Kiggavik Project

Environmental Effects Assessment

Tier 2 Volume 3

Public Engagement and Inuit Qaujimajatuqangit

Part 2 Inuit Qaujimajatuqangit

Revision 1 – April 2012

HISTORY OF REVISIONS

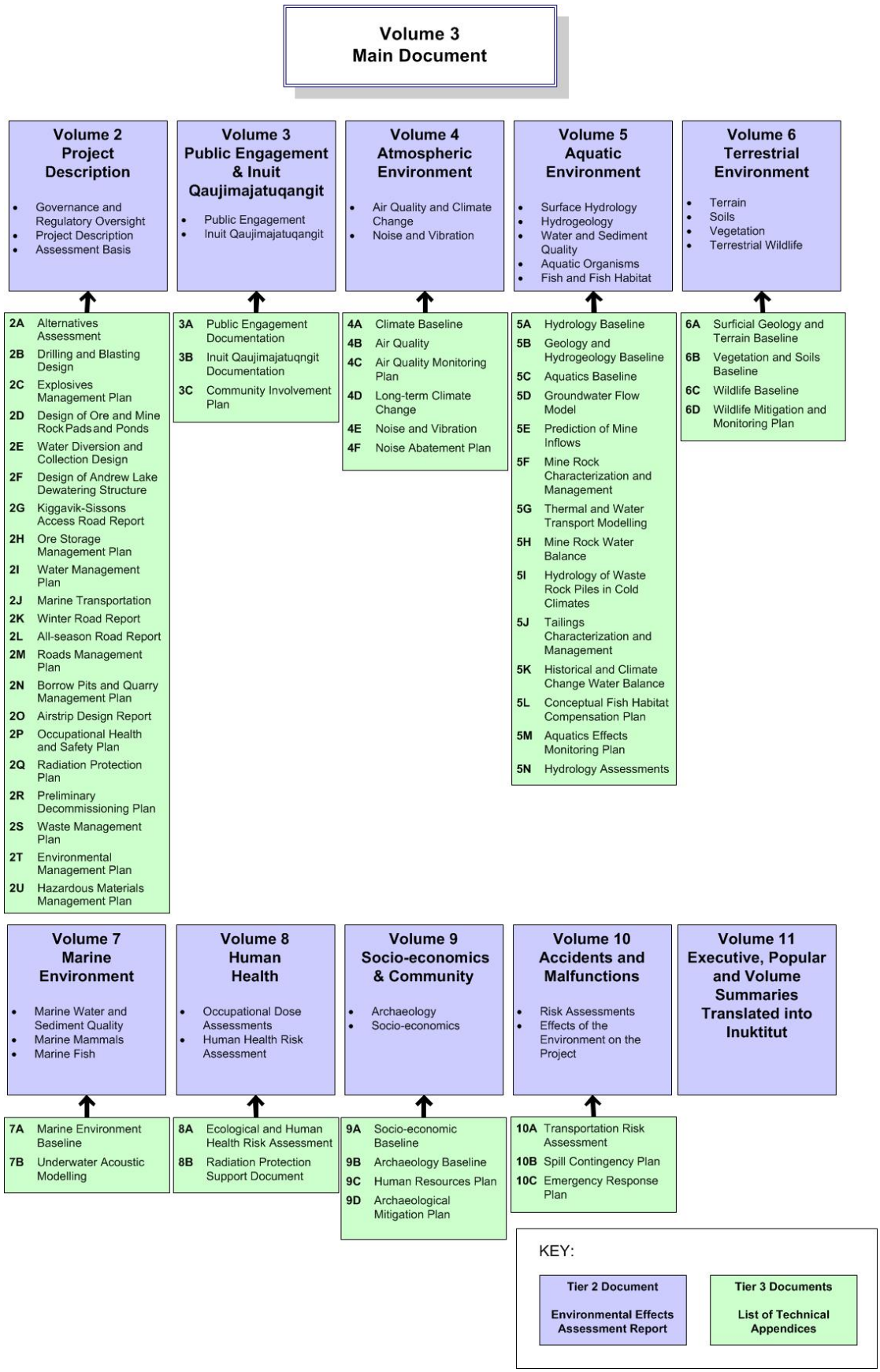
Revision #	*Date*	*Details of Revision*
0	**December 2011**	**Initial release**
1	**April 2012**	**Inclusion of comments received from the Nunavut Impact Review Board as part of their conformity determination on January 18, 2012**

FOREWORD

The enclosed document forms part of the Kiggavik Project Environmental Impact Statement (EIS) submission. The submission has been prepared for the Nunavut Impact Review Board by AREVA Resources Canada Inc to fulfill the requirements of the "Guidelines for the Preparation of an Environmental Impact Statement for AREVA Resources Canada Inc's Kiggavik Project (NIRB File No. 09MN003)".

The EIS submission consists of a number of documents, as shown in the attached road map. These documents have been categorized into tiers, as follows:

- Tier 1 document (Volume 1) provides a plain language summary of the Environmental Impact Statement.
- Tier 2 documents (Volumes 2 to 10) contain technical information and provide the details of the assessments of potential Project environmental effects for each environmental compartment.
- The Tier 2 documents each have a number of technical appendices, which comprise the Tier 3 supporting documents. These include the environmental baseline reports, design reports, modelling reports and details of other studies undertaken to support the assessments of environmental effects.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1 INTRODUCTION

1.1 OVERVIEW

The Kiggavik Project is a proposed uranium ore mine and associated facilities located in the Kivalliq region of Nunavut approximately 80 km west of the community of Baker Lake. Uranium in the Kiggavik area was identified during the 1970s and 1980s. In 1993, AREVA became the operator of the Kiggavik Project, and further exploration was carried out between 1993 and 1997. A pre-feasibility study was completed in 1997, and concluded that the deposits were not economic given the market conditions at that time. The project was put in care and maintenance mode in 1998. As the uranium market improved during the first half of 2005, AREVA re-established a number of community and territory contacts in Baker Lake and Nunavut. Field activities, engineering studies and environmental assessments resumed in 2007.

The Kiggavik Project is subject to the environmental review and related licensing and permitting processes established by the Nunavut Land Claims Agreement (NLCA) (NIRB 2011). The Minister of Indian and Northern Affairs Canada referred the Kiggavik Project to the Nunavut Impact Review Board (NIRB) for a Review under Part 5 of Article 12 of the NLCA in March of 2010. Pursuant to Section 12.5.2 of the Nunavut Land Claims Agreement (NLCA):

"When a project proposal has been referred to NIRB by the Minister for review, NIRB shall, upon soliciting any advice it considers appropriate, issue guidelines to the Proponent for the preparation of an impact statement. It is the responsibility of the Proponent to prepare an impact statement in accordance with any guidelines issued by NIRB..." (NIRB 2011) The final NIRB "Guidelines for the Preparation of an Environmental Impact Statement for AREVA Resources Canada Inc.'s Kiggavik Project (NIRB File No. 09MN003)" (NIRB 2011) were issued in May of 2011.

1.2 PURPOSE AND REPORT CONTENT

Engagement and Inuit Qaujimajatuqangit (IQ) data have been integrated throughout the entire DEIS. This volume serves to present this information as a whole with the purpose to:

- meet the NIRB guideline requirements for engagement and IQ
- document the engagement activities carried out by AREVA Resources Canada Inc. (AREVA) from February 2005 until November 2011 associated with the Kiggavik Project
- provide information on the existing traditional knowledge or IQ relevant to the Kiggavik Project

Although IQ and engagement are distinct and one does not replace the need for the other, the holistic nature of IQ leads to the complimentary nature of IQ and engagement efforts and data

and some overlap. Both are presented in this volume but because company efforts were specific to the collection of each IQ and engagement data, they are presented separately as outlined at the end of this section.

The holistic nature of IQ is seen in the definition of Inuit Qaujimajatuqangit provided by the Qikiqtani Inuit Association (QIA 2009) and used by the NIRB in the glossary of the Kiggavik DEIS guidelines (NIRB 2011)

> "Means the traditional, current and evolving body of Inuit values, beliefs, experience, perceptions and knowledge regarding the environment, including land, water, wildlife and people, to the extent that people are part of the environment."

And also in Pinasuaqtavut 2004-2009 (GN 2009) where the following eight principles of IQ are listed as:

- Inuuqatigiitsiarniq: respecting others, relationships and caring for people
- Tunnganarniq: fostering good spirit by being open, welcoming and inclusive
- Pijitsirniq: serving and providing for family and/or community
- Aajiiqatigiinniq: decision making through discussion and consensus
- Pilimmaksarniq/Pijariuqsarniq: development of skills through practice, effort and action
- Piliriqatigiinniq/Ikajuqtigiinniq: working together for a common cause
- Qanuqtuurniq: being innovative and resourceful
- Avatittinnik Kamatsiarniq: respect and care for the land, animals and the environment

Knowledge and understanding of IQ and Inuit culture influences the way in which AREVA conducts business in Nunavut. Many of the listed IQ principles can be seen in AREVA efforts to:

- engage various groups (e.g. elders, youth, hunters, local businesses and others) within communities as all groups are recognized as valued contributors
- remove language barriers through use of translated material and availability of translators at meetings
- prioritization of face-to-face meetings to create relationships but use of various other communication mediums to provide information and obtain feedback
- better understand local priorities and preferences and demonstrate this understanding by integrating what we have heard and learnt into the DEIS
- hire locally and plan to provide on-the-job training
- work with local educational institutions in the community to assist pre-employment training
- Incorporating IQ principles into management plans
- participating as a member of the community through sponsorships.

The IQ studies presented in this volume were undertaken to collect information primarily on contemporary and traditional ecological knowledge. The IQ documented in this report therefore relates to traditional activities or land use and understanding of wildlife and their habitat. IQ relating to socio-economic issues is documented in the Socio-Economic Baseline (Appendix 9A)

This report is organized as follows:

Part 1 - Engagement

- Part 1 Section 1 describes the background and purpose of the document
- Part 1 Section 2 provides a project overview and assessment basis
- Part 1 Section 3 describes the engagement approach, strategy and efforts carried out from 2006 to 2011.
- Part 1 Section 4 presents the main findings of public engagement activities.
- Part 1 Section 5 describes how community engagement information was used and how it was integrated into the DEIS.

Part 2 – Inuit Qaujimajatuqangit

- Part 2 Section 2 describes the methodology.
- Part 2 Section 3 describes the results of the study for each of the Kivalliq communities.
- Part 2 Section 4 presents a summary of the key findings of this report.
- Part 2 Section 5 presents the references and interviews cited in this report.
- Part 2 Section 6 provides a glossary of terms used in this report.

2 PROJECT OVERVIEW

Location	• Kivalliq Region of Nunavut, approximately 80 km west of Baker Lake. • The Project includes two sites: Kiggavik and Sissons (collectively called the Kiggavik Project). • The Kiggavik site is located at approximately 64°26'36.14"N and 97°38'16.27"W. • The Sissons site is located approximately 17 km southwest of Kiggavik at 64°20'17.61"N and 97°53'14.03"W. • The Kiggavik and Sissons sites are composed of 37 mineral leases, covering 45,639 acres.
Resources	• The total quantity of resources is currently estimated at approximately 51,000 tonnes uranium (133 million lbs U_3O_8) at an average grade of 0.46% uranium.
Life of Mine	• Approximately 12 years of operation, based on studies to date. It is anticipated that pre-operational construction will require 3 years while remaining post-operational decommissioning activities will require 5 years. • Under favourable market conditions, construction of the Project could begin as early as 2017.
Mining	• There are five individual mines proposed for the Project: East Zone, Center Zone and Main Zone at the Kiggavik site; End Grid and Andrew Lake at the Sissons site. • The three Kiggavik deposits and the Andrew Lake deposit will be mined by truck-shovel open pit, while End Grid will be an underground mine.
Mine Rock	• Mine rock will be segregated into material suitable for use in construction (Type 1), non-acid generating (Type 2), and potentially problematic material (Type 3). • Type 2 and Type 3 rock will be managed in surface stockpiles during operation. • Upon completion of mining, Type 3 mine rock will be backfilled into mined-out pits.
Mill	• The ore will be processed in a mill at the Kiggavik site to produce approximately 3,800 tonnes uranium (9.9 million lbs U3O8) per year as a uranium concentrate, commonly referred to as yellowcake.
Tailings	• The mill tailings will be managed at in-pit tailings management facilities constructed using the mined-out East Zone, Centre Zone and Main Zone open pits at the Kiggavik site. • Administrative and action levels will be used to control and optimize tailings preparation performance for key parameters.
Water Management	• A purpose-built-pit will be constructed at the Kiggavik site to optimize water management, storage, and recycling. • All mill effluent, tailings reclaim, and site drainage will be treated prior to discharge to meet the Metals Mining Effluent Regulations and site-specific derived effluent release targets. • Administrative and action levels will be used to control and optimize water treatment plant performance for key elements.

Site Infrastructure	• Power will be supplied by on-site diesel generators. • The operation will be fly-in/fly-out on a 7 to 14 day schedule with on-site employees housed in a permanent accommodations complex.
Access	• Access to the site will be provided by either a winter or all-season road between Baker Lake and Kiggavik. Supplies will be shipped to a dock facility at Baker Lake during the summer barge season and trucked to Kiggavik via the road. • An airstrip will be constructed and operated at site for transportation of personnel and yellowcake.
Environment	• Site-specific environmental studies have been on-going since 2007 • Public engagement and collection of Inuit Qaujimajatuqangit has been on-going since 2006; this information is integrated into the environmental effects assessment reports • AREVA's approach has been to integrate environmental assessment and decommissioning requirements into the Project design cycle to enhance mitigation of effects by design and to support the development of management, mitigation, and contingency plans to protect the environment
Benefits	• AREVA is negotiating an Inuit Impact Benefit Agreement with the Kivalliq Inuit Association • The total taxes and royalties to be paid on the Kiggavik project would be approximately $1 billion, payable to Nunavut Tunngavik Inc., Government of Nunavut, and Government of Canada. • The Project is expected to employ up to 750 people during construction and 400-600 people during operation.

3 METHODOLOGY

3.1 RESEARCH LICENCE

A Scientific Research Licence is required to conduct social research in Nunavut. The Nunavut Research Institute (NRI) is responsible for administering Scientific Research Licences. In May, 2008, Golder Associates Ltd. (Golder) applied to the NRI for a licence to conduct Social Science and Traditional Knowledge research for the Project. Research Licence 0300209R-M was issued in July 2008 to conduct "Socio-Economic and Traditional Knowledge Studies in Relation to the Kiggavik Project Environmental Impact Assessment, Kivalliq Region." The licence provided for conducting key informant interviews and focus group discussions in all seven communities of the Kivalliq Region. The short term use of the data was to prepare Socio-economic and Traditional Knowledge baseline studies which will be used to assess the potential for Project impacts, frame mitigation or enhancement measures in response to those impacts, and provide a baseline for monitoring programs. Because environmental impact assessments are public documents, one of the terms of the licence was that the names of study participants not be mentioned in the study reports. Other terms of the licence included provisions for informed consent, and for community review.

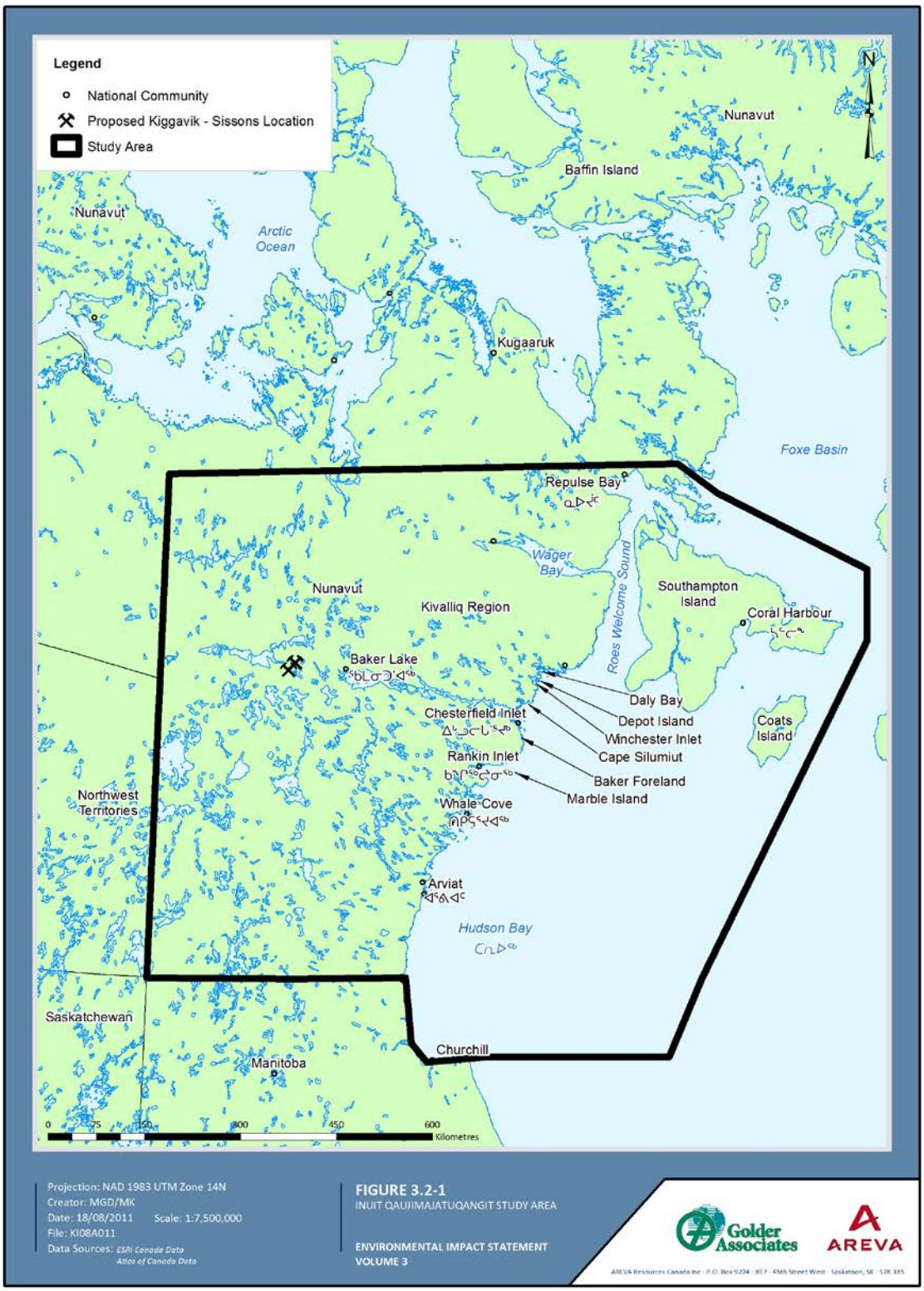
3.2 STUDY AREA

Figure 2.2-1 shows the IQ study area. The study area is in the Kivalliq Region and includes the following seven communities:

- Baker Lake;
- Chesterfield Inlet;
- Rankin Inlet;
- Arviat;
- Whale Cove;
- Repulse Bay; and
- Coral Harbour.

The study area was chosen because it encompasses marine transportation corridors anticipated for the Project, as well as areas of caribou and marine mammal migration that may be affected by the Project.

Figure 3.2-1: Inuit Qaujimajatuqangit Study Area



3.3 INFORMATION SOURCES

Information for the IQ baseline came from a combination of literature review and field studies. The literature review included the following previous studies:

Bennett, John and Susan Rowley 2004 (Compiled and Edited). Uqalurait: An Oral History of Nunavut. McGill's-Queen's University Press, Montreal and Kingston.

Cumberland (Cumberland Resources Inc.). 2005. Meadowbank Gold Project: Baseline Traditional Knowledge Report. Prepared for Agnico Eagle Ltd. January 2005.

Freeman, Milton M.R. (General Editor) 1976. Inuit Land Use and Occupancy Project, Volume 1-3. INA Publication No. QS 8054-001-EE-A1. Thorn Press Limited.

GeoVector Management Inc. 2008. Thelon and Kazan Rivers Background Study, Management Planning Assessment, Final. Prepared for the Kivalliq Inuit Association.

Kendrick, Anne and Micheline Manseau. 2008. Representing Traditional Knowledge: Resource Management and Inuit Knowledge of Barren-Ground Caribou. Society and Natural Resources 21: 404-418, Routledge Taylor and Francis Group.

Laidler, Gita J and William A. Gough 2003. Climate Variability and Climatic Change: Potential Implications for Hudson Bay Coastal Communities. Polar Geography, 27, No. 1 pp. 38-58.

Mannik, Hattie (volume editor). 1998. Inuit Nunamiut: Inland Inuit. Friesen Corporation, Altona, Manitoba.

McDonald, Miriam, Lucassie Arragutainaq, and Zack Novalinga. 1997. Voices from the Bay: Traditional Ecological Knowledge of Inuit and Cree in the Hudson Bay Bioregion. Canadian Arctic Resources Committee, Environmental Committee of Municipality of Sanikiluaq, Ottawa Ontario.

Riewe, Rick (Editor). 1992. Nunavut Atlas. Canadian Circumpolar Institute and the Tungavik Federation of Nunavut.

An annotated bibliography of the above sources is found in Attachment A of Appendix 3B IQ Documentation.

3.4 FIELD STUDIES

Field studies for the Project generally include initial interviews conducted in Baker Lake by Hattie Mannik in 2008, as well as a combination of interviews and focus group discussions conducted by consultants from Golder Associates, Ltd. (Golder) in 2009 in each of the seven Kivalliq communities: Baker Lake, Chesterfield Inlet, Rankin Inlet, Arviat, Whale Cove, Repulse Bay and Coral Harbour. Field studies also include the 2011 community review meetings undertaken by Golder and AREVA representatives, which were held to verify the accuracy of data-recording from the previous meetings and to provide the opportunity to add additional IQ information related to the Project area and the potentially-affected communities in the Kivalliq region. The following sections describe the initial studies in 2008, the 2009 field studies, and the review meetings in 2011.

3.4.1 Initial Studies in 2008

Between January 2007, and September 2008, AREVA representatives and the Community Relations Committees (CLCs) discussed IQ for the proposed baseline studies for the Project. Members of the Baker Lake CLC recommended and supported using Hattie Mannik, a Baker Lake resident and researcher to interview Baker Lake Elders. In 2008, Hattie Mannik conducted 18 individual interviews with Baker Lake Elders. The interview topics related to locations of ancestral habitation, caribou caching, fishing, archaeological and culturally important sites, moving to Baker Lake, and various aspects of the proposed Project. A summary of the 2008 Baker Lake interviews and the questionnaire that was used for the interviews are found in Attachment B of Appendix 3B IQ Documentation. The questions generally focused on place where people lived in the general region of Kiggavik, Judge Sissons Lake and Baker Lake; the types of food sources people use; meat caching areas; fishing areas; graves and other culturally important areas; and the potential effects of a bridge over the Thelon River, a dock at Huqlik Island, and a winter road to Kiggavik.

Subsequent to the 2008 interviews undertaken by Hattie Mannik, AREVA retained Golder to review the results of the interviews and to assist with additional IQ collection in Baker Lake, and other communities in Kivalliq Region.

3.4.2 Field Studies in 2009

Subsequent to reviewing the results of the Baker Lake interviews conducted by Hattie Mannik in 2008, Golder representatives participated at a meeting in Rankin Inlet with the Regional Liaison Committee (RLC) and AREVA in February 2009. There was a discussion about collecting additional IQ information in Baker Lake, and undertaking IQ studies in Chesterfield Inlet, Rankin Inlet, Whale Cove, Arviat, Repulse Bay, and Coral Harbour. During the discussions, the RLC indicated they believe the Project is important to all the Kivalliq communities, recommended the

names of members in each of the communities that would assist with arranging the interviews and focus groups.

Baker Lake Focus Groups

After reviewing the results of the Elder interviews done by Hattie Mannik in 2008, Golder arranged focus groups in Baker Lake with Elders and younger adult hunters. The purpose of the focus groups was to gather additional information from the Elders participating in the 2008 interviews on topics such as the following:

- Changes to caribou migration patterns;
- Caribou health and changes in quality of meat;
- Changes in fish quality and water bodies associated with changes in fish quality;
- Water quality in lakes and rivers; and
- Use of vegetation; and
- Other topics identified as important to the Project by the Elders.

In addition to holding a focus group with the Elders to gather additional information, a focus group was held with younger adult hunters to collect information on the above topics and on information generally related to important wildlife habitats and harvesting areas, culturally important areas, The focus groups held with the Elders and younger adult hunters used a semi-structured methodology during which the participants were engaged in a conversation and asked questions about the environment, traditional activities, and perceptions about the potential effects of the Project. This format was used so that participants could focus on their particular areas of knowledge and have the opportunity to provide additional information they believed to be important. The focus group with the Elders was guided by the topics identified above, and the focus group with younger adult hunters was guided the following topics:

- Land and marine mammals (including harvesting areas, animal health, important habitats);
- Game birds (harvesting areas, animal health, important habitats);
- Fish (including species, harvesting, fish health, spawning areas);
- New wildlife species observed;
- Culturally important areas or sites (e.g., cabins, burial sites);
- Observed changes in weather patterns;
- Observed changes in water quality or quantity; and
- Potential effects of the Project.

Table 3.4-1 below shows the composition of the focus groups held with the Elders and hunters in Baker Lake. Of the 2009 Elders' focus group, 7 had participated in the 2008 interviews. Hattie Mannik helped to facilitate the Elders' focus group and the maps from the 2008 interviews were reviewed and used as a reference for identifying additional information. The focus group held with hunters also reviewed the maps from the 2008 interviews, as some of the participants had participated in those interviews. Socio-ec studies were also being conducted at the same time in Baker Lake by Golder representatives. Because there was some overlap in the subject matter between the socio-ec studies and the IQ related to ecological knowledge, the focus groups were

co-led by Golder's traditional studies specialist and socio-ec specialist. While the focus groups with Elders, and younger hunters focused on the topics identified above, the socio-ec specialist would raise additional topics related to the socio-ec aspects of the information under discussion.

Chesterfield Inlet Interviews and Focus Groups

Because the community of Chesterfield Inlet is situated very close to the Project's marine transportation corridor, the field studies assumed this community, along with Baker Lake, would potentially be more affected than the other five communities in the Kivalliq region. Thus, the field studies in Chesterfield Inlet conducted by Golder were organised to match the methodology used in Baker Lake, consisting of a combination of interviews and focus group discussions.

On May 6 and 7, 2009, interviews were conducted with nine Elders and one adult hunter (total of 2 women, 8 men. Semi-structured interviews were used, during which the participants were engaged in a conversation and asked questions about the environment, traditional activities, and perceptions about the potential effects of the Project. This format was used so that participants could focus on their particular areas of knowledge and have the opportunity to provide additional information they believed to be important. The topics that guided the interviews included:

- Land and marine mammals (including harvesting areas, animal health, important habitats, migration routes);
- Game birds (harvesting areas, animal health, important habitats);
- Fish (including species, harvesting, fish health, spawning areas);
- Traditional use of vegetation;
- New wildlife species observed;
- Culturally important areas or sites (e.g., cabins, burial sites);
- Observed changes in weather patterns;
- Observed changes in water quality or quantity; and
- Potential effects of the Project on wildlife or traditional activities

Interviews were audio recorded and notes were taken. Information was also recorded on maps provided at various scales. Subsequent to the interviews, notes and recordings were reviewed and mapped information was aggregated to show information at the community level. A summary of the interviews conducted in Chesterfield Inlet is found in Attachment C of Appendix 3B IQ Documentation.

A focus group was also held in Chesterfield inlet with Elders and the HTO. The dates and composition of the focus groups are found in Table 3.4-1 below. The focus groups were held to identify additional information related to the above topics, and to collect IQ related to socio-economic issues, such as country foods, and transfer of hunting skills to young people. During the focus group discussions, participants had the opportunity to record information on various

maps showing the region and the immediate Project area. A summary of the focus group results as they relate to the natural environment and traditional use of resources is found in Attachment C. A discussion of the role of focus groups in collecting IQ for the socio-economic studies is found in the Socio-Economic Baseline (Technical Appendix 9A).

Table 3.4-1: Composition of Elder, Hunter, and HTO Focus Groups in Baker Lake and Chesterfield Inlet

Group	Date	Composition
Baker Lake Hunters	March 4, 2009	3 women, 6 men
Baker Lake Elders	March 5, 2009	5 women, 2 men
Chesterfield Inlet HTO	May 7, 2009	4 women, 4 men
Chesterfield Inlet Elders	May 8, 2009	2 women, 4 men

Focus Groups in Rankin Inlet, Whale Cove, Arviat, Repulse Bay, and Coral Harbour

The literature review suggested that the traditional harvesting areas of Arviat, Whale Cove, and Rankin Inlet were becoming more localized (Freeman 1976, Volume 1), and that the harvesting areas of Repulse Bay and Coral Harbour were considerably north of Chesterfield Inlet (Freeman 1976, Vol. 1, Vol. 3). Based upon the information above and the distance that Repulse Bay and Coral Harbour are from the Project, a revised methodology was used to collect IQ related to the environment and traditional activities. Focus groups based upon the socio-economic baseline studies were used to collect information in Rankin Inlet, Whale Cove, Arviat, Repulse Bay and Coral Harbour. The following topics related to the environment and traditional activities were included in the focus group discussions the five communities:

- Wildlife and traditional activities (including hunting, trapping, fishing, use of vegetation);
- Changes in traditional activities;
- Terrestrial and marine mammals (important species, health, changes in distribution);
- Changes in weather patterns; and
- Potential effects of the Project on traditional activities or the environment.

During the focus groups, participants were shown maps at various scales, and had the opportunity to provide information on traditional activities or wildlife knowledge in the Baker Lake and Chesterfield Inlet region.

Table 3.4-2 shows the dates and composition of the IQ focus groups held with Elders, hunters, and HTO members in Arviat, Whale Cove, Rankin Inlet, Repulse Bay, and Coral Harbour.

Table 3.4-2: Dates and Composition of IQ Focus Groups in Arviat, Whale Cove, Rankin Inlet, Repulse Bay, and Coral Harbour

Group	Date	Composition
Arviat HTO	March 30, 2009	1 woman, 6 men
Arviat Elders	March 31, 2009	6 women, 3 men
Whale Cove HTO	Not able to organize	
Whale Cove Elders	April 9, 2009	3 men
Rankin Inlet HTO	April 2, 2009	5 men

Rankin Inlet Elders	April 3, 2009	1 woman, 3 men
Repulse Bay HTO	May 11, 2009	1 woman, 5 men
Repulse Bay Elders	May 11, 2009	2 women, 3 men
Coral Harbour Hunters	May 13, 2009	1 woman, 5 men
Coral Harbour Elders	May 14, 2009	4 women, 1 man

3.4.3 2011 Community Review Meetings

Subsequent to the completion of interviews in Kivalliq Region in 2009, the results of the interviews and focus groups in Baker Lake and Chesterfield (including maps) were prepared, and in January, 2010, copies of the reports and maps were sent to Hattie Mannik in Baker Lake, and Andre Tautu in Chesterfield inlet. The information was made available to those who had participated in the studies and other interested members of the community. In November, 2010, representatives of AREVA visited each of the Kivalliq communities and presented the maps of the IQ information collected in each of the communities. At that time, AREVA indicated that subsequent meetings would be arranged to discuss the results of the IQ information and provide an opportunity to provide additional information.

In February and March of 2011, community review meetings were held with community members to review the IQ data collected at the previous meetings and interviews, and to add any new information that the participants felt was relevant to the Project. The dates and composition of the community review meetings in 2011 are found in Table 3.4-3.

Focus groups in the format of review meetings were held as part of the community review process, and conducted by representatives from Golder and AREVA in Baker Lake, Chesterfield Inlet, Coral Harbour, Repulse Bay, Rankin Inlet and Whale Cove. Table 3.4-3 shows the dates and composition of the IQ focus groups.

Table 3.4-3 Dates and Composition of IQ Community Review Meetings in Kivalliq Communities

Group	Date	Composition
Baker Lake HTO	February 16, 2011	2 women, 6 men
Baker Lake Elders	February 17, 2011	3 women, 7 men
Chesterfield Inlet HTO	June 3, 2011	4 women, 4 men
Rankin Inlet HTO and Elders	February 14, 2011	1 woman, 8 men
Arviat HTO and Elders	February 18, 2011	6 men
Whale Cove	March 21, 2011	2 women, 4 men
Repulse Bay HTO and Elders	February 10, 2011	4 women, 7 men
Repulse Bay Hunters	February 11, 2011	2 men
Coral Harbour HTO and Elders	February 17, 2011	8 participants

Of the 68 participants in the community review meetings held in 2011, 28 had also participated in the interviews and focus groups in 2009. Copies of the maps prepared from the 2009 studies were made available to each of the individuals. These were copies of the same maps that had been presented at the community meetings in November, 2010. In response to comments made by the communities during the community meetings organised by AREVA in November, 2010, the 2011 review meetings provided participants with the opportunity to provide additional

information and to update maps with information. Generally, the topics discussed at the meetings included the following:

- Land and marine mammals (including harvesting areas, animal health, important habitats, migration routes);
- Game birds (harvesting areas, animal health, important habitats);
- Fish (including species, harvesting, fish health, spawning areas);
- Traditional use of vegetation;
- New wildlife species observed;
- Culturally important areas or sites (e.g., cabins, burial sites);
- Observed changes in weather patterns;
- Observed changes in water quality or quantity; and
- Potential effects of the Project on wildlife or traditional activities

In response to the Draft Project Guidelines that had been received from the Nunavut Impact Review Board (NIRB), topics related to ice formation, ice travel, and the potential effects of the Project on wildlife along the potential Project transportation corridors were also discussed. As in previous focus groups, additional information was recorded in notebooks and on maps.

3.4.4 Information from the Socio-Economic Focus Group Discussions

Key informant interviews and focus group discussions were arranged with representative groups in each of the Kivalliq communities (e.g., women's groups, rotational workers, young adults) to collect information for the Socio-Economic Baseline Report. Interviews and focus groups discussed topics such as women's roles, dependency on country foods, and traditional activities. During the interviews and focus group discussions, participants also provided information on topics relevant to the IQ baseline report, such as wildlife and harvesting activities. Where relevant, information from the Socio-Economic field studies has been included in this report.

3.5 COMMUNITY INVOLVEMENT IN THE FIELD STUDIES

Representatives of the Kivalliq communities were involved in various aspects of the field studies conducted for the IQ baseline. The following summarizes community participation in the interviews and focus groups.

3.5.1 2008 Field Studies

Inuit Qaujimajatuqangit was discussed at all meetings between AREVA and the Baker Lake Community Liaison Committee (CLC) from January 2007 to September 2008. At meetings in March and April, 2007, CLC representatives recommended that Elder IQ should be obtained before selecting road options the Project, and baseline monitoring and IQ collection should begin. The CLC members recommended that Hattie Mannik conduct IQ interviews, and during 2007 the questions were developed. In 2008, Hattie conducted interviews with Baker Lake Elders.

3.5.2 2009 Field Studies

Prior to commencing field studies, the results of the 2008 interviews were reviewed and used to develop interview guidelines for the 2009 field studies. The topics covered in the guidelines have been summarised in Section 2.4.1 and Section 2.4.2 above. A meeting was held with the Regional Liaison Committee (RLC) in February 2009, during which a presentation on the proposed IQ and Socio-Economic field studies was made. The RLC members recommended that youth should be involved in the community process, and that RLC members should help to introduce the socio-economic and IQ researchers to their respective communities.

A community representative from each community assisted with the IQ interviews and focus groups. In Baker Lake, the community representative identified participants for the focus group discussions. Hattie Mannik and Mitchell Goodjohn (Golder) co-led the focus group discussions with Elders and hunters. A community translator was also retained to provide translation during the focus groups.

In Chesterfield Inlet, a community representative reviewed the proposed interview topics and recommended some changes to the questions. As a result, questions regarding cultural sites, and plant use were also included in the focus group discussions. The representative identified participants, arranged the interviews and focus groups, helped to conduct the interviews, and translated where necessary. Similarly, community representatives in Rankin Inlet, Whale Cove, Arviat, Repulse Bay, and Coral Harbour arranged focus groups, identified participants, and helped conduct interviews and provide translation.

3.5.3 2011 Community Review Meetings

In 2011, community review meetings were arranged in Baker Lake, Chesterfield Inlet, Rankin Inlet, Whale Cove, Arviat, Repulse Bay, and Coral Harbour. Individuals in the communities who assisted with the 2009 interviews were asked to help organise and assist with the 2011 community review meetings. Where those individuals were not able to assist, representatives of the HTOs were able to help. Meetings were arranged with the HTO in each of the communities. Community organisers were provided the names of the participants from the 2009 studies and invited them and other interested individuals to participate in the review meetings.

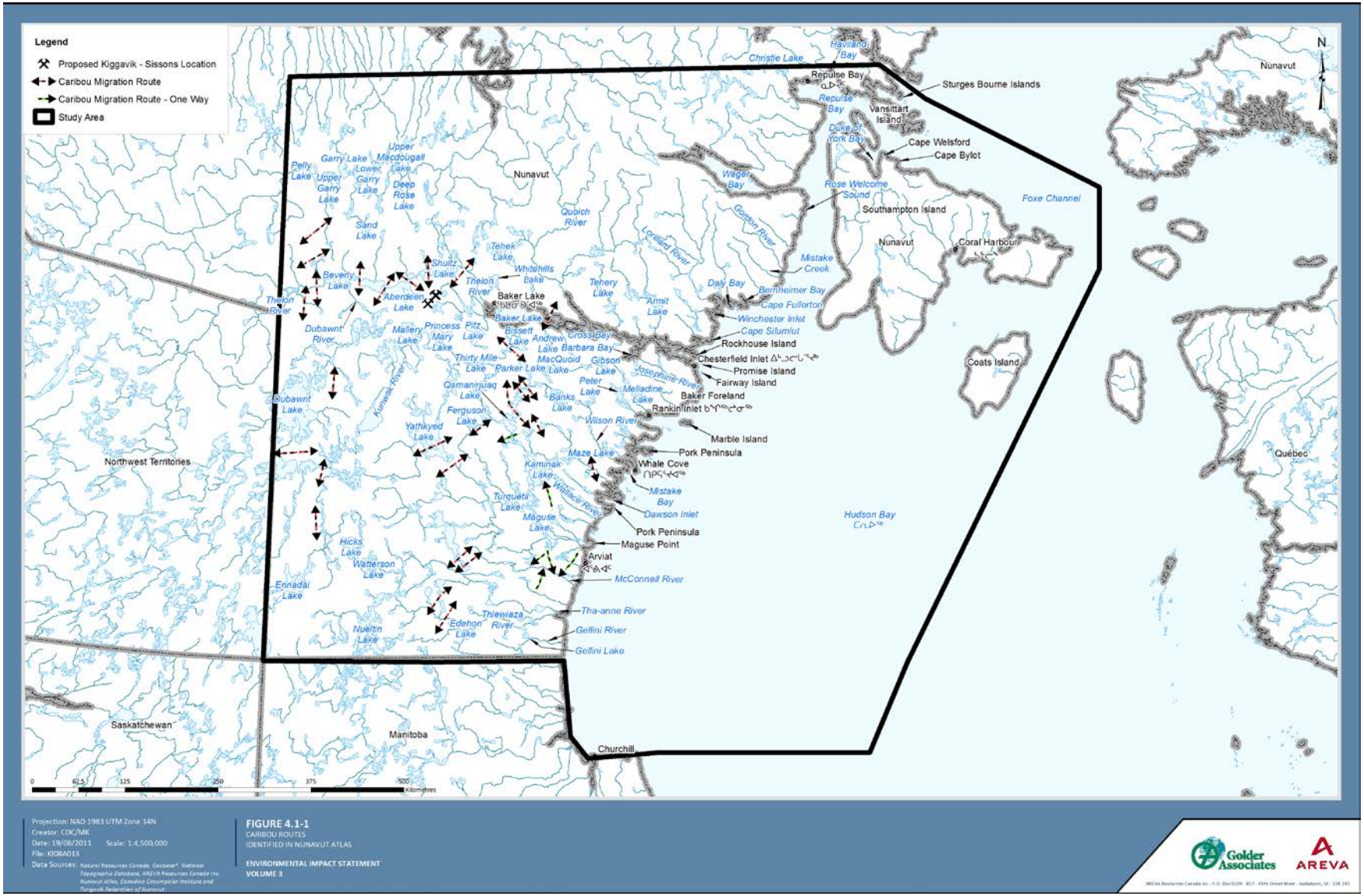
In addition to the above review meetings, AREVA has held community meetings related to the Project, and a summary of times and discussions of those meetings can be found in Volume 3 and Technical Appendix 3A (Public Engagement Documentation).

4 RESULTS FOR THE KIVALLIQ COMMUNITIES

4.1 COMMUNITY RESULTS

The following sections summarise the results of the literature review, interviews, Elder and hunter focus group discussions, and community review meetings. This report also incorporates information related to wildlife, plants, and resource harvesting activities identified during the Socio-Economic focus group discussions for each of the seven Kivalliq communities. Figure 4.1-1 shows caribou routes identified during a review of the Nunavut Atlas (Riewe 1992), as well as place names mentioned in the following sections. Information from the Nunavut Atlas was based upon community-based research in each of the Nunavut communities (Riewe 1992). Knowledge related to changes in weather patterns has been summarised and appears at the end of this section.

Figure 4.1-1: Caribou Routes Identified in the Nunavut Atlas



4.2 BAKER LAKE

The Baker Lake hunters and Elders described themselves as inland people, very few of whom harvest, or have an interest in marine mammals (BLH 2009; BLE 2009; BLHT 2011). Before moving into the settlement of Baker Lake, people were centred along the Thelon River, Kunwak River (south of Mallery Lake) and Kazan River systems and inland at Beverly Lake (Freeman 1976:92,108). Baker Lake Elders had lived in various camps on the tundra in the Baker Lake region and began to move into the community prior to 1960 (BL03 2008). Elders said that they moved to Baker Lake so their children could attend school, and one Elder described the difficulty of sending children to school while they were still living in an igloo around 1969 (BL03 2008). Some Elders added that the availability of social services was also an important consideration for moving to Baker Lake (BL13 2008), while others added that poverty, and the lack of food and wildlife were also important reasons (BL08 2008; BL13 2008). One of the Elders said his family was forced to move to the Baker Lake community by the RCMP (BL02 2008).

The following sections describe the various harvesting and other traditional activities of the Baker Lake Inuit, as well as culturally important areas identified during the literature review, interviews, focus group discussions, and community review meetings. Details from the 2008 interviews, the 2009 focus group discussions and the 2011 community review meetings are available in Attachment B of Appendix 3B IQ Documentation..

4.2.1 Wildlife and Harvesting

Figure 4.2-1 shows caribou information gathered during interviews and focus group discussions held in Baker Lake. Figure 4.2-2 shows land and wildlife information from interviews and focus group discussions.

Most Elders participating in the Project interviews said that in the past, caribou and fish were their major food source (BLE 2009). One Elder explained that fox and Arctic hare were eaten when caribou were scarce (BL01 2008), and another said that their diet was fish only, as caribou were scarce after moving to Baker Lake (BL06 2008). Another Elder explained that caribou and ptarmigan were their main food source, as they did not have fishing rods to catch fish in the summer (BL08 2008). Hunters emphasized that most people in Baker Lake still depend on caribou for food, and that it is a major food staple for many families (BLH 2009; BLHT 2011; BLE 2011).

The hunters who were interviewed in the 2011 community review meeting explained that some hunters need to go out every week in order to catch caribou to feed their families (BLHT 2011). According to traditional caribou hunting practices, the first group of the migrating herd must be allowed to pass through an area undisturbed, and after a few days the hunting can commence (BLHT 2011). Pregnant cows are not typically hunted, and calves are only hunted when Elders make a request for softer meat (BLHT 2011; BLE 2011). The Elders have noticed that the

caribou and other animals like to go where there is shelter, and they usually try to stay in areas where there are big lakes (BLE 2011).

According to one participant from the community review in 2011, there is a spring migration of caribou that crosses the Thelon River (BLHT 2011). Another hunter said that in July and August caribou from the Beverly herd are hunted by Quoich River (BLHT 2011). It was noted that in August and September, caribou travel to the Baker Lake area from the south-east and south-west, but they do not migrate down from the north at this time (BLHT 2011). It was reported that in December, caribou from the Kamaniriak herd are hunted south of Baker Lake (BLHT 2011).

Areas used for hunting, trapping, and other resources are dependent on the movements of the caribou. A comparison between areas used by residents of Baker Lake in the past, and areas currently used is difficult as variations in caribou migration routes have occurred over the years. For example, one of the people interviewed believes that caribou naturally change their migration patterns every few years (BL01 2009), and an Elder explained that while herds used to start migrating towards the southeast and cross at Annigguq Lake and the mouth of Kazan River, they now start to migrate from the southeast towards the northwest (BL05 2008). Another Elder simply stated that the herds do not take the same routes anymore (BL02 2008).

The hunters from the community review in 2011 also noted that it is normal for caribou migration routes to vary from year to year, and mentioned that in 2011 Baker Lake hunters did not observe as many caribou around Baker Lake as in previous years (BLHT 2011). The interview participants felt that exploration activities, airplanes, and transport trucks may be disturbing the caribou migration (BLHT 2011). Specifically, the HTO representatives perceive that the Rankin Mine and the Meadowbank Mine have caused negative impacts to the caribou in the past and are concerned that a similar process will take place at Kiggavik (BLHT 2011, also see Section3.1.6). The participants reported that in October and November (2011) the caribou were observed passing through the area around Baker Lake, but very few have been seen since (BLHT 2011). The participants were hopeful that the caribou would return with the spring migration, but said that only time would tell (BLHT 2011).

Figure 4.2-1: Caribou Information Gathered During Interviews and Focus Group Discussions Held in Baker Lake

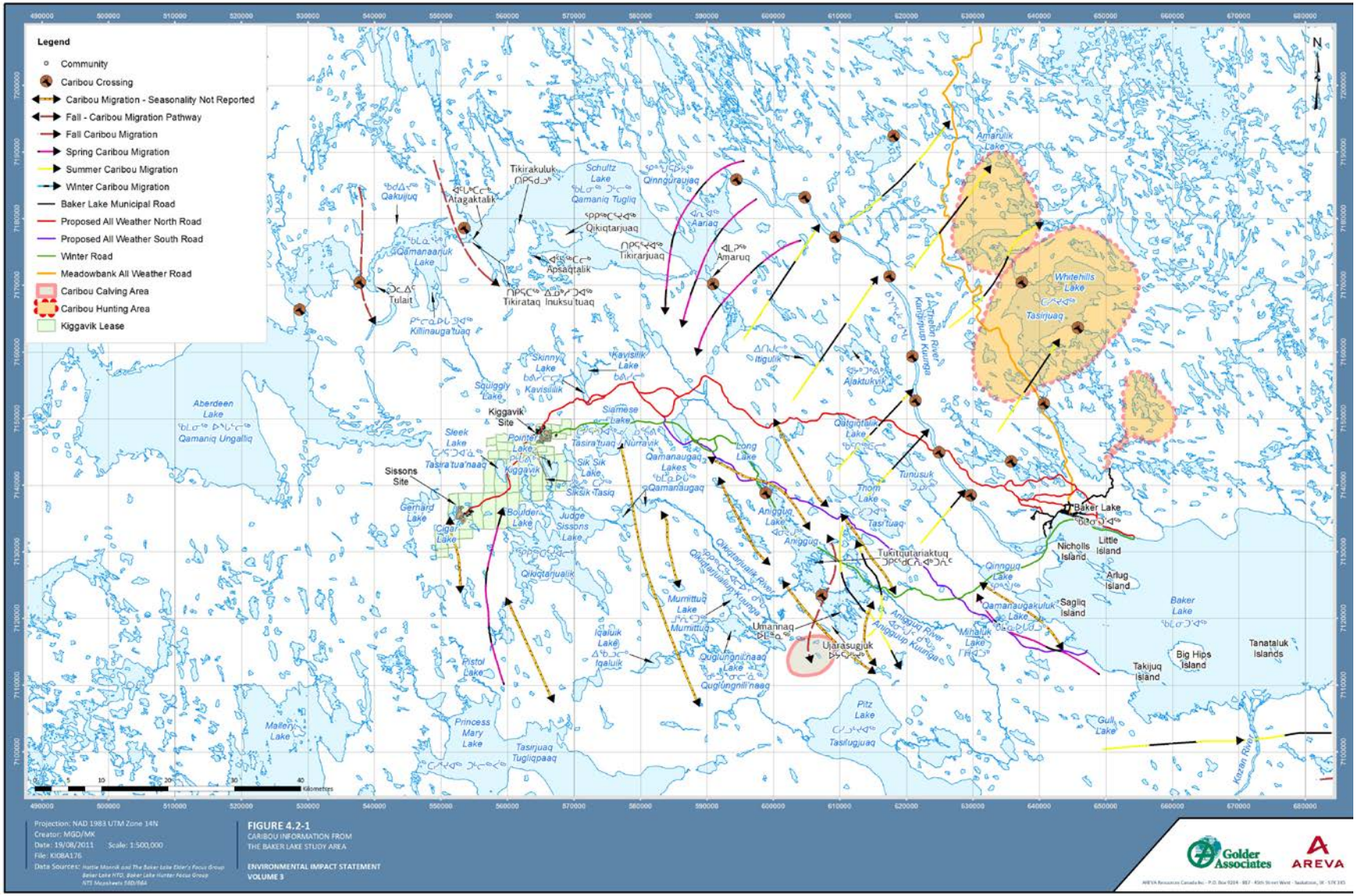
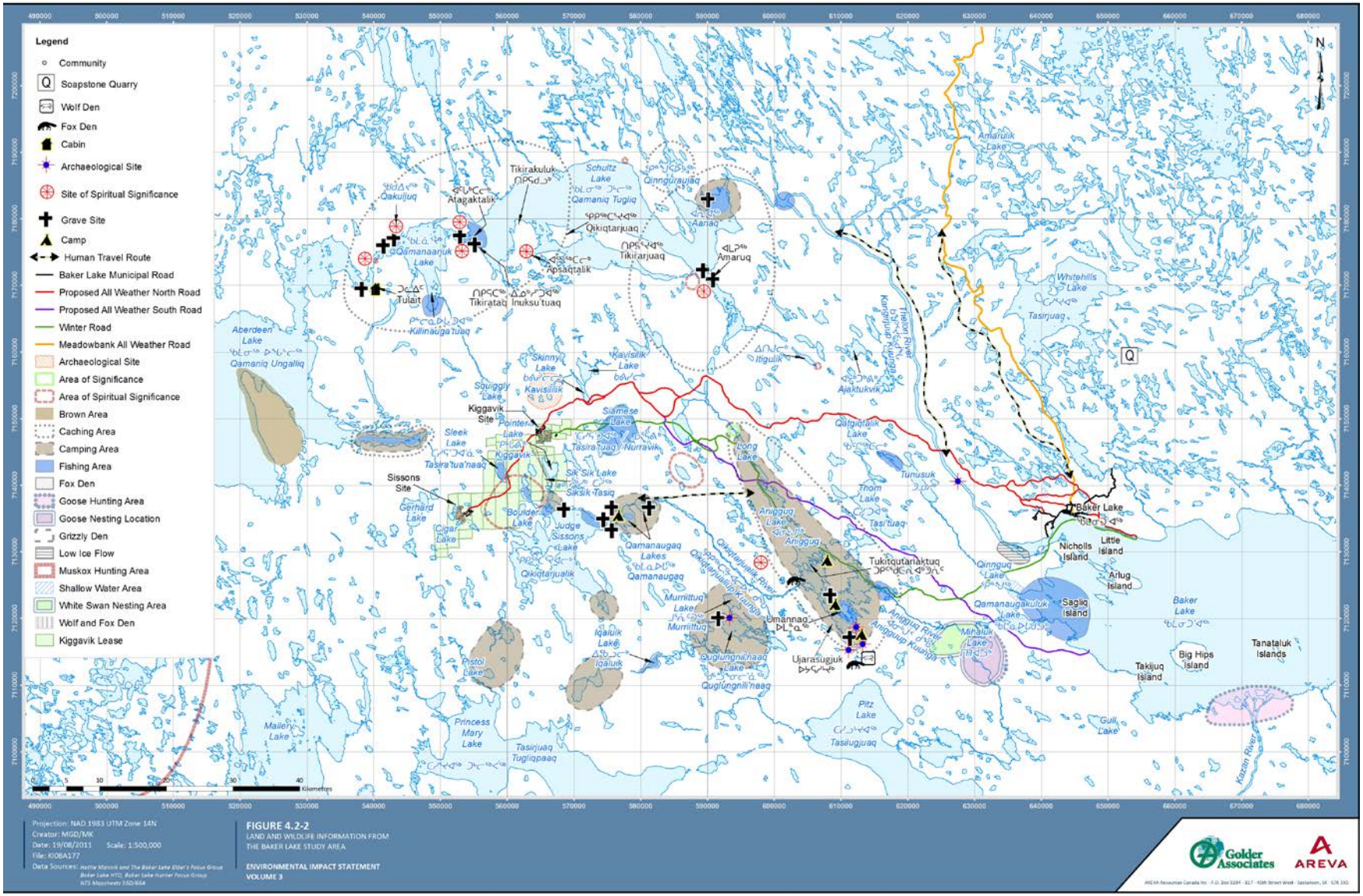


Figure 4.2-2: Land and Wildlife Information from Interviews and Focus Group Discussions



The literature review showed that the land far north of Baker Lake, between Shultz Lake and the north coast (outside the study area), as well as northwest of Beverly Lake was irregularly used in the past by Baker Lake residents for trapping Arctic fox and hunting caribou (Riewe 1992:149). Additionally, the area adjacent to the east shore of Baker Lake was commonly used for caribou hunting by residents of Baker Lake and Chesterfield Inlet (Riewe 1992: 254). During focus group discussions, Baker Lake hunters said they do not go as far as they used to for caribou. While they used to travel large distances to harvest caribou, they now hunt close to the community adding that they did not need to go further than 40 miles (64 km), as caribou were "just there" (BLH 2009). While Baker Lake caribou hunters most frequently hunt within approximately 10 km north of the community, some hunters travel as far as 300 km to hunt (Kendrick and Manseau 2008). Comparing travel distances in lifetime hunting patterns, Kendrick and Manseau (2008) noted that younger hunters accumulated larger distances than Elders possibly due to the use of snowmobiles.

Five different caribou herd ranges overlap the Baker Lake area, which is the closest community to the calving grounds of both the Beverly and Qamanirjuaq caribou herds (Kendrick and Manseau 2008; GeoVector Management Inc 2008:35). During Project interviews, Elders indicated various caribou crossings and movements surrounding Baker Lake (Figure 4.2-1). Qikiqqtarjualik Lake (Judge Sissons Lake), just south of the Project lease area, was a main caribou crossing area (BL01 2008), along with Annigguq Lake (BL02 2008), and Qikiqqtalik, the narrows situated at the west end of Aberdeen Lake (BL04 2008). While interviews, focus groups, and the literature review indicated that the Project was not in an area frequently used for hunting or trapping, the Judge Sissons Lake area has been infrequently used for hunting, trapping, and as a travel route in the past (Figure 4.1-2) (Riewe 1992:149). Project interviews identified a caching area west of the Project on the east shore of Aberdeen Lake.

The literature review indicated that caribou crossings are located north of Baker Lake near Whitehills Lake and adjacent to the Meadowbank all-weather road (Meadowbank road) (Figure 4.1-1). The literature review also indicated that in the past when caribou wintered in the Whitehills Lake and Tehek Lake areas, hunting and trapping was done from fall through spring near Whitehills Lake and also around the northeast shore of Baker Lake in summer and fall (Riewe 1992:254). In the past, caribou were hunted along other lakes south of the Project depending on the availability of caribou near Baker Lake (Riewe 1992:188).

The results of the 2011 community review meetings suggest that although caribou are the main food source for hunters from Baker Lake, other land mammals play a minor role (BLE 2011; BLHT 2011). People from Baker Lake also hunt wolves and wolverines (BLE 2011; BLHT 2011). Wolves are valuable for their fur, which the interview participants said can be sold at a high price (BLHT 2011). Wolves are seen close to town near the snow-fence when it is cold (BLHT 2011). According to the interviewed Elders, wolves are hunted in the Aberdeen Lake and Shultz Lake areas during the winter (BLE 2011). The Aberdeen Lake and Shultz Lake areas were also described as "good caribou hunting areas" (BLHT 2011). The Elders reported that summer is the best time to hunt wolverine, because wolverines are very dangerous and can disappear into the snow during winter; although the wolverine is small, it is fast and clever and can circle

around an unsuspecting hunter (BLE 2011). There are also many grizzly bears around Baker Lake and people often hunt them for food and for their skins (BLE 2011). The literature review also indicated that the number of wolves and grizzly bears harvested has increased (Cumberland 2005).

In the past, trapping around the Baker Lake community mostly occurred during November and December. Trapping in February and March was focused on the areas near Whitehills Lake and lower Quoich River (Riewe 1992:254). Arctic fox was trapped along the southeast end of Baker Lake in late winter (Riewe 1992:149) and along the east side of Princess Mary Lake (Mannik 1998:239).

During interviews, Elders did not identify musk ox as an important food source. One Elder said that for many years, they were not aware that they could eat musk ox (BL10 2008), and others said they didn't harvest them because they were protected (BL02 2008). The literature review indicated that there used to be an important musk ox hunting area southeast of Baker Lake near Gibson Lake (Riewe 1992:173). Also, there have been increasing numbers of musk ox reported near the Baker Lake area (Cumberland 2005).

The literature review indicated that the area along the Kazan River, south of Baker Lake, and the area east to Bissett Lake and Parker Lake were used year-round by residents of Baker Lake (Riewe 1992:173).

While interviews, focus groups, and the literature review indicated that marine mammals are rarely hunted by residents of Baker Lake, a few hunters said they travel down to Chesterfield Inlet to hunt marine mammals (BLH 2009; BLHT 2011) and one Elder from Chesterfield Inlet recalled hunting walrus with a man from Baker Lake in the area of Chesterfield Inlet (Mannik 1998:181). During focus group discussions, hunters said that that although the Baker Lake people rarely harvest marine mammals, some seals are observed in Baker Lake itself. In 2008, seals were seen three times, and these included harbour, ring, and the occasional bearded seal. The interview participants at the community review meeting in 2011 agreed that Stony Point is a good location for hunting seals (BLHT 2011). A killer whale (orca) was seen in Baker Lake around 1978, and beluga whales have been seen in Baker Lake every couple of years (BLH 2009).

Residents from as far south as Arviat and Whale Cove used the Copperneedle River, Kaminak Lake, and Kaminuriak Lake route to travel northwest to Baker Lake (Riewe 1992:173). Arviat Elders and younger hunters have indicated that lifetime hunting travel areas have extended to the Baker Lake area (Kendrick and Manseau 2008).

4.2.2 Birds and Egg Harvesting

Figure 4.2-2 shows the location of goose hunting, and goose nesting areas identified during interviews and focus group discussions in Baker Lake. Both the literature review and Project interviews identified the mouth of the Kazan River, on the south shore of Baker Lake, as an area where geese were harvested (Riewe 1992:254). During previous interviews conducted in Baker

Lake by Hatti Mannik, one Elder said that in his younger days there were not as many waterfowl around Baker Lake as there were at the time of the interview (Mannik 1998:97). The literature review also indicated that between Baker Lake and Beverly Lake (to the northwest of Baker Lake) many areas were used for goose hunting, duck hunting, and egg collection during the spring (Freeman 1976:105). Harvesting ducks, geese, and eggs was sometimes also done north of the Dubawnt River and Dubawnt delta far west of the Project (Riewe 1992:149). During interviews, some interviewees commented that a bridge over the Thelon River might prevent people from taking their boats up river to pick goose eggs (BL06 2008). Ptarmigan was mentioned as an important species of hunted bird at the 2011 community review meeting (BLHT 2011).

4.2.3 Fishing

Figure 4.2-2 shows fishing areas identified during interviews and focus group discussions. The west shore of Baker Lake and Judge Sissons Lake were identified as fishing areas, as well as numerous fishing lakes in the Baker Lake region including areas close to the Project lease area, such as Siamese Lake and the east shore of Aberdeen Lake. Elders also said that all of the little lakes in the region were fishing lakes (BL16 2008). Fish species caught include whitefish, trout and Arctic char. Arctic char run from the middle to the end of August, and spawn later in October, after the ice forms (BL01 2008). According to Riewe (1992:174), ciscos were also caught in the past. Fishing also occurred at spawning beds after the lakes were frozen (Bennett and Rowley 2004:74).

Some Elders said that while the quality of water hasn't changed, the fish are skinnier and are not very good (BL12 2008), and that Annigguq Lake now has unhealthy trout due to the drilling occurring in the region around the lake (BL02 2008). One of the Elders added that the rivers flowing into Pointer Lake have caused the fish there to die, and that the same will happen to Judge Sissons Lake when mining operations start to get close to the lake (BL02 2008).

The literature review indicated that important fishing sites include Tehek Lake, Whitehills Lake, Baker Lake, Parker Lake, Judge Sissons Lake, Bissett Lake, and the mouths of the Prince River and Kazan River (Riewe 1992:174). Fishing at the southeast end of Tehek Lake and Whitehills Lake often provided food during hunting and trapping trips (Riewe 1992:254). In the past, it was common for residents of Baker Lake to travel north to Whitehills Lake in spring and summer to fishing camps (Riewe 1992:254). Additionally, the area along the north shore of Baker Lake was heavily used all year, and local residents often occupied weekend and seasonal camps. Even though the south shore of Baker Lake was not easily accessible, fishing camps were still common (Riewe 1992:254).

At the community review meeting with HTO representatives in 2011, “AREVA” agreed to schedule a future meeting to discuss fish habitat compensation with consultants and the Department of Fisheries and Oceans (DFO) (BLHT 2011).

4.2.4 Plants

The plants that were traditionally gathered in the past were used for bedding, insulation, fire starter, food, and medicine (Bennett and Rowley 2004:78). During focus groups, Elders said that traditional cures were no longer used, adding that crowberries, blueberries, blackberries, and 'red' berries were harvested for food (BLE 2009). In previous interviews conducted by Hatti Mannik (Mannik 1998:159), cloudberries were also named as one of the types of berries picked by the people of the Baker Lake area and were used to make tea (BLE 2009). People started using dried ground plants and leaves such as those from the cloudberry bush, after the introduction of tea by Europeans (Mannik 1998:88).

In the past, other plants such kanguuyat (cotton grass) were used as wicks for lanterns and brown mosses were used in lanterns, as a match to start fires, and to create smoke to ward off mosquitoes. Lichen was also collected for fire (Mannik 1998:71,127,192,244). Heather moss and 'urju' (sphagnum moss) were used as fuel and to keep food moist during cooking (Bennett and Rowley 2004:83). Dwarf willows were used to make 'avaalaqiat', the water proof bottom for bedding (Bennett and Rowley 2004:238).

Although the Elders said during focus groups that there are no special places for collecting plants, they did acknowledge that the area around Judge Sissons Lake was good for harvesting red berries and that plants were found everywhere (BLE 2009).

4.2.5 Camps, Trails, Burials, and Cultural Sites

During the transition period to the settlement at Baker Lake, which lasted well into the 1960s, most camps were used by people who spent the majority of their time in Baker Lake (Freeman 1976:105). Some of the camps were as far away as 200 km and people would spend more than a month away from the community (Freeman 1976:105). During interviews, Elders said that Baker Lake people lived in various camps situated west of Baker Lake. The camps were also caribou caching areas (BL08 2008). Figure 4.2-2 shows the camping areas described during interviews. Camping areas were described near Shultz Lake (BL05 2008), Judge Sissons Lake, and Anniguqq Lake (BL02 2008). While some of the Elders said they camped around Kiggavik, others indicated they did not. People also described camping in the region between Kiggavik and Baker Lake (BL02 2008; BL03 2008), and one family described camping at Kazan River in the winter, and moving to Anigguq Lake in the spring (BL10 2008).

In previous interviews, Baker Lake Elders said there were campsites all around the Kazan River and Thirty Mile Lake south of Baker Lake (Mannik 1998:222). Sites along the travel corridor between Baker Lake and Back River to the north were described by Elders to be very spiritual, with grave sites along Second Portage Lake and throughout the area between Baker Lake and Meadowbank (Cumberland 2005). Along the Thelon River were caribou crossing points, and former camps used by nomadic hunter groups of the region which are considered important. Concerns for the protection of the sites have been noted (GeoVector Management Inc 2008: iii).

Gravesites, spiritually significant sites, and archaeological sites identified during interviews and focus groups are shown in Figure 4.2-2. Regarding archaeological sites, Elders said that inuksuk were used to show where various families may have moved (BL01 2008; BL13 2008), and that rock placements also functioned as fish pointers (BL03 2008). Others described sod houses located between Kazan River and Rankin Inlet (BL14 2008), and bones located south of Qikkiqqtarjualik Lake (BL10 2008) and at Unurniqtalik on Aberdeen Lake (BL11 2008). The Elders related various stories associated with spiritual areas,

In 2011, interview participants reported that all the lakes and rivers, including the Thelon River, are important to the caribou hunt and that the hunters will go anywhere they can find caribou; the limitations are the fuel required to cover large distances and the time of year (BLHT 2011). Hunters can travel by snow mobile across frozen lakes in the winter, but in summer, when there is no ice, the hunters are limited in where they can hunt because they have to go by boat (BLHT 2011). The hunters believe that it is easier to cross frozen water than to travel by boat (BLHT 2011). People may travel down the inlet by snowmobile during the winter but this is not common (BLE 2011). In the winter, hunters will take their snowmobiles up the Thelon River for hunting (BLE 2011). The Thelon River is very important for accessing hunting areas in the summer as well (BLE 2011). In the summer, hunters will boat up the Thelon River to access lakes for camping and hunting (BLE 2011). Boating is the most common form of travel for hunters during the summer, and cabins are used all summer long (BLE 2011). During the summer, people will travel by boat down towards Chesterfield Inlet, hunting caribou along the way (BLE 2011). Also, in the summer there are ATV routes along parts of the Thelon River (BLE 2011).

People will use other rivers for travel but the Thelon was described as the most important; the Kazan River is also used (BLE 2011). One of the participants reported using [Kazan River] to reach Qurluqtuq, south of Baker Lake, where some falls are located, and noted that if people want to go further than Qurluqtuq, they will use the creeks (BLE 2011). Beverly Lake was reported to be a good hunting area by the Elders (BLE 2011). According to the Elders, there are usually a lot of caribou around the Agnico Eagle Mine (Meadowbank) (BLE 2011). Some of the participants said they use the Meadowbank road for hunting (BLE 2011).

With respect to the placement of the Proposed AREVA dock site (about half a kilometre east of the Agnico Eagle dock) at least four cabins were identified in the vicinity of the proposed dock by the HTO representatives in 2011 (BLHT 2011). They reported that these cabins are all used throughout the spring and summer, and that there are some cabins located west of Thelon River, where the people hunt in the summer (BLHT 2011).

4.2.6 The Project

Interviews, focus group discussions, and the literature review suggest that although the Project lease area was not used for harvesting or camping activities, people did travel through the lease area and conducted harvesting-related and camping activities in the larger area around the lease area.

Although people depend mainly on caribou for food, they view the ecosystem in a holistic way. They believe it is important to protect the whole environment, including migration routes, bird nesting areas, and marine mammals (BLH 2009). Elders are concerned that mining will take away land from the hunting grounds, or that uranium may escape and contaminate the grounds; especially the land along the Thelon River, or on the south side of Baker Lake (BLE 2009). For some, there is a larger concern that people may become contaminated by the Project (BLE 2009).

During the interviews, most of the Elders indicated that they would support a bridge over the Thelon River, and would not like to see any development near Hagliq. In particular, a bridge at either Anaqtalik or Kinngarjuit (Half Way Hills) was described as a good option (BL13 2008). Another person thought that a ferry would be better than a bridge (BL18 2008). One of the Elders said they would not support any development south of Baker Lake as that is an important caribou route, and that the area around Hagliq is too shallow for barges or boats (BL09 2008). Others said that Hagliq is an important fishing area (BL06 2008; BL17 2008). Three people were concerned that a bridge over the Thelon River might prevent people from taking their boats up river to pick goose eggs (BL06 2008), or would cause problems with ice being pushed up onto shore, or possible damage to the bridge from ice (BL04 2008; BL10 2008).

One of the Elders suggested that the experience with the Meadowbank mine was that the mine did not affect the caribou, and that the young people would benefit from employment at the mine (BL06 2008). The same person noted that once people moved into Baker Lake, they did not go out on the land much to teach their children traditional ways (BL06 2008). During focus groups, young people indicated that traditional skills are being adapted into modern ones and that providing for their family now means earning money (BLY 2009). They added that they feel under a lot of pressure to get a higher education, get employment and learn traditional ways (BLY 2009). Rotational workers said that having employment means they can afford hunting gear, such as ATVs or snowmobiles, and that combined with a two-week-on and two-week-off rotation, they can go on the land and hunt more than they were able to prior to employment (BLRW 2009).

Road construction for the Kiggavik site was a concern for the HTO members at the community review meeting in 2011 (BLHT 2011). The management of the Kiggavik Road was a major source of concern for the HTO participants, specifically the impact of roads on the wildlife (ie. habitat fragmentation, noise, the potential for animal-vehicle collisions, and dust) (BLHT 2011). In particular, the interview participants were most concerned for the migrating caribou (BLHT 2011).

The interview participants explained that although roads do provide easier access to caribou for hunters, they can also have negative impacts (BLHT 2011). One hunter said that the road to Meadowbank is a good example of how roads can impact the caribou, because road produces a lot of dust in the summer, and then the caribou feed on dusty grass by the roadside, which is not good for them (BLHT 2011). One participant warned industry to minimize dust on the roads (BLHT 2011). The interview participants also reported that the daily traffic on the Meadowbank road is altering the caribou's pattern of migration and affecting them in a negative way (BLHT

2011). They warned that the road to Kiggavik will only exacerbate this problem (BLHT 2011). For example, some of the participants suggested that the movement of caribou coming in from the west and south may be altered (BLHT 2011). Another participant said that he was disturbed in the summer of 2010 to see an industry truck driving without regard for the caribou trying to cross the road (BLHT 2011). The participants expressed concern that mining and roads associated with the Kiggavik site would impact the migrating caribou in a negative way (BLHT 2011).

One hunter said that there should be three or four wildlife monitors employed to supervise the construction [and operation] of the AREVA road to Kiggavik, noting that the single monitor employed at the Meadowbank road is not sufficient (BLHT 2011). The timing for wildlife monitors to be present on the Kiggavik road would depend on the timing of the caribou migration, but one participant estimated that June through to December would probably be a good time (BLHT 2011). “AREVA” agreed to schedule a future meeting dedicated to the sole purpose of discussing Kiggavik road management with the Baker Lake HTO (BLHT 2011). The HTO representatives from Baker Lake also expressed concern about the possibility of limited access due to development, and expressed frustration with previous projects creating barriers and obstructions such as barrels and litter on the landscape, disturbing both caribou and people (BLHT 2011). Some participants expressed concern that If AREVA were to succeed at building a road through the Baker Lake area, then their access to traditional hunting grounds would be restricted (BLHT 2011).

The HTO representatives requested to be notified when the reports about their IQ meetings have been prepared, because they would like to see what the Elders and other people have said about the interview topics (BLHT 2011). They emphasized that IQ data about caribou crossings should be clearly marked on Project maps (BLHT 2011).

4.3 CHESTERFIELD INLET

Chesterfield Inlet has served as a prominent route of travel between Baker Lake and Hudson Bay for people as far north as Wager Bay and as far south as Arviat (Freeman 1976:90). In the winters prior to 1954, people of Chesterfield Inlet lived mainly on caribou meat and frozen fish that had been cached in the fall. They occasionally hunted wolf, wolverine, Arctic hare, and ptarmigan (Freeman 1976:91). In the spring and summer people moved to the shores around Chesterfield Inlet to fish and hunt marine mammals, and in the fall people moved back inland to hunt caribou (Freeman 1976:91). After 1954 most people lived in the permanent community of Chesterfield Inlet (Chesterfield) and spent less time moving back to the land, but people still travelled long distances to hunt, including the occasional trip to Walrus Island off of Southampton Island (Freeman 1976:108). Project interviews indicate that the people of Chesterfield Inlet continue to be primarily dependent on caribou, fish, and seal. Consuming country foods is not considered ‘ritual food’ but the daily way of life (CIHT 2009). Details from the 2009 interviews and focus group discussions, and 2011 community review meeting, are available in Attachment C of Appendix 3B IQ Documentation.

4.3.1 Wildlife and Harvesting

Figure 4.3-1 and Figure 4.3-2 show caribou hunting information gathered during interviews and focus group discussions in Chesterfield Inlet. Figure 4.3-3 shows information on other land animals and marine mammals gathered during the interviews and focus group discussions.

The area extending north and east from Chesterfield Inlet was used in the past by Chesterfield Inlet and Baker Lake residents for hunting and trapping. Now, Chesterfield hunters focus more on hunting along the coastal areas rather than inland (Riewe 1992:173). Interviews with Chesterfield Inlet Elders indicated that hunting is currently concentrated on both sides of Chesterfield Inlet and along the north and south shores extending away from Chesterfield Inlet.

Elders take young people out and transfer traditional skills through watching and learning, and young people that do not want to learn are left behind and may end up on a 'wrong path' in life (CIHY 2009). During focus group discussions, young hunters said that they tend to hunt in groups for financial reasons, such as to share the cost of gasoline or the use of snow machines (CIYA 2009). Women tend not to hunt during the coldest months (December and January). Other women said they would like to go hunting more often but are busy looking after their children (CIYA 2009). Trapping died out in Chesterfield several years ago, partly due to the requirement to adopt 'instant kill' traps, which were dangerous to use and resulted in many accidents (CIE 2009).

4.3.2 Caribou

Caribou sometimes wintered along parts of Chesterfield Inlet and were hunted regularly (Riewe 1992:173). Residents of Rankin Inlet and Chesterfield Inlet regularly used the area extending along the southern shore of Chesterfield Inlet west to Gibson Lake (Riewe 1992:173). Some trapping occurred along Gibson Lake, and wolves were hunted throughout the area when they were encountered (Riewe 1992:173). Lifetime harvesting maps of both Arviat and Baker Lake show that Elders and active hunters have used the area along Chesterfield Inlet and further south for hunting caribou (Kendrick and Manseau 2008). North of Chesterfield Inlet was less intensely used (Kendrick and Manseau 2008). In the past, caribou were generally hunted in spring and fall, but stray caribou were also hunted in summer and winter. The area north of Kamiuriak Lake was a prominent calving ground for caribou and was also used for hunting (Riewe 1992:173). This area was identified as a calving ground during Project interviews in 2009 (Figure 4.3-2).

Figure 4.3-1: Caribou Information from Chesterfield Inlet Interviews (North)

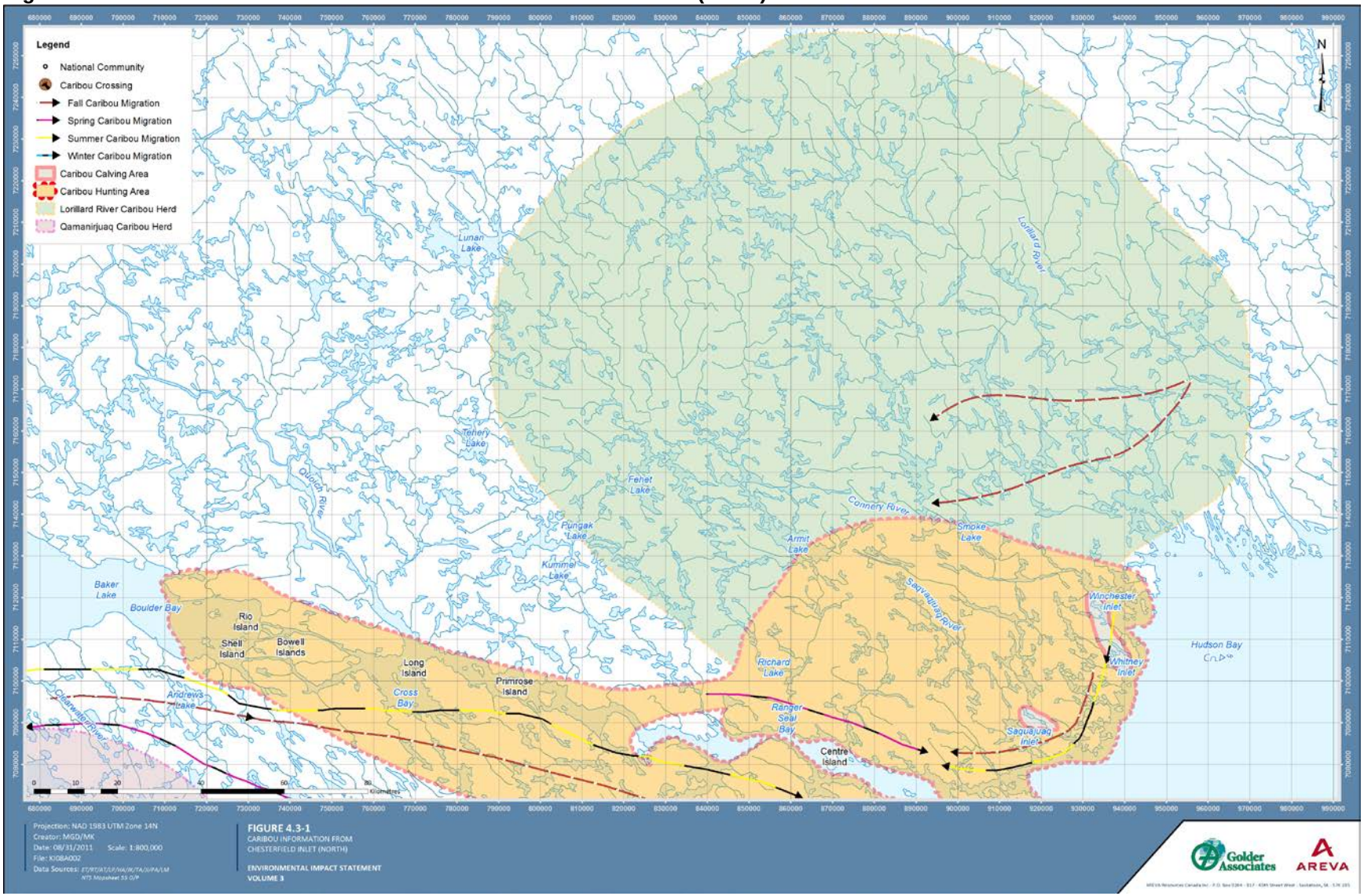


Figure 4.3-2: Caribou Information from Chesterfield Inlet Interviews (South)

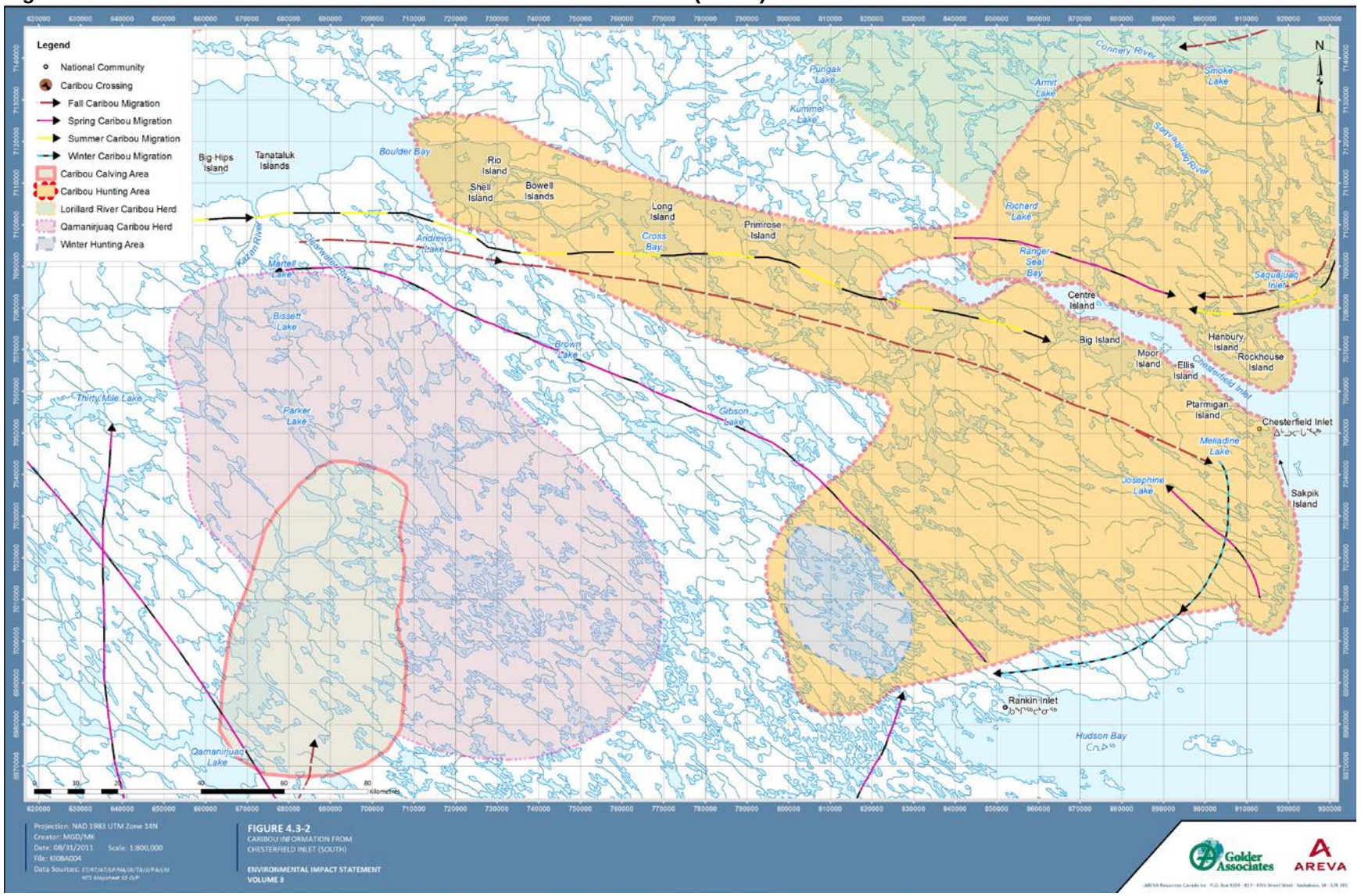
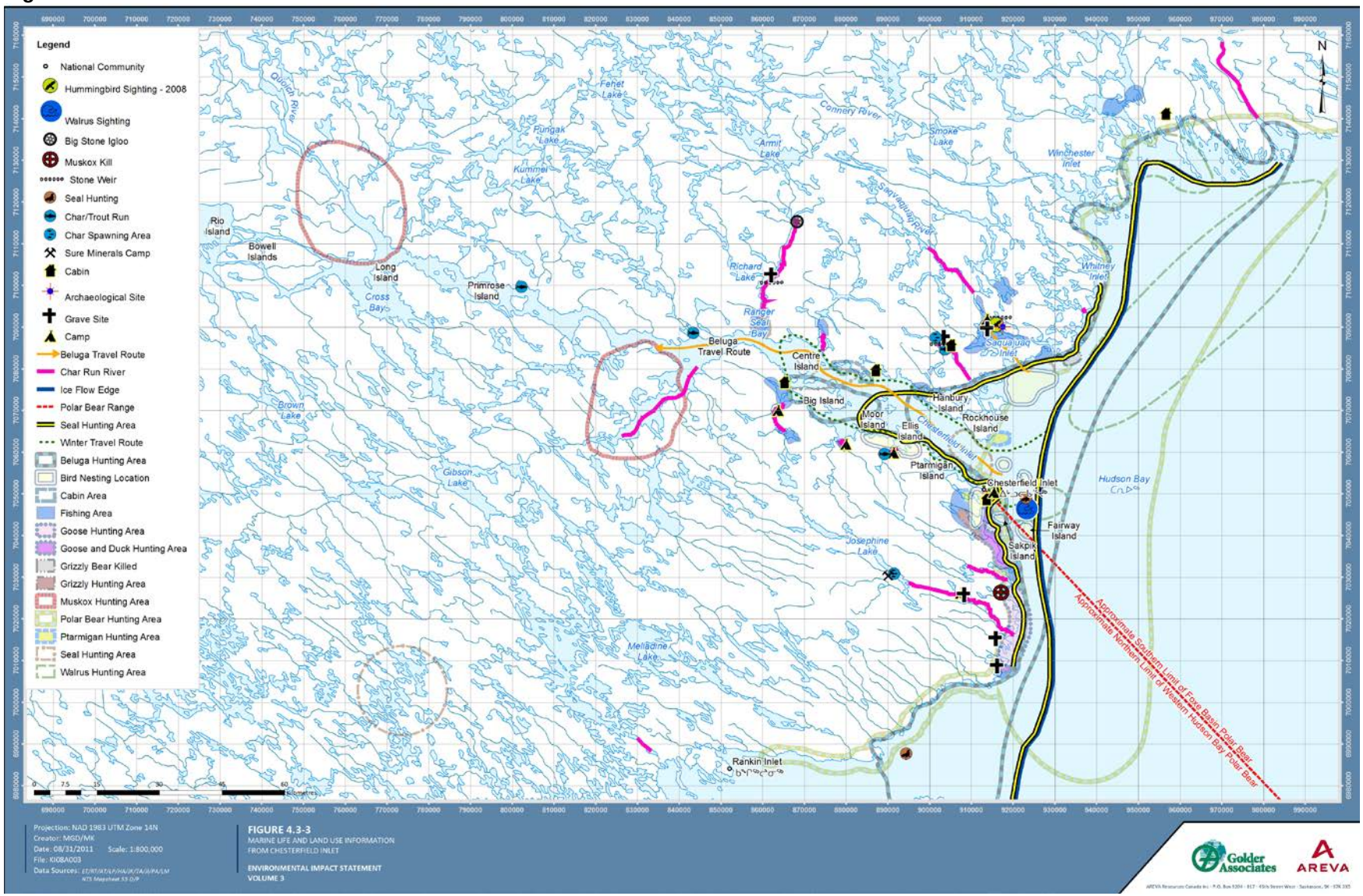


Figure 4.3-3: Marine Life and Land Use Information



Elders reported that caribou tend to congregate on both sides of Chesterfield Inlet during July, and during August and September, tens of thousands of caribou have been observed on the north side of the inlet (CI01 2009). Another Elder noted that in May, caribou on both the north and south sides of the inlet start to move toward their calving grounds (CI08 2009). Although Elders indicated that the Lorillard herd has a calving area between Wager Bay and Chesterfield Inlet, and there are other calving areas near Josephine Lake and Kaminuriak Lake (Figure 4.3-1 and Figure 4.3-2), they added that caribou can calve anywhere (CI01 2009; CI03 2009; CI06 2009).

Caribou typically have one calf, but occasionally have two (CI03 2009). Regarding migration routes, some Elders said that although the Manitoba herd arrives in May and goes south in the fall, there are always caribou around (CI01 2009). Other Elders also said that caribou can be found anytime of the year, and hunted all over the Chesterfield region (CI03 2009; CI06 2009; CI07 2009). Another Elder said that the Qaminurjuaq herd migrates north, around Baker Lake, and then to the coast, north of Chesterfield Inlet (CI03 2009). During the winter, after freeze-up, the herds mix (CI08) and some of the Elders believe that some of the caribou from the Manitoba herd have crossed Chesterfield Inlet and have become part of the Lorillard herd (CI03 2009).

The caribou on the north side of Chesterfield Inlet were described as being larger than those on the south side of the inlet because they have less area in which to roam (CI08 2009). While the Elders described the caribou herds as generally healthy, some observed that they have less fat than they used to (CI04 2009), some have had white cysts in their meat as a result of eating vegetation with crow droppings on it (CI08 2009), and some have had pus in their meat (CI05 2009). In addition to the health problems, Elders have noticed that caribou are no longer bothered by the smell of dogs or humans (CI06 2009).

Elders said that when the nickel mine was built in Rankin Inlet in the 1950s, the caribou stopped going to Chesterfield Inlet; but in 1970, the herd ‘suddenly’ reappeared (CI03). One of the Elders recounted that he moved into Chesterfield in 1949 due to starvation on the land and there were no caribou in Chesterfield at that time (CI06 2009). Another Elder indicated that the caribou no longer go to Rankin Inlet because there are too many people, adding that there are too many people with snowmobiles on the south side of Chesterfield Inlet and this had made it difficult to determine the natural movement of caribou anymore (CI04 2009).

4.3.3 Musk Ox

Musk oxen used to be hunted west of Baker Lake, but are now hunted just inland from Chesterfield Inlet; and mostly by sport hunters (CI01 2009). Within the last four years, musk oxen have moved eastward from Pitz Lake, along the south side of Baker Lake, and are now in the Barbour Bay area of Chesterfield Inlet. Musk oxen do not migrate, and travel slowly, only when the food source in an area is used up (CI03 2009; CI06 2009). One Elder said that Inuit generally do not harvest musk ox because the skin is not as good as caribou skin, and the hair is of no use. They also do not eat musk ox (CI03 2009).

4.3.4 Marine Mammals

Interviewed Elders in 2009 indicated that the shore and offshore areas north of Chesterfield Inlet past Winchester Bay and south of Chesterfield Inlet to Rankin Inlet remain heavily used for hunting (Figure 4.2-3). The coastal and offshore areas adjacent to Chesterfield Inlet and south to Corbett Inlet (just south of Rankin Inlet) were used by residents of Chesterfield Inlet, Rankin Inlet, and Whale Cove. Residents of Chesterfield Inlet often hunted along the floe edge near Chesterfield Inlet (Riewe 1992:173).

The hunters of Chesterfield Inlet typically hunt beluga, several species of seal, walrus, and polar bear (CIHT 2011). Narwhal are also hunted near Repulse Bay (CIHT 2011). The HTO interview participants from the 2011 focus group also mentioned that they would like to hunt bowhead in the future (CIHT 2011). In the summer, hunters typically go offshore by boat to a distance of 12 to 20 miles (19 to 32 km) to hunt marine mammals, often near town and in the Chesterfield Inlet Channel (CIHT 2011). In the winter, hunters will follow the ice floe edge 2 to 4 miles (3 to 6 km) offshore (CIHT 2011).

During interviews in 2009, Elders indicated that seals were hunted all over. Seal species include ring, jar, ranger, bearded, and harp seal. Ranger seals prefer shallow water around islands and are harvested only for their fur. Harp seals prefer deeper water and are harder to catch (CI04 2009). Ring seals, also referred to as common seals, are preferred for eating (CI01 2009). Seal pups can be born anywhere, but usually in water with strong currents (CI02 2009). The area all along the coastline east from Christopher Rocks (Island) (Figure 3-1) in Chesterfield Inlet near Baker Lake was described as an important area for seals (CI07 2009). In the past, seals were hunted year-round although the spring was the most common hunting season (Riewe 1992:173). At the 2011 community review meeting it was reported that seals travel north or south of Chesterfield Inlet in the summer, and that during this time they are not found near Chesterfield Inlet; the interview participants suspected that this is due to barge travel (CIHT 2011). The HTO representatives at the 2011 meeting commented that the number of seals has decreased over the past few years (CIHT 2011).

Interviewed Elders in 2009 described two herds of beluga whale near Chesterfield Inlet. One comes north from Churchill and arrives at Chesterfield Inlet around August or September. The other herd comes south from Foxe Basin in the early summer (CI01 2009; CI03 2009). One Elder said the Foxe Basin herd behaves as if something is chasing it, such as killer whales (CI03 2009). Another Elder believes that beluga whales will go up Chesterfield Inlet if there are killer whales, and that some of the killer whales may follow the beluga whales up the inlet (CI07 2009). Beluga whales will often move to shallow water to avoid killer whales and if beluga whales are seen in the shallow waters off the Baker foreland, it means there are killer whales near Chesterfield Inlet (CI08 2009). The beluga whale herd from Churchill has had its migrations delayed because of Rankin Inlet hunters waiting for them at Marble Island. The herd can get through to Chesterfield Inlet if there is rough weather preventing Rankin Inlet hunters from getting to Marble Island (CI03 2009; CI04 2009; CI07 2009).

Beluga whales are hunted in Daley Bay in the summer, and off the Baker foreland during August and September (CI 01 2009; CI02 2009; CI03 2009). Beluga whales calve in an area between Arviat and Churchill (CI02 2009). Beluga whales and walrus were hunted in the summer (Riewe 1992:173). In the past, beluga whales were hunted as they migrated along the coast (Riewe 1992:173).

During interviews, Elders said that beluga whales used to come into the harbour at Chesterfield in August, but come only occasionally now as there is too much noise from boat motors. The amount of barge traffic has increased over the last two years and this has also negatively affected the beluga whale population (CI04 2009; CI08 2009). Seals are also affected by noise from marine transportation and because of the increase of barge traffic in Chesterfield Inlet there are fewer seals in the inlet (CI04 2009; CI05 2009).

Elders said that walrus are found all over after ice break-up, and are hunted at Depot Island (CI01 2009; CI02 2009). There is an old experimental scallop farm offshore from Chesterfield Inlet, and this attracts walrus. As a result, walrus near Chesterfield Inlet have scallops in their stomachs. By comparison, walrus near Repulse Bay eat oysters, and therefore taste different (CI01 2009). Walrus is considered a delicacy (CIHT 2009). Walrus like floating ice and are hunted at the ice flow edge (Figure 4.2-3) (CI03 2009). About 13 years ago, increased numbers of walrus were reported by Chesterfield residents (McDonald et. al. 1997:47). During the 2009 series of interviews, Chesterfield Elders said they had not noticed any changes in the walrus population, and that there were still lots of walrus around Chesterfield Inlet, Daly Bay, and Depot Island (CI01 2009; CI07 2009; CI08 2009). At the 2011 community review meeting, the HTO representatives said that walrus are observed a little to the north of Chesterfield Inlet in the spring and have been hard to see in late summer for years (CIHT 2011).

Polar bears are found north and south of Chesterfield Inlet. There are two large groups of polar bears; 'Western Hudson Bay' polar bears, and 'Foxe Basin' polar bears. The western Hudson Bay group travels north from Churchill to Chesterfield Inlet, and Foxe Basin polar bears travel south to the inlet (Figure 4.2-3) (CI01 2009). Polar bears move north from Churchill when the ice forms in November, and move south in the spring, carried by a counter-clockwise current in Hudson Bay (CI01 2009). Polar bears den in the Wager Bay area, and to a lesser degree, at Cape Silumiut (CI01 2009; CI03 2009; CI06 2009). They also den on Southampton Island (CI01 2009). Preferred denning areas are places where there are steep hills and deep snow (CI01 2009). Polar bears normally have two cubs, and not very often may have three (CI02 2009).

Many of the Elders believe that there are more polar bears now than there used to be and that they have also become more dangerous (CI03 2009; CI05 2009; CI06 2009). Several have been noticed in Chesterfield Inlet each day in the spring (CI04 2009). Some Elders believe that the bears have become more dangerous because the human population (and garbage the bears used to eat) has decreased in Churchill (CI03 2009). Others believe that biologists tranquilising bears for studies has changed their behaviour and made them more dangerous (CI03 2009; CI05 2009). Elders suggested that the biologists should count the polar bears in the summer, when they are land-locked and easier to see (CI01 2009). Polar bear quotas are set

for each community, and Chesterfield Inlet has an annual quota of eight to ten or twelve bears. Polar bears can be harvested anytime in northern Québec (CI01 2009).

4.3.5 Birds and Egg Harvesting

Figure 2.2-3 shows goose and duck hunting locations, and egg harvesting locations identified during interviews in Chesterfield. 'Grain-fed' ducks returning from Manitoba are hunted (CI03 2009), as well as ptarmigan in the spring (CI06 2009). Goose and duck are hunted along the shore north of Chesterfield Inlet and around many of the islands near the coast of Bernheimer Bay, Daly Bay, and Winchester Inlet (Riewe 1992:173). Along the coast south of Chesterfield Inlet to Rankin Inlet and in Mistake Bay, geese, ducks, and eggs were harvested in both spring and summer (Riewe 1992:173). During interviews, Elders said that Canada geese and snow geese eggs are laid in the marshy areas along the Josephine River, and eider eggs are laid on the islands in Chesterfield Inlet. Camp Cove Island is an area with lots of eggs (CI03 2009; CI05 2009). Duck eggs and guillemot eggs are collected on Promise Island, and there are lots of eider eggs on Wag Island (CI01 2009).

4.3.6 Fishing

Figure 4.3-2 shows fishing locations described during Project interviews. In the Chesterfield Inlet region, fishing used to occur in various locations, including Barbour Bay, Steepbank Bay, and Cross Bay – which was also used for hunting and trapping by Baker Lake residents (Riewe 1992:173; CI07 2009). Both the coastal area and the inland area north of Chesterfield Inlet was an important fishing area for both Baker Lake, and Chesterfield inlet residents. In particular, fishing would occur on the Connery and Lorillard rivers during the spring and fall Arctic char runs, and summer gill netting would occur along the coast (Riewe 1992:173). During interviews, Elders said that the stone weirs that people used at Barbour Bay, Steepbank Bay and Saqvaquaq Lake are still visible (CI07 2009). The downstream migrations of Arctic char would occur in May or June (Riewe 1992:174) and one Elder reported that he would fish for Arctic char in the spring in the lakes around Chesterfield (CI02 2009).

South of the Chesterfield Inlet region, fishing with nets in the spring and late fall would take place south of MacQuoid Lake and Banks Lake in the Qamanirjuaq Lake area (Riewe 1992:173). Further south, around Kaminak Lake and the Ferguson Lake chain, fishing was an important source of food for hunters and trappers during the winter, with intense fishing taking place in the early spring and late fall (Riewe 1992:173).

Interviews with Chesterfield Inlet Elders suggested that fishing continues to occur along Chesterfield Inlet, on the lakes in and around the community, and at family cabins located in the larger area. While lake trout and Arctic char are found in all lakes in the region, Josephine Lake was specifically mentioned as an important spawning lake for river-run char (CI01 2009), and for harvesting Arctic char, whitefish, and lake trout (CI06 2009; CI06 2009). Fish harvesting techniques include gill netting through ice in winter on the lakes, as well as in open water in the

warmer months (CI02 2009; CI04 2009; CI06 2009). 'Rodding' (using fishing rods), is also used close to shore (CI02 2009). While people generally have not noticed any change in fish quality, one person has noticed that char flesh has become better (pinker) over the years (CI08 2009), and another has noticed that there is a difference in taste between Chesterfield Inlet char and Repulse Bay char; likely due to different feeding habits (CI04 2009). Arctic char are often sold to the fish processing plant in Rankin Inlet, and hunters said this is one of the few ways to earn an income (CIHT 2009).

4.3.7 Ice Formation and Weather

The community review participants at the 2011 meeting reported that the ice floe edge reaches a maximum extension of about 5 miles (8 kilometres) from shore during winter, and that this trend has been constant over the years (CIHT 2011). According to the 2011 interview participants, freeze-up occurs from mid November to early December, and break-up takes place from June 25 to July 5, approximately (CIHT 2011). According to the interview participants, the freeze-up and break-up happen at different times each year, there is no real trend (CIHT 2011). It was noted that it had rained on Christmas Eve last year (2010) (CIHT 2011). After ice break-up people will travel one to three miles along the shoreline and out to the islands in both directions, up the inlet as far as Cross Bay if it is necessary to go that far for caribou (CIHT 2011).

4.3.8 Plants

Men, women, and children pick berries, and there are many locations close to Chesterfield (CIYA 2009). Tundra moss can be boiled to make a tea, and other plants were used to make medicinal tea. Driftwood was collected from old ships on Hudson Bay and used to build kayaks (CIE 2009). People mentioned that certain purple flowers, possibly saxifrage, were edible and that there were white roots that tasted like carrots (CIYA 2009).

4.3.9 Camps, Trails, Burials, and Cultural Sites

Figure 4.2-3 shows the locations of sites identified during interviews and focus group discussions, including gravesites, camps, cabins, and archaeological sites. Archaeological sites described during Project interviews included stone weirs, stone fox traps, grave sites at old camps, Thule sites, inuksuit, and stone pits for cooking. Stone circles where people used to dance can also be found (CIE 2009). Several people also mentioned that there are a number of important harbours, such as Robert's Harbour. These places are important because many of the ancestors used those areas and that gives them a meaning beyond simply being good places to hunt (CIHT 2009).

Many camps were located along Chesterfield Inlet to the east end of Baker Lake (Freeman 1976:90). Additionally, there were many camps surrounding Chesterfield Inlet inland and along the coast. Camps along Chesterfield Inlet were used annually, primarily in spring and summer,

and were also located along the coast north of Chesterfield Inlet in several small pockets (Riewe 1992:173). There were several base camps extending south of Chesterfield Inlet along Barbour Bay and Cross Bay area that were used during winter hunting and trapping (Riewe 1992:173). A commercial fishing camp was at one time located in Winchester Inlet and used to supply the Rankin Inlet cannery (Riewe 1992:173).

4.3.10 The Project

People in Chesterfield are very concerned about the effects of increased marine traffic on the marine mammals living in Chesterfield Inlet. For example, many of the people believe that increased marine traffic in the inlet resulting from existing projects has already caused many beluga whales and seals to move away, and further increases will make the problem worse (CI01 2009; CI04 2009; CI05 2009; CI07 2009; CI08 2009; CI09 2009; CIHT 2009; CIHT 2011). There was particular concern expressed about the impacts of barging on beluga whales, seals and fish at the 2011 community review meeting (CIHT 2011). The HTO representatives at the 2011 meeting said that they believe project shipping will cause the marine mammals to leave Chesterfield Inlet and therefore the hunters will have to travel farther to reach them; they believe that this is already happening because of existing projects (CIHT 2011). The interview participants also noted that they would not like the sea ice to be disturbed (CIHT 2011). Other concerns include the potential for fuel spills, as Chesterfield Inlet has narrow places with large currents (CIHT 2009).

Regarding the potential effects of the Project on caribou, one Elder suggested that if a road is built from Baker Lake to the Kiggavik mine site, it may cause the caribou to stop and go to Chesterfield Inlet (CI03 2009). However, another Elder pointed out that the caribou using the calving area around Josephine Lake have not been affected by the Shear Minerals camp located there (CI01 2009).

An interview participant at the 2011 community review meeting reported that they had heard there would be more traffic this summer and that this would frighten mammals because they have sensitive ears (CIHT 2011). It was stated by the AREVA representative that there will be no AREVA traffic for another several years, and that AREVA will continue to consult with the Chesterfield Inlet HTO (CIHT 2011).

4.4 RANKIN INLET

Few Inuit lived in the area of the current Rankin Inlet community prior to the nickel mine opening there in the 1950s (Freeman 1976:102). Since 1956, most of the people's land use has been community-based, often limited to weekend and other short excursions. After the Rankin North Nickel Mine closed in 1962, some people returned to full time hunting and trapping, even while still living in the community (Freeman 1976:102); although for most people, traditional hunting activities still consist of weekend hunting trips or family camping holidays (Freeman 1976:102). During Project interviews in Rankin Inlet, hunters described the people as being dependent on

caribou, fish, seals, ptarmigan, and beluga for food, and on cloudberries and other plants for teas (RIHT 2009). Details from the 2009 interview, focus group discussions and the 2011 community review meetings are available in Attachment D of Appendix 3B IQ Documentation.

4.4.1 Wildlife and Harvesting

In the past, Rankin Inlet and Chesterfield Inlet residents regularly used the area northwest of Rankin Inlet extending to Gibson Lake as a staging area for winter caribou hunting. Trapping and wolf hunting was also conducted in the same area (Riewe 1992:173). Additionally, the residents of Rankin Inlet have hunted for caribou along the Hudson Bay coast from the Manitoba border to Bernheimer Bay, including Chesterfield Inlet, and as far inland as the Baker Lake area (Freeman 1976:104). The lands situated west and north of Gibson Lake were irregularly used by residents of Rankin Inlet, Chesterfield Inlet, and Baker Lake for winter caribou hunting and trapping (Riewe 1992:173). This area was also an important musk ox hunting area for residents of Baker Lake (Riewe 1992:173). Areas hunted generally depended on where the caribou moved (Freeman 1976:104).

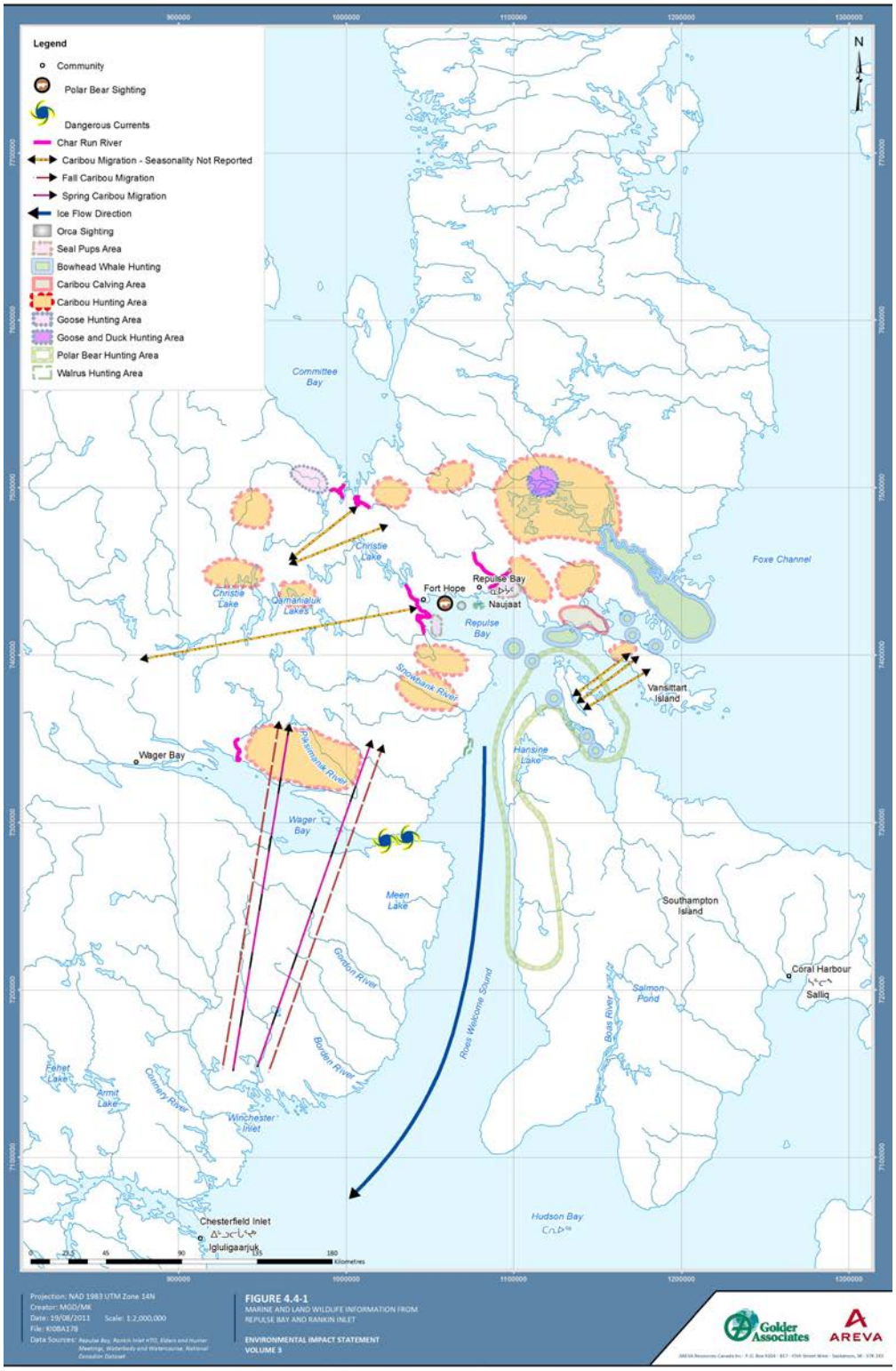
Specific caribou hunting locations were not identified during Project interviews, but hunters described variations in the distances that people will travel to hunt caribou. For example, some people have ATVs and will go “as far as five gallons of gas will take them”, while others walk and may travel up to 20 miles (32 kilometres) inland (RIHT 2009). One participant from the 2011 community review meeting said, “There is no limit to where we can go [when hunting caribou]” (RIJ 2011). Although one limiting factor was mentioned: the amount of gasoline a hunter can carry to fuel their vehicle (RIJ 2011). Another participant noted that caribou are tenacious travellers, because they will keep moving to their destination and even cross water to reach it (RIJ 2011). The participants mentioned that caribou near water are scared more easily (RIJ 2011). One hunter recalled that when he was young he could “go everywhere”, but now there are more limits because the equipment and motorized vehicles currently used for hunting are not as versatile as the dog teams that were used in the past (RIJ 2011). Figure 4.4-1 shows IQ data for caribou migration routes, calving and hunting, which was collected from interviews in Rankin Inlet and Repulse Bay.

Participants in the young adult focus group said that they generally do not hunt much because they do not have snowmobiles (RIYA 2009). One young woman said that she goes hunting with her father and other female participants said that they preferred to go fishing. The HTO participants have noticed changes in caribou health. They have observed boils on the skin, white spots that resemble larvae, and fluid around the joints (RIHT 2009). Young people typically learn to hunt around 14 years of age, and Elders are involved in teaching them (RIHT 2009). Elders are concerned that young people are not learning enough survival skills, and are prone to spending too much time on the internet (RIE 2009).

One participant said that although there were ATV and snow mobile activities, as well as blasting, at the mine in Rankin (closed since 1962) this did not significantly affect the caribou migration, because during mine operations it was still easy to find caribou near town (RIJ 2011).

However, another participant said that he perceives the current mining activities in the area to be causing changes in the caribou (RIJ 2011). He said that the caribou are not as healthy as they used to be (RIJ 2011). Furthermore he noted changes in the herds, for example the Bathurst herd is a lot smaller than it used to be, while the herd from northern Quebec is much bigger (RIJ 2011).

Figure 4.4-1: Marine and Land Wildlife Information from Repulse Bay and Rankin Inlet Interviews



It was emphasized by the interview participants that their ancestors used to travel over long distances to hunt and get food for their families, and it was important to them that this detail be included in the report (RIJ 2011). The participants explained that some families came from Uqsuqtuuq (Gjoa Haven), Cambridge Bay and Pelly Bay (Kugaaruk) to hunt caribou near Rankin Inlet, and then decided to settle at Rankin Inlet permanently (RIJ 2011). The participants noted a similarity between Inuit families and mining companies, which is that they both travel in search of resources: the mining companies come from the south looking for minerals, while the Inuit travel to find food and hunt (RIJ 2011).

Marine mammal hunting has encompassed a wide range along the Hudson Bay shores in the past. Summer seal hunting extended for a long distance offshore, but winter hunting was limited by the floe edge seaward limit (Freeman 1976:104). Harp seal and harbour seal were hunted during the summer along the coast by residents of Rankin Inlet (Freeman 1976:104). Despite the introduction of wage labour most people still relied heavily on local sources of food (Freeman 1976:105). During the 2009 Project interviews, Elders said that there are few seals around and that this may be due to mining (RIE 2009). This point was reiterated at the 2011 community review meetings.

The 2011 community review participants perceive that the loud blasts caused by the mining activities at the Rankin mine (prior to 1962) may have caused the seals to stay away (RIJ 2011). They reported that people hunt seals mostly in the fall, and that seals are mainly hunted by members of the Rankin Inlet community near Whale Cove (RIJ 2011). They noted that the seals are usually found at the outlets of creeks, and it was suggested that this may be due to the abundance of food found at creek outlets (RIJ 2011). For example cod (marine fish) have been observed near stream outlets, and it is possible that the cod are feeding on smaller, freshwater species which are coming downstream, while the seals are in turn feeding on the cod (RIJ 2011). Seals have been spotted in the lakes past the proposed Kiggavik mine area, near Thelon (RIJ 2011).

Some participants at the 2011 interview noted fewer harp seals this season, while other participants did not observe any harp seals at all (RIJ 2011). It was suggested that the lack of harp seals around Chesterfield Inlet this past summer (2010) was due to increased shipping activities in that area (RIJ 2011). Bearded seals, ring seals and harbour seals are also hunted by the people of Rankin Inlet (RIJ 2011). Seal hunting is seasonal and depends on what the hunter wishes to accomplish, to acquire meat or fur (RIJ 2011). In the spring and summer, the hunters have observed that the seals are so skinny they may sink to the bottom of the ocean when they are killed (RIJ 2011). In the fall, the seals are fatter and easier to collect after they have been killed because they float due to an increased mass of blubber during this time of year (RIJ 2011). It was reported that one kind of seal (ranger seal) goes up rivers into freshwater (RIJ 2011). The HTO indicated that while women occasionally hunt seal, it is rarer for women to hunt out on the water (RIHT 2009). On the other hand, the women's focus group indicated that Rankin Inlet women do hunt mammals (RIE 2009).

Hunters from the 2009 HTO focus group believed that the best place to hunt beluga whale is close to Churchill in early July, when they are starting to migrate (RIHT 2009). However, the

community review participants in 2011 reported that in the past, beluga whales were hunted in August, but these days they are not hunted until September (RIJ 2011). When asked how far off the coast the beluga pods travel, the participants responded that animals travel in unpredictable ways, and do not follow rules and regulations (RIJ 2011). Although hunters travel in diverse areas, the 2011 participants agreed that beluga whales are found all along the coast and in open water from Rankin Inlet as far south as Churchill, Manitoba (RIJ 2011). Figure II.3.3-2 shows the dispersion of beluga hunting areas along the coast of Hudson Bay between Churchill, Manitoba, and Chesterfield Inlet, Nunavut.

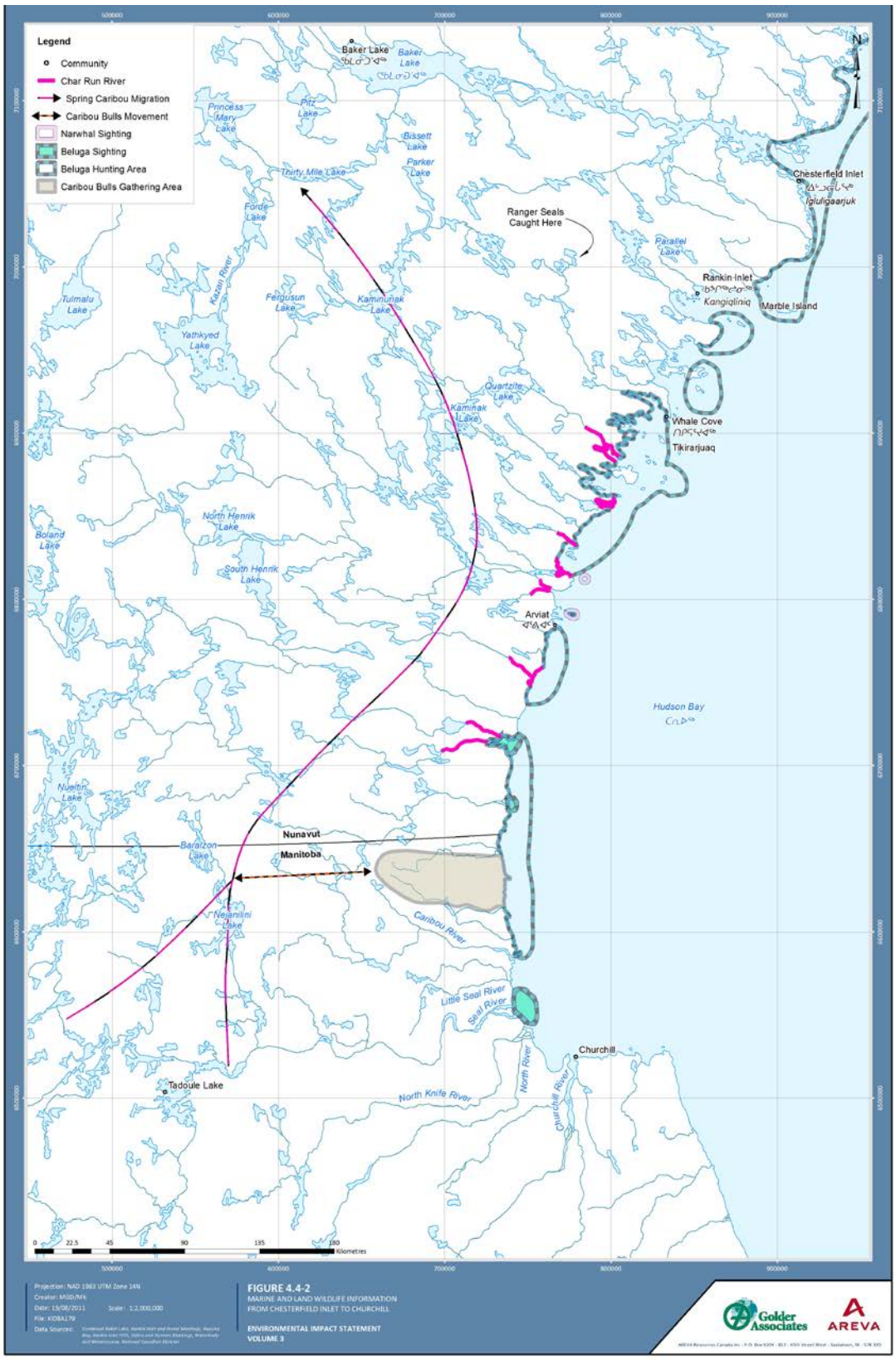
The 2011 participants reported having seen beluga and even orca (killer) whales in Baker Lake (RIJ 2011). Narwhals have also been spotted in the Baker Lake Inlet (RIJ 2011). It was noted that beluga whales were found in smaller numbers around Chesterfield this past summer (2010), and it was suggested that this was due to increased shipping activities in that area (RIJ 2011). True to its name, Whale Cove is a location known for having an abundance of whales (RIJ 2011). Bowhead whales are reportedly seen there almost every year, along with beluga, narwhal, orca, and also the odd shark has been spotted among the marine mammals (RIJ 2011). Some people will go north to Repulse Bay to hunt whales as well (RIJ 2011).

Walrus reportedly move with the ice, travelling southbound from farther north (RIJ 2011). One participant remembered that when he was younger there used to be more walrus than there are today (RIJ 2011). Walrus no longer travel to the same places they used to, once the moving ice drives them south (RIJ 2011). These days the walrus sometimes congregate near Wager Bay (RIJ 2011). The ice flows south during the months of May, June and July (RIJ 2011). During this time, walrus and other animals will “catch a ride” on the moving ice (RIJ 2011). The animals will get off near the inlet to Baker Lake, where they swim or travel by land to go north again (RIJ 2011). These travel patterns vary, depending on the year and other factors in the ecosystem (RIJ 2011). In 2009 it was stated that fourteen polar bear tags were issued to surrounding communities for defence kills only, and the Rankin Inlet HTO participants disagreed with this. They strongly disagree with scientists about the size of the polar bear population, and resent scientists and government experts affecting polar bear hunting without consulting them (RIHT 2009).

4.4.2 Birds and Egg Harvesting

Between Rankin Inlet and Mistake Bay to the south (near Whale Cove), goose and duck were hunted and eggs were collected (Riewe 1992:173). Eggs were collected on many islands near Rankin Inlet, along the coast, on the shores of Rankin Inlet, and along multiple lakes and ponds where the ducks and geese nest (Freeman 1976:104). In spring and summer, waterfowl were hunted from around Rankin Inlet to Mirage Island, and in spring from the floe edge (Freeman 1976:104). Bird or egg harvesting was not discussed during Project interviews in Rankin Inlet.

Figure 4.4-2: Marine and Land Wildlife Information from Chesterfield Inlet to Churchill



Fishing

In the past, whitefish were an important food source (Freeman 1976:105). Inland fishing occurred on lakes and rivers west of Mistake Bay and south of Rankin Inlet, mostly for Arctic char and trout (Riewe 1992:173). People from Rankin Inlet have fished as far north as Barbour Bay and Chesterfield Inlet (Riewe 1992:173). Fishing just north and west of Rankin Inlet along some lakes was done in spring and fall. Coastal fishing south of Rankin was also conducted, but the offshore fishing was heavier for Arctic char and trout after the ice break-up (Riewe 1992:173). During the summer, residents fished with nets in salt water, especially in Rankin Inlet (Freeman 1976:105). During spring and summer, fishing was done near Scrarab Point, near the entrance to Rankin Inlet, and most of Rankin Inlet (Riewe 1992:173). One resident of Arviat who used to live in Rankin Inlet noted that before mining operations there was lots of fishing along the shores of Rankin Inlet and that ringed seals were numerous on the bay ice in the spring; but since the time that mine tailings accumulated those animals have disappeared. She also attributed underground blasting for the disappearance of fish and seals because the animals have sensitive hearing (McDonald et. al. 1997:27). Focus group participants did not identify fishing locations, but some women noted that they preferred fishing over hunting (RIHT 2009).

4.4.3 Plants

In the past, during the summer people gathered berries close to the settlement of Rankin Inlet, as well as near hunting, trapping, and fishing camps (Freeman 1976:105). Project interviews conveyed that plants are usually collected by Elders from August and September. They also depend on cloudberries and other plants for making teas (RIHT 2009).

4.4.4 Ice and Water

According to the observations of the 2011 community review participants, the marine ice is normally gone in the month of July and starts to re-form in November (RIJ 2011). One participant said that before he was born, the ice used to form in October or earlier, sometimes as early as September, and snow would begin to fall in August (RIJ 2011). Today, the snow and ice come later in the year (RIJ 2011). The ice floe edge normally reaches its maximum extension in March, stretching out about 30 to 40 miles (48 to 64 km) from Rankin Inlet (RIJ 2011). It was recalled that at one time in the past the ice floe edge reached as far as Marble Island (RIJ 2011). The ice starts to break up into large pieces and move during the months of May, June and July, flowing south (RIJ 2011). Walrus, beluga and polar bear are all affected by the moving ice, and their travel routes are similar during this time (RIJ 2011). The ice flowing south from Repulse Bay towards Rankin Inlet is shown in Figure II.3.3-1. The Hunters can sometimes get stranded by the floating ice (RIJ 2011). In particular, one hunter at the interview recalled being stuck at Wager Bay for three days (RIJ 2011).

People travel to the edge of the ice floe to hunt (RIJ 2011). The Inuit people have no limits when hunting, they will travel where they need to go, and the same person will not usually travel the

same route twice (RIJ 2011). The hunters will look for a good floe edge and follow it to the animals they are hunting (RIJ 2011). Their travels may span from Whale Cove, south of Rankin Inlet, to Chesterfield Inlet, north of Rankin Inlet, or farther, and their trips may last overnight or up to two weeks or more (RIJ 2011). Inuit hunters do not tend to make plans; rather, they will wake up and move with the ever-changing landscape; the unpredictable nature of the ice formations would make planning irrelevant (RIJ 2011).

When people travel in boats on Hudson Bay, they may choose to keep land in sight and stay close to the shore, or to boat in open water, depending on where they are going, who they are with, and what the weather is like (RIJ 2011). There are many hazards involved with travelling by water, for example, there are strong ocean currents west of Southampton Island, and there is a rapid at Thelon that is so fast one cannot navigate past it (RIJ 2011). The strong and potentially dangerous currents west of Southampton Island are shown in Figure II.3.3-1. The trip to Repulse Bay takes 10 hours by boat if there is no ice, but if there is ice, then travelers can get stuck for several days (RIJ 2011).

4.4.5 The Project

Rankin Inlet hunters described an informal harvest distribution system. For example, HTOs communicate with each other, and if one HTO has walrus, it may trade with another HTO for caribou. As a result, the hunters were concerned that if wildlife becomes contaminated by the Project, it may find its way into other communities (RIHT 2009). Participants in the young adults' focus group were concerned that Project-related roads may affect caribou migration, which in turn may require Elders to travel farther for food (RIYA 2009). Elders themselves expressed concern about the potential effects of uranium dust travelling and affecting many people (RIE 2009). The potential effects of the Project on Rankin Inlet through airborne contaminants were expressed during the HTO focus group, Elders focus group and the women's focus groups. Hunters explained that the wind travels from Baker Lake towards Rankin Inlet, and that any airborne contaminants, such as dust, would find their way to Rankin Inlet (RIHT 2009). Women said they were concerned about the potential effects of the Project on water, wildlife, caribou, and on the air in particular (RIW 2009).

Participants in the Rankin Inlet focus groups were also concerned about the potential for contaminants to be spread through the water (RIHT 2009; RIYA 2009). For example, participants in the hunters' focus group noted that there are strong marine currents in Hudson Bay all the way to Churchill, and that an oil spill would have a devastating effect over a large area. As a result, they believe that the Project Environmental Impact Statement (EIS) should consider marine currents, wind, and water as part of the impact assessment for the Project (RIHT 2009). Young adults have heard about damage to the environment that has been caused by mines, and believe the impact assessment should consider the potential effects of the Project during all seasons, and that a priority should be given to considering the potential effects of the Project on caribou migration routes (RIYA 2009).

The participants from the 2011 community review also stated that they have concerns about the negative aspects of uranium mining, and its potential dangers to human health and safety (RIJ 2011). Some of the participants at the Rankin Inlet meeting felt that their questions about these matters had not been dealt with fully and in a direct way by AREVA representatives at previous meetings (RIJ 2011). The meeting participants stated that they are not necessarily against mining, but requested more detailed information, translated to Inuktitut, about uranium and the potential danger it poses to human health and safety (RIJ 2011). The local people want to understand all aspects of uranium mining, both positive and negative (RIJ 2011). One participant requested information about how radiation travels over land and through the air (RIJ 2011). It was suggested that AREVA could have an open-house style meeting to answer the questions of local people and provide information (RIJ 2011).

In addition to the potential effects of the Project on the environment, participants in the Elders focus group expressed concern over the potential social implications of the Project. For example, they are concerned that mine workers may become too dependent on mine work and not buy hunting equipment or go hunting (RIE 2009). All of the participants in the HTO focus group indicated they were employed, and that their jobs were an important source of income to buy equipment, adding that going out on the land is expensive (RIHT 2009).

4.5 ARVIAT

The people who moved to the settlement of Arviat came from both inland and coastal areas as far southwest as the Ennadai Lake area, as far north as Rankin Inlet, and as far northwest as the Baker Lake, Aberdeen Lake, and Beverly Lake areas (Freeman 1976:97). During Project interviews it was conveyed that the inland people were brought to Arviat because of a sudden decline in caribou, and the risk that people could starve. Although food sources, such as seal and whale were abundant, the inland people did not have knowledge of sea mammal hunting techniques; and even though Arviat had become a settlement by the late 1950s, people still went out on the land for many months of the year, returning to buy things at the Hudson's Bay Company (ARE 2009). Details from the 2009 interviews, focus group discussions and the 2011 community review meeting are available in Attachment E.

4.5.1 Wildlife and Harvesting

In the past, harbour seals were hunted along the coast (Freeman 1976:98). Winter and early spring hunting was most often carried out as far as 24 km offshore along the floe edge (Freeman 1976:98). The seal hunting was greatly expanded in May and June when hunters moved to their camps (Freeman 1976:98). Summer hunting was done by canoe on the way north to Rankin Inlet or south to Churchill (Freeman 1976:98).

The area along the coast north of Arviat was intensively used for hunting and trapping including polar bear throughout the area (Riewe 1992:190). Hunting was a year-round activity within the vicinity of Arviat and trapping often occurred between the months of November and April (Riewe

1992:190). Wolves were also hunted when encountered (Riewe 1992:190). The area south of Arviat around the Tha-anne River and Thlewiaza River systems were rich in game and regularly used (Figure 3-1). Camps at the mouths of the rivers along the coast were used to hunt beluga whales in July and August. Seals were also hunted along the coast and along the Thlewiaza River, and barren-ground caribou were often hunted late fall or early spring during river crossings (Riewe 1992:190). Closer to fall, people collected caribou fat, cooked it, and made lard. One Elder from Arviat indicated that they used to occasionally make soup from the caribou blood (Bennett and Rowley 2004:355). Elders and younger hunters indicated in a study conducted by Kendrick and Manseau (2008) that their lifetime hunting area ranged inland as far as Baker Lake area, although a large number of Arviat hunters stayed within a 4 km to 20 km range of the town site.

Year-round hunting was done inshore along the Hudson Bay area around Arviat (Riewe 1992:190). Bearded seal and ringed seal were hunted from boats in the summer and from snowmobile in the winter (Riewe 1992:190). Beluga whale and ranger seal were hunted along the coast in the summer (Riewe 1992:190). The offshore area was used year-round for seal hunting at the floe edge. Areas used to hunt walrus included a series of small islands off the mouth of Dawson Inlet, including Walrus Island. Beluga whale were also harvested up to 35 km offshore (Riewe 1992:190). Elders and hunters have said that the numbers of beluga whale and walrus have decreased in Arviat (McDonald et. al. 1997:47). During Project interviews, Elders said that the beluga whale currently breed around Churchill and migrate north, with some going as far as Coral Harbour. According to interview participants from 2009, people are not allowed to go towards Churchill to hunt beluga whale, as the government wants to protect tourism there (ARHT 2009). Beluga whale hunting and sighting locations are shown in Figure 4.4-2 much money anymore (ARHT 2009; AR02 2009). The HTO will often receive funds from Economic Development to go hunting for country food to be distributed to communities. Some walrus travel south from Wager Bay and are hunted around Arviat in June (ARHT 2009). While it is typical for women to go out on the land with their husbands and remain in camp, others have learned to hunt caribou and small animals, such as fox (ARE 2009).

During the 2011 community review meeting, the hunted species of sea mammals listed by the focus group participants included beluga whales and three species of seals (ARVJ 2011).

Beluga whales were the most frequently-mentioned hunted whale species in the 2011 community review meeting (ARVJ 2011). The participants explained that in the past, the ice used to break up before June, but presently, the ice is normally gone by mid-June (ARVJ 2011). At mid-June, whales are seen with their calves at the sighting points near Arviat (ARVJ 2011). The focus group participants emphasized that Inuit hunters only harvest what they need and try not to harvest the belugas accompanied by calves (ARVJ 2011). One of the hunters has observed belugas with calves at Churchill, so speculates that the whales may be giving birth further south (ARVJ 2011). Prior to ice break-up, the calves ride on their mothers' backs (ARVJ 2011).

According to the 2011 community review participants, once the ice is gone, beluga whales travel north around June or July (ARVJ 2011). Next, they are hunted during July and August (ARVJ

2011). The focus group participants said that in the past beluga whales were hunted earlier in the season, in accordance with the break-up of the ice (ARVJ 2011). The participants noted that the freeze-up also seems to be occurring later, around late October (ARVJ 2011). The participants commented that the behaviour of the beluga whales seems different these days; the belugas used to gather at Arviat but now their travel routes seem to be different and are closer to shore (ARVJ 2011). The participants perceive that there are not as many belugas travelling up from the south as there were before (ARVJ 2011). The hunters reported only having seen belugas travelling north, and that they have not seen what routes the whales travel southbound (ARVJ 2011). Hunters have seen pods travelling in opposite directions meet each other (ARVJ 2011).

With respect to seals, three species were mentioned at the 2011 community review meeting: ring seals, bearded seals and harp seals (ARVJ 2011). Ring seals are harvested for their meat and hide (ARVJ 2011). Bearded seals are harvested for their meat and hide; their hides are used to make *kamiks* (boots), and for teaching people how to make clothes (ARVJ 2011). Harp seals are harvested for their hide only (ARVJ 2011). All species of seal are fatter in the fall when the ice starts to form (ARVJ 2011). Seals are hunted year-round, although there is not as much seal harvesting in the summer because seals shot in the summer may sink in the water due to lack of fat (ARVJ 2011). In the fall, seals are hunted for dog food (ARVJ 2011). Seal hunting is the main reason people travel to the ice floe edge (ARVJ 2011).

Hunters noted that these days they see more killer (orca) whales than previously, and that other sea mammals will swim closer to shore if there are killer whales in the area (ARVJ 2011). Inuit hunters do not harvest orca whales (ARVJ 2011).

During focus groups in 2009, hunters said there were many polar bears around and that the scientists have not done a good job of counting them. The scientists do the counts in July, when there are few polar bear around. In October and November, there are so many polar bears around Arviat that patrols are needed to protect people. Because they are not allowed to hunt polar bears, guiding activity has declined and the few tourists that do come hunt caribou. The hunters believe that collaring polar bear affects the bear's ability to hunt and changes its nature (ARHT 2009). Tyrrell (2006) examined the difference between Inuit and scientific perceptions of polar bear populations and hunting quotas, and concludes that even though both scientists and Inuit agree that there are more polar bears in close proximity to the communities, they do not agree on why or what the management strategies should involve. Despite claims of co-management by authorities, many Inuit feel powerless to external control of hunting practices (Tyrrell 2006).

The land mammals mentioned by the focus group participants at the community review meeting in 2011 included polar bear, fox, muskox and caribou (ARVJ 2011). They explained that Arviat receives polar bear tags for defence kills only (ARVJ 2011). Polar bears are seen all along the coast and on land, even in the summer; however in the fall they are mainly seen travelling north along the shore (ARVJ 2011). Long ago, people would see very few polar bears, but now there are more bears and they even break into cottages and destroy meat caches (ARVJ 2011). Polar bears have been seen breaking into cottages in July (ARVJ 2011). People now need to be wary

of polar bears when camping (ARVJ 2011). Long ago, polar bears used to have dens far from Arviat, but hunters in 2011 reported that they have now seen some dens close to Arviat (ARVJ 2011). Polar bears generally do not have a common denning area (ARVJ 2011). Some bears will stay around a particular area and others will travel along with the caribou (ARVJ 2011). Polar bears will catch and eat caribou (ARVJ 2011).

Foxes can be trapped along the ice floe edge in the fall (ARVJ 2011). Recently, people have been seeing more muskox near Arviat than in the past (ARVJ 2011). Muskoxen are hunted for their meat and skins (ARVJ 2011).

Some of the people have noticed differences in the quality of animal skins over time. For example, 'yellow things' have been noticed in the skins of seal, polar bear, and whale (AR04 2009). Others believe that country food tasted better years ago than it does now, and attribute this to helicopters and airplanes that change the air the animals breathe (ARE 2009). They also believe that tattooing the ears of caribou will make the meat tough. The animals can learn to live with disturbances from vehicles and boats, but are harmed by the methods biologists use to count and track animals (ARHT 2009).

Caribou were described as the most important species hunted on the land by the interview participants at the community review meeting in 2011 (ARVJ 2011). There are different types of caribou in the region around Arviat (ARVJ 2011). Hunters reported having heard that woodland caribou came from further west and are found near Arviat; and that other caribou herds (not the Qaminuriaq or Beverly) have moved in from the west (ARVJ 2011). Participants speculate that this may be due to flies and/or forest fires (ARVJ 2011).

According to the focus group participants, when the caribou migrate south, they travel faster than when they migrate north; this may be due to the heat and/or the insects, including mosquitoes, that irritate the caribou (ARVJ 2011). Since the southern migration consists of more dispersed caribou travelling faster, there appear to be fewer caribou migrating south; and the caribou are fatter when migrating south (ARVJ 2011). The caribou may also travel further west when migrating south, but mostly follow the same route as when migrating north (ARVJ 2011). However, not all caribou follow the same migration route (ARVJ 2011). Some travel to other areas (ARVJ 2011). The caribou leading the migration are the cows with calves (ARVJ 2011). The bulls are usually last when travelling (ARVJ 2011). When new calves learn to walk, the caribou herds begin to move south, and this is seen around July in Arviat (ARVJ 2011). Some of the caribou that are further behind may stay in one area for up to a couple of months (ARVJ 2011). IQ data for the migration and gathering locations of caribou bulls and the spring migration of caribou is shown on Figure 4.4-2. There are always some caribou near Arviat year-round (ARVJ 2011).

Caribou are hunted year-round, although they are usually not as fat during the northward migration (ARVJ 2011). Hunters are selective about the caribou they hunt, and will generally select fatter ones (ARVJ 2011). During the summer, caribou closer to the shoreline are usually fatter (ARVJ 2011). Bulls are hunted when they start to form their antlers (ARVJ 2011). According to the focus group participants at the community review meeting in 2011, bulls are

best in the springtime and fall, before the rut (ARVJ 2011). When bulls begin to lose their antlers, they are not hunted as much (ARVJ 2011).

The community review participants described their hunting traditions in the following way (ARVJ 2011). The Arviat hunters have noticed that if the migrating caribou are not bothered by humans or animals for three or four days, these animals will continue to migrate through an area (ARVJ 2011). The first caribou of the herd must be allowed to pass by the hunters, and only after a few days can the hunting begin (ARVJ 2011). Later, the caribou further back in the migration will continue to follow the herd in front, even if they are disturbed as they walk their path (ARVJ 2011). The hunters at the 2011 community review meeting explained that this may be due to a scent left from the hooves of the caribou that had passed through previously (ARVJ 2011). If the lead caribou are bothered by hunters or other disturbances, they will run away (ARVJ 2011).

The focus group participants warned that when migrating herds go by the proposed Kiggavik mine site, work should stop until the caribou pass; this would be a way to respect the caribou migration (ARVJ 2011). The participants gave the example of when there was mining in Rankin Inlet, how the land would move when there was blasting; during the blasting, there were not many caribou (ARVJ 2011). The caribou returned after the blasting stopped, because according to the hunters, the caribou are very clever (ARVJ 2011).

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All of the HTO members interviewed in 2009 reported that they were fully employed and said they need their jobs to help finance their hunting, as traditional activities do not earn as much money anymore (ARHT 2009; AR02 2009). The HTO will often receive funds from Economic Development to go hunting for country food to be distributed to communities. Some walrus travel south from Wager Bay and are hunted around Arviat in June (ARHT 2009). While it is typical for women to go out on the land with their husbands and remain in camp, others have learned to hunt caribou and small animals, such as fox (ARE 2009).

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The focus group participants warned that when migrating herds go by the proposed Kiggavik mine site, work should stop until the caribou pass; this would be a way to respect the caribou migration (ARVJ 2011). The participants gave the example of when there was mining in Rankin Inlet, how the land would move when there was blasting; during the blasting, there were not many caribou (ARVJ 2011). The caribou returned after the blasting stopped, because according to the hunters, the caribou are very clever (ARVJ 2011).

4.5.2 Birds and Egg Harvesting

In the past, people set up camps between Arviat and the mouth of McConnell River, at the Maguse River area, near Maguse Point, at the mouth of the Tha-anne River, and at Thlewiaza River (Figure 3-1). Eggs were also collected on offshore islands, and geese and ducks were hunted during late summer along the coast and on offshore islands (Freeman 1976:98). The spring arrival of waterfowl to the Arviat area continues to be followed by harvesters moving to traditional camps along the coastal lowlands. Here, goose and duck are hunted and eggs are collected (Riewe 1992:190). North of Arviat at the mouths of Wallace River and Copperneedle River (which flows into Dawson Inlet), as well as on Austin Island (near Maguse Point), goose and duck are hunted and eggs are collected (Riewe 1992:190). Bird or egg harvesting was not discussed during Project interviews in Arviat in 2009.

At the 2011 community review meeting, hunters reported that they harvest geese close to Arviat in the springtime, when the birds are flying north (ARVJ 2011). Egg harvesting takes place from springtime to about mid-June (ARVJ 2011). People will collect eggs from many species including: eider ducks, cranes, terns, gulls, and snow geese (ARVJ 2011). Collection occurs along the shores, on the islands, and inland as well (ARVJ 2011). Arviat has received a request to harvest eggs for Baffinland (ARVJ 2011). The interview participants told the interviewers how to check whether or not eggs are good to eat: if eggs sink in the water, they are good, but if the eggs float, they are not good (ARVJ 2011). Birds are now starting to travel further to nest and the participants speculate that this is because the bird population is growing (ARVJ 2011). The community review participants remember a time when it was so cold that many nesting birds died (ARVJ 2011). Birds are not hunted when they are flying south (ARVJ 2011).

4.5.3 Fishing

In the past, many inland camps were occupied in the spring and summer around lakes and rivers when the fishing was good. Favourite areas included the mouth of the Maguse River, along the McConnell River, and at Dionne Lake (Riewe 1992:190).

At the 2011 community review meeting, it was reported that fishing is widely practiced by people from Arviat in the rivers, the lakes, and Hudson Bay (ARVJ 2011). In August, char go up the rivers to the lakes, although some will stay year-round in the bay (ARVJ 2011). Figure 4.4-2 shows IQ data for char in rivers along the coast of Hudson Bay. Arctic char are netted along the coast and in the rivers (ARVJ 2011). Other harvested fish species include land-locked char,

pike, trout, whitefish, and grayling; although the participants said that some of the lakes do not have grayling (ARVJ 2011). The participants identified Mageuse Lake as an important fishing lake (ARVJ 2011).

The 2011 community review participants said that their fishing preference is for medium-sized fish over larger ones (ARVJ 2011). The participants reported that they tend to see large quantities of inland trout with red meat (ARVJ 2011). According to the participants, if there is less sand and rock in the rivers, then the trout will have less red meat (ARVJ 2011). The participants noted that the fish in shallower water are darker in colour, and that they are also fatter in the shallow areas (ARVJ 2011). The participants think that this may be due to the fish feeding from the river or lake bottom, and that it may also depend on the type of vegetation eaten by the fish (ARVJ 2011).

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4.5.4 Ice and Water

The participants at the community review meeting in 2011 remembered that in the past, the ice floe edge used to be very far from the shore, but noted that now it is not as far offshore (ARVJ 2011). During the winter, the ice floe edge is about 3 miles (5 km) offshore from Arviat and about one mile offshore from Nunalla (ARVJ 2011). On average, the ice floe edge is usually about 2 to 4 miles (3 to 6 km) offshore (ARVJ 2011). The ice floe is believed to be shrinking as the years go by (ARVJ 2011). The participants reported that the weather does not feel as cold now as it used to, and that it doesn't stay as cold for as long as it used to (ARVJ 2011). People

from Arviat have heard from people in other communities that the ice is not as thick as it used to be and that travel on it could be dangerous (ARVJ 2011).

In terms of travelling on the ice, the 2011 community review participants reported that people from Arviat may travel along the ice between Whale Cove and Rankin Inlet, and may occasionally go to Churchill (ARVJ 2011). People travel close to shore and stay away from the ice edge, as it is always changing and therefore may be dangerous (ARVJ 2011). People used to use *Bombardiers* (tracked vehicles with skis at the front) to travel to Churchill (ARVJ 2011). In recent years snow mobiles have replaced *Bombardiers* (ARVJ 2011).

With regard to water travel, the 2011 community review participants reported that from springtime to about late June or July people will boat on the water from the ice floe edge, and will often travel to Marble Island (ARVJ 2011). Boating destinations depend largely on individual preferences, and people may travel to the same areas in which they hunt, or may look for warmer areas (ARVJ 2011). Hunters are now getting tags to hunt narwhal in Repulse Bay, and are travelling there by boat (ARVJ 2011). When travelling to Repulse Bay, people travel close to the shore and need to watch out for ice floes so they don't get stuck in them (ARVJ 2011). Some hunters may go north of Southampton Island (ARVJ 2011).

Hunters reported having seen many ships coming from many places overseas (ARVJ 2011). The ships don't seem to affect the marine mammals, and a lot of times whales will follow the ships (ARVJ 2011). The regular shipping season is between ice break-up and freeze-up; according to the 2011 community review participants, shipping during the regular season will not affect ice formation (ARVJ 2011).

4.5.5 The Project

During interviews in Arviat, hunters and elders expressed concerns about the potential for airborne contamination settling on vegetation and being consumed by caribou (ARHT 2009). Some have also heard that there is increased radiation in the Kiggavik area due to blasting (ARHT 2009). Others are generally in favour of the Project and the employment it may bring, but also want to be assured that it will not disturb the caribou that people still greatly depend on. They believe that if the migration routes are affected, the caribou may move too far away for people to hunt (ARE 2009).

One person believes that if a lot of people are employed, it will result in less country food in the community; and if there is less traditional activity, less traditional knowledge will be passed on. Currently, young people are less likely to go hunting, and rely on older family members to provide country food (AR04 2009). Other people believe that employment will allow people to buy the equipment they need to go out on the land, and that increased hunting and having more money will have a positive effect on nutrition (AR03 2009).

4.6 WHALE COVE

The transition from camp life to living in the settlement of Whale Cave occurred quickly for most residents (Freeman 1976:100). While some camped near by the settlement to adjust, others moved onto the land for extended periods of time. Those who originally came to Whale Cove from the inland were more likely to return inland to fish and hunt, and eventually began to hunt seal; while those who came from the coastal area originally camped in coastal locations for seal hunting, goose hunting, and fishing (Freeman 1976:100). Details from the 2009 focus group discussions and 2011 community review meeting are available in Attachment F.

4.6.1 Wildlife and Harvesting

The offshore area around Whale Cove was at one time used intensively by residents of Rankin Inlet and Whale Cove (Riewe 1992:173). Beluga whales were hunted in the summer and bearded seals and ringed seals were hunted in fall and summer (sometimes well out to sea ice in the spring). Seals were generally caught along the floe edge (Riewe 1992:173).

The coastal area was also intensively used and trapping was carried out in the area during the winter supplemented with caribou hunting. The use of inland resources was important in the past (Freeman 1976:100). The inland area east of Whale Cove was used regularly by residents of Rankin Inlet and Whale Cove. Caribou was a mainstay and traps were set by caches or caribou kills (Freeman 1976:100). Walrus used to be hunted in the Whale Cove area, but became very scarce (Freeman 1976:102).

The Elders are thankful that they in turn had Elders to teach them traditional activities, and further believe that learning through traditional activities is better than learning at school with teachers and books (WCE 2009). Young adults said they rarely hunt or fish, and are more interested in traditional activity contests than regular activity on the land. They added that the problem is that they cannot afford the equipment to go hunting or fishing (WCYA 2009).

At a focus group in 2009, the participating Elders reported that not many people in Whale Cove hunt very much these days (WCE 2009). The Elders said that whales used to be just offshore of Whale Cove but now seem to be further out (WCE 2009). There are not as many sea mammals as in the past. Another resident of Whale Cove said that there are fewer beluga whales or other sea mammals near the community when there are ships close by, and believes that the beluga whales are trying to get away from the ships (McDonald et. al. 1997:55).

However, at the community review meeting in 2011 it was reported that beluga whales, seals (all species including harp seals and bearded seals), walrus, and polar bears are still hunted by Whale Cove hunters; and that Marble Island is a good place to hunt walrus (WCCR 2011). Furthermore, the community has plans to hunt bowhead whales within a couple of years (WCCR 2011). Narwhals are only hunted near Repulse Bay (WCCR 2011). In order to hunt marine mammals, hunters will travel into open water until they lose sight of land (quite far) during summer; in winter they will follow the ice floe edge (WCCR 2011). With regard to beluga

whales and ships, and it was reported by a 2011 community review participant that belugas follow ships, and there was no indication that sea mammals disappear when ships are around (WCCR 2011).

During Project interviews in 2009, Elders said that caribou do not come close to the town anymore. They believe the reason that caribou may no longer come close to Whale Cove is that there are too many people on snow machines and ATVs scaring them away (WCE 2009).

At the community review meeting in 2011, HTO representatives reported that Whale Cove probably has the "healthiest animals in the world" (WCCR 2011). A concern was raised that the caribou will divert their migration route if there are mines in the area (WCCR 2011). It was suggested that there are too many hunting areas in the vicinity of the proposed mine to allow for mining (WCCR 2011).

The interview participants explained that Baker Lake is important to their hunting activities, because caribou from Baker Lake are hunted by Whale Cove residents (WCCR 2011). There was concern that caribou downwind from the mine could get diseases from dust and that lichen would become contaminated from the prevailing winds passing through the mine site (WCCR 2011).

4.6.2 Birds and Egg Harvesting

In the past, people hunted duck and goose during spring and summer along the shore of Pork Peninsula to Sandy Point (near Angusko Point), as well as along the floe edge in early spring. Eider duck could be hunted along the floe edge all winter long, and ptarmigan were taken when they were seen (Freeman 1976:100). Goose and duck continued to be hunted into at least the 1990s, and eggs were harvested from Mistake Bay south of Whale Cove, to Rankin Inlet north of Whale Cove. Waterfowl were also hunted offshore throughout the spring and summer (Riewe 1992:173). Bird or egg harvesting was not discussed during Project interviews in Whale Cove in 2009, however, at the community review meeting in 2011, it was emphasized that Baker Lake is important to Whale Cove hunting activities, because geese fly to and from Baker Lake (WCCR 2011).

4.6.3 Fishing

During Project interviews, one of the Elders said there are not many fish anymore, and she hardly gets enough for her own use. Others said that they no longer make much money selling fish to the fish processing plant (WCE 2009).

Along the inland area east of Whale Cove, fishing took place on most of the lakes and river systems. The main catches were Arctic char and lake trout. During the winter months along the coastal area, fishing supplemented trapping and caribou hunting. After the spring break-up of ice, the shore area was heavily fished for Arctic char and trout (Riewe 1992:173). Whitefish was also an important fish in the past (Freeman 1976:102).

4.6.4 Camps, Trails and Cultural Sites

In the past, camps were located along the coast and primarily occupied in fall, spring, and summer. Some camps along the coast were used during winter for polar bear and caribou hunting (Riewe 1992:173). Camps located south of Last Lake and along the Maze Lake and Wilson River system were used as a base for winter trapping, as well as year-round caribou hunting (Riewe 1992:173).

4.6.5 Weather and Ice Formation

At the 2011 community review meeting, HTO representatives cautioned that it is important to know the direction of the prevailing winds, before constructing the mine (WCCR 2011). The Whale Cove interview participants were concerned about the winds from Baker Lake (WCCR 2011).

With regard to ice floe, freeze-up and break-up, the 2011 focus group participants gave the following information (WCCR 2011). During winter, the ice floe edge tends to reach a maximum extension of 6 – 7 miles (10 – 11 km) from shore; this may have changed over the years (WCCR 2011). When the wind direction is coming from the ocean there is no floe edge (WCCR 2011). Freeze-up takes place in late November and break-up takes place in mid-June (WCCR 2011). Freeze-up is later now than it used to be, but the changes in break-up have not been as pronounced (WCCR 2011).

4.6.6 Travel Routes, Shipping and Transportation

Community review participants in 2011 reported that Whale Cove hunters' travel routes are "everywhere"; they will follow the ice floe edge in winter (WCCR 2011). After ice break-up in mid-June, people will take their boats wherever the last break-up has taken place; the inlets are usually the last places to experience break-up. Inuit people often travel to inlets and points (WCCR 2011). It was noted that when travelling between Whale Cove and Rankin Inlet that the water is brown to the half-way point and then clear; this may be due to sewage (WCCR 2011).

The 2011 focus group participants wanted to know if there would be ships running year-round and AREVA's representative responded that no, ships would only run during open-water season (WCCR 2011). The interview participants expressed a preference for a winter road over shipping via the ocean, and suggested that AREVA store their shipments at Baker Lake until winter (WCCR 2011).

When asked what effects the Project shipping may have on marine mammals, it was suggested that shipping across the open ocean would have a negligible effect, and that the disturbance would be most pronounced at Chesterfield Inlet (WCCR 2011). There could also be disturbances if the barges travel up the coast of Hudson Bay (WCCR 2011). With regard to the potential effects of the Project shipping on ice formation, the local hunters expressed concern for seals and seal pups if the ice formation were to be altered (WCCR 2011). Project shipping

was not expected to impact traditional harvesting activities (WCCR 2011). Concerns were expressed over the potential for oil spills (WCCR 2011).).

4.6.7 The Project

Whale Cove Elders are aware that there have been problems at other mines, and cited instances of caribou eating harmful things at mine sites. They emphasised that AREVA will need to keep the caribou out of danger, and to educate people about the potential dangers from a uranium mine (WCE 2009). The young adults say they have thought about uranium, and believe that AREVA will do a good job. They are not particularly worried about the potential effects of the Project on the environment, but are more interested in jobs (WCYA 2009).

Interview participants at the 2011 community review meeting wanted to know why an AREVA representative was contacting them, to which they were told that the purpose of the meeting was "to learn IQ about wildlife habits so we [AREVA] can protect wildlife in the project design" (WCCR 2011). The interview participants requested that the IQ data obtained by AREVA be made available to Nunavut Tunngavik Inc. (NTI) and the Kivalliq Inuit Association (KIA). The participants would prefer that an Inuktitut translator be provided for meetings (WCCR 2011).

The participants were concerned that the mine would only benefit the companies involved, and that no royalties would be paid to the Inuit communities, but it was noted by AREVA's representative that Nunavut Tunngavik Inc. (NTI) receives royalties for operations which take place on Inuit Owned Lands (IOL) (WCCR 2011). Distrust was expressed for community members who receive money from mining companies (WCCR 2011). One participant stated: "I am 100% against the mine in Baker Lake" (WCCR 2011).

4.7 REPULSE BAY

Subsistence in the Repulse Bay area has traditionally depended on a variety of marine mammals including walrus, bearded seal, ringed seal, beluga whale, narwhal whale, and bowhead whale (Freeman 1976:63). During a focus group discussion in 2009, Elders referred to Inuit involvement in the 19th century whaling industry in the larger area, and mentioned that two whalers were buried on Harbour Island (RBE 2009). Trapping first became a major winter activity after the establishment of the HBC post in Repulse Bay, which led to a decline in the importance of breathing-hole sealing (Freeman 1976:63 and 64). Trapping has since declined (Freeman 1976:64). Today, the Elders still consume country food. Focus group participants in 2009 said that this is not "tradition", but is maintained out of need to conserve money for bills and expensive store-bought food. (RBE 2009). Details from the 2009 interview, focus group discussions and the 2011 community review meetings are available in Attachment G of Appendix 3B IQ Documentation.

4.7.1 Wildlife and Harvesting

Country foods have been an important element in the diet of the residents of Repulse Bay. During Project interviews in 2009, Elders said they were out on the land. In the winter, they lived on the ice, hunting seals. In the summer, they would go inland to hunt caribou and not return until the fall. One of the purposes of hunting in the summer was to hunt caribou while their hide was thin, so that they had hides suitable for caribou clothing (RBE 2009, RBJ 2011). Everything the Repulse Bay Elders had came from what they hunted, including food, oils for heat and light, hides for clothing and footwear; in the past hunting was much more difficult (RBE 2009). They hunted more to feed their families, other people, and dogs (RBHT 2009).

Published sources indicate the types of animals that have been hunted traditionally by Repulse Bay inhabitants. Caribou were hunted close to Repulse Bay, and also south of Repulse Bay when travelling to and from Chesterfield Inlet (Freeman 1976:64). The area just north of Wager Bay was occasionally used by Repulse Bay hunters in the past, but the area southeast of Wager Bay has been largely unused (Riewe 1992:219). The area west and south of Repulse Bay was frequently used for caribou hunting along the west shores of Roes Welcome Sound and for fox trapping between the Qamarialuk Lakes and Repulse Bay (Riewe 1992:219). The area extending northwest of Repulse Bay was used by residents for hunting and trapping including Arctic fox, caribou, wolf and wolverine and the area just north of Repulse Bay, extending to the coastline, was used heavily for hunting and trapping including fox, wolf, caribou, and marine mammal hunting (Riewe 1992:219). According to Repulse Bay interview participants in 2009, musk ox were not hunted close to Repulse Bay, but are hunted further north (RBYA 2009).

Project interviews suggested that wolves may migrate too and that people continue to hunt wolf and wolverine deliberately, not for food, but to sell the pelts. The HTO buys pelts from the hunters and sells them to the Wildlife officer, and then the pelts are auctioned in the south (RBYA 2009). Some pelts are sold privately for sewing clothing, such as to the Arctic College, which had a popular sewing program taught by Elders (RBYA 2009; RBJ 2011).

A Repulse Bay hunter during a previous study commented that before firearms, caribou were abundant along the coast of Repulse Bay, but since the introduction of firearms to the region, the caribou have moved inland (Freeman 1976:63). During Project interviews in 2009 it was indicated that caribou are now harder to find in the winter. They migrate south to Rankin Inlet and Baker Lake, and then move north to Igloolik. In the past, hunters would spend days finding caribou. One older member of the HTO, who was interviewed in 2009, maintains that there are less caribou now (RBHT 2009). IQ data on caribou migrations are shown in Figures 3.4-1 and 3.4-2. According to published sources, sea mammals have traditionally been important to the inhabitants of Repulse Bay. In the past, harp seal, harbour seal, beluga whale, narwhal whale and walrus were also hunted as they migrated past Repulse Bay (Freeman 1976:63). The Wager Bay area was used by hunters from Repulse Bay for ringed seal, bearded seal and polar bear. Within Wager Bay, walrus were hunted on Nuvudilik Island and Hankerchief Inlet was used for Arctic char fishing in summer and fall (Riewe 1992:254). Within Repulse Bay, ringed,

bearded, and harp seal were hunted during the summer. Narwhal whale and beluga whale were also hunted during the summer. Walrus were most notably hunted around Harbour Island (Riewe 1992:219). Polar bear were primarily hunted at Gore Bay south of Repulse Bay and along the Melville Peninsula in the past (Riewe 1992:219). The 2009 Project interviews indicated that there are lots of polar bears in the area, and that this may be an indication that their numbers are increasing (RBHT 2009). Seal, beluga whale and narwhal whale were also hunted along the coast of Repulse Bay each year (Riewe 1992:219). Beluga whales appear to have declined in the area (McDonald et al. 1997:47). A resident of Repulse Bay further noted that the noise of ships is affecting the animals and that beluga whales do not come in anymore (McDonald et al. 1997:55).

In 2009 HTO members said they hunt as much these days as when they were young and as often as they can (RBHT 2009). This sentiment was echoed by the 2011 community review participants who said that they hunt as much now as they did when they were younger (RBJ 2011). Many hunters come from different backgrounds (RBHT 2009). School is over at the end of May and then families start to go out on the land. Many families hunt seal in spring and summer (RB01 2009). Women sometimes hunt and fish as well (RBHT 2009). According to the 2009 interview participants, hunters primarily harvest caribou, wolf, polar bear, beluga, fox, narwhal, and walrus (for people and dogs to eat) in a sustainable manner to avoid waste and promote sharing of food (RBHT 2009 and RBYA 2009). Hunting areas for bowhead whales, polar bears and walrus are shown in Figure II.3.3-1, and hunting areas for beluga whales are shown in Figure 4.4-2.

Constraints to hunting are time (HTO members have jobs) and money. Fuel costs are the issue at present along with more expensive and complicated parts. Snowmobiles only take a couple of people and if they are really loaded up, the gas costs are greater. Predicting where animals are located is important (RBHT 2009; RBYA 2009).

During Project interviews, narwhal whale hunting was described as “spectacular”. The location of a narwhal sighting is marked on Figure II.3.3-2. People will stay out all night to catch a narwhal. People can sell the tusks for carvings, and the muktuk is a delicacy (RB01 2009). Narwhal migration patterns are being studied by the government (RBYA 2009). Residents of Repulse Bay have previously noted that all the animals seem to have more energy when the currents are stronger, and that more seal are around when the currents come (McDonald et al. 1997:14).

Project interviews in 2009 conveyed that Elders are not in control of young people anymore. Young people are turning to technology and do not learn hunting or survival skills from the Elders (RBYA 2009). The young adults try to teach their children to hunt, but working gets in the way and not all young people are interested. The 2009 interview participants reported that the governance role of Elders is diminished (RBYA 2009; RBE 2009).

The community review meetings in 2011 (RBJ 2011 and RBH 2011) provided interview participants with further opportunity to elaborate on the importance of sea and land mammal harvesting in Repulse Bay.

The interview participants in 2011 reiterated that beluga whales are commonly seen and hunted in Repulse Bay, and they are hunted along the ice floe edge and in open water (RBJ 2011 and RBH 2011). One interview participant reported that they did not have information on beluga migration routes because these whales are easily harvested in the bay and so there is no need to travel further out into open water to hunt (RBJ 2011). In the past, beluga whales were hunted in spring, summer, and fall for human consumption and dog food (RBJ 2011). One Elder said that in the days when people relied upon dog teams, they used to hunt as many belugas as the sleds could carry (RBJ 2011). Beluga fat was good for fuelling lamps and feeding the dog teams (RBJ 2011). Beluga fat was preferred over seal fat for powering lamps because beluga fat produces larger, brighter flames (RBJ 2011). The Elders at the 2011 community review meeting remarked that they know about the characteristics of the fat on different animals (RBJ 2011). Two hunters stated that the health of beluga whales in 2011 is the same as in previous years (RBH 2011).

One Elder recalled that in the past, belugas and narwhals were mixed together (RBJ 2011). Today, narwhals are commonly observed in a large area around Repulse Bay, including Wager Bay (RBJ 2011). Two hunters reported that narwhals tend to stay north of Repulse Bay (RBH 2011). Narwhals are hunted everywhere in the area, and in spring the harvesting of narwhals is concentrated at the mouth of Repulse Bay (RBJ 2011). Two hunters in 2011 reported that the health of narwhals is the same as in previous years, although it was noted that sometimes narwhals have scars if they have been stuck near an iced-in breathing hole (RBH 2011). As with the belugas, no one is sure how far south the narwhals travel, because the hunters do not need to travel too far from home to find them (RBJ 2011). However, people from Rankin Inlet, Chesterfield Inlet, and Whale Cove have been known to travel to Repulse Bay by boat or plane to hunt narwhal (RBJ 2011).

Orcas (killer) whales are seen near Repulse Bay but are not hunted because the people are afraid of them (RBJ 2011). The location of an orca sighting is shown in Figure II.3.3-1. Orcas are known to hunt narwhals (RBJ 2011). On one occasion an Orca was caught, apparently accidentally, near Baker Lake (RBJ 2011).

According to the 2011 interview participants at the community review meeting, walrus and seals are found everywhere in the area surrounding Repulse Bay (RBJ 2011). However they noted that not many people hunt walrus any more (RBJ 2011). On the contrary, all local species of seals are still hunted: ring seal, bearded seal, harp seal and harbour seal (RBJ 2011). Two hunters in 2011 reported that ring and bearded seal pups are born in March, in areas around Repulse Bay (RBH 2011). The hunters told the interviewers that all kinds of seals are good for eating, and also good for fur (RBH 2011). Adult seal fur is not good in the spring and summer because at this time the animals are shedding, however, seal pup fur is still good at this time (RBH 2011). An area where seal pups are known to be is marked on Figure II.3.3-1. Seal pelts are sold to the wildlife office for $40-60 per pelt (RBH 2011). The hunters reported that the health of the seals is pretty much the same as in the past, but sometimes they find dead seals at breathing holes and they are not sure why (RBH 2011).

With regard to land mammals, the Elders and hunters interviewed in 2011 reported that to the north-west of Repulse Bay the participants frequently observe caribou, wolverine and fox (RBJ 2011). The 2011 interview participants confirmed that muskoxen are not hunted near Repulse Bay, because in order to hunt these animals one must go further north (RBJ 2011). Wolves are also hunted in the region, and in the past some skins were sold to a wildlife hunter and some skins were sold to the Arctic College for cloth-making (RBJ 2011). Trapping used to be done a lot along the coast and south of Repulse Bay (RBJ 2011).

One hunter at a 2011 community review meeting reported that he traps fox (RBH 2011). Two hunters at the meeting described several types of foxes: brown, black, red and arctic fox, and explained that these animals cycle from high population to low population (RBH 2011). A few people from the community are trapping fox these days, and trapping occurs close to the community (RBH 2011). One hunter said that he used to trap wolverine, but they are hard to trap because they can break small traps apart to escape (RBH 2011).

With regard to the harvesting of polar bears, one female Elder at the meeting reported that she caught a large polar bear about two to three miles south of Repulse Bay last year (2010) (RBJ 2011). Polar bears are hunted everywhere, including north-west of Repulse Bay, and as far south as Wager Bay (RBJ 2011). According to the interview participants, the polar bear hunting areas are largely limited by quotas (the government-imposed limits to the amount of polar bears that can be harvested by HTO members each year) (RBJ 2011). There are two tag areas nearby (areas where HTO members are permitted to hunt polar bears and attach tags to the hides to meet their quota) (RBJ 2011). These areas are: Foxe Basin and the adjacent harvest tag area (RBJ 2011). The quotas are met easily in these areas, so people do not have to travel far from home (RBJ 2011).

The Elders and hunters interviewed in 2011 have observed caribou near Repulse Bay and when travelling towards Baker Lake (RBJ 2011). Also, caribou are harder to find during winter (RBJ 2011). It was reported that in the spring, the caribou can cross Repulse Bay (RBJ 2011). One Elder recalled that her grandmother told her that the caribou can cross the ocean, indicating on a map that according to her grandmother, the caribou crossed Repulse Bay from one side to the other, but the interview participant said that she did not believe it (RBJ 2011). It was reported that the caribou can go south along the coast (RBJ 2011). One Elder saw this happen in the 1960s but he isn't sure exactly when (RBJ 2011). In the winter the caribou cross Southampton Island (RBJ 2011). The Elders remembered that in 1968 the caribou were found in abundance, but there are not as many today (RBJ 2011).

Another Elder commented that when he was young, the caribou did not migrate, but when he was older he noticed that they did migrate (RBJ 2011). He was told by his Elders that the caribou have a cycle which alternates between migrating and not migrating, and the people should expect this to happen again (RBJ 2011). When they are not migrating, the caribou stay near Baker Lake (RBJ 2011). The interview participants explained that the caribou migrations are different every year, and that there is not a noticeable cycle which repeats itself from year to year (RBJ 2011). One Elder said that the caribou movements depend on food availability, and that these animals keep moving as resources are consumed in an area (RBJ 2011). Today,

bulls are found close to town; however, cows and young caribou are preferred for hunting (RBJ 2011).

Two hunters in 2011 reported that the caribou can move from the south and across Wager Bay, and this is the reverse for migration (RBH 2011). According to the hunters, in the summer, people hunt in the area north-east of Repulse Bay, near some old 45 gallon drums left behind by mining operations and/or prospectors (RBH 2011). At the time of the interview, the hunters reported that there were caribou in abundance near the town, so the hunters did not have to travel very far to hunt (RBH 2011). In 2010, the caribou were found farther away and the people had to travel north-east of the town and south of the bay (RBH 2011).

Community review participants reported that the caribou calve in many areas, almost anywhere (RBJ 2011). There are certain areas where more females will calve; one such area is located north of town (RBJ 2011). When the caribou migrate out of the area, many of them have calves (implying they have calved north of town) (RBJ 2011). The hunters reportedly hunt pregnant females “sometimes”, but it was noted that these kills can be accidental if the females are “barely pregnant”; local hunters do not generally hunt obviously pregnant females (RBJ 2011). Also, at the time when the females are pregnant, the bulls are good to harvest, so this is usually not an issue (RBJ 2011). Females with calves are not usually hunted, but the interview participants said that if one cannot find any other caribou, then they may take a mother and calf (RBJ 2011). Females who have just given birth are not preferred because they are “pretty skinny” (RBJ 2011). People do not generally use snow mobiles to travel south to Baker Lake or north to hunt caribou, but people from the north have been known to come down to the Repulse Bay area to hunt caribou (RBJ 2011).

4.7.2 Birds and Egg Harvesting

In the past, goose, duck, swan, loon, and crane were hunted and eggs collected along the north coast of Repulse Bay and along several other coastal areas surrounding Repulse Bay as far south as Wager Bay. Until at least the 1990s waterfowl continued to be harvested just north of Repulse Bay (Riewe 1992:219). Also, waterfowl were harvested throughout Haviland Bay (just east of the Repulse Bay settlement) and in Repulse Bay during the summer. Eggs were primarily collected in the vicinity of the Repulse Bay settlement (Riewe 1992:219). Waterfowl and other birds were hunted and collected along the coast and on offshore islands near the Repulse Bay settlement (Freeman 1976:64). During interviews, hunters remarked that hunting birds continues to be important, as it contributes variety to their diets (RBHT 2009). IQ data from community review meetings concerning goose and duck harvesting is shown in Figure II.3.3-1.

At a 2011 community review meeting, two hunters reported that people from the community of Repulse Bay hunt ducks, snow geese, Canada geese and ptarmigan (RBH 2011). Ptarmigan are seen all year round and are hunted all the time except for in the spring (RBH 2011). If the people can find them, they will collect the eggs of eider, ptarmigan and arctic tern (RBH 2011).

4.7.3 Fishing

In the past, char and trout were speared, harvested at weirs lakes, and fished from river shores during the summer throughout the inland. Fish were primarily harvested from small lakes and rivers north of the Repulse Bay settlement (Freeman 1976:64). Arctic char used to be fished heavily year-round near the community of Repulse Bay, and were also caught in the rivers adjacent to Ross Bay (Riewe 1992:219). Rivers where Arctic char run are shown in Figures II.3.3-1 and II.3.3-2. In 1997 Arctic cod were no longer found in the near shore areas off of Repulse Bay (McDonald et al. 1997:47). Other lakes northwest of Repulse Bay, such as Christie Lake, North Pole Lake, Amitut Lake, Anigorchli Lake, and the North Pole River were heavily fished in the summer (Riewe 1992:219). According to the interview participants in 2009, there is a fish plant in Rankin Inlet that will pay people in Repulse Bay for their catch; and that the HTO chooses which people will fish and sell to the plant. It was also noted that a lot of char were caught in 2009 (RBYA 2009; RBHT 2009).

Two interview participants in 2011 mentioned one person who fishes and sells his catch to the fish plant in Rankin Inlet (RBH 2011). They also referred to the HTO system, which has been in place for a couple of years, for people to sell their catch to the fish plant through the HTO (RBH 2011). In 2011 the HTO hired two men to fish for the fish plant; however, they specified that the Rankin Inlet fish plant only accepts char (RBH 2011).

An interview participant at a community review meeting in 2011 said that he only fishes in the summer with nets, and that he catches char and lake trout (RBH 2011). In general, the prime times to fish are in the spring, summer and fall (RBH 2011). Generally, fishing happens in the local lakes to the north of the community (RBH 2011). In an unnamed lake near Curtis Lake, people can catch whitefish (RBH 2011). Char can be found locally in August and some can be found later on as well (RBH 2011). The interview participants noted that some of the major rivers for fishing char and some of the small, local lakes are not visible on AREVA's reference map (RBH 2011). The char will swim along rivers as long as there are no waterfalls to overcome, and there are some good rivers close to the community (RBH 2011). The interview participants noted that fishing practices today are generally the same as they have been in the past (RBH 2011). In terms of fish health, they said that the fish are pretty much the same as in previous years, some fish are "skinny" but this is normal (RBH 2011).

4.7.4 Camps, Trails, Burials, and Cultural Sites

There was a cabin on Savage Islands used as a base for winter polar bear, wolverine, and wolf hunting. Most winter camps were placed near the mouths of rivers or along the shore rather than on the sea ice (Freeman 1976:64). During focus groups, Elders referred to sites related to whaling and the Hudson's Bay Company, with whom their ancestors were involved during the 19th century. Elders said that a stone house, built by John Rae, a 19th century explorer and Hudson's Bay Company employee can still be seen close to the community; and whalers had written inscriptions on rocks in the area, which can still be seen (RBE 2009).

4.7.5 Plants

According to a community review meeting in 2011, the local people from Repulse Bay collect blackberries and blueberries in the area around Repulse Bay (RBH 2011). Edible plants include green, flowering plants such as fireweed (*Epilobium angustifolium*), and broad-leaved willowherb, also known as dwarf fireweed (*Chamerion latifolium*) (RBH 2011). The roots of the labrador lousewort plant (*Pedicularis labradorica*) are eaten as well (RBH 2011).

The interview participants also mentioned a brown plant, which is sometimes green, that they frequently use as firewood; this plant is not eaten (RBH 2011). Willow trees are found close to the community but they are not used for anything, although the interview participants speculated that perhaps ptarmigan eat the berries (RBH 2011).

4.7.6 Ice and Water

At a community review meeting in 2011, Elders and hunters explained that change is constant on the Arctic landscape (RBJ 2011). According to the interview participants, the characteristics and location of the ice floe are generally the same from year to year, in the sense that the ice edges form and break, form and break, over and over again, so they are always changing (RBJ 2011). There is no trail, either over ice or over land, from Repulse Bay (RBJ 2011). People move freely over the ice, and will use different travel routes each time (RBJ 2011). For example, if a group of people were going to Wager Bay to hunt polar bears, some people would go along the seashore, while others would travel across the land, because different people use different routes (RBJ 2011). When boating on the sea, some smaller boats will stay close to shore, but larger boats travel in deeper water to avoid hitting the sea floor (RBJ 2011). The interview participants at the Elders and HTO community review meeting in 2011 explained that the tide and ocean currents are not considered dangerous because the local people are accustomed to them (RBJ 2011).

With regard to the formation of sea ice, two hunters at a community review session in 2011 said that in general, the area west of Southampton Island does not freeze up because there is a strong current, but some ice does form close to shore (RBH 2011). The strong currents west of Southampton Island (potentially dangerous for some people) are shown in Figure II.3.3-1. The ice around Repulse Bay changes frequently (RBH 2011). The interview participants recalled that the sea ice used to form earlier in the year, but now it forms later (RBH 2011). The ice used to last until August, but now it is gone by July (RBH 2011).

4.7.7 The Project

The HTO members are concerned about caribou that may get too close to the mine. “Will they become contaminated in some way (RBHT 2009)?” Everyone is concerned about birds and caribou that migrate past Baker Lake (RBE 2009). One Elder had seen pictures of birds dying in Alberta, said it had something to do with mining and asked, “Is all this cost of progress?” There

is exploration happening at Hall Beach and Igloolik. If the people there end up without caribou, the Elders believe they will be coming towards Repulse Bay to hunt them, and putting pressure on the local herd (RBE 2009).

Repulse Bay residents have said that they continue to give environmental information without receiving anything back (McDonald et al. 1997:47). There is a concern for contamination from oil or other contaminants that may come from development in general (McDonald et al. 1997:47). In any development the fish and lakes need to be considered for the long-term effects (McDonald et al. 1997:47). People drink water and get ice from the rivers. Many people won't drink tap water because it's treated (RB01 2009).

4.8 CORAL HARBOUR

Coral Harbour is the only settlement located on Southampton Island, shown in Figure 4.8-1. The original inhabitants of the island, the Sadlermiut, had contact with whalers during the 19th century. In the winter of 1902 – 1903, an epidemic killed all the inhabitants. Around 1910, some Aivilingmiut (Inuit from Repulse Bay area) whaler crew members began to bring their families to the island and lived there. In 1918, the Hudson's Bay Company opened a post at Coral Harbour (Freeman 1976:110). Details from the 2009 focus group discussions and the 2011 community review meeting are available in Attachment H of Appendix 3B IQ Documentation.

Figure 4.8-1: Marine Mammal Information

4.8.1 Wildlife and Harvesting

The inland areas around Coral Harbour and along the south shore of Southampton Island have been important caribou hunting areas (Riewe 1992:137), as has Coats Island (Freeman 1976:112; Riewe 1992:137). Caribou were abundant on Southampton Island in the 1920s and 1930s, but had died out by the mid 1950s (Freeman 1976:95). In the 1960s, 40 caribou were brought over from Coats Island. The herd grew to 30,000. Now, the herd numbers about 10,000 and is scattered all over South Hampton Island. There are no predators to cull the herd. The government said that there was an over-population of caribou. In March, 2009, 850 caribou were harvested for Arctic Foods in Rankin Inlet. This employed about 20 local hunters for about 10 days (CHAH 2009).

There is some suggestion that in-breeding has resulted in health issues for the caribou. Additionally, pus and white cysts have been observed in harvested animals. There are no restrictions on caribou hunting, although the HTO advises against killing bulls. The HTO serves the community as a wildlife and fisheries office, and in issuing hunting tags (CHW 2009; CHAH 2009). Hunters are concerned that an increase in individualism is somehow slowly eroding traditional ways. They added that sometimes caribou and musk ox carcasses have been left to rot on the land. The hunters consider this offensive and emphasized that “this is not IQ”, meaning, this is not the traditional Inuit way (CHAH 2009).

In the Coral Harbour region, adjacent shore and portions of the inland area have been used for trapping Arctic fox and hunting polar bear along the coast during the winter. Arctic foxes were also trapped along the west central portion of Southampton Island (Riewe 1992:240). Some people trap Arctic fox and send the pelts for auction in the south (Thunder Bay, Ontario). Other people sell privately and one can make a fairly good living from trapping (CHW 2009). Polar bear are found generally at various locations around Southampton and Coats islands (Riewe 1992:135,137). They are harvested around the end of May, and Coral Harbour receives 40 polar bear tags (CHAH 2009).

According to the interview participants from Coral Harbour at the 2011 community review meeting, polar bears are found all over Southampton Island, and people don’t go camping as much as they used to because of the bears (CHJ 2011). The participants reported that there are no muskoxen on Southampton Island (CHJ 2011). The crabs that are harvested near Coral Harbour are Arctic crabs (CHJ 2011). One participant noted that she had seen a “merlin” (pigeon hawk), which is a new species for this region (CHJ 2011). An Elder noted that one reason why more rare species are being seen in the Arctic is that forest fires in the south are driving the animals north (CHJ 2011). Small, black birds, which may be swallows, are also seen frequently by people in Coral Harbour (CHJ 2011).

In the past, multiple areas surrounding Coral Harbour were used for hunting and trapping. More marine animals were hunted in the past because dogs as well as family groups had to be considered in harvests (McDonald et al. 1997:47). For example, walrus were often fed to the dogs (Freeman 1976:112).

The offshore area east and northeast of Coral Harbour was used for seal hunting. A seal hunting area to the south-east of Coral Harbour was identified by local participants at IQ meetings and is shown in Figure II.3.7-1. Harvested species included ring, bearded, and harp seals (Riewe 1992:241). During spring, seal and walrus were the main hunting activities (Freeman 1976:114). Beluga whale and narwhal were hunted to the south of Coral Harbour during August and September (1992:241). The north coastal areas of Southampton Island, including Vansittart Island, Sturges Island and Bourne Island were used for seal, whale, and walrus hunting. Duke of York Bay was an important area for harvesting seal, beluga whale, and narwhal (Freeman 1976:112).

Belugas continue to be seen in the late summer, and the hunters are not sure if the local population migrates. Once in a while, they will see a narwhal or an orca (CHAH 2009). Marine mammals are generally considered to be in good supply, although there may not be as many beluga whales as in the past (CHW 2009). An Elder in Coral Harbour said that animals such as walrus and caribou move from time to time and that number estimates by the government are faulty because they do not take into account that animals do not always consistently occupy one area. The Elder also indicated that the populations generally return, including those for whales as well (McDonald et al. 1997:42, 60).

Elders and HTO representatives at the 2011 community review meeting said that the local people do not see killer whales with their own eyes (CHJ 2011). However, the local people believe that killer whales are in the sea around Southampton Island because of the observed behaviour of other marine mammals (CHJ 2011). It is believed that seals and belugas come into bays and near shorelines when they are seeking protection from predators (i.e. killer whales) (CHJ 2011).

The beluga and narwhal birthing/calving grounds were identified by the Coral Harbour participants at the 2011 community review meeting, as being located on the north side of Southampton Island (CHJ 2011). These areas are shown on the north-east shore in Figure II.3.7-1. Belugas are hunted year-round all along the north side of the island (CHJ 2011). Whale nets are used to catch beluga whales and seals (CHJ 2011). Beluga, bowhead and narwhal hunting areas are shown in Figure II.3.7-1. One hunter reported catching a narwhal in his net, and described the event as unexpected and rare (CHJ 2011). Another hunter noted that very few narwhal were caught in 2010 (CHJ 2011). The location of a narwhal sighting is marked on Figure 4.8-1.

No one is certain where bowhead whales give birth to their calves, but it was reported that bowhead whales are hunted at the ice floe edge (CHJ 2011). The Kivalliq region has a process to choose one community each year that will conduct the bowhead whale hunt (CHJ 2011). The last time that Coral Harbour received a license to hunt was in 2000; and one whale was killed off the south-east shore of Southampton Island (CHJ 2011). Now, Coral Harbour has the bowhead hunt once again for 2011 (CHJ 2011).

Walrus are found off the north coast of Coats Island, in fact, the Inuktitut name for this island means “Island covered by walrus” (CHJ 2011). According to the Coral Harbour hunters, walrus

are found “all over” the island and their birthing grounds are found across the entire island as well (CHJ 2011). Walrus are hunted by the people from Coral Harbour during the winter months, at the ice floe edge (CHJ 2011). Generally, walrus are not seen in Coral Harbour but it was reported that this past fall two walrus had been harvested very close to the community (CHJ 2011). Walrus hunting areas are shown in Figure 4.8-1.

All the species of seals that are found on Southampton Island are hunted by the local people: ring seals, bearded seals, harbour seals and harp seals (CHJ 2011). While most seals give birth close to the coast, the ring seals give birth at the ice floe edge (CHJ 2011). At one time in the past, a seal was killed by a hunter in a river on Southampton Island, about 40 miles (64 km) inland (CHJ 2011). In 2010 there were about 400 to 500 seals in Coral Harbour (CHJ 2011). This was an unusual abundance and the local people wondered what had happened in Hudson Bay to drive the seals into Coral Harbour (CHJ 2011). Speculations included the presence of killer whales and/or seismic activity (CHJ 2011).

How far offshore people go to hunt sea mammals depends on a number of factors, for example, what the weather is like, and the amount of gas that the hunter has to power a boat (CHJ 2011). Belugas are hunted close to the ice floe edge (CHJ 2011). One participant remembered that when people used dog teams, they used to travel to Coats Island and the eastern shore of Southampton Island to hunt walrus for dog food (CHJ 2011). The participants agreed that marine mammals are available close to the community, so people do not have to travel far to hunt (CHJ 2011).

Interview participants in 2009 perceived that people do not hunt as much now as they did in the past because of the high cost of hunting, time constraints, snowmobile maintenance, and reduced interest. No one in Coral Harbour has a full dog team (CHW 2009 and CHAH 2009). It is also easier to purchase food from the store (CHW 2009). However, people still crave country food, especially if they grew up on it, and seal is considered a “life line” (CHW 2009). The Elders said that they make clothing and that store bought clothes are not warm enough. They depend on animals for food and clothing (CHE 2009). The Elders still get enough country food including seal, fish, goose, and other animals and note that enough people still engage in hunting. The Elders crave country food and it has been said that “You need it to keep you warm” (CHE 2009).

Hunting and fishing are not considered to be recreational activities, but hunting skills are not being passed down to the younger generation, even though there are varying degrees of interest. There is still pride in developing a good hunter and there is a concern that there may be more individualism in the community and that the role of Elders is changing. It is not the Elders’ intention to teach traditions to “go back”. Some of the Elders say that they care about what young people want, not about the traditions. Children are not out on the land as much. The Elders want to be asked questions, and to participate in gatherings, sewing classes, and telling stories in the school (CHAH 2009; CHE 2009; CHW 2009).

4.8.2 Birds and Egg Harvesting

Several types of birds and eggs continue to be harvested in the Coral Harbour area. In June, when the birds arrive from the south, people used to go to spring camps to hunt goose and collect eggs. During the summer months geese were hunted all along the shore and during the winter months eider duck were hunted along the floe edge (Freeman 1976:112). Additionally, ptarmigan were hunted everywhere (Freeman 1976:114). Gull eggs continue to be collected on Cape Welsford and Cape Bylot northeast of Coral Harbour (Riewe 1992:240). A variety of waterfowl are harvested from the shore east of Coral Harbour (Riewe 1992:240). The women's focus group discussions indicated that each of the women camp, fish, and hunt goose. In mid June goose, duck, and gull eggs are collected (CHW 2009).

4.8.3 Fishing

Fish, especially Arctic char, were an important food resource for residents of Coral Harbour in the past (Riewe 1992:241). From March to December, fishing would typically occur in places all over Southampton Island. Gill nets and jigging were used to take lake trout, Arctic Char, cod, sculpin, and cisco (Riewe 1992:241). The northwest portion of the Southampton Island was a good fishing area and Arctic char were fished with nets set below thin ice along the north-eastern coast of Southampton Island. Arctic char were also harvested from Duke of York Bay area and several rivers along the north coast were also used. The area immediately surrounding Coral Harbour was fished throughout the summer along numerous river mouths (Riewe 1992:240).

There is no commercial fishing in Coral Harbour as there is in other hamlets (CHW 2009). People in Coral Harbour jig for crabs, which are caught by hook and occasionally with crab traps (CHW 2009). Trout and char fishing are still very popular (CHAH 2009).

4.8.4 Plants

In 2009 it was reported that during the summer, Elders eat roots and berries. When asked about traditional medicines, they said that in the past, people didn't get sick, so there was no medicine. The traditional diet was calcium and nutrient rich. Nutrition was the treatment of illness (CHE 2009).

The 2011 community review participants recalled that in previous generations, when people used to get sick, there were medicine men to heal them and willow was used as an anaesthetic (CHJ 2011). The participants noted that today, people use "Western" medicine and will go to the hospital if they are sick (CHJ 2011).

4.8.5 Ice

Interview participants reported that in 2010, the ice formation took place in December, but in the past the ice formation took place in October (CHJ 2011). The interview participants believe that the later ice formation observed today may be due to warmer ocean water temperatures (CHJ 2011). Also, it was noted that the ice melts much sooner now than it did in the past (CHJ 2011). In 2010 the ice melted at the end of June, but in past years the ice was present until the end of July or even August (CHJ 2011). The interview participants also remarked that the ice is thinner now than it used to be (CHJ 2011). At present in Coral Harbour, the ice floe edge is approximately 19 to 24 miles (30.5 to 38.5 km) from shore at its maximum distance (CHJ 2011). In the past, the ice floe edge was much farther from shore; the interview participants estimated that it used to be 50 miles (80.5km) from shore (CHJ 2011). The participants recalled an observation that if there is an ice bridge between Southampton Island and the mainland, then this coincides with ice extending south all the way to Coats Island (CHJ 2011). It was mentioned that, based on satellite imagery, an ice bridge may form this year (CHJ 2011). The last ice bridge formed a few years ago (CHJ 2011). One participant noted that in the summer of 2010 the local people did not see much ice when travelling between Arviat and Southampton Island in July and August; when he was younger, he recalls that there was much more ice at this location during this time of the year (CHJ 2011).

4.8.6 Camps, Trails, Burials, and Cultural Sites

Making camps into at least the 1970s continued to be a significant part of people's yearly activities, especially in spring and summer (Freeman 1976:111). Coral Harbour residents occupied cabins along Duke of York Bay in the spring, summer, and fall before returning to Coral Harbour in the winter (Riewe 1992:241). Multipurpose hunting camps were used for waterfowl all along the shore surrounding Coral Harbour (Riewe 1992:240).

The interview participants at the 2011 community review meeting explained that they travel in all directions over the land, and that people do not use trails or set travel routes (CHJ 2011). In the winter people travel everywhere and anywhere along the ice floe, and people simply travel until they reach the edge (CHJ 2011). After the ice breakup, people travel by boat and this takes place mostly along the coast (CHJ 2011). Travel from Coral Harbour to the north shore of Southampton Island can be in either direction, either to the east, or to the west and then north, depending on the ice formation (CHJ 2011). People travel all around Southampton Island and along the coast, as far as Repulse Bay, Rankin Inlet, Wager Bay, and Quebec (CHJ 2011). People from Coral Harbour have observed that people from Cape Dorset come to the east end of Southampton Island to hunt beluga (CHJ 2011). It was agreed upon by the interview participants that people in the region feel they can go wherever they want to go (CHJ 2011).

4.8.7 The Project

The main Project-related issue raised at the 2011 community review meeting was shipping (CHJ 2011). AREVA is considering two shipping routes: either 1) sending barges north from Churchill along the western side of Hudson Bay; and/or 2) sending ocean ships from Montreal, down the St. Lawrence River, up around northern Quebec and west to Chesterfield Inlet (this is the route Meadowbank is currently using). The large ships would then anchor near the community of Chesterfield Inlet or further west, just before the Chesterfield Inlet narrows. A smaller barge would then be used to offload the materials from the barge to AREVA's dock and storage area, east of the community of Baker Lake. From there, material would be transported by truck to the Kiggavik Project using either a winter or an all-season road.

With respect to the potential impact of the barges in Hudson Bay on the local marine mammals, the point of relevance to the people of Coral Harbour would be the route from Montreal (CHJ 2011). This route would involve ships passing by south of Southampton Island. One interview participant said that if the ships travelled in winter, then the wildlife would be affected, and that summer barging would have less of an impact on marine life (CHJ 2011). Also, it was mentioned that if the barge were to be anchored for a period of time, then it may disrupt marine mammals such as beluga whales (CHJ 2011). The interview participants were also concerned with breaking ice, because noise and other factors related to breaking ice could impact marine mammals negatively (CHJ 2011).

According to the AREVA representatives at the 2011 community review meeting, the proposed timing for the shipping would begin in mid July or August, and last until the end of late October or early November (CHJ 2011). The limiting factor for AREVA's shipping is the ice at Baker Lake. AREVA has no plans to conduct ice-breaking for the Project. AREVA would also have local wildlife monitors on the barges so that the monitors could communicate directly with the local community about what they observe during project operations (CHJ 2011). As such, the local people would be the first to note any changes in wildlife (CHJ 2011).

One Coral Harbour interview participant said that AREVA should include other Kivalliq Elders on barges to monitor the shipping route (CHJ 2011). Another person suggested that Elders and local wildlife monitors could travel the entire shipping route (starting at Montreal or Churchill), not just supervise the smaller barge route towards Baker Lake, because their IQ would be useful to provide a different view on shipping impacts (CHJ 2011). The interview participants were in agreement that there would probably be some impacts on the local marine fauna due to shipping, but that the exact nature of these impacts would be uncertain until observations are made during a monitoring process by local people with IQ, who can then take an informed stance (CHJ 2011). The relationship between the depth of the ocean water and the distance from shore to the barges along the shipping routes, and the impact that these factors would have on marine mammals, is not clear (CHJ 2011).

4.9 CHANGES IN WEATHER

Prior to the 1940s, there were relatively more days that were clear and calm, the winters were colder, and the temperatures were lower for longer periods of time (McDonald et al. 1997:29). After the 1940s the north-western Hudson Bay weather was observed to increase in its variability. By the 1990s changes became quicker and more difficult to predict (McDonald et al. 1997:29). Other changes included snow falling and melting earlier than in the past (McDonald et al. 1997:47). Changes to rivers include seasonal changes in water levels and flow, and a decline in water quality (McDonald et al. 1997:46). Some Elders in the Baker Lake interviews indicated that they had not observed any changes in water quality (BL12 2008).

In Chesterfield Inlet, residents reported that blizzards materialize on clear days, but on days when environmental signs would normally indicate approaching blizzard conditions nothing would happen. On Southampton Island, snow falling before the freshwater freezes creates much different lake-ice conditions than in the past. Additionally, the freeze and thaw of snow over the ground makes it difficult for animals such as Arctic hare and ptarmigan to travel (McDonald et al. 1997:29).

There have been many effects of climate change including a decrease in spring small bird populations. Unseasonable cold spring weather in the early 1990s in the communities of Chesterfield Inlet, Southampton, and Repulse Bay prevented vegetation growth, and thus caused caribou to over-graze some areas. Mosquitoes have declined in repulse Bay and black flies have moved north from the tree line to places like Whale Cove, where the snow is melting earlier in the spring. In Arviat, even though the snow is gone by May, blizzards can still occur in June (McDonald et al. 1997:29).

In Coral Harbour, hunters have observed new animal species in the area that they believe are evidence of climate change. They reported seeing a burrowing owl a few summers ago, as well as occasional swallows and butterflies in May or June (CHAH 2009). Coral Harbour hunters also suggested that because of climate change, the ground is melting faster and affecting vegetation, which, in turn, affects the overall health of the caribou and some women believe that maybe there is not enough food for all the caribou and some are developing sickness (CHW 2009 and CHAH 2009).

Inuit of the north-western Hudson Bay area know that the currents in the Roes Welcome Sound have weakened. They said they can now cross in summer's spring tide, whereas in the past they could not. Elders from the Arviat area have noted that the Hudson Bay current has reduced in strength. The surface water of the Hudson Bay generally flows in a counter-clockwise direction, strengthened by river discharge moving water past Chesterfield Inlet, Ranking Inlet, Whale Cove, Arviat, and south to Churchill (McDonald et. al. 1997:11). These currents have a relationship with where the sea animals are located and where they travel to (McDonald et. al. 1997:12, 13). The Inuit believe that rivers flowing into Hudson Bay greatly affect the larger currents flowing in the bay (McDonald et al. 1997:31).

Comments made by interviewed Elders in Baker Lake related to environmental issues, as summarized in Cumberland (2005), included:

- thinning ice;
- decreased snowfall;
- longer summers, shorter winters;
- spring break-ups are earlier;
- the abundance and diversity of flora has increased;
- increasing unpredictability and variability of the weather;
- caribou migrations have shifted; and
- caribou, and grizzly range and habitat have changed.

5 SUMMARY

5.1 SUMMARY OF PROJECT-RELATED ISSUES

During interviews, and focus group discussions conducted for the IQ Baseline Report, participants identified a variety of issues related to the Project. The majority of Baker Lake participants said they would support a bridge over the Thelon River, and either Anaqtalik or Kinngarjuit were suggested as possible locations. Most participants do not want to see any development near Hagliq or south of Baker Lake, as these were areas identified as important fishing areas, or caribou travel routes. Some participants were concerned that a bridge over the Thelon River may prevent boat travel upriver to harvesting areas, or that the bridge might cause ice to be pushed further onto the land, potentially damaging the bridge itself.

Various concerns were voiced over the possibility of constructing a road to the Kiggavik mine site, specifically, the potential for habitat fragmentation, noise, animal-vehicle collisions, and dust from the road. During the 2011 community reviews at Baker Lake, it was suggested that if a road to Kiggavik is constructed, at least three or four local hunters with IQ should be employed to monitor the road and watch for caribou, in order to respect the caribou migration routes and conserve the local caribou herds for hunting. There was also concern expressed that a new road would compound the effects of the existing road to Meadowbank mine. Local land users were also concerned about the possibility of limited access to traditional hunting grounds because of development and debris. Interview participants from Baker Lake in 2011 suggested that IQ data for caribou crossings should be clearly marked on Project maps. Interview participants from Chesterfield Inlet also expressed concern over the effects of noise from traffic on land mammals.

Interview and focus group participants in Baker Lake said that it is important to protect the “whole environment”, including migration routes, nesting areas, and terrestrial and marine animals. Concerns were expressed about the potential for the Project to pollute lakes in the immediate area of the Project site. Other participants were concerned that the Project may negatively affect the health of people in Baker Lake, or that garbage at the Project site may harm caribou. Focus group participants in Arviat and Whale Cove were likewise concerned that contaminated dust from the Project may land on vegetation consumed by caribou, and affect the animals, and those who consume them. There were mixed concerns about the potential effects of the access road on caribou. While some participants in Baker Lake and Rankin Inlet were concerned that the road may cause a change in caribou travel patterns, some of the Baker Lake participants noted that the Shear Minerals site at Josephine Lake does not appear to have negatively affected caribou use of that area. Interview participants from Rankin Inlet expressed concern about the aggregate impacts of the proposed AREVA uranium mine with the Meadowbank gold mine.

Focus group participants in Rankin Inlet were also concerned about the potential effects of the Project on caribou health. Because of the country food trading system in Kivalliq Region,

hunters were concerned that contaminated animals may find their way into other communities after harvesting. Other concerns were raised in Rankin Inlet and Arviat about the potential for contaminated dust from the Project to blow over to their respective communities on the prevailing winds. Focus group participants in Repulse Bay were also concerned about the potential effects of the Project on caribou, and on the water; emphasizing that residents depend on caribou, and clean water in rivers for drinking.

During interviews and focus groups in Chesterfield Inlet, project related concerns were focused on the potential effects of increased marine traffic in Chesterfield Inlet, due to the Project. In particular, participants believe that underwater noise from existing levels of barge and other marine traffic has caused beluga whales and seal populations to move away from their community, and are concerned that increased traffic due to the Project will make the problem worse. HTO representatives were concerned that shipping would cause marine mammals to leave Chesterfield Inlet and that as a result the hunters would have to travel farther to find them, and they believe this is already happening because of existing projects. There was also concern expressed in Chesterfield Inlet about the impacts of barging on fish. This will be further discussed in a meeting with AREVA representatives, consultants, and the Department of Fisheries and Oceans (DFO). Additionally, since their community is downstream from Baker Lake, participants are concerned that the Project may contaminate water that will flow into Baker Lake and work its way down Chesterfield Inlet. Participants are also concerned about the potential for fuel spills in the inlet from increased marine traffic; a concern which was also shared by focus group participants in Rankin Inlet.

Sea mammal hunters have observed that there is a lot of shipping activity at Chesterfield Inlet for the Meadowbank mine, and are concerned about what the effects of increased shipping for the Kiggavik mine will be on marine mammals. The Rankin Inlet interview participants suggested that the shipping routes be drawn on maps and compared with data for the movement of marine fauna in the region, and they requested that AREVA supply maps of their proposed shipping routes for future consultations with local people, so that they can see the possible interactions with hunting activities and marine life. Rankin Inlet interview participants feel that all shipping routes will interfere with the beluga migration, because these whales travel so extensively throughout the region. It was also reported that the area north of Chesterfield Inlet towards Repulse Bay is very rich in marine life, so the local hunters hope that AREVA will not plan shipping routes through that area.

AREVA has plans to include local wildlife monitors on the barges so that the monitors can communicate directly with the local communities about what they observe during project operations. In Coral Harbour it was suggested that AREVA should include Kivalliq Elders on barges to monitor the shipping route, and that qualified people with IQ could travel the entire shipping route, not just supervise the smaller barge route towards Baker Lake, because their IQ would be useful to provide a different view on shipping impacts. The interview participants at Coral Harbour were in agreement that there would probably be some impacts on the local marine fauna due to shipping, but that the exact nature of these impacts would be uncertain until observations are made during a monitoring process by local people with IQ, who can then

take an informed stance; the relationship between the depth of the ocean water and the distance from shore to the barges along the shipping routes, and the impact that these factors would have on marine mammals, is not clear.

Regarding the potential for Project employment, many of the Baker Lake participants believed that the Project would provide employment, which in turn would provide them the means to purchase required equipment to engage in traditional harvesting activities on the land. Some of the focus group participants were concerned that employment would take people away from traditional activities, which would result in less country food in the communities.

Local land users also expressed concerns about the negative aspects of uranium mining, and its potential dangers to human health and safety. They requested more detailed information, translated to Inuktitut, about uranium and the potential danger it poses to human health and safety. The local people want to understand all aspects of uranium mining, both positive and negative, and would like to know how radiation travels over land and through the air. Interview participants in Rankin Inlet suggested that AREVA could have an open-house style meeting to answer the questions of local people and provide information. Interview participants also requested to see the final copies of the interview results for the Project, so that they can see what other people and Elders have said.

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