic Bay and Clyde River.
- Analyse and prepare the results from interviews for integration into QIA's IQ database.
- Prepare and submit a draft report based on IQ collected during interviews.
- Verify results of the Study through providing remote support to QIA staff conducting community meetings with the communities of Clyde River and Arctic Bay.
- Finalise report based on QIA feedback.
- Present findings from the Study to the CRLU working group.

The deliverables include a Tusaqtavut Study non-confidential report (this 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 with resources and areas of importance to QIA and effects on IQ, knowledge and use, and associated impact pathways; and
- 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 Arctic Bay and Clyde River 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 Arctic Bay and Clyde River, therefore the values, uses, and Project impacts on Inuit from other impacted 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 Arctic Bay and Clyde River 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 as well as concerns with the transmission of COVID-19.

- Data collected for each participant are 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 Pond Inlet Inuit 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 Arctic Bay and Clyde River 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 knowledge, land use, and cultural values of the communities of Arctic Bay and Clyde River. It is important to note that the Study does not reflect all current

use by Arctic Bay and Clyde River 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 Pond Inlet community.

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 ARCTIC BAY AND CLYDE RIVER COMMUNITY PROFILES

Inuit have been resident in the 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) (Hamlet of Pond Inlet 2019).

Hunting marine and terrestrial creatures has been central to the human occupants of northern Baffin Island since time immemorial (Bennett and Rowley 2004; Stenton 1991). Hunting terrestrial mammals including caribou, 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). Fishing, the collection of plants and berries, camping, and soapstone collection have 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).

Arctic Bay is a primarily Inuit community located in northwestern Baffin Island, Nunavut. The current population of Arctic Bay is 868 (Statistics Canada 2017). Clyde River is a primarily Inuit community located in northeastern Baffin Island, Nunavut. The current population of Clyde River is 1,053 (Statistics Canada 2017).

The seasonal round of harvesting which was traditionally undertaken throughout the north Baffin area, in conjunction with movement between a number of seasonally located camps, began to change in the 1920s with the arrival of a Hudson's Bay Company outpost at Pond Inlet (Matthiasson 1992, QIA 2014). While European whalers had been active in the region for some decades already, substantial social changes were precipitated by the arrival of the Hudson's Bay Company. The following decades 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 Arctic Bay and Clyde River further towards a settled community and away from the previously seasonally mobile lifeway which the north Baffin Inuit had lived. While Inuit 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 Arctic Bay and Clyde River community members (QIA 2014, 2019).

Arctic Bay and Clyde River have had past experiences with proximal natural resource development. From 1976-2002, the Nanisivik zinc-lead mine was operated roughly 20km outside of Arctic Bay. The community of Clyde River has not had direct

experience of nearby industrial development but has engaged with the Federal government for some years through litigation around the regulation of oil and gas development in Baffin Bay. The recent (2018) Strategic Environmental Assessment in Baffin Bay and Davis Strait determined that a moratorium on offshore oil and gas development in the area would continue.

The signing of the Nunavut Agreement (NA) in 1993 and its sister Act, the Nunavut Act, produced the Territory of Nunavut and resulted in the designation of Inuit Owned Lands (IOL) (Henderson 2008). The iron ore deposit being mined as part of the Project is located on Pond Inlet IOL parcels.

2.2 THE MARY RIVER PROJECT PHASE 2 PROPOSAL

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 Ikpikitturjuaq (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 destination.

What 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 NIRB to operate the mine, with ore first being shipped to Europe during the summer of 2015 (Baffinland Iron Mines Corporation 2019).

2.2.2 Approved and Permitted Mary River Project Infrastructure and Activities

In addition to parts of the Mary River Mine Project that already exist today, a number of Mary River Mine Project components have already been approved and received permits but have not yet been built. These include another port at Steensby Inlet (Steensby Port) and a railway (the Southern Railway) connecting the Mary River Mine site to the Steensby Port. Once built, ore would then be shipped from Steensby Port through Foxe Basin, Foxe Channel, and Hudson Strait through the Southern Shipping Route. These components have not yet been built and are not part of Phase 2 of the Mary River Project described in Section 2.2.3 below.

2.2.3 The Mary River Project Phase 2 Proposal

The Proponent has submitted an application to 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 approximate 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 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 and installation of a wind turbine;
- 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; 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;
- Development and closure of up to 40 quarries along the railway corridor; and
- Between five and eight daily trips on the Northern Railway by ore-carrying trains.

Shipping:

- Shipping between early July up to the end of October each year;
- Up to 176 trips by all vessel types on the Northern Shipping Route; and
- Increased shipping frequency during the annual open water period.

Project components are shown in relation to the Study Area (as defined in Section 3.2) in Figure 1 below.

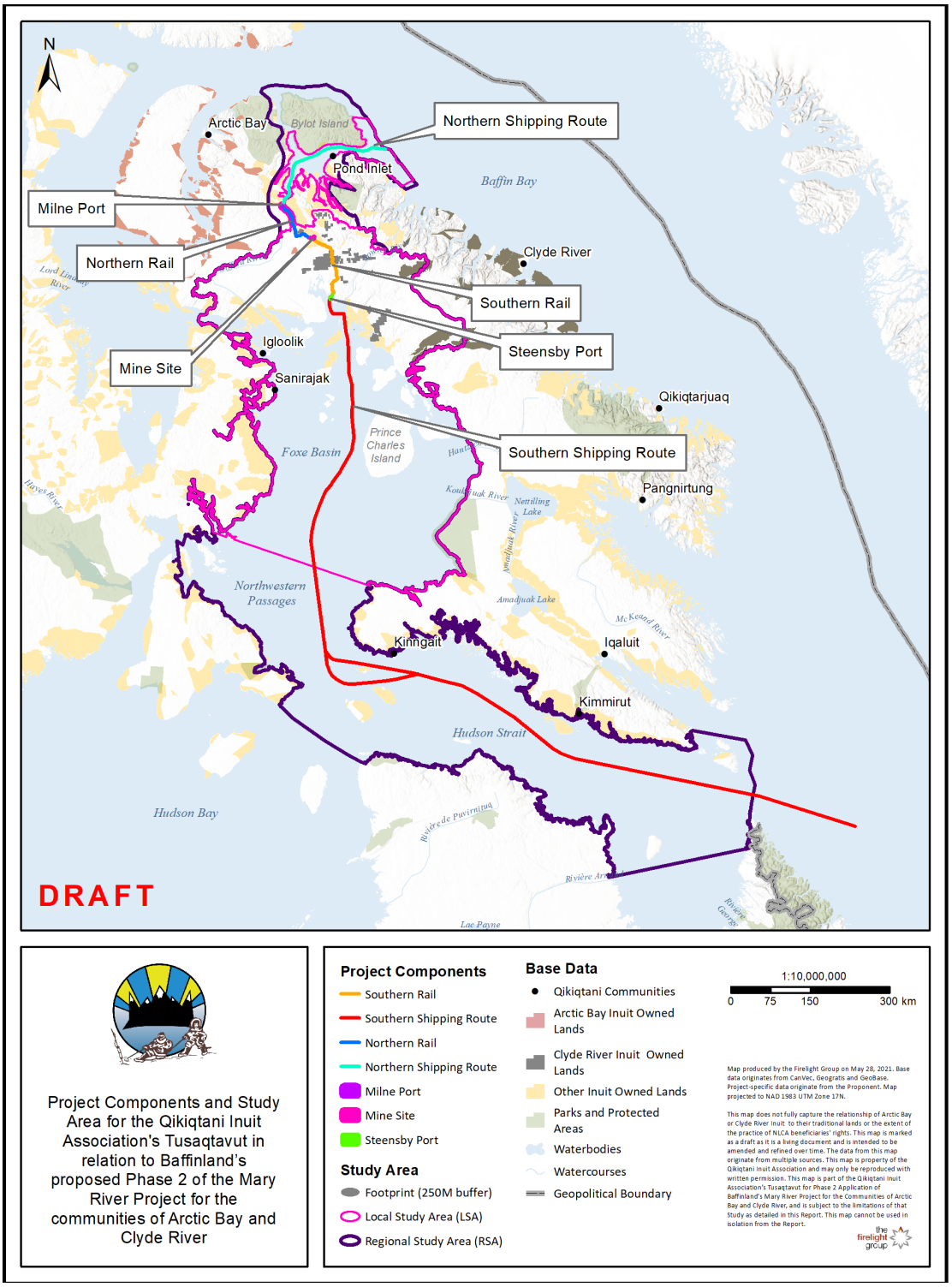

Figure 1. Project Components and Study Area for Qikiqtani Inuit Association's Tusaqtavut Study specific to Baffinland's proposed Phase 2 of the Mary River Project for the Communities of Arctic Bay and Clyde River

3. METHODS

3.1 OVERVIEW

Data for this Study were collected from mapping interviews specific to the Project with 19 participants from Arctic Bay, conducted between November 3 and November 5, 2020, and 26 participants from Clyde River, conducted between October 19 and October 23, 2020. 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 six 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 Inuit 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 Harvesting;
- Fishing and Freshwater;
- Travel, Trails, and Habitation;
- Cultural Continuity; and,
- Food Sovereignty.

3.3 MAPPING INTERVIEWS

19 Arctic Bay community members were interviewed between November 3 and November 5, 2020, and 26 Clyde River community members were interviewed between October 19 and October 23, 2020. Interviews were conducted at the Arctic Bay Community Hall and in the Ilisaqsivik Resource Centre in Clyde River. 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 A## for participants from Arctic Bay or C## for participants from Clyde River. Informed consent was obtained for all interviews (see Consent Forms in Appendices 1 and 2 in English and Inuktitut respectively).

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 emerging 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 has not been conducted as of December 2020 due to COVID-19 related circumstances preventing the return of QIA research and support staff to Arctic Bay and Clyde River.

3.3.1 Site-specific Data Collection and Analysis

For the purpose of this Report, *site-specific data* are values reported by Arctic Bay and Clyde River 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 Arctic Bay and Clyde River 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.).

3.4 COMMUNITY VERIFICATION

Staff members from the QIA IQ and Engagement department presented a summary of the findings of the draft Report to available participants in order to verify the results of the Study. A meeting was held with six participants in Arctic Bay on April 12th and

another with eight participants in Clyde River on April 14th. These meetings gave Study participants the opportunity to review and comment on the draft results and provide additional input for the Study. Meetings took place in a mixture of Inuktitut and English, with detailed notes taken by QIA staff. Additional information and concerns shared during these meetings are detailed below in Section 4.

4. RESULTS

4.1 SITE-SPECIFIC DATA

4.1.1 Overview

The site-specific data clearly demonstrate that Arctic Bay and Clyde River members 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 of and existing impacts on Study VCs is located in Sections 4.2-4.7 of this report.

The Study Area is integral to the ability of Inuit from Arctic Bay and Clyde River to travel, harvest, camp, collect water and continue the practice of Inuit culture on the land. Prior to the construction of the mine, participants report camping, collecting soapstone, hunting, and processing harvested animals within the Project Footprint. Inuit rely on snowmobile, ATV, and/or dog team trails to access preferred campsites and resource sites in the vicinity of the Mary River mine. Numerous participants report use of sites near the mine site for camping and hunting caribou throughout the year, often staying for weeks at a time during hunting trips. These camp locations, among other mapped campsites, are often located near important environmental features, such as clean drinking water sources and small lakes used for char fishing and collection of drinking water. Some participants report collecting soapstone near the mine site for use in Inuit art. This activity often takes place alongside hunting, trapping, and fishing in the Study Area. The area surrounding Baffinland's permitted Steensby Port and Southern Shipping Route was also noted as an important area for Arctic Bay and Clyde River community members to camp while hunting and traversing the area.

While many Inuit have relied on the area in the vicinity of the mine for camping, hunting, fishing, collecting water, and traveling on their territory, the mine's presence has constrained their ability to use the area as freely as they had prior to its construction. Char populations, for instance, have been observed to decline in the small lakes near the mine where community members fish. This is in addition to an observed decline in water quality. Many Inuit report drinking from the water provided at the mine site, citing a decreased confidence in suitability of water sources for drinking near the mine. Participants also reported a decline in caribou in the vicinity since the mine was constructed. While there are reports of impacted use in the vicinity of the mine, community members continue to rely on the mine site and its surrounding areas for hunting caribou, fishing, camping and travelling on the land.

Milne Inlet and areas in its environs were noted as being important for hunting, fishing, and camping. The area was also noted as being an important transportation corridor that Inuit use to access important resource areas and other communities, year-round. Additionally, Milne Inlet was consistently noted as being an area that is important to marine mammals.

Areas along the shoreline in the Study Area includes historic, current, and future uses. Historic use is found from the recorded presence of tent rings and old habitation sites.

Present use includes cabins for marine hunting and camping with families. The Study mapped observed changes to the marine environment that have occurred since marine shipping began, which includes: sites where narwhal hunting has been negatively affected by ship traffic; numerous areas where animal habitats have been negatively affected by ship traffic; areas where community members are reluctant to visit (or continue to use) due to ship traffic and perceived and observed negative impacts from shipping and mining; and areas located away from the mine where ore dust has been seen.

4.1.2 Total Reported Site-specific Values

A total of 494[1] site-specific values are reported in the Study Area (the Project Footprint, LSA, and RSA combined; see Figure 2 and Table 1). Of 494 site-specific values, 182 are reported by participants from Arctic Bay (see Table 2) and 312 are reported by participants from Clyde River (see Table 3).

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 Arctic Bay and Clyde River elders, land users and 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 possible that new information regarding use of land and resources by Arctic Bay and Clyde River Inuit will become available in the future.

[1] Of the 494 reported site-specific values, 143 were mapped at a scale coarser than 1:50,000 due to the extensive nature of Inuit travel and land use in northern Baffin Island

Table 1: Arctic Bay and Clyde River reported site-specific use values reported within the Project 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 proposed Project (footprint)		Within 5 km of the proposed Project (LSA)		Within 25 km of the proposed Project (RSA)	
	# of reported values	% of reported values	# of reported values	% of reported values	# of reported values	% of reported values
Marine Hunting	35	22%	90	20%	105	21%
Terrestrial Harvesting	42	26%	131	30%	145	29%
Fishing and Freshwater	9	6%	37	8%	56	11%
Travel, Trails and Habitation	49	30%	117	27%	120	24%
Cultural Continuity	26	16%	65	15%	68	14%
Total	**161**	**100%**	**440**	**100%**	**494**	**100%**

Table 2: Arctic Bay site-specific use values reported within the Project 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 proposed Project (footprint)		Within 5 km of the proposed Project (LSA)		Within 25 km of the proposed Project (RSA)	
	# of reported values	% of reported values	# of reported values	% of reported values	# of reported values	% of reported values
Marine Hunting	9	17%	30	20%	26	14%
Terrestrial Harvesting	13	25%	41	27%	25	14%
Fishing and Freshwater	2	4%	11	7%	34	19%
Travel, Trails and Habitation	25	47%	48	31%	50	27%
Cultural Continuity	4	8%	23	15%	47	26%
Total	**53**	**100%**	**153**	**100%**	**182**	**100%**

Table 3: Clyde River site-specific use values reported within the Project 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 proposed Project (footprint)		Within 5 km of the proposed Project (LSA)		Within 25 km of the proposed Project (RSA)	
	# of reported values	% of reported values	# of reported values	% of reported values	# of reported values	% of reported values
Marine Hunting	26	24%	60	21%	71	23%
Terrestrial Harvesting	29	27%	90	31%	98	31%
Fishing and Freshwater	7	6%	26	9%	31	10%
Travel, Trails and Habitation	24	22%	69	24%	70	22%
Cultural Continuity	22	20%	42	15%	42	13%
Total	**108**	**100%**	**287**	**100%**	**312**	**100%**

4.1.3 Site-specific Values Reported in the Project Footprint

Within the Project Footprint, Arctic Bay and Clyde River community members report 161 site-specific values. While not every site-specific value recorded includes time information, Inuit use is reported from the 1800s to present (i.e., 2020). Site-specific values reported in the Footprint include:

- **Marine Hunting** values including: ringed seal harvest site; a site where ringed seals, harp seals, bearded seals, spotted seals, and elephant seals are harvested; sites where narwhals are harvested; important habitat for Arctic char, walrus, narwhal, and seal; a narwhal migration route; the floe edge, where important animal species are seen, hunted, and harvested; an area where numerous narwhals have been seen; and a terrestrial area where a polar bear (a species normally hunted on the sea ice) was sighted;

- **Terrestrial Harvesting** values including: a snow goose and Canada goose nesting area; areas known to be good snow goose habitat; an area known to be good habitat for small furbearing species, including ptarmigan, weasel, arctic hare, lemming, and fox; numerous caribou calving areas; an area where caribou tracks were seen; an area where caribou were seen feeding; sites where large herds of caribou have been seen; numerous caribou migration routes; an historic

caribou hunting site; numerous sites where caribou are harvested; numerous sites where caribou were butchered; a campsite used by Inuit while hunting caribou; a site where snow geese were harvested; and a site where blueberries were harvested;

- **Fishing and Freshwater** values including: sites where Arctic char have been seen; a site where Arctic char are caught; and numerous sites where drinking water is collected;

- **Travel, Trails, and Habitation** values including: numerous campsites; numerous trails that are used to access campsites, soapstone gathering sites, the floe edge, caribou hunting sites, and other communities; a traditional snowmobile trail; dog team trails; and water routes used to access fishing sites and other communities; and

- **Cultural Continuity** values including: sacred sites; a burial site; gathering places; a teaching area; place names; a site where material was collected for crafting; numerous soapstone collection sites; and a site where people camped while gathering soapstone.

4.1.4 Site-specific Values Reported in the Project LSA

Within the LSA, Arctic Bay and Clyde River community members reported 440 site-specific values. While not every site-specific value recorded includes time information, Inuit use was reported from the 1800s to current (i.e., 2020).

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: a food cache site; sites where narwhal, polar bear, and ringed seal were processed after being harvested; hunting areas and kill sites for various species, including bearded seal, ringed seal, narwhal, and polar bear; habitat areas for narwhal and ringed seal; an area described as pristine habitat for multiple species, including seals, walrus, narwhal, Arctic char, turbot, bottom dwellers, krill, murre, and guillemot; a polar bear movement corridor; a narwhal migration corridor; a narwhal calving area; place names; and a polynya;

- **Terrestrial Harvesting** values including: a place name; a snow goose nesting area; habitat areas for various species, including caribou, fox, snow goose, and murre; caribou movement corridors; sites where caribou and caribou tracks have been seen; a site where harvested caribou were cached; numerous sites where harvested caribou are processed and butchered; hunting and kill sites for numerous species, including caribou, Arctic hare, goose, ptarmigan, puffin, rabbit, and wolf; an area where ptarmigans, weasels, arctic hare, lemmings, and fox were trapped; a site were mountain sorrel was harvested; a site where edible roots were harvested; a site where blueberries were harvested; and sites where snow goose and murre eggs are collected;

- **Fishing** values including: an Arctic char spawning site; sites where fish drying racks are located; a site where Arctic char were cached; numerous sites where Arctic char are caught; a site where halibut are caught; and sites where drinking water is collected.

- **Travel, Trails, and Habitation** values including: place names; numerous campsites, including campsites that are used repeatedly over the years, single-night campsites, and an historic campsite; cabin sites; numerous trails, including trails for snowmobiles, ATVs, and dog teams; water routes; and

- **Cultural Continuity** values including: birth places; a burial site; a ceremonial site, a site where soapstone is collected; gathering places; sites where *inusugaits* are located; numerous place names; a teaching site; and campsites.

4.1.5 Site-specific Values Reported in the Project RSA

Within the RSA, Arctic Bay and Clyde River community members reported 494 site-specific values. While not every site-specific value recorded includes time information, Inuit use was reported from the 1800s to current (i.e., 2020) 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** values including: sites where harvested animals were processed; habitat areas for walrus; an area described as good harp seal habitat; the floe edge; harvesting sites for various species, including beluga whale, narwhal, ringed seal, and polar bear;

- **Terrestrial Harvesting** values including: caribou habitat areas; a site where caribou have been seen; caribou harvesting sites; sites where caribou were butchered; a Canada goose nesting site; a site where Canada goose eggs are harvested; and a site where ptarmigans were harvested;

- **Fishing** values including: a place name; an Arctic char spawning site; numerous areas where Arctic char are caught; a cache site for Arctic char; and sites where drinking water was collected;

- **Travel, Trails, and Habitation** values including: campsites; and

- **Cultural Continuity** values including: place names.

4.1.6 Seasonality of Reported Site-specific Use Values

Each site-specific data point collected during interviews was categorized according to the six seasons previously identified by QIA as comprising the Inuit calendar (see QIA 2019). Of 494 total recorded site-specific values, seasons were allocated to 337, while 157 remained uncategorized. For some recorded values, insufficient information was available on the seasonality of use, while for others, the recorded value exists outside of the calendar (e.g., place names). A value could be allocated to multiple seasons, if its

use spanned a longer time period, or when, as in the case of a migratory route, it might be used twice a year.

Information on the seasonality of reported site-specific values is provided in Table 4 below. This table gives an initial indication of the seasonality of Inuit activity in the Study Area for each of the Valued Components. The results show that Arctic Bay and Clyde River Inuit are using the land in the Study Area on a year-round basis. Within the year, certain seasons have peaks of higher activity for certain uses of land and resources, relative to other times of the year. Peaks are shown in bold in Table 4 below for each VC. These periods are of particular importance when considering the potential impacts on each VC from Project activities that are outlined in Sections 4.2.4, 4.3.4, 4.4.4, 4.5.4, 4.6.4 and 4.7.3. It is during these periods that Project impacts will be experienced most acutely by Inuit.

Table 4 is not intended to be a complete depiction of seasonal use of the land, sea, water and other resources by Arctic Bay and Clyde River Inuit. Numbers of values reported by season should not be interpreted as an absolute measure of Inuit use of land and resources on a seasonal or annual basis. The limitations on the interpretation of site-specific value described in Section 1.2 apply to the interpretation of information provided in Table 4.

Food Sovereignty is not included in Table 4 below. While it is a VC for this Study, site-specific points related to the harvesting and collection of food sources were all categorised according to the Valued Component of their respective source activity (e.g., Marine Hunting etc.).

Table 4: Seasonality of site-specific use values reported by Arctic Bay and Clyde River participants within the Study Area by Valued Component

	Ukiuq **(winter – Jan-Feb)**	***Upirngasaaq*** **(early spring – March-mid May)**	***Upirngaaq*** **(late spring – mid May-early July)**	***Aujaq*** **(summer – early July-Aug)**	***Ukiassaaq*** **(early fall – Sept-Oct)**	***Ukiaq*** **(early winter – Nov-Dec)**
Marine Hunting	10	20	**36**	**31**	12	7
Terrestrial Harvesting	6	**53**	**30**	19	12	2
Fishing and Freshwater	4	**16**	**14**	**16**	**15**	7
Travel, Trails and Habitation	**41**	**68**	12	19	16	7
Cultural Continuity	4	**14**	5	5	6	3
Seasonal total:	**65**	**171**	**97**	**90**	**61**	**26**

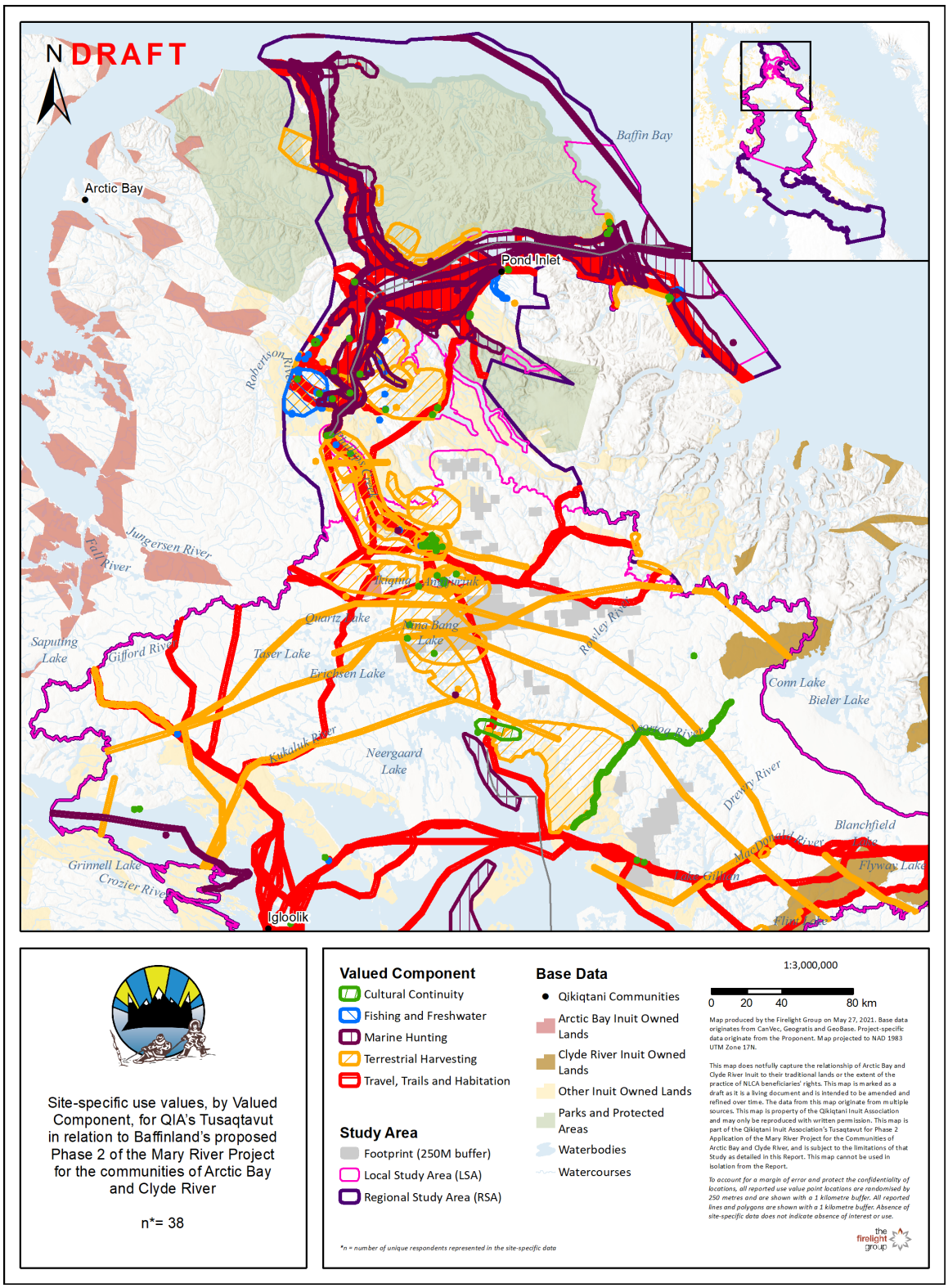

Figure 2. Arctic Bay and Clyde River reported site-specific values within the Study Area for Baffinland's proposed Phase 2 of the Mary River Project

4.2 MARINE HUNTING

This section (Section 4.2) discusses the importance, impacted baseline, and potential Project interactions with the Inuit Valued Component of Marine Hunting.

4.2.1 Site-specific values for Marine Hunting

Site-specific values for the Marine Hunting Valued Component reported within the Project Study Area, by Activity Class. Numbers are cumulative with increasing spatial scales (i.e., RSA includes LSA and footprint).

Table 5: Site-specific Marine Hunting values reported within the Study Area, by activity class. Numbers are cumulative with increasing spatial scales (i.e., RSA includes LSA and footprint).

Activity Class	Within 250 m of the proposed Project (footprint)		Within 5 km of the proposed Project (LSA)		Within 25 km of the proposed Project (RSA)	
	# of reported values	% of reported values	# of reported values	% of reported values	# of reported values	% of reported values
Cultural	1	3%	15	17%	17	16%
Environmental	23	66%	39	43%	45	43%
Subsistence	11	31%	36	40%	43	41%
Total	**35**	100%	**90**	100%	**105**	100%

The following Marine Hunting values were documented in the Project Study Area. The values are organized by Activity Class.

- **Cultural values** including: cache sites for narwhal; a place name; and sites where narwhal, polar bear, ringed seal, and bearded seal were processed after being harvested;

- **Environmental values** including: narwal habitat areas, including a calving ground; seal habitat areas, including an area described as good habitat for ringed seal, harp seal, bearded seal, and spotted seal; an area described as pristine habitat for walrus, narwhal, seal, arctic char, turbot, bottom dwellers, krill, murre, and guillemot; narwhal migration corridors; an area where narwhal travel to feed on halibut; a polar bear movement corridor; numerous locations of the floe edge; a site where a polynya is located; an area where orca whales go to die; and a terrestrial area where a polar bear (a species normally hunted on the sea ice) was sighted; and

- **Subsistence values** including: numerous kill sites for various species, including narwhal, bearded seal, harp seal, ringed seal, polar bear, and walrus.

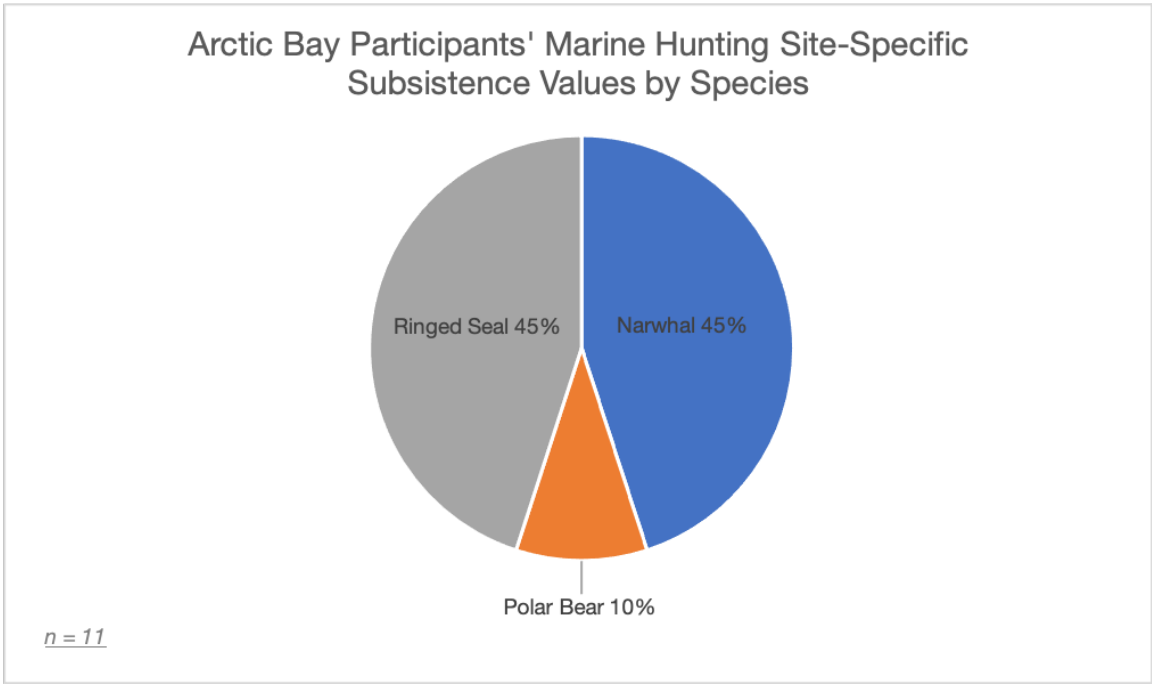

Figure 3: Arctic Bay reported Marine Hunting site-specific values by species in the Study Area

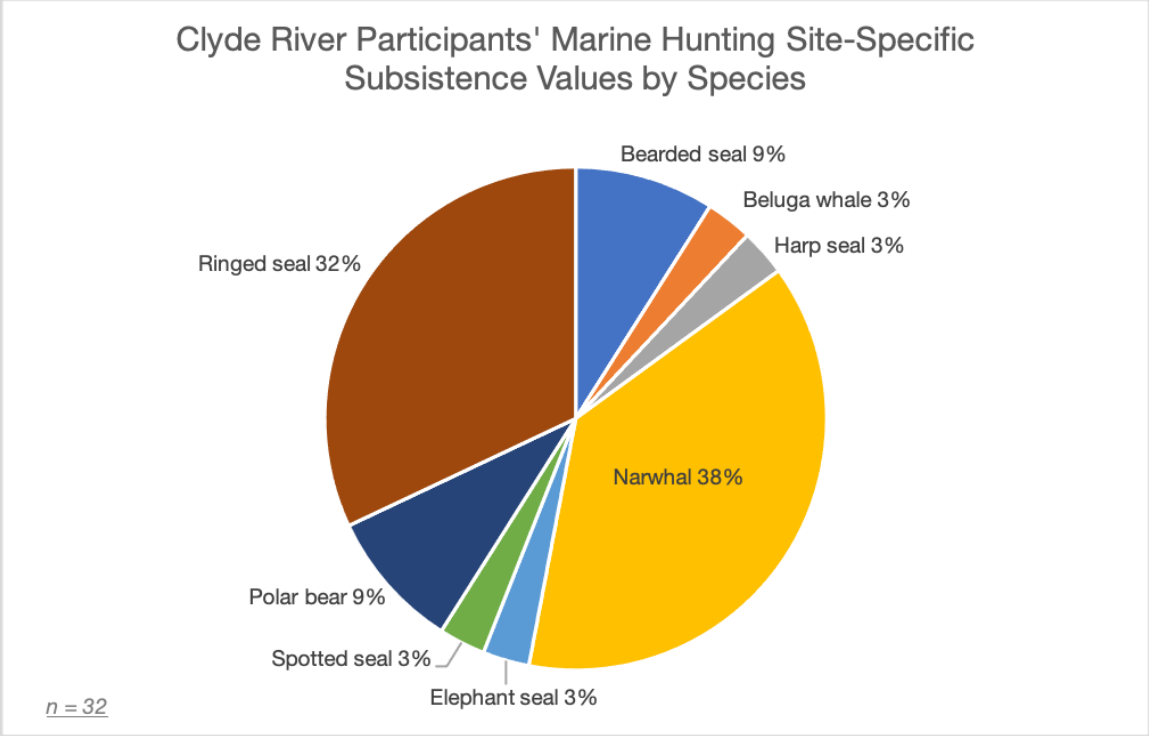

Figure 4: Clyde River reported Marine Hunting site-specific values by species in the Study Area

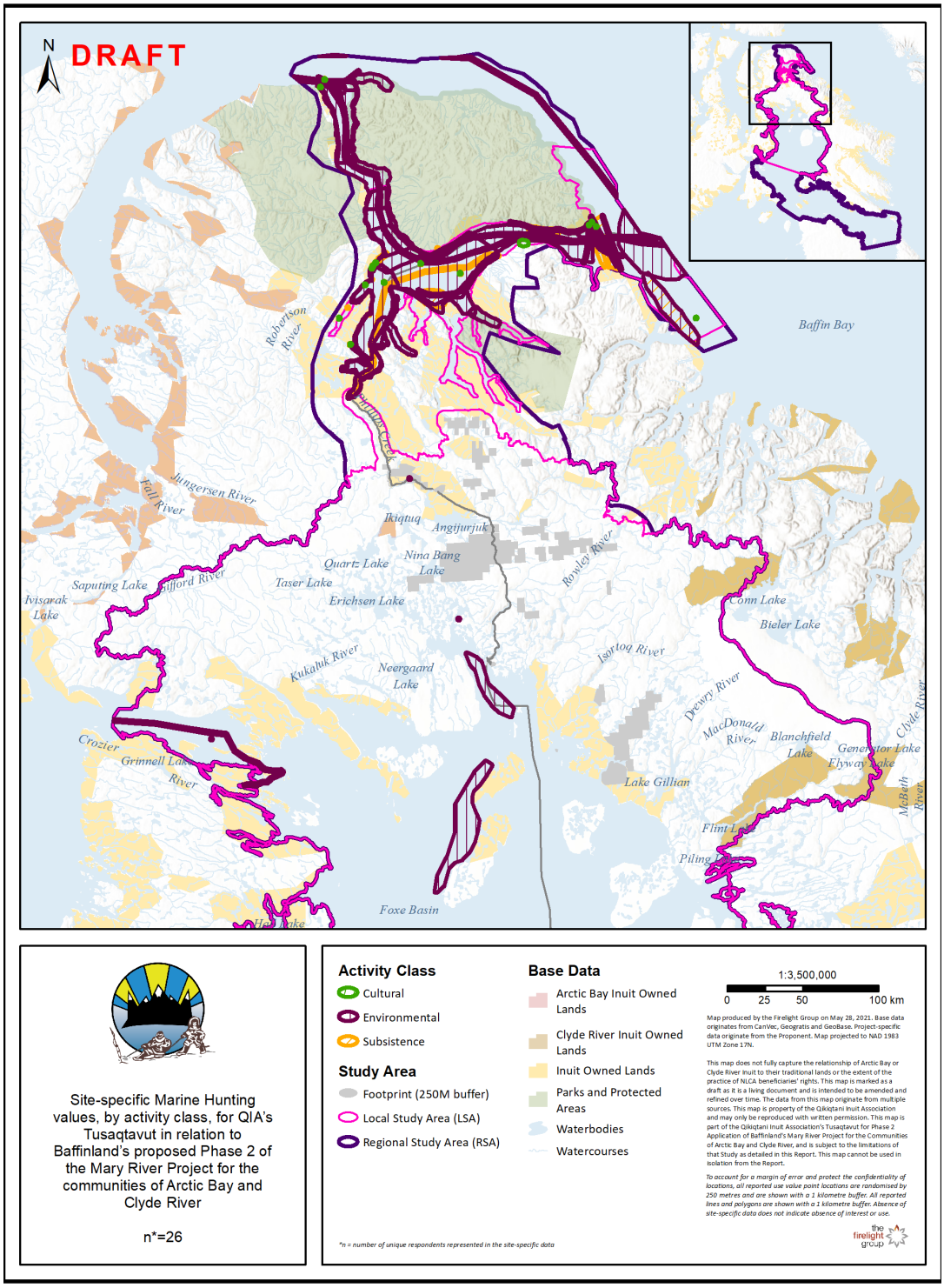

Figure 5: Arctic Bay and Clyde River site-specific Marine Hunting values reported in the Study Area

4.2.2 Importance

Marine Hunting encompasses a variety of species, bodies of knowledge, modes of travel, animal processing and food storage techniques (e.g., food caches), and harvesting locations and habitation sites. Study participants have used and continue to use the Study Area for Marine Hunting. The quotes below highlight some of their experiences hunting narwhal, walrus, and seal species in and around Milne Inlet, Eclipse Sound, Pond Inlet, and Baffin Bay.

> *So, his family would also go narwhal hunting around Milne Inlet. … Yeah, that was a prime narwhal hunting area all that along here. … Yeah, that whole area*. (C15 2020a, interpreted from Inuktitut)

> *There was so much narwhal that you could hear them as soon as you wake up and they'd be there all day … They're migrating but there's so many of them that they would – it could take all day into the night, that's how much narwhal there was … So they … would do all their narwhal hunting around that area [in Eclipse Sound].* (A01 2020, interpreted from Inuktitut)

> *Plenty of seal hunting around Mount Herodier area. … And then, you know, he would also remember people catching narwhal really close to Pond Inlet when he was a child, but he can't quite pinpoint what the year was. Because he lived in Mount Herodier [Igarjuaq], so people used to do some narwhal hunting around here as well.* (A04 2020, interpreted from Inuktitut)

> *[When hunting narwhal in Study area in late 1950s] They were rowing, no motor [boat]. … Sometimes there'd be a hunting party of more than five in one boat. … The reason they would be around there to catch narwhal is because they were also scouting for places to put cache. Yes, so that family would hunt around there also scouting for places to do a cache. ... They used to have lots of seals then around there. ... There would be bearded seal, ringed seal, harp seal. ...* (C15 2020a, interpreted from Inuktitut)

> *Before she was born her grandparents and her mother lived in that area [Quanaq near Pond Inlet] as a homestead because there was a lot of walrus over there… So typically it was an area to gather a lot of dog food with the walrus meat.* (C25 2020, interpreted from Inuktitut)

> *But since we didn't harvest any narwhals that time [at the floe edge at Baffin Bay], and the main hunter wanted seal meat, young seal meat. So, he decided to hunt the seals … and we got lucky that the young seals came up, and we harvested the two seals. That's all he wanted to harvest, and he said that was enough for now.* (C04 2020)

In addition to the species highlighted above, the site-specific data (Sections 4.1 and 4.2.1) shows participants' Marine Hunting values also reflect knowledge and use related to polar bear, beluga whale, bowhead whale, and spotted seal. Further, Marine Hunting values encompass the northern and southern portions of the Study Area, including

Milne Inlet, Eclipse Sound, Navy Board Inlet, Pond Inlet, Baffin Bay, Bylot Island area, the North Baffin coastline, and Steensby Inlet.

Participants' use of the Study Area for Marine Hunting is supported by their detailed knowledge of its ecology including the seasonal movements and behaviours of many species. Narwhal, for example, is a highly valued country food animal harvested in the Study Area and participants identified a range of habitat values for the animal such as migration routes, calving and feeding areas, and refuge areas for predator avoidance.

> *So as soon as the ice retreats and there is open water, that's when the Narwhals would come here to their calving grounds … When Narwhals are congregating in mass numbers, that's when they're reproducing...* (A05 2020, interpreted from Inuktitut)

> *In the narwhal season, hunting season, the whales come in from Baffin Bay, so they either come through Pond around Navy Board Inlet and then on around to our area, or even past it. So, springtime, around the start of April I start spending time at the floe edge …* (A07 2020)

> *They go through there; they go through there to Arctic Bay and Navy Board Inlet … because of the hunter's observation, they watch the migrating patterns of the narwhal, but she knows that they do migrate … through Eclipse Sound and Navy Board inlet into Admiralty [Inlet].* (A10 2020, interpreted from Inuktitut)

> *… the narwhals go migrating to the port site and they usually go, go this area where killer whales can't reach them. … I've seen lots of narwhals ... From when the ice breaks out, I think it's late July to October, September, late September. ... they're just trying to be in ... a shallow area where killer whales can't reach them.* (C16 2020)

> *[In] 2017, 2018, summertime when the fishing commercial fishing harvesting [out of Pond Inlet] had slowed down slightly, he was allowed to use his free time to go narwhal hunting. … There's a lot of narwhal in that area. … Because of the richness of the plankton and the feed of narwhal around that area, is the reason why there is a lot of narwhal there.* (C01 2020, interpreted from Inuktitut)

As the preceding quotes illustrate, Marine Hunting is strongly influenced by season. The quotes below highlight how time of year and changes in sea ice and daylight determine what animals are available and from which environments. Ice condition is an important body of knowledge that enables safe hunting and access to harvesting areas. Ice conditions vary with the season with the floe edge utilised heavily in spring for multiple species, especially narwhal and seal hunting.

> *So they go to the floe-edge between May and June, when the daylight starts to hit. And in June it's mostly narwhals, but from April, May, it could be ring seals, bearded seals, walruses being harvested, but they shift their focus to narwhals when June arrives, with daylight — 24-hour daylight, then you*

> *could travel more and be out there more.* (A06 2020, interpreted from Inuktitut)
>
> *And if we're not hunting down towards the floe edge during the wintertime, me and my father or whoever I decide to go hunting with, we're hunting along the shores, seal hunting. These are just day trips.* (A07 2020)
>
> *When we first went to the floe edge, the first thing I saw, because I love to hunt animals, narwhal – I saw narwhals right away when we reached the floe edge. We spent a couple of days down there and I saw narwhals, seals, quite a bit of birds – different kinds of birds.* (C04 2020)
>
> *In June/July, end of June that ice starts moving out … So, we are always careful of not to drift with the ice because there's big ice pieces that come right off, and they could be – you could be on a piece of ice where it's four or five kilometres long and it's about 50 kilometres or so wide. So, we're always on the edge, at the floe edge. But this is where now we're hunting during the springtime.* (A07 2020)
>
> *During springtime we're all here … at the floe edge … Hunting seals, guiding sport hunters. After May we start going there for narwhal hunting.* (A15 2020)
>
> *… to get a seal from the open floe edge, they say it tastes better ... I think they're traveling more, they're not eating the exact same food, same fish.* (C11 2020, interpreted from Inuktitut)
>
> *I like to hunt on the new ice, seal hunt on the new ice, because they're a little bit easier to catch and sometimes you're able to watch the seal come up close under the ice to the breathing hole … You don't really clearly see it, but you're able to tell the shadow coming. And the wintertime, that's where I spend a lot of my hunting.* (A07 2020)

There is also a seasonal dimension to Inuit food consumption. Some foods are eaten based on their availability at different times of year, while others may be preserved and eaten year-round. In-ground food caches, for example, are commonly used for narwhal. The quotes below highlight the importance of a variety of wild foods such as narwhal, seals, and polar bear.

> *… so the narwhals that we hunt and eat pretty much all year 'round if we have enough of it. And we can eat a lot of it. The blubber anyways.* (C06 2020)
>
> *… [I stop hunting] when I have enough meat in the freezer to last the winter or if I have enough cache to age for the winter, even if there's still tags, narwhal tags, I tend to come back. Like this year, like I said, I caught maybe seven, or six or seven during the summer season.* (A07 2020)
>
> *… I'm a polar-bear meat-eater, I like polar bear meat in the spring and summer, that's the time ... they don't walk as much in that part of the time,*

> *so the taste slightly changes. I eat polar bear meat anytime of the year …* (C11 2020, interpreted from Inuktitut)

> *Yeah, they, they went seal hunting as well, because the seals were very delicious.* (C21 2020, interpreted from Inuktitut)

> *And of course, [while hunting narwhal] we're at the same time hunting for anything like seal or birds, so anything. During that time, we're trying to harvest as much as possible to put caches – If I catch a whale, that I'm going to cache them in the ground.* (A07 2020)

Marine Hunting skills and knowledge are often passed down through family while out on the land, and Inuit often begin hunting and learning at a young age. Participants recalled their own early hunting experiences, learning about the migration and arrival of game, and contributing to the continuity of Marine Hunting knowledge through spending time on the land with younger generations. As the quotes below indicate, access to healthy animals and harvesting areas is foundational to knowledge transmission and the continuity of Marine Hunting practices.

> *I started going to the floe edge maybe, I was just a young boy, with my father. I don't remember what year it was but I know I was probably around eight, nine years old. That's when my father started bringing me down to the floe edge to show me, or what really happens down there.* (A07 2020)

> *I was fortunate enough this summer to catch a few whales along this coast. And my son was able to harvest this year as well. This year was not his first. He's nine years old and he was able to harvest one when he was six years old, over here – actually over here on that. This is called the Gallery in English, I believe.* (A07 2020)

> *And at an early age, you're taught with the migration and the arrival of game. … So, each community has their own calendar year … it's different in Arctic Bay compared to Pond, because of the differences in the weather … So that one year has different seasons. That's how they know what to harvest … Or they're taught by hunters and their family where to go in each season. (A05 2020, interpreted from Inuktitut)*

> *That [Bowhead whale] was the most satisfying hunt he's ever had in his entire life … Because it was such a huge animal … Yeah, the whole community – harvested. And they even exported some … Yeah. Yeah, that's a whole part of the hunting party, is to pass on the skills to the younger generation.* (A04 2020, interpreted from Inuktitut)

As highlighted in the quotes above, Marine Hunting is central to Inuit culture and identity. Marine Hunting provides value to Inuit that goes beyond obtaining sustenance. As communicated in the quote below, hunting provides an opportunity to see and appreciate nature, connect with other hunters, and fulfill the hunting way of life.

> *I love to hunt, it's my way of life. And when I travel to that [Study] area, I was — the way — I don't know how to explain it. It was beautiful. Because I, I love the outdoors, I love going camping and whatnot. And when I went out, I felt like I was welcome there, like from the animals that I saw, or the hunters that we met in the floe edge and on the trail. It's — I don't know, it's beautiful. I don't know how to describe it.* (C04 2020)

4.2.3 Impacted Baseline

During interviews for this Study, participants identified existing impacts on Marine Hunting values within and adjacent to the Study Area. They reported concerns regarding declining numbers and availability of preferred marine species, evidence of compromised animal health and meat condition, and contamination of the marine environment. As evident throughout the section below, the existing impacts described by participants are generally associated with existing Mary River mining operations, especially shipping from Milne Port.

In the quote below, a Clyde River participant describes the diversity and abundance of Eclipse Sound, Bylot Island, and Pond Inlet before mining activities began.

> *Prior to Mary River, there used to be a lot of narwhal in that, east of uh, Bylot Island… Beluga [whale] up there… And walrus. … Would cross to Bylot Island. … Lots of narwhal at Eclipse Sound. … Lots of seals around Pond Inlet area. ... young seals, springtime, there used to be lots over there ... Prior to Mary River project. … And they would catch narwhal up there and walrus up there, [inaudible] inlet. ... There are wildlife now... but not as abundant as they used to be. ... ...the other side, there's a lot more wildlife over there now. ... In [inaudible] inlet. ... It appears that there seems to be a migration since the project started, more towards the east. ... [Inuktitut spoken], yeah they are moving west. ... [C01] can speak from his knowledge of that area. ... They used to go up there a long time ago. ... It's a beautiful place, Pond Inlet, people there are so nice! … And it's so beautiful across the bay, and you feel so comfortable and welcome in any of the land areas, traditional use areas. … Because of the abundance of wildlife it just seems so welcoming. ... And that's how it was prior to the project.* (C01 2020, interpreted from Inuktitut)

Mary River operations (and especially ore shipping out of Milne Port) were commonly attributed as a cause of reported declines in marine animal abundance in the Study Area, particularly in narwhal and seal populations. Participants noted that these species and marine mammals, generally, are highly sensitive and typically avoid noise and development.

> *Marine wildlife do not like noise and the accounts coming from the people in Pond Inlet is because of the noise from the ship that the marine [wildlife] just dispersed themselves, because they like to be in an area where it's less noise and less disturbance. Because they're very sensitive animals.* (C15 2020a, interpreted from Inuktitut)

> *[The Mary River Project] already has an impact, impact on the animals. … Like, a lot less caribou being caught by Pond [Inlet people] in that area. And hardly any narwhals all summer long. They had two narwhal hunts in the beginning of the summer but … They had to travel near Arctic Bay to harvest narwhals. ... [The narwhal numbers started declining] When they – when the project started. ... The seals, there've been a lot less seals up there. That's what I've hear on my – With my friends from Pond. ... Yeah, [because of] the, the shipping route.* (C03 2020)

> *Since it [Mary River Project] started the shipping, it's already noticeable that they're [narwhal are] not around there now.* (A01 2020, interpreted from Inuktitut)

> *He used to narwhal hunt around there [Study area]. There was a lot of wildlife back then [1950s] around there, lots. … they didn't even have to try really hard to hunt for animals, because – because of how plentiful they were. … Not [plentiful there] anymore. … the biggest factors are shipping and orcas because the increase of orcas coming up around that area.* (C15 2020a, interpreted from Inuktitut)

> *Yeah, narwhal hunting, seal hunting, fishing, have been affected [by mining activities] … They say there's like quite a bit less activity with the marine life in that area.* (C04 2020)

> *… even before the expansion, it's – there's already adverse effects that the hunters don't find as much wildlife as they used to … So, wildlife, marine life … they run away from anything that could be considered posing danger, and the noise of the ships to them is posing danger. They can deal with other marine life, because they don't make as much noise as the ships would, but he thinks that because they're not all that familiar – would be familiar with the constant noise, that they are already dispersing.* (C15 2020b, interpreted from Inuktitut)

> *But the thing is like with the mining activity it appears to be like the animals are retreating in a way. Seem to be going further away from the activity.* (C18 2020, interpreted from Inuktitut)

> *They have already affected a large part of our area. They [the Project] are having an impact on the wildlife, our way of life and our food sources … The wildlife is being affected in numbers near Pond Inlet. They are reducing in numbers. Because the wildlife is moving away from Pond Inlet area, they are moving towards Arctic Bay. For example, from Spring till August, we had narwhal while there was hardly any near Pond Inlet. The seal population is being affected as well where we see less.* (A12 2021)

While narwhal and seal populations appear to be declining in the Study Area, other areas nearby such as Admiralty Inlet (Arctic Bay) have experienced an influx of these species. Several Study participants believe the recent timing of this shift suggests that Mary River shipping and port activities could be resulting in the movement of some

animals out of important habitat areas, including calving areas, in the Study Area where they were previously traditionally abundant.

> *And then last year, they started seeing the decline in narwhals in Arctic Bay … And then, this year, in the summertime, they had no narwhals there [Pond Inlet] … And then, in the summertime, community members from Pond Inlet were going to Arctic Bay to go harvest narwhals …* (A12 2020, interpreted from Inuktitut)

> *… there was a family that travelled all the way to Arctic Bay to go narwhal hunting from Pond Inlet … Yeah because of the reduction of narwhal they go to Arctic Bay because there more narwhals over there … It looks like some of the narwhal has migrated around Admiralty Inlet to get away from the Milne area and the activity area …* (C24 2020, interpreted from Inuktitut)

> *So he feels that there's never been any hooded seals in Arctic Bay area, but since the shipping has started, and the project began, that some marine life, such as the hooded seal, was caught around Admiralty Inlet, and normally they don't frequent around this, in there. They frequent more over in the Pond Inlet area.* (A04 2020, interpreted from Inuktitut)

> *So, two years ago, Pond Inlet started noticing and experiencing that there was less wildlife in Lancaster Sound, all the way to [Milne], Milne Inlet … And then, they were telling – the HTO was communicating to the HTO here in Arctic Bay saying that the seals are decreasing in numbers and there's hardly any seals anymore … So, two years ago, when Pond Inlet started expressing all our seals are disappearing, and sure enough, all the seals from Arctic Bay were basking on the – on Victor Bay here, there was a lot of seals that came, that's unusual for them, and they were, like, in awe, like, why are these seals here? … So, all the hunters were in awe and confused where all these seals were coming from. After communicating with the community there, they came to conclusion that it was all the seals from Arctic Bay that came here – from Pond Inlet to Arctic Bay, the seals came here.* (A12 2020, interpreted from Inuktitut)

> *So the one change that people of Arctic Bay have noticed is – and she's just now speaking for herself, is the amount of narwhal that are now going into Arctic Bay … So it was observed that there was a lot of – lot more narwhal around Arctic Bay, up until August, even last … week. But this summer there was quite a lot of narwhal …* (A08 2020, interpreted from Inuktitut)

> *So, traditionally, this is a calving ground for Narwhals, in Milne Inlet … But this year, [A05] heard that they're not reproducing here anymore … So, [A05] thinks that the ones that will be reproducing here [Admiralty Inlet], stayed around here more to get away from the shipping activity and all the noise.* (A05 2020, interpreted from Inuktitut)

As described in Section 4.2.1, seal species are among the valued food animals that have been traditionally reliable in the Study Area. One Study participant expressed

concern that early season shipping and ice breaking is disrupting sea ice habitat relied on by seals in the Pond Inlet area.

> *I've been up in Pond when it was beginning of July, and there was already ships that was breaking through the ice when there was ice. The seals are basking that time of the year. They do – they are basking and that's already had an effect. And I saw quite a bit of seals near the shoreline. They don't spend – seals don't spend near the shoreline when there's ice. They spend their time on top of the ice. … So yes, there was already affected.* (C04 2020)

Several participants reported that since the start of mining activities and shipping in Milne Inlet the quality and condition of animals as declined. Both whales (including narwhals) and seals were characterised as "skinny" and lacking blubber relative to the participants' understanding of normal physical condition. Sensory disturbance from Milne Port activities and shipping, increased predation, and changing ocean conditions were noted as potential factors.

> *And so, they [Pond Inlet Inuit], they hunt a few whales, they hunt those few whales, but they were so skinny, no blubber, they haven't eaten for weeks. And that's where they go eat arctic char in Milne Inlet. Arctic char and other things, shrimp and what not. Halibut, they eat up there in where it's deep. So, we see what's happened in Milne Inlet, is what we fear is going to happen all along the coast.* (C17 2020)

> *So, by fall time, Narwhals are usually fat and ready for the winter. But he doesn't know if it was predation that caused them not to – like either they ran out of food and they stayed there, it might have been predation that – or what. He doesn't understand why. But the main difference that he observed was that their fall Narwhals were skinny … That's, that's the simplest explanation is some Narwhals behave – like they run away from noise … So, this year is an indicator, indicator that this is impacted by the mining activity, or the shipping route being so close and all the ships activity…* (A05 2020, interpreted from Inuktitut)

> *Yeah, shipping activities when they start shipping to Milne Inlet. Every mammals are getting little bit different. They're a lot skinnier. [Inuktitut spoken] They scare very much right away now. … They're getting hard to hunt.* (C20 2020)

> *Before the mine started, in the past, the mammals were a lot fatter than last time. They – they used to be very fat before the mine start. And the migrations of narwhals used to be a lot narwhals too on that area. Used to be a lot of narwhals too, but it doesn't have really much narwhals anymore.* (C20 2020)

> *Oh yes, there's gonna, there's already have been an effect on the narwhals because I hear the narwhals up in the area are skinnier. So that means they're moving more, they're not eating as much. So, this [mine has] already affected marine animals.* (C04 2020)

> *Because she's been doing skins all her life and sometimes she notices that the skin, like the inside of the skin, is not the same … She thinks that with the slow global warming up the ocean currents is having an impact on the quality of the seal skin. Plus, the – so there's the seal meat, blubber, and then there's like the seal between the blubber and the skin inside … it's more like a harder version of the blubber … That sometimes we would eat when our mum was doing the skin. So she feels that's changed a bit but the fur seems to be much thinner than when she … Because that layer between the blubber and the skin, we used to snack on that when our mums were doing the skins. And she would feed to her children, have a little bit herself, but today it's seems more – not as dense. Like it's more like – not slimy but not as appetising.* (A03 2020, interpreted from Inuktitut)

In addition to the aforementioned changes in the abundance and quality of marine mammals in the Study Area, multiple participants reported that mine dust deposition is already occurring in the Study Area, including in harvesting areas for seal and other valued species.

> *She didn't see the dust herself but she's heard from other people in Arctic Bay that it's evident that it's there and they can smell it, like the dust … Yeah, it's present in the air. So that's one thing that she was told that they notice … And she's seen some pictures posted on Facebook about seal [breathing] holes [aglu] being red, from the dust travelling in the air.* (A08 2020, interpreted from Inuktitut)

> *Hearing about the stories where they do the mining — the sand, or the red sand, I don't know what you call the iron. They said, in this area … there's already a big impact on the sediments … It goes right up to the ocean. And I've seen a video on Facebook where a hunter was trying to hunt seals in this area [Stephen's Island/Milne Inlet]. The ice on top of the ice is all red. And that's from the iron.* (C04 2020)

One participant described how dust can make its way up through the food chain to marine mammals.

> *The dust particles as they settle anywhere can be consumed through the food chain by fish, sculpins, shrimp, any marine life will consume particles from the mine.* (A09 2021)

Participants from Arctic Bay noted that mining-related dust deposition is similar to that seen during the operation of the Nanisivik mine.

> *Now he's noticed too that it used to be white, pristine sea ice, but now it's … From the dust coming from the mine … It was the same thing when Nanisivik Mine was operating. You could see yellowish tint on the sea ice back then as well.* (A13 2020, interpreted from Inuktitut)

> *I used to work when – at Nanisivik – when the raw material was being loaded on to ships. When the skirt attached to the conveyer to dump the ore, was*

> *too short and it was windy, the dust would be blown away. There would be black soot everywhere. And it affected seals and others that may have consumed the snow where the dust fell. 20 years have passed, the seals are finally coming back to that area as they had disappeared from the Nanisivik area. The mine also affected the walrus and seals back then. They are slowly coming back …* (A17 2021)

The collected data demonstrate that existing Mary River mine operations, especially Milne Port activities and shipping, are understood by Study participants as the leading causes of existing impacts on Marine Hunting values in the Study Area. The current impacted baseline condition is characterised by reduced abundance and quality of marine animals valued for hunting, and evidence of contamination related to the introduction and dispersal of ore dust into the marine environment. Any potential impacts from the Project on Marine Hunting will be experienced by Inuit from Arctic Bay and Clyde River within this already constrained environment.

4.2.4 Project Interactions

Based on their knowledge of the area and their experiences with existing Project components, participants have a range of concerns about potential interactions between the proposed Phase 2 Project components and their Marine Hunting values. Participants from both communities anticipate Project interactions with Marine Hunting values in the Study Area that could also result in impacts extending beyond the Study Area in some cases (e.g., shipping corridor impacts). The Project interactions summarized in this section would occur in addition to, and potentially amplify, existing impacts described in Section 4.2.3.

Study participants emphasised the importance of protecting marine animals and the hunting way of life that is critical to their identity and an expression of the Inuit way of life. As expressed in quotes throughout this section, migratory species such as narwhal are understood to be especially vulnerable to shipping, particularly given the intersection of Project shipping and migratory routes in the Study Area.

> *That route, we don't want that at all. Arctic Bay is going to be affected. Narwhals that migrate through here [points on the map], up to that area is going to be affected. In the fall when the narwhals try to come back, they're going to be affected. In turn, our lives, our hunters are all going to be affected. So that's what we don't want, 'cause we come to an agreement, the five communities that, the number one thing we want to do is protect the waters and the animals. Cause that's who we are, that makes us who we are, and we don't want that jeopardized at all. So that's the bottom line.* (C17 2020)

Participants expressed concern regarding the increased shipping congestion and relatively constant presence of both anchored and moving ships in Eclipse Sound, an important habitat area for marine species and Marine Hunting practices (discussed in Section 4.2.2).

> *So, he feel, he thinks that, that Eclipse Sound is going to be congested with the ships [with the increased shipping in Phase 2], [Inuktitut spoken], and I think there's going to be a waiting state area for these ships to offload … (*C01 2020, interpreted from Inuktitut)

As discussed by several participants, increased Project shipping traffic and noise from the Milne port would occur along a shipping route which overlaps migration corridors and other valuable habitat areas for several species, including narwhal, bowhead whales, and seals. In addition to migration, narwhal, for example, are known to use the Study Area for feeding and calving. As described in Section 4.2.2, narwhal, seals, and bowhead whales are valued for Marine Hunting and country food security.

> *Yeah, he knows that there's going to be an impact [from increased shipping traffic], and because the area that he outlined is also a calving and feeding area for the narwhal. So, he knows with the noise coming from – the noise from the ships coming from Milne Inlet, all the way through Eclipse Sound, that corridor will be affected from the noise. ... They'll stay away from the noise. … And he knows for sure that they will be moving away from their usual – their traditional feeding and calving area, because of the increased shipping.* (C21 2020, interpreted from Inuktitut)

> *And [I'm concerned about Project impacts in] the shipping area, because that's the only route the narwhals go up to Arctic Bay [is through Eclipse Sound].* (C03 2020)

> *[A04] is concerned about the shipping, increased shipping as it relates to bowheads and narwhal, because this is, like a natural migration, to get to the other side, for the narwhal as well. So [A04] thinks there'll really be an impact for both bowhead and narwhal …* (A04 2020, interpreted from Inuktitut)

> *Yeah, for sure [the shipping traffic will affect the narwhals]. … and this is the route for the narwhal migration, all the way from, all the way to these fiords, and that's where the narwhals go, because there's always lots of narwhals passing by Pond Inlet. And from the ships and all of the coast guards ... all the ore ships could really affect the narwhals ...* because all the noise … (C16 2020)

As noted above, shipping noise is a primary concern for Study participants who understand noise to have a detrimental effect on marine life overall, and note that some marine mammals are especially sensitive to noise including narwhal and seals. Constant presence of ships and shipping noise, impacts on marine animals' hearing, and noise disturbance in foraging areas specifically, were all stated concerns.

> *So … all this abundance of wildlife around here, Navy Board Inlet. Abundance of marine life. … All kinds of bird. … He says that it would be most affected by the constant noise of the ships, because marine life is very sensitive to noise.* (C15 2020b, interpreted from Inuktitut)

> *Seals can be impacted [by the Project], because they can go to the fiords or somewhere along the way and they – and they [ships/ship noise] can impact their hearing or, or their food, where they go eat.* (C16 2020)

> *Narwhals for one thing, and maybe some seals [would be affected by ship traffic related to the Project] and maybe orca … Yeah [orca] they're chasing narwhal so and there's, from according to we can understand, there's starting to be a lot more every summer because of the longer ice-free conditions ...* (C11 2020)

As described in the quotes below, Project increases in shipping traffic and noise are anticipated to further displace marine life from the Study Area which features preferred hunting areas, migration routes, and other important habitat areas in Eclipse Sound and Baffin Bay, among other areas. For example, the shipping route was noted to intersect narwhal migration corridors, feeding locations, and calving grounds used during the summer ice-free period. Participants also anticipate potential reductions in local seal populations. As noted previously, all of these species, and marine mammals generally, are understood to be highly sensitive to noise and shipping disturbance.

> *[Increased number of ships and shipping noise] will probably take away marine mammals … you won't see as many seals when there's ships, or narwhals, as you usually do, so it would it will have that effect.* (C11 2020)

> *Marine life, especially whales, have acute hearing ability because they have – that's they're adapted to that for survival. So, there has been scientific research done where audio was recorded underwater to see how far the whales can hear. … So, [C15] is concerned that with the increased shipping and them hearing all these noise is that they're just going to – they've just going to just not stay.* (C15 2020b, interpreted from Inuktitut)

> *So, he believes that [shipping route] is going to have a major impact on the [narwhal] migration patterns. They're either going to scare them off or push them away, since it's so close to their like good hunting spot.* (2020, interpreted from Inuktitut)

> *It's [the increased shipping under Phase 2 is] going to scare most of the seals away. … And probably all the narwhals*. (C03 2020)

> *… we fear that the wintertime, like, right now, we fear that they [narwhal] might migrate to Bering [Sea], Beaufort area … To winter there. So that's what we fear. Because they winter here in Baffin Bay, but the ships are still going, and it's still very noisy, and they're not coming back. … So, that's what we, what we want to do and what we fear. All this coast is going to become empty. All along that coast, that's our biggest fear, the narwhals are not going to be around here anymore.* (C17 2020)

> *Seals and narwhal would be affected around that area. … They could be diverted to their natural habitats, like through their cycle, but if there's ships around there and there's too much of ship impact, then they – there – there –*

> *they could divert to other areas, like they will not, they will move away from there. … It's already happening today according to the accounts by people of Pond Inlet. … Three to four years now.* (C24 2020, interpreted from Inuktitut)

> *She is concerned about the increase shipping will have a huge impact on the marine wildlife and she feels that they're all going to … disperse and go to different places, they'll try to go there, but because of the noise of the constant ships route going back and forth, they can try to go back, but if they're too disturbed by it, they would go somewhere else …* (A10 2020, interpreted from Inuktitut)

Any displacement of marine species from the Study Area would further reduce marine animal hunting opportunities for hunters from both Arctic Bay and Clyde River. Hunters from both communities continue to hunt in Navy Board Inlet, Milne Inlet, Pond Inlet, and Baffin Bay (among other areas) for a variety of species including narwhal. As highlighted in the last quote below, the spring timing of the beginning of shipping season coincides with the ice break-up when narwhals would normally be migrating into Milne Inlet and the Study Area generally. Participants from both communities stated that local narwhal populations and hunting success have declined in the Study Area and that some Pond Inlet hunters are now traveling to hunt narwhal as far as Arctic Bay (Admiralty Inlet) and Igloolik areas.

> *He's convinced that if the project increases within a month it should be – there'll be no marine life left whatsoever … Because Pond Inlet is now going to Admiralty [Inlet], to Igloolik to go, they went narwhal hunting over there this summer … Pond Inlet guys came by boat this summer. They went around here [Arctic Bay/Admiralty Inlet].* (A13 2020, interpreted from Inuktitut)

> *Yeah, the nearness of that channel there is also a concern. … there will be definite impact on the marine wildlife there … And then have the hunters having a harder time catching them.* (A04 2020)

> *Yeah [increased shipping will affect narwhal]. Guaranteed, because [more shipping is] going to scare them [narwhal] away from this area to other places. ... Especially in the spring they'll be – start opening up the [shipping] route in the early spring. ... When the narwhals still hasn't gone to the inlet. ... So, it's going to scare them away. ... It's going to hurt – it already has affected [hunters in Pond Inlet]. ... They're catching a lot less narwhals then in the past.* (C03 2020)

> *So the entire shipping route, concerned about the impact on the marine life and how, like other people have said, that [animals] are not going to be frequenting in the areas that they used to, because of the increase in shipping.* (A04 2020)

One participant expressed concern regarding shipping impacts on walrus and walrus habitat and hunting areas in Navy Board Inlet, having learned that walrus are highly sensitive to disturbance and easily displaced from areas for long periods.

> *Because we were always told as we were growing up never to bother the walrus that much because when they get scared they go the furthest to run away from what they're scared of. Even they're big, big mammals, but. ... Yeah, yeah [they are displaced] further. ... [It would be] Many, many years [before they would come back if displaced]. Like, back in early 1900s my grandfather said his father used to hunt walrus around and after the whalers were, because they were collecting all the blubber and the tusk here, and they still haven't come back. ... We're finally gradually seeing one or two a year now [in Clyde River], but.* (C03 2020)

A Clyde River participant expressed concern that Project effects on marine species and Marine Hunting values resulting from increased shipping will be experienced as far as Clyde River as shipping extends beyond the Study Area and Baffin Bay into Lancaster Sound and Davis Strait.

> *So, [Phase 2 is] going to increase shipping activity on both ends up to about 176 ships that are going to be going through Lancaster Sounds and going down Davis Straight and Baffin Bay and they'll be passing by Clyde River. ... He feels that we should – we are – like, we're going to have to be aware that anything marine base, any narwhals, seals, all the seal types, everything that we – anything on the [Inuktitut spoken] on the bottom, all that is going to be impacted by increased shipping activity*. (C05 2020b, interpreted from Inuktitut)

One participant emphasised that they would avoid hunting in the Study Area if the Project is approved because, in their experience, shipping pressure on marine animals contributes to reduced animal quality (e.g., overall size, body fat or blubber content) tends to diminish as shipping increases in combination with other factors.

> *Yeah. When they start mining, I don't want to go hunting to that area. … Because the animals on that area they get really skinny when they – when they're going … Yeah, when they're running away from the ship or anything. Killer whales, they start very skinny. … Ever since when the mine started.* (C20 2020)

Introduction of contaminants into the marine environment and uptake by marine life was also identified as a concern by Study participants that could be amplified by the increased number of ships and shipping. Anticipated sources of contamination include ballast water exchange and fuel leaks and spills. Furthermore, one participant expressed concern that increased shipping in combination with regional navigation hazards — namely, strong currents and floating sea ice — increases the probability of a major shipping incident and fuel spill.

> *With all the – if Phase 2 goes through, that's going to increase shipping activity. And with the current quota that they have for expansion and transporting, they already know that it has environmental impacts right now in the ocean. And they hear of ships dumping some substance in these areas and it's not only going to the water, it's also going to like the seals and any invertebrates or anything that may be in these waters. So … there's already*

> *impacts being seen and reported and then it's [Phase 2] just going to increase the impacts in a faster rate and more. Yeah.* (A05 2020)

> *He's concerned about any marine life around that area that would be impacted by the fuel spill from the ship, including planktons and, and like minute little feed that other marine feed off of, they would be affected, as well. … So, this is a sensitive area. … it's a concern for us.* (C15 2020b, interpreted from Inuktitut)

> *So, the first biggest concern he has right now is because of the, the permanent ice shield, it, it's always calving … There's – there could be a possibility because there's strong currents as another participant had said, there's this huge current that goes between Greenland and Baffin Island, along with the, the permanent ice calving, that there could be a potential disaster with these iron ore ships, if there is that many going back and forth. … The biggest concern is not necessarily the iron ore that the ship is carrying, but a fuel spill from the ship on impact.* (C15 2020b, interpreted from Inuktitut)

In addition to anticipated impacts on Marine Hunting values associated with increased ore shipping, multiple Study participants are concerned that ore production increases in the Project case will result in greater ore dust contamination in the marine environment in the vicinity of the Milne Port. This concern was attributed to the close proximity of the ore pad to the water's edge, as well as the perceived inadequacy of Milne Port dust control measures to date compared to the use of enclosed facilities at the previous Nanisivik mine near Arctic Bay. As discussed in section 4.2.3, ore dust dispersal into Milne Inlet and beyond is widely reported. If the Project is approved, production increases could intensify dust dispersal and further expose Marine Hunting values such as narwhal, sea birds, and waterfowl to contamination.

> *So the infrastructure developed here [at Milne Port] is not complete. When the Nanisivik Mine was existing, they had proper techniques and enclosed that area so it was enclosed so the wind can't blow [dust] any direction. But the infrastructure here is not complete but they're still using it for loading and offloading.* (A09 2020, interpreted from Inuktitut)

> *I do [have concerns about increased ore transport and shipping], because on ore pad it's really close to the waters, hey, it's really, really, really close, it's like 200 feet from the water where they get the – get the ore. And if they can – if they can move it just a little bit more away from the waters, it would probably help our animals more. Especially when there is usually lots of caribous near the ore pad or near the ore area. ... I know there's lots of geese and goose and foxes and ravens from all the way here. ... Because from, from the hunters, what I heard, this area it's pretty pink during wintertime, when it's – when it's ice, because from all the dust that's collected from the ore pad and Tote Road.* (C16 2020)

As discussed in Section 4.2.2 and 4.5.2, the ability to travel safely on sea ice is vital for accessing Marine Hunting areas in the Study Area and on Baffin Island overall. One

participant expressed concern that increased rates of ore extraction, processing, and transportation at the Project would in turn increase the scale and magnitude of dust deposition on sea ice in Project-affected areas resulting in earlier and more rapid ice thinning and spring break up, which would reduce Marine Hunting opportunities in ice dependent harvesting areas.

> *And as the years go by, it's going to expand further south because of, because of the dust and all that. And the ice will like, there'll be times that the ice will be gone a lot sooner because of the wind direction landing onto the ice. So, hopefully it won't happen for years and years. That's what we're hoping for, but we have a lot of hunters that go on the ice and that's the only way to travel to some areas that they go hunting to. So, if all that dust is blowing to the same direction it will thinning the ice faster.* (C26 2020)

The ability of hunters to safely access Marine Hunting areas in the Study Area could also be jeopardized by increased Project shipping. One participant discussed how sea ice formation (i.e., freeze up) could reasonably occur before the end of the shipping season, and Project icebreakers and shipping could disrupt sea ice formation and hunting as noted below.

> *The noise will definitely have an impact, but at the same time the – if they break the ice – if the ice forms up around November and they're still shipping it and it hasn't fully formed it will affect hunters' ability to access wildlife, marine life ...* (A04 2020)

Participants also identified potential negative impacts on Marine Hunting resulting from approved and permitted (but not yet built) Mary River mine infrastructure and activities (e.g., southern rail and shipping routes). Several participants expressed concerns that ore shipping from Steensby Inlet through Foxe Basin, for example, would disturb traditional hunting grounds and campgrounds, and valuable habitat for a multitude of marine (and terrestrial) species including walrus, fish, and sea birds. Potential impacts on walrus were noted as especially concerning because walrus meat is a valued country food for Inuit communities.

> *So Steensby … that's where the walruses congregate, it is their habitat. And Steensby is — or, residents of Igloolik are opposed and want to protect Steensby, because the shipping route is directly on the path of where the walruses live, or stay … All year round. This is — they don't move anywhere else, this is where they live all year round … Steensby is … very rich in wildlife and old traditional hunting grounds and campgrounds.* (A06 2020, interpreted)

Marine habitat disturbance, changes to marine animal populations and behaviours (including displacement of valued species), contamination, and reduced ability to travel and safely access harvesting areas resulting from the Project are anticipated by Arctic Bay and Clyde River participants, and would further impair Marine Hunting practices. Study participants expressed that Project effects and reductions in access to game would have long-term impacts on their ability to pursue traditional Marine Hunting activities in the Study Area that are integral to their way of life and food security. In

addition to Project (i.e., Phase 2) impacts, participants are also concerned regarding similar potential interactions with Marine Hunting values in the southern portion of the Study Area associated with approved and permitted shipping infrastructure at Steensby Inlet and shipping through Steensby Inlet and Foxe Basin. In light of the impacted baseline condition of Marine Hunting described in Section 4.2.3, Project effects would occur in addition to and exacerbate existing cumulative effects, and further diminish Marine Hunting in the Study Area. In summary, Arctic Bay and Clyde River participants anticipate the following interactions between the Project and their Marine Harvesting values:

- Impacts to important marine species' habitat and migration routes due to increased shipping traffic (including congestion and noise);
- Displacement of marine species from the Study Area due to increased shipping traffic (including congestion and noise);
- Reduced marine hunting opportunities due to the above interactions;
- Reduced animal quality due to perceived or actual contamination of marine species by shipping activities such as ballast water exchange and fuel leaks or spills;
- Avoidance of harvesting in the Study Area due to perceived contamination; and
- Impacts to sea ice harvesting routes due to dust and changes in ice due to shipping activity.

4.3 TERRESTRIAL HARVESTING

This section (Section 4.3) discusses the importance, impacted baseline, and potential Project interactions with the Inuit Valued Component of Terrestrial Harvesting.

4.3.1 Site-specific values for Terrestrial Harvesting

Table 6: Site-specific Terrestrial Harvesting values reported within the Study Area, by activity class. Numbers are cumulative with increasing spatial scales (i.e., RSA includes LSA and footprint).

Activity Class	Within 250 m of the proposed Project (footprint)		Within 5 km of the proposed Project (LSA)		Within 25 km of the proposed Project (RSA)	
	# of reported values	% of reported values	# of reported values	% of reported values	# of reported values	% of reported values
Cultural	6	12%	21	15%	24	15%
Environmental	25	49%	43	30%	48	30%
Habitation	1	2%	1	1%	1	1%
Subsistence	10	20%	66	46%	72	45%
Total	**42**	100%	**131**	100%	**145**	100%

The following Terrestrial Harvesting values were documented in the Project Study Area. The values are organized by Activity Class.

- **Cultural values** including: a caribou cache site; place name; an historic caribou hunting area; and numerous sites where caribou were processed and butchered after being harvested;

- **Environmental values** including: numerous caribou habitat areas, including calving areas and feeding areas; a fox habitat area; Canada goose nesting sites; snow goose nesting sites; an area that is known to be good habitat for small furbearers such as ptarmigans, weasels, arctic hare, lemmings, and fox; numerous caribou movement and migration corridors; and sites where caribou tracks were observed;

- **Habitation values** including: a historic campsite that was used as a base while hunting caribou; and

- **Subsistence values** including: hunting and kill sites for numerous species, including caribou, Arctic hare, goose, ptarmigan, puffin, rabbit, and wolf; a trapping area for ptarmigans, weasels, arctic hare, lemmings, and foxes; a harvesting site for mountain sorrel; a gathering site for edible roots; sites where blueberries were harvested; and sites where Canada goose, snow goose, and murre eggs are collected.

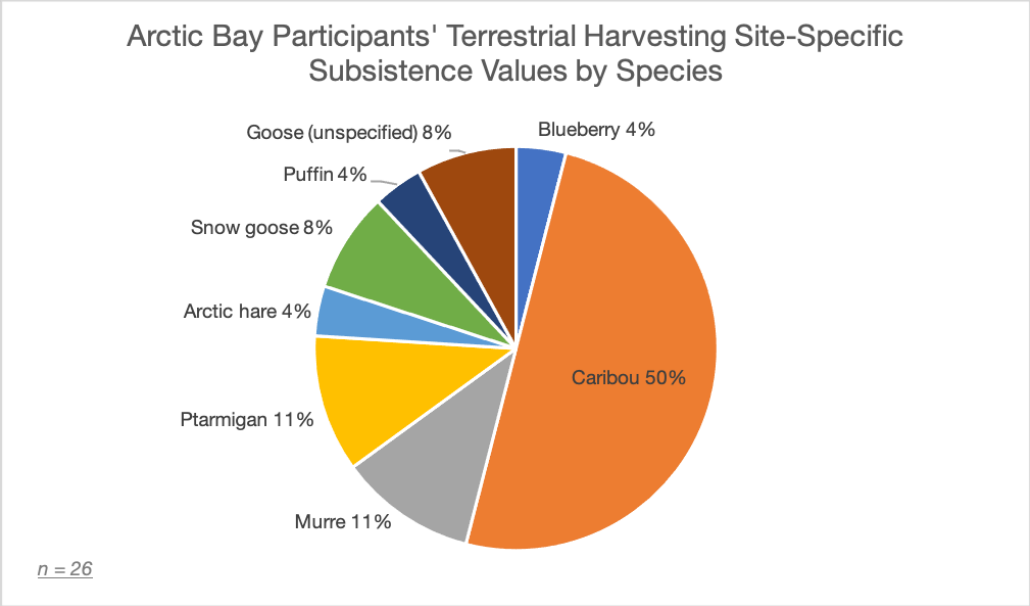

Figure 6: Arctic Bay reported Terrestrial Harvesting site-specific values by species in the Study Area

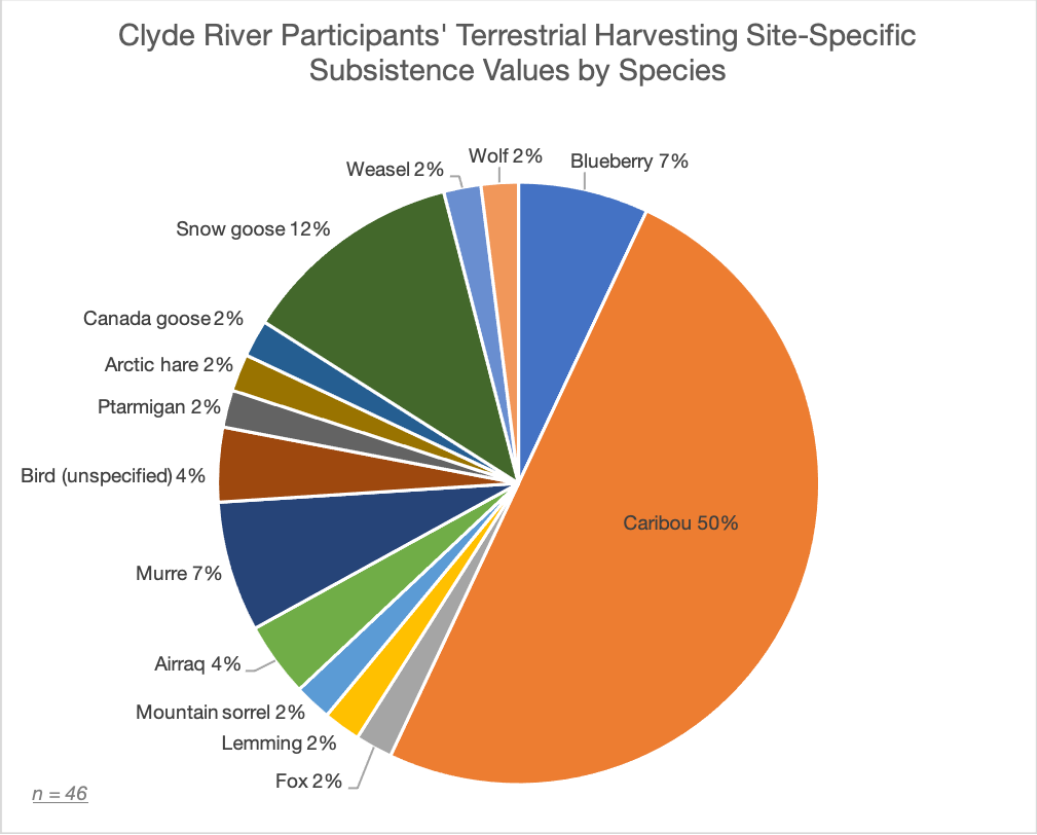

Figure 7: Clyde River reported Terrestrial Harvesting site-specific values by species in the Study Area

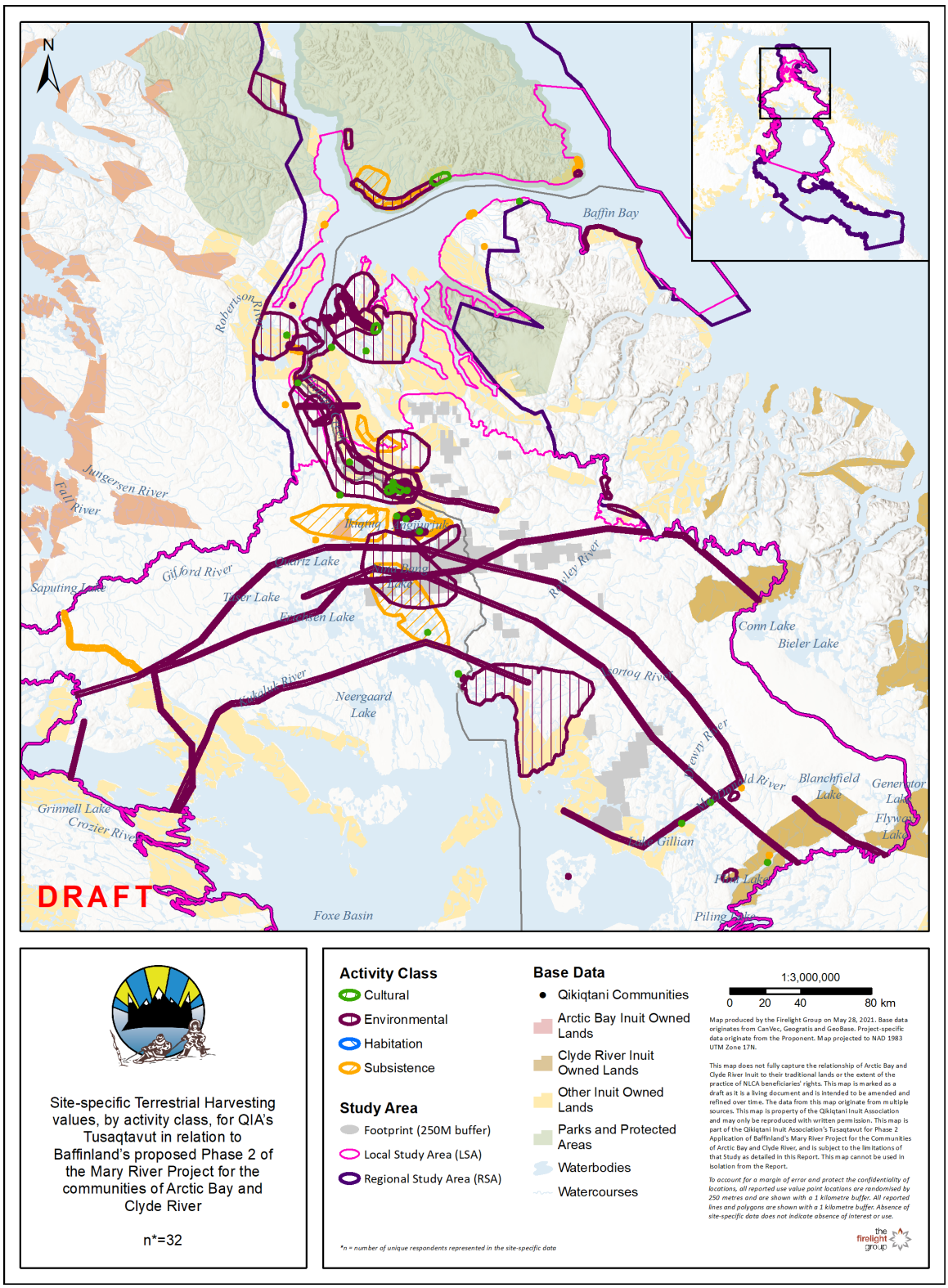

Figure 8: Arctic Bay and Clyde River site-specific Terrestrial Harvesting values reported in the Study Area

4.3.2 Importance

For Arctic Bay and Clyde River Study participants, Terrestrial Harvesting encompasses the hunting and gathering of a wide variety of plant and animal species on northern Baffin Island for sustenance, cultural, and economic purposes. Terrestrial Harvesting also involves traveling and camping on the land, ice, and water, and each of these activities possesses their own bodies of knowledge, practices, and customs, and conditions (these aspects of Terrestrial Harvesting are discussed further in Section 4.6, Cultural Continuity). Furthermore, Terrestrial Harvesting is vital to Inuit community food traditions and food sovereignty (discussed further in Section 4.7, Food Sovereignty).

During interviews for this Study, participants highlighted the diversity of terrestrial species harvested annually including large and small mammals, birds (e.g., especially ptarmigan and geese species), berries, and other food and medicinal plants.

> *And this is around end of August, so around beginning of September I come back home to Arctic Bay and start caribou hunting by four-wheeler.* (A07 2020)

> *Around December [east side of Milne Inlet] would be a prime fox-hunting area, when the ice would be nice and solid and firm, and good travelling route. … So, December, the fox fur was very good for like selling.* (C21 2020, interpreted from Inuktitut)

> *Yeah, weasel, lemmings, fox … Ptarmigan … Yeah, mostly those small game … They were also a part of our sustenance.* (C15 2020b, interpreted from Inuktitut)

> *They would harvest [snow geese] eggs and snow geese [on Bylot Island],* (C25 2020, interpreted from Inuktitut)

> *Yeah. There was goose camp around here [on Bylot Island]. There was a goose camp around here. Sometimes has a lot of goose, and Canada goose. They migrates here. When they start to have eggs, they pick some eggs. … Yeah, during the spring … Pond Inlet people start going up to that area picking some eggs.* (C20 2020)

> *Because they're very high cliffs, it was her father that collected the [murres] eggs [on Bylot Island]. … Her father was very good at climbing cliffs. … June because that's typically when the eggs are ready to be picked.* (C25 2020, interpreted from Inuktitut)

> *This inlet is Inuksuit Fjord … Yeah. [There we get] Crow berries, eider ducks. Lots of eider ducks that we hunt up there.* (C17 2020)

> *Blueberries … Him and his wife [pick them] … That's how men take their women out, blueberry picking is the most romantic thing ever … When the berries are ripe, usually around September, August. September.* (A14 2020, interpreted from Inuktitut)

> *Okay, so she knows of a kind – type of a seaweed, like on a shoreline for example. And if you have eczema or any kind of skin condition, it's very — it heals the eczema.* (C12 2020, interpreted from Inuktitut)

While Terrestrial Harvesting encompasses a diversity of species, caribou is a cultural keystone species for Inuit on Baffin Island and particularly of interest in relation to the Project; much of the remainder of this section (4.3.1) is focused on caribou. This is owing both to the role of caribou in the lives of participants, as well as the reported importance of the Study Area for caribou and caribou hunting. Caribou were described as central to participants' terrestrial foods diet, hunting culture, and identity.

> *I'm Inuk and I, I like my meat, hey, and caribou meat, they're one – they're one of our number one choices …* (C16 2020)

> *It's [caribou] really embedded in me, the taste of it, everything. And you hear the stories of caribou hunters going extremely far to catch caribou because they've been eating seal all throughout the winter and whatnot. And I try and live by those stories and try and continue on caribou hunting … Yeah, no matter how far I have to go, I tend to try and keep going, because I hear stories of my uncles going far as that*. (A07 2020)

> *Ptarmigans and caribou are the major food source in around here. ... Throughout Nunavut actually. Every Inuit culture still depends on those kinds of – the availability of them. ... So, as soon as the youth have – when they start catching caribou and ptarmigan, they stick to their country food and they're not eating the non-country food as much*. (C05 2020b, interpreted from Inuktitut)

One participant highlighted the specialised knowledge that surrounds caribou, including the ability the differentiate mainland and Baffin Island herds by appearance and taste.

> *There's different kinds of caribou. There's caribou from mainland around anywhere. Elders can recognize them. I don't. They all look the same to me, but they taste different.* (A07 2020)

> *Especially this year, my friend, which is my cousin, he caught a bull caribou in this valley … And his father looked at the antlers and right away said this is not island caribou, this is mainland caribou that travelled.* (A07 2020)

Participants discussed the traditional and ongoing practice of using all parts of harvested caribou, and especially the hides which are a highly insulative material critical for surviving the extreme northern climate along.

> *… caribou is important to him because that's what we know. We – that's our food source from the beginning of Inuit. And that knowledge is passed on for survival for clothing and the crucial role it played in us to get tools, material and sinew from the caribou. And the hide itself was our way of survival for clothing.* (C14 2020, interpreted from Inuktitut)

> *And it's [caribou] also vital because it's been a way of surviving to clothing and tools that it provides … So, not only did we use the hide for clothing, it was also used for mats. So, like, for beds, so you can be warm … Caribou hide is one of the most valued and precious material in the north [pause] because of its insulative and – insulative properties.* (A12 2020, interpreted from Inuktitut)

> *Caribou has a significance to him because it's traditionally – it was for clothing and the meat and along with the bones were like … for tools and clothing, that's why it's so important. And today that same value and importance, it's placed on caribou. ... Because by experience they know that polar bear – or caribou hide is the best in [Inuktitut spoken] property compared to like man-made materials. Because it gets extremely cold here in high arctic. … They make mitts, parkas ...* (C02 2020, interpreted from Inuktitut)

Similar to Marine Hunting discussed in Section 4.2, Terrestrial Harvesting and caribou hunting in particular involves time on the land with family and the sharing of knowledge. Participants described hunting at a young age, the joy of learning about and exploring the land, participating in a hunting party, and sharing meat with family.

> *My father started bringing me caribou hunting when I was probably six, five or six … Like there was so much caribou at that time that you could go up the hill to go catch caribou. So, wintertime he – I actually caught my first caribou when I was maybe seven, seven years old, just around the corner here.* (A07 2020)

> *So, it was, like, a family – like, a group hunting party, including the whole family. Not his family, his wife and other couples and the whole family. So, let's say, three sets of parents … And they processed the caribou and they camped overnight … Six caribou they caught, about six caribou, and they processed them right over there …* (A14 2020, interpreted from Inuktitut)

> *He – it was the first time he's been there [unspecified, closer to Clyde River area], it was absolutely beautiful and he really enjoyed the hunting, the experience.* (C07 2020, interpreted from Inuktitut)

> *Yeah, it's always so joyful to go fishing and hunting anywhere, so this is no different than any other hunting that he's done or fishing in other places, as well. It just makes him so happy to be out there on the land.* (A14 2020, interpreted from Inuktitut)

As described in Section 4.1 (Site-Specific) and in the quotes below, Study participants have and continue to use the entire Study Area and identified numerous Terrestrial Harvesting values. These include harvesting areas for berries and other edible plants, and kill sites and important habitats for many animals, particularly caribou.

> *That whole [Study] area is all caribou hunting… Yeah, it's pretty much anywhere that they can caribou hunt. … Yeah, so it's used as a caribou*

> *hunting ground using all-terrain vehicles … When the caribou are full of fat, around August. … In the [19]70s, like he would occasionally go caribou hunting, up in that area. ... Yeah, he still goes to this day. ... He goes by snowmobile and dog team. ... From Clyde River. ... So he's been doing this for many years. ... [referring to a mapped area] this is where all the caribou are, this is where all the caribous are and this is where the hunting used to be...* (C01 2020, interpreted from Inuktitut)

> *There used to be caribou in that area and over there. ... And hunters used to hunt, harvest caribou on Bylot Island as well. ... Lots of rabbits ... Lots of arctic hare and ptarmigans around there. ... They used to catch caribou as much as they wanted around that area, where he pointed and further.* (C01 2020, interpreted from Inuktitut)

> *Like Milne Inlet, [inaudible] Mary River, all this area was at one point a traditional caribou migration route… (A10 2020, interpreted from Inuktitut)*

> *Yeah. Yeah [when living in the Study Area], the reason that his family went caribou hunting a lot ... is because that his mother, an Inuit, preferred the meat from that [Project] area, coming from the caribou. So, that's why it was a prime caribou hunting area because the meat was preferred. … Good, lush vegetation in the summertime …* (C21 2020, interpreted from Inuktitut)

> *There's lots of blueberries around Pond Inlet area. … Like the whole region. … Yeah, they picked berries around there [in 1956]. … [They also picked] Mountain sorrel and Airraq [in the area]. … In the height of summer August is when you – they would start harvesting plant. ... Because it was a nice sandy area. It was very easy to pick anything that was a root plant. So, it was ideal for picking.* (C15 2020a, interpreted from Inuktitut)

> *So, the root plant we were talking about yesterday … she would pick Airraq around that area [Bylot Island] as well. … yeah, because it's the – they eat the roots.* (C21 2020, interpreted from Inuktitut)

> *They used to go berry picking in the hill area [on west shore of Eclipse Sound] where he's pointing … And rabbit hunting … Around August when the berries are ripe for picking.* (A01 2020, interpreted from Inuktitut)

Terrestrial Harvesting values were also reported in the southern portion of the Study Area in the vicinity of the approved and permitted southern rail route and port at Steensby Inlet. The quotes below described caribou hunting grounds and important habitat features such as caribou movement corridors connected to the mainland, as well as traditional hunting grounds for snow geese and Canada geese.

> *So, regarding Steensby, as far as I've gone is here [points on the map] for caribou hunting. We caught, there's caribou all over here. And then caribou migrate to mainland down this way [points on the map]. They go through there and down to south Baffin. … Yeah. All this area is like a highway to caribou.* (C17 2020)

> *Oh yes, so [the Project Area] that's a caribou tradition – like, historical caribou habitat area. … Yeah, and also, the caribou run away from the wolves to, to that area as well … All the way to Steensby, yeah … All that area here is prime caribou habitat.* (C21 2020, interpreted from Inuktitut)

> *So they [caribou] cross there [Steensby Inlet area] … Yeah, they cross through the ice in the winter time … And they come from the Hall Beach area and migrate up there.* (A13 2020, interpreted from Inuktitut)

> *And the next day I was looking for caribou along this area in Steensby. I saw a female and a calf and I said to myself, only if it was back in the day, because female and a calf, we're not supposed to hunt them. And I kept seeing tracks of caribou, male tracks, but it was kind of hard to track them down because of the winter.* (A07 2020)

> *People from Clyde would come up here [area overlapping Footprint, LSA, and RSA in Steensby Inlet area] to go harvest snow geese and Canada geese … even though they travelled vast distances to go caribou hunting, even if there was not much caribou, they would never starve because they had so much Canada geese and snow geese to harvest and sustain themselves. ... he didn't get to harvest and go hunting for geese on his own, but he ran into elders and hunters that told stories that this area's good for geese. ... This whole area is filled with geese.* (C05 2020a, interpreted from Inuktitut)

The Mary River mine site itself and the surrounding area is well known to many participants, particularly as hunting grounds and habitat for caribou, polar bear, ptarmigan, and geese.

> *He has been told from stories that it [the Mary River mine area] was a prime caribou hunting area, previously to Mary River project. … [He heard that] From hunters in Igloolik, Arctic Bay, Pond Inlet. … Yeah, around the – from the mine to the mill and along that area.* (C07 2020, interpreted from Inuktitut)

> *[In the 1950s] They stopped by Mary River. … before they went further, they would caribou – his family would caribou hunt first around Mary River. ... The area around Mary River was … a caribou calving area. ... They used to butcher the caribou there, process it, without leaving too much garbage behind, or waste behind. ... this was more or less like a common hunting area from different communities*. (C15 2020a, interpreted from Inuktitut)

> *But if I'm caribou hunting, which I love doing, I've actually gone towards Mary River a couple times.* (A07 2020)

> *And when we're there [Naksaluk valley], when they're there, the men, they hunted caribou around Niruuyaat [phonetic spelling 0:07:04]. … Right where the [Mary River] mountain is.* (C17 2020)

> *So, growing up as kids, there was always Nallua [phonetic spelling 0:11:18]. People going to Nallua to go caribou hunting, they'll fish there and get stone. … Like it's always been where people gathered in the summer. Like I've never experience it. But we've always heard that, that's where they went to hunt caribou in the summer, by walking from the coast up there.* (C17 2020)

> *And this [big lake in Project area] is called Tasiujajuaq in Inuktitut. … And there's always caribou migrating around this area, so people from Pond Inlet always goes there ... to go hunting. ... Yeah, I've seen people going to that lake and go hunt and had a successful hunt when I'm staying at [Milne] port. … It's just that there's, there's valleys around this [Project] area too, hey? There's good valleys and there's lots of water and there's like what, what caribou – what caribou eats.* (C16 2020)

> *So, because they're high and mountain is there – those two mountains [at Mary River] were big habitat for ptarmigan. ... That's where there was abundance of ptarmigans. … the ptarmigans and the caribou start retreating starting in August going up there to [those higher grounds to] have food source. ... he went up to the hills around this area to – tracking a polar bear. ... And when he reached the peak of the mountain, on the top, there was a lot of ptarmigans.* (C05 2020b, interpreted from Inuktitut)

> *Yeah, there's always snow geese around the little lakes in that area [Baffin Island interior southwest of Project site]. Snow geese and Canada geese … it's a small nesting area. It's not large but they usually nest around the little lakes around that area … Yeah they will be affected. (A13 2020, interpreted from Inuktitut)*

Participants possess a detailed knowledge of the ecology of the Mary River mine area, especially for caribou, and discussed the importance of the area for calving and caribou movement, water sources and forage (i.e., lichen), and predator avoidance. The area's ecological value has always provided ample game and hunting opportunities for Inuit hunters.

> *And the community knows that area to be one of the most abundant in wildlife, like, like a diversity of wildlife. … Because it has food source for the caribou. So, a habitation area for caribou cause of the abundance in food source. … Lichen. And he said that the topography is perfect to produce lichen.* (C13 2020, interpreted from Inuktitut)

> *The lakes [in the Mary River mine area] were good water for caribou.* (C15 2020a, interpreted from Inuktitut)

> *Okay, they [caribou] would gather around Mary River to go calving in the springtime. … that whole area, up to all that area up to Mary River, and all, all that is like a calving area. … Yeah, so the caribou's usually have their calves in the higher Pingo areas, so he's more concerned about the effects to the calving areas. …* (C21 2020, interpreted from Inuktitut)

> *Yeah, and he would make observations for himself, because historically that's been a calving area, and his father, of course, knows the area inside out, and that's how he made himself familiar with the area to observe the calving and things like that. So, he's seen it for his own eyes. … [caribou] leave in the fall, come back in the spring. … Yeah, towards the end of May, they would start migrating back*. (C21 2020, interpreted from Inuktitut)

> *Yeah, so this area here [interior of Baffin Island, close to Mary River] has like the most luscious vegetation. There's small game and it's more luscious than like the coastal areas as well, because it's inland, so it's warmer, so there's a lot more growth. … and the vegetation grows faster. … Yeah, that's why it was a prime habitat for caribou...* (C21 2020, interpreted from Inuktitut)

> *The behaviour of those big bulls were known that they liked to hang around in big lakes to try and avoid wolves. … So this big lake [just south of mine site] was used to harvest big bulls … And then they would cache the bull for later use … Since we had no stores, we would have to time everything. So they're here gathering for clothing, but why they shifted their focus to this area to bulls is that because they're healthy. They have big fat and it's for later use. So they would cache them so they can pick them up in the winter time for food source.* (A02 2020, interpreted from Inuktitut)

In addition to the aforementioned ecological and subsistence values, the importance of the Mary River mine area to contemporary hunters from Arctic Bay and Clyde River is in part derived from its historic significance as an ancestral hunting and gathering area.

> *Yeah, [traditionally, they would hunt around] all the lakes [in Study Area]. All the surrounding lakes. … Before they had rifles they had to have like tactics and a plan to herd the caribou to the lake so they could use their harpoons and to harvest them. ... there's a lot of stories – historical stories that Mary River along with the neighbouring lakes are a very crucial part for Inuit use for clothing and food to gather caribou. ... But with interactions with other Inuit ... Throughout the years he [of interacting with others and hearing stories], he knows that this area was heavily used for caribou hunting. ... there was evidence that this area was used by huts, like where they used to use houses. So, there's still evidence that some houses around here. ... they would spend summer and fall there only when, when that land started to change and the snow was coming in, temperature dropped, they would start to go back to their communities after they made like qamutiik, which are the sleds. ... And they would use caribou bones and hide, everything that they harvested in order to make their equipment to be able to go back home.* (C05 2020a, interpreted from Inuktitut)

> *Yeah, gathering place around there … Yeah, they would go caribou hunting by kayak … into the fifties [1950s], when they were still using kayaks and traditional methods …* (C21 2020, interpreted from Inuktitut)

> *She remembers people … So there would be people going – coming back from Mary River area, their dogs, and the people would be walking from Mary*

> *River, in the summertime, carrying loads of caribou, on their way to Arctic Bay. So they would sometimes stop through there. And then because Mary River used to – the area used to have – it was a prime caribou hunting area, so anyone – anybody from Arctic Bay and Pond Inlet that used to go to Mary River area for caribou hunting. So it was like a path from Arctic Bay to Mary River.* (A04 2020, interpreted from Inuktitut)

> *[The Project is] a big concern because the ancestors — well, his ancestors, our ancestors, used to use that area [Mary River, Baffin Island interior] as a, as a prime hunting area because the caribou were used as clothing. And, and when the fur was ready for harvesting to make clothing, that's where they caught the caribou. And if it's not the same anymore, even though we don't use the – we don't use the caribou clothing all the time, but we still – we still need them because we make clothing out of them. It's – the opportunity to be able to do that will reduce, and he's very concerned about that. … That used to be a gathering place for Inuit that would inland caribou hunting when it was –the caribou fur was prime for making clothing.* (C21 2020, interpreted from Inuktitut)

The qualitative data shows that Terrestrial Harvesting in the Study Area is an important part of Arctic Bay and Clyde River participants' culture and way of life. This is underscored by their extensive knowledge of plant gathering and hunting locations and wildlife habitats in the Study Area, as well as certain locations with historical and ancestral significance. Terrestrial Harvesting, and caribou hunting in particular, provides individual and family sustenance, while fostering a sense of identity and tradition.

4.3.3 Impacted Baseline

Participants from both communities have noticed a decline in caribou and other wildlife abundance within and around the Study Area.

> *We started going [to the Mary River area] about 2005, we started going there. Until a couple of years ago, 2018. But we haven't really seen any caribous around the area. Well, we've seen a lot tracks before, first we started going there we seen quite a few tracks and each year we started seeing less tracks. And a few years ago we didn't see any tracks at all…* (A15 2020)

> *Yeah, he observed that there used to be more caribou prior to the mine operating, but now, it's – he's observed that there is less … So, the wildlife are sensitive to noise, even though the noise might be far away. So, they are probably going elsewhere, aside from their habitat.* (A14 2020)

> *Oh there's a lot less mammals, mammals around. And like there's less caribous around … Yeah and there' also less seals on the ice too ... Probably from the ore on the ice*. (C19 2020)

In the following quote, the participant explains that hunting grounds in the Study Area were always considered reliable and it was common for Clyde River hunters to travel there for caribou.

> *From what I heard the caribou migration is a lot smaller now ever since the mine started. Back in the day, even people from my home community used to come here to go hunt caribou. All the way from my, from here, people used to go up there, because they know they're going to have a successful caribou hunt up there, hey.* (C16 2020)

Hunters have been observing that caribou movements on Baffin Island are changing. Specifically, participants observed that caribou that would normally move into the area from the south are staying further south either on Baffin Island or the mainland, which they interpret as an impact of Mary River mining activity.

> *He – from his observation of having travelled up there and now with Mary River project in production, he has observed that the caribou are migrating further south. Like, they're, they're ... They're being further south. ... Yeah, he grew up going up there all the time ... And they would go caribou hunting over there. ... And ever since Mary River project started ... It appears there's less wildlife since the project started in that area. … Since the blasting started. ... And since the project started.* (C08 2020, interpreted from Inuktitut)

> *… he knows for sure that the caribou that used to be around here, are some of them are migrating towards Iqaluit area. ... Yeah, there's more around Nettiling Lake. ... Yeah, they are seems to be migrating further south.* (C21 2020, interpreted from Inuktitut)

Clyde River participants have observed that the movement of southern caribou herds into Baffin Island is being influenced by the Mary River mine, and as a result fewer caribou are arriving on the Clyde River side.

> *No, when – the other guys, when they reach that lake … They go caribou hunting. And, right here, they sometimes reach this area. ... But they, they've stay – they – been noticing the caribou are getting closer to the lake because of the Mary River project. ... [They are moving] Down towards the lake. But like I said, the trail – we think the caribou stops now over towards [Inuktitut spoken] area now ... Because of the noise from the, the project. Because there's not much room there between the – between Mary River and the Barnes Ice Cap. So, we've been noticing the caribou more towards the lake, looks like they've been near the project area. But, the caribou coming from the mainland are not really showing up to this side. ... Yeah, [the] Clyde [River] side.* (C03 2020)

> *She feels that even when she's living in – living in Clyde River and there's – they would go caribou hunting here, that they used to be closer, but she feels that since the mine started, that the caribou are no longer even close to Clyde River.* (C12 2020, interpreted from Inuktitut)

> *…because when I started living here in Clyde River we used – we don't have to – we didn't have to go so far, just into the inlet up here and catch some –*

> *as much as we can, I mean what we need. And now, there's no more caribous around that area*. (C18 2020)

Several participants expressed concern that the Mary River Project is impacting lichen, caribou's main food source. They believe this is causing herds to select habitat further away from the Study Area to the south. The first quote attributes the cause of effect to ore dust deposition, specifically.

> *And the impact today because of the Project, where he just pointed, there's scarcer caribou and you have to go almost towards Igloolik to be able to find caribou now. … Because the area where the dust settles is not, probably best for grazing, because the particles have landed on the lichen, so they're going further south to have a fresher, none affected lichen to eat. They have discerning tastes, you know, [Inuktitut spoken]. ... Cause they're herbivores, they eat it a lot. ... They need a certain amount. Only way that they get so big, is to have a proper feeding area.* (C01 2020, interpreted from Inuktitut)

> *Yeah, and those [lichen] are one of the caribou main food source. You see them on the rocks, they'll be either be orange or yellowish or black. … So, Baffinland, Mary River … Is an ideal habitat for growth for lichen ... Since they're extracting and destroying the land to get to the ore, they're also taking away the food source for caribou because it's ideal habitat for caribou. Just the way the topography is made and just the way that it never had ice caps, it's abundant in food source for caribou and ptarmigan and rabbits...* (C05 2020b, interpreted from Inuktitut)

One participant reported that caribou are not utilising traditional calving areas in the Study Area as they had before the mine, believing that sensory disturbance from the mine (e.g., blasting) is a contributing factor and caribou are now selecting different areas.

> *So this whole area … ever since he was a kid, living – like, a child, living around there, like it was just a prime calving habitat, feeding, everything about caribou, around that area. … But it's quite evident that with the project the way it is the caribou don't go to their original spots as they used to, even with small number of caribou, they still don't inhabit that original habitat area like they used to. … their natural habitat is pretty much gone, especially the calving area and places like that.* (A04 2020, interpreted from Inuktitut)

> *Yeah, it's a concern that there's no calving, because they've gone to other areas to calve, but it's now permanently occupied, the Mary River project. So there's really no way for the caribou to be comfortable giving birth when there's blasting and other things going on.* (A04 2020, interpreted from Inuktitut)

In addition to caribou, Study participants reported that numbers of other species have declined in the Study Area, including migratory Canada and snow geese, wolves, and wolverines. As wolves and wolverines are predator species, their local population status is seen as a useful indicator of prey species abundance in an area. Goose population

reductions in the Study Area were attributed to habitat disturbance from Mary River mine blasting, Tote Road traffic, and the presence of ore dust in their nesting and feeding areas.

> *So an indicator around this area [along Tote Road corridor] is that the wolves and the wolverines are not really present anymore. That means that there is not much food source … There used to be signs up and tracks of wolf and predation specifically wolverines in this area. They barely ever see any tracks now*. (A10 2020, interpreted from Inuktitut)

> *There used to be a lot of snow geese there [around the Mine Site], but when they were flying over they didn't even see one single snow goose.* (C24 2020, interpreted from Inuktitut)

> *He has also observed when he first started working there that there used to be a lot more Canada geese and snow geese around that [Project] area, but on his third year … When he was there that he's observed reduction or the amount of birds around that area, especially snow geese and Canada geese. ... [He thinks it is] Probably due to the amount of traffic on the tote road. ... And the blasting could affect the animals around that area as well.* (C07 2020, interpreted from Inuktitut)

> *Also, I forgot about the birds. Like, when the geese starting to migrate up here for – almost right from the Mary River all the way to the 100 Tote Road, there was birds all the way down to the Milne Inlet. One summer, there was so many birds there flying lots around [inaudible] ... Year after that it wasn't really so. It was different. That area – [Inuktitut spoken] – Lot of nesting there goes there too for the goose and all that. … Canada geese and snow geese – lots of snow geese prefer that area … So, they were, they were so close to that mining activity that they were feeding where all the dust was going.* (C18 2020)

Overall, many participants expressed concerns related to the ongoing deposition of Mary River Project ore dust both within and beyond the Study Area, particularly regarding the contamination of plants and animals valued as food sources. In the quotes below, for example, participants explain that caribou contamination via water sources exposed to ore dust is a key concern, and that they have already heard accounts of sick caribou from Pond Inlet hunters.

> *[Interpreter:] He could notice on his way through the land, you could tell where the snow is coming from Baffinland because it's red. Yeah. It's visible. … The dust. And you can visually see it on – from the plane. … [C14:] And my concern was cari – there's caribou. ... They're not afraid of a big machines anymore. And they're breathing all this thing. ... And they're drinking water from [the area] – that's my concern.* (C14 2020, partially interpreted from Inuktitut)

> *He's heard some accounts from people of Pond Inlet, that the caribou that was caught in that area and have grazed from that food source, possibly*

> *affected by the dust from Mary River project. The, there has been some accounts of a person consuming meat from that caribou caught in that area, have either fallen ill or you can tell the meat has already been affected by the possibility of a diet containing the dust particles. ... [The caribou is] Skinnier, and the meat is yellowish. ...* (C01 2020, interpreted from Inuktitut)

Several participants reported seeing and harvesting animals that showed evidence of ore dust exposure, including arctic fox, arctic hare, ptarmigan, and snow geese.

> *… Because it gets pretty dusty, especially at summertime, hey? It's – I know it's affects the arctic fox for their fur, because they get like red, reddish skin and arctic hares, they get reddish skin. If they can do anything that can help the environment or our animals with the Tote Road, from all the dust it collects, it even goes to our sea up there, I mean to our fiord.* (C16 2020)

> *[The dust is] so reddish in colour, right? Yeah, and I saw a little hare, a little rabbit that came around the building [at the Mary River Mine Site] and it was covered, like red, reddish fur, yeah. … It was weird, yeah seeing that.* (C24 2020)

> *So, at the time, they harvested three ptarmigans there, because they landed, and he didn't think much of it at the time, but when he harvested them, the legs and the stomach, they were orange. … when they were coming in and landed, they were coming in from the direction of Mary River*. (A12 2020, interpreted from Inuktitut)

> *So, he harvested – he harvested ptarmigans and the feet right here. The ones that he harvested two years ago, they were red and orange along with their fur. … So, after they shot those ptarmigans and then when they realized that they were contaminated from all the dust, they ended up – they were not edible for them, so they ended up not eating them at all.* (A09 2020, interpreted from Inuktitut)

> *… [They had] a friend who also observed by travelling around there, of all the – like all the dust and everything settled on the ground … and snow geese turning brown. From the dust, like [they heard] all kinds of observations like that.* (A13 2020, interpreted from Inuktitut)

Plant harvesting in and around the Study Area is also impacted by ore dust deposition in the Study Area, including near the water in Milne Inlet and in the area of the Tote Road.

> *Yeah, blueberries, not blackberries ... close to the shore in Milne Inlet … Like last time I couldn't eat it – it was red … From probably from the ore.* (C19 2020)

> *… Yeah, vegetation being covered with the dust and all that. Because the truck drove through the road – Tote Road, without covering their … The load, yep.* (C18 2020)

In summary, the collected data demonstrate that participants from both communities are experiencing changes to Terrestrial Harvesting values which they attribute to current Mary River mine operations, including declining numbers (and thus reduced availability) of valued animals in and around the Study Area, and environmental contamination. Any additional Project impacts will be experienced within this already constrained environment.

4.3.4 Project Interactions

Based on their knowledge of the area and their experiences with existing Project components, participants have a range of concerns about potential interactions between the proposed Phase 2 Project components and Terrestrial Harvesting values.

As discussed in Section 4.3.2, caribou are known by Inuit to be highly sensitive to noise and other sensory disturbance and changes in their environment. The combination of Project increases in ore production at the mine site and increased ore transport by road and rail has many participants concerned that caribou movement patterns will be disrupted or altered. The Tote Road and north and south rail routes are known to intersect caribou movement corridors in the Study Area.

> *So, in terms of caribou migration, that's our biggest fear. And then, because the rail is going to cut the island … It's going to be like a wall for caribou. We fear it's not – they're not going to migrate anymore.* (C17 2020)

> *Yeah, he thinks that [increased traffic along road/rail corridor will] have an effect on the caribou ability to cross over because they usually migrate, just crossing over. He thinks that even they will not cross over and just go back, just to retreat where they came from. Like, that they would not be crossing because of the noise, they're more sensitive to the noise and would not be settled and would just – because they are, like, just very sensitive and aware of noise. So, he doesn't think they'd be crossing over … he's not supportive of the railway because he thinks that's what's going to happen to the caribou, he's not happy about it.* (A14 2020, interpreted from Inuktitut)

> *So I'm afraid that's going to happen if this railway goes ahead. The caribou, because they're always migrating into new areas, it's going to come over here and won't be able to cross the railway. That's my biggest concern.* (A18 2020)

> *We know if they build the railway there will be crossings built. I'm concerned because the caribou won't say we have to cross over now. They cross over from Ipikituqjuaq and if there's a railway built they would not be coming down towards our area through Ikpikituqjuaq as they would become confused about crossing*. (C24 2021)

> *I think it's going to affect, if they do get the Phase Two going. I believe there's caribou around in this area, the caribou will migrate to this area instead, where it's more quiet, more – less noise pollution in the area. I believe it's going to have an effect. A lot. With caribou. Cause I heard hunters*

> *telling me when I was up in Pond on my relief, they were saying that the caribous around this area have already moved a bit south of the area that they used to be. So, they said they're moving towards [inaudible] that's this area. So, if it goes ahead, I believe it's going to have an effect in the first few years, five years, 10 years they build it. The caribou will move away from the rail, the railway or whatever they build*. (C04 2020)

Participants from both communities emphasised that they rely on the seasonal movement of caribou through the Study Area and into their hunting grounds. They are concerned that Project impacts on caribou and caribou movement would reduce the availability of caribou in areas they prefer for hunting and cause them to travel further for game.

> *But I'm worried about this, if they go ahead with the railway, the caribou, I'm worried they won't be able to go across the railroad to our general hunting areas or even further west where we go. So I don't like the idea of the railroad going all the way down to Pingujuaq. Because the caribou are always moving and they're pretty plentiful right now. More in the south bracket. And from what the elders say, they're going to come around in the next couple of years when the food replenishes up here in our area. So if that railway is there, I'm scared they won't be able to come to our area.* (A18 2020)

> *Yeah, [the Project] will have an effect. Guaranteed. … I think the caribou migration route is going to change. I believe they're going to turn before the – before they reach the project area. ... Yeah, the elders, when I was in my early teens, used to say when you see a caribou migration never bother the first group. Because if you bother the first group, all the herds going to turn back and won't come back for another 15, 20 years. ... So, yeah, it's going to make a big difference to us. Plus, we get no more caribou around there, our area, we're going to have to travel a lot further.* (C03 2020)

> *Yeah. And that's one thing we fear is, with Phase Two, the caribou migration will be affected, when they migrate to this area … All this area, all these willow for caribou. We would boat up through here, drop people off here [points on the map], and they would walk across. I would walk with them, and the boat would go around looking for caribou. Pick us up. Keep driving. We camped here waiting for caribou, and that's right under here.* (C17 2020)

Participants also expressed concern regarding development of the southern railway and Steensby port, as the southern portion of the Study Area includes important habitat and migration corridors that caribou use to travel from Igloolik area on the mainland into Baffin Island. They described that any impacts on caribou use of this major caribou artery would negatively affect the availability of caribou in their hunting grounds both in that area and closer to their home communities.

> *So, so with the Phase Two, if that happens so close to the caribou crossing from Igloolik side to Baffin Island. ... if any noise disturbance or smell or any kind of disturbance that the caribou's not familiar with – that frightens it, if that caribou is starting to migrate to our area here, with the railroad being*

> *there it would drive away the caribou migration patterns and the distribution would be impacted and they would move away. ... [Phase Two would] impair the crossing and the path for caribou migration from Igloolik side to our area to the – those Phase Two area, and they start coming to South Baffin this way. And right now this, this [southern part of the Study] area has caribou.... It's a very high important area for him. ... It's a traditional main route to go trade and pick up – or to go caribou hunting and pick – go trade and pick up walrus meat in Igloolik.* (C05 2020b, interpreted from Inuktitut)

> *Yes and he's also concerned about the possibility of a railway being extended to Steensby Inlet because that whole corridor is like a caribou habitat and, yeah, he thinks that the caribou population will be impacted as well.* (A01 2020, interpreted from Inuktitut)

> *… [The Project] it will affect the caribou migration, because they were talking about doing the road from port to Steensby, I think. … Steensby and I'm pretty sure it will affect our caribou migration, because our hunters goes all the way here just to go caribou hunting too, near, near this area. ... that's where our hunters usually go out caribou hunting and Steensby's not that far from it too. Yeah, Steensby is right here. ... [it's] on our route from Clyde to Igloolik and Igloolik to Clyde [River] ... we went through this area ... and there were caribou on the area and we had three caribous from that spot.* (C16 2020)

One participant believes that caribou will choose to keep their distance from the Project and move more into Melville Peninsula south of the Project on the mainland.

> *[Describing impact of disturbance of caribou migration] Yeah, maybe they'll cross over to … he thinks that they'll be migrating towards Melville Peninsula more.* (C21 2020, interpreted from Inuktitut)

In the following quote, a participant emphasises Project effects on caribou will have a negative impact on a critical food source for Inuit (as described in Section 4.3.2).

> *But the thing is, if [Phase 2 is] approved it's going to be crossing our caribou hunting grounds and caribou-passing areas, caribou mating grounds and movement – the trails, which will impact our food source and the environment around the mining activity in itself …* (C05 2020b, interpreted from Inuktitut)

One participant specifically addressed the wildlife crossings proposed by the Proponent to enable animals to cross road and rail infrastructure, and expressed doubt that caribou would utilise the structures.

> *But there are trails leading, where they are going to build the bridges for the rail, caribou crossings, is what they talked about. But caribou aren't going to know. That's what we fear. Like we'll build a caribou crossing, and then the caribou don't cross, well we don't, you know, I can't be up there, say "This*

> *way, this way!" You know, they won't listen. So, we fear, is they are going to bump into the rail, and turn around and go somewhere else …* (C17 2020)

As discussed in Section 4.3.2, the Study Area provides habitat to a range of wildlife besides caribou. Impacts on other species such as nesting Canada and snow geese resulting from sensory disturbance from the proposed railway are also anticipated.

> *He would prefer that the project stays as is, and not expand … Yeah, the birds will also be affected that hang out around that area from the train … snow geese and Canada geese … They lay eggs over around there. The snow geese and the Canada geese lay eggs around [Mary River area].* (A13 2020, interpreted from Inuktitut)

In addition to anticipated Project effects on caribou movement and availability for hunters, many participants are concerned that the Project would intensify and expose a larger area of wildlife habitat to dust deposition. This concern was attributed to both the increased production and blasting at the mine site, and increased ore transport (road and rail) north to Milne Port and south to Steensby Inlet.

> *What he has observed is that the Tote Road – around the tote road is all the dust that comes from the blasting of the Mary River. ... He knows for sure that the dust – the amount of dust being – going into the environment and settling on the land would substantially increase with the increased amount of traffic going on the Tote Road*. (C07 2020, interpreted from Inuktitut)

> *... They say when people from Clyde River go caribou hunting sometimes, they go near there [glacier, inland of Clyde River]. And you can see that it's not going to be very far from there [Mary River Project], well walking very far. But the wind will be the factor flying all the dust into the area, and then the ice near the land there from all that dust. You know how when, when the sand blows out into the ice, it melts it faster. And talking about global warming, it's – that's going to be [pause] that's going to have a more impact than global warming.* (C26 2020)

> *Yeah, so the dust has reached that far and has reached also Navy Board Inlet – I mean Eclipse Sound … So it's a concern because there could be particles from the blasting substance that could be also travelling as dust particles and settling in certain areas … It's a bit of a concern because there hasn't been a lot of effect study of the dust impact on wildlife and the environment.* (A01 2020, interpreted from Inuktitut)

> *It would be a big concern if the project doesn't do anything to make improvements to control the dust because there's northern winds that flow towards Clyde River as well, and the dust particles can travel for like kilometres, kilometres, kilometres*. (C08 2020, interpreted from Inuktitut)

> *So in terms of Phase Two and the plans for reducing the dust, if Baffinland will carry out what they say they would do in terms of reducing the amount of dust then that would help, especially in the port area. However, there's still*

> *going to be blasting done at the project itself and that's the dust that travels that he's more concerned about, yeah.* (A01 2020, interpreted from Inuktitut)

According to participants, ore dust is a contamination concern for caribou and other wildlife (e.g., ptarmigan, geese) known to rely on vegetation and water sources in dust-affected areas. The final quote in the sequence emphasises that contamination of food animals impacts Inuit food sources and Inuit culture as a whole.

> *I feel sad for the hunters. I mean, it's just wrong. I don't know – I don't even know what words to use right now. ... Yeah, it's [the dust] going to go a lot further. ... [Towards] Both Arctic Bay and Clyde River. ... The dust will impact the caribou feeding area. Like, the wind's usually coming from the north.* (C03 2020)

> *So that's one thing we fear, is the dust is going to reach these inlets, and affect caribou foliage for caribou to eat. So that's one big fear we have, because there's lot of caribou up in this area, north of us*. (C17 2020)

> *The truck carrying those iron ore without putting [a cover] over them – when the wind blew them out – from the dust, that I'm concerned for the lakes and animals …* (C18 2020)

> *And the airborne impact of the dust travelling far, will have an impact on wildlife when they do a blast, you can tell how far that, that dust through air can travel. So once it settles it will have an impact on wildlife and the environment as well, in that area that he just pointed. ... So once the dust settles, it will also settle in the area where caribou graze, so it will affect their food source, because they will be also in their diet including particles of dust. So that's the impact that he feels is going to happen.* (C01 2020, interpreted from Inuktitut)

> *The dust settles into the lichen as they are very small particles and can settle on them. This would affect the health of the animal plus increase the amount of metal for example mercury in their body. How do we know? As hunters, we can see. We hunters we would see caribou with white spots on the meat, we really don't find that desirable to eat. As it could have something that can cause illness for us. That's how every animal we consume as well as caribou, we can question if it may have something that can cause sickness. We don't consume any part of the animal, we discard the entire thing as we don't want to eat any part of it. This is a reality that can happen to many species. If the dust is increased.* (C05 2021)

> *Also, the snow geese and the Canada geese usually eat around there [Mine site] too in that area … Yeah same thing for the hare … Yeah [I'm worried they'll eat dust] once they, once they start mining more it might happen – more dust flying around there.* (C19 2020)

> *So, those [high elevation areas around the Project] are very highly valued habitats, because today ptarmigan is a major food source. … So, if any kind*

> *of activities, even like dust from the train, if it starts to go everywhere it's going to contaminate the land and that's how it's going to impair their use of – able to access food sources, and even if they do, it may not be as healthy as it would be without being in contact or in with pollution that's produced by mining. Especially like the dust coming out from the, the train. ... that'll be very dangerous and that's how the negative impacts would not only be to the Inuit culture, to their food source, but to the habitat and the wildlife in the south. So, it's like it would have a link – chain reaction, top to bottom*. (C05 2020b, interpreted from Inuktitut)

In addition to the contamination of food sources, one participant asserted that increased traffic and dust from the Tote Road would displace animals from the Study Area, especially small game such as ptarmigan, weasel, and rabbits.

> *He also thinks with the increased traffic, because there's so much dust happening, and there's, like, there's ptarmigans, there's rabbits, there's weasels, there's small game up there. So, he thinks that the small game would not necessarily be – this is their natural habitat, as well, because they're, like, basically all over, so this is part of their natural habitat where the Tote Road is for the small game. They would be also moving away from that area because they don't want to be covered – affected by the dust.* (C15 2020b, interpreted from Inuktitut)

As described above, ore dust poses a threat to hunting practices and Inuit country food sources. Some participants stated that they would not hunt in the vicinity of the Study Area if the Project is approved or consume meat from dust affected areas.

> *He would not go hunting if Phase 2 went ahead. … He would not go hunting there. … Caribou will sometimes sway away from their feeding grounds, but they usually go to the same place, and it would, they would not, they would not be ideal for consuming and they would not go hunting there again if the Phase 2 continued.* (C01 2020)

> *She also feels that the dust that derives from there is not really great for air quality as well … And could also affect the wildlife diet, because once the dust settles then the wildlife might be consuming from the ground and it could affect their meat as well … She would not eat it at all.* (A10 2020, interpreted from Inuktitut)

One participant expressed deep concern that Project impacts on wildlife could be felt long-term by future generations.

> *He thinks that, you know, there might be great economic opportunities coming out of the project, but what if the wildlife disappears – like, they'll be nothing left for the future generation and he thinks about that. So … [He has] Four children. … [And] Four grandchildren. ... Yeah, because he thinks about their future, so that's what he thinks about.* (C08 2020, interpreted from Inuktitut)

Plant health and its impact on plant harvesting were also identified by participants as of concern in relation to dust and contamination from the Project.

> *They will totally be affected. They, they, they will not – they will not be the type of plant prior to the project that you may have seen. So, she totally believes that there'll be an effect on the tundra plants or edible plants …* (C12 2020, interpreted from Inuktitut)

> *She would gather. If she had an opportunity, she would gather tundra plants just to see what they look like, but she would not consume them, if they're close to the Mary River Project. … She doesn't want her body to be adversely affected by it.* (C12 2020, interpreted from Inuktitut)

One Clyde River participant noted the prevailing winds blow from the Study Area towards the community. They are concerned about the health implications for Inuit from prolonged exposure and inhalation of dust particles.

> *… and like in the long run the wind's always coming from that direction and the dust is flying in the air that we can't see. It's going to land into your lungs and it's going to stay there. So, down the road there, there'll be more people that are sick from the dust that we're inhaling.* (C26 2020)

Many Study participants are deeply concerned that the Project will result in further and significant impacts to the terrestrial environment. In the quote below, a participant speaks to the importance of the entire Study Area (from Steensby to Milne port) for traditional use and occupancy and their desire to see it preserved and unchanged.

> *… but he saying that if the project, Phase 2 goes ahead, it will have a huge impact in that corridor from Milne Port all the way to Steensby Inlet if the railway is built. … that whole area, is, um, I don't know how you say that in English, but they want to keep it as is. ... They don't want further damage. ... In the Inuit sense, it's sacred because it's traditional use ... And occupancy. ... It's sensitive as well to us, sensitive as well. ... It's a very important place.* (C01 2020, interpreted from Inuktitut)

Importantly, participants stated that conflict over the nature of existing and potential Project impacts on caribou and other animals is causing the animals to move away. During the verification meeting in Arctic Bay, participants described how this conflict is in breach of Inuit law and that conflict must be resolved in order to protect wildlife.

> *We used to go caribou hunting when they were plentiful. But, there was unrest and tension rose between some people and that cause the caribou to move away. That's why we have to be in harmony for the sake of the animals. We have to be happy while hunting and not say bad things or discuss bad things about the animals. This a lesson we must obey as the creator can take away or move animals if there is a conflict or an argument over them. We were like that as a community. But, apologized and resolved the issue and our differences.* (A10 2021)

> *There should be not any conflicts when it comes to wildlife. This conflict about Mary River is causing a lot of grief. That is a strict law that we are supposed to follow. These conflicts could cause bad times and that bad time can travel as fast as the wind. This is not widely known as Inuit Qaujimajatunga. Wildlife know and they can hear if they are in the center of a conflict. Whether it be a small creature or big we have avoid creating unrest for the sake of the wildlife. It's the Inuit law and we must abide by it.* (A9 2021)

In summary, participants from Arctic Bay and Clyde River foresee further habitat fragmentation, degradation, and contamination within the terrestrial environment resulting from Project increases in the production and transport of ore along existing (Tote Road), approved (southern railway), and proposed (northern railway) infrastructure. Anticipated impacts on Terrestrial Harvesting in the Study Area would occur in sensitive habitat for valued species (e.g., caribou calving areas and movement corridors, migratory bird nesting areas), and would lead to reduced availability of animals and plants valued for harvesting, reduced confidence in the quality of lands and resources, and reduced access to food sources that are central to Inuit culture and way of life.

In summary, Arctic Bay and Clyde River participants anticipate the following interactions between the proposed Project and their Terrestrial Hunting values:

- Impacts to caribou movement patterns due to increased Tote Road (during construction) and rail traffic (including noise and other disturbances);
- Reduced availability of caribou in preferred hunting areas;
- Displacement of animals including snow geese, ptarmigan, weasel, and rabbits due to increased Project activities;
- Wildlife mortality risks while crossing Tote Road and rail crossings;
- Contamination of animals and animal habitat due to dust settling on vegetation and water sources;
- Contamination of food plants due to dust settling on vegetation and water sources;
- Avoidance of preferred harvesting areas due to perceived and actual contamination; and
- Impacts on access to important food sources due to all of the above impacts.

4.4 FISHING AND FRESHWATER

This section (Section 4.4) discusses the importance, impacted baseline, and potential Project interactions with the Inuit Valued Component of Fishing and Freshwater.

4.4.1 Site-specific values for Fishing and Freshwater

Table 7: Site-specific Fishing and Freshwater values reported within the Study Area, by activity class. Numbers are cumulative with increasing spatial scales (i.e., RSA includes LSA and footprint).

Activity Class	Within 250 m of the proposed Project (footprint)		Within 5 km of the proposed Project (LSA)		Within 25 km of the proposed Project (RSA)	
	# of reported values	% of reported values	# of reported values	% of reported values	# of reported values	% of reported values
Cultural	0	0%	4	10%	6	10%
Environmental	2	22%	3	8%	4	7%
Subsistence	7	78%	30	77%	46	78%
Total	**9**	100%	**37**	100%	**56**	100%

The following Fishing and Freshwater values were documented in the Project Study Area. The values are organized by Activity Class.

- **Cultural values** including: a site with an Arctic char drying rack; Arctic char cache sites; and a place name;
- **Environmental values** including: Arctic char spawning sites; and sites where large schools of Arctic char have been seen; and
- **Subsistence values** including: numerous sites where Arctic char are caught; a site where halibut were caught; a site where Arctic char are fermented; and sites where drinking water is collected.

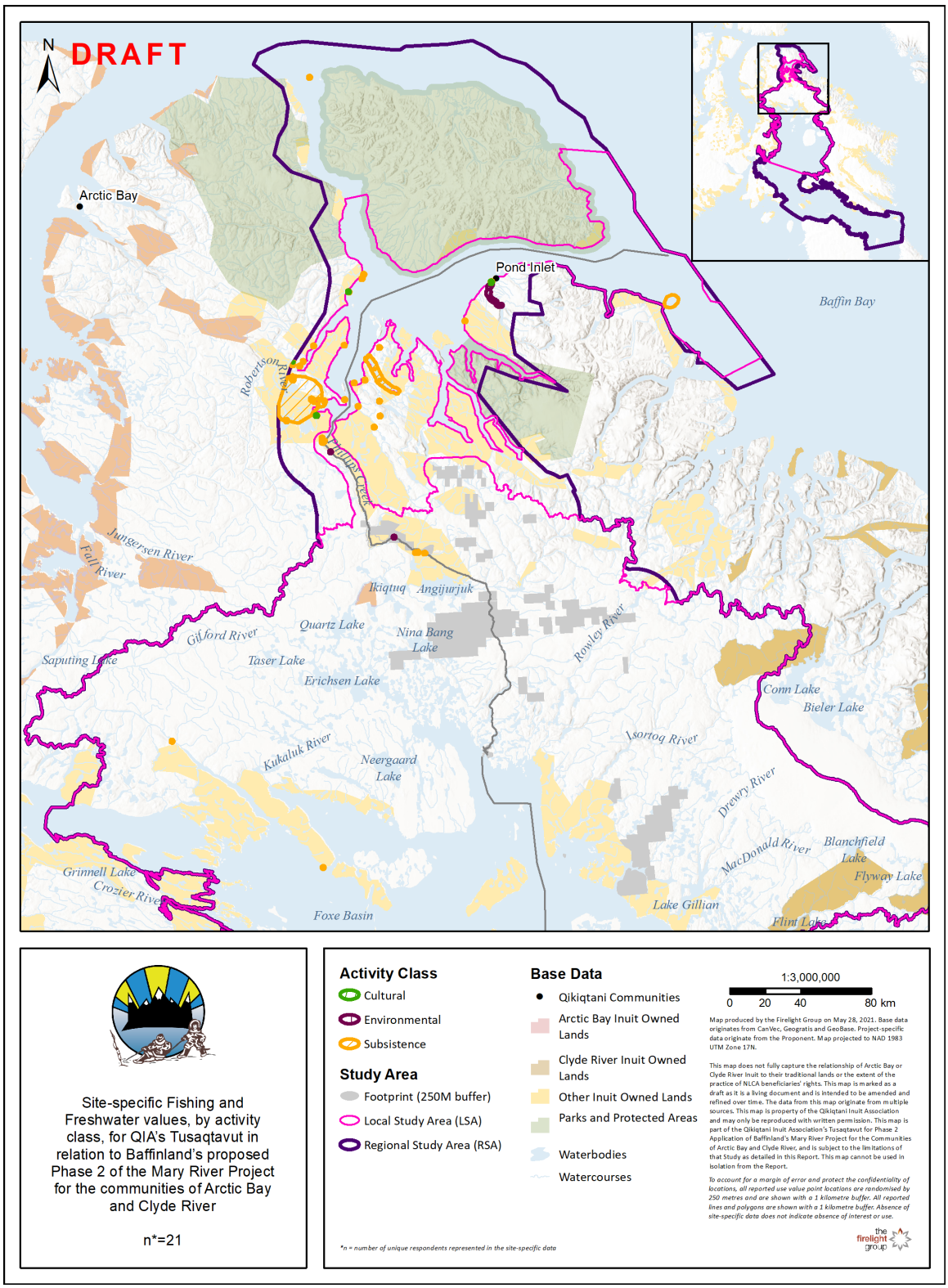

Figure 9: Arctic Bay and Clyde River site-specific Fishing and Freshwater values reported in the Study Area

4.4.2 Importance

During mapping interviews, participants discussed the importance of fishing and clean water. Fish are an important food source, and healthy water ensures the health of fish along with other animals, as well as humans.

> *The – it's important to continue fishing because fish are our, like, our vital source of food and it's part of our daily diet and it's important to continue fishing.* (A14 2020)

> *I think the water because we rely on water. The animals, humans, everybody relies on it. I think that's the most important thing there.* (C26 2020)

According to participants, people collected drinking water in the Mary River area prior to the construction and operation of the mine. The area was known for having quality water sources, and hunters would use it as a gathering place while out camping and hunting caribou.

> *Yeah, they used to collect water there [while camping and hunting caribou in Mary River area before the mine]. … Yeah, they used to have very good water there. … They were very good water sources. … for anybody that was hunting there, it was a gathering place, stop over place for hunters and families and those would be the drinking sources.* (C15 2020a, interpreted from Inuktitut)

One participant discussed the preference for obtaining drinking water from rivers over still water sources, due to the freshness and lower risk.

> *River water was preferred … Yeah, so when it's flowing freely on the river, it's not still water. Still water has more of a earthy taste, so the river water is flowing, so it doesn't sit, so it has a fresher taste – fresh spring water. … So, his parents taught him how to collect river water, and taught him not to drink from still water, because still water tends to have a lot more little buggies. They're not harmful, but we don't want to drink water with bugs. … Inuit always traditionally preferred water coming from streams and rivers.* (C21 2020, interpreted from Inuktitut)

Another participant described how, during the spring, people would collect fresh water from the top of the ice, on which there is a layer of fresh water.

> *During the spring? … On the ice. On the – on top of the ice it's – there's a clear water, pure water when the ice getting melt, it has a pure water.* (C20 2020)

Participants discussed fishing for landlocked char in various water bodies throughout the Study Area, including some of remaining pristine fishing areas within and just outside of the Project RSA, which they prefer for accessibility and the quality of the fish.

> *That's pristine fishing area [near Kangisuarjuk in the RSA]. The fish tastes the best … That's a very sacred place for him because it's one of the lakes you have access to before the ice forms. But now with the weather and the freeze up being different every year, it seems like the lakes and the ice is freezing at the same rate. Which is limiting them to be able to reach that lake through the travels right now. And he said that it has one of the best tasting fish in there.* (A15 2020)

> *But because I was always caribou hunting with the elders, I know this area pretty well. There's a fish – when there's no caribou around there's landlocked char over here. I went to this little lake … There's landlocked char in these. It looks like a river, but there's landlocked char. I believe it's this one … We ended up fishing there because they have really big… I don't know what you call caviar … Yeah. They're landlocked char and they're completely red.* (A07 2020)

> *Oh yes, yeah. It has big fish, big fish. Very big fish. Almost to the four-footer. … They've got different taste. No taste. Doesn't taste like really Arctic char. [Inuktitut spoken 0:56:47:0] It's different taste, but less taste.* (C20 2020)

4.4.3 Impacted Baseline

Over time, participants have noticed a decline the quality of freshwater in the Study Area. Participants avoid collecting freshwater in the Study Area in general, due to both advisories and their own observations of contamination while out on the land.

> *Yeah, that's our – that's our route and caribou's route. ... In this [Project] area. … And we're, we're advised if we go through that area, we're advised to bring our own water now. Scary. … if we go hunting we're advised to bring our own water, not drink from there. So concerning.* (C14 2020)

Several participants described the poor quality of the ice at Milne Inlet, and their avoidance of collecting ice for water in that area.

> *Oh like down in the, down at the shore like where's Milne Inlet … okay yeah down at the shore … Water like water from the ice … I used to pick the … Pick water from the ice there. But once the mine – once they start mining more – I stopped picking I never pick up water anymore. … There was too much ore on the ice*. (C19 2020)

> *Okay. To there and back [flying from Arctic Bay to Milne Inlet and back] he observed that this whole area [head of Milne Inlet] was just full of brown. The ice area was all brown … Yeah, it's not clean ice anymore. That's what he observed, plus the fish go upstream and downstream, so if they're going downstream maybe they're going to silty …* (A13 2020)

Other participants spoke about avoiding freshwater in the entire area from Mary River to Milne Inlet, and also beyond the RSA, due to the dust from the mine and the Tote Road which can blow long distances and settle on snow, ice, and water bodies.

> *All that [Local Study] area is now covered in dust, it's not usable for sustenance in terms of water … [C01] is just talking about when he first went up there in [19]75, the landscape and everything around Mary River, was absolutely pristine and not contaminated. Um, it's a very well-used area traditionally in terms of subsistence living with caribou and fish. That's what he started with. But now today, the corridor that he showed you from the mine to Milne Inlet, all that whole corridor is contaminated and you cannot use the water. ... Yes, the corridor, yeah, the corridor from the mine to the port, the water is contaminated and you cannot use it for drinking because of the dust. Contamination from the dust.* (C01 2020)

> *So the last two years they've been patrolling and monitoring the area by skidoo and ATV all the way up to Arctic Bay and then Baffinland was stating that the dust is not travelling anything beyond like one mile or two miles but the evidence says that they took some snow samples along the way here and then when they melted the metals would sink to the bottom of the cup or anything. And as far as here they could see the all the dust has like blown away and settled in this area.* (A10 2020)

> *He probably wouldn't [drink water in the Study Area], and it's a concern now, because of the dust settling in all of the region, as far as going down to Iglulik. People from Iglulik have said that the dust is reaching their area, because of the prevailing north winds that we talked – people have talked about. So, it gets carried to around Iglulik area.* (C21 2020, interpreted from Inuktitut)

> *They would collect in the lake there [at the Mary River Mine Site, while hunting], yeah, right there. They would collect ice for water. … he would never collect water source from that anymore, especially there with the activities and the dust that they see and keep hearing about.* (C23 2020, interpreted from Inuktitut)

> *Pond Inlet hunters were not able to use the water or the snow around the surrounding Study area, 'cause that was orange and red … Is it alright to consume that water, if it's like visually red? Is that safe to consume? That's also, one of the questions he wants answered.* (A05 2020)

In addition to drinking water, participants are concerned about how the dust impacts the health of the fish in the freshwater of the Study Area. This is based on their observations of how far the dust can travel, and how it settles onto preferred fishing locations.

> *I used to work here and I used to travel this area. From here – from here to down. And they make too much dust on the lake … There's some lots of fish, all kind of fish around here … But they're making too much mess.* (A13 2020)

> *So on a windy day the study area along with the regional study area on a windy day like it goes here and here. And it's been reported that there's no impacts occurring here when like it's visible that the dust is travelling here and this is, he wants us to go there because this is a, he identified that as a major fishing spot all year around, and it's also an access to meet up with people from Pond for trading or to go meet up with you hunting buddies.* (A09 2020, interpreted from Inuktitut)

> *I'm not really sure about the fish, but I'm really kind of concerned, because of all the dust that's the Tote Road is doing from the B-trains and heavy equipment and pick-up trucks. I know 8 might get impacted for the water. … the B-trains are always going through the Tote Road 24/7.* (C16 2020)

> *So he – it's always, like, silty anyway around here … Oh, so he ate a fish that was caught there when he was working at Milne. And it was sticky. Like the meat … when you touched it and when you, like, chewed or put it in your mouth it felt sticky.* (A13 2020)

Participants have observed declines in fish numbers in the Study Area, such as Koluktoo/Quluqtu Bay in Milne Inlet.

> *In the summertime there used to be lots of fish [Koluktoo/Quluqtu Bay], but this year they noticed a difference in the numbers. There's hardly any fish there now. It's hard to say if it's a direct impact from the mining activity. Only when summer comes around again, then they'll be able to say, okay. There used to be so many fish, but now they are not.* (A05 2020)

In addition to fish, there are concerns about contaminated water impacting other wildlife, and therefore limiting people's ability to depend on the land for healthy foods.

> *… this whole area around the mine is here but this area in Milne Inlet going down, the surrounding area is contaminated. So, anywhere within a certain distance is – you can't use the water anymore and, and that is having an impact already on the wildlife and that – our, our culture and our ability to be healthy and being able to provide and to be able to depend on the land for healthy living. Now that is being impacted now.* (C05 2020b, interpreted from Inuktitut)

4.4.4 Project Interactions

Based on their knowledge of the area and their experiences with existing Project components, participants have a range of concerns about potential interactions between the proposed Phase 2 Project components and their fishing and freshwater values.

Of primary concern is the potential increase in dust from crushing and transport activities, at the mine site and along the Tote Road, with the range of dust being determined by how far it get blown across the land and onto the snow and ice.

> *You, you have to try and melt the snow or get it off of loose ice from our lake. Take chop off the top of the lake to make tea water or even water, just water for cooking. Normally, we don't dig, dig out three feet to six feet of ice to get the water, we just chop off the top of the ice and then throw it in our kettle, melt it, or snow, melt it. It's on top, we don't have to work hard for it. But if we keep getting all this dust and more of the mine is getting bigger, it'll definitely start putting all the dust all the way down because we get winds up to, I don't know, 100, over 100 kilometers an hour.* (C06 2020)

> *Lots of dust, I seen it way fly away away from the area in Milne Inlet and Mary River. What I – what – two years ago now, maybe they brought two big buildings into Milne Inlet which they planning to do the different way to crush the iron ore, not, not in this area anymore ... But, what I thought was they should have done that in the first place. Right there, right away and [inaudible] the railroad – build a railroad first and then get those two big buildings and then crush them in, in the Milne Inlet. And that way they should – they could have saved a lot of dust flow, flow – fly away and, you know, they could of [inaudible] if they did that first.* (C18 2020)

Participants are concerned about increased contamination from dust in areas that are already experiencing contamination, as well as contamination in areas that are still considered pristine.

> *All these water bodies that you see on the map, they're all important because they contain fish. They're a water source. Anything that's not contaminated by the Mary River activity. Beyond the range of the dust, it's all – everything's still good and usable and every water body is important because like it's a food source and water source and there's fish in there.* (C23 2020, interpreted from Inuktitut)

> *Needless to say, it's hard to describe how huge this, and how long it's going to have an impact for sure, everything around it. Even the snow and water, watershed. If the mine doesn't really smarten up and close their crushers back, that dust is going to affect anything. The [inaudible] around that area, it's brown. And I remember passing through there and it's pristine clean, so for sure it's going to have an impact.* (A07 2020)

The lack of freshwater caused by dust and associated contamination of snow, ice, and water bodies deters people from traveling to areas where dust is known to be present. Participants anticipate that the increase in dust from Phase 2 would further deter them from traveling to these areas to harvest, because they cannot reliably find clean drinking water while out on the land.

> *... I think [the Phase 2 expansion will be a] terrible thing for Pond people. Like, last spring a hunter [from Pond Inlet] went towards the Inlet and he couldn't drink any water from that area because it was all powdered in from the project. … They couldn't drink any water or melt any snow. ... Because it was all covered with dust from the site. ...* (C03 2020)

> *[Interviewer:] Are you concerned about the water in this area? ... [C03:] Yeah, when you don't like disturb any materials on the land, it's safe. But, soon as you start touching it becomes dust and lands and the water or river, it starts to – when there's metal minerals in there, it's going to start resting away in there in the lakes or the rivers. That's guaranteed, that's happening up there now already...* (C03 2020)

> *So for him he knows right away people from Arctic or Pond and Clyde River will not go through this area no more because they have to bring their own water now just to be able to travel this far and there's so much distance you've got to cover just to be able to find a clean water source … So the land is covered with all the dust from the mining activity and the road activity and the shipping activity. All that debris has settled in. And you can tell like when the sediments settle they sink down to the ground and they're making a black coloration occur, yeah; so right away he knows that this traditional hunting and crossing area were Clyde and Pond is no longer, cannot be used because there's no safe water source anymore.* (A09 2020)

> *Yeah, I'm a carver. So, and it's really difficult getting soapstone into the community because we don't have softer soapstone and the only way that we can get it in is through, through air, like flying it in. And I have brought back some from Iqaluit and some Pond. But in the past my husband had gone up near Mary River to, to pick up some soapstone by skidoo, so I can carve. But in the – nowadays it's kind of scary to try and do that because according to the people from Pond they say there's lack of place where you can find a good source of water, like it's almost all dusty and like the water is filthy when you try to make your own water there. So, it's not wise to send anybody up there picking up soapstone now. Even though, I still love carving. I hate to carve with like I don't have proper tools for marble so I can't, like I can locally pick that up from just outside of my community. But since I don't have the proper tools to carve marble with, I'd rather have soapstone.* (C26 2020)

One participant also discussed concerns about potential future interactions between dust from the Project and drinking water sources in their community, as well as drinking water for employees at the mine.

> *Yes, like you have to bring your own water and travelling by skidoo that's [Mary River area] long ways from here. And you don't know how far the dust flies into, like it's probably within my community [Clyde River] now, like maybe down the road we'll start having filthy water too. And like there's, that water, water reservoir that we have, sometimes it goes very low. So, what happens if all the dust starts coming into my community? So, where do we get our water from?* (C26 2020)

> *The more we experience it [Project impacts], we'll – there'll be more complaints and concerns about it; but in the meantime, we're just thinking 'are we safe? Are we going to be safe in a few years down the road? Are we going to have water, proper drinking water?' Like the other concern that I*

> *have about the Mary River employees there, how are they going to keep the water reservoir clean? Like how are they going to have drinking water? Is it all going to be flown up? And then if it spreads to the other communities like Clyde River, Arctic Bay, how are – how are we going to be provided water?* (C26 2020)

Concerns about drinking water also extend to the wildlife, and the continued declines in water quality due to contamination from dust.

> *Yeah, it's more of a concern for the wildlife, because they don't have the, the advantage of drinking treated water. It will be going into their body system if they drink water with dust particles in it.* (C21 2020, interpreted from Inuktitut)

> *The dust that is being produced from the transportation and the ore itself, it's super red and it contains metals. It – they don't know what it contains, and they know that it has – it's a metal and it's a metal – it's metal right. So, when all that is being released – the dust to the land, to the water sources and the, and like the – to the land, those, those may be impacting the health of everything, along with the humans.* (C13 2020)

Potential impacts to fish health were raised by several participants, who foresee interactions with dust and minerals from the Project.

> *No. [participant would not eat fish from impacted areas] … Yeah, the dust coming from the Mary River project could be dispersed anywhere around there. … Yeah, he's more concerned with the dust, because it does settle on the river, and it flows down.* (C21 2020, interpreted from Inuktitut)

> *… because, you know the river system is linked to where the fish go down to the river and go back up the river … And it's close to the, the study area is so close to this area. And the dust from here is going this way so it's a critical area for them to harvest or to study because this is their main fishing ground.* (A09 2020)

> *So he's saying like the reports of any studies conducted because fish go to the ocean because they're anadromous they go to the ocean and feed and go back up the river to spawn. It is very critical that they start seeing reports of the studies that they conduct on fish guts and their health, what's inside their intestine, because here all that metal debris and dust is going in the ocean and when the fish go down they start eating from the ocean. And he wants to see a report submitted to the communities on the health of the fish especially what the stomach contents are of if there's any kind of metals or contaminants present in the stomach.* (A09 2020)

Participants also expressed concerns about potential impacts from bridges being built over water crossings, which could cause vibrations and other affects felt by fish.

> *The fish could possibly, not necessarily disappear [from rivers and creeks crossed by the Northern Railway], but not – kind of disperse from there because of the noise from the – yeah … Vibrating noise from the – yeah.* (C21 2020, interpreted from Inuktitut)

> *Fish, if they're going to make bridges or whatever, because the water system in this area is so – it's huge. So, for sure they're going to affect.* (A07 2020)

In summary, participants identified the following potential interactions between the proposed Project and their fishing and freshwater values:

- Increased contamination of snow, ice, and water bodies from dust caused by Project components associated with the mine and the Tote Road, in areas with existing contamination as well as pristine areas currently without contamination;
- Deterrence from traveling to impacted areas due to perceived or actual contamination of freshwater sources out on the land;
- Dust contamination of drinking water sources in communities, as well as the reservoir at the mine site;
- Impacts to wildlife health due to consumption of water sources contaminated by dust from Project activities; and
- Impacts to fish health due to dust contamination of water and fish habitat.

4.5 TRAVEL, TRAILS, AND HABITATION

This section (Section 4.5) discusses the importance, impacted baseline, and potential Project interactions with the Inuit Valued Component of Travel, Trails, and Habitation.

4.5.1 Site-specific values for Travel, Trails, and Habitation

Table 8: Site-specific Travel, Trails, and Habitation values reported within the Study Area, by activity class. Numbers are cumulative with increasing spatial scales (i.e., RSA includes LSA and footprint).

Activity Class	Within 250 m of the proposed Project (footprint)		Within 5 km of the proposed Project (LSA)		Within 25 km of the proposed Project (RSA)	
	# of reported values	% of reported values	# of reported values	% of reported values	# of reported values	% of reported values
Cultural	0	0%	6	5%	6	5%
Habitation	5	10%	40	34%	43	36%
Transportation	44	90%	71	61%	71	59%
Total	**49**	100%	**117**	100%	**120**	100%

The following Cultural Continuity values were documented in the Project Study Area. The values are organized by Activity Class.

- **Cultural** values including: place names;
- **Habitation** values including: campsites used by Inuit when they were traversing the Study Area; and
- **Transportation** values including: numerous boat routes, snowmobile routes, ATV routes, and dog team routes used by Inuit to traverse the Study Area.

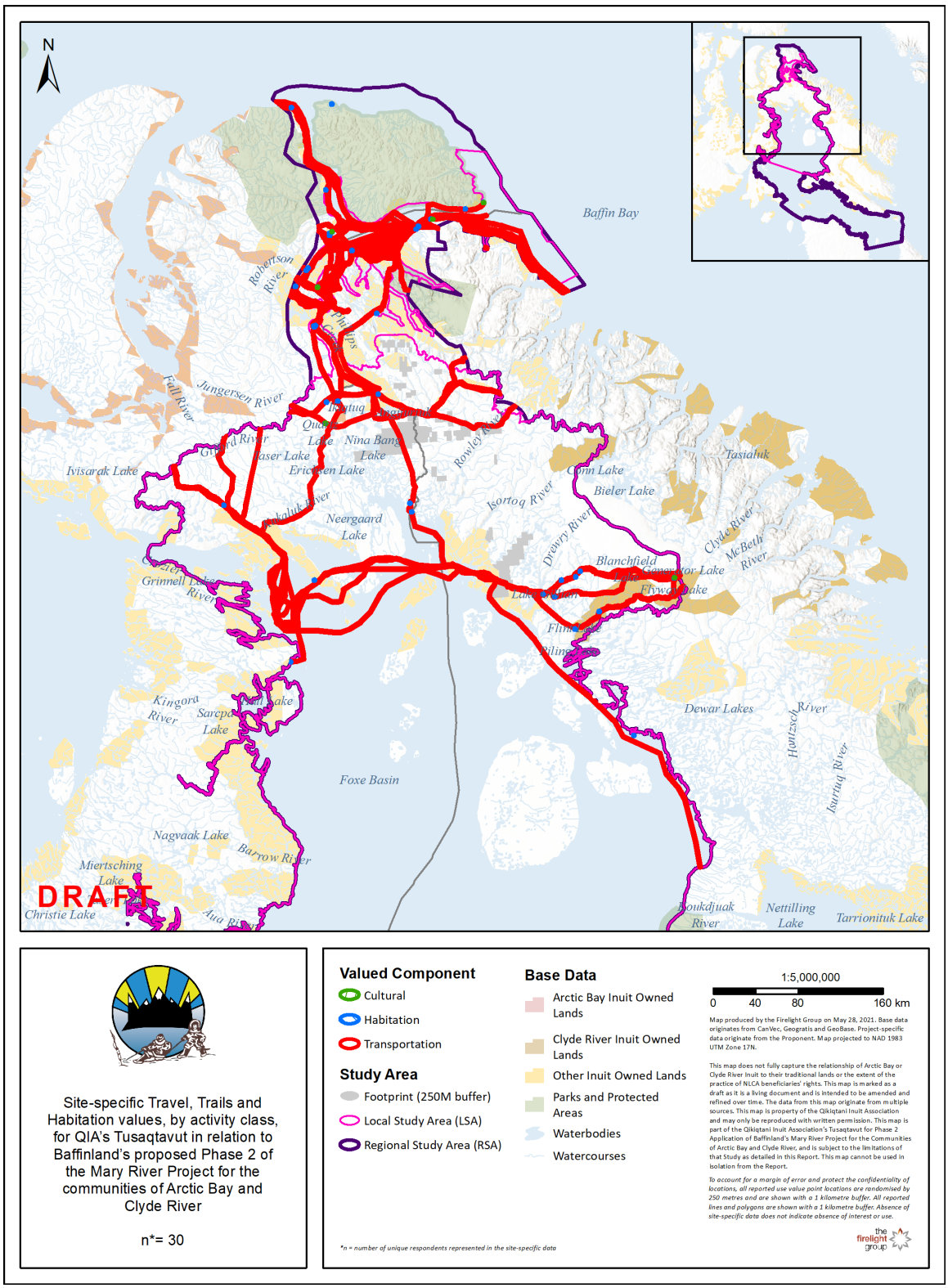

Figure 10: Arctic Bay and Clyde River site-specific Travel, Trails and Habitation values reported in the Study Area.

4.5.2 Importance

For Arctic Bay and Clyde River participants, the ability to travel across terrestrial and marine areas facilitates the practice of values such as hunting, harvesting, and fishing, as well as allowing for the promotion of cultural continuity. The valued component for Travel, Trails, and Habitation shows the importance of these travel corridors in the Study Area and beyond.

Participants from Clyde Inlet described travel routes to Pond Inlet along the sea ice, along which they would make their way between the communities, camping and harvesting at various locations.

> *I will start from Clyde River … By snowmobile. [We go] Through here. And around the point. … And it depends the – on the ice condition here. We usually try and go through here if it's not too rough. But if it's too rough we usually take this route. Took us two days to get there [Pond Inlet]. ... we were going about 40 kilometres an hour average. Yeah, we camped here [location along the route].* (C03 2020)

> *... sometime we were away from Clyde River when we travel to Pond Inlet, sometimes from Clyde, but normally in the north area, if you slightly north, like some – some of these things we would pick up some, pick up some food, I mean sugar, tea, maybe tobacco for my father and so on, yeah, and sometimes my mom would, would stitch something while we're traveling in springtime ... We would go north, we would travel all along the sea, sea ice ... we would camp anywhere at all, where it's good to put up a tent and so on, we would go – this is the area where I was raised ... More time than anywhere else. So we would travel along the shore and when we camp in spring it would be on the land, any place ... from here, we would travel to Pond Inlet.* (C11 2020)

The Mary River area has long been valued for caribou hunting, and as one participant from Arctic Bay described, the route between Arctic Bay and Mary River has a history of travel by Inuit hunters.

> *She remembers … there would be people going – coming back from Mary River area, their dogs, and the people would be walking from Mary River, in the summertime, carrying loads of caribou, on their way to Arctic Bay. So they would sometimes stop through there. And then because Mary River used to – the area used to have – it was a prime caribou hunting area, so anyone – anybody from Arctic Bay and Pond Inlet that used to go to Mary River area for caribou hunting. So it was like a path from Arctic Bay to Mary River.* (A04 2020)

Participants from both Arctic Bay and Clyde River discussed how travel routes through the Study Area are selected for smoothness, ease of gradient, and safety, with travellers making their way through complicated terrain by skidoo as they hunt for caribou.

> *He was showing a traditional dog team trail, which is very smooth this way, but this is a skidoo trail coming down this way, yeah. So when he was – a second time around, his stepfather decided to show him a different way to get around, which is a little bit smoother to get around. And it was mostly used for dog teams because of how smooth it is.* (A02 2020)

> *This part in general news is this part because it's so difficult to navigate around the area because of the high elevation. There is, pretty much if you don't stick to the line or the path that your traditional path, you're gonna get, run into problems of not being able to cross or being able to get down because it's so steep ... So it's a, it's challenging to navigate around the lakes and rivers 'cause of what the ice being packed and becomes dangerous, like slush on the bottom or like dangerous areas like the river system being covered by not being able to see it. The risk of falling through or so you, here it's more, you really gotta know the way to get around here 'cause they live in high elevation areas where there is glaciers, lakes, rivers and everything in between.* (C06 2020)

One participant from Clyde River also discussed how the Mary River area was a gathering place for people from Clyde River, Pond Inlet, and Igloolik in the 19th century, where they would gather and stay while harvesting caribou and other species, and fishing in the lakes nearby.

> *Historically, when they wanted to meet people up from Pond Inlet and people from Igloolik they would meet up here for … So, Mary River was the main gathering spot from – people from Pond, Clyde, and Igloolik. … And then this was a big – this was a camp where they would – this lake where they would use kayaks to look for caribou. ... So – oh, yeah. So, this has landmarks where they use rocks to make markings for caribou hunting. It represents ... [This place is] Mary River, where it's a gathering spot for people from Clyde, Pond, and Igloolik where they would meet up together to harvest caribous in the fall time. ... To go look for caribou for clothing. ... So, they would gather here starting in August, and then leave that area until October to gather hides and meat. ... back in the day, like nobody was occupying Clyde River at the time. ... they would, they would have land and go everywhere. ... Wherever the game was, wherever the food was. ... it was way before he was born that [Inuit gathered at Mary River] started happening. ... Between 1800 and 1900 it was a big travelling spot for our ancestors to meet and gather for clothing and food. ... This is a gathering spot, people would bring their kayaks and then leave them. There's, around this lake, there's landmarks where we use rocks to put our kayak like this so it won't be on the ground. ... Because this whole area was – it's a big lake, right. It's up on – it's an ideal habitat for caribou, for lichen, and food. ... And that was a major camping area where our hunters use their kayaks to get around the lake and harvest. ... You could tell by all the rocks that were used for stands for the – their kayaks ... if you up there there's all these rocks that you could see that they use to store their kayaks. ... It was before his time but all that knowledge was passed down with stories and from the knowledge from one of their community members – they would often talk about that. ... this area*

> *was very significant for the three communities to be able to provide clothing.* (C05 2020a, interpreted from Inuktitut)

4.5.3 Impacted Baseline

Over time, travel through the Study Area has changed with people's ability to find healthy wildlife in the area. Two participants from Clyde River discussed how wildlife migration patterns have changed and numbers have gone down since the Mary River Project has been in operation.

> *For six years every spring he would go [by snowmobile to] visit family in Pond Inlet from Clyde River. … And there used to be plenty of, of wildlife. … Plenty of wildlife around from Clyde River to Pond Inlet. … This is before the – before too much was heard about Baffinland. ... Before even the plans about Mary River project. ... Yeah, [in the] mid 1990s. ... Every spring. ... The, the trail – the trips were pretty good, you know, they would see caribou and then they would see polar bear tracks, so it was pretty. ... He – from his observation of having travelled up there and now with Mary River project in production, he has observed that the caribou are migrating further south. Like, they're, they're ... They're being further south. ... Yeah, he grew up going up there all the time ... And they would go caribou hunting over there. ... And ever since Mary River project started ... It appears there's less wildlife since the project started in that area. ... Yeah, so since the project started it seems like they're kind of moving away from this area and going further down here. Since the blasting started. ... And since the project started.* (C08 2020)

> *Yeah, so the Baffinland, Mary River right now is already impacting so much and changing things rapidly in a bad space. And these are significant impacts. It's visible. And fear things are happening at the same time. The impacts are growing to the habitat for wildlife and our path, our traditional travel routes. Which is crossing – overlapping the Baffinland railroad trail. That is also changing the behaviour of caribou because caribou are always being pursued by predation by wolves. But yet, when they're – when they get used to being around the railroad activity, the dump trucks and the heavy equipment, and when they know that those kind of activities are not – they're not being hunted, they're going to get comfortably – comfortable about or being around the activity, mining activity because it's – they don't see it as a threat. And then they change their behaviour to be around that area exposing themselves to the dust along the potential – potential getting run over or being run over, or like, you know, overlapping trail, caribou trail, and the railroad.* (C14 2020, interpreted from Inuktitut)

Another participant from Clyde River spoke about how Inuit are dissuaded from traveling through the Study Area due to the Project infrastructure and contamination, with dust being a particular deterrent.

> *It [Mary River area] has changed dramatically. There's a lot of construction and a lot of houses and buildings now. Along with like the material being extracted and being used to make the roads looks so contaminated and*

> *orange. And even, even for a skidoo, you don't want to go up there anymore because it's so dusty.* (C23 2020, interpreted from Inuktitut)

A participant from Arctic Bay discussed how community members now avoid some travel routes due to access limitations from Project activities, which has changed the routes they use to travel and harvest caribou.

> *So community members have been advised not to cross this area, so they were outside the study area looking for caribou … right now you got to communicate with Baffinland before they let you cross, so they don't really go that way anymore … Before they used to go this way but now that the railroad and the operations are here they don't go this way anymore but before they used to go this way. He mainly sticks to this area now.* (A09 2020)

4.5.4 Project Interactions

Based on their experience with existing impacts, and their observations of ongoing Project operations, participants anticipate a number of interactions between the Project and their Travel, Trails, and Habitation values.

Two Clyde River participants expressed concerns regarding Project shipping impacts on their ability to access marine hunting trails, camps, and harvesting sites in the Study Area, where hunters from Clyde River and other communities await narwhal migrating east from Pond Inlet.

> *I drove from here to Pond Inlet before by snowmobile, but I was very young. We didn't harvest, we weren't hunting at all. It was just going up to Pond to visit. That area seemed to be very important to the hunters in Pond because they go to the floe edge to harvest their narwhals and to harvest their seals, belugas – Or other animals like birds and whatnot. The trail that we took, I think it's very important to the hunters. If they can't use that trail, then they won't be able to harvest any animals at all.* (C04 2020)

> *So traditionally, this [place, Nattiqsuju] was like a campground for their community members' elders and that's how they know about the area. This serves as a path too, during the migration of narwhals. This is – this was also like a waiting post. [Inuktitut spoken]. … This was traditionally used for waiting for narwhals to come out from Pond Inlet and this is where they would wait for them. And with the shipping activity increase, if all that activity increases there it's going to block the migration path of Narwhals coming from Pond Inlet down.* (C13 2020, interpreted from Inuktitut)

Multiple Clyde River participants expressed concerns about how Phase 2 will continue to disrupt traditional terrestrial travel routes through the Study Area. In particular, they are concerned about how the northern railroad will intersect with caribou migration patterns and associated hunting travel routes.

> *His number one concern right now, the project in mind is that – is going to be overlapping with our traditional hunting grounds, our traditional path, which seems to be very vital here because of the topography and the challenges of navigating around to get to these crucial areas for caribou hunting. Along with caribou migration patterns are going to be disrupted because it's going to be overlapping with the railroad. And with the increased activities it may present a challenge for elders to travel if they're used – if there's only one way to get up there and then you disrupt that only path, then they're going to have to figure out a new way. Because when you can see there's a lot of ridges, a lot of river systems and so much high elevation that these paths are passed on from generation to generation because it's the safest and quickest way to get round. So once that is impacted it may change our ability to get around. Because like there's a lot of features, like big boulders and steep hills and, like, if you take away the path for us to get around and then it forces a hunter or animal to change their route. And which may, like – his main concern if an elder's alone and he's trying to use his old traditional route and it's blocked because there's boulders and ridges as you can see. Like different topographic features. ... And then when that's interrupted and disrupted it has potential for big impacts on our ability to access those areas, our ability to get around and go hunting.* (C14 2020)

> *… the only concern he has is … are our old traditional path and hunting areas going to be able to – are we going to still be able to do that when Phase 2 occurs because it's on our path, and caribou migration path and our skidoo path trails? … So, in the future, they'll under – they'll, they'll going to learn if it's still going to be usable like that.* (C23 2020, interpreted from Inuktitut)

> *But the thing is, if it's [Phase Two] approved it's going to be crossing our caribou hunting grounds and caribou-passing areas, caribou mating grounds and movement – the trails, which will impact our food source and the environment around the mining activity in itself, not only to the marine – our terrestrial animals along also that marine mammals that will be impacted from the increased shipping.* (C05 2020b, interpreted from Inuktitut)

One Clyde River participant articulated concerns about safety, and how there would be risk of getting stuck while crossing the railroad tracks.

> *And the third thing which is, if you're travelling alone as a hunter and you're not with a hunting party, and say Phase 2 goes up – goes through and you've got a – you've got to cross through that railroad, you have a potential risk of getting stuck. Yeah, trying to cross the railroad. Yeah, which poses danger to either being runned over or like exhausting yourself trying to get out of there. And damaging your gear or potentially even harmful.* (C14 2020, interpreted from Inuktitut)

In summary, participants are concerned about the following potential interactions between the Project and their Travel, Trails, and Habitation values:

- Impaired use of marine travel routes used to access camps and marine hunting areas due to increased shipping activity; and

- Impaired access to terrestrial hunting areas due to the construction and operation of the Northern Railway.

4.6 CULTURAL CONTINUITY

This section (Section 4.6) discusses the importance, impacted baseline, and potential Project interactions with the Inuit Valued Component of Cultural Continuity.

4.6.1 Site-specific values for Cultural Continuity

Table 9: Site-specific Cultural Continuity values reported within the Study Area, by activity class. Numbers are cumulative with increasing spatial scales (i.e., RSA includes LSA and footprint)

Activity Class	Within 250 m of the proposed Project (footprint)		Within 5 km of the proposed Project (LSA)		Within 25 km of the proposed Project (RSA)	
	# of reported values	% of reported values	# of reported values	% of reported values	# of reported values	% of reported values
Cultural	23	88%	55	85%	58	85%
Environmental	2	8%	3	5%	3	4%
Habitation	1	4%	7	11%	7	10%
Total	**26**	100%	**65**	100%	**68**	100%

The following Cultural Continuity values were documented in the Project Study Area. The values are organized by Activity Class.

- **Cultural values** including: place names; birth places; burial sites; an historic whaling site; a site where whale bones were collected for craft; numerous soapstone collection sites; gathering places; sites where *inusugait* are located; and teaching areas;
- **Environmental values** including: habitat areas that are of historic significance; and
- **Habitation values** including: campsites; and sites where people lived in sod houses.

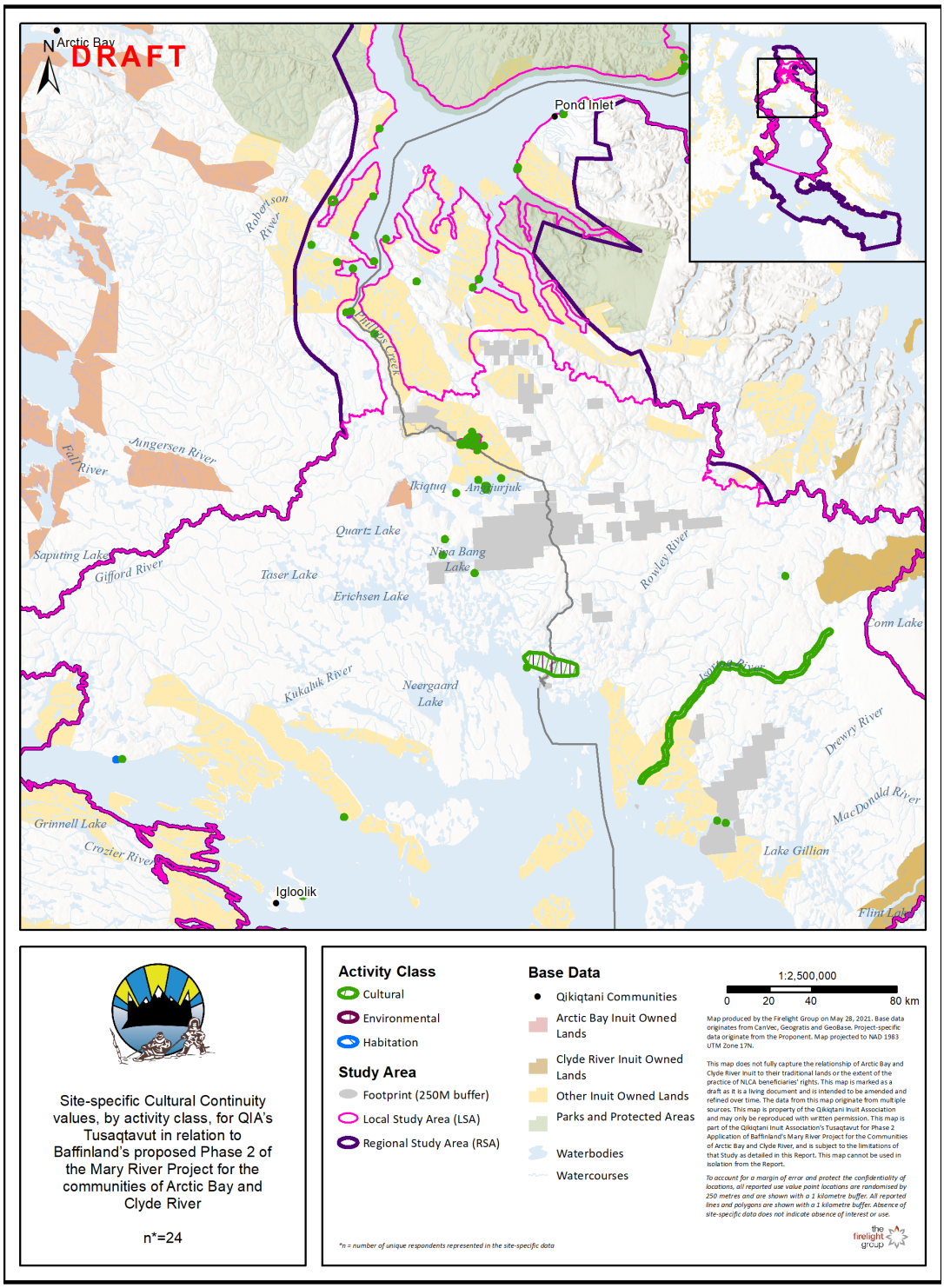

Figure 11: Arctic Bay and Clyde River site-specific Cultural Continuity values reported in the Study Area

4.6.2 Importance

The following sections (Section 4.6.2 - 4.6.4) discuss the importance, impacted baseline, and potential Project interactions with the Valued Component of Cultural Continuity. This draws primarily from the qualitative data collected during semi-structured interviews. For Study participants from both Arctic Bay and Clyde River, cultural continuity was about their ability to practice important elements of Inuit culture, including practices like carving and crafts, their connection to their ancestors and history through archaeological heritage and landmarks, the enjoyment of gathering on the land and the place-based knowledge that was transmitted orally, and the ability to learn and teach Inuit values, knowledge and Inuit Qaujimajatuqangit.

A range of practices are important to Inuit cultural continuity. Subsistence activities and time spent on the land in their pursuit play a central role in Inuit culture and this role is largely discussed in Sections 4.2 to 4.5 of this report. Alongside subsistence activities, Inuit developed a rich tradition of carving and crafts, and across Baffin Island have left scores of archaeological sites and remains, treasured to this day by the descendants of those who built the Inuksuks, tent rings and sod house pits. Transmitting culture and Inuit Qaujimajatuqangit and knowledge through stores and travel as well as experiential learning is also an important component of Inuit cultural continuity.

Collecting soapstone close to Mary River has been an important tradition for North Baffin Inuit. In the quotes below, participants describe the importance of this source of soapstone and the journeys they would make to gather it.

> *... his family members and community members used that area [around the Project] a lot before Mary River was established. It was the main area where the community would go harvest, or mine soapstone.* (C13 2020, interpreted from Inuktitut)

> *My father in-law … used to travel in through that, get some soapstone for carving and hunt caribou in that area in Mary River. Yeah, right from Mary River hills … they were just going after the soapstone that – in … Those hills where they working in them now, where they're collecting all the iron ore right now.* (C18 2020)

> *She learned about that through stories [of Mary River area] because the community members here would go soapstone mining through that area. So, she knew about it through hunters coming back – going in back and forth to get soapstone.* (C10 2020, interpreted from Inuktitut)

Carving stone from Mary River was described by participants as being preferred for its softness and other visual qualities. Participants also described it as an important source of stone, there being few other sources.

> *Yeah. Right there on the top [of the mountain at the Mary River mine site]. … Yeah, there used to be a lot of soapstone there. … [He mined soapstone] By himself, by snowmobile. … [In] 1979. ... deep into the mountain is all soapstone. ... [He used the soapstone for] carving to sell. ... Because there*

> *was no readily available soapstone near Clyde River, so they had to go all the way up there, or he had to go all the way up there. ... He was going up there because you, you have to … generate economic through carving. ... It was a very soft soapstone and they had black specks ... There's still lots up there.* (C15 2020a, interpreted from Inuktitut)

> *Yeah, … but they – that haven't found anything near Clyde River that can be like softer soapstone. So, that's the – I think that's the closest space [Mary River area] that we can get soapstones from.* (C26 2020)

> *He actually went up there [to Mary River mine site] in the wintertime by … to go soapstone mining. … the soapstone was unique, it was like blueish with like the sparkly diamond-looking – different … And they were soft.* (C05 2020a, interpreted from Inuktitut)

Soapstone has been used and collected from the Mary River area for decades by Inuit from around the North Baffin area. In the quotes below, participants describe collection occurring since the 1970s by Inuit from Pond Inlet, Clyde River, Igloolik and Sanirajak.

> *… like back in 86, 87 there, 86 like in Mary River I went there to pick up soapstone … Yeah but there were a lot of people there from Igoolik, Hall Beach.* (C19 2020)

> *1975, his first time going to quarry from Pond Inlet, with people from Pond Inlet … [For] Carving purposes, to sell, is why he, he quarried.* (C21 2020, interpreted from Inuktitut)

> *So starting in 1970, at Mary River area ... people from Clyde and [inaudible] would quarry, go quarry soap stone at the actual, in the mine area. …* (C01 2020, interpreted from Inuktitut)

Carving played an important role in the incomes of many Inuit. In the quote below, one participant describes how while markets for carving have fluctuated, they have been an important source of income.

> *… They used that trail in 1977 to go soapstone mining. ... February to March. That was a one-month trip. ... when he was young he learned this trail very early age because he had an aunt in Pond Inlet that they would visit. ... he got familiar with the land the more he travelled. ... back in the day when the market was good, carving … was a major, major source of income.* (C05 2020a, interpreted from Inuktitut)

Inuit would also travel to the Mary River area to collect other materials. In the quote below, one participant describes Inuit from Clyde River travelling past Mary River to the Milne Inlet area to collect whale bones for use in carving and tools.

> *So, the reason people from Clyde will go up there to quarry soapstone and whale bone is because around here it was, it became scarce, so they went further up. … So, they got caught with the whale bone on their sled by the people of Pond Inlet and were told, 'don't collect whale bone,' and they said,*

> *'it's our last time. We promise.' [laughs]. … Because they belonged to the people of Pond Inlet [laughs].* (C25 2020, interpreted from Inuktitut)

The history of Inuit occupation of North Baffin remains evident in the abundance of Inuksuks and other landmarks across the region. In the quotes below, participants describe this physical heritage and the impact that seeing these places continues to have on them, inspiring awe and providing indicators of good hunting.

> *We call it Inutsuit. … Yeah, long time ago … they used to make very large inuksuk. There's very big huge inuksuk's up there. [Interpreter:] [Place name means] Place of inuksuk's. There's massive inuksuk's up there. Possibly from our previous ancestors of [inaudible]. They're so big that it – there was – it looks like they were set by giants. ...* (C14 2020, partially interpreted from Inuktitut)

> *Because in most of those little lakes … they used to hunt caribou and they lure – managed to try and get the caribou to the water. They made so many inuksuk's. ... Yeah, and most of them – inuksuk's, they're all kinds of forms of inuksuk's. They're like a stop sign or you can read inuksuk. You can read. Yeah. They're shaped – how they – how they're put together, you can read it.* (C14 2020)

> *Landmarks, pointers, rocks piled up anywhere, because this general area was really good for caribou. Even if there's no caribou anywhere, they would go to this side*. (A07 2020)

> *And I recently heard that there's tents – what do you call it? ... Tent rings … So, there's quite a bit of history in that area [Sam Ford Fjord].* (C04 2020)

The rich and complex body of knowledge required to survive and thrive in an Arctic environment is important for Inuit to learn and to teach to future generations and each other. Participants described knowledge transmission as a complex process combining different learning and teaching styles for different types or bodies of knowledge.

Experiential learning is an important tradition of Inuit teaching and learning. Bringing young Inuit out on the land was described by participants as being important for teaching, establishing a pattern of mentorship and learning-by-doing which was necessary to learn many, often hunting, related tasks. The variety of conditions potentially encountered while harvesting and the problem-solving skills required to survive were generally described by participants as being knowledge which could not be transmitted without direct experience.

> *Yeah, her father taught her [to hunt seals]. Yeah, because he would teach like pretty much the whole family, so her dad taught her how to catch a fish.* (A11 2020, interpreted from Inuktitut)

> *Oh yeah, he assisted a hunter … [personal name] caught a narwal – he was helping him … they processed the meat at the – at the floe edge … So [personal name] was also teaching him how to – ah, like how it is to hunt a*

> *narwhal … he shot it and they both processed it*. (A19 2020, interpreted from Inuktitut)

> *[Interviewer:] Who taught you how to hunt and trap, and where? [C04:] Mainly my father. Started – well he started – I started quite young with my father. Was mostly in the summertime and spring. Late spring – springtime when it was warmer. It was mainly seals. He started teaching me with seals. How to hunt seals different times of the year. I gradually – getting the knowledge of different time of the season, how to hunt them, which one to harvest, which one is the best to harvest, and that kind of stuff.* (C04 2020)

Participants described their experiential learning, in the quotes below, as often happening with parents, grandparents and older relations.

> *Of course. He's learned a lot of skills from his grandpa … when he was only 4 years old. He would accompany him. I mean take him with him.* (A17 2020, interpreted from Inuktitut)

> *My parents taught me. They actually lived there before. So, that whole area was my father's homeland. So, he taught me pretty much everything …* (A15 2020)

> *Yes it's very important for younger to learn and to hunt because it's our way of life. That's how our ancestors survived … It was the country food that they harvested, and I tried to give the – my knowledge to my children as my dad did, and uncles, my brothers, my relatives that matter.* (C04 2020)

Learning about local conditions through interaction and meeting with other Inuit from different areas was described by one participant as being an important Inuit tradition.

> *So, back in the day … they're nomadic. So in between all the travels, when people meet together, they tell stories of where they go, hunting grounds and what areas have fish … So, through interaction with other hunters, is how he learned about the area. Because say, you go visiting to a different community, your conversations are going to be about hunting and your hunting grounds and – certain areas where you can harvest fish, or caribou onto each community … So, through interaction with other hunters and through stories, is when he learned about it.* (A05 2020, interpreted from Inuktitut)

Inuit culture is traditionally oral, with written syllabics a colonially introduced technology. Learning by hearing stories was described by participants as remaining a vital way to learn and pass on knowledge.

> *She learned about that area from hunters telling stories about the locations where they would go for hunting.* (C10 2020, interpreted from Inuktitut)

> *[Interviewer:] How did you learn about this area? [C04:] I got families up there. So they tell stories. And I see quite a bit of posts on Facebook. My late father had an older brother up there that lived up in Pond Inlet. They used to*

> *talk a lot about their hunting trips, and their experiences, and whatnot. I think that's where I got the information and the knowledge.* (C04 2020)

As with knowledge about hunting, participants described the best way to learn about trails and paths as travelling. In the quotes below, participants describe how experience travelling taught them how to navigate as well as the important characteristics and uses of different areas.

> *It was like a learning lesson, when they were coming – I ended on that lake in Tugaat where they harvested caribou. But it was also a learning experience for him, because on their way to the lake here and where they harvested tuktu [caribou] they went back in different ways. Also he showed him that there was a trail from this if you were to come up here from this way. So within those two years, his step father taught him different ways to get around.* (A02 2020, interpreted from Inuktitut)

> *His family members also used that area and that was how he learned it and that was the caribou grounds.* (A15 2020, interpreted from Inuktitut)

> *He is with his son, 14 year old. He's training him now how – where to go, what to hunt for in what areas*. (A18 2020, interpreted from Inuktitut)

Inherent in the patterns of learning and knowledge transmission described above is cultural transmission. Participants frequently described seeing themselves as part of a procession of generations – participating in culture, as described by one participant below, necessarily connected to passing it on to others.

> *They lived off the land up here for all his life and their ancestors, passing it down to us and we're passing that down – continuing to pass down our knowledge and our way of life to the youth and next generations to come. That's why it's so important to protect the environment and the land.* (C05 2020b, interpreted from Inuktitut)

Inuit have traditionally gathered on the land in order to share food and stories, and to meet friends and family and take part in hunts or resource gathering. This pattern of gathering on the land was an important part of pre-settlement life but it continues to feature in the lives of Inuit today who travel on the land and gather at family camps and outposts throughout the year (discussed in Section 4.5). In the quotes below, participants describe this pattern of gathering and its importance to Inuit culture from social and subsistence perspectives.

> *There was a – like that area where she's pointing was a kind of a gathering place as well. … So, people from Pond Inlet and Clyde [River] go caribou hunting and fishing there and that's why they would occasionally meet up in that area [Coutts Inlet].* (C25 2020, interpreted from Inuktitut)

> *And then, traditionally, people from Igloolik and Arctic Bay and Pond Inlet used to walk and gather … inland and they would gather there together … Yeah, the three communities would meet in this big lake to harvest caribou …*

> *there's a lot of Inuksuks and landmarks that are indicating some areas where they used to go. (*A12 2020, interpreted from Inuktitut)

Inuit Qaujimajatuqangit includes both culturally accreted knowledge of the land and animals but also important values and normative behaviours which Inuit have developed in order to better live in harmony with each other and with the land.

Participants described important patterns of thought or value in the quotes below, including the ability to work together, to care for equipment and clothing, to teach future generations, and to practice stewardship of their environment.

> *It's really important to teach his grandson because that's the only way now because he's the only one left in his family so he feels it's important to teach his grandson these skills.* (A17 2020, interpreted from Inuktitut)

> *It's important for the younger generation to continue practicing because women like to get their sealskin that they clean and prepare so that they can make boots and other clothing. So to keep the tradition going, it's very important for the younger generation to be able to [sew] … Because women are the stewardships of the garments that they make. So it's sacred to them that they keep continuing their practice. Of course the men has to help too because they have to go out and catch animals so it's a partnership between them*. (A03 2020, interpreted from Inuktitut)

> *Yes, they dragged all the houses from across here to there ... Back then, there was a really important teaching of to be good stewards – good stewards of the environment and that's what they tried to practice as much as possible. So, she's just establishing that, because that's why they kind of moved around to different fresh places or to other traditional places.* (C12 2020, interpreted from Inuktitut)

Knowledge of the land was described by many participants as a central part of Inuit culture. In the quotes below, Inuit describe aspects of this knowledge, particularly important in their pre-settlement, nomadic pattern of life.

> *For that reason, Inuit are very knowledgeable of the land because they kept moving every two years to different spots and they would never stay in one spot and that's why they covered so much land throughout whole Baffin Island and throughout whole of Nunavut actually. Even to Nunavik area ...* (C23 2020, interpreted from Inuktitut)

> *... we [the family] would travel here and there, [unspecified] and north of Clyde [River[, and south of Clyde [River] and so on, we were nomadic, we lived nomadic life.* (C11 2020)

> *So he used that area so often for many years because when your life depends on food survival on the land you learn pretty quick where to go even though you've never been there, so when he's talking about all the areas he*

> *could like visualize exactly where everything is and what it looks like.* (A09 2020, interpreted from Inuktitut)

Inuit knowledge of animals has been described, in relation to subsistence harvesting, elsewhere in this report (see Sections 4.2 – 4.4). Alongside this technical knowledge of how to most efficiently gather their subsistence harvest, Inuit have also evolved a complex pattern of thought and behaviour, engrained in Inuit Qaujimajatuqangit, which involves respecting animals in order to ensure their continuity. Participant quotes below describe some of the normative behaviours and customs which ensure successful harvests and good human-animal relations.

> *And wildlife seem to prefer to be hunted, like they just, you know, it's a cycle. … Because in some traditional homesteads that that used to be there – there used to be like wildlife around, but now that there's no people because animals give, give themselves up as well to be harvested that they don't seem to be around as much because they follow people too.* (C25 2020, interpreted from Inuktitut)

> *Oh, I see, yeah, because there was a law that when hunters butchered caribou, they had to butcher it near a river or a lake, and not leave any blood or any of the guts on the land, because animals smell it and they might not be attracted to it, so they would leave whatever remains in the river, or very close to a lake.* (C21 2020, interpreted from Inuktitut)

> *If I speak of the bear wrongfully, it could come back and haunt me in the future.* (A07 2020)

> *As a boy you know … one thing that was told was don't ever play with any animal or bug or anything like that, don't just take the life as granted to not do that, doing these things is putting on a bad luck in your life. Well in a way … I'm kind to you, yes, I should be kind to animals also, it should be in your system ... We were told not – if you're not going to eat that animal, leave it alone. If you're going to take it, or keep it as a dog food, take it. And for heating oil, yes, take it. If you can.* (C11 2020)

Placenames are connected to legends, land uses, homes, and personal or family histories or travelling. In the quotes below participants describe the origins of some of the placenames of North Baffin.

> *That place name is Qakkiaq … that's where they moved in 1947 and then that's the area where they hunting narwhals. And it's still used today by him and his grandchildren to harvest narwhals there.* (A02 2020, interpreted from Inuktitut)

> *Qaqqalik … Place of a hill … it's a place of little people … natural home for little people.* (A13 2020, interpreted from Inuktitut)

> *They had a house here, and it was their wintering grounds. They only used it for winter and spring, and then they would move … They didn't really stay in*

> *one area too long … Yeah, that place name is … Upingivik.* (A12 2020, interpreted from Inuktitut)

> *Avatuu … Yeah … that place name originated from the elders … it seems to be an important landmark to start travelling north from here, or up. (C13 2020, interpreted from Inuktitut)*

Placenames may also represent natural features considered significant to life. In the quotes below, participants provide examples of resource or landmark-based placenames.

> *Imiq. That place name … for that one is Imiq, meaning water.* (A12 2020, interpreted from Inuktitut)

> *Yeah he was born in a sod house because it was winter time … Qurluniq … It's like a big strong falls and that's why it's called [inaudible 00:08:17].* (A17 2020, interpreted from Inuktitut)

> *This was a calving ground for caribous. When they give birth the placenta comes out throughout this area and from the reflection from the sun and the placentas that were left behind, it has a shine from all the placentas that were left behind by caribou's giving the birth. That's the meaning of Qilituq because when the sun is shining it's reflecting from the placenta material I guess, yeah.* (A09 2020, interpreted from Inuktitut)

Inuit cultural continuity was described by participants as revolving around the ability to transmit the rich body of knowledge Inuit have developed to understand their world and survive within it. Crafts like carving, important patterns of thought and behaviour, and knowledge of the land reflected in placenames are all evidence of an Inuit culture which remains intimately connected to ancestral knowledge and traditions.

4.6.3 Impacted Baseline

Inuit participants described a variety of factors which were already shaping changes in their communities. Changes in access to culturally important materials and activities, as well as a range of social changes were felt by participants to be reshaping community life and the practice and continuity of Inuit culture. Project impacts on Inuit cultural continuity should be considered as taking place against the backdrop of this already impacted baseline.

Existing mining activity at the Project was seen by one participant as already having interrupted the pattern of soapstone collection in the Study Area, reducing access in Clyde River to the materials important for carving both as an opportunity to earn income and to practice a traditional artform.

> *So, he knows historically that his people from Clyde [River] have gone to Baffinland area for soapstone mining. ... He can't point to the mine – or to the area where the soapstone is mined because he's never been there, but he knows for a fact that people here have used it in the past to go from here through the land to Mary River to go soapstone mining. ... They're not being*

> *– they're not using that spot for soapstone mining anymore since the mine started.* (C02 2020, interpreted from Inuktitut)

Social changes within communities were remarked on by participants, who felt that community life was altering Inuit life and culture, as one participant explains below.

> *According to her knowledge, she hasn't really seen a lot of environmental change but more of a social impact of how her life is changing in a way. You know, living in communities, having access to this and that and the other thing. So she was more looking at that as Inuit life way of changing. And the environment, according to her, didn't change too, too much.* (A03 2020, interpreted from Inuktitut)

One of the prominent social changes being experienced by participants was an increase in the access to drugs and alcohol within communities. In the quotes below, one participant describes how they felt access to both alcohol and drugs in Clyde River had increased.

> *I don't really try, try and track it down. Whether it [increased alcohol use in Clyde River] stems from there [the Project], but if it had – it has increased dramatically. …* (C26 2020)

> *She's more concerned about the social impacts such as drug use by Inuit that may have – because you know, drugs come from the south. So she's more concerned about the social impacts of availability of illegal substances … It's not necessarily associated with the increased disposable income but just changes of life. Because it just used to be alcohol availability and, you know, people would just drink till they pass out but then now it seems like, with the combination of the two, that could just becoming more and more of a concern.* (A03 2020, interpreted from Inuktitut)

The transmission of knowledge and cultural values to younger generations was seen by participants as changing. In the quotes below, participants described how they felt younger generations of Inuit were not fully absorbing traditional teachings but also that they were increasingly obliged to choose between traditional life and subsistence harvesting and wage employment.

> *Yeah, on a general note another concern is that the younger generation don't, don't have the same traditional knowledge of conservation and only taking what you need. Some younger generations are just shooting for the sake of killing an animal and not, not using the entire animals and wasting. So, she's concerned about that as well. So, the traditional teachings are being lost on top of the project being there, so it could be a double whammy as well for the wildlife, yeah.* (C25 2020, interpreted from Inuktitut)

> *Yeah, he's taught them [participant's children] hunting skills, but then again, there's always a conflict because – not conflict, but they also have to go to school, so he can't really do it all. But he's got some skilled hunters in his family … It's important because they really end up enjoying the activity of*

> *hunting, and then at the same time, since they've gone to formal school, they can have jobs at the same time. So, it's a good balance for them to be able to be in the wage economy …* (A14 2020, interpreted from Inuktitut)

Social changes and impacts to cultural transmission were described by participants as having repercussions on the continuity of Inuit knowledge and Inuit Qaujimajatuqangit. In the quotes below, participants described how physical changes to the land, like seeing increasing amounts of litter or refuse, also act to disrupt these traditional knowledges by shifting Inuit understandings and customs of stewardship and respect for the land.

> *You have this vibe in Mother Nature up here. If you're not listening to the Mother Nature, you're pretty much a dead person. And then everyone you try and provide to is pretty much dead. So having railways, even ships going too many times in the year, it's going to affect our way of living and it has already, because we've had things that are thrown in our water to survey whatever it might be.* (C06 2020)

> *... we're using the earth all the time, and what we can get from the earth to uplift what the living is, you know that's one of the concerns, but for many of us, we hunt. This is where we get our food, like I don't – it's hard for me to see some garbage out on the land, it's not right. You pick up your garbage and bring it home to the dump. That's what we do*. (C11 2020)

Participants described a range of factors impacting their cultural continuity prior to the proposed Phase 2 Expansion. Existing mine operations and social and cultural changes within communities were felt by participants to already be impacting Inuit cultural continuity.

4.6.4 Project Interactions

Participants from Arctic Bay and Clyde River saw a range of Project interactions potentially impacting their Cultural Continuity. Project Interactions related to impacts on tangible aspects of culture like archaeological heritage but also important and intangible elements like knowledge transmission and Inuit Qaujimajatuqangit. Cultural practices like carving or hunting were seen as being potentially impacted by changes to the land and animals.

Disruptions to physical heritage was a concern raised by one participant who felt that Project activities were disturbing archaeological materials, as they explain below.

> *His son he works at the Mary River Mine and there's a lot of artefacts that are here that Baffinland claim didn't exist and they're being disturbed and destroyed … All the remaining like tent rings and saw houses and all the artefacts that are underground …* (A10 2020, interpreted from Inuktitut)

> *He's saying that Baffinland is like, they said that they're sneaky because they claimed this area didn't have any artefacts and then the artefacts are being destroyed here along with, when they go patrolling here because he's part of*

> *the Rangers, and Baffinland's not keeping any regulations in regards to the airlines that are flying. When they're in that area a Baffinland plane flew so close to them that it frightened them that they were so low and passed it by. It was so loud that [inaudible] blast like hurt their hearing*. (A10 2020, interpreted from Inuktitut)

Aside from physical disruptions to culture, as described above, participants also described Project impacts on intangible facets of culture. In the quotes below, participants described how they see the Project as disrupting the harmony of their communities, particularly the harmony with which Inuit live with their environment, also known as "sense of place".

> *He knows that the impact will be just before the pinnacle, or close to it, the ships are going to be really close to Pond Inlet. There'll be no more harmony with nature for the people that live in that area. And because Inuit traditionally like to live in harmony, that's how we have been, but with this – the constant activity that's going on, people will not be settled down as they used to be. So, that's how he sees that how it might play out.* (C15 2020b, interpreted from Inuktitut)

> *All she really wants is people to be able to work in harmony – like Inuit, non-Inuit – and just work together towards a common goal. That is what she is wishing for the future. So even with the project – like she's not against it but she wants people to work together in harmony and she thinks that's going to benefit both Inuit and non-Inuit.* (A03 2020, interpreted from Inuktitut)

The Project was described by participants as removing or severing a link between Inuit and their land, leading to a sense of displacement and tension and with serious implications for what Inuit consider to be their cultural tradition or role, of environmental stewardship.

> *So, if they slow down and take their time and recognize that … Inuit knowledge and put those practices into the operations and Inuit be part of the monitoring programs or a part of monitoring the activities and then that would create less tension and be able to work together better*. (A12 2020, interpreted from Inuktitut)

> *She does not support Phase Two, if Phase Two ever was approved it would be very devastating because we don't own the earth, we don't own the environment, we're just borrowing it. And it would be a sad day if that project was ever approved. So she is a huge – having grown up with parents or a father that was very much an environmental steward that she just wants to continue that. And that is not – being environmentally responsible.* (C12 2020, interpreted from Inuktitut)

> *So, he says the – for economic opportunities for Inuit, it could be beneficial if you – especially when you start a new family, but the social impacts of readily available income could also have sort of a negative impact as well; but, but the environment because Inuit are not animal rights activists by any means*

> *but Inuit are good stewards of animals and wildlife. So, that is going to be impacted as well. They were trying to be good stewards, but it's not happening because of the impact.* (C24 2020, interpreted from Inuktitut)

Experiences with alcohol consumption as a result of changes in people's lives and potentially increased income and increased stress were described by one participant who felt that there was a direct link between the Project and an increase in alcohol abuse in the home communities of employees.

> *But when you're not a drinker and you haven't experienced anything like that in the past, it's scary. … because it's my house, but I'm getting out of my house in order to avoid that; and I think a lot of families are doing that now. And we don't have any shelters here to go to. So, these are the concerns I had over alcohol. ... it's scary when you're not used to it. … Like when we haven't, like I've never experienced that growing up. … every time I smell somebody with alcohol I start freaking out because when I talk to people when they were drink – drunk the previous day and then I would talk to them the next day they would say they didn't know. They didn't know what they were doing. They don't know that it happened … So, the more I think of it, if I smell somebody who smells like alcohol then I'm freaking out. I can't do anything at home. So, there's just concerns that I have. So, I think that people who are starting employment with Mary River should be trained more, or get more educated on alcohol, how it affects the family, the community, the things that would be happening.* (C26 2020)

Playing out against a backdrop of social change within communities, participants saw Project Interactions having a broadly negative impact on cultural continuity. Participants were particularly concerned about project impacts on physical heritage, but were also deeply concerned about the potential impacts of the proposed Phase 2 Expansion on their cultural values. Stewardship and a pattern of subsistence which emphasizes a harmonious existence in and with the landscape are important elements of the Inuit body of understanding termed Inuit Qaujimajatuqangit – a pattern of thought and understanding which participants felt was directly threatened by the scale of intervention called for during Phase 2.

In summary, Arctic Bay and Clyde River participants anticipate the following potential interactions between the Project and their Cultural Continuity values:

- Disruptions to physical heritage sites including archaeological evidence, through Project construction and operation;
- Disruptions to "sense of place" through decreased ability of Inuit to connect with nature and spend time in places that are culturally and spiritually meaningful, due to Project activities;
- Disconnection from culture due to the above disruptions; and
- Psychosocial impacts such as increased substance abuse due to the above disconnection and disruptions.

4.7 FOOD SOVEREIGNTY

This section (Section 4.7) discusses the importance, impacted baseline, and potential Project interactions with the Inuit Valued Component of Food Sovereignty. This draws primarily from the qualitative data collected during semi-structured interviews. No mapped values are included for this section, as subsistence harvesting of country food in particular is addressed within other VC Sections, notably Terrestrial Harvesting, Marine Hunting, and Fishing and Freshwater.

For the purposes of this report, Food Sovereignty is defined as being the right of Inuit to access healthy and nutritious food, which is culturally appropriate, and harvested through ecological and sustainable methods (QIA 2019). The term food sovereignty is preferred to food security as it is considered to be a more holistic representation of the Inuit relationship with their animals and environment through food, encompassing more than the access to food inherent in the term food security, but also the right to choose how this food is accessed, an important element of empowering Inuit communities and stimulating their economies (QIA 2019).

4.7.1 Importance

Subsistence harvesting is a critical component of Inuit culture, and survival is seen as intimately linked to having the knowledge and cultural understanding required to provide food from the challenging Arctic environment. The provision of country food remains as important today as it ever has been, for while store-bought substitutes for country food are available, these imported products are often prohibitively expensive and for many participants are considered unhealthy or an inferior choice. Providing food from the land was seen by participants as the essence of survival, in a physical, cultural and emotional sense. Protecting and continuing these food systems, and in particular the central role that country food plays for so many families was described as being a holistic endeavour involving environmental protection to support a continued food source, and cultural conservation and transmission to ensure that there were future generations of Inuit hunters equipped to take on the challenge of obtaining the harvest.

The importance of protecting the sanctity of animal habitats was emphasized by one participant who drew a direct link between the availability of country food and the ability of future generations of Inuit to learn and continue their culture. Inuit consumption of country food was described as an intrinsic component of culture.

> *[C05] has a grandson age of nine years old. ... And he only eats country food. ... he barely eats any store-bought food, because he's raised on his traditional diet. … So, for [C05] and his generation, that's why food – protecting environment and food source and our – the habitat of our food is a major importance because even if he passes away, the skills and the dependability on the wildlife and on the land is passed down to the next generation. ... So, he wants to preserve the way of life, our culture, and our food to, to be able to pass on to his kids and grandchildren down, because it's what they know, it's what they do and it's a proven – we're still here. Still here and healthy.* (C05 2020b, interpreted from Inuktitut)

Food is seen by one participant as underpinning a system of morals or values. In the quote below they explain how a core value in Inuit culture is the importance that is placed on providing food for one's family and one's community.

> *So, us from the Arctic, could be millions of years that we've been living on the land and off our land. What our land produces is the food that has – so the main diets are caribou, ptarmigans, and fish, and seals because of the accessibility and they're around, but majority of the time ptarmigans and caribou are – and seals are – like to get through the year. ... So, for this reason we value and want to protect our food source because back then every, every community member, every Inuit, they don't want their kids to go hungry like how it is today. That's – one of our morals is to take care of our families. ... So, that's a – even though today the younger generation are still hunting and going around hunting and gathering, that value is still placed high not to – they don't want anyone to be hungry. ...* (C05 2020b, interpreted from Inuktitut)

Each country food has a season in which it is best gathered. These seasons, as described in one example below, are defined by a complex knowledge both of the availability of a food species but also when it is best, and most easily harvested.

> *Every year they go [to Pond Inlet] – every wintertime they go there to go get some halibuts.* (C13 2020)

Food preferences are defined by personal taste and are often described by Inuit as varying based on location. In the quotes below, participants explain how ringed seal or caribou from different areas are preferred due to their taste.

> *So, his father didn't go. He mainly went up there to go caribou hunting. So, no narwhal, fish or seals because his mother preferred the seals down here as opposed to Pond Inlet area. … Yeah, people tend to prefer seals around here because I guess around Pond Inlet their, the majority of the seals, ringed seals diet is cod. So, the [cod] affects the taste of the meat, yeah.* (C24 2020, interpreted from Inuktitut)

> *Yeah. I ordered caribou meat because I caught caribou this summer, and last year as well I caught, we caught three last year. And I kept telling my cousin, which is also my friend, that it feels like we're too spoiled to have … meat from Baffin Island. After having meat from Baffin Island and then I go caribou hunting during the wintertime from mainland, it just doesn't taste the same.* (A07 2020)

Food preferences also reflect different needs. In the quotes below participants explain how different groups, whether hunters on the land or elders, have different requirements and preferences.

> *Yeah mostly when we're out on the land we need the – we need the meat to eat – caribou – like we need meat to eat. Mostly like sometimes from caribou around there – like on the land.* (C19 2020)

> *Mm-hmm, because of older people, older Inuit and elders, they, it's like their, it's their diet, it's there, this is their sustenance and she wants to ensure that it continues to provide*. (A10 2020, interpreted from Inuktitut)

> *It [fishing] used to be very important back then when he was a hunter, but he doesn't hunt very much anymore, but it was very important to him … He just really loved the taste of it. He loved the fat from the fish, but it's too much now. But it's too much now, the fat. But when he was younger he just loved eating fish.* (A17 2020, interpreted from Inuktitut)

Food preferences can be an important driver for trading and exchange between communities. In the quote below, one participant from Clyde River explains how they will trade meat with family and in Pond Inlet. Trading and exchange are important for many Inuit, maintaining connections between families and communities and facilitating access to potentially preferred foods which may have highly regional availabilities.

> *You know, sometimes I do—we do get narwhal meat, the skin. But a lot of times I give seal meat, because the seals in their area, and our seals are different. The taste of the meat is different. Like there's quite a bit of people even in [Inuktitut spoken] they love the taste of Clyde River seal meat, because it's different from everywhere else. And family up in Pond love the seal meat that we have, so they want some, they asked for some, and I send out seal. But there's more narwhal up in there. So, if they harvest narwhals in June, because we start harvesting in our areas usually in July, beginning of July, but if it's up in Pond they harvest their narwhals earlier than us, so they do send us narwhal meat.* (C04 2020)

> *And the [caribou] meat is so precious that can – we order it all the time from family … But most of the time I try and catch as much caribou as I can and make it last a little bit longer. If not, I tend to order caribou. That's how much we love caribou meat. Nothing beats caribou meat. [Laughs]* (A07 2020)

When country food is not available – either locally, or more generally via the networks described above, some participants described seeking out store-bought alternatives. In the quote below, one participant explained how they preferred caribou but when it was not available they would seek out a store-bought stopgap.

> *He loves caribou so much that when he doesn't have caribou meat he eats steak, that's how important it is for him.* (A12 2020, interpreted from Inuktitut)

The preservation or caching of food in order to prepare for future shortages is an important Inuit tradition. One participant described this process with particular reference to fish, explaining how they would prepare fish by drying them to preserve them or store them in a cache for later use.

> *And [when he was young and fishing on sea ice at Salmon River near Pond Inlet] there was no worry about food insecurity because there was plenty of fish. ... They would dry the fish. You know how you dry them in a rack? So, they would do that. ... They had two, two drying racks. ... So, they would do*

> *it on both sides because the river was still frozen, and they could cross. So, they were able to go back and forth. ... So, the other thing Inuit used to do besides drying the fish is put a cache for later. ... Around there. So, they would form this sort of a mound, almost igloo shape with flat, kind of flatter rocks. Once they did that, they would start putting the fish inside and once there was enough, they would cover it. ... So, around October or November, they would come back and retrieve the fish. ... that they aged the fish in there ... Yeah, fermenting the fish.* (C15 2020a, interpreted from Inuktitut)

The variable success which is part of harvesting wild food has always meant that food sharing is an important Inuit tradition. Participants, quoted below, described how sharing was a way to feed large groups, and noted in particular the number of people who could be fed from a narwhal or seal.

> *Yeah. We, we butcher the narwhal all the way to the meat, to the bone. You take out the intestines, good for the, the, the meat goes to the dog. Rest of the meat goes to the dog food and for the people too. For the dry meat. Yeah. … Oh yes. Yeah, [we share food with] a lot of people. … It's just for the giving out the food to people. … Helping each other, giving away food. Country food, we like it*. (C20 2020)

> *If it was in my community with my family members I can say all the meat [from two seals] is gone within two days. It's usually – if it's one seal it usually goes to three to four family members. There's quite a bit of kids, grandkids, in the family, so around, see, 30 people can have a meal from the one seal. The one young seal that we harvested.* (C04 2020)

Sharing of food goes hand in hand with harvesting for many of the participants interviewed. As is explained below, many participants viewed it as an important duty of the hunter to redistribute the products of their skill and good luck by providing food for other community members.

> *But lately we've noticed a lot more narwhals in this area. … Every year we come in to this inlet and usually camp here. … I caught one [narwhal] this summer [2020] up here. … it's [narwhal] been kind of scarce around Clyde River. ... altogether we caught ten. ... [One narwhal feeds] Several families. We always share our meat. We never sell our meat, so. ... This was this year [2020] that we caught the ten narwhals. ... Yeah, we hunt them where we spot them. (*C03 2020)

> *Yeah [brought fish catch] back to the community and give it the public … Up here in north the poor doesn't get hungry.* (C19 2020)

> *It was a lovely time because her dad would go and now we are hunting in a kayak before, yeah. And then he would catch a snow whale and then he would have all the [Inuktitut spoken] ready for all the little children when he would come back with his kayak. They were all like ready to serve and he would just serve the children … Yeah, people used to share all the time. her*

> *dad shared just like every other hunter would share all their catch so it was the same thing. So good memories…* (A03 2020, interpreted from Inuktitut)

Rules around food sharing and distribution are complex and are often described as varying between communities, generations and even families. What is common is a desire and understanding that the redistribution of a harvest is an important responsibility and a duty inherent in the role of being a provider. In the quotes below, participants describe some of the motivations for sharing, including rewarding participation in the hunt, social relations, and the obligation to provide for those who are hungry.

> *They butchered it [narwhal] – they processed it on the shore … Yeah, they shared it with community members … It's good to share with other what you – what you help catch … It's very important … It's so nice when you're a helper and you are like respected and – and showing gratefulness towards being a helper – so he loves that feeling.* (A19 2020, interpreted from Inuktitut)

> *I gave the meat away to the main hunter, and he was going to distribute it out to his family members and friends.* (C04 2020)

> *[describing sharing of country food] Mostly likely we'll give it away to the people who is hungry. We ask them to come over and eat with us or, you know … Or maybe we ask them to go pick up some meat.* (A15 2020)

The health benefits of consuming country food were described by participants at length. In the quotes below, participants described the relative health benefits of country food versus store-bought food as well as noting that they felt "stronger and better" when consuming country foods and preferred to provide it to their children.

> *Seal, seal fat should be healthy ... the stuff that you get from stores are not as healthy as seal meat, or seal blubber, that's what people are saying.* (C11 2020)

> *Our diet of country food is also great for immunity. Especially seal meat as they are very rich in nutrients. Seal meat is also great to keep warm even though it's really cold and freezing weather, the seal meat can keep you warm. That's how important our food is to us. And the reason we want to protect our wildlife of our dependency to sustain us.* (C05 2021)

> *For her, [country food] it's extremely important and valuable to her because it's her way of life and that's what she knows and it's healthy for her. When she wasn't hunting and travelling much on the land for [inaudible] ... when she's not consuming country food as much on a daily basis she would start to feel like she's sick when she's now – yeah. And then when she consumes like seal meat and polar bear meat she will feel stronger and better.* (C10 2020, interpreted from Inuktitut)

> *Well, mostly I give my kids country food. I hate buying store-bought food, [Laughter] because our food is a lot healthier than store-bought these days. So, mostly I try and feed the family with our country food …* (A15 2020)

The relative ease and safety of consuming country versus store-bought food was described by one participant who felt that store-bought food carried higher risks of contamination due to the preservatives used.

> *And then, if you're out trying to, anywhere, if you're trying to keep eating store-bought food, you have to keep cooking it most of the time. Because they could be contaminated with the product that they use for keeping insects off more in a container where it might, it might have picked up whatever it is that they pick up. But if you keep eating country food, you can eat it. Eat, cook, raw ... Even dried.* (C06 2020)

Ultimately country food was described by many participants as an important part of their emotional health and wellbeing. In the quotes below, participants describe country food as a contributing factor to their happiness and fulfilment.

> *They gave all the meat to the whole community back then … It gives him joy to be able to share his catch … Because elders are always so much happier when they get fresh meat or fresh catch of any wildlife. So they're always so much happier.* (A13 2020, interpreted from Inuktitut)

> *[Hunting is] Very, very, important … It's our livelihood. Like I said, in our area seal, a lot of people – the main diet is seal. When we harvested those I was really happy.* (C04 2020)

While the subsistence value of country food was emphasized, what participants identified as being perhaps the most important aspect of country food was its cultural value. The practice of hunting and gathering connects Inuit to their land, but this country food also connected participants in both participating communities, with each other. Food connected participants through their families and within their communities (and even without, via trade and exchange) through the traditional Inuit practice of sharing the products of the hunt. The patterns of reciprocity by which Inuit share have been well documented in other settings, but participants in this study identified sharing as an important facet of their food sovereignty which enhanced the food security of their communities as well as enhancing their connection to their Inuit culture. The quality and health of country food was also emphasized, with participants describing the health effects of country food consumption as being holistic in nature, with positive benefits to the physical, emotional, and mental health of Inuit who consumed it.

4.7.2 Impacted Baseline

Project impacts should be considered against a food environment which for many Inuit communities, including Arctic Bay and Clyde River, has already been impacted by a range of factors. Factors already having an impact on food sovereignty in Arctic Bay and Clyde River include current Project infrastructure and activities, the transition to

cash and mixed economies, and ongoing experiences of poor quality food and diminished health outcomes related to food access and quality.

Concerns around food gathered from the Study Area were raised by participants. One example is quoted below, where a participant explains that they have been warned not to consume fish from the Mary River area due to potential health impacts.

> *We've already known, knew, from our elders that not to harvest fish around this area. Because they knew about Mary River. Because they used to get gather … Soapstone. And then we already know that – I mean, they warn us not to eat too many fish around this area … Yeah. Stomachache … And you get diarrhoea.* (A16 2020)

Impacts from the Project which are already being felt include harvesters having to travel farther to have a successful harvest. In the quotes below, participants described how Project effects are having an impact on the distribution and availability of important species including seals and narwhal. Increased travel time for harvesters means potentially reduced harvests and increased costs, which as one of the participants quoted below explains, is directly related to diminished community food security.

> *Everything kind of changed a lot ever since Mary River started mining. More ships coming in, less narwhals and less mammals. … Yes, I, I have to go a little bit further that area to go look for meat.* (C20 2020)

> *But totally being told that there's the large reduction of narwhal that doesn't migrate through there hardly anymore … It's very concerning because that used to be such a huge area for narwhal population and now he says he can say that some – he knows of some people in Pond Inlet that are actually going to Arctic Bay to go narwhal hunting because of the lack of narwhal in that area and it's very concerning for him because of – he wants his family to have food security in Pond Inlet.* (A01 2020, interpreted from Inuktitut)

> *... the seals here are highly sought after throughout Nunavut because they taste so good around here, they taste different. … So, as soon as you cut up a seal, hundred percent of the people are going to want to eat that. … right now, people in Pond [Inlet] – the seals are being impacted by the shipping activity ... it's becoming harder and – for residents of Pond to harvest seals because they're moving away and the people are not – they're being impacted where they can't access seals anymore because they're moving away. ... And then it's impacting the health of the community, because seal meat has been a vital part of their diet for so long and nutrition that … when they can't … harvest them then their health is being impacted. Not getting the nutrients and the food source that they need and they're used to.* (C05 2020b, interpreted from Inuktitut)

Past contaminant concerns remain a factor in many participants' consideration of country food. Concerns raised about high levels of mercury and other contaminants in country food continue to impact the way community members view their harvest. As

the participant quoted below explains, these past experiences have helped to inform their current concerns about the potential influence of the Project on food health.

> *Because like in the past we heard about contaminants, a lot of it, and we got scared. But now what the Mary River, well people from Mary River are saying that there's nothing wrong with it and it's not going to impact the animals. But we don't know. Down the road, we might see that too. And like there's a lot of us that still eat country food and it's something that we rely on. We can't just live off store-bought food because we're used to our meat. … And we – we're used to the meat that we eat off the land.* (C26 2020)

The economic transition of Inuit communities, from harvesting towards an increasingly cash-dependent economy has fundamentally altered the country food network. One participant described this transition as being from hunting to working, where previously hunting had been considered the basis of 'making a living'.

> *... in those days people did not work to make a living, it was only when the ship comes up from the Hudson's Bay Company that they would work for a while … like hunting was the money making process for people who – that does that.* (C11 2020)

This changing social landscape of food increasingly demands a significant cash outlay to participate. Hunting is an expensive proposition, demanding equipment and gasoline. But for those who are not able to hunt or are not connected socially to a hunter who can provide for them, accessing country food through other channels is also expensive. On participant explains below that many Inuit are obliged to trade cash to access country food, through inter-community trade facilitated by air cargo shipping.

> *Today also Inuit are able to get country food through air cargo, so they can have food security through that as well.* (A11 2020, interpreted from Inuktitut)

> *… it [the Project] won't have any effect on Inukness because for people that don't have hunting partners it's sometimes the only way they can get country food. She doesn't feel that it's going to take your Inukness away at all not being able to – like it's happening today already because there are people that are relying on country food being shipped because they don't have access to a hunter that will be able to provide for them.* (A11 2020, interpreted from Inuktitut)

The role of the Project's current operations in this changed economy and its impact on food sovereignty was summarized by one participant, quoted below, who explained that while participation in the employment potentially offered by the Project might mean cash this was not synonymous with an increase in country food for community members.

> *And then the people at, working at the Mary River Mine are very happy, because of the expansion, because it's a guaranteed employment opportunity, but not once did Mary River or Baffinland ever provide any country food to anyone.* (A10 2020, interpreted from Inuktitut)

Concerns about the relative health of store-bought versus country food were raised by one participant who pointed out that community members were noticing the impacts of consuming store-bought food on their health.

> *And when those years are happening [thin ice] we're stuck with store food and most of us can't handle it very well, if we, if we keep taking the store food, our guts or whatever … you're never full. And then so, you become, you get so much of that fat they call it a cholesterol that builds up in, you hardly burn that off 'case normally times, we take the fat with the meat that we get from the animals, from the out of the water, especially the seals so, we mixed that with our meat, and that different cholesterol. That's good to burn, you know? … But if we keep eating store-bought food, not being able to go out here for seal, we're pretty much dead people pretty soon.* (C06 2020)

The impacts on health and resilience from not being raised on country food were raised by participants, as one person noted in the quote below, they felt their children were "weaker" than others who had consumed more country food.

> *Well, from my knowledge anyways, my children don't like eating as much hunted food from our area but, there are, once they start going older, they start realizing that they have to get it off of the land and we, we go hunt from and they're weaker from the group that has been eating more country food.* (C06 2020)

Inuit are already experiencing the effects of a range of factors on their food sovereignty. Changes due to existing Project effects, concerns around contaminants in the environment and changes in the socio-economic and socio-cultural landscape of food are all playing a role in changing how many Inuit in Arctic Bay and Clyde River choose, access, and consume their food.

4.7.3 Project Interactions

Participants in both Arctic Bay and Clyde River expressed significant concerns that Project Interactions would lead to a decrease in the populations of animals traditionally harvested for subsistence, and potential changes to the distribution of these animals. Project Interactions with these wildlife populations are discussed in other report sections in greater depth (see Sections 4.2 - 4.4). The impacts described in these sections were seen by participants as fundamentally connected to negative impacts on the food sovereignty of their communities.

Project-related decreases in the availability of important harvested species as well as changes in their location or distribution were seen by participants as altering the availability of preferred country foods, as well as its safety for consumption and its potential cost. In the quotes below, participants described these concerns pointing at what they saw as a direct link between a decrease in animals and impacts on Inuit food systems and diets.

> *My name is [personal name] and I am afraid, very concerned that eventually all the wildlife is going to disappear. We won't have any more country food within that area. When I was growing up, there was hardly any established communities, besides the Hudson Bay Company. We looked like we were very poor back then, but we were very rich in terms of the abundance of country food. She's afraid that eventually all the wildlife is going to disappear from there.* (C12 2020, interpreted from Inuktitut)

> *Yeah, because she knows that the Mary River project will not be providing the sustenance and the wildlife that they need even if they reduce the numbers and with the high cost of imported foods, it's going to be way more difficult to have nutritious food if the wildlife is affected … she's worried about the food supply, because it's also, and they won't get any handouts from companies, they won't be given any country food by the companies that are just looking at economic opportunities rather than looking at the people that will be affected.* (A10 2020, interpreted from Inuktitut)

Concerns about reduced country food were a particular concern for one participant who noted that it was the most vulnerable community members, including elders, who would be most impacted. For this participant, the loss of a preferred, and previously widely available food, would require compensation.

> *Yeah, there is no price for the loss of wildlife. So, he thinks that there would be a bigger reduction in the amount of wildlife in that area with the increased shipping, but if the project went ahead, there would have to be a significant amount of compensation for the people to compensate for the loss of wildlife, because especially the Elders would be very hungry for what they are used to, because especially historically with that area being just full of wildlife, they didn't even have to try that hard to even try to harvest because there was so much. But that would change drastically, and even for us younger generation, because we know like, like you – like we've, we've tasted Muktuk, we know what it's like, and if that is reduced, then there would have to be significant compensation.* (C15 2020b, interpreted from Inuktitut)

Concerns about impacts related to potential contaminants entering the environment from Project activities were raised by many participants, as they describe in the quotes below. Participants saw these contaminants as having a direct and negative impact on their health and food security.

> *So he is just reiterating the contaminated area ... he doesn't approve of the project cause I think it's having too much devasting effect because Inuit rely on feeding their families from the wildlife in the area.* (C01 2020, interpreted from Inuktitut)

> *So, when they start building the railroad for Phase 2, that blasting and activity with the construction is going to contaminate the area. He doesn't really like – and like that could be in all directions. And that will impact the health of our caribou, along with the fish. And potentially dangerous to human consumption. (C13 2020, interpreted from Inuktitut)*

Uncertainty about the health of harvested foods has consequent negative impacts on Inuit mental health, as described by one participant during a verification meeting in Clyde River.

> *That's our tradition of consuming from our environment since forever whether it be caribou, fish, or seal and would not always bring a lot of food from home. Today we bring more food from home when we go but, maybe there could be people who won't have any food to eat. Concerned about the animal, caribou for example they caught – whether it's healthy to eat or not. This could affect our mental health.* (C11 2021)

The impact of ore dust on the safety of country food was also considered to be a part of this contaminant risk by participants, who in some cases had already heard or seen it being blown around the Study Area. In the quotes below, participants describe how they imagined (and had previously experienced) these contaminants would move through the food chain, impacting country food and subsequently the health of Inuit who might consume it.

> *From the dust from the ore flying around … Maybe the meat might not be good to eat … Yeah also like yeah mostly caribou meat.* (C19 2020)

> *And he views it that with the construction of the railroad, that's going to – that dust is going to be going on the land and the tundra and the lakes and the rivers. And that will impact the wildlife that are up there for sure in a bad way. Yeah, which in turn will have a chain, chain reaction let's say because we consume food and that area has caribou and birds and everything that we eat.* (C13 2020, interpreted from Inuktitut)

> *As Inuit we are eat – we eat seals … And then some studies have suggested that there's some mercury in our diet on seals. … So, if there's – if, like seals that are in the ocean are eating and are contaminated and they contain mercury, just imagine what the mine activity's – how – what minerals or contaminants that would show up in our bodies if the caribou and the birds are impacted in the water source. ... So, his – for him, all the dust produced by the train activity and with all the iron ore like during transports – moving like this, right? That's producing dust and that dust is travelling and going on the land and going to the food source. ... us Inuit in the Arctic, we don't want our food sources to be eating any kind of contaminants because that's our, that's our food source and that's our – part of our diet. ... [if] airborne contaminants going to the land water source, and it's accumulating in their bodies and being absorbed. So, if we harvest those caribou or any contaminated birds, then it goes into our system and we're – our health is impacted by consuming the meat that we're used to.* (C05 2020b, interpreted from Inuktitut)

Concerns about food costs were expressed by one participant who noted that Project impacts on wildlife might lead to an increased demand for country food purchased from other communities, a trade which they felt was already straining the budgets of elders and others.

> *Concern [about increased shipping traffic] not for – not only for my community, but for Pond Inlet too because they have more elders than Clyde River and I'm concerned for the elders, like they will be craving for their country food, but, yet it's so expensive to fly meat in between communities. Like and they – their, their income is very limited, like elders' pension and how are they going to…* (C26 2020)

Increasing travel distances for harvesting were seen by participants as being an important Project effect. As animal populations are impacted, participants noted that harvesters would be facing increasing challenges to find wildlife and this would lead to increased travel times, costs, and potentially risks, as they described below.

> *I don't know how it's going to affect it but we get our – the whales come in through here. A lot of them go around it as well, but whales are spending their winter in Baffin Bay and then coming in to feed in here along towards Repulse Bay area as well. So, I don't know how it's going to affect us. With increase of shipping and with the ships being so big, then probably going to say for sure they're going to get hit, unless there's 100% monitor on board. But for sure, if they're going to break the ice like they did, there's going to be people losing equipment, losing hunting time to feed their families, even if they're not employed by that mine.* (A07 2020)

> *Even that, like I said, the younger generation will, will not to worry about whether they going to catch a caribou or not. But, they're still going to say I, I – always I could eat some caribou meat, fat ones and all that and they know that. But, yet it's going to be harder because it's going to be more, more travelling*. (C18 2020)

> *He feels that there's going to be more extreme hardships for hunters to be able to have access to their traditional – to be able to sustain their traditional diet and to be able to have access to the wildlife that used to be more readily available.* (C15 2020b, interpreted from Inuktitut)

Participants expressed their concerns around Project Interactions as being focused on questions of access, quality, and cost of country food – which link or impact directly on many of those qualities which they identified as being most important. Country food is valued as an important cultural conduit and touchstone, because participants see it as a cost effective, healthy, and most importantly desired food source, which they directly link to a holistic sense of wellness connecting physical, emotional, and mental health.

In summary, participants from Arctic Bay and Clyde River anticipate the following potential interactions between the Project and their Food Sovereignty values:

- Impacts to the harvesting VCs listed in Sections 4.2.4, 4.3.4, and 4.4.4 directly impacting participants' ability to access country foods;
- Overall reduced availability of country foods;

- Reduced confidence in the health of country foods due to concerns with dust and other potential contaminants from Project activities;
- Increasing food costs causing increased pressure on country food sources; and
- Increased travel costs due to the need to travel farther to access preferred country foods.

5. CONCLUSION

5.1 SUMMARY

This Report outlines the importance of the Study Area for Marine Hunting; Terrestrial Harvesting; Fishing and Freshwater; Travel, Trails, and Habitation; Cultural Continuity; and Food Sovereignty to Inuit from the communities of Arctic Bay and Clyde River. Current impacts to these VCs from a range of sources are described, along with potential impacts from Baffinland's Mary River Project.

The site-specific data collected during the course of this Study demonstrate that the Study Area is of great importance to the communities of Arctic Bay and Clyde River. The mapped data clearly demonstrate that people from both communities use or have used the Study Area across multiple generations. A combined total of 515 site-specific values were reported in the Study Area (the Project Footprint, LSA, and RSA), including (but not limited to):

- Sites and areas used for terrestrial harvesting, marine hunting and fishing that provide the country food sources that underpin Inuit food sovereignty in the region;
- Important wildlife habitat, including calving areas for caribou and narwhal 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 culture, such as soapstone collection areas, areas used for transmission of knowledge and IQ, campsites, and gathering places used by numerous communities.

Through data collected during interviews with Inuit elders and land users, the Study has identified a number of potential interactions between the Project and each VC. The Study's VCs are strongly interconnected, meaning that impacts to values and practices linked with one of the Study's VCs will have additional impacts on other VCs.

Participants anticipate the following potential interactions between the Project and their Marine Hunting values:

- Impacts to important marine species habitat and migration routes due to increased shipping traffic (including congestion and noise);
- Displacement of marine species from the Study Area due to increased shipping traffic (including congestion and noise);
- Reduced marine hunting opportunities due to the above interactions;
- Reduced animal quality due to perceived or actual contamination of marine species by shipping activities such as ballast water exchange and fuel leaks or spills;

- Avoidance of harvesting in the Study Area due to perceived contamination; and
- Impacts to sea ice harvesting routes due to dust and changes in ice due to shipping activity.

Participants anticipate the following potential interactions between the Project and their Terrestrial Harvesting values:

- Impacts to caribou movement patterns due to increased Tote Road (during construction) and rail traffic (including noise and other disturbances);
- Reduced availability of caribou in preferred hunting areas;
- Displacement of animals including snow geese, ptarmigan, weasel, and rabbits due to increased Project activities;
- Wildlife mortality risks while crossing Tote Road and rail crossings;
- Contamination of animals and animal habitat due to dust settling on vegetation and water sources;
- Contamination of food plants due to dust settling on vegetation and water sources;
- Avoidance of preferred harvesting areas due to perceived and actual contamination; and
- Impacts on access to important country food sources due to all of the above impacts.

Participants anticipate the following potential interactions between the Project and their Fishing and Freshwater values:

- Increased contamination of snow, ice, and water bodies from dust caused by Project components associated with the mine and the Tote Road, in areas with existing contamination as well as pristine areas currently without contamination;
- Deterrence from traveling to impacted areas due to perceived or actual contamination of freshwater sources out on the land;
- Dust contamination of drinking water sources in communities, as well as the reservoir at the mine site;
- Impacts to wildlife health due to consumption of water sources contaminated by dust from Project activities; and
- Impacts to fish health due to dust contamination of water and fish habitat.

Participants anticipate the following potential interactions between the Project and their Travel, Trails, and Habitation values:

- Impaired use of marine travel routes used to access camps and marine hunting areas due to increased shipping activity; and

- Impaired access to terrestrial hunting areas due to the construction and operation of the Northern Railway.

Participants anticipate the following potential interactions between the Project and their Cultural Continuity values:

- Disruptions to physical heritage sites including archaeological evidence, through Project construction and operation;

- Disruptions to "sense of place" through decreased ability of Inuit to connect with nature and spend time in places that are culturally and spiritually meaningful, due to Project activities;

- Disconnection from culture due to the above disruptions; and

- Psychosocial impacts such as increased substance abuse due to the above disconnection and disruptions.

Participants anticipate the following potential interactions between the Project and their Food Sovereignty values:

- Impacts to the harvesting VCs listed in Sections 4.2.4, 4.3.4, and 4.4.4 directly impacting participants' ability to access country foods;

- Overall reduced availability of country foods;

- Reduced confidence in the health of country foods due to concerns with dust and other potential contaminants from Project activities;

- Increasing food costs causing increased pressure on country food sources; and

- Increased travel costs due to the need to travel farther to access preferred country foods.

In summary, impacts from the Mary River Project, working in combination with impacts from a range of other stressors, will have a direct impact on the ability of Inuit from Arctic Bay and Clyde River to continue resource harvesting, travelling across and using the land, and transmitting cultural knowledge and IQ between generations in the Study Area.

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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C26 2020. Transcript of October 23, 2020. Interview from the Qikiqtani Inuit Association's Tusaqtavut Study Specific to Baffinland's proposed Phase 2 of the Mary River Project for the communities of Arctic Bay and Clyde River

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

CONSENT FORM
INUIT QAUJIMAJANGIT COLLECTION

Participant Name: _____

Community: _____

Purpose

QIA is collecting Inuit Qaujimajangit (IQ) to support protecting and advancing the rights and interests of Qikiqtani Inuit. This IQ collection supports the ongoing development of the QIA IQ database, in this case specifically about the Mary River Project and the proposed Phase 2 application. IQ will be collected on areas of traditional use, marine and terrestrial environments, wildlife, activities on the land, water and ice, harvesting, customs, beliefs, values and other aspects of cultural expression and IQ.

By signing below, I indicate my understanding that:

1. I am an Inuk, and a member of the Qikiqtani Inuit Association (QIA). I understand that QIA is working with the Firelight Group to conduct these interviews.

2. I consent to have my words and responses recorded on maps, in notes, and using audio and video recording equipment.

3. I wish to participate in the interview, I am free to not respond to questions that may be asked and I am free to end the interview at any time I wish.

4. At the conclusion of the interview, QIA will be given possession of all materials containing my IQ contribution. QIA will maintain intellectual property rights over my IQ contribution and may use the information in pursuit of its work defending and communicating the rights, interests, and values of Inuit under the Nunavut Agreement. This includes, but is not limited to, sharing information for the purposes of negotiation or participation in regulatory or court proceedings. I direct QIA to protect my IQ contribution in all its forms.

5. I understand some of my IQ contribution might include information where I could be considered the owner of copyright or other intellectual property rights. If this occurs, I understand I will continue to be the exclusive owner of any property rights, if any, that I have in my IQ contribution. I do not assign or waive any legal rights I have in my IQ contribution.

6. I appoint QIA to act as my representative to use my IQ contribution for any purpose, in any format. I give QIA a non-exclusive licence to use my IQ contribution, and to grant further licence to my IQ contribution for any purpose that QIA considers to be in the best interests of Inuit.

7. QIA shall hold my IQ contribution until such time as I request in writing that QIA return my IQ contribution. If I request the return of my IQ contribution, I agree QIA may keep a copy of the IQ contribution in all its forms for its continued use pursuant to its non-exclusive licence.

CONSENT FORM
INUIT QAUJIMAJANGIT COLLECTION

8. I give my permission to QIA to publically disclose and use any personal information about me that is contained in my IQ contribution, including permission that my name can be publically associated with my IQ contribution and my name and personal information may be used by QIA in connection with any QIA use of my IQ contribution.

9. I consent to any filming, recording or photographing of IQ interviews where I am present and use of all images of myself in whatever form.

Privacy Statement

At Qikiqtani Inuit Association (QIA), respecting privacy is an important part of our commitment to our members. We uphold the 10 principles of the federal legislation known as PIPEDA (Personal Information Protection and Electronic Documents Act), which sets out rules for the collection, use and disclosure of personal information.

Any time you participate as a respondent, you can be assured that your individual responses will be kept confidential and never linked to your personal identifying information without your express permission (as explained above). We safeguard all personal identifying information by password-protecting and storing it on a secure network. We only keep personal information for as long as it remains necessary or relevant for the purposes outlined above, or as required by law.

If you have any questions or concerns about how your privacy is protected at QIA, or if you wish to review your information, please contact our Privacy Officer by e-mail at ExecDir@qia.ca, or by mail to Igluvut Building, 2nd floor, P.O. Box 1340, Iqaluit, NU X0A 0H0, or by telephone at (867) 975-8246.

Signatures to Consent

By signing this consent form, you are allowing QIA to use the information you provide.

_____ _____

Signature of participant Date

APPENDIX 2: INUKTITUT LANGUAGE CONSENT FORM

ᐊᖏᕈᑦ ᑎᑎᕋᕐᕕᖓᖅ
ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖕᒋᓐᓂᒃ ᓄᐊᑦᑎᓂᕐᒥ

ᑖᒃᑯᐊ ᐅᖃᓕᒫᕐᑕᐅᖃᑦᑕᓂᐊᕐᑐᑦ ᐊᐱᕐᓱᕐᑕᐅᓂᐊᕐᑐᒍᑦ ᐊᐱᕐᓱᕐᑕᐅᒋᐊᓚᐅᙱᓐᓂᖓᓂ ᐃᓄᐃᑦ ᓄᓇᒥᒃ ᐊᑐᖅᑲᑦᑕᖅᓂᖕᒋᓐᓂᒃ / ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖕᒋᓐᓂᒃ ᑎᑎᕐᑲᓂᑦ ᓄᐊᑦᑎᒍᑕᐅᔪᓂᑦ

ᐱᔾᔪᑎᖓ:
ᕿᑭᖅᑕᓂᒃᑯᑦ ᓄᐊᑦᑎᓪᒪᑕ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖕᒋᓐᓂᒃ ᐃᑲᔪᖅᑐᑎᒃ ᓴᐳᔾᔨᓂᕐᒥᒃ ᓯᕗᒧᐊᑦᑎᑦᑎᕙᓪᓕᐊᓂᕐᒥᓪᓗ ᐱᕙᓐᓇᐅᑎᓂᑦ ᐊᒻᒪᓗ ᐃᓚᐅᕕᒋᔭᒪᓯᒪᔭᖕᒋᓐᓂᒃ ᕿᑭᖅᑕᓂ ᓄᓇᓃᑦ ᐃᓄᐃᑦ. ᖃᐅᔨᒪᔭᓯ ᖃᐅᔨᑎᑦᑎᒍᑎᓯ ᑐᖅᑯᖅᑕᐅᖃᑦᑕᓂᐊᕐᒪᑕ ᕿᑭᖅᑕᓂᒃᑯᑦ ᖃᕋᓴᐅᔭᒃᑯᑦ ᑎᑎᖅᑲᑦᑯᑎᖅᑲᑦᕕᖓᓂ. ᖃᐅᔨᒪᓂᕆᔭᐅᔪᑦ ᐊᑐᖅᑕᐅᓛᖅᑐᑦ ᓄᓇᕗᒥ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ ᕿᒥᕐᕈᓂᖓᓂ ᑐᖕᒋᓕᐊᓂ ᐱᓕᕆᐊᖑᓂᑦ ᑐᓯᕋᐅᑕᐅᓯᒪᔪᓄᑦ ᓄᐃᔾᔭᓕᕆᓂᕐᒥᑦ.

ᐊᖏᕈᑦ:
ᐃᓕᓐᓂᒃ ᐊᐱᕆᓂᐊᖅᑐᒍᑦ ᖃᐅᔨᒪᔭᓯ ᒥᒃᓵᓄᑦ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ ᐃᓄᐃᑦ ᐊᑐᖅᑲᑦᑕᖅᓂᖏᑦ ᐊᒻᒪᓗ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᖏᓐᓂᒃ ᓄᓇᐅᑉ ᒥᒃᓵᓄᑦ. ᐃᓕᓐᓂᒃ ᐊᐱᕆᔪᒍᑦ ᐊᖏᖅᑯᓪᓗᑎᑦ ᑭᐅᔾᔪᑎᑎᑦ ᐊᐱᖅᓱᖅᑕᐅᑎᓪᓗᑎᑦ ᑎᑎᕋᖅᑕᐅᖅᑯᓪᓗᒋᑦ ᓄᓇᙳᐊᓂᑦ, ᑎᑎᕋᖅᑕᖏᓐᓂᑦ, ᐊᒻᒪᓗ ᓂᐱᓕᐅᖅᑕᐅᔪᓂᑦ. ᑭᐅᔪᓐᓇᖅᑐᑎᑦ ᖃᓄᑐᐃᓐᓇᖅᑎᐊᖅ ᐃᕝᕕᑦ ᐊᑲᐅᒋᔭᖅᓗᒍ. ᑭᐅᖅᑲᑦᑕᓇᐊᑐᒃᒋᑦᑐᑎᑦ ᐊᐱᖅᑯᑎᓂᑦ ᐊᒻᒪᓗ ᖃᖓᓗᑐᐃᓐᓇᖅᑎᐊᖅ ᓄᖅᑲᕈᒪᓕᕈᕝᕕᑦ ᐊᐱᖅᓱᖅᑕᐅᓂᕐᓂᑦ ᓄᖅᑲᕈᓐᓇᖅᑐᑎᑦ. ᕿᑭᖅᑕᓂᒃᑯᑦ ᐊᔾᔨᓕᐅᕆᓐᓇᐅᓂᖅᑲᑕ ᐅᕙᖓᓐᓃᑦ ᑕᖅᑎᔾᔭᓕᐅᓇᐅᓂᖅᑲᑦ ᑕᕝᕙᓂ ᐊᐱᖅᓱᓂᕐᒥ, ᐊᖏᖅᑐᒃᓴ ᕿᑭᖅᑕᓂᒃᑯᑦ ᐊᑐᕈᓐᓇᖅᓂᕋᖅᑐᑦ ᐊᔾᔨᖓᓂᒃ.

ᐊᖏᖅᑐᑎᑦ ᕿᑭᖅᑕᓂᒃᑯᑦ ᐊᑐᕈᓐᓇᕐᓂᕋᖅᑐᑎᑦ ᐃᕝᕕᑦ ᖃᐅᔨᒪᔭᖏᓐᓂᒃ ᐅᖃᐅᓯᕆᓴᕐᑖᖅᑕᖏᓐᓂᒃ ᓴᐳᔾᔨᓗᑎᑦ ᐱᔨᓇᐅᑎᖏᓐᓂᒃ ᐅᑉᐱᕆᔭᖏᓐᓂᓪᓗ ᐃᓄᐃᑦ ᒪᓕᖅᑐᒋᑦ ᓄᓇᕗᑦ ᐊᖏᖅᑲᑎᒋᔪᑎᖏᑦ, ᓄᐃᔾᔭᓕᕆᓂᕐᒧᑦ ᐅᖁᒻᒥᐊᓂᒃ ᖃᓄᑐᐃᓐᓇᖅ ᐊᓯᐊᓄᑦ ᐃᖅᑲᓇᐃᔫᖅᒥᓄᑦ ᕿᑭᖅᑕᓂᒃᑯᑦ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ ᐃᓄᐃᑦ. ᐊᖏᖅᑐᑎᑦ ᕿᑭᖅᑕᓂᒃᑯᑦ ᓇᒻᒥᓂᖅᑯᑎᖃᔾᔪᖏᓐᓂᖏᓐᓂᒃ ᐃᕝᕕᑦ ᖃᐅᔨᒪᔭᖏᓐᓂᑦ ᐅᖃᐅᓯᕐᓂᑦ ᑭᓯᐊᓂ ᕿᑭᖅᑕᓂᒃᑯᑦ ᓴᐳᔾᔨᕆᐊᖃᕐᓂᖏᑦ ᐃᕝᕕᑦ ᖃᐅᔨᒪᔭᖏᓐᓂᑦ ᐅᖃᐅᓯᕆᓴᑦᑖᖅᑕᖏᓐᓂᑦ ᕿᑭᖅᑕᓂᒃᑯᓐᓄᑦ ᐊᑐᖅᑕᐅᓕᕋᐃᐸᑕ.

ᑐᑭᓯᔪᑎᑦ ᐊᐱᕆᔪᓐᓇᓴᕕᑦ ᕿᑭᖅᑕᓂᒃᑯᓐᓂᑦ ᓇᓕᖅᑲᖕᒪᓂᒃ ᑐᓂᓯᔭᐅᔪᒪᓗᑎᑦ ᖃᐅᔨᒪᔭᖕᓂᒃ ᖃᐅᔨᑎᑦᑎᒍᑎᒋᓴᑦᑖᖅᑕᑦᓂᑦ, ᑭᓯᐊᓂ ᕿᑭᖅᑕᓂᒃᑯᑦ ᐱᓯᒪᑦᑎᒍᓐᓇᕐᓂᕋᖅᑐᒋᑦᑕᐅᖅ ᓇᓕᖅᑲᖕᒪᓂᒃ ᐃᖅᑲᓇᐃᔫᖅᒥᑦ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ. ᕿᑭᖅᑕᓂᒃᑯᑦ ᐊᖏᖅᑕᑎᑦ ᐃᓄᓕᒫᓄᑦ ᓴᖅᑭᑎᑦᑎᓗᑎᒃ ᐊᑐᕈᓐᓇᕐᓂᕋᖅᑐᒋᑦ ᓇᓕᑐᐃᓐᓇᖅᑐᒥᒃ ᐃᕝᕕᑦ ᒥᒃᓵᓄᑦᓯᐊᖅᓂᑦ ᑎᑎᖅᑲᓂᑦ, ᐱᖅᑲᓯᐅᑎᓪᓗᒍ ᐊᑏᑦ, ᑖᓐᓇ ᐃᓚᒋᔭᐅᓪᓗᓂ ᖃᐅᔨᒪᔭᓄᑦ ᐅᖃᐅᓯᕆᓴᑦᑖᖅᑕᓄᑦ ᑕᕝᕙᓂ ᐊᐱᖅᓱᖅᑕᐅᓂᕐᓂᑦ.

ᖃᐅᔨᒪᔭᐅᔭᓇᐊᖅᑲᙱᑦᑐᑦ:
ᕿᑭᖅᑕᓂᒃᑯᑦ ᓂᑲᒍᓱᒃᑐᑎᒃ ᐃᑉᐱᒍᓱᑦᑎᐊᖅᑐᑦ ᐃᓄᖕᓂᑦ ᐃᓚᒋᔭᐅᔫᑦᑯᑎᑦᑎᖕᓂᑦ ᐊᒻᒪᓗ ᖃᐅᔨᒪᔭᐅᔭᓇᐊᖅᑲᙱᓐᓂᖓᓂᒃ. ᒪᓕᑉᐸᑦᑐᒍᑦ ᑲᓇᑕᒥᐅᑦ ᒪᓕᒐᖏᓐᓂᑦ ᖃᐅᔨᒪᔭᐅᔭᓇᐊᖅᑲᙱᑦᑐᑦ ᒥᒃᓵᓄᑦ ᒪᓕᒐᖅᑲᐅᔪᓐᓂᑦ ᓄᐊᑦᑎᓂᕐᒥᒃ, ᐊᑐᖅᑲᑦᑕᓂᕐᒥᒃ ᐊᒻᒪᓗ ᓴᖅᑭᑎᑦᑎᖅᑲᑦᑕᓂᕐᒥᒃ ᐃᓅᑦ ᒥᒃᓵᓄᐊᖅᓯᓂᑦ ᑐᑭᓯᔾᔪᑎᖏᓐᓂᑦ. ᑕᐃᒫᒃ ᑖᓐᓇ ᐱᔾᔪᑎᒋᓪᓗᒍ ᑎᑎᕋᖅᓯᒪᕗᖅ.

ᐊᑐᕋᐃᒍᑦᑎᒍ ᖃᐅᔨᒪᔪᑎᑦ ᐅᖃᐅᓯᕆᓴᑦᑖᖅᑕᑎᑦ, ᓇᒻᒥᓂᖅ ᑭᐅᔾᔨᑎᒋᓯᒪᔪᑎᑦ ᐃᕝᕕᑦ ᐊᑎᖓᓄᑦ ᐊᑕᖅᑲᑦᑕᔾᔭᖅᒋᑦᑐᑦ ᑕᐃᒫᒃ ᖃᐅᔨᒪᔭᐅᔭᓇᐊᖅᑲᙱᓐᓂᑦ ᓴᐳᑎᔭᐅᓯᒪᓂᐊᕐᒪᑦ ᐅᓂᒃᑲᓕᐊᖅᑎᓐᓂᒃ. ᐃᕝᕕᑦ ᒥᒃᓵᓄᑦᓯᐊᖅᓂᑦ ᑎᑎᖅᑲᐃᑦ ᓴᐳᑎᓯᒪᓂᐊᕐᑕᕗᑦ ᐊᑐᖅᑲᑦᑕᓗᑕ ᖃᐅᔨᒪᔪᓄᑦ ᐃᓯᕈᑎᖃᓇᐊᓕᓐᓂᑦ. ᐃᕝᕕᑦ ᒥᒃᓵᓄᑦᓯᐊᖅᓂᑦ ᑎᑎᖅᑲᐃᑦ ᐱᓯᒪᓂᐊᕐᑕᕗᑦ ᐊᑐᖅᓂᓕᒫᖏᓐᓂ ᑭᓯᐊᓂ ᕿᑭᖅᑕᓂᒃᑯᑦ ᐃᖅᑲᓇᐃᔫᖅᒥᓅᓪᓗᑎᒃ, ᐅᕙᖓᓐᓃᑦ ᒪᓕᒐᖅ ᒪᓕᓪᓗᒍ ᐊᑯᓂᐅᑎᒋᔭᓇᐊᖅᑲᕐᓂᖓ ᒪᓕᓪᓗᒍ.

ᐊᖏᕈᑦ ᑎᑎᕋᕐᕕᒃᓴᖅ
ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖏᓐᓂᒃ ᓄᐊᑦᑎᓂᕐᒥ

ᑐᑭᓯᒃᑲᓐᓂᕈᒪᒍᕕᑦ ᖃᓄᖅ ᖃᐅᔨᒪᔭᐅᓯᓇᐊᖅᑲᖏᓐᓂᑦ ᓴᐳᑎᔭᐅᓯᒪᒻᒪᖔᖅ ᕿᑭᖅᑕᓂᒃᑯᓐᓂᑦ, ᐊᑏ ᐊᐱᕆᓂᐊᖅᑯᑎᑦ ᐊᐱᕐᓱᖅᑎᓂᑦ ᑖᒃᑯᐊ ᐃᓚᓐᓂᒃ ᐅᖃᐅᔾᔨᓂᐊᕐᒪᑕ ᖃᓄᖅ ᐅᖃᕝᕕᖃᕈᓐᓇᕐᒪᖔᕐᐱᑦ ᕿᑭᖅᑕᓂᒃᑯᓐᓂᑦ.

<u>ᐊᖏᖅᑕᑎᑦᑐᑦ:</u>
ᐊᐱᖅᑯᑎᔅᓴᖅᑲᖅᐲᑦ? ᐊᖏᕈᕕᑦ ᐅᖃᐅᓯᐅᔪᓄᑦ, ᑎᑎᕋᕐᓂᐊᖅᑕᕗᑦ ᐊᑏᑦ ᑎᑎᕋᕐᕕᒥᒃᑕᑎᓐᓂ. ᐃᓚᖓᓄᑦ ᑐᓂᓯᓂᐊᖅᑐᒍᑦ ᓇᓚᖅᑲᖓᓂᒃ ᑖᓯᒪ ᑎᑎᖅᑲᐅᑉ ᑕᐃᒫᒃ ᐱᓯᒪᓂᐊᕐᕕᐅᒃ.

________________	________________	________________
ᐊᑎᖓ	ᐅᓪᓗᖓ	ᓇᒥ

APPENDIX 3: INTERVIEW GUIDE

Interview Guide for the Qikiqtani Inuit Association Knowledge and Use Study for Baffinland's Mary River Mine Phase 2 Expansion Project

This guide includes:

- Pre-interview setup guide
- Interview questions
- Mapping notes
- Mapping codes

1. PRE-INTERVIEW

Before formally beginning the interview, ensure the following steps have been completed:

Introductions

- Introduce yourself and the research team, who you work for, who you were hired by and who you report to.

Give the participant an overview of the Project

In advance of the interview, the research team will have developed a one- or two-page summary of the proposed Project and its components. Provide the participant with the Project summary and/or describe it in detail verbally and demonstrate on Google Earth where Project components would be located in relation to landmarks such as the community, neighbouring towns, roads, rivers, lakes, etc.

Explain the mapping and interview process and goals of the research

Read the following:

> *The purpose of this research is to document community members' knowledge and use on the land in relation to the Project. This means we will be mapping places and areas where community members hunt, trap, fish, collect plants and medicines, camp, practice other culturally important activities and spend time out on the land. We will also be recording other cultural places and environmental features that are important to you and the community such as sacred sites, teaching areas, or gathering places. We will be focusing on the Study Area outlined by [define Study Area and indicate its location on the map]. Afterwards, we will map other areas that are important to you.*

> *From this, we will be compiling all of the data and preparing a report for the community based on community members' knowledge and use in the Study Area. This report will be given to the community so that they may use it to support their goals and objectives.*

Provide an opportunity for the participant to ask questions

- Providing accurate answers to participants' questions is an important aspect of free, prior and informed consent.
- Technical questions relating to the Project should only be answered if you have the necessary Project information from the proponent or regulator.
- Questions that you cannot answer should be directed to the community coordinator, principal investigator or proponent contact, as appropriate.

Review the consent form

- Read the consent form aloud to the participant.
- Ask the participant if they have any questions.
- Once the participant's questions have been answered, ask them if they give their consent and, if yes, ask if they will sign the form are comfortable signing the consent form.
- If the participant would prefer to give verbal consent, ensure that the audio recorders are on, read through the consent form, and have the participant provide their verbal consent for the recording.
- If the participant does not sign the consent form or provide recorded verbal consent, do not continue with the interview.

2. INTRODUCTION

[Complete the interview checklist and pre-interview section above, then read the text below with AUDIO & 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, unless otherwise stated.

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.

3. BACKGROUND AND EXPERIENCE

3.1 PERSONAL INFORMATION

- What is your 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?

3.2 GENERAL USE QUESTIONS

Be sure to ask the following questions with Google Earth centred on and displaying the entire Study Area. Questions in Section 3.2 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.

For this first part of the interview, we are hoping to get an overview of how you or your family members use this area and whether it is important to you. We will map these locations in more detail afterwards.

Have you ever used the area around the Project, or areas nearby?

- If yes, what activities have you done there?
- Which locations or areas are used?
- When did you do them?
- Who with?
- How did you learn about this area?
- If no, why?

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

- If yes, how have family/community members used the area? What did they do?
- Which locations or areas are used?
- If no, why?

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

- If yes, what makes this area important?
- If no, why?

Do you use any other areas close to the Study Area?

Are there other areas that are important to you?

Are there other areas that are important to your family or your community?

4. DETAILED DISCUSSION OF USE AND OCCUPANCY

Section 4 of the interview will focus on a more detailed discussion of the participant's use and occupancy of the areas identified in Section 3. Skip to the subsection below for each identified activity or value as appropriate to find relevant questions.

The goal is to discern why an area and/or activity is important, whether the participant's use or experience of an area has changed in any way and how the participant feels the proposed Project may affect their use and experience of the area.

Mapping notes

Ensure all features are mapped below an eye height of 10 km, where possible. Note when features are mapped at a coarser scale (see modifiers below).

When mapping routes and linear features in Google Earth, follow the actual route indicated by the participant and follow natural features. Do not record a straight line from A to B.

When mapping polygons in Google Earth, avoid mapping large areas where possible; follow natural features and avoid recording straight lines. Ask the participant to be as precise and specific as possible.

For each site mapped in Google Earth, ensure to include the following in the Name field:

- The activity code (e.g. Permanent Habitation, PX)
- The mapped site number (i.e., sequence in the interview)
- Any relevant modifiers:
    - If second-hand knowledge, map with a *
    - If they were with someone who carried out the activity, map with a +
    - If the activity was for commercial purposes, map with a $
    - If an approximate location given, map with a ?
    - If mapped above 10 km eye height (i.e., 1:50,000), map with a ^
- The Participant ID

Example map code:

PX01*?^$-X01
[ActivityCode/SequenceNumber/Modifier(s)-ParticipantID]

For each mapped site, ensure to include the following in the Description field:

- Who was there? (Spell out all proper names)
- What activities took place at the site
- When they were first there, last there, how frequently they return there, and whether they plan to return there in the future? (Include the year, month and season)

- Relevant value-based information on why that area is used for that purpose. This may include the importance of the site for kinship, ecological, or knowledge transfer values. (See follow-up questions below)
- Reference to any other recorded values that may be related (e.g., cabin access by recorded route TR02-X01)
- Include trapline number, if applicable

Make sure to record all other activities and values in this area. See further detailed questions on additional values throughout Section 4.

Next, we will talk about each of the important areas you just discussed and we will try and record as much as possible on the map while we do so.

Leading questions

It is important not to ask "leading" questions. A question may be leading if it suggests a particular answer or assumes a particular answer or reality. Ask yourself if the questions you are asking encourages a particular answer over other possible responses?

DON'T ASK: "This Project will impact moose populations. How does that make you feel?"
DO ASK: "Do you think the Project will impact moose populations? How?"

DON'T ASK: "You like camping here, right?"
DO ASK: "Do you like camping here?"

4.1 HABITATION

Permanent Habitation (PX) & Temporary Habitation (TX)

Can you show us where you were born? (BP)

Can you show us where you live? (PX)

Can you show us where have you stayed overnight in one of the following?

- A cabin you built or used, campsite, tent, other temporary or permanent structures?
    - How many times have you stayed there?
        - Once or short-term (less than 3 days): (TX)
        - More than once or long-term (more than 3 days): (PX)

Read the map code aloud for each mapped feature.

Example map code:

PX01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:

[Participant name] stayed at this cabin with [names] in February 2018. [Participant name] built the cabin in 2010 and they have stayed there every summer since 2010. [Participant name] accesses this cabin through the trail recorded as TR02-X01. They plan to return there in 2019.

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- When did you first stay here?
- When did you last stay there?
- How frequently do you use this location?
- Can you describe where this place is?
- Can you describe what this place is like/the current conditions of this place?
- How do you get there?
- What is this place called? Does it have any other names in Inuktitut?
- How did you find out about this place? Who showed it to you?
- Why do you go there?
- What other activities do you do when staying there?
    - Follow up with questions from the relevant parts of Section 4.

- Specifically, have you taken younger generations there? Do you teach them there? If so, what do you teach them? (Map as TA)
- Is this place important to you/your family/community? Why?
- Is this place important for your culture/way of life? Why/how so?
- Can you describe what it is like to be in this place? How does it make you feel?
- Are there many places like this one, or is this place unique? What makes it unique?
- If this Project were to go ahead, how would that make you feel about visiting/staying at this place in the future?
- How would you explain the importance of this place to people who do not know it/the government/industry?

4.2 TRAVEL ROUTES

This refers to routes used specifically for hunting, trapping, gathering plants, accessing camping or fishing areas etc, rather than just driving on a highway

Trail (TR)

Can you show us routes you have travelled by foot, quad, snowmobile, truck or other means?

- 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, camping, or other locations)?

Water route (WR)

Can you show us routes you have travelled along creeks, lakes or rivers 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 or plant gathering, or to reach fishing, camping, or 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 or plant gathering, or to reach fishing, camping, or other locations)?

When recording routes and linear features in Google Earth, follow the actual route indicated by the participant and follow natural features. Do not record a straight line from A to B.

Read the map code aloud for each mapped feature.

Example map code:

PX01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:

[Participant name] travels along this route with [names] in order to access the [related value] located at [identity e.g., PX01-X99]. They learned about it from [name] and have travelled along it every [season] since [year]. They last travelled there in [year/month] and plan to return there in [year/month]

Make sure to record all other activities and values in this area. See further detailed questions on additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- Why did you use this route?
- What do you do when you are travelling along here?
    - Do you teach younger generations along this route? If so, what do you teach them? (Map as TA)
- How did you learn about this route? Did anyone teach you about it?
- Does this route have a name? In your language?
- What is the farthest point that you have travelled along this route?
- 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?
- What is this route like (i.e., current condition)?
- Is this route important to you? If so, how/why?
- Can you describe how it makes you feel when you're travelling this route?
- Is this route important to you/your family/community? Why/how so?
- Is this route important for your culture/way of life? How?
- Are there many routes like this one or is this route unique? What makes it unique?
- If this Project were to go ahead, how would that make you feel about travelling this route in the future?

4.3 HUNTING AND TRAPPING

Can you show us places where you have trapped any of the following animals?

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

A mapped trapping area or line can be copied and pasted for each species listed by the participant. Mapped trapping values can be copied as a general trapping area (TP) for mapped polygons and trapline (TL) for mapped linear feature.

Can you show us places where you have shot and killed any of the following TERRESTRIAL animals?

- CA = Caribou
- PZ = Polar Bear
- LM = Lemming
- OG = Other Game
- RB = Arctic Hare

Can you show us places where you have shot and killed any of the following MARINE animals?

- 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
- ZA = Other Seals
- ZB = Other whales

Do you hunt birds? If so, can you show us where you have shot and killed any of the following birds?

- 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

Environmental Feature (EF)

Can you show us the locations of habitats or environmental features that are important for birds/mammals? (E.g., calving or mating areas, mineral licks).

Environmental Feature Corridor (EC)

Can you show us any migration routes or crossings that birds/mammals use to move through the area?

Mark any locations where the participant has hunted but not killed any mammals or birds as an Environmental Feature (EF).

Read the map code aloud for each mapped feature.

Example map code:

PX01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:

[Participant name] trapped/shot and killed [species] in the [season/month] of [year] with [name(s)]. [Participant] first hunted/trapped here in [year/month] and last hunted/trapped here in [year/month]. [Participant] accesses this hunting/trapping area by [mode of travel].

Make sure to record all other activities and values in this area. See further detailed questions on additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- Where did you cut up the animal? (Mark as PR)
- Did you share the meat?
- Did you smoke/dry the meat? Where?
- Is hunting/trapping important to you? Why?
- Who taught you how to hunt/trap? Who? Where? (Mark as TA)
- Is it important to teach younger generations how to hunt/trap? Why?
- How many people can [animal species] feed? For how long?
- Does [animal species] have a name in your traditional language?
- Are any of these animals hard to find? Which ones?
- Does this animal have a name in your traditional language?
- What is this area like for hunting/trapping?
- Are there many areas like this to hunt/trap this/these animal(s), or is this area unique? What makes it unique?
- Is/are this/these animal[s] important for your culture/way of life? If so, how/why?
- Can you describe what it is like to be out on the land hunting/trapping?

- If the proposed Project went ahead, how would that make you feel about hunting/trapping in this area in the future?
- How would you explain the importance of these animals to people who do not know/the government/industry?

4.4 FISHING

Can you show us places where you have caught any of the following fish species or shellfish/seaweed?

- 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
- CL = Clams
- AM = Mussels
- KE = Kelp/ Seaweed
- SA = Salmon

Mapped fishing areas can be copied and pasted for each species caught by the participant.

Mark any locations where the participant has fished but released the fish or not caught anything as an Environmental Feature (EF).

Read the map code aloud for each mapped feature.

Example map code:

LT01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:

[Participant name] caught [species] in the [season/month] of [year] with [name(s)]. [Participant] first fished here in [year/month] and last fished here in [year/month]. [Participant] accesses this fishing area by [mode of travel].

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- What did you do with the fish (meat, e.g., dry it, smoke it, other)? Where?
- Is fishing important to you? Why?
- Who taught you how to fish? Where? (Map as TA)
- Have you taught anyone how to fish? Who? Where? (Map as TA)

- Is it important to teach younger generations how to fish? Why?
- How many people can [fish species] feed? For how long?
- Does [fish species] have a name in your language?
- Are any of these fish hard to find? Which ones?
- What is fishing like in this area?
- Are there many areas like this to fish this/these species, or is this area unique? What makes it unique?
- What does it mean to you to be able to fish?
- Can you describe what it is like to be out on the water fishing? How does it make you feel?
- Are these fish important for your culture/way of life? How?
- If the proposed Project went ahead, how would that make you feel about fishing in this area in the future?
- How would you explain the importance of these fish/fishing to people who do not know/the government/industry?
- If the proposed Project went ahead, how would that make you feel about fishing in this area in the future?

4.5 HARVESTING PLANTS / OTHER RESOURCES

Can you show us places where you've collected any of the following berries, other plants, or 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
- EG = Eggs
- EM = Earth Material (rocks, clays, etc.)
- FE = Feathers
- WA = Water (drinking water etc.)

Can you show us places where you've collected plants for crafts or other uses? (E.g., for creating art, building a drying rack, etc.)

Read the map code aloud for each mapped feature.

Example map code:

MP01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:

[Participant name] harvested [plant species] in the [season/month] of [year] with [name(s)]. [Participant] first harvested here in [year/month] and last harvested here in [year/month]. [Participant] accesses this harvesting area by [mode of travel]. These harvested items are used for [use].

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- What do you use [medicine* / plants / fungi] for? (*If appropriate to share)
- Is gathering [medicine / plants / fungi] important to you? Why?
- Who taught you how to collect and use [medicine / plants / fungi]? Where? (Map as TA)
- Have you taught anyone about how to collect and use [medicine / plants / fungi]? Who? Where? (Map as TA)

- Is it important to teach younger generations about [medicine / plants / fungi] resources? Why?
- Does [medicine / plant / fungus] have a name in your traditional language?
- Are any of these [medicine / plants / fungi] hard to find? Which ones?
- What is picking/gathering [medicine / plants / fungi] like in this area (i.e., current condition)?
- Are any of these [medicine / plants / fungi] hard to find? Which ones?
- Are there many areas like this to pick [medicine / plants / fungi], or is this area unique? What makes it unique?
- Can you describe what it is like to be out picking/gathering [medicine / plants / fungi]? How does it make you feel?
- Are these medicine/plants/fungi important for your culture/way of life? How?
- If the proposed Project went ahead, how would that make you feel about gathering [medicine / plants / fungi] in this area in the future?
- How would you explain the importance of these [medicine / plants / fungi] to people who do not know/the government/industry?

4.6 OTHER RESOURCES

Can you show us places where you have collected any of the following resources?

- Antlers or sheds [SD]
- Feathers [FE]
- Other materials collected for crafts/crafting [CZ]
- Rocks, clay, vermillion, other earth materials [EM]

Read the map code aloud for each mapped feature.

Example map code:

SD01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:

[Participant name] gathered [resource] in the [season/month] of [year] with [name(s)]. [Participant] first gathered here in [year/month] and last gathered here in [year/month]. [Participant] accesses this gathering area by [mode of travel]. These harvested items are used for [use].

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- What do you use these resources for?
- Is collecting these resources important to you? Why?
- Who taught you how to collect these resources? Where? (Map as TA)
- Have you taught anyone about how to collect these resources? Who? Where? (Map as TA)
- Is it important to teach younger generations about these resources? Why?
- Does [resource] have a name in your traditional language?
- Are any of these resources hard to find? Which ones?
- What is collecting resources like in this area (i.e., current condition)?
- Are any of these resources hard to find? Which ones?
- Are there many areas like this to collect resources, or is this area unique?
- Can you describe what it is like to be out collecting resources?
- Are these resources important for your culture/way of life? How?
- If the proposed Project went ahead, how would that make you feel about collecting resources in this area in the future?
- How would you explain the importance of these resources to people who do not know/the government/industry?

4.7 COLLECTION OF WATER (WA)

Can you show us places where you have collected drinking water/ice/snow while out on the land? (E.g., for drinking, cooking, making tea, ceremonies, etc.)

One of the things that is happening with the Mary River Project is that Inuit are getting a greater role in monitoring and management. For example, as part of changes to the Water Compensation Agreement, greater monitoring and higher levels of protection, will be required for specific waterbodies that are identified by Inuit as being of heightened importance in the Project-affected area.

Can you show us any lakes, rivers or creeks that should be considered high Inuit use and values waterbodies?

[If so, for each waterbody] what makes this waterbody important to Inuit?"

Read the map code aloud for each mapped feature.

Example map code:

WA01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:

[Participant name] collected water here in the [season/month] of [year] with [name(s)]. [Participant] first collected water here in [year/month] and last collected water here in [year/month]. [Participant] accesses this area by [mode of travel]. [Participant] uses collected water for [purpose].

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- What did you do with the water collected?
- Is the ability to collect water from the land important to you?
- Who taught you about where to collect water in this area? (Map as TA)
- Have you taught anyone about where to collect water in this area? Who? Where? (Map as TA)
- Is it important to teach younger generations about where to collect water? How so?
- What is collecting water like in this area (i.e., current condition)?
- Do you feel safe drinking the water collected from this area?
- Is water that would want to collect hard to find?

- Are there many areas like this to collect water, or is this area unique? What makes it unique?
- Can you describe what it is like to be out collecting water? How does it make you feel?
- Is collecting water important for your culture/way of life? How?
- If the proposed Project went ahead, how would that make you feel about collecting water in this area in the future?
- How would you explain the importance of collecting water in this area to people who do not know/the government/industry?

4.8 ENVIRONMENTAL FEATURES (EF) AND CORRIDORS (EC)

Environmental Feature (EF)

Can you show us the locations of habitat or environmental features that are important for mammals/birds/fish/plants? (E.g., calving or mating areas, denning or overwintering areas, fish spawning areas)?

Environmental Feature Corridor (EC)

Can you show us any migration routes or crossings that animals use to move through the area?

When recording routes and linear features in Google Earth, follow the actual route indicated by the participant and follow natural features. Do not record a straight line from A to B.

Read the map code aloud for each mapped feature.

Example map code:

EF01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:

[Participant name] identified this area as an [environmental feature/corridor] for [species] due to [features]. [Participant] learned about this from [name]. [Participant name] last travelled through the area in [month/year].

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- What environmental features (e.g., migration routes / crossings / fish spawning areas) make for good [animal / plant] habitat? Why?
- How did you learn about these environmental features? Where? (Map as TA if taught)
- Have you taught anyone about these environmental features? Who? Where? (Map as TA)
- Is it important to teach younger generations about these environmental features? Why?
- Are any of these features hard to find? Which ones?
- Are there many areas like this with these features, or is this area unique? What makes it unique?

- Have you observed any changes to [migration routes / crossings / fish spawning] areas in this area over your lifetime?
- Are these environmental features important for your culture/way of life? How?
- If the proposed Project went ahead, would it impact animals' use of [migration routes / crossings / fish spawning areas]?
- How would you explain the importance of these features to people who do not know/the government/industry?

4.9 CULTURAL AND INTANGIBLE USES AND VALUES

Gathering Place (GP)

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

- E.g. Inuit games, drum dancing, celebrations, etc.

Ceremonial Place (CP)

Can you show us places that are used for ceremonies?

Teaching Area (TA)

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

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

- E.g., Tuniit stories, animal spirit stories, histories, etc.

Burial (BU)

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

Spirit (SP)

Can you show us places where spirit beings live or where there are special rules about how you act or respect the place?

Place Name (PN)

Can you show us any places with special place names (e.g., in Inuktitut)?

Include place names and translations in Google Earth description field

Read the map code aloud for each mapped feature.

Example map code:

CP01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:

[Participant name] has [gathered/attended activity/etc.] here in the [season/month] of [year] with [name(s)]. [Participant] first [gathered/attended activity/etc.] here in [year/month] and last [gathered/attended activity/etc.] here in [year/month]. [Participant]

accesses this area by [mode of travel]. The traditional name for this location is [name], which means [translation].

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- What specifically do you use these places for (e.g., what kinds of ceremonies, what was taught there, what was the story associated with that site)?
- When is the site used? Or when does the event take place?
- Who would use the site (e.g. use by you/ your family members/your community/many communities etc.)?
- Are [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names] important to you? Why?
- Who taught you about this [gathering place / ceremonial place / teaching area / burial site / spiritual location / place name]? (Map as TA)
- Have you taught anyone about [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names]? (Map as TA)
- Is it important to teach younger generations about these [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names]? Why?
- Are these [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names] important to sustaining your culture/way of life?
- Does [gathering place / ceremonial place / teaching area / burial site / spiritual location / place name] have a name in your traditional language?
- What is the [gathering place / ceremonial place / teaching area / burial site / spiritual location / place name] like (i.e., current condition)?
- Have you observed any changes to [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names] in this area over your lifetime?
- Can you describe what it is like to be at [gathering place / ceremonial place / teaching area / burial site / spiritual location / place name]? How does it make you feel?
- Are [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names] important to your culture/way of life? How?
- If the proposed Project went ahead, how would that make you feel about the [gathering place / ceremonial place / teaching area / burial site / spiritual location / place name] in this area?
- How would you explain the importance of these [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names] to people who do not know/the government/industry?

4.10 IMPAIRED USE

Specific Impaired Use (SL)

Can you show us any specific places where you used to [hunt / gather / fish / camp / practice other rights], but cannot anymore? (E.g., from industrial impacts, environmental change or other impacts)

General Impaired Use (GL)

Can you show us any general areas or specific sites where you have experienced degraded habitat for mammals, fish, or plants?

Read the map code aloud for each mapped feature.

Example map code:

GL01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:

[Participant name] identified this as a place where they used to [activity]. Use of this place has been impaired due to [reason for loss]. [Participant name] used this area since [month/year] until [month/year].

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- What activities did you used to do in this [place/area]?
- Why did you first use this area (e.g. hunting because there were lots of caribou)? Why do you continue to use it?
- Why can you no longer use this [place/area]? What has impacted your ability to use that place? What caused the change [be open to responses that identify different cumulative effects causing agents like the main, climate change, more ships, etc.]
- When was the last time you used this [place/area]?
- How often did you go to or use this [place/area]?
- Can you do those activities somewhere else? Why or why not?
- What would need to be fixed/what would need to improve for you to use this place again in the way you would like to?
- How does it make you feel that you can no longer go to or use this place [place/area]?

- Has the loss of use of this place [place/area] impacted [you / your family / your community]?
- Has the loss of use in this place [place/area] impacted your culture/way of life? How?
- How would you explain the importance of this place [place/area] to the government/industry?
- How would you explain the impact of not being able to use the place [place/area] to people who do not know/the government/industry?
- If the proposed Project went ahead, how would that make you feel about this place [place/area]?

4.11 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. (Map with *)*

Can you show us places where members of your family or community or ancestors have camped or stayed in cabins?

Can you show us places where members of your family or community or your ancestors have killed or trapped animals or birds?

Can you show us places where members of your family or community or your ancestors have caught fish?

Can you show us places where members of your family or community or ancestors have collected [berries / plants / water / etc.]?

Can you show us places where members of your family or community or your ancestors have attended ceremonies, or gatherings?

Can you show us places where members of your family or community or your ancestors have travelled across the area?

For follow-up questions, please refer to the relevant part of Section 4 above.

4.12 PROJECT IMPACT QUESTIONS

Make sure industry data and the participant's mapped sites are on the screen.

Refer back to the participant's use in the Study Area, e.g. if they do a lot of fishing.

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:

Based on your understanding of the Project, 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?

Do you have any ideas about how to avoid, reduce or compensate for any of the impacts you have identified?

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

4.13 CUMULATIVE EFFECTS

Are there other human-caused changes from sources other than the Mary River Project that are contributing to changes you are seeing? Or impacting the environment?

- What sorts of changes?
- What do you think is causing these changes?
- Where have you noticed changes?
- When did you begin to notice these changes taking place [When was this benchmark?]

What are they and how are they impacting the environment? How might these human activities change the environment?

Do you think these changes to the environment will impact Inuit use of the land?

Do you think any of these environmental changes, when combined with the effects of the Mary River Mine, will make impacts on Inuit culture, resources and land use and the environment better or worse than if they happened on their own? Which ones and in what way?

Are there any human activities or changes that you expect will make the effects of the Mary River Mine better or worse for Inuit culture, resources and land use than if they happened on their own? Which ones and in what way?

Think of all the potential and ongoing effects from human activities on Inuit culture, resources and land use, including from the Mary River Mine. Can you describe how water and fishing might change over the life of the mine compared to today?

4.14 SENSE OF PLACE

Ask the following questions in relation to territory in general, the Study Area and/or other areas identified as important by the participant during the interview. Use these questions to ensure you have a full understanding of why each place is important.

Do you feel connected to the land in this area?

- If yes, why do you feel connected to this place?
- How does it make you feel to be out on the land in this area?

Is this place important to your identity? If so, how?

Can you describe what it is like to spend time at your favourite places out on the land?

Is there anything special about these places? What and why?

5. CONCLUSION

Read with audio & 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 NOTES

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

Label each site consistently in the **name field** of the site properties dialogue box.

Each code should indicate:

- Site use;
- Site number;
- Modifiers (if relevant); and
- Source (participant ID).

Modifiers (after the site number):

- First-hand knowledge has no modifier (e.g., TX01-P08; member with ID P08 reports temporary shelter where she has camped).
- Second-hand knowledge is mapped with a * (e.g., TX01*-P08).
- Approximate spatial information is mapped with a ? (e.g., TX01?-P08).
- If the participant was present but did not take part in an activity, map with a + (e.g., BE01+-P08).
- Commercial use (including guiding/outfitting) is mapped with a $ (e.g., TX01$-P08).
- If multiple modifiers are used, a code could look like, e.g., TX01*?$-P08.

All other information goes in the **description field** of the dialogue box.

Transportation routes and all linear features should be controlled.

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

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

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

Other:

- Keep list of place names;
- Spell out proper names and place names where possible for the recording; and
- Use prompts to gain detailed access and use information.

MAPPING CODES - QIA

HABITATION AND TRANSPORTATION

PX = Permanent Habitation
TR = Trail
TX = Temporary Habitation (including resting places, whaling spotting stations)
WR = Water Route
DX = Boat launch/mooring
BP = Birth Place

ENVIRONMENTAL FEATURES

EC = Environmental Feature Corridor (e.g.caribou migration trails)
EF = Environmental Feature
WR = Winter Range
WQ = Polynya
VS = Visual Sighting
SF = Spawning Area
HF = Habitat Feature
DN = Den/ Nest Location
CV = Calving Area
ZC = Ice lead
ZD = Floe Edge
ZK = Breathing holes (seals)

TERRESTRIAL MAMMAL KILL SITES

CA = Caribou
PZ = Polar Bear
LM = Lemming
OG = Other Game
RB = Arctic Hare

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
ZA = Other Seals
ZB = Other whales

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
CL = Clams
AM = Mussels
KE = Kelp/ Seaweed
SA = Salmon

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
EG = Eggs
EM = Earth Material (rocks, clays, etc.)
FE = Feathers
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)
ZX = Fermenting Site (*Igunnaq*)

IMPAIRED USE

GL = General Loss
SL = Specific Loss

APPENDIX 4: CURRICULUM VITAE

Rachel Olson, PhD

E-mail: rachel.olson@thefirelightgroup.com

EDUCATION

Doctor of Philosophy in Social Anthropology, University of Sussex, Brighton, UK, 2013

Master of Research in Social Anthropology, Ethnology and Cultural History with Distinction, University of Aberdeen, Scotland, UK, 2003

Bachelor of Arts in Anthropology with Distinction, University of Alberta, Edmonton, AB, 1999

EXPERT EXPERIENCE

Current member of the Expert Panel on Integrated Natural Resource Management for the Council of Canadian Academies. Feb 2017-present.

Expert and co-author of the Joint Expert Report on behalf of Buffalo River Dene Nation for the Department of Justice's Primose Lake Air Weapons range. January 2017-present.

Expert testimony on behalf of Saulteau First Nations at the National Energy Board hearings for the TransCanada North Montney Mainline hearings. 2015.

Expert testimony on behalf of the Tlicho Government at the Mackenzie Valley

Environmental Impact Review Board for Fortune Minerals NICO Project hearing. 2013.

EMPLOYMENT HISTORY

The Firelight Group – North Vancouver, BC

President (2015 to Present) and Director (2009 to Present)

Responsible, as co-founder and director, for helping establish The Firelight Group, a firm of aboriginal and non-aboriginal professionals specialized in providing respectful and respected environmental and social science research, consulting, and support services in processes where aboriginal and non-aboriginal interests interact, and where good relationships are desired by all sides. Tasks include business development, as well as design, development, and delivery of technical services including community-based traditional knowledge research and documentation systems, environmental and socio-cultural impact assessments and monitoring programs, Indigenous land use mapping, GIS technical support and training, archival research, community involvement processes, and First Nations consultation support services.

National Aboriginal Health Organization – Ottawa, ON

Research Officer (2007 to 2008)

As a member of the First Nations Centre research team, my primary research areas were the topics of maternity care and environmental health. Also held the research proposal development and workshop development files. Tasks included primary research, technical writing, and participating in various committees and workshops across Canada. Was primary author of NAHO's series entitled, "Celebrating Birth".

United Nations Educational, Scientific and Cultural Organization - Paris, France

Consultant (2006-2007)

Worked with the LINKS (Local and Indigenous Knowledge Systems) program in the Science Sector and facilitated ongoing projects with Indigenous communities in New Zealand, Micronesia, and Central America. Also focused on proposal development and editing and publishing various LINKS documents, including edited volumes.

School of Nursing Research, University of British Columbia – Vancouver, BC

Social Science Researcher (2004-2005)

Position of Health Research Associate for the research project, "Access to Primary Care Services for Aboriginal People in an Urban Centre." Duties include literature reviews, project coordination, and data collection, including participant observation of an Emergency Department, and in-depth interviews with aboriginal patients and health professionals.

Ecotrust Canada – Vancouver, BC

Aboriginal Mapping Network Coordinator (2003-2004)

Managed the Aboriginal Mapping Network program by meeting and engaging with like-minded individuals and organizations at various conferences and workshops. Coordinated of over 120 aboriginal mapping professionals from across North America, Malaysia and Panama for the "Mapping for Communities: First Nations, GIS and the Big Picture" conference, held on November 20-21, 2003 in Duncan, BC. Conducted a comprehensive evaluation of the Aboriginal Mapping Network.

Dene Tha' First Nation - Chateh, AB

Data Collection Manager (2001 to 2003)

Developed and implemented Traditional Use Study in two First Nations communities, Chateh and Meander River. Included developing research design, methodology, training community researchers, and reporting to the Steering Committee of the Dene Tha' Consultation Pilot Project.

Treaty 8 Tribal Association - Fort St. John, BC

Interview Coordinator (1999-2000)

Coordinated land use mapping and life history interviews with community researchers in two communities, Halfway River and Doig River, focusing on qualitative methods and mapping processes.

PROJECT EXPERIENCE – TRADITIONAL ECOLOGICAL KNOWLEDGE (TEK) AND TRADITIONAL USE STUDIES (TUS)

- Lead Author and Principal Investigator for the ***Ochiichagwe'babigo'ining Ojibway Nation*** *Knowledge and Use Scoping Study for TransCanada Pipelines Ltd.'s Proposed Energy East Project*.

- Lead Author and Principal Investigator for the ***Shoal Lake #40 First Nation*** *Knowledge and Use Scoping Study for TransCanada Pipelines Ltd.'s Proposed Energy East Project*.

- Lead Author and Principal Investigator for the ***Blueberry River First Nation*** *Knowledge and Use Study for BC Hydro's proposed Peace Region Electricity Supply (PRES) project*.

- Lead Author and Principal Investigator for the ***Eabametoong First Nation*** *Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project*.

- Lead Author and Principal Investigator for the ***Eabametoong First Nation*** *Knowledge and Use Desktop for Wataynikaneyap Power's Proposed Transmission Project*.

- Lead Author and Principal Investigator for the ***McLeod Lake Indian Band*** *Knowledge and Use Study for BC Hydro's proposed Peace Region Electricity Supply (PRES) project*.

- Lead Author and Principal Investigator for the ***Canadian Environmental Assessment Agency's*** *Framework for the Consideration and Integration of Indigenous Traditional Knowledge in Federal Environmental Assessment* project.

- Lead Author and Principal Investigator for the ***Musqueam Indian Band*** *Marine Shipping Effects Assessment Study for Port Metro Vancouver's proposed Roberts Bank Terminal 2 project*.

- Lead Author and Principal Investigator for the ***Nadleh Whut'en First Nation*** *Knowledge and Use Study for New Gold's proposed Blackwater Gold project*.

- Lead Author and Principal Investigator for the ***Paddle Prairie Métis Settlement*** *Knowledge and Use Study specific to TransCanada Pipelines Ltd.'s Proposed*

2017 NGTL System Expansion project.

- Lead Author and Principal Investigator for the ***Brunswick House, Chapleau Cree and Chapleau Ojibwe First Nations*** *Knowledge and Use Study for the proposed Goldcorp Borden Gold project*.

- Lead Author and Principal Investigator for the ***Blueberry River First Nation (BRFN)*** *Knowledge and Use Study for the Shell Canada's proposed and existing developments project*.

- Lead Author and Principal Investigator for the ***Mattagami First Nation (MFN)*** *Traditional Knowledge and Use Study for Canadian National Railway's Two Train Derailments*.

- Lead Author and Principal Investigator for the ***T'Sou-ke Nation's*** *Traditional Marine Knowledge and Use Study (TUS) for the Kinder Morgan's proposed Trans Mountain Pipeline Expansion project*.

- Lead Author and Principal Investigator for the ***Shackan Indian Band*** *Knowledge and Use Study (TUS) for the Kinder Morgan's proposed Trans Mountain Pipeline Expansion project*.

- Lead Author and Principal Investigator for the ***Wabun Tribal Council*** *Knowledge and Use Study for the proposed TransCanada Energy East Pipeline project*.

- Lead Author and Principal Investigator for the ***Eabametoong First Nation*** *Knowledge and Use Study*.

- Lead Author and Principal Investigator for the ***Samson Cree Nation*** *Knowledge and Use Study for the Enbridge's proposed Edmonton to Hardisty (E2H) pipeline project*.

- Lead Author and Principal Investigator for the ***Peter's Band*** *Traditional Use Study (TUS) for the Kinder Morgan's proposed Trans Mountain Pipeline Expansion project*.

- Lead Author and Principal Investigator for the ***Blueberry River First Nations*** *Knowledge and Use Study for the proposed TransCanada Merrick Mainline project*.

- Lead Author and Principal Investigator for the ***Blueberry River First Nations*** *Knowledge and Use Study for the proposed TransCanada North Montney Mainline project.*

- Lead Author and Principal Investigator for the ***Mikisew Cree First Nation*** *Knowledge and Use Study for the proposed Athabasca Oil Hangingstone SAGD*

Expansion project.

- Lead Author and Principal Investigator for the ***Blueberry River First Nations*** *Knowledge and Use Study for the proposed TransCanada Prince Rupert Gas Transmission project*.

- Lead Author and Principal Investigator for the ***Saulteau First Nations*** *knowledge and use review for TransCanada's proposed North Montney Mainline Project*.

- Lead Author and Principal Investigator for the ***McLeod Lake Indian Band*** *Knowledge and Use Study for EDF Taylor Wind Farm*.

- Lead Author and Principal Investigator for the ***McLeod Lake Indian Band*** *Knowledge and Use Study for EDF Sundance Wind Farm*.

- Lead Author and Principal Investigator for the ***McLeod Lake Indian Band*** *Knowledge and Use Study for Glencore Xstrata Sukunka Coal Mine*.

- Lead Author and Principal Investigator for the ***Saulteau First Nations*** *knowledge and use study for 3 proposed pipeline projects: TransCanada's proposed Coastal GasLink and Prince Rupert Gas Transmission projects, and Spectra's proposed Westcoast Connector pipeline project*.

- Lead Author and Principal Investigator for the ***Saulteau First Nations*** *knowledge and use study for 4 wind energy projects: EDF Taylor, EDF Sundance, Boralex/Aeolis Babcock Creek Ridge, and Boralex/Aeolis Moose Lake Ridge wind projects.*

- Lead Author and Principal Investigator for the ***Saulteau First Nations*** *knowledge and use study for HD Mining International Ltd.'s proposed Murray River Coal Mine project.*

- Lead Author and Principal Investigator for the ***Big Grassy River First Nation*** *Knowledge and Use Study for the proposed New Gold Mine Project.*

- Lead Author and Principal Investigator for the ***Blueberry River First Nations*** *Knowledge and Use Study for the proposed TransCanada Coastal GasLink pipeline project.*

- Lead Author and Principal Investigator for the ***Buffalo River Dene Nation*** *joint expert Report for the Primose Lake Air Weapons Range in Saskatchewan.*

- Co-author and Principal Investigator for the ***Doig River First Nation*** *TransCanada - Aitken Pipeline traditional use study.*

- Lead Author and Principal Investigator for the ***Mathias Colomb Cree Nation***

Initial Knowledge and Use Scoping and Mapping Study for three properties belonging to Hudbay Minerals.

- Lead Author and Principal Investigator for the ***Tlicho Government*** *Indigenous knowledge study for the Fortune Minerals NICO project.*

- Senior Researcher for the ***Mikisew Cree First Nation*** *coordinated Indigenous Knowledge (IK) study for the Athabasca oil sands region.*

- Senior Researcher for the ***Athabasca Chipewyan First Nation*** *coordinated Indigenous knowledge (IK) study for the Athabasca oil sands region.*

- Senior Researcher for the ***Treaty 8 Tribal Association*** *Traditional Knowledge, Use and Occupancy Study for the Proposed 'Site C' Area along the Peace River.*

- Senior Researcher for the ***Mikisew Cree First Nation*** *Indigenous Knowledge study for assessing Shell-specific oil sands development projects near Fort McKay.*

- Senior Researcher for the ***Mikisew Cree First Nation*** *use and interests assessment for Shell's Jackpine Mine Expansion project and Pierre River Mine project.*

- Senior Researcher for the ***Athabasca Chipewyan First Nation*** *TEK/TUS project involving documentation of community use and interests assessment for the Total Jocelyn Oil Sands Mining project near Fort McKay.*

- Senior Researcher for the ***Ktunaxa Nation Council*** *TEK/TUS component of an environmental impact assessment for Teck Coal`s proposed mining project.*

- Senior Researcher for ***UNESCO-LINKS*** project, and coordinated the Maori language version of the CD-ROM project, *The Canoe is the People, entitled He Waka He Tangata.*

- Senior Research Manager for the ***Dene Tha' Nation***, and developed and implemented Traditional Use Study in two First Nations communities, Chateh and Meander River. Included developing research design, methodology, training community researchers, and reporting to the Steering Committee of the Dene Tha' Consultation Pilot Project.

- Senior Researcher for ***Halfway River First Nation***, coordinated land use mapping and life history interviews with community researchers. Included training in qualitative methodologies and mapping processes.

- Researcher for ***Tr'ondek Hwech'in First Nation***, Oral History Project focused on collecting life history interviews with elders, and stories of life in fish camps

along the Yukon River.

PROJECT EXPERIENCE – HEALTH AND SOCIAL

- Lead Author and Principal Investigator for the ***First Nations Health Authority*** Nutrition Service Delivery Model for the Northern region of FNHA.

- Lead Author and Principal Investigator for the ***Community Midwives Association of Yukon*** ethno-historical study of midwifery and maternal health care in First Nations community in the Yukon Territory.

- Lead Author and Principal Investigator for the ***Shanti Uganda*** Propelling Motherhood project, a rural-based health intervention using mobile health data collection methods.

- Lead Author and Principal Investigator for the ***Manitoba First Nations Education Resource Centre***, for the development of community-based evaluation of the Family Literacy programs on First Nation reserves in Manitoba.

- Lead Author and Principal Investigator for *the* ***National Aboriginal Council of Midwives*** reports, toolkits, and various other resources*.*

- Lead Author and Principal Investigator for the ***National Aboriginal Health Organization*** Celebrating Birth series on maternal health.

- Senior Researcher for ***Opaskwayak Cree Nation***, conducting of interviews for a qualitative study on mother's experiences of childbirth from a northern Manitoban community.

- Senior Researcher for the ***Red Road HIV/AIDS Network*** for the "Mapping the Road to Healthier Communities Project".

- Senior Researcher for the ***Mother Saradadevi Social Service Society***, conducted a baseline survey of youth and sexual health issues to aid in the development and implementation of prevention programmes in the district.

SELECTED PUBLICATIONS- TRADITIONAL ECOLOGICAL KNOWLEDGE (TEK) AND TRADITIONAL USE STUDIES (TUS)

Peer Reviewed

Olson, Rachel, Jeffrey Hackett, and Steven DeRoy. (2016) Mapping the Digital Terrain: Towards Indigenous Geographic Information and Spatial Data Quality Indicators for Indigenous Knowledge and Traditional Land-Use Data Collection. The Cartographic Journal.

Corbett J. M., Giacomo Rambaldi, Peter A. Kwaku Kyem, Daniel Weiner, Rachel Olson,

Julius Muchemi and Robert Chambers (2006). Overview - Mapping for Change the emergence of a new practice." Participatory Learning and Action 54. 13-20.

Candler, Craig, Rachel Olson, Steven DeRoy, and Kieran Broderick. (2006). PGIS as a Sustained (and Sustainable?) Practice: The Case of Treaty 8 BC. Participatory Learning and Action 54. Guest Editor. Participatory Learning and Action. Issue 54, April 2006. International Institute for Environment and Development. London, UK.

Olson, Rachel. Contributor to Encyclopedia of the Arctic. 2003. Ed. Mark Nutall. Fitzroy Dearborn, Routledge: New York, NY.

Reports- Selected

Olson, Rachel and Peter Bates. Saulteau First Nations Knowledge and Use Study for TransCanada Pipelines Ltd. Coastal GasLink Pipeline Project. Submitted to Saulteau First Nations, BC. 2013.

Olson, Rachel and Steven DeRoy. Blueberry First Nations Knowledge and Use Study for TransCanada Pipelines Ltd. Coastal GasLink Pipeline Project. Submitted to Blueberry First Nations, BC. 2013.

Olson, Rachel and Peter Bates. (2013) Saulteau First Nations Knowledge and Use Study for TransCanada Pipelines Ltd. Coastal GasLink Pipeline Project. Submitted to Saulteau First Nations, BC.

Olson, Rachel and Steven DeRoy. (2013) Blueberry First Nations Knowledge and Use Study for TransCanada Pipelines Ltd. Coastal GasLink Pipeline Project. Submitted to Blueberry First Nations, BC.

Candler, Craig and Rachel Olson. (2013). Mikisew Cree First Nation Indigenous Knowledge and Use Report and Assessment for Southern Pacific Resource Corp. STP McKay Thermal Project – Phase 2. Submitted to the Mikisew Cree First Nation Government and Industry Relations, Fort McMurrary, AB.

Olson, Rachel and Georgina Chocolate. (2012). Asi Edee T'seda Dile: Tlicho Nation Traditional Knowledge and Use Study. Tlicho Government: Yellowknife, NWT.

SELECTED PUBLICATIONS- HEALTH AND SOCIAL

Peer Reviewed

Olson, Rachel and Carol Couchie. Returning birth: the politics of midwifery implementation on First Nations reserves in Canada. *Midwifery*, Volume 29, Issue 8, Pages 981-987. 2013.

Olson, Rachel. Bodies of Water: exploring birthplace and ceremony in Manitoba, Canada. Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health,

Volume 10, Issue 3. 2013.

Olson, Rachel, Kerry Bebee, Jasmine Benedict, Ellen Blais, Evelyn Harney, and Sara Wolfe. Introduction: prioritizing Indigenous maternal and infant health. Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health, Volume 10, Issue 3. 2013.

Book chapters

Olson, Rachel. (2017). Bearing witness: rural Indigenous women's experiences of childbirth in an urban hospital. In, *Indigenous Experiences of Pregnancy and Birth*. University of Toronto: Demeter Press.

Olson, Rachel. (2015). Restoring the Connection: Exploring Aboriginal midwifery and the context of the relocation for childbirth and in First Nation communities in Canada. In, *The Cultural Politics of Reproduction: Migration, Health and Family Making*. Unnithan-Kumar, Maya, and Sunil Khana (eds). Berghahn Books: Oxford.

Reports

Olson, Rachel. (2016). The Landscape of Midwifery Care for Aboriginal Communities in Canada: A discussion paper to support culturally safe midwifery care for Aboriginal communities. National Aboriginal Council of Midwives: Montreal, Canada.

Olson, Rachel and Carol Griffin. (2012). An Evaluation of Midwifery Services in Manitoba. Midwives Association of Manitoba for Manitoba Health. Winnipeg, Manitoba.

Olson, Rachel and Carol Couchie. (2010). Clearing the Path: An Implementation Plan for Midwifery Services in First Nations and Inuit Communities. Ottawa: Government of Canada.

National Aboriginal Health Organization. (2009). Celebrating Birth- Aboriginal Midwifery in Canada. Ottawa: National Aboriginal Health Organization. [Primary Author]

National Aboriginal Health Organization. (2008). Celebrating Birth - Exploring the Role of Social Support in Labour and Delivery for First Nations Women and Families. Ottawa: National Aboriginal Health Organization. [Primary Author]

Olson, Rachel. (2008). Exploring the Potential Role of Doulas and Doula Training for the Children and Youth Division of First Nations and Inuit Health, Health Canada. Ottawa: Government of Canada. Internal circulation only.

Guest Editor. Bloodlines Magazine. Issue 5: Spring 2005. Red Road HIV/AIDS Network Society. West Vancouver, BC.

CONFERENCES AND WORKSHOPS

Keynote Presenter, 2017 Indigenous Mapping Workshop, October 2017 in Winnipeg, Manitoba.

Paper presentation, Normal Birth and Labour Conference, October 2017 in Grange-Over-Sands, UK.

Presentation, Centre for Reproduction, Technology and Health at the University of Sussex, Brighton, UK.

Presenter, 2016 Indigenous Mapping Workshop, October 2016 in Vancouver, British Columbia.

Keynote Presenter, 2015 Indigenous Mapping Workshop, July 28-30, 2015 in Waterloo, Ontario.

Paper presentation. International Congress of Midwives Conference, July 2015 in Prague, Czech Republic.

Plenary presentation. Canadian Association of Midwives Annual Conference. Ottawa, Canada. November 7th, 2013.

Paper presentation. Annual Conference of the Canadian Association of Social and Cultural Anthropologists. May 8th, 2013. University of Victoria, Victoria, B.C.

Paper presentation, Uncertainty and Disquiet: 12th European Association of Social Anthropologists Association. Paris, France, July, 2012.

Presenter, Workshop on Indigenous Mapping and Cartography. United Nations Educational, Scientific and Cultural Organization, Paris, France, November, 2007.

Keynote Presenter, Mapping for Change, September 7 – 11, 2005 in Nairobi, Kenya, Africa

Participant of Strategic Planning Sessions, ESRI International User Conference, July 2004 in San Diego, California

Paper presentation, Indigenous Communities Mapping Initiative Conference, March 10 – 15, 2004 in Vancouver, British Columbia

Paper presentation, Breaking the Ice: Transcending Borders through Collaboration and Interdisciplinary Research, 7th ACUNS Student Conference on Northern Studies, October 24-26, 2003 at the University of Alberta, Edmonton, Alberta

OTHER INFORMATION

Research Associate at the Centre for Cultures of Reproduction, Technology and Health at the University of Sussex, United Kingdom.

Received the 2009 Scientific Director's Award for excellence in Aboriginal Health Research at the Graduate level from CIHR- Institute of Aboriginal Peoples' Health.

Honourable Mention. Council for Anthropology and Reproduction Graduate Student Paper Prize. 2012.

Registered member of the Tr'ondek Hwech'in First Nation.