

## **ANNEX XVII**

# **TRADITIONAL LAND USE AND TRADITIONAL KNOWLEDGE BASELINE REPORT FOR THE JAY PROJECT**



# **TRADITIONAL LAND USE AND TRADITIONAL KNOWLEDGE BASELINE REPORT FOR THE JAY PROJECT**

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Prepared by: Golder Associates Ltd.

September 2014

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## Abbreviations

Abbreviation	Definition
AEMP	Aquatic Effects Monitoring Program
ASTt	Arctic Small Tool tradition
BHP	Broken Hill Proprietary Company
BHP Billiton	BHP Billiton Canada Inc. including subsidiary BHP Billiton Diamonds Inc.
BP	Before Present
BSA	baseline study area
DAR	Developer's Assessment Report
DCI	Dene Cultural Institute
Dezé	Dezé Energy Corporation Ltd.
Diavik Mine	Diavik Diamond Mine
DKFN	Deninu K'ue First Nation
DNA	deoxyribonucleic acid
Dominion Diamond	Dominion Diamond Ekati Corporation
EA	Environmental Assessment
EAP	Environmental Assessment Panel
e.g.,	for example
EIS	Environmental Impact Statement
Ekati Mine	Ekati Diamond Mine
et al.	and more than one additional author
GIS	Geographic Information System
GNWT	Government of the Northwest Territories
ICC	Inuit Circumpolar Conference
i.e.,	that is
IEMA	Independent Environmental Monitoring Agency
KIA	Kitikmeot Inuit Association
LDG-LDS Narrows	Lac de Gras-Lac du Sauvage Narrows
Lutsel K'e	LKDFN community name
LKDFN	Lutselk'e Dene First Nation
MVRB	Mackenzie Valley Review Board
NSMA	North Slave Métis Alliance
NTKP	Naonaiyaotit Traditional Knowledge Project
NWT	Northwest Territories
NWTMN	Northwest Territories Métis Nation
Project	Jay Project
TG	Tłı̨chǫ Government
TK	traditional knowledge
TLU	traditional land use
WEMP	Wildlife Effects Monitoring Program
WKSS	West Kitikmeot Slave Study
YKDFN	Yellowknives Dene First Nation



## Units of Measure

Unit	Definition
%	percent
km	kilometre
m	metre

# 1 INTRODUCTION

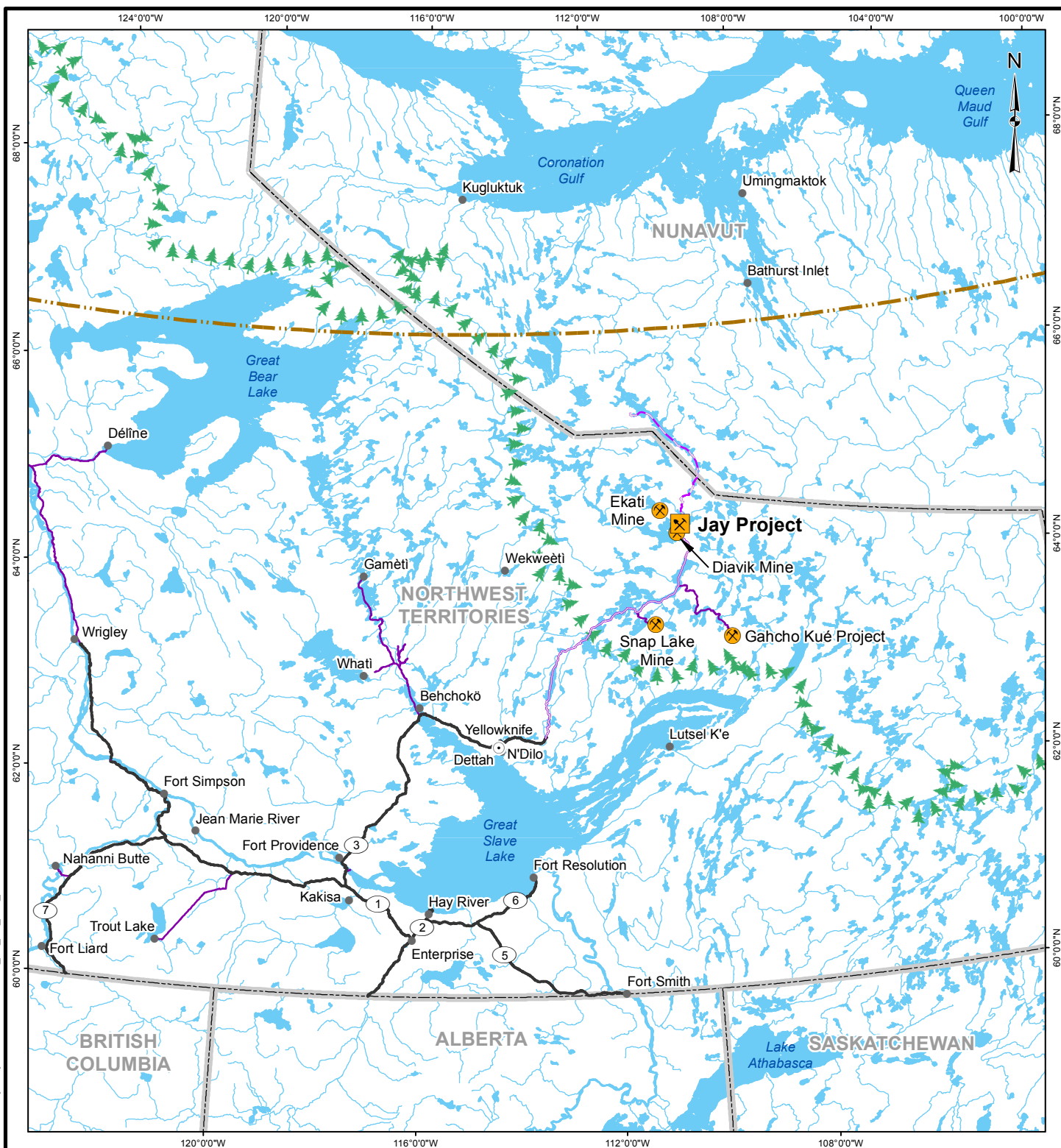
## 1.1 Background and Scope

Dominion Diamond Ekati Corporation (Dominion Diamond) is a Canadian-owned and Northwest Territories (NWT) based mining company that mines, processes, and markets Canadian diamonds from its Ekati Diamond Mine (Ekati Mine). The existing Ekati Mine is located approximately 200 kilometres (km) south of the Arctic Circle and 300 km northeast of Yellowknife, NWT (Map 1.1-1).

Dominion Diamond is proposing to develop the Jay kimberlite pipe (Jay pipe) located beneath Lac du Sauvage. The proposed Jay Project (Project) will be an extension of the Ekati Mine, which is a large, stable, and successful mining operation that has been operating for 16 years. Most of the facilities required to support the development of the Jay pipe and to process the kimberlite currently exist at the Ekati Mine. The Project is located in the southeastern portion of the Ekati claim block approximately 25 km from the main facilities and approximately 7 km to the northeast of the Misery Pit, in the Lac de Gras watershed (Map 1.1-2).

This Traditional Land Use and Traditional Knowledge Baseline Report is one component of a comprehensive environmental and socio-economic baseline program to collect information about the natural and socio-economic environment near the Project. This report describes traditional and ongoing traditional land use (TLU) and traditional knowledge (TK) of the baseline study area (BSA). The BSA (Map 1.1-3) was selected to encompass the existing Ekati Mine site, the area that contains the potential new development, the entire Ekati claim block, and the lands, waterbodies and communities beyond the Ekati claim block that include the Akaitcho Dene Asserted Territory, the Tłı̄ch̄ Land Claim, and the portion of the Nunavut Kitikmeot Region that includes the communities of Kugluktuk, Bathurst Inlet, and Umingmaktok. This boundary was defined so that baseline information for existing and potential development areas are presented in this report. Baseline TLU and TK data are required to provide information on and aid in the evaluation of the specific impacts of the proposed project as identified in the *Terms of Reference* for the Project's Developer's Assessment Report (DAR).

The following sections include data and information collected for the 2013 baseline survey through a review of current literature. The available literature includes TK and TLU information provided for other projects, or for general documentation of TK and TLU. Dominion Diamond summarizes the publicly available information as published by others, without evaluation or interpretation. Dominion Diamond is engaging with potentially affected Aboriginal groups to advance the collection of Project-specific TK and TLU information.



## LEGEND

- |                          |  |
|--------------------------|--|
| JAY PROJECT              | TIBBITT TO CONTWOYT TO WINTER ROAD                     |
| EXISTING MINE OR PROJECT | NORTHERN PORTION OF TIBBITT TO CONTWOYT TO WINTER ROAD |
| TERRITORIAL CAPITAL      | TERRITORIAL/PROVINCIAL BOUNDARY                        |
| POPULATED PLACE          | TREELINE   |
| ARCTIC CIRCLE            | WATERCOURSE  |
| HIGHWAY                  | WATERBODY  |
| WINTER ROAD              |  |

## REFERENCE

WATER OBTAINED FROM ATLAS OF CANADA  
NATURAL RESOURCES CANADA, CENTRE FOR TOPOGRAPHIC INFORMATION, 2012  
PROJECTION: CANADA LAMBERT CONFORMAL CONIC

## DOCUMENT

TRADITIONAL KNOWLEDGE BASELINE REPORT

150 0 150  
SCALE 1:6,000,000 KILOMETRES



DOMINION  
DIAMOND

JAY PROJECT  
NORTHWEST TERRITORIES, CANADA

## LOCATION OF THE JAY PROJECT



Golder  
Associates

PROJECT	13-1328-0041	FILE No. B_JC_TK_001_GIS
DESIGN	SH	17/03/14
GIS	DW	09/09/14
CHECK	CG	09/09/14
REVIEW	SM	09/09/14
SCALE AS SHOWN		REV. 0
MAP 1.1-1		



G:\CLIENTS\DOMINION\DEC\_Jay and Lynx\Projects\Figures\13-1328-0041\_Jay & Lynx\EATKI\Baseline\B\_JC\_TK\_005\_GIS.mxd



**LEGEND**

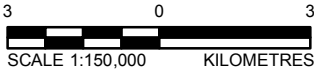
- EKATI MINE FOOTPRINT
- DIAMIK MINE FOOTPRINT
- PROPOSED JAY FOOTPRINT
- KIMBERLITE PIPE
- WINTER ROAD
- TIBBITT TO CONTWOYTO WINTER ROAD
- NORTHERN PORTION OF TIBBITT TO CONTWOYTO WINTER ROAD
- ELEVATION CONTOUR (10 m INTERVAL)
- ESKER
- WATERCOURSE
- WATERBODY



**REFERENCE**

CANVEC © NATURAL RESOURCES CANADA, 2012  
NATURAL RESOURCES CANADA, CENTRE FOR TOPOGRAPHIC INFORMATION, 2012  
DATUM: NAD83 PROJECTION: UTM ZONE 12N

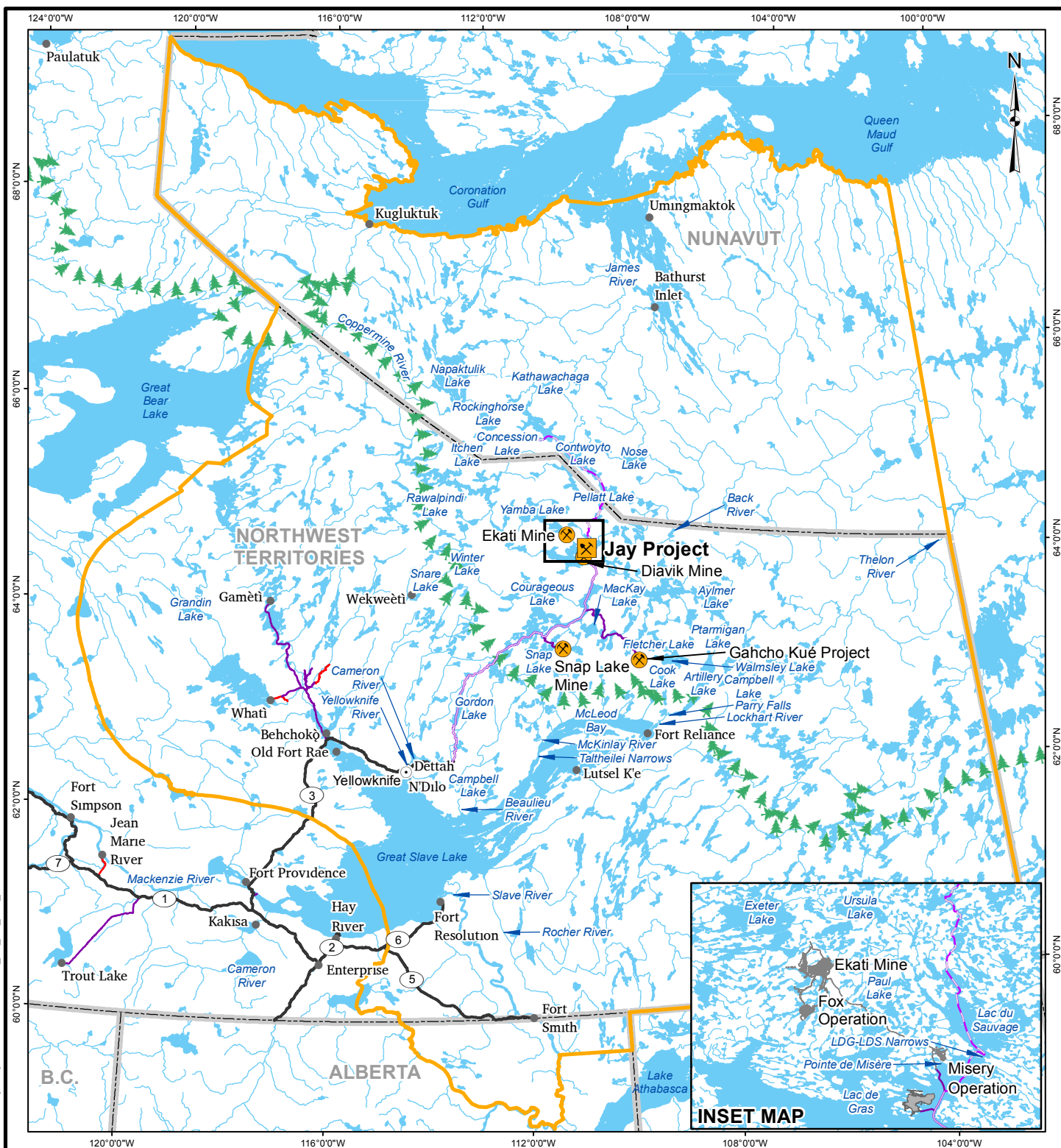
**DOCUMENT**

TRADITIONAL KNOWLEDGE BASELINE REPORT



<b>PROJECT</b>		13-1328-0041		FILE No. B_JC_TK_005_GIS	
 <b>DOMINION DIAMOND</b>		JAY PROJECT NORTHWEST TERRITORIES, CANADA			
<b>TITLE</b>					
<b>EKATI PROPERTY MAP</b>					
		DESIGN	SM	13/04/14	SCALE AS SHOWN
		GIS	DW	09/09/14	REV 0
		CHECK	CG	09/09/14	<b>MAP 1.1-2</b>
		REVIEW	SM	09/09/14	





## LEGEND

- |  |  |  |  |
|--|--|--|--|
|  | JAY PROJECT  |  | TERRITORIAL/PROVINCIAL BOUNDARY          |
|  | EXISTING MINE OR PROJECT                               |  | TREELINE                                 |
|  | TERRITORIAL CAPITAL                                    |  | WATERCOURSE                              |
|  | POPULATED PLACE  |  | WATERBODY                                |
|  | HIGHWAY  |  | TRADITIONAL LAND USE BASELINE STUDY AREA |
|  | ALL-SEASON ROAD  |  |  |
|  | WINTER ROAD  |  |  |
|  | TIBBITT TO CONTWOYT TO WINTER ROAD                     |  |  |
|  | NORTHERN PORTION OF TIBBITT TO CONTWOYT TO WINTER ROAD |  |  |

## REFERENCE

NATURAL RESOURCES CANADA, CENTRE FOR TOPOGRAPHIC INFORMATION, 2012 ATLAS OF CANADA; AANDC; PROJECTION: CANADA LAMBERT CONFORMAL CONIC

## DOCUMENT

TRADITIONAL KNOWLEDGE BASELINE REPORT

150 0 150  
SCALE 1:6,000,000 KILOMETRES



DOMINION DIAMOND

JAY PROJECT  
NORTHWEST TERRITORIES, CANADA

TITLE

## TRADITIONAL LAND USE BASELINE STUDY AREA



Golder  
Associates

PROJECT	13-1328-0041	FILE No. B_JC_TK_006_GIS
DESIGN	SH	17/03/14
GIS	DW	15/09/14
CHECK	CG	15/09/14
REVIEW	SM	15/09/14
SCALE AS SHOWN		REV. 0
MAP 1.1-3		

## 1.2 Objectives

The objectives of the TLU and TK baseline are to provide a summary of existing, publicly available information shared by affected communities concerning land use and knowledge of resources near the Ekati Mine. The TLU and TK baseline also intends to provide evidence of ongoing efforts to maintain communication with communities and consider TK in the development of site plans, and monitoring and mitigation efforts.

This report provides information and preliminary evaluations based on available knowledge and data on land use near the Ekati Mine. The primary goal of this report is to summarize available TLU and TK values related to the BSA including:

- use by, and importance of the area to, potentially affected communities;
- knowledge and management of resources and the ecosystem in the BSA; and,
- existing areas of lost use resulting from impacts by past developments in the BSA.

This work has limitations. For example, questions, concerns, and restrictions regarding the ownership, use, and access to TLU and TK documentation makes it difficult to present a complete summary of existing, documented TLU and TK information for the BSA. The release and publication of sensitive TLU and TK data is complicated by ongoing negotiations for comprehensive land claims. The inclusion of TK in Environmental Assessments (EAs) and monitoring programs is also complicated by questions about the proper interpretation and proper protection of the knowledge (Riedlinger and Bingeman 1999).

To meet the objectives, the Traditional Land Use and Traditional Knowledge Baseline Report has been organized into the following sections:

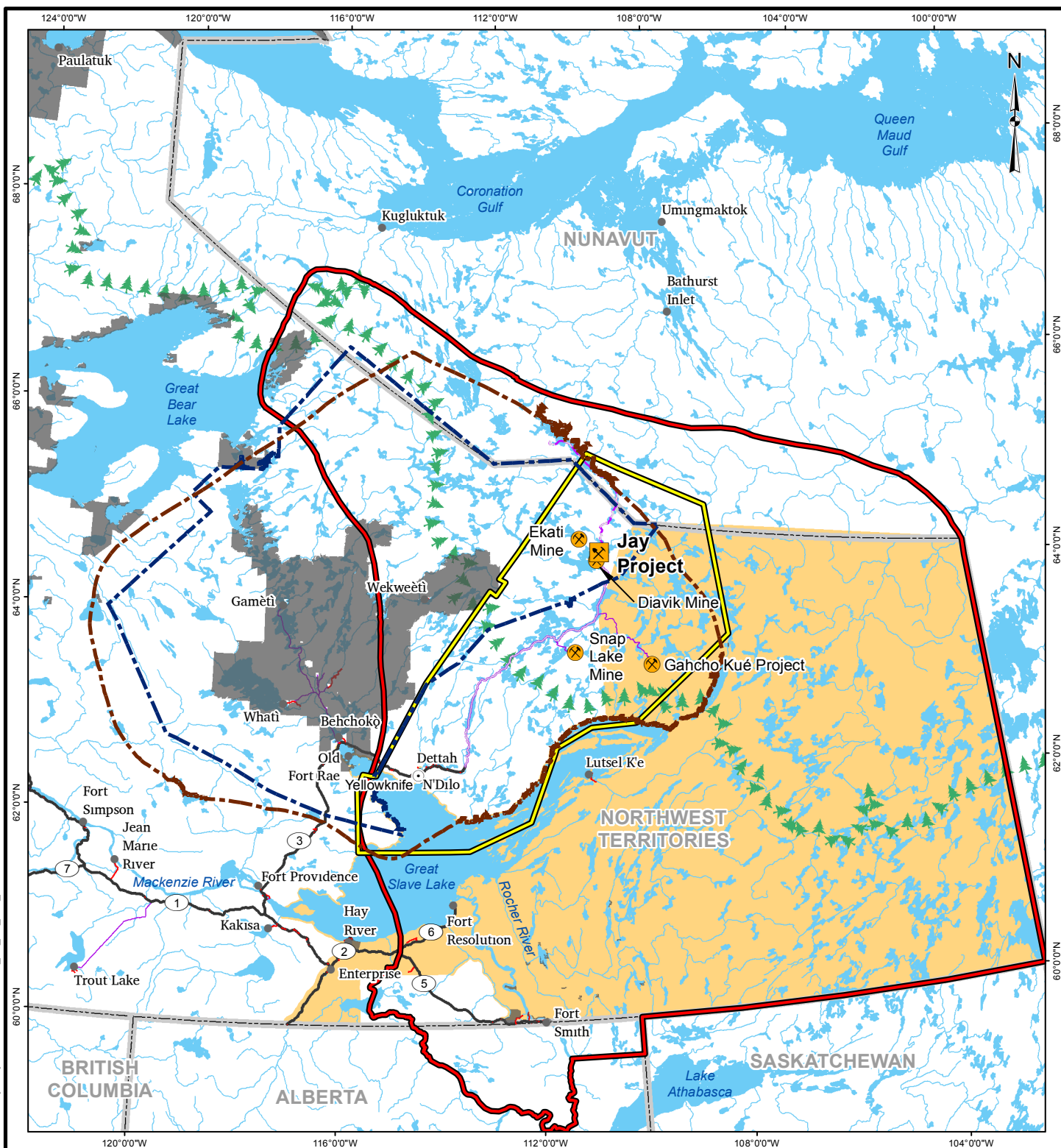
- **Section 1.3** provides a description and rationale for selecting the spatial boundary for the study.
- **Section 1.4** provides a background to the work, including a short history of the use of the BSA by Aboriginal groups and a summary of TK as determined by other EAs in the region.
- **Section 2** provides a description of the methods used to collect data.
- **Section 3** provides information on traditional land use and traditional knowledge from seven Aboriginal groups that have traditional lands within the BSA. Information is presented on seasonal use cycles, land use sites, and knowledge and use of resources for each group.
- **Section 4** provides a summary of the results presented in the Traditional Land Use and Traditional Knowledge Baseline Report.

### 1.3 Baseline Study Area

The BSA for the TLU and TK baseline study consists of the Aboriginal communities that have traditional land and resource use areas that may be affected by the proposed Project. The settled lands and asserted territories of potentially affected Aboriginal and Métis communities from the NWT are shown in Map 1.3-1. The Kitikmeot Region of Nunavut is represented in Map 1.3-2.

This report uses the term “community” to refer to the specified Dene and Métis groups within the Tłı̨chǫ and Akaitcho regions including the Tłı̨chǫ communities of Behchokǫ, Whati, Gamètì, and Wekweètì, and the Akaitcho communities of Yellowknife, Dettah, N'Dilo, Lutsel K'e, and Fort Resolution. It also includes the Inuit of the Kitikmeot Region including the communities/settlements of Kugluktuk, Bathurst Inlet, and Umingmaktok. Seven potentially affected communities have been included in the BSA:

- the Yellowknives Dene First Nation (YKDFN), largely of Yellowknife, Dettah and N'Dilo;
- the Łutselk'e Dene First Nation (LKDFN), largely of Lutsel K'e;
- the Deninu K'ue First Nation (DKFN), largely of Fort Resolution;
- the Fort Resolution Métis;
- the North Slave Métis Alliance (NSMA), largely of Yellowknife;
- the Tłı̨chǫ Government (TG), representing Behchokǫ, Whati, Gamètì, and Wekweètì; and,
- the Kitikmeot Inuit Association (KIA), including the communities and settlements of Kugluktuk, Bathurst Inlet, and Umingmaktok (EAP 1996).



# LEGEND

- |  |  |  |   |
|--|--|--|---|
|  | JAY PROJECT  |  | WATERCOURSE                                 |
|  | EXISTING MINE OR PROJECT                             |  | WATERBODY                                   |
|  | TERRITORIAL CAPITAL                                  |  | ABORIGINAL LAND                             |
|  | HIGHWAY  |  | TLICHO MOWFI FINAL LAND CLAIM BOUNDARY      |
|  | ALL-SEASON ROAD                                      |  | TLICHO WEK'EEZHII FINAL LAND CLAIM BOUNDARY |
|  | WINTER ROAD  |  | ASSERTED TERRITORY                          |
|  | TIBBITT TO CONTWOYTO WINTER ROAD                     |  | AKAITCHO DENE                               |
|  | NORTHERN PORTION OF TIBBITT TO CONTWOYTO WINTER ROAD |  | CHIEF DRYGEESE                              |
|  | TERRITORIAL/PROVINCIAL BOUNDARY                      |  | AREA OF INTERIM MEASURES                    |
|  | TREELINE   |  | NWT MÉTIS NATION                            |

150 0 150  
SCALE 1:6,000,000 KILOMETRES

## REFERENCE

NATURAL RESOURCES CANADA, CENTRE FOR TOPOGRAPHIC INFORMATION, 2012 ATLAS OF CANADA; AANDC; PROJECTION: CANADA LAMBERT CONFORMAL CONIC

## DOCUMENT

TRADITIONAL KNOWLEDGE BASELINE REPORT



DOMINION  
DIAMOND

JAY PROJECT  
NORTHWEST TERRITORIES, CANADA

TITLE

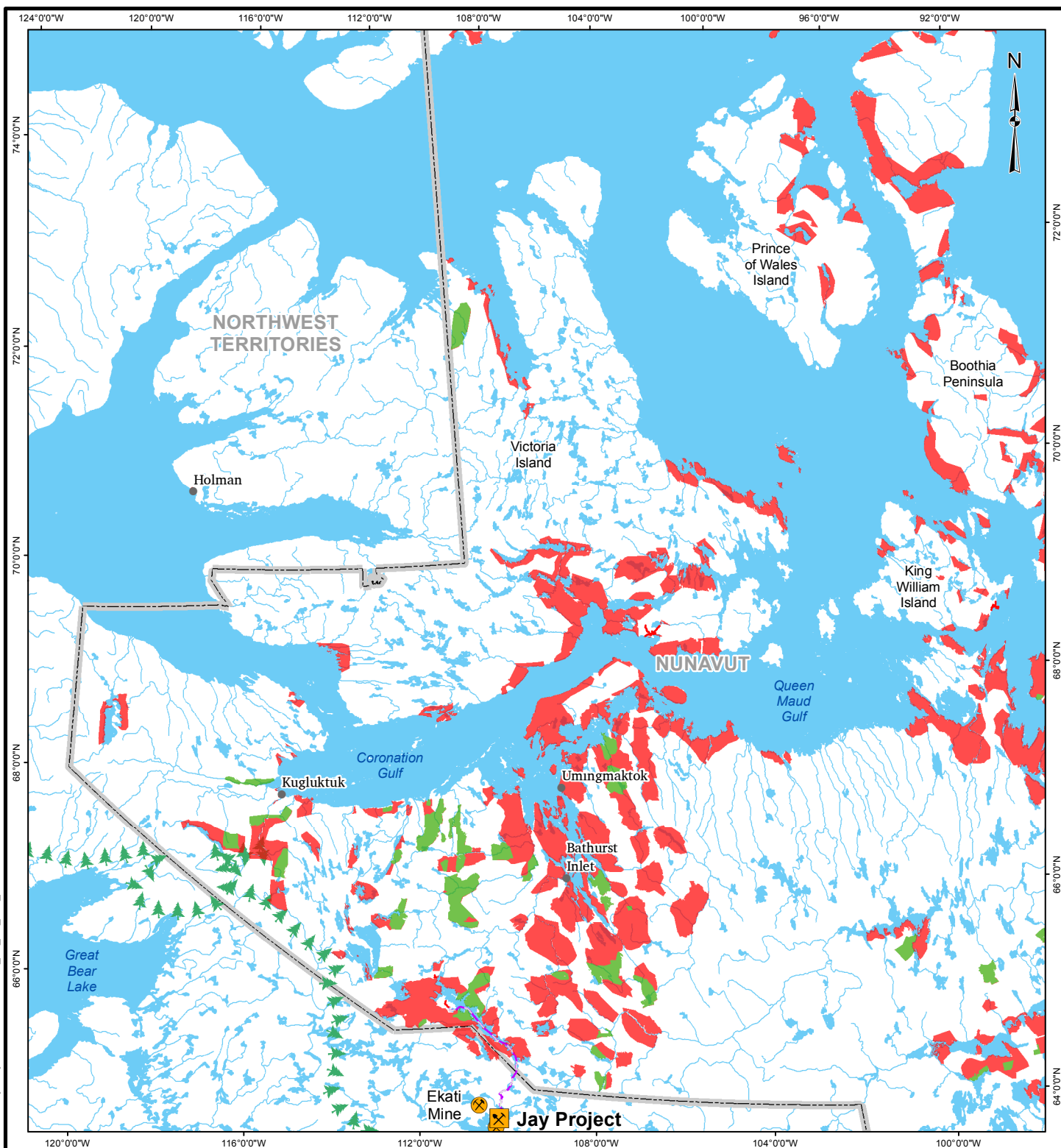
## SETTLEMENT AREAS AND ASSERTED TERRITORIES IN THE BASELINE STUDY AREA



Golder  
Associates

PROJECT	13-1328-0041	FILE No. B_JC_TK_004_GIS
DESIGN	SH	17/03/14
GIS	DW	16/09/14
CHECK	CG	16/09/14
REVIEW	SM	16/09/14
SCALE AS SHOWN		REV. 0
MAP 1.3-1		





## LEGEND

- |  |  |  |                                     |
|--|--|--|-------------------------------------|
|  | JAY PROJECT  |  | TREELINE                            |
|  | EXISTING MINE OR PROJECT                               |  | WATERCOURSE                         |
|  | POPULATED PLACE  |  | WATERBODY                           |
|  | ALL-SEASON ROAD  |  | INUIT OWNED LAND SUBSURFACE/SURFACE |
|  | WINTER ROAD  |  | INUIT OWNED LAND SURFACE            |
|  | NORTHERN PORTION OF TIBBITT TO CONTWOYT TO WINTER ROAD |  |                                     |
|  | TERRITORIAL/PROVINCIAL BOUNDARY                        |  |                                     |

## REFERENCE

WATER OBTAINED FROM ATLAS OF CANADA  
NATURAL RESOURCES CANADA, CENTRE FOR TOPOGRAPHIC INFORMATION, 2012  
NUNAVUT TUNNGAVIK INCORPORATED (NTI)  
PROJECTION: CANADA LAMBERT CONFORMAL CONIC

## DOCUMENT

TRADITIONAL KNOWLEDGE BASELINE REPORT

150 0 150  
SCALE 1:6,000,000 KILOMETRES



DOMINION  
DIAMOND

JAY PROJECT  
NORTHWEST TERRITORIES, CANADA

TITLE

## KITIKMEOT REGION



Golder  
Associates

PROJECT	13-1328-0041	FILE No. B_JC_TK_003_GIS
DESIGN	SH	17/03/14
GIS	DW	16/09/14
CHECK	CG	16/09/14
REVIEW	SM	16/09/14
SCALE AS SHOWN		REV. 0
MAP 1.3-2		

## 1.4 Background

### 1.4.1 Introduction to the Peoples and Mining

The Ekati claim block is within the traditional lands of seven groups of Aboriginal peoples:

- the Yellowknives Dene First Nation (YKDFN);
- the Łutselk'e Dene First Nation (LKDFN);
- the Deninu K'ue First Nation (DKFN);
- Fort Resolution Métis;
- the North Slave Métis Alliance (NSMA);
- the Tłı̨chǫ Government (TG); and,
- Kitikmeot Inuit Association (KIA) (EAP 1996).

People have lived and travelled across portions of the NWT since the end of the last ice age, approximately 10,000 years Before Present (BP). The earliest known inhabitants of the central District of the Mackenzie are dated to approximately 7,000 BP, and are known as Paleoindians or Northern Plains (plains) tradition. The tool assemblage associated with this population resembles those of early Aboriginal hunters of the northern plains, such as the Chipewyan (Wright 1981). Until approximately 3,500 years ago, the climate was warmer than today and animal populations were larger and well established. Paleoindian hunters from the northern plains may have moved north following the caribou as they migrated beyond the treeline and through the tundra of the barrenlands.

Paleoindian sites in the NWT have been found in association with major caribou crossings that also provide good fishing (Wright 1981). These identified Paleoindian sites have been found mainly to the east of Great Slave and Great Bear Lakes (Noble 1981). The closest known Paleoindian sites to the Ekati Mine are found more than 160 km to the northeast at Rawalpindi Lake (Map 1.1-3) (Rescan 2006).

The earliest cultural remains identified on the Ekati claim block are from the Palaeoeskimo or Arctic Small Tool tradition (ASTt). The Palaeoeskimo likely migrated from Siberia in approximately 4,000 BP. Most Palaeoeskimo sites in the barrenlands date from between 3,500 to 2,600 BP (Gordon 1996). This coincides with a cooling trend noted by the retreat of the treeline and a southern shift in human populations in approximately 4,000 to 3,000 BP (Maxwell 1980). The ASTt is characterized by spears, harpoons, stone burins (small chisel tools), and microblades. The microblades are thought to be part of a compound tool and at the time of use would have been inset into bone or antler.

Palaeoeskimo sites have been identified on the Lac du Sauvage esker, at the Lac de Gras and Lac du Sauvage narrows, and at the outlet of Lac de Gras (Map 1.1-3). It appears that the Palaeoeskimo fished and hunted the caribou crossing the narrows, tending to stay close to sources of water (Rescan 2006).

The Taltheilei tool tradition, found throughout the Great Slave Lake area north to the Lac de Gras area, is representative of early use and occupation of the land by the ancestral Athapaskan or sub-Arctic Dene (Noble 1981). This assemblage is less distinct than the ASTt and contains, among other things, large shale and quartzite lanceolates, bifacial knives, sandstone whetstones, and circular scrapers.

The continuity of this assemblage for over 2,000 years, and which in some respects continues today, supports the Dene's assertions that they have been living in the region "since time immemorial."

A small number of distinctly Taltheilei sites have been identified on inland eskers within the Ekati claim block. It is highly probable, however, that sites found without distinctive pieces can also be attributed to the Taltheilei, ancestors of the Chipewyan, Yellowknives, and Tłı̄chq̓ (Rescan 2006).

Evidence of more recent, ongoing traditional use of the Lac de Gras area has been determined through physical remains, oral traditions, and the accounts of early European travellers. Before European contact, the Lac de Gras area was utilized by Dene groups such as the Tłı̄chq̓, Yellowknives, and Chipewyan, who employed traditional land use patterns that focused on the seasonal movements of culturally important wildlife (e.g., caribou and fish) (Helm 1981). From the north, the Copper Inuit also hunted, trapped, and travelled as far south as Lac de Gras.

Big game animals that were harvested included barren-ground caribou and, less commonly, muskoxen. The Dene followed the migrating caribou into the barrenlands in the summer and fall, and continued hunting and trapping there throughout the winter. Bows and arrows, spears, deadfalls, snares, clubs, and, more recently, rifles have been used to hunt a variety of big and small game (Smith and Rogers 1981).

Nets, spears, and hook and line were used to harvest fish, another important food resource that was seasonally abundant during spawning runs. Waterfowl and their eggs also provided an important component of the seasonal diet. Waterfowl were hunted using bows and arrows tipped with blunt points, or by being driven into nets (Smith and Rogers 1981).

Small fur-bearing animals were also captured regularly, with hares being an important winter food resource. Grouse and ptarmigan were also hunted when big game was scarce. Dried meat and fish were important sources of food in the winter.

Aside from the seasonal collection of berries, plants do not appear to have represented a large component of sub-Arctic Dene diets. However, plants were used for medicine and in the construction of living structures, canoes, snowshoes, sleds, weaponry, and a variety of other domestic items (Rescan 2006).

Dene groups shared a loose social organization and were highly mobile, reflecting the seasonal distribution of the resources of the region. Caribou was the most important game, but muskoxen, hares, wolves, wolverines, foxes, and fish also contributed to the Dene diet and material culture. Easily transportable conical, skin-covered tipi-like structures were used, as well as temporary rectangular, pole and brush-covered shelters. Travel during the warmer months tended to focus on the use of canoes along rivers and lakes and, in the colder months, snowshoes, dogsleds, and toboggans (Smith and Rogers 1981).

Since 1750, European iron was periodically available and by 1800 direct trading was occurring throughout most of the NWT. Changes in technology seem to vary depending on location. Helm (1981) suggests technology remained characteristically Aboriginal until the 20th century. However, Noble (1981) suggests the early historic period (1770 to 1840) is marked by a reduction in Aboriginal tools, at least from northern Great Slave Lake to the lower Coppermine River.



In 1890, Warburton Pike travelled with a Chipewyan Métis named King Beaulieu to MacKay Lake and Lac de Gras to hunt muskoxen. Pike's descriptions of traditional hunting methods mirror the accounts given by modern Dene through TK studies. Pike and Beaulieu were storm-bound on a promontory in Lac de Gras. This point has since been referred to as Pointe de Misère and is the current location of the Ekati Misery operation (Rescan 2006). In his journal, Pike reports that Lac du Sauvage was named by Beaulieu after the Inuit that he had once encountered there (Pike 1892).

The western interior of the barrenlands was inhabited, at least periodically, by the Copper Inuit. The precontact origins of the Copper Inuit ultimately lie in the Thule Tradition, which had spread across the central and eastern Arctic by approximately 750 BP (McGhee 2009). The Thule are traditionally known for their bone and antler technologies, as well as a ground stone slate technology. They are not known for chipped or flaked stone working; however, the use of quartzite and therefore chipping or flaking technology is more common at Copper Inuit sites on the barrenlands (Linnaeae and Clarke 1976). Perhaps cooling during the Little Ice Age and access to European trade motivated the Thule to move from more traditional coastal hunting grounds to the barrenlands to fish and hunt caribou. Tent rings, caches, hunting blinds, and inuksuit (stone landmarks or cairns) are the most common features remaining of their occupation. Copper Inuit had a remarkable hunting technology, including kakaviks (three-pronged fishing tool), kayaks, bows and arrows, fishing weirs, spears, and harpoons (Maxwell 1985).

The Copper Inuit (now represented by the KIA) hunted, trapped, and travelled as far south as Lac de Gras. According to Riewe (1992), inland activity encompassed areas around Yamba Lake, Achilles Lake, Exeter Lake, Contwoyto Lake, Pellatt Lake, and Lac de Gras (Map 1.1-3). The big game animals harvested included the barren-ground caribou, moose, wolf, wolverine, fox, and, less commonly, muskox.

Several Inuit-associated archaeological sites have been recorded in the Ekati claim block at Pointe de Misère, Paul Lake, Exeter Lake, Lac de Gras, Yamba Lake, Ursula Lake, and the Coppermine River downstream of Lac de Gras (Map 1.1-3). Readily recognizable material culture associated with Copper Inuit archaeological sites include bone, antler, and stone, occasionally copper or iron tools, and stone features such as tent rings, hunting blinds, caribou drives, and caches (Riewe 1992). Like the Dene, the Copper Inuit travelled through the barrenlands using skin kayaks, snowshoes, and dogsleds.

With the arrival of fur trade posts in the region in the late 1700s, conflict developed between the Tłıchq and the Yellowknives, who had better access to trade goods (Gillespie 1981). This conflict was resolved in the latter part of the 19th century. The establishment of fur trading posts in the Mackenzie region slowly changed the migratory patterns of the Dene so that they could provide caribou, and later furs, to the posts around Great Slave Lake. Around the 1880s, following the destruction of the plains buffalo and a decline in caribou, the Inuit, Dene, and Métis shifted focus to the trade of muskoxen, which were hunted to the northeast of Great Slave Lake. The trade of muskoxen ended around 1902, after which fur trapping became a main part of the economy for the Inuit, Dene, and Métis (Helm 1981). Throughout the 1950s, the Inuit had an outpost at Pellatt Lake where they fished and hunted caribou, providing food and clothing to coastal populations. Use of the BSA has declined since the closing of fur trade posts but land use activities continue near Lac de Gras and MacKay Lake (Rescan 2006).

In 1900, the Geological Survey of Canada began recording mineral observations in the NWT. Modern mining began to develop throughout the North beginning with the Eldorado Mine at Port Radium in the early 1930s. Commodities such as uranium, radium, silver, and copper were mined around Great Bear Lake. Gold was discovered in the Yellowknife area around the same time and drill programs began in the 1940s. After the 1940s, mining operations expanded to include other mines such as Colomac, Pine Point, Tundra, Lupin, and Prairie Creek. By the 1950s mining became a mainstay of the growing NWT population (GNWT 2008a).

In the 1970s, diamond-bearing kimberlite was discovered in the high Arctic but was not considered economically viable. In 1991, diamonds were recovered from drill cores from the Point Lake kimberlite pipe near Lac de Gras resulting in the largest staking rush in Canadian history. Today, the Diavik Diamond Mine (Diavik Mine) and Ekati Mine operate at Lac de Gras. The exploration and development associated with these operations, including winter roads, are the main land use activities currently occurring in the region. The other operating diamond mine in the NWT is the Snap Lake Diamond Mine (Snap Lake), with the Gahcho Kué Project in development (GNWT 2008a).

Despite the changing economy and the increase in development across the NWT, life on the land remains an important aspect of Inuit, Dene, and Métis culture. Hunting, trapping, and fishing still constitute and contribute to a viable and sustainable way of life for most northern communities. The areas at the outlet of Lac du Sauvage into Lac de Gras (the narrows), islands, and along the eskers on the west side of Lac du Sauvage are known to be important traditional use, cultural, and caribou movement sites. The Inuit, Dene, and Métis maintain connections with the region and continue to carry out TLU activities near Lac de Gras (Rescan 2006). Full-time wage employment is not the norm for many northerners, so hunting and fishing remain the main means for obtaining food, while trapping can provide a fairly reliable income. An ongoing connection with the land has important cultural, spiritual, social, and emotional values that cannot be replaced (Sadownik and Harris 1995).

## 1.5 Traditional Knowledge

Traditional knowledge (TK) by its very nature is broad, pervasive, and permeates all aspects of Aboriginal life on the land. Traditional knowledge is a combination of empirical ecological knowledge, known ethical relationships between people and the physical and spiritual environment, and practiced harvesting strategies that enabled the maintenance of healthy people, wildlife, and resources (Sadownik and Harris 1995). The typical view is that the credibility of TK is a function of the intimate relationship that community members can build with their environment through their participation in TLU activities, enhanced by generations of application and ongoing confirmation with multiple local land users (Gunn et al. 1988). This long-standing reliance and relationship with the land develops a specific knowledge about the impacts of change, including the introduction of land-based issues, and economic and social concerns. It is difficult in a report such as this to accurately portray all aspects of TK since it is so tightly bound with the social, cultural, and historical contexts from which it comes.

In an attempt to explain the interconnectedness of people, their knowledge and the environment, a 1995 Tłı̨ch̓ report, which was completed in response to the initial Ekati Environmental Impact Statement (EIS), explains the concept of Ndè. Ndè can be translated as *land*, but encompasses something much broader (DCI 1995). This term embodies the interrelationships between the people and their land.

*Ndè is much closer to the scientific concept 'ecosystem', however, where ecosystem is based on the idea that living things exist in association with nonliving elements, the Dogrib term Ndè includes both the spiritual and physical aspects of the land, people, animals and their habitats (DCI 1995: 5).*

The YKDFN share the TG view. The knowledge of the people is a reflection of their identity, culture, lands, and resources, and cannot be artificially separated (Weledeh Yellowknives Dene 1997). The Inuit have a similar concept known as “*avatik*,” a term that emphasizes the connections or linkages within a larger concept (Gombay 1995). The Dene and Inuit see themselves as an integral part of the environment in which they live. Their harvesting activities are an important part of the ecological system. “It is the integration of people, animals, plants and other aspects of creation into a balanced whole that results in well-being” (Sadownik and Harris 1995: 14). It is this holistic view of the environment that needs to always be considered.

In their TK Study of Ek’ati, the Weledeh Yellowknives Dene (1997) identify five aspects of the EA process where TK can be useful. In their view, TK is best used to:

1. *describe the pre-development landscape, water flows, and natural patterns;*
2. *assess possible impacts and cumulative effects from changes to pre-development conditions;*
3. *describe the significance of the land as the indigenous people express it;*
4. *assess impacts and cumulative effects on indigenous communities and cultures; and,*
5. *suggest ways to limit or avoid negative impacts and cumulative effects*  
(Weledeh Yellowknives Dene 1997: 14).

The NSMA has urged developers to remember that, when TK is taken out of its original oral, natural, social, and cultural contexts, its significance may become lost. Instead, the written documentation of Métis knowledge should be understood as a reflection of community concerns in response to a particular problem and not as a collection of the community’s knowledge as a whole. The concerns shared on a case-by-case basis come from a mixture of traditional and non-traditional knowledge, ecological and non-ecological knowledge, and experiences and observations of the impacts from recent development projects.

Information on TLU and TK of the BSA is important to Dominion Diamond. Dominion Diamond intends to support traditional use studies initiated by BHP Billiton Canada Inc. (BHP Billiton) in an effort to continue the collection of data about the traditional use of resources and land by Aboriginal people in the Ekati Mine site area. Dominion Diamond intends to continue the ongoing communication and community involvement for onsite environmental monitoring and management programs. Dominion Diamond recognizes that, though many stories and personal reflections may not directly relate to ongoing environmental monitoring and management of the Ekati Mine, they still provide essential reflections of the values and traditions of the people.

Referencing the Mackenzie Valley Review Board (MVRB) *Guidelines for Incorporating Traditional Knowledge in Environmental Impact Assessments*, Dominion Diamond will approach TK, for the purposes of EA and project management, with a focus on three important elements:

**Knowledge about the environment** – *This is factual or “rational” knowledge about the environment. It includes specific observations, knowledge of associations or patterns of biophysical, social and cultural phenomena, inferences, or statements about cause and effect, and impact predictions. All are based on direct observation and experience, shared information within the community and over generations.*

**Knowledge about use and management of the environment** – *This is the knowledge that people have about how they use the environment and about how they manage their relationship with the environment. Examples include cultural practices and social activities, land use patterns, archeological sites, harvesting practices, and harvesting levels, both past and current.*

**Values about the environment** – *This knowledge consists of peoples’ values and preferences, and what they consider “significant” or valued components of the environment, and what they feel is the “significance” of impacts on those valued components. Aboriginal spirituality and culture plays a strong role in determining such values. This element of traditional knowledge includes moral and ethical statements about the environment and about the relationships between humans, animals, and the environment; the “right way” to do things (MVRB 2005).*

### 1.5.1 Traditional Knowledge in Previous Environmental Assessments

In 1992, one year after the initial discovery of diamonds, the Broken Hill Proprietary Company (BHP) committed to a program designed to consult with local Aboriginal peoples and to incorporate their unique ecological perspectives into the NWT Diamonds Project (later termed the Ekati Mine). Until initiation of the proposed Project, most available TK was not specific to the Lac de Gras area (BHP 1995a).

In 1974 the Dene Nation leadership decided to carry out a TLU and occupancy study, known as the Dene Mapping Project, to document Dene use of the NWT. This study focused on recording the trails and activities of approximately 600 Dene and Métis hunters and trappers, or approximately 30 percent (%) of all Dene and Métis land users in the NWT. Detailed knowledge of the dates and seasons of activity, animal species harvested, modes of transportation, and other relevant information covering a 70-year period from the early 1900s to the mid-1970s were documented and mapped (Tychon 1993).

To gain a better understanding and appreciation of Dene and Métis use of the Lac de Gras area and what this use means to Aboriginal people, BHP approached the Dene Nation with a request to access data from the Dene Mapping Project in preparation for the 1995 EIS. More than 20 maps documenting Dene and Métis land use of a region encompassing Lac de Gras were produced for BHP. These maps contributed to the ability to incorporate TK into project design and impact assessment (BHP 1995a).

The Ekati Mine has a strong history of supporting community-based TK projects that extends back to the mid-1990s:

- Traditional knowledge (TK) studies in support of the 1995 EIS for the Ekati Mine (completed) (BHP 1995a); and,
- support of the West Kitikmeot Slave Study (WKSS) (completed) (WKSS 2001).

The Ekati Mine has supported several multi-year community-based projects, including:

- the Naonaiyaotit Traditional Knowledge Project with the Hamlet of Kugluktuk and KIA;
- the preservation and digitization of older, analogue TK records with the TG;
- the preservation and digitization of older, analogue TK records with the Goyatiko Language Society (YKDFN);
- the preservation and digitization of older, analogue TK records, and for development of a community-based database interface with the LKDFN; and,
- the heritage research and database compilation with the NSMA.

In addition, the Ekati Mine also conducts Ekati Mine site-based TK and community engagement programs related to the environmental monitoring programs, including:

- youth and Elder participation in fish sampling and assessment programs for the Aquatic Effects Monitoring Program (AEMP) (every three years);
- youth and Elder visits for caribou monitoring as part of the Wildlife Effects Monitoring Program (WEMP) (annual);
- community participation in wolverine and grizzly bear DNA (deoxyribonucleic acid) field programs as part of WEMP (varying schedules);
- community participation in group workshops and site visits to demonstrate and discuss air quality, dust, and vegetation monitoring, and other specific topics of interest (annual);
- Caribou and Roads program with Kugluktuk Elders group as part of the WEMP (annual to 2008);
- Winter Road tours; and,
- vegetation for closure planning workshops with youth and Elders (2013).

Currently, the Ekati Mine is supporting two specific community-based TK projects that include the following:

- the What'aa Eskers Research Project with the Tłı̨ch̨ that involves the study of properties of natural eskers close to Mesa Lake, NWT for the purpose of identifying community-based concepts that may be useful in planning, construction and reclamation of mine waste rock piles; and,

- a TK Research project for the Project that will review previous TK research and will work with, and advise, an archaeologist on locations of cultural significance at the Project site.

Additionally, Ekati Mine staff regularly participate in community-based meetings and workshops to discuss questions and concerns about ongoing mining activities and monitoring programs.

### **1.5.1.1 NWT Diamonds Project**

Since the initial proposal and EA for what would become the Ekati Mine, BHP (and from 2001, BHP Billiton) has collected and supported the collection of TLU and TK information from communities potentially affected by the development. The 1996 NWT Diamonds Project EIS was supported by several TK studies (discussed below) resulting in several recommendations from the environmental assessment panel regarding the collection and use of TLU and TK information. The recommendations include:

- 1) the Government of Canada consult with the Government of the Northwest Territories (GNWT), Aboriginal peoples, and industry to establish guidelines for collection of traditional knowledge for future environmental assessments;
- 2) the WKSS (2001) develop a regional approach to the collection of TK; and,
- 3) BHP continue to consult Aboriginal groups over the life of the Project and as new areas are explored to continually incorporate TK, specifically in association with archaeological surveys (EAP 1996).

#### **1.5.1.1.1 Follow-up**

In 2005, the MVRB developed *Guidelines for Incorporating Traditional Knowledge in Environmental Impact Assessments* (MVRB 2005), a guidance document which identifies the MVRB expectations and processes for the incorporation of TK in the EA process. This baseline report was developed using the guidance, as applicable, of the MVRB report.

The initial WKSS research program ended March 31, 2001. However, between 2001 and 2009, the WKSS continued to fund several key projects. The WKSS used scientific and TK studies to support the development of a regional cumulative effects monitoring program. A regional approach to the collection of TK, however, was not identified. Aboriginal communities in the WKSS region identified caribou, water, and habitat as high priorities for research, and the focus of TK projects was generally in these areas. Traditional knowledge was also collected and used to document community health as a form of baseline information. The studies developed through the WKSS contributed to our understanding of caribou behavior, climate change, pollution, increasing impacts of wage employment, and impacts on hunting and fishing activities, from the perspective of the Tłı̨chǫ, Dene, and Inuit.

To support the 1995 EIS and ongoing collection of TK, BHP signed agreements with the KIA, the Dene Nation, and the YKDFN to fund a two-phase study designed to identify indigenous concerns, address those concerns, and prepare a TK baseline for use in future monitoring of environmental and socio-economic impacts. Phase 1 consisted of defining roles of participating parties and initiating workshops in the communities to document the environmental and socio-economic concerns that Aboriginal people may have with respect to the Ekati Mine Project. Phase 2 was intended to assist Aboriginal groups with the opportunity to bring relevant TK to Ekati's environmental management process, and in turn, to assist BHP's environmental monitoring of project impacts. To support the studies, BHP funded research initiated by the Dogrib Treaty 11 Council (Tłı̨ch̨), the YKDFN, the Kitikmeot Hunters and Trappers Association, the LKDFN, and the Métis Heritage Association to help organize TK information, including:

- *A Tłı̨ch̨ Perspective on Biodiversity* (Dogrib Treaty 11 Council 2000);
- *Weledeh Yellowknives Dene: A Traditional Knowledge Study of Ek'ati* (Weledeh Yellowknives Dene 1997);
- a Geographic Information System (GIS) database developed and funding for a GIS Technician position in Lutsel K'e (LKDFN);
- the Naonaiyaotit Traditional Knowledge Project (Banci et al. 2006); and,
- the Caribou and Roads Project (KIA).

The results of selected studies are presented and discussed in Section 3.

### **1.5.1.2 Sable, Pigeon, and Beartooth Expansion**

In 2001, BHP Billiton undertook a second EA to address potential impacts of the development of the Sable, Pigeon, and Beartooth kimberlite pipes. In support of its application, BHP supported the collection of TLU and TK information.

Between the NWT Diamonds Project EA and the Sable, Pigeon, Beartooth Expansion Project, BHP and BHP Billiton funded research initiated by the Dogrib Treaty 11, the YKDFN, the Kitikmeot Hunters and Trappers Association, the LKDFN, and the Métis Heritage Association. In addition to support for research, BHP and BHP Billiton hosted numerous site visits and community meetings to discuss archaeology, wildlife, habitat, water, and waste management at the mine site. They have also had representatives from the communities help design project activities and components in an effort to minimize potential impacts. In 1996, for example, the Kitikmeot Angoniatit Association helped BHP identify whether or not there were traditional Inuit winter fisheries in the Ekati area, and the Kitikmeot Hunters and Trappers Association provided BHP with recommendations on how best to remove fish from lakes before dewatering. Around the same time, the Tłı̨ch̨, Inuit, and YKDFN provided information for the development and design of a rope fence to guide caribou around the mine site and away from the airstrip (BHP 2000).

The 2001 Sable, Pigeon, and Beartooth Expansion EA resulted in several recommendations regarding the collection and use of TLU and TK information, including:

- 1) Scientific knowledge and TK should be integrated for the design of caribou monitoring and mitigation programs.
- 2) BHP Billiton should expand its wildlife and socio-economic monitoring programs with assistance from regulatory agencies and Aboriginal organizations to evaluate the accuracy of its cumulative effects predictions.

#### **1.5.1.2.1 Follow-up**

To engage community members, actively demonstrate existing monitoring programs, and provide hands-on experience, community representatives observe and participate in site activities designed to determine whether mine activities have effects on the environment, wildlife, or their habitats, and if so, how to mitigate these effects. Active participation in these programs provides an opportunity for communities and participants to provide feedback on how the Ekati Environment Department conducts its monitoring programs at the Ekati Mine. Recent examples of community participation in such programs include the following:

- The 2011 WEMP Community Engagement Program, which provided community members hands-on experience in the daily monitoring activities at the Ekati Mine. Over a week, community representatives participated in wildlife observations; behavioral scans; site management surveys; and other environmental site activities designed to determine whether mine activities have effects on wildlife and their habitat. Programs include Skirting Surveys, Waste Bin and Storage Surveys, Fence Monitoring, Caribou and Caribou Behavioral Surveys, Wildlife Camera Observations, Incidental Observations and Incident Response, Panda Diversion Channel Fish Box Monitoring, and the Grizzly Bear and Wolverine DNA Programs (BHP Billiton 2011a).
- The 2011 Air Quality Monitoring Program Ekati Engagement Tour, which provided the opportunity to educate, demonstrate and collect recommendations, ideas, and thoughts, and address concerns from community participants on the Program (BHP Billiton 2011a).
- The 2012 Community Engagement Freshet Tour, which provided the opportunity to engage community members in how the Ekati Mine conducts its water management operations during the spring freshet to facilitate the successful movement of spring water (BHP Billiton 2012).
- The 2012 Ekati Non-lethal Fish Sampling Community Engagement Program which provided the opportunity to demonstrate and provide hands-on-experience on how the Environment Department conducts its new non-lethal fish sampling program at the Ekati Mine (BHP Billiton 2012).
- The 2012 Ekati/Diavik Community Caribou Monitoring Program, which provided the opportunity to demonstrate and provide hands-on-experience on how the Diavik and Ekati mines conduct their caribou monitoring programs, as well as other environment site activities designed to determine whether the mines have effects on other wildlife and their habitat (BHP Billiton 2012).



In 2008 and 2009, BHP Billiton invited each of the communities with an Impact-Benefit Agreement to take part in a process to develop ideas for TK projects in their communities. The strategy was to continue to engage each community to focus on projects of most immediate interest or value to them, and assist with development, implementation, and funding plans (BHP Billiton 2011a). To support this initiative, BHP Billiton funded research initiated by the LKDFN, TG, NSMA, YKDFN and KIA. Projects associated with this initiative include:

- Traditional Knowledge Archive Project (LKDFN);
- Digitizing Tapes and Database Project (TG);
- Community Heritage Project (NSMA);
- Goyatiko Language Society – Digitization of Elders’ Stories (YKDFN); and,
- Content Development for the Naonaiyaotit Traditional Knowledge Project (NTKP) Publication (KIA).

### **1.5.1.3      *Traditional Knowledge for the Current Environmental Assessment***

#### **1.5.1.3.1      *Jay Expansion***

In April 2013, Dominion Diamond acquired the Ekati Mine from BHP Billiton. With the completion of the ownership transfer, Dominion Diamond initiated the development of options to extend the operating life of the Ekati Mine beyond the currently scheduled closure in 2019. The Jay Project is a cornerstone of Dominion Diamond’s vision of building a long-term diamond business in the Canadian North that continues to deliver Northern benefits well into the future.

Dominion Diamond is now responsible to carry out ongoing consultations with affected Aboriginal communities with regard to the Ekati Mine. In taking over ownership of the mine, Dominion Diamond is also responsible for carrying out all pre-existing development commitments, meeting all previously required mitigation measures, respecting existing Impact-Benefit Agreements, and abiding by the Environmental Agreement (Section 1.5.2). As well, Dominion Diamond has committed to work with communities to ensure that TK is incorporated into the Project and the day to day operation of the Ekati where appropriate.

The focus of the Ekati Mine Community Engagement Programs has been on Aboriginal engagement in the environmental monitoring programs at the Ekati Mine. The overall intent of the Community Engagement Programs are to demonstrate and provide hands-on experience for community members (Elders, adults, and youth) so that they may gain a general awareness, as active participants, on how the Ekati Environment Department conducts its day-to-day, site-based, environmental monitoring programs.

Over the next few years, Dominion Diamond intends to implement the following:

- increase TK inclusion into site-based monitoring programs; this objective will be accomplished with community participation in the environmental engagement programs and the meaningful incorporation of TK;

- enhance feedback to communities on TK initiatives. This objective will be accomplished through community visits, by inviting community members to the Ekati Mine, and providing summary reports on site visits;
- bring TK input into community development projects;
- bring TK input into Ekati-specific Projects; and,
- bring TK input into reclamation research.

### **1.5.2 Environmental Agreement**

In 1997, the Environmental Agreement was signed which established an ongoing role and use of Aboriginal TK in the environmental management of the Ekati Mine. The Environmental Agreement is a legally binding agreement that provides for Project-related environmental matters in addition to those governed by existing legislation and regulations. The full consideration of TK and scientific information is acknowledged as a requirement for achieving the purposes of the Environmental Agreement and in the development of the Environmental Management Plan. The outlined objectives include the following:

- respecting and protecting land, water, wildlife, and the land-based economy, essential to the way of life and well-being of Aboriginal peoples;
- facilitating the use of holistic and ecosystem-based approaches for the monitoring, management, and regulation of the Project; and,
- facilitating effective participation of Aboriginal peoples and the general public in the achievement of the above objectives.

With respect to TK specifically, the Environmental Agreement requires that:

- Traditional knowledge (TK) be incorporated into archaeological surveys and to identify burial sites (10.2(d));
- a Phase II TK study be conducted in partnership (or consultation) with Aboriginal peoples to identify the categories of TK that should be incorporated into environmental plans and programs (11.1 and 11.2(a));
- Traditional knowledge (TK) remain the property of the Aboriginal peoples and shall not be disclosed to parties without prior consent (11.2(b)); and,
- each Aboriginal group determine the extent of its own participation in the ongoing Phase II TK Study (11.2(c)) (Government of Canada et al. 1997).

## 2 METHODS

This section describes the methods used to collect, document, and use TLU and TK information in this report. It describes the collection methods, including the sources of information that contributed to the results presented in Section 3. The process used to integrate TLU and TK information into the socio-economic and biophysical assessments is described further in the DAR (Dominion Diamond 2014).

### 2.1 Collection Methods

Existing sources containing TLU and TK information were reviewed to identify community-held information about the lands within the BSA. Where applicable, topic-specific information has been incorporated into the DAR and is presented here as a whole in an attempt to maintain the contextual significance.

Sections 2.1.1 to 2.1.8 detail the specific sources used to obtain TK, community concerns, and TLU information. Existing sources of information containing TLU and TK information were reviewed to identify information from each of the communities in the BSA.

Information from the sources listed in Sections 2.1.1 to 2.1.8 form the basis of the results presented in Sections 3.2 to 3.8 of this report.

#### 2.1.1 Ekati-Specific Documents

The following sources were reviewed to find information previously collected to support the Ekati Project:

Banci V, Hanak J, Ovilok J, Engoaloak H. 2007. Caribou and Roads: Implementing Traditional Knowledge in Wildlife Monitoring at the Ekati Diamond Mine 2006 Annual Report. BHP Billiton Yellowknife, NWT, Canada.

BHP (Broken Hill Proprietary Company). 1995a. NWT Diamonds Project: Environmental Impact Statement Project Description, Volume I. Yellowknife, NWT, Canada.

BHP. 1995b. Traditional Knowledge and Environmental Impact Assessment Agreement. Yellowknife, NWT, Canada.

BHP. 2000. Environmental Assessment Report for Sable, Pigeon and Beartooth Kimberlite Pipes. Yellowknife, NWT, Canada.

BHP Billiton (BHP Billiton Canada Inc. including subsidiary BHP Billiton Diamonds Inc.). 2011a. Traditional Knowledge Inclusion at the Ekati Diamond Mine. Presentation for IEMA TK Workshop, Yellowknife, NWT, Canada.

BHP Billiton. 2011b. 2011 WEMP Kugluktuk Community Engagement Program: June 1-8, 2011. Yellowknife, NWT, Canada.

BHP Billiton. 2011c. 2011 WEMP Łutsek'e Dene First Nation Community Engagement Program: August 24-31, 2011. Yellowknife, NWT, Canada.

- BHP Billiton. 2011d. 2011 WEMP Yellowknives Dene First Nation Community Engagement Program: September 8-14, 2011. Yellowknife, NWT, Canada.
- BHP Billiton. 2011e. 2011 WEMP North Slave Métis Alliance Community Engagement Program: September 21-25, 2011. Yellowknife, NWT, Canada.
- BHP Billiton. 2011f. 2011 Traditional Knowledge Projects and Community Outreach. Yellowknife, NWT, Canada.
- BHP Billiton. 2012. 2012 Traditional Knowledge Projects and Community Outreach. Yellowknife, NWT, Canada.
- Bussey J. 1994. Final Report on Archaeological Investigations for the BHP Diamonds Project. Points West Heritage Consulting Ltd., Langley, BC, Canada.
- Bussey J. 1995. 1995 Archaeological Investigations for BHP Diamonds Inc. Points West Heritage Consulting Ltd., Langley, BC, Canada.
- Bussey J. 1997. 1996 Archaeological Investigations for BHP Diamonds Inc. Points West Heritage Consulting Ltd., Langley, BC, Canada.
- Bussey J. 1998. Archaeological Investigations for BHP Diamonds Inc. Ekati Diamond Mine, Northwest Territories 1997. Points West Heritage Consulting Ltd., Langley, BC, Canada.
- Bussey J. 1999a. Archaeological Investigations for BHP Diamonds Inc. at the Ekati Diamond Mine, Northwest Territories 1998. Points West Heritage Consulting Ltd., Langley, BC, Canada.
- Bussey J. 1999b. Five Years of Archaeological Research for BHP Diamonds Inc. at the Ekati Diamond Mine, Northwest Territories 1994-1998. Points West Heritage Consulting Ltd., Langley, BC, Canada.
- Bussey J. 2000. 1999 Archaeological Investigations for BHP Diamonds Inc. at the Ekati Diamond Mine, Northwest Territories. Points West Heritage Consulting Ltd., Langley, BC, Canada.
- Bussey J. 2001. 2000 Archaeological Investigations at the Ekati Diamond Mine. Points West Heritage Consulting Ltd., Langley, BC, Canada.
- Bussey J. 2002. 2001 Archaeological Investigations at the Ekati Diamond Mine. Points West Heritage Consulting Ltd., Langley, BC, Canada.
- Bussey J. 2003. 2002 Archaeological Investigations at the Ekati Diamond Mine. Points West Heritage Consulting Ltd., Langley, BC, Canada.
- Bussey J. 2004. 2003 Archaeological Investigations at the Ekati Diamond Mine. Points West Heritage Consulting Ltd., Langley, BC, Canada.
- Bussey J. 2005. 2004 Archaeological Tours at the Ekati Diamond Mine. Points West Heritage Consulting Ltd., Langley, BC, Canada.

Bussey J. 2006. 2005 Archaeological Investigations at the Ekati Diamond Mine. Points West Heritage Consulting Ltd., Langley, BC, Canada.

Bussey J. 2007. 2006 Archaeological Investigations at the Ekati Diamond Mine. Points West Heritage Consulting Ltd., Langley, BC, Canada.

Bussey J. 2008. 2007 Archaeological Investigations at the Ekati Diamond Mine. Points West Heritage Consulting Ltd., Langley, BC, Canada.

Rescan (Rescan Environmental Services Ltd.). 2006. Summary Report Archaeological and Heritage Site Management 1994 to 2006. Rescan Environmental Services Ltd., Yellowknife, NWT, Canada.

### **2.1.2 Yellowknives Dene First Nation**

The following sources were reviewed to find information from the YKDFN community:

Dominion Diamond. 2013b. Appendix A. In 2013 Community Vegetation Workshop Summary. Dominion Diamond, Yellowknife, NWT, Canada.

Sadownik L, Harris H. 1995. Dene and Inuit Traditional Knowledge: A Literature Review. Canadian Circumpolar Institute, University of Alberta, Edmonton, AB, Canada.

Tychon GG. 1993. The Dene Mapping Project: Past and Present. Presented at the 7th Annual Symposium on Geographic Information Systems in Forestry, Environment and Natural Resources Management, Spatial Data Systems Consulting, Vancouver, BC, Canada.

Weledeh Yellowknives Dene. 1997. Weledeh Yellowknives Dene: A Traditional Knowledge Study of Ek'ati. Yellowknives Dene First Nation Council, Dettah, NWT, Canada.

### **2.1.3 Łutsek'e Dene First Nation**

The following sources were reviewed to find information from the LKDFN community:

Dominion Diamond. 2013b. Appendix A. In 2013 Community Vegetation Workshop Summary. Dominion Diamond, Yellowknife, NWT, Canada.

LKDFN (Łutsek'e Dene First Nation), Drybones M, Drybones N, Catholique J, Desjardans V, Lockheart M, Marlowe P, Michel A, Michel J, Rabesca JB, Catholique M, Parlee B, Catholique B, Catholique L. 1999. Habitats and Wildlife of Gahcho Kué and Katth'I Nene. West Kitikmeot Slave Study. Yellowknife, NWT, Canada.

LKDFN, Parlee B, Basil M, Casaway N. 2001. Traditional Ecological Knowledge in the Kaché Tué Study Region. West Kitikmeot Slave Study. Yellowknife, NWT, Canada.

Łutsek'e Dene Elders and Land Users, Ellis S, Basil M, Catholique B, Casaway N, Desjarlais S, Catholique S. 2002b. Denesłıne Land-Use in the Eedacho Kué and Desnedhé Che Region Report #1: Traditional Practice – The Land of Legend. Submitted to De Beers Canada Exploration and BHP Billiton Inc. Yellowknife, NWT, Canada.

- Łutselk'e Dene Elders and land Users, Ellis S, Catholique B, Desjarlais S, Catholique B, Catholique H, Basil M, Casaway N, Catholique S, Lockhart J. 2002a. Traditional Knowledge in the Kache Tué Study Region: Phase Three – Towards a Comprehensive Environmental Monitoring Program in the Kakinýne Region. West Kitikmeot Slave Study. Yellowknife, NWT, Canada.
- Łutselk'e Dene Elders and land Users, Ellis S, Marlowe E, Catholique M, Enzoe G, Enzoe D, Desjarlais S, Basil H, Enzoe R, Isadore J, Casaway N, Enzoe T, Catholique S, Lockhart J. 2003. Ni hat'ni Watching the Land: Results and Implications of 2002–2003 Monitoring Activities in the Traditional Territory of the Łutselk'e Denesqłine. West Kitikmeot Slave Study. Yellowknife, NWT, Canada.
- Łutselk'e Dene Elders and land Users, Ellis S, Marlowe E, Catholique M, Enzoe G, Enzoe D, Desjarlais S, Basil H, Enzoe R, Isadore J, Casaway N, Enzoe T, Catholique S, Lockhart J. 2005. Ni hat'ni Watching the Land: Results and Implications of 2002–2003 Monitoring Activities in the Traditional Territory of the Łutselk'e Denesqłine. West Kitikmeot Slave Study. Yellowknife, NWT, Canada.
- Parlee B, Marlow E. 1997. Traditional Knowledge on Community Health: Community-Based Monitoring. Łutselk'e Dene First Nation, Łutselk'e, NWT, Canada.
- Sadownik L, Harris H. 1995. Dene and Inuit Traditional Knowledge: A Literature Review. Canadian Circumpolar Institute, University of Alberta, Edmonton, AB, Canada.
- Shaw T. n.d. Appendix B – A Case Study of Community-Based Monitoring using Traditional Ecological Knowledge in Łutselk'e, NWT. In Increasing Citizen Participation In Sustainability-Centred Environmental Assessment Follow-Up. University of Waterloo, Waterloo, ON, Canada.

#### **2.1.4 Deninu K'ue First Nation**

The following sources were reviewed to find information from the DKFN community:

- Abel J. 1971. The Signing of Treaty No. 8 at Fort Resolution in 1900, From the Account in Dogrib by Joseph (Susie) Abel of Dettah, taped on July 5, 1971, Rae; translated by Vital Thomas and entered into field notes of July 6, 1971. In J Helm (Eds.), The People of Denendeh. McGill-Queen's University Press, Montreal, QC, Canada.
- De Beers (De Beers Canada Inc.). 2010. Gahcho Kué Environmental Impact Statement. De Beers Canada Inc. Yellowknife, NWT, Canada.
- Dezé (Dezé Energy Corporation Ltd.). 2009. Taltson Hydroelectric Expansion Project Developer's Assessment Report. Dézé Energy, Yellowknife, NWT, Canada.
- DKFN (Deninu K'ue First Nation). 2012. The Deninu K'ue Ethno-history Report. Prepared for De Beers Canada for the Gahcho Kué Project. NWT, Canada.
- Fidler P. 1934. Journal of Journey with the Chepawyan or Northern Indians, to the Slave River, & to the East & West of the Slave River, in 1791 & 2. In J.B. Tyrell (Eds) Journal of Samuel Hearne and Philip Turnor. Pp. 493-556. The Champlain Society, Toronto, ON, Canada.

Fort Resolution Elders. 1987. An Oral History of the Fort Resolution Elders: That's the Way We Lived. Danny Beaulieu and Gail Beaulieu (ed.). Northwest Territories Culture & Communication, Fort Resolution, NWT, Canada.

### **2.1.5 Fort Resolution Métis**

The following sources were reviewed to find information for the Fort Resolution Métis:

NWTMN (Northwest Territories Métis Nation). 2000. Northwest Territory Métis Nation Declaration. NWTMN. Available at <http://www.nwtmetisnation.ca/declaration.html>. Accessed on March 19, 2014.

NWTMN. 2012. Gahcho Kué Mine Project Values, Interests, and Issues Identified at NWT Métis Nation Community TK Study Sessions. NWTMN, Fort Smith, NWT, Canada.

NWTMN. 2014. Joint Review Panel Submission – BC Hydro Proposed Site C. Speaking Notes of Ron Yaworsky and Earl Evans, Peace River, AB Hearing Session on January 9, 2014. NWTMN, Fort Smith, NWT, Canada.

### **2.1.6 North Slave Métis Alliance**

The following sources were reviewed to find information from the NSMA community:

BHP (Broken Hill Proprietary Company). 1995b. Métis Elder Perceptions of the Project: Individual Responses. Traditional Knowledge and Environmental Impact Assessment Study Agreement interview compilation results, Yellowknife, NWT, Canada.

Dominion Diamond. 2013b. Appendix A. In 2013 Community Vegetation Workshop Summary. Dominion Diamond, Yellowknife, NWT, Canada.

Jones G. n.d. Historical Profile of the Great Slave Lake Area's Mixed European-Indian Ancestry Community. Aboriginal Law and Strategic Policy Group, Department of Justice, Canada.

Stevenson, M. 1999. Can't Live Without Work. North Slave Métis Alliance, Yellowknife, NWT, Canada.

Tychon GG. 1993. The Dene Mapping Project: Past and Present. Presented at the 7th Annual Symposium on Geographic Information Systems in Forestry, Environment and Natural Resources Management, Spatial Data Systems Consulting, Vancouver, BC, Canada.

### **2.1.7 Tłı̨chǫ Government**

The following sources were reviewed to find information from the TG community:

Dominion Diamond. 2013b. Appendix A. In 2013 Community Vegetation Workshop Summary. Dominion Diamond, Yellowknife, NWT, Canada.

DCI (Dene Cultural Institute). 1995. Tłı̨chǫ Ndè: The Importance of Knowing. Dogrib Treaty 11 Council, Behchokǫ, NWT, Canada.

- Dogrib Treaty 11 Council. 2000. A Tłıchq Perspective on Biodiversity. Dogrib Treaty 11 Council, Behchokǫ, NWT, Canada.
- Dogrib Treaty 11 Council. 2001. The Habitat of Dogrib Traditional Territory: Place Names as Indicators of Bio-Geographical Knowledge. Dogrib Treat 11 Council for the West Kitikmeot Slave Study, Yellowknife, NWT, Canada.
- Jacobsen P. 2011. Tłıchq Elders' Knowledge of Climate Change and Forest Fires: Implications for Barren-Ground Caribou Hunting. University of Northern British Columbia, Prince George, BC, Canada.
- Sadownik L, Harris H. 1995. Dene and Inuit Traditional Knowledge: A Literature Review. Canadian Circumpolar Institute, University of Alberta, Edmonton, AB, Canada.
- Tychon GG. 1993. The Dene Mapping Project: Past and Present. Presented at the 7th Annual Symposium on Geographic Information Systems in Forestry, Environment and Natural Resources Management, Spatial Data Systems Consulting, Vancouver, BC, Canada.

### **2.1.8 Kugluktuk Kitikmeot Inuit Association**

The following sources were reviewed to find information from the KIA community:

- Banci V, Hanks C, Spicker R, Atatahak G. 2006a. Walking in the Path of the Caribou: Knowledge of the Copper Inuit Placenames Atlas: Naonaiyaotit Traditional Knowledge Project. Kitikmeot Inuit Association, Cambridge Bay and Kugluktuk, NU, Canada.
- Banci V, Hanks C, Spicker R, Atatahak G. 2006b. Walking in the Path of the Caribou: Knowledge of the Copper Inuit, Naonaiyaotit Traditional Knowledge Project Report Series, Vol. I Pitkohit: Heritage and Culture. Kitikmeot Inuit Association, Cambridge Bay and Kugluktuk, NU, Canada.
- Banci V, Hanks C, Spicker R, Atatahak G. 2006c. Walking in the Path of the Caribou: Knowledge of the Copper Inuit, Naonaiyaotit Traditional Knowledge Project Report Series, Vol. II Ekalok (Fish) and Wildlife, Report 1 Ekalok (Fish) and Fishing. Kitikmeot Inuit Association, Cambridge Bay and Kugluktuk, NU, Canada.
- Banci V, Hanks C, Spicker R, Atatahak G. 2006d. Walking in the Path of the Caribou: Knowledge of the Copper Inuit, Naonaiyaotit Traditional Knowledge Project Report Series, Vol. II Ekalok (Fish) and Wildlife, Report 2 Tuktuk (Caribou). Kitikmeot Inuit Association, Cambridge Bay and Kugluktuk, NU, Canada.
- Banci V, Hanks C, Spicker R, Atatahak G. 2006e. Walking in the Path of the Caribou: Knowledge of the Copper Inuit, Naonaiyaotit Traditional Knowledge Project Report Series, Vol. II Ekalok (Fish) and Wildlife, Report 3 Omingmak (Muskox) and Tuktukvak (Moose). Kitikmeot Inuit Association, Cambridge Bay and Kugluktuk, NU, Canada.



- Banci V, Hanks C, Spicker R, Atatahak G. 2006f. Walking in the Path of the Caribou: Knowledge of the Copper Inuit, Naonaiyaotit Traditional Knowledge Project Report Series, Vol. II Ekalok (Fish) and Wildlife, Report 4 Akhak (Grizzly Bear). Kitikmeot Inuit Association, Cambridge Bay and Kugluktuk, NU, Canada.
- Banci V, Hanks C, Spicker R, Atatahak G. 2006g. Walking in the Path of the Caribou: Knowledge of the Copper Inuit, Naonaiyaotit Traditional Knowledge Project Report Series, Vol. II Ekalok (Fish) and Wildlife, Report 5 Kayuktok (Red Fox) and Tigiganiak (Arctic Fox). Kitikmeot Inuit Association, Cambridge Bay and Kugluktuk, NU, Canada.
- Banci V, Hanks C, Spicker R, Atatahak G. 2006h. Walking in the Path of the Caribou: Knowledge of the Copper Inuit, Naonaiyaotit Traditional Knowledge Project Report Series, Vol. II Ekalok (Fish) and Wildlife, Report 6 Amagok (Wolf). Kitikmeot Inuit Association, Cambridge Bay and Kugluktuk, NU, Canada.
- Banci V, Hanks C, Spicker R, Atatahak G. 2006i. Walking in the Path of the Caribou: Knowledge of the Copper Inuit, Naonaiyaotit Traditional Knowledge Project Report Series, Vol. II Ekalok (Fish) and Wildlife, Report 7 Kalvik (Wolverine). Kitikmeot Inuit Association, Cambridge Bay and Kugluktuk, NU, Canada.
- Banci V, Hanks C, Spicker R, and Atatahak G. 2006j. Walking in the Path of the Caribou: Knowledge of the Copper Inuit, Naonaiyaotit Traditional Knowledge Project Report Series, Vol. II Ekalok (Fish) and Wildlife, Report 8 Kopanoak (Birds). Kitikmeot Inuit Association, Cambridge Bay and Kugluktuk, NU, Canada.
- Banci V, Hanks C, Spicker R, Atatahak G. 2006k. Walking in the Path of the Caribou: Knowledge of the Copper Inuit, Naonaiyaotit Traditional Knowledge Project Report Series, Vol. II Ekalok (Fish) and Wildlife, Report 10 Small Prey: Okalik, Hikhik and Avingak. Kitikmeot Inuit Association, Cambridge Bay and Kugluktuk, NU, Canada.
- Banci V, Hanks C, Spicker R, Atatahak G. 2006l. Walking in the Path of the Caribou: Knowledge of the Copper Inuit, Naonaiyaotit Traditional Knowledge Project Report Series, Vol. III Water Quality. Kitikmeot Inuit Association, Cambridge Bay and Kugluktuk, NU, Canada.
- BHP. 1995c. Inuit Perceptions of the Project: Individual Responses. Traditional Knowledge and Environmental Impact Assessment Study Agreement interview compilation results, Kugluktuk, NU, Canada.
- Dominion Diamond. 2013b. Appendix A. In 2013 Community Vegetation Workshop Summary. Dominion Diamond, Yellowknife, NWT, Canada.
- Gombay N. 1995. Bowheads and Bureaucrats indigenous Knowledge and Natural Resource Management in Nunavut. Unpublished thesis, Environment and Resource Studies, University of Waterloo, Waterloo, ON, Canada.
- ICC (Inuit Circumpolar Conference). 1993. The Participation of Indigenous People and the Application of their Environmental and Ecological Knowledge in the Arctic Environmental Protection Strategy: A Report on Findings. Inuit Circumpolar Conference, Ottawa, ON, Canada.

Sadownik L, Harris H. 1995. Dene and Inuit Traditional Knowledge: A Literature Review.  
Canadian Circumpolar Institute, University of Alberta, Edmonton, AB, Canada.

## **2.2 Summary Methods**

Traditional knowledge (TK) is not easily translated or communicated in written format and limitations in the representation of the information are acknowledged. An attempt was made to keep the TK as presented in the original reports and in its original context. Observations gathered from existing reports were paraphrased and artificially divided by topic in an effort to organize and present the data in a way that can be more easily understood by reviewers. Interpretation of the original information was avoided.

## 3 RESULTS

### 3.1 Introduction

An overview of known TLU in the BSA is provided in Section 1.4.1. A more detailed discussion of the TLU and TK information is presented in this section for each of the potentially affected communities (the YKDFN, LKDFN, DKFN, NWTMN, NSMA, TG, and KIA).

### 3.2 Yellowknives Dene Traditional Land Use

The YKDFN, LKDFN, and DKFN are members of the Akaitcho Dene, also referred to as the T'satsaot'ine (metal or copper) people. The Dene call their land Denendeh, "the land of the people," which stretches throughout much of the NWT, but consists mainly of areas to the north, east, and south of Great Slave Lake (Map 1.3-1). Generally, the Akaitcho Dene share similar land use and resource harvesting patterns and techniques. Traditionally, the YKDFN way of life was largely based on the movements of barren-land caribou. According to Gillespie (1981), the YKDFN traditional territory corresponds to the migration routes of the Bathurst caribou herd.

This section discusses TLU and TK information related to the YKDFN. A TK study specific to the expansion Project has not been done by the YKDFN; therefore, information documented in this section has been identified from existing sources. This information is presented under three headings:

- seasonal use cycle (Section 3.2.1);
- land use sites (Section 3.2.2); and,
- knowledge and use of resources (Section 3.2.3).

#### 3.2.1 Seasonal Use Cycle

The traditional territory of the YKDFN and their T'satsaot'ine relatives extends from the south of Great Slave Lake, north to the Coppermine River (on rare occasions, as far north as the Arctic coast), and east to the Thelon River. Traditionally, the movement of family groups was determined by the availability of food and other resources needed for survival. According to the Traditional Knowledge Study of Ek'ati (Weledeh Yellowknives Dene 1997), the Akaitcho Dene or T'satsaot'ine people, including the YKDFN, were, for hundreds of generations preceding the 1823 peace agreement with the Tłı̨chǫ, the only Dene using the barrenlands as part of their traditional territory (Weledeh Yellowknives Dene 1997).

With the introduction of the fur trade around Great Slave Lake in the 1780s, some of the Dene economy shifted away from hunting toward trapping to provide provisions and obtain goods from the trading posts such as those established near present-day Fort Resolution. Many hunters and trappers, who once spent the entire winter in the barrenlands, began leaving their camps two to three times per winter to visit a trading post with their accumulated furs. To facilitate this shift in land use patterns, hunters moved their base camps more often, embarking on shorter trips to collect their furs rather than stage their winter hunting from one large camp. Since the onset of development and the introduction of alternative economies in the north, hunting and trapping as far away as the Ekati Mine occurs less often (Weledeh Yellowknives Dene 1997).

### **3.2.1.1 *Fall (mid-August and September)***

In the early fall, Dene families traditionally established camps just below the treeline where they would prepare for their departure into the barrenlands for the fall caribou hunt. At these camps, hunters prepared caches for their families, collected firewood, and fashioned the supplies, such as toboggans, snowshoes, and tent poles that they needed for travelling and hunting on the barrenlands. The hunters headed north to hunt the south-migrating caribou and their families followed with supplies shortly thereafter. The Dene were usually confident that they would find caribou during these large migrations since their traditional routes followed the migration routes of the caribou (Weledeh Yellowknives Dene 1997).

The caribou in the fall were an important source of fat, food, and thick, warm furs needed for winter survival. This vital fall hunt traditionally occurred around Contwoyto Lake, Yamba Lake, Courageous Lake, MacKay Lake, Lac de Gras, Lac du Sauvage, and the Coppermine River (Map 1.1-3) (Weledeh Yellowknives Dene 1997).

### **3.2.1.2 *Winter (mid-October to April/May)***

In the Dene traditional language, the name for Contwoyto Lake means “lake with many camps.” This is where many traditional winter hunting camps were established. Many YKDFN families used the barrenlands all winter. After the fall hunt of the south-migrating caribou, Dene hunters continued travelling throughout the barrenlands hunting, fishing, and trapping. Some YKDFN hunters joined their T’satsaot’ine relatives in the eastern lands around Aylmer Lake, Artillery Lake, and along the Thelon River to hunt muskoxen (Map 1.1-3). Other YKDFN families stayed around Great Slave Lake in the winter hunting caribou as they migrated further south, between October and December.

The first hunters to leave a large winter camp broke a trail through the snow, leaving caches behind for the following hunters. Often, hunters in the front of the group returned to inform others if a large herd of game was discovered, especially prized game, such as muskoxen. Ptarmigan and grouse provided additional food for the Dene in the winter, and women would often set nets to catch the birds that were especially fat and tasty at that time of year (Weledeh Yellowknives Dene 1997).

### **3.2.1.3 *Spring (April to May)***

When the spring came, Dene hunters and their families would begin to move back below the treeline to establish fishing camps around Great Slave Lake. Spring melt conditions, however, made travel difficult and the trip south after the fall and winter hunt was typically much longer than the late summer or early fall trips to the edge of the treeline. In addition to the melting conditions, families usually carried back any caches left over from their treeline camps. As the ice melted, fish under the frozen lakes began to move into the shallower waters, attracted to the heat from the sun. Nets were set in lakes along the southern route to the fishing camps (Weledeh Yellowknives Dene 1997).

Families often returned to previously used campsites where traps were left the previous summer or early fall in anticipation of spring trapping. Trapping was an important spring activity that involved entire families. The spring fishing camps around Great Slave Lake were large, supporting up to ten families. “It was a time for people and dogs to rest before the hard travel in the next fall and winter” (Weledeh Yellowknives Dene 1997: 75). Time was spent repairing fishing nets using red willow and bark, and completing other tasks and chores in preparation for the fall and winter hunts. Ducks and geese were easily caught resting in open-water areas during their northwards migration, and fish were easy to net as they sought shallow waters near the shore.

Sometimes, caribou were encountered in the spring as they migrated back north toward the calving grounds around Bathurst Inlet. Unless desperate for meat, the Dene would not hunt the caribou during their spring migrations because the furs and hides were not very strong. If a caribou was needed they would try to take only an older caribou or a yearling who was not ready to calf (Weledeh Yellowknives Dene 1997).

### **3.2.1.4 Summer (June to mid-August)**

In the summer, most Weledeh Yellowknives Dene remained at the fish camps around Great Slave Lake. Some would follow summer trails to hunt caribou and muskoxen but, in general, summer was a time for visiting, celebrating, telling stories, and sharing information. Families celebrated marriages, played hand games, and collected decorations such as seeds, quills, fish scales, ochre, and feathers (Weledeh Yellowknives Dene 1997).

Fish was the main commodity in summer for both people and dogs. Fish were also used to make bags and candles. Fish were routinely dried and saved for use during the fall and winter hunts. Each summer fishing camp had at least two fish caches where drying fish hung high off the ground, out of reach from wolves, foxes, and dogs (Weledeh Yellowknives Dene 1997).

By mid-August, the fish in Great Slave Lake became thin. Hunters set traps around their camp in preparation for their return the next spring as they readied themselves and their families to make the trip back to the fall and winter camps. Leaving the summer camps behind, families paddled and portaged while their dogs ran along the shore beside them. The hunters left first, taking with them only enough dried fish and meat for the trip. The families would carry the rest, storing excess supplies in large log caches and cellars (Weledeh Yellowknives Dene 1997).

## **3.2.2 Land Use Sites**

Land use sites are areas of particular importance for cultural, historical, or spiritual reasons. These sites can include, but are not exclusive to, cabins and campsites, burial sites, sites of religious and spiritual significance, sites associated with traditional stories, historical locations such as trading posts, travel routes, fishing sites, culturally modified areas, and other geographical locations of particular importance for cultural, historical, or spiritual reasons.

### **3.2.2.1 Cultural or Spiritual Sites**

To the Dene, the land is full of history. Every feature of the landscape has a name and tells a story. They feel that this connection with the land is essential for survival and should be preserved for the future.

Traditionally, Lac de Gras is called Ti Cho, meaning large lake. The westernmost peninsula of the large island in the Lac de Gras is translated to mean “pointing in the direction of Great Slave Lake.” Ek’ati (Lac de Gras) is located in the centre of the Dene traditional territory: the name for the lands south of Ek’ati means “under the sun,” names for lands in the other directions mean where the east, west, and north winds blow (Weledeh Yellowknives Dene 1997: 36). Lac de Gras is identified as a central and important location for the Yellowknives because it is where the caribou come in the late summer and early fall when they are the most valuable.

Birth and burial sites of the YKDFN have been reported by Elders throughout the barrenlands. “The barrens contain the remains of hundreds of generations of the people” (Weledeh Yellowknives Dene 1997: 10). These areas are especially important to the Dene since they tie the people irrevocably to the land.

*For the Weledeh Yellowknives Dene, their identity, history, and relation to their ancestral lands derives from having been born to the land, having lived with the land since time immemorial, and holding knowledge of evidence that their ancestors remain with the land. Birth and burial places within the people’s ancestral lands are of the greatest possible significance to Dene (Weledeh Yellowknives Dene 1997: 52).*

The YKDFN have identified markers, including those for burials throughout the BSA. Eskers are known to have been used for gravesites (Weledeh Yellowknives Dene 1997).

### **3.2.2.2 Camps and Cabins**

The Dene identify with all the land as part of their home.

*Our life is part of the land. We live on the land and are satisfied with what we get from it. No one person owns the land, it belongs to all of us. We choose where we want to go and our choice is respected by others whether in the settlement or in the bush. We have no word in our language that means wilderness, as anywhere we go is our home (Sadownik and Harris 1995: 4).*

It was usual for the YKDFN people to return to the same campsites selected by their ancestors. Families would stay in small groups, usually on islands or on points of land near (but not in) good hunting areas. Base campsites, such as those located on large lakes just below the treeline, with access to a reliable source of wood, became almost permanent for some Dene families. These large camps would typically consist of caribou hide tents, drying racks, and fireplaces. Some campsites included very large shelters for up to four families to share, made from spruce trunks, caribou hide, snow, and ice (Weledeh Yellowknives Dene 1997).

People camped near areas where caribou, fish, and water were available such as at the Lac du Sauvage and Lac de Gras narrows (known traditionally as “standing willow place”), on small bays along the shore, and on islands with channels where swift currents kept the water open in winter. Islands are a preferred camp location because they offer protection against insects and predators, especially bears, and are a good location to hunt migrating caribou.

The Lac du Sauvage and Lac de Gras narrows is a very important place for the YKDFN. The narrows are a place where you can find birds, fish, caribou, grizzly bears, foxes, wolves, wolverines, weasels, and Arctic hares. Camps were not set up at the narrows because the Dene did not want to disturb the animals they relied on. It was also not a safe place to camp with young children. Elders discourage families from setting up camp in areas that animals actively use so as not to discourage them from returning. Likewise, Elders also discourage the use of eskers for camping and recommend places behind high points that provided protection from the wind. Instead, camps were set up on nearby islands and on the surrounding mainland (Weledeh Yellowknives Dene 1997).

The bay near the traditional trail ending at the southern part of Lac de Gras (where the winter road now makes land) is a traditionally known and remembered camping area, named after a hunter who stayed there. In the same area, on La Pointe de Misère, the YKDFN have identified a tent ring, fire pit and “a rock that still glistens with the fat from meat pounded on it by generations of people” (Weledeh Yellowknives Dene 1997: 42). The island where the Diavik Mine is now located and another island to the west are together known as Ek’ati Ndi and were traditionally used to camp, hunt caribou, fish, and cache meat and furs. The shores around Long Lake are also remembered as an important hunting and camping location in the Ekati claim block, and Elders know about camps and caches along the former shores of this lake (Weledeh Yellowknives Dene 1997).

The type of shelters used at campsites depended on the purpose and duration of the stay. Because the Dene took their supplies with them, these campsites, and other camps through the barrenlands may only be recognized by rings of stones which were used to surround fire pits and hold the hem of the hide tents in place. Other campsites, those used for overnight stays while travelling, may have left no trace at all. These temporary camps may have consisted of two tent poles that were placed into holes in the snow and two hides, one to break the wind and the other for a blanket (Weledeh Yellowknives Dene 1997). In the fall, hunters who stayed for a short time at a caribou kill site might build several shelters using the boughs of low-growing plants: “A hole dug into the still-soft ground was surrounded by piled of these boughs twisted together and shaped into a dome. Caribou hides could line the hole where hunters could stay warm during sleep or storms.” Frozen muskeg and caribou hide were also used to construct temporary shelters (Weledeh Yellowknives Dene 1997: 43). In the case of an emergency or bad weather, temporary shelters could also be made by digging into the snow, upturning sleds, and covering with caribou hides.

### **3.2.2.3 Travel Routes**

Travel trails, unlike trapping trails, are used by the entire community and shared with other Dene people. In the spring, summer, and fall, the Dene people travelled largely by water. Trails leading north from Great Slave Lake begin in areas around the Yellowknife River, the Cameron River, through Artillery Lake, the Beaulieu River, and McKinley River to name a few (Map 1.1-3) (Weledeh Yellowknives Dene 1997). Winter and summer trails criss-cross and canoe routes and trails from around Great Slave Lake converge around MacKay Lake. From there, two major trails lead to Lac de Gras: one leading to the shores of Lac de Gras where the winter road now meets the Misery camp, and the other leading to the Lac de Gras and Lac du Sauvage narrows.

The winter road, which is built every year to access the mines from Tibbitt Lake to Contwoyto Lake (Map 1.1-1), interferes with some YKDFN traditional trails and has affected some important hunting and trapping areas. A segment near Ekati, connecting MacKay Lake to Contwoyto Lake, is one such section. The YKDFN have asked that the route of the winter road, especially if constructed as an all-weather road, be realigned through consultation so as to avoid such important areas in the future (Weledeh Yellowknives Dene 1997). The YKDFN have also expressed concerns about potential contamination from traffic on the roads, particularly due to accidents, and the impacts on improved access to traditional hunting areas.

Where possible, the Dene travelled by water, along rivers and lakes in canoes made from birch bark, willow roots, spruce gum, skins, and later canvas and nails. In the fall, hunters made toboggans and snowshoes for winter travel. On land, travellers walked along eskers, broke trails by snowshoe, or ran with dog teams.

Stone markers were used by the Dene to mark key places along travel routes. Rocks piled along a trail, such as caches, burial cairns, trap markers, or trail markers, could help guide travellers. The markers were also a form of communication that were used to inform young, new travellers that someone has travelled that way before and that it is a safe way to go, to relay messages between groups travelling in teams, and so on. Oftentimes, it would be important to remain along a marked trail so that caches and stored food could be obtained if required (Weledeh Yellowknives Dene 1997).

### **3.2.3 Knowledge and Use of Resources**

This section includes a discussion of the resources, including water, minerals, wildlife, fish, birds, and vegetation traditionally used by the YKDFN. Each section includes information on TLU practices, as well as TK as recorded in publicly available documents.

Every able-bodied family member who would travel into the barrenlands would help to collect wood, water, food, feathers, and wind-blown muskoxen hair. Others would collect berries, medicinal plants, moss, lichens, seeds, fish eggs, and bird eggs (Weledeh Yellowknives Dene 1997: 93).

#### **3.2.3.1 Water**

The Elders recall the waters of the Ek'ati as being clear and pure. Beside caribou, water is the most important resource to the Dene people. When the Dene travel, they pay offerings of respect to the water. Water is used for transportation, drinking, fishing, cleaning, and preparing hides and other materials. The YKDFN Elders have said, "the water at Ek'ati is good. It tastes good; we do not have to add anything to make it taste better. It is almost like ice water" (Weledeh Yellowknives Dene 1997: 93).

While travelling in areas where water was not readily available, people would suck on ice or dig to the lower snow layers to melt the crystalized snow. The only areas where fresh water might be available in the barrenlands during the winter were channels where swift currents kept the water open. Two such channels are found at MacKay Lake and at the narrows between Lac de Gras and Lac du Sauvage. In warmer months, water could be sought from beneath rocks and large boulders if a fresh source was not available (Weledeh Yellowknives Dene 1997).



Since the introduction of the Ekati Mine, YKDFN and LKDFN Elders have insisted that waters from the area flow south towards the East Arm of Great Slave Lake. Physical evidence of this southwardly flow has not yet been identified but the existing TK is strong. The YKDFN Elders have observed a lowering of the water levels in the Ekati Mine area and have demonstrated how this changes the location of the campsites in relation to the existing shorelines. It is possible, too, that the lowering water levels have also affected the direction of surface water flow from the area. Two recommendations from the TK study of Ek'ati was that archaeologists check for ancestral evidence of former campsites inland from existing shorelines, and that careful groundwater monitoring be carried out to verify whether groundwater in the area might still flow south toward Great Slave Lake (Weledeh Yellowknives Dene 1997).

*Dene have their own ways to test water quality before they will trust water for drinking. When the people can see that edible plants along the shore have changed, the people stop using them because they know the changes in the water quality have damaged the plants. Very polluted water smells unpleasant and the people will no longer use it, even for soaking hides. When the people can see meat in the fish that used to be healthy is mushy and the fish have sores, they do not eat the fish. They know that the fish have eaten plants in the water that are contaminated or the water itself is polluted* (Weledeh Yellowknives Dene 1997: 93).

To reduce or prevent impacts to water from mining operations, YKDFN Elders have recommended that waste water and sewage should flow towards smaller lakes, preferably those surrounded by higher ground where it may be better contained. They have warned against the potential impacts large developments might have on permafrost and groundwater regimes.

### **3.2.3.2 Minerals**

The Dene have traditionally used minerals and other non-renewable resources in the construction of tools. They did not, however, dig for copper, amber, or soapstone. Instead, they collected unrefined materials from the land's surface. Elders have warned about the dangers of digging deep beneath the lands, as digging could release the evils captured there since the time of Yamoria. The Yellowknives Elders describe the barrenlands as "a wild place, the home of the animals that cannot be tamed" (Weledeh Yellowknives Dene 1997: 25).

### **3.2.3.3 Wildlife**

Major wildlife trails are located around and through the Lac de Gras and Lac du Sauvage area (Weledeh Yellowknives Dene 1997).

#### **3.2.3.3.1 Caribou**

In the Traditional Knowledge Study of Ek'ati (Weledeh Yellowknives Dene 1997), the YKDFN state the Elder's insistence that caribou are the most important animal to the Dene; that they cannot survive without caribou. Traditionally, caribou have provided the Dene people with food, shelter, and clothing. Almost all parts of the caribou were traditionally used in the construction of tools and materials such as awls, scrapers, needles, toboggans, tents, ropes, clothing, and floor mats. The fat and muscle of the caribou was eaten, prepared, and stored for travelling in the winter. Even caribou teeth and gums were used to treat toothaches and other ailments (Weledeh Yellowknives Dene 1997).

For the YKDFN, the “Gras” in Lac de Gras refers to caribou fat: It can refer to a story about a hunter who survived starvation in the Lac de Gras area by following the smell of burning caribou fat; or, it can refer to the traces of floating fat left on the water’s surface by swimming caribou during their fall migration. The fall caribou were an important source of fat and the thick, warm furs needed for winter survival. This vital fall hunt has traditionally occurred around Lac de Gras (Weledeh Yellowknives Dene 1997).

Typically, strong males lead the fall caribou migration, followed by cows and calves, with old males at the rear (Sadownik and Harris 1995). Before guns, the Dene people would hunt using spears, often from their canoes as the animals crossed between islands and lakeshores. One such location on MacKay Lake is known to the Yellowknives as “spear the water.” The Dene sometimes deflected caribou using stone markers and strips of hide that would flap noisily in the wind, herding caribou towards hunters ready to throw their spears (Weledeh Yellowknives Dene 1997: 41). Avoiding the leaders, Dene hunters would kill caribou from the middle of the herd. If too many strong leaders were killed, the Dene thought there was a chance they would not complete their full migration (Sadownik and Harris 1995). Hunters making successful kills in the fall would cache and store their excess meat along commonly used travel routes so that other groups could take advantage of the meat and fat, if necessary (Weledeh Yellowknives Dene 1997).

In the spring, the caribou begin migrating north towards the calving grounds around Bathurst Inlet. This migration can start as early as April (Sadownik and Harris 1995). Unless desperate for meat, the Dene would not hunt the caribou during their spring migrations because the furs and hides are not very strong. If a caribou was needed they would try to take only an older caribou or a yearling that is not ready to calf.

By April, cows and yearling calves can be found around MacKay Lake, Lac de Gras, and Lac du Sauvage. As they move north, they use the same trails they used the previous fall to move south. Mature bulls follow the cows and calves, arriving to the calving grounds after the calves are born where they stay until the calves are strong enough to make the trip back south in the fall. The caribou migrate slowly in the spring and summer, feeding and putting on fat for the winter. Where bulls find rocks, such as those found in stands on either side of the Lac de Gras and Lac du Sauvage narrows, they will rub the velvet-like skin off their antlers. If found, this velvety skin could be used by people to make hats and suspenders, and for decoration (Weledeh Yellowknives Dene 1997).

If temperatures remain warm in the late summer and fall, caribou may continue moving between Lac de Gras and MacKay Lake to avoid insects, feeding and waiting for cooler weather. Weather and snow conditions influence many of the caribou movements. They avoid deep or crusty snow and windy lakes. Deep snow makes walking and foraging more difficult for the caribou. Leaders have to break trails for the herd and caribou have to dig deep to find lichens. In spring and fall, caribou prefer soft snow conditions for travelling and accessing lichens (Sadownik and Harris 1995).

The YKDFN identified the narrows between Lac de Gras and Lac du Sauvage and the Lac du Sauvage esker as critical caribou migration routes. They expect caribou use of the narrows between Lac de Gras and Lac du Sauvage to increase as the animals attempt to avoid active mining operations. They have recommended the filling of dangerous gaps in rocks at these crossings in an attempt to avoid serious injury to migrating caribou, especially calves. They also have concern about caribou spending reduced time in the calving grounds as a result of increasing development activity, and habitat disturbance putting the very young animals at risk. The YKDFN Elders have strongly recommended that all of the caribou calving grounds become protected areas, and that the Lac du Sauvage esker and the Lac du Sauvage and Lac de Gras narrows remain in place, undisturbed, for caribou use and deflection from the active mine site. Despite the presence of the esker and narrows, the YKDFN warn that caribou and other migrating animals will likely continue to use the shoreline near the esker (Weledeh Yellowknives Dene 1997).

Until the 1940s, the Bathurst caribou followed the same migration route from the calving grounds to Contwoyto Lake, then east and west around Contwoyto Lake. Between Contwoyto Lake and Lac de Gras, the caribou split to winter in three different areas below the treeline: in the Tłıchǫ territory to the west, east of Great Slave Lake, and south of Great Slave Lake. Since the onset of development in the north around 1940, the caribou no longer migrate through much of the north or east arms of Great Slave Lake, preferring to stay to the west or east of the lake (Weledeh Yellowknives Dene 1997).

In an effort to deter caribou from entering the mine site camps, the YKDFN have suggested that camps should be located amongst boulders.

### **3.2.3.3.2      *Other Large Animals***

Until recently, moose were common around Great Slave Lake (Weledeh Yellowknives Dene 1997). Moose habitat includes areas with willow and birch, and wetlands with old grass (Sadownik and Harris 1995). In the summer, moose move through the barrenlands around large lakes to avoid insects and feed on dwarf birch and berries (Weledeh Yellowknives Dene 1997); other stay in damp areas in the forest to keep cool. In the fall, moose move to higher ground in the forest to breed. Females calve between May and June in areas of thick brush near the water or muskeg. The Dene say that moose cows are so protective of their young that wolves avoid approaching a cow and calf. In general, moose and caribou do not share the same space since they prefer different food and because the moose are irritated by the noisy caribou (Sadownik and Harris 1995).

Like caribou, moose meat was dried and saved for travelling in the barrenlands, often powdered, rolled in fat, and frozen for the trip. Moose hide is thicker and more durable than caribou hide and was often saved for making footwear (Weledeh Yellowknives Dene 1997).

Grizzly bears on the barrenlands are not often hunted by the Dene. They are a respected animal and can be used, if necessary, for medicinal purposes to address ailments (Weledeh Yellowknives Dene 1997). The grizzly bear is seen by the Dene to share many human traits and the habits of the species while being hunted are well known (Sadownik and Harris 1995).

Before the government's ban on muskoxen hunting in 1917, the Dene often hunted muskoxen with the help of their dogs in the winter for their delicious meat, strong skins, and their thick, warm furs that were used as blankets and jackets. Babiche (lacing) made from muskox hide was much stronger than caribou babiche and could be woven to make temporary fish and meat drying racks in the winter. Muskox bones were burned in place of wood, which is quite scarce in the barrenlands, especially through the winter (Weledeh Yellowknives Dene 1997).

### **3.2.3.3.3      *Furbearing Animals***

Snares have been traditionally set on traplines to catch small furbearing animals such as rabbit, lynx, muskrat, and fox. Before the fur trade, small game furs were used to make clothing and blankets. After the arrival of the trading companies, furs were also collected for trade (Weledeh Yellowknives Dene 1997). The meat was also often used for food or bait.

#### **Wolf**

Wolf packs on the barrenlands were a good sign for the Dene hunters, often signalling the upcoming arrival of a migrating caribou herd. Wherever wolves might be, the Dene would expect to find other scavengers such as foxes, weasels, and ravens, waiting to take advantage of wolf kills. As a result, the benefits of wolves were two-fold, providing information on the caribou whereabouts and as a source of furs themselves.

#### **Fox**

Like the wolf, the fox provides signs for Dene hunters that caribou are nearby. The fox was also an important target of much barrenlands trapping during the fur-trading era.

Eskers are important habitat for animals such as foxes that den in the soft gravel. Humans should not disturb these animals and no eskers should be disturbed until a comprehensive study has been completed to assess and address the potential impacts (Weledeh Yellowknives Dene 1997).

#### **Other**

The Arctic hare, muskrat, marten, and ground squirrel are respected animals for the Dene people and were harvested for their meat and furs. Muskrat teeth were fashioned into fishhooks and attached to winter nets set under the ice (Weledeh Yellowknives Dene 1997). Other animals rarely hunt marten because they are quick and able to climb, but they are trapped by the Dene throughout the woods and on the barrenlands, wherever marten have access to mice and rabbits (Sadownik and Harris 1995).

Beavers have also been a source of food and income for the Dene. Beavers usually live in small lakes with muddy soils where there is sunlight, protection from the wind and drifting ice, and access to vegetation such as black spruce, poplar, white birch, and shrubs. The Dene recognize beavers for their important ecological role in controlling water levels and creating new habitat. The size of beaver lodges and food stockpiles provide an indication of how many beavers are living together and the size of the population in general. This knowledge helps harvesters maintain a sustainable population. The main predators of the beaver include the wolverine and black bear (Sadownik and Harris 1995).

### **3.2.3.3.4 Fish**

Very old, large fish can be found in Lac de Gras and many other fish migrate, particularly to spawn, from the Coppermine River. In the fall, fish are thin and no good for harvesting on the barrenlands but in the winter fish are fatter and nets can be set through holes in the ice. Winter fishing is best done at channels where swift currents keep the water open. Two such channels are found near Ekati, one at MacKay Lake and one at the narrows between Lac de Gras and Lac du Sauvage. In the past, if ice had hardened over the swift currents, the Dene would use chisels fashioned from moose bones to dig holes in thinner areas of the ice. As the weather warmed, fish would move into larger, cooler lakes or up rivers where there are deep pools to eat and prepare for the fall spawn, usually around September or October (Weledeh Yellowknives Dene 1997).

Many species of fish are found in Lac de Gras, each taking advantage of specific habitat types (i.e., whitefish in the muddy-bottomed areas; Lake Trout around the flatter, smoother lake bottoms; and cisco, Arctic Grayling, and suckers in the large, deep areas). Fish with teeth, such as Northern Pike and Lake Trout feed on smaller fish, insects, and plants near the shore, while those without teeth, such as burbot and whitefish, feed on nutrients in silt, insects, and plants near the bottom of the lake. As a traditional fishing lake, Lac de Gras is known as a good source of large, old, fat fish (Weledeh Yellowknives Dene 1997).

Traditionally, the Dene people would set nets made of willow and babiche to catch fish. Fish were crucial for feeding the dogs. While travelling in the fall, dry fish was an important source of nutrients for people and their dogs. It was light and easy to carry, and usually in abundant supply after the summer's harvest. In the winter, nets were set under the ice. At some sites, the fish were so plentiful that they could continue to catch fish throughout the winter. Dry fish, saved from the summer's harvest would be ground for use in soup during the winters at camp. In the spring, people fished in the small lakes around Lac de Gras as well as in the large lakes. Ekati's tailings pond (Long Lake) was known to the YKDFN as "Fish Lake." During the public hearing for the original water licence at Ekati, the YKDFN spoke of how plentiful the fish were in Long Lake (Weledeh Yellowknives Dene 1997).

The YKDFN have recommended that the construction of dikes be completed in late October or November, after the fish have migrated to deeper waters. In the spring, fish live in the shallower areas to feed. In the summer and fall, they spawn in areas along the shoreline, bays, and islands. Protecting the sediment, vegetation, and migration routes for the resident species is important to maintain the fish health and productivity in the area (Weledeh Yellowknives Dene 1997). The YKDFN have also warned against the use of catch-and-release practices to relocate fish. Fish can die from the wounds inflicted by large hooks, from starvation as a result of large mouth wounds, or from hypothermia if they are handled too much, resulting in the removal of the slimy coating covering their bodies (Weledeh Yellowknives Dene 1997). The YKDFN have also expressed concerns about the impacts of spilled oil and the winter roads and on fish.

### **3.2.3.3.5 Birds**

Ptarmigan and grouse are an important addition to the Dene diet in the winter. Traditionally, women would catch the birds such as ptarmigan in low shrubs using nets made of willow and babiche. Snares and nets were also set to catch waterfowl. Feathers were used for arrow shafts and for use in blankets and pillows. Ptarmigan feet were used as charms for children to grow “as surefooted as the ptarmigan” (Weledeh Yellowknives Dene 1997: 67).

Ravens in the barrenlands were also important to the Dene. Though they were not hunted, ravens provided important information to hunters for locating the presence of animals. Raven behavior would help hunters locate game:

*Ravens can't kill animals themselves, so they depend on hunters and wolves to kill food for them. Flying high in the sky, they spot animals too far away for hunters or wolves to see. They fly to the hunter and attract his attention by croaking loudly, then fly back to where the animals are (Sadownik and Harris 1995: 14).*

Earlier this century, however, ravens and other large birds, such as the whisky jack disappeared from the barrenlands (Weledeh Yellowknives Dene 1997).

The YKDFN expressed concerns about the impacts of dust on migrating and birthing birds and other animals. They expressed the desire to protect the animals using fences or other deterrents while maintaining enough of the land area available for safe migration (Weledeh Yellowknives Dene 1997).

### **3.2.3.4 Plants**

The YKDFN are concerned about the effects of dust on the vegetation in and around Lac de Gras. They expect that plants and water east of the mining developments near Ekati will experience high volumes of dust during the life of the mines. The YKDFN have expressed concern about how the dust will have accumulative effects on the entire environment, including the lakes, the plants, the fish, and the wildlife that depend on the local sources of water, vegetation, and other animals for their health and survival.

In an attempt to mitigate such effects, the Dene have provided advice to improve the health and diversity of plant life around the Ekati Mine. For example, in 2013 participants in the vegetation workshop suggested that Ekati should make the tailings beaches wavy with little hills at closure so that the plants can grow more easily. Further, that Ekati should include fine clays and soils on the waste rock piles to support vegetation growth, till the lands to encourage progressive regrowth and even moisture distribution, and limit the transplanting of sedges to 10% of the source material (Dominion Diamond 2013b).

#### **3.2.3.4.1 Wood**

Sources of wood were perhaps the most important plant resources for the Dene. Wood was collected to fuel fires and for use in the construction of sleds, tents, spears, arrows, caribou ropes, drying racks, baskets, storage and food containers, canoes, paddles, and snowshoes. In the winter, boughs were used to insulate the ground and exterior of hide tents (Weledeh Yellowknives Dene 1997).

A low-growing shrub in the barrenlands, known to the Dene as “green leaves in the barrens” or dwarf birch, provides a strong root that has been used to repair canoes, drying racks, and babiche line. Birchbark was also harvested to make canoes, baskets, cups, plates, and small bowls. Places where wood was available were named so that the information and significance of those places for survival were remembered (Weledeh Yellowknives Dene 1997).

#### **3.2.3.4.2      *Berries***

In the summer and fall, berries were collected in abundance using birchbark baskets. Blackberries and blueberries were collected for food, juice, and tinder; cranberries and cloudberry were collected for food and jams. Many berries were dried; while travelling in the winter, dried berries rolled into caribou fat and frozen were an easy meal and easy to carry (Weledeh Yellowknives Dene 1997).

#### **3.2.3.4.3      *Lichen and Moss***

Lichen was sometimes used by the YKDFN in the summers at the summer fish camps to flavor fish soup. People would often gather lichens in the summer to carry into the barrenlands in the winter as a powder. This powder was good for soups as well as for creating highly nutritious porridge of lichen powder and water for young babies if a mother was unable to feed it well (Weledeh Yellowknives Dene 1997).

Kwa (peat moss) has many traditional uses. Its soft, spongy, absorbent qualities make it an ideal material for infants and sick or incontinent adults. Kwa (peat moss) was harvested year-round and dried before use; women carried large caribou hide bags filled with dried kwa (Weledeh Yellowknives Dene 1997).

#### **3.2.3.4.4      *Medicinal Plants***

The YKDFN people still travel into the barrenlands to collect medicinal plants, particularly since they no longer trust many of the plants found around Dettah, N'Dilo, Yellowknife, and other parts of Great Slave Lake. Examples of vegetation used by the YKDFN include: small shrubs that turn brown at the tips in August that are used to treat headaches; pink flowers of tall fireweed that can be burned and inhaled for relief of a headache; cloudberry that are used to treat stomach aches; crowberry that can help treat constipation; dwarf birch that can be chewed and placed on insect bites to relieve irritation; boiled black rock lichen that can help with digestion, taking toxins out of the system; a soaked cloth of boiled blueberry bush that can help treat snowblindness; and moss that can help prevent diaper rash (Dominion Diamond 2013b).

### **3.3      Łutselk'e Dene Traditional Land Use**

The YKDFN, LKDFN, and DKFN are members of the Akaitcho Dene First Nation. Generally, they have had similar land use and resource harvesting techniques, but in different locations in the NWT. The Chipewyan, or Denesłine, of Łutselk'e have traditionally survived by harvesting resources from the land, primarily hunting caribou from the Bathurst and Beverly herds, which have historically migrated through the East Arm of Great Slave Lake. Other prominent harvesting activities include catching fish and trapping.

In 1823, John Franklin reported that the Indian people who traded their furs at Fort Chipewyan were members of the “Dinneh” (Dene) people, whose “original hunting grounds” were between the Athabasca and Great Slave lakes, to the Churchill River (Franklin 1823). The traders tried to encourage these people to hunt further westward where beavers were more plentiful, instead of on the barrenlands where they could find “easy subsistence” hunting caribou (Jones n.d.). Most LKDFN members harvest resources from Lutsel K’e around the East Arm of Great Slave Lake between Rocher River and Artillery Lake. However, people also travel into the barrenlands, particularly around Walmsley, Fletcher, and Cook lakes (Map 1.1-3) (Łutselk’e Dene Elders and Land Users et al. 2003, 2005).

This section discusses TLU and TK information related to the LKDFN. A TK study specific to the Project has not been done by the LKDFN; therefore, information documented in this section has been identified from existing sources. This information is discussed under three headings:

- seasonal use cycle;
- land use sites; and,
- knowledge and use of resources.

### 3.3.1 Seasonal Use Cycle

Traditionally, Denesłıne people moved in a yearly cycle. In the northwestern section of their territory, one group summered on the shores of Great Slave Lake and moved into the northeastern barrenlands in search of caribou in the late fall and winter. By the 1950s, Denesłıne also began to settle near a trading post established on the southern shores of the east arm of Great Slave Lake. This post was eventually renamed Łutselk’e (Shaw n.d).

The LKDFN put high value on, and give respect to, the land, the wildlife, and other people. For many Elders, the ability to live off the land is a strong sign of self-respect (Parlee and Marlowe 1997).

#### 3.3.1.1 Fall

The LKDFN travelled in small family groups that would sometimes converge together at certain times of the year. One such time was the fall hunt, when caribou migrate south through the barrenlands (Parlee and Marlowe 1997). The fall caribou were an important source of fat, food, and thick, warm furs needed for winter survival. To supplement hunting and trapping, the LKDFN also fished, collected plants and berries, and dried meat in preparation for the winter.

*In November (after Hallowe’en) people would go into the barrenlands. One time I got about 100 fox. That was about 1943 (LKDFN et al. 1999: 14).*



### **3.3.1.2 Winter**

After the fall hunt of the south-migrating caribou, some Dene hunters continued travelling in the barrenlands hunting, fishing, and trapping. Some LKDFN hunters stayed in the eastern lands around Aylmer Lake, Artillery Lake, and along the Thelon River to hunt muskoxen, while others hunted caribou in the winter around McLeod Bay (East Arm of Great Slave Lake). The East Arm is known as a good place for fishing and trapping. To supplement the winter hunt, LKDFN fish and set traps to catch small game and furbearers. The K'ásba Nýné area was traditionally used for harvesting the Arctic fox, and for travelling east towards the Thelon River valley.

### **3.3.1.3 Spring**

When the spring came, Dene hunters and their families would begin to move back below the treeline to establish fishing camps around Great Slave Lake. Trapping was a common spring-time activity for the LKDFN. According to LKDFN et al. (2001), they would generally return to the north shore of Great Slave Lake after trapping in the spring and after trading in the fall.

*In spring when it was nice and warm – that is when we would go back to North Shore (Tue Nedhe) of McLeod Bay and travel home to Łutselk'e. Some people from Rocher River were travelling with us. They came a long ways. That is how people worked and lived in the olden days (LKDFN et al. 2001: 55).*

### **3.3.1.4 Summer**

In the summer, the LKDFN activities included hunting, fishing, collecting plants and berries, and drying meat.

*In the summer time the Dene people fished and hunted for moose...That was all there was in the olden days (Łutselk'e Dene Elders and Land Users et al. 2002a: 22).*

The Bathurst caribou herd migrates through the Bedaghé Tué region (around Fletcher, Walmsley, and Cook lakes) in late summer as they travel from Lac de Gras (Map 1.1-3). This region supports one of the main travel routes into the barrenlands and, traditionally, groups of families travelled to this region and then split into smaller groups to travel to their traplines and hunting grounds in the summer (Łutselk'e Dene Elders and Land Users et al. 2003, 2005).

## **3.3.2 Land Use Sites**

A Traditional Knowledge (TK) study completed by the Łutselk'e Dene First Nation (LKDFN) on community health identifies the land between MacKay Lake and Lac de Gras as part of its traditional travel and harvesting territory. The Elders interviewed for the study indicated that the maintenance of healthy lands and a healthy relationship with the land is critical for survival, both in the past and for the future (Parlee and Marlowe 1998).

### **3.3.2.1 Cultural or Spiritual Sites**

The LKDFN measure their community health through strong and lasting relationships with the land. Knowledge of the land has been identified as critical for the health, happiness, and survival of the LKDFN culture (Parlee and Marlowe 1997).

Ts'ankui Theda (the Old Lady of the Falls), on the Lockhart River is an important place to the LKDFN. It is a place of healing, a place of creation, and a source of life. During the *Traditional Knowledge on Community Health Project* completed in 1997 (Parlee and Marlowe 1997), LKDFN Elders expressed fear about the impacts that development might have on Ts'ankui Theda and the Lockhart River. They warned that if all the lands around them are destroyed "we will be sad people, we will suffer" (Parlee and Marlowe 1997: 36).

To the LKDFN the land itself is an important source of spiritual, emotional, physical, and mental healing. They feel that respectful communication with the land and the creator is an important aspect of healing (Parlee and Marlowe 1997).

### **3.3.2.2 Camps and Cabins**

The abundance and location of caribou often dictated where and how long the LKDFN people would gather together.

*When people met and how long they gathered together was largely dictated by the migration of the caribou and the trapping season. People gathered and camps were set up where the caribou were abundant* (LKDFN et al. 2001: 55).

The presence of eskers and sources of water and firewood were also factors which helped dictate where the LKDFN would set up camp and travel in the barrenlands.

*Trees are only along eskers. They follow them, this is their land. Even in a big blizzard dogs [on a dog sled] will take you home, following the esker. If you look hard at these eskers, you will find mostly Chipewyan artifacts* (LKDFN et al. 2001: 18).

*These small groups of trees near eskers (ts'u za aeaze) are very important for us. We always camp by them because there is firewood, water and a flat spot. You can tell by the axe-marks on trees that people stayed there* (LKDFN et al. 2001: 18).

The LKDFN have warned, however, that camping between eskers could be risky: "Never set up camp between eskers because the snow could cover up your camp" (BHP Billiton 2011b: 19).

### **3.3.2.3 Travel Routes**

Stone markers were used by the LKDFN to mark key places along travel routes. Rocks piled along a trail, on boulders, or to build caches, burial cairns, trap markers, or trail markers could help guide travellers (Dominion Diamond 2013b).

The Łutselk'e Dene travelled to and from the barrenlands by dog team, canoe, and on foot, using several different routes (LKDFN et al. 2001). According to Łutselk'e Dene Elders and Land Users et al. (2002b), there are four main trails into the barrenlands that begin along the shores of Great Slave Lake. These trails lead north to the Lockhart River at Tha Gai Kué (MacKay Lake) and Tla K'ai Kué (Aylmer Lake) (Łutselk'e Dene Elders and Land Users et al. 2002b: 52).

### 3.3.3 Knowledge and Use of Resources

This section includes a discussion of the resources, including water, wildlife, fish, birds, and vegetation traditionally used by the LKDFN. Each section includes information on TLU practices, as well as TK as recorded in publicly available documents.

#### 3.3.3.1 Water

Besides caribou, water is the most important resource to the Dene people. Lakes in the barrenlands are known for their clear waters and quality fish, and some medicinal plants only grow near the water edge. When the Dene travel, they pay offerings of respect to the water. Campsites are often established near clean sources of water and water is used for transportation, drinking, fishing, cleaning, and preparing hides and other materials. Despite the large number of lakes scattered throughout the NWT, fresh, clean water may sometime be hard to find. The LKDFN Elders have provided the following advice:

*The water in these rock crevices [near eskers] is the best—it is really clean and cold. Even in the middle of the summer you will find good water in there* (LKDFN et al. 2001: 19).

Water has also been identified as an important resource for wildlife, specifically for ducks.

*Ducks and geese need water to eat, because they eat things like bugs in the winter. So if it's frozen they can't eat. That's why they came late this year* (Łutselk'e Dene Elders and Land Users et al. 2003: 67).

#### 3.3.3.2 Minerals

The Dene have traditionally used minerals and other resources in the construction of tools:

*You can find good rocks for tools around eskers. Old-timers would sit on eskers and make arrowheads... Also you can find really heavy black rocks, but there aren't too many of them. They are good for pounding meat* (LKDFN et al. 2001: 18).

#### 3.3.3.3 Wildlife

##### 3.3.3.3.1 Caribou

Like the YKDFN, the LKDFN rely heavily on caribou. The caribou are highly respected because they are what the LKDFN most depend on for survival while on the land. There are rules surrounding the treatment of caribou once harvested to facilitate healthy populations and relationships. For example, butchering should be done in a clean and respectful way; “and because of their power, young fertile women were not allowed to touch or walk over hunting gear, tools or the animal itself, nor were they allowed any contact with the hunter, his clothes or his food. Failure to obey these rules of respect resulted in sickness or some sort of bad luck” (Parlee and Marlowe 1997: 41).

In an effort to monitor the health of caribou, hunters make observations regarding the health of harvested caribou using such factors as location and thickness of fat deposits, color and consistency of bone marrow, and/or developmental stage of a fetus in relation to the time of year (Shaw n.d.). According to the LKDFN, more fat means a healthier caribou, indicating that it has had more time to feed and has been less stressed by predators, parasites, or other factors. Another indicator that the hunters use to assess the health of caribou is the colour and texture of the marrow. A very healthy caribou will have creamy coloured marrow that is solid. A healthy caribou, but one that may be under stress because of lack of food, illness, and/or predator or parasite harassment, will have pink-coloured marrow that is greasy. An unhealthy caribou that is malnourished or under severe stress will have red-coloured marrow that is runny. Elders have noted that it is natural that caribou are injured or sick, as long as there are not too many (Łutselk'e Dene Elders and Land Users et al. 2005).

Hunters follow the caribou, hunting and trapping to provide for their families and community (Parlee and Marlowe 1997). As they have described it, caribou habitat is made up of grass, shrub lichen (gray reindeer lichen, northern reindeer lichen, Iceland moss, hair lichen), black dirt, bog birch, and leaf lichen-green kidney (LKDFN et al. 1999).

*This lichen you see all around on the rocks is the main food of the caribou. They eat it all the time. Sometimes where there is lots of caribou the rocks will be just bare, because the caribou have eaten all the food. These are called ts'āju (LKDFN et al. 2001: 29).*

*Caribou always move along eskers when they are travelling through this kind of land. Musk-ox too. That is because it is smooth travelling compared to the rough rocks elsewhere (LKDFN et al. 2001: 17).*

With additional developments on the land, the LKDFN have expressed concerns about the caribou's own ability to travel. Some LKDFN hunters are concerned that there are "less animals than there used to be in that area" (eastern side of Artillery Lake) and that the caribou are late and are "crossing at different locations than they used to, migrating more towards the north shore of Artillery Lake and not through the traditional crossings" (Łutselk'e Dene Elders and Land Users et al. 2005: 55). The reason caribou are migrating further away from [Lutsel'Ke](#) was explained in two ways: because forest fires have burned caribou habitat; and because mining and other development activities are acting as barriers and stressing the caribou (Łutselk'e Dene Elders and Land Users et al. 2005).

*The Bathurst caribou were thought to be extremely skinny this past winter, and people are attributing this to the greater numbers of disturbances they have to migrate around (i.e., diamond mines). The animals are spending more time running away from disturbances and are having to travel great distances to go around or otherwise avoid these disturbances, which means they spend less time feeding and are more stressed (Łutselk'e Dene Elders and Land Users et al. 2005: 56).*

During site visits, Elders have identified potential barriers and hazards to caribou movement including high ridges and sharp rocks along the edges of the roads (BHP Billiton 2011b). Participants in the 2011 WEMP suggested that Ekati should install fencing around all the open pits to protect caribou and other wildlife, but also noted that caribou observed around the site appeared to be in good health. They also identified a "Yagoose," a strong, powerful bull with large, sharp antlers, a large head, and a thick, dark coat among the herd (BHP Billiton 2011b: 10).

*The caribou are good here, healthy, strong, good coats. If the caribou are not healthy you could tell, you could see their ribs, the way the coat is and the way they walk* (BHP Billiton 2011b: 11).

Despite the apparent good health of the caribou, members of the LKDFN are concerned about the declining caribou numbers and their shifting migration patterns, remaining longer now in the barrenlands, and coming into Lutsel'Ke less and less. They have also expressed concern about the number of bulls hunted by outfitters: "There are not enough bulls, that's why we have dry cows" (BHP Billiton 2011b: 19).

### **3.3.3.3.2 Other Large Animals**

Members of the LKDFN have observed changes in the range of muskox. Lately, muskoxen have been observed moving south below treeline, even as far as Lutsel'Ke (BHP Billiton 2011b).

*I've never seen musk ox around here just farther east. In Artillery too, only in the past 20 years musk ox have been found around there* (Lutsel'Ke Dene Elders and Land Users et al. 2002a: 23).

In 2011, community participants in the WEMP Community Engagement Program helped Ekati staff identify 23 habitat locations around the Ekati Mine for establishing plots for the grizzly bear DNA Program that is designed to assess and monitor the distribution and occupancy of grizzly bears near the mine (BHP Billiton 2011b). Specific habitats identified by LKDFN members include:

*Those little bushes, T'à bathe (bog birch), that is where the bears stay in the summer, in the shade. That's why it is said to never go downhill of eskers quickly because bears might be there* (LKDFN et al. 2001: 17).

*The Grizzly Bears, from what I have seen, never have their dens on the eskers. They have their dens on the outskirts of the eskers where there are these small patches of hilly sand. And another thing too is that they don't make their dens on the south side, only on the west side [sic] where the wind blows* (LKDFN et al. 2001: 27).

### **3.3.3.3.3 Furbearing Animals**

Traditionally, the LKDFN people travelled to the barrenlands to harvest the wolf, Arctic fox, and wolverine. Fur-bearing animals were caught largely for their furs but the meat was also often used for food or bait.

#### **Wolf and Wolverine**

Wolves will make their dens in and around eskers. The Lac de Gras area has been identified as a traditional wolf trapping area:

*Eskers are the main places where wolves make their dens. Also you can find fox and ground squirrels holes in eskers* (LKDFN et al. 2001: 17).

*I trapped up to Aylmer Lake for wolves, near the Lac de Gras area. There are more – lots of wolf activity between Aylmer Lake, MacKay Lake, Fletcher Lake and Walmsley Lake. Up to Artillery Lake—all through those places I've trapped and travelled. Then I would travel to Fort Reliance and up to Ka'del Kué (open area of lake). I have travelled mostly everywhere* (Lutsel'Ke Dene Elders and Land Users et al. 2002a: 35-36).

Wolverines were traditionally harvested, primarily for their fur. Sometimes wolverines were killed as an emergency food source, a practice that is no longer common. Wolverines are known as scavengers, but are also known to kill caribou or smaller animals such as foxes and mice. Wolverines are described by the LKDFN in the existing sources as thieves that are mischievous, strong, and slow.

*If it steals something, it will hide it. Wolverines have stolen a lot of things from me. Even if you cache your food in the tree, the wolverine will still get at it. They are strong little animals. I once saw a wolverine carry a moose head with antlers. It can't kill too many animals because it is slow (LKDFN et al. 1999: 13).*

Wolverines make their dens in rough terrain.

*The wolverines have their dens just about anywhere—inside cracks of cliffs, anywhere where there is rough terrain. I went after one wolverine because I had wounded him. At the time I was a young man and I was good at walking around. I kept on going after him and he stopped at some moss-covered marsh with small Labrador tea plants (nagathe aeaze). You can see that he had paused there because he had been eating these small Labrador tea (nagathe aeaze) (LKDFN et al. 2001: 27).*

## Fox

Traditionally, several LKDFN people would travel to the barrenlands to trap the white (Arctic) fox: “We would get lots of white fox in the barrenlands” (LKDFN et al. 2001: 55); “One time I got about 100 fox. That was about 1943” (LKDFN et al. 1999:12). However, according to one Elder, the last time someone went to the barrenlands to trap Arctic fox was in the late 1950s:

*The last time I remember a lot of Dene people trapping for white fox was in the year 1942. It was on the barrenlands—in all this area over here to the east and northeast around Campbell Lake, Ptarmigan Lake, and also in this area here around MacKay Lake; and this here is Fort Reliance (Kach Kue). The late Louie Drybones [Noel Drybones brother] trapped in the area too; and Joe Nelson was trapping also around there. That year, 1942, a lot of people from Fort Resolution (Deninue Kue) and Rocher River passed through here going to the barrenlands to trap for white foxes; and they trapped a lot. My father too trapped many white foxes and at the same time there was caribou everywhere on the barrenlands. The late Louie Drybones was probably the last one to trap for white foxes on the barrenlands. It was in 1957 (LKDFN et al. 2001: 28).*

According to the reviewed sources, TK holders have indicated that the number of Arctic fox in the LKDFN traditional territory has declined. Many foxes used to live in the Ekati area but the LKDFN recognize that fox populations come and go in cycles. They change where they live and where they travel and that this may be the reason fewer foxes are seen today (BHP Billiton 2011b). According to the LKDFN et al. (1999), the Elders do not think that mining activity is affecting the Arctic fox populations.

*The best place I know for white fox would be around Aylmer Lake. We stayed at Aylmer Lake for four days – we caught about six hundred white foxes, using two hundred leg hole traps each at that time. We checked the traps twice a day because there was too much white foxes. That was good. I remember it was like that at Walmsley Lake too. We were using dog teams at that time...Now today I think there are more fur bearing animals towards the barren lands compared to the forest, there are lots of white foxes, wolves and wolverines. People have just stopped trapping or hunting them as much – around Łutselk'e too (Łutselk'e Dene Elders and Land Users et al. 2002a: 35).*

As carnivores, Arctic foxes hunt small animals such as hares, ptarmigan, mice, and lemming and scavenge wolf and other predator kills. They will also eat eggs and insects. Similar to the wolf, the Arctic fox will make its den in and around eskers.

*Near the big eskers there are little narrow eskers which are sand only and no rocks. This is where the white foxes raise their pups in their dens. This is where I will set my traps. White foxes mate near rough terrain on the tundra around boulders and rocks. They make dens under snow - they might even have a wife under there. But this is not their regular den site – it's like a rough cliff with broken-up rocks (LKDFN et al. 2001: 26).*

#### **3.3.3.3.4 Fish**

Fish have been, and continue to be, an important part of the LKDFN diet, especially when caribou are scarce. Traditionally, fish were harvested for subsistence and to feed dogs.

*...fish are very important for Denesoaine subsistence, as they provide the primary sustenance when caribou are far away to the north in their calving grounds. Even when the caribou are near, fish provide variety to a diet founded upon caribou meat (Łutselk'e Dene Elders and Land Users et al. 2002a: 29).*

Fish are found in most of the lakes located throughout the LKDFN traditional territory. One Elder noted that it is possible to find them in small lakes on top of eskers.

*There is usually fish in these thai ya kué (little lakes on top of eskers). Fish live in these lakes – how did they get there? Maybe an eagle was eating a fish and the eggs fell into the water (LKDFN et al. 2001: 17).*

#### **3.3.3.3.5 Birds**

Traditionally, birds have been an important resource for the LKDFN and have provided not only food, but also important materials, such as feathers, which were used to make blankets and pillows.

*In mid-May, most kinds of birds come back each year. They come up north in the springtime. Some birds go to the barrenlands such as ducks, geese, Oldsquaw, ptarmigan, snowbirds and loons. They stay in the barrens until fall time, until it gets cold for them. Then they go back down south (Łutselk'e Dene Elders and Land Users et al. 2002a: 33).*

*...the spring migration of other animals comes and this area [Artillery Lake] is like a pit stop for them before they go farther north. The ducks, geese: one familiar one is the oldsquaw duck and also many other kinds of ducks that migrate north, one of the ways to harvest them is to set gill nets for them (Łutselk'e Dene Elders and Land Users et al. 2002a: 22).*

Eagles are a particularly respected bird and have spiritual importance.

*Eagles are very much respected. A lot of people used to use eagles for medicine. This medicine was very strong. A lot of people chose to heal people instead of hurting people. It was hard for people to sleep when they were bothered by strong medicine. But not all eagle medicine is the same. Some medicine is good; some is bad. If you use the medicine in a good way, it will come back to you in a good way*  
(LKDFN Nation et al. 2001: 23).

### **3.3.3.4 Plants**

Wood, berries, and medicinal plants were, and remain, particularly important resources for the LKDFN.

#### **3.3.3.4.1 Wood**

Sources of wood were perhaps the most important plant resources for the Dene. Wood was collected to fuel fires and for use in the construction of sleds, tents, spears, arrows, caribou ropes, drying racks, baskets, storage and food containers, canoes, paddles, and snowshoes. In the winter, boughs were used to insulate the ground and exterior of hide tents (Weledeh Yellowknives Dene 1997). When travelling into the barrenlands for the fall and winter caribou hunt, LKDFN would dig up whole trees, roots and all, and pack them for fires (BHP Billiton 2011b).

*We would carry dry wood with us and use it really wisely with small willow branches. How much wood you had determined how long you could stay out [on the barrenlands]. We had some really tough days* (Łutselk'e Dene Elders and Land Users et al. 2002a: 23).

*These small groups of trees near eskers (ts'u za aeaze) are very important for us. We always camp by them because there is firewood, water and a flat spot. You can tell by the axe-marks on trees that people stayed there* (LKDFN et al. 2001: 18).

#### **3.3.3.4.2 Berries**

The most commonly harvested berries include raspberries, blueberries, cranberries, cloudberries, and crowberries. These berries are typically found throughout the Łutselk'e Dene traditional territory.

The LKDFN use berries in several ways, such as making jams and dyes, sweetening pounded meat, and for medicinal purposes. Picking berries is a social event enjoyed by men and women, but predominantly women. Some LKDFN members have stated that blueberries harvested on the barrenlands taste better than those found below the treeline. The amount of berries depends on several factors, such as temperature and amount of rain (Łutselk'e Dene Elders and Land Users et al. 2002a).

#### **3.3.3.4.3 Medicinal Plants**

Medicinal plants are harvested by the LKDFN throughout their traditional territory. Labrador tea, club lichen, juniper berries, crowberries, spiny wood fern, and cranberry have all been identified as important for medicinal purposes (LKDFN et al. 1999).

"Earthly medicine" was used to cure and treat many ailments. According to the Elders interviewed for the Traditional Knowledge on Community Health Project, it seems apparent that there were:



*...two elements to traditional medicine – earthly and spiritual. Most Dene people, particularly women, had some knowledge and skill for preparing earthly medicine. Women would gather roots, mosses, barks, spruce gum and other earthly resources for the purpose of preventing or treating illness in their family (Parlee and Marlowe 1997: 45).*

Examples of vegetation used by the LKDFN include: crowberries that can help treat constipation; boiled black rock lichen that can help with digestion, taking toxins out of the system; a soaked cloth of boiled blueberry bush that can help treat snowblindness; moss that can help prevent diaper rash (Dominion Diamond 2013b); Labrador tea that can soothe a cold or headache; kuzi hala (northern bog laurel) that can be boiled to treat sores; and nita'yr (cranberries) that are purple or black after a winter on the bush that can treat sugar-diabetes (LKDFN et al. 2001).

### 3.4 Deninu K'ue Traditional Land Use

The DKFN (formerly the Fort Resolution Indians) are members of the Akaitcho Dene that now live in the Fort Resolution area, south of Great Slave Lake. The DKFN consider the Yellowknives Dene and Chipewyan of Lutsel K'e as regional extensions of their cultural group. When Fort Resolution was established in 1786, the Chipewyan began to refer to any Chipewyan's who traded at the fort as "Dene Nu Kwen." Therefore, the DKFN is not a specific geographic group but an extension of the Akaitcho Dene now living in the Fort Resolution area (De Beers 2010). Generally, the Akaitcho Dene share similar land use and resource harvesting patterns and techniques. Akaitcho Dene lands stretch throughout much of the NWT, but consist mainly of areas to the north, east, and south of Great Slave Lake (Map 1.3-1). Traditionally, the DKFN way of life was largely based on the movements of barren-land caribou and other animals, including hunting and trapping in the barrenlands and east of Great Slave Lake.

This section discusses TLU and TK information related to the DKFN. A TK study specific to the expansion Project has not been done by the DKFN. Therefore, information documented in this section has been identified from existing sources. This information is presented under three headings:

- seasonal use cycle;
- land use sites; and,
- knowledge and use of resources.

#### 3.4.1 Seasonal Use Cycle

Seasonal movements were not random. The *Deninu K'ue Ethno-history Report* (DKFN 2012) explains that the Dene moved through the landscape along the caribou herds' migratory ranges. Often, the unique, yet culturally continual groups would interact and intermarry but have remained somewhat geographically distinct. South of Great Slave Lake, these regional, local, and (extended) family task groups have combined and recombined to form the Snowdrift (Łutselk'e), Rocher River, and Fort Resolution people, now the LKDFN and DKFN (Map 1.1-1) (DKFN 2012).

The traditional territory of the DKFN extends from the south of Great Slave Lake, north and east of Great Slave Lake, and well into the barrenlands. The movements of family groups on the land were based on previous experience, including hunting success and the availability of food and other resources needed for survival. With the introduction of the fur trade, their economy shifted away from hunting toward trapping to provide provisions and obtain goods from the trading posts. In many cases, this shift influenced the settlement of communities near an established post, such as Fort Resolution, Lutsel K'e, and Old Fort Rae. Trapping and hunting among the Deninu K'ue has continued into the present as a subsistence economy, supplementing goods now available for purchase in the community (DKFN 2012).

#### **3.4.1.1 *Fall (mid-August and September)***

Traditionally, hunters and trappers from extended kin groups came together in the fall and winter to hunt and trap (DKFN 2012). The fall caribou hunt provided an important source of fat, food, and thick, warm furs needed for the upcoming winter. The best caribou skins were from caribou hunted between August and October when the hides were the thickest and the hairs firmly attached. Approximately 13 to 15 caribou skins were required to properly clothe and shelter each adult for the winter (Hearne 1795). Fish were smoked and dried in the fall in preparation for winter (Dezé 2009), and ducks and geese were hunted regularly as they migrated south providing a welcome change in the diet composed largely of caribou (DKFN 2012).

As the temperatures cooled and the snow fell, the Dene prepared for their trip south out of the barrenlands. Dogs and caribou skin-lined sleds were used to carry the fall surplus and supplies to the treeline. With the establishment of trading posts, Chipewyan and Dene traded goods in the late fall in preparation for winter hunting and trapping.

#### **3.4.1.2 *Winter (October to April)***

In the winter, Dene, such as those now identified as Deninu K'ue, would aggregate into family groups to establish winter hunting camps: "you can't live alone all winter...That's no good. You always need a few families together to help each other" (DKFN 2012: 41).

These family groups hunted caribou. Sometimes, according to Samuel Hearne (1795), families would not have to move their tents more than once or twice all season, trapping caribou by building large impoundments in the caribou's path. These impoundments were best established at water crossings, in barren plains, or in a cluster of woods. Impoundments consisted of a strong fence to control caribou movements and a series of skin snares. Families would camp near the impoundments, awaiting the arrival of caribou, which they would soon surround. The primary tool used in the hunt, before the advent of firearms, was either a bow and arrow or a spear tipped with bone, copper, or slate (Hearne 1795).

Fish, ptarmigan, moose, and hares were also hunted in the winter to supplement the caribou diet (DKFN 2012). Ptarmigan, one of the few resident birds of the NWT, is one of the only birds of sufficient size to eat in the winter (Dezé 2009).

Fortunately for the traders establishing posts in the NWT, the Dene would leave the barrenlands with the caribou seeking the protection of the woods in the winter, only leaving occasionally to visit the barrenlands to trap furbearers (Dezé 2009). The DKFN have stated that long winter trips are easier with the help of dogs but that providing provisions for them is easier in the spring and fall when game is more readily available:

*With skidoos you have to carry all sorts of stuff. We used to just travel with meat, lard, and dried tea. Dried meat. Sometimes salt (DKFN 2012:126).*

*[A] dog, to keep him in good order, requires two whitefish, weighing each perhaps three pounds, every night. This adds so much to the load that a ten days' journey is about the longest one can undertake with full rations all round, unless it be in a part of the country where game is plentiful or fish can be caught en route (Pike 1967: 136).*

Since the 1970s, travel by skidoo and by vehicle on the Tibbitt to Contwoyto Winter Road (first built in 1982) (Map 1.1-1) and other winter access roads has largely replaced dog teams for short-term winter hunting trips. Members of the DKFN have expressed concern about how the increased access and noise have affected caribou near the winter road (DKFN 2012).

### **3.4.1.3 Spring (April to May)**

As the snow began to melt in April or May, the Deninu K'ue would begin to travel back north. In the spring, caribou were hunted on the tundra as they returned to their summer habitat in the barrenlands. After the spring ice breakup, trout feed near shore and can be easy to catch (Dezé 2009). Geese, ducks and swans were also hunted as they migrated north (DKFN 2012). Spring fur harvesting focused on muskrats (Dezé 2009).

With the establishment of the trading posts, Chipewyan and Yellowknife Dene traded their winter furs in the spring:

*We don't get meat in the store so we eat only moose. They kill a moose. No work in those days so they have to travel in the winter time to make good money. Spring time the same thing, they make money with beaver and muskrat. In those days things were cheap too. We eat nothing but wild meat (DKFN 2012: 42).*

### **3.4.1.4 Summer (June to mid-August)**

In the summer, the Deninu K'ue hunted caribou at the same water crossings as other Dene and Chipewyan in the region, and have expressed knowledge about the barrenlands as far as the Coppermine River. During the late summer, when the water is at its warmest, large Lake Trout move into the deeper, cooler waters making them more difficult to catch (Dezé 2009). With the exception of some fish and seasonally available birds, traditional summer subsistence focused almost entirely on the caribou who occupied the barrenlands (DKFN 2012):

*Our Northern Indians who trade at the Factory, as well as all the Copper tribe, pass their whole Summer on the barren ground, where they generally find plenty of deer; and in some of the rivers and lakes, a great abundance of fine fish (Hearne 1795: 320).*

Today, moose and caribou are consumed almost equally, while bison, whitefish, pike, Inconnu, ptarmigan and goose supplement the traditional summer diet (Dezé 2009). With the establishment of trading posts, the implementation of hunting restrictions, and the signing of Treaty 8 in Fort Resolution in 1899, Dene families travelled south more regularly in the summer to fish, trap, trade furs, and collect Treaty money at Fort Resolution (DKFN 2012). Treaty 8 was the first of the northern treaties covering what is now the northern half of Alberta, the northeast quarter of British Columbia, the northwest corner of Saskatchewan, and the area south Great Slave Lake in the Northwest Territories.

### 3.4.2 Land Use Sites

#### 3.4.2.1 Cultural or Spiritual Sites

In reference to the barrenlands, and in memory of the traditional hunting, trapping, and fishing areas along the eskers and lakes, one DKFN member has stated:

*I still have a feeling when I go there, it's like I'm back—it's like I'm home. I don't know if it's a spiritual feeling, but I have a connection with that area (DKFN 2012: 53).*

In 2009, the Taltson Energy Project DAR (Dezé 2009) recognized the importance of hunting, fishing, and trapping to Northern Aboriginal culture, spirit, and identity in the following statement:

*In the NWT, hunting, trapping, fishing and the gathering of resources from the land is the cultural expression of Canada's Aboriginal people. Over time, that expression has changed in response to the socio-economic effects associated with European exploration, the fur trade, and permanent settlement life. That change has not lessened the cultural, spiritual and personal value of hunting, trapping, fishing and gathering resources from the land. Rather, it has intensified Aboriginal people's concern about the well-being of their culture and identity (Dezé 2009: 9.6.20).*

The “Old Lady of the Falls” (Ts’ankui Theda or Parry Falls) is commonly referenced in discussions about spirituality by the LKDFN and the DKFN. The “Old Lady of the Falls” is a waterfall believed to have healing powers and the ability to help hunters by pointing them towards the migrating caribou with the direction of her mists. Many people visit the site annually to be cured of sickness and disease and to seek help (Dezé 2009). Every year there is a spiritual gathering at the falls and Fort Reliance:

*[I m]ade a couple of trips to Reliance. I went to a couple of the gatherings at Reliance. It is a very spiritual place. The people go visit the Lady of the Falls – about 200 people. The first [time] I ever went was when I was 6 years old[,] 15 years ago. I went by boat all the way. [I u]se to back pack it in the past—walk up there...The falls being impacted would be scary. The falls looks like a lady with a dress on (DKFN 2012: 301).*

#### 3.4.2.2 Camps and Cabins

Early explorers have noted the establishment of large Chipewyan camps north and south of Great Slave Lake:

*In a few days, many others joined us from different quarters; so that by the thirtieth of July we had in all above seventy tents, which did not contain less than six hundred persons. Indeed our encampment at night had the appearance of a small town; and in the morning, when we began to move, the whole ground (at least for a large space all round) seemed to be alive, with men, women, children, and dogs. Though the land was entirely barren, and destitute of every kind of herbage, except wish-a-capucca and moss, yet the deer were so numerous that the Indians not only killed as many as were sufficient for our large number, but often several merely for the skins, marrow, &c. and left the carcasses [sic] to rot, or to be devoured by the wolves, foxes, and other beasts of prey (Hearne 1795: 40).*

*...there are 40 Tents of Chepawyans a little way to the Northward of us that they are returning from war with the Esquimeaux & had killed 5 tents of those harmless inoffensive people (Fidler 1934: 532).*

Fur traders' accounts often express frustration caused by the Chipewyan's lack of desire to leave their home in the barrenlands to trade at the forts on Great Slave Lake. Fishing camps were established on main lakes and rivers (DKFN 2012). As trading took on a larger role in the Dene society, more and more families were moving back and forth, north and south of Great Slave Lake. George Simpson noted in 1821 that:

*[T]he Chipewyans do not consider this part of the Country [Fort Wedderburn, opposite Fort Chipewyan on Lake Athabasca] to be their legitimate soil; they come in large bands from their own barren lands situated to the North of this Lake, extending to the Eastern extremity of Gt. Slave Lake and embracing a large tract of country towards Churchill* (Simpson 1821: 3b).

Fort Resolution became a common stop for many Dene to trade furs and meat for European goods in the spring and fall. Due in part to the availability of goods and imposed hunting restrictions to the northeast, families gradually began to settle beside the trading post a little more permanently. By the early 1900s, the numbers of residents at the forts began to increase.

*Before Treaty, we used to come [to Resolution] every summer to sell our furs, so that's the place everybody joins together . . . After we got into Resolution, after we sold our fur, there were lots of people. There wasn't much to eat – no fish or game – so some people left to go back where they could find something to eat. We stayed at the fort* (Abel 1971: 155).

In 1899, Treaty 8 was signed at Fort Resolution and every year, people would travel back to collect Treaty money. For those that settled at Fort Resolution travel into the barrenlands for hunting and trapping continued because caribou remained an important staple:

*These Indians are solely dependent upon fishing and hunting. In view of their nomadic mode of life it is difficult to induce them to take up agricultural pursuits, and they do no farming or gardening, with the exception of a few living in the vicinity of the forts, who raise some potatoes* (Scott 1900: 28).

Today, camps typically consist of canvas or spruce bough tents and are set up for trapping and fishing.

### **3.4.2.3 Travel Routes**

Travel trails, unlike trapping trails, are used by the entire community and shared with other Dene people. Knowledge of the traditional trails have been passed down by families through the generations:

*My mom and dad raised me. They taught me traditional ways, especially my dad, ever since I can remember, 3 years old. [They] taught me to skin moose, fox, ducks, light fires, make camp, traditional routes and [how to] [travel]* (DKFN 2012: 249).

The Deninu K'ue moved in anticipation of the caribou herds, travelling to specific locations every year based upon their knowledge of the herds' seasonal movements. Excess meat was cached and kept cool by the permafrost in areas they planned to return (DKFN 2012).

*The main places where the trappers trap are on the eskers. Where there's still a little bit of trees, little bit of shelter, little bit of firewood. That's where some of the animals will go that we hunt. In the summer, it's lots of rock country, lots of gravel bottom lakes. Very shallow. Some of them have fish* (DKFN 2012: 52).

Many Deninu K'ue walked or used snowshoes as their primary means of travel, especially in the winter. Snowshoes were often made of birch and caribou skin thongs.

Canoes and rafts were also used in the late spring and summer, particularly to hunt moose and caribou. The canoes were built to be light as they were needed for travelling long distances into the barrenlands, including many long portages. Many were stored on the trails along the way (DKFN 2012). One popular and well-known traditional travel route into the barrenlands is known as Pike's Portage. This traditional trail runs through the Lockhart River, Artillery Lake, Aylmer Lake, and the Back (Great Fish or Thlewey Choh) River (Map 1.1-3) (Dezé 2009). To cross large bodies of water, several canoes would be fastened together to create a more stable raft.

In the winter, sleds and sleighs were used to transport hunters and trappers out of the barrenlands:

*In the fall of the year, and as the Winter advances, those people sew the skins of the deer's legs together in the shape of long portanteaus, which, when hauled on the snow as the hair lies, are as slippery as an otter, and serve them as temporary sledges while on the barren ground (Hearne 1795: 323).*

Before the domestication of dogs, women did the heavy labour of pulling the sleds and supplies out of the barrenlands. Today, access into and out of the barrenlands is facilitated by the use of skidoos, access provided by the Tibbitt to Contwoyto Winter Road, and even airplanes (DKFN 2012).

The Dene knowledge of the barrenlands is represented by early explorer's accounts of their guides and journeys. In 1889, a group of "Yellow Knife" Indians accompanied hunter Warburton Pike into the barrenlands along MacKay Lake, passed Lac de Gras and Lac du Sauvage, as far as the 66<sup>th</sup> parallel to hunt muskoxen (Dezé 2009). It is also clear from Hearne's accounts, for example, that the Copper Indians of the Great Slave Lake region were travelling deep into the barrenlands as part of their seasonal rounds (DKFN 2012). Their knowledge was derived from generations of travelling the same routes and paths:

*Notwithstanding the intricacy of the road, there is a very visible path the whole way across these mountains, even in the most difficult parts: and also on the smooth rocks, and those parts which are capable of receiving an impression, the path is as plain and well-beaten, as any bye foot-path in England. By the side of this path there are, in different parts, several large, flat, or table stones, which are covered with many thousands of small pebbles. These the Copper Indians say have been gradually increased by passengers going to and from the mines (Hearne 1795: 132).*

Oral histories of DKFN members also allude to the extensive traditional use of the barrenlands, including the areas around the Ekati Mine:

*My uncle, Angus Delorme, he always used to tell stories about trapping way out in the Barren Lands...[H]e used to talk about the Barren Lands all the time and I used to hang around with him. I travelled all along the lake with him.*

***He went almost up to Caddy [sic][Ekati] Diamond mine there?***

*Ya, he used to trap on the Barren Lands. And, he used to tell me stories about trapping on the Barren Lands (DKFN 2012: 259).*

The Lac de Gras area has been identified by DKFN members as a modern location for hunting:

*[I] Went out to the Gordon Lake area. [Took the ice] road to Snap Lake—to Ekati [mine]—a few years ago in about 2002. [I went with a] couple of guys from L[utsel] K[e], one from McPherson. [We] got 2 caribou that day...[I have] hunted all the way from Ingram Trail to between Mackay Lake and Lac de Gras (DKFN 2012: 270).*

*Well whenever they come close, close enough that's where we hunt them...I've been all the way up toward Caddy [Ekati mine].*

**Near Lac de Gras?**

*Yes. I travelled all over the lake (DKFN 2012: 271).*

*We used to hit up all the Contwoyto lake, and to Lac du Sauvage, that would be the edge of the area, up from the top of Mackay Lake (DKFN 2012: 283).*

**How often do you go out to hunt?**

*All fall, all of winter. During that time we hunt the moose. And caribou we hunt twice a year.*

**Where do you go?**

*Up towards Snowdrift, we take the winter road to Lac de Gras up towards Gord[o]n Lake area...we also go to Lockhart Lake (DKFN 2012: 285).*

As noted by the YKDFN, DKFN community members have identified traditional trails into the barrenlands along the same routes used today by the winter roads:

*I went out to the mine . . . probably Lac la Gras. It was the first mine [site] we pulled up to (Same route as the father)[.] The caribou are always by the ice road, along the side (DKFN 2012: 291).*

*...some of the road that they use, are built on the old caribou trails. Back then they used to just travel with dog team. I'm sure there's traces of Chipewyan people up there. Like camp grounds, and part of a harness, or an axe head and knives. [S]tuff like that (DKFN 2012: 306).*

### 3.4.3 Knowledge and Use of Resources

This section includes a discussion of the resources, including water, minerals, wildlife, fish, birds, and vegetation traditionally used by the DKFN. Each section includes information on TLU practices as well as TK as recorded in publicly available documents.

The region north and northeast of Great Slave Lake, along the Coppermine River, and into the barrenlands supported an abundance of wildlife and was highly valuable to the local First Nations who used it.

### 3.4.3.1 Water

The barrenlands is a maze of waterways that the Dene used for themselves, for hunting, trapping, fishing, and for summer travel. Bodies of water were also used as reference points, geographical boundaries, and as a means of self and group identification. Water is the home of the fish, the beaver, and the muskrat; it is important for preparing food; and water crossings are important caribou hunting areas:

*The Barren Lands to me just looks like, lots of fresh water, at one time, like when the ice melts and all that runs down. It's just like lakes, lakes, lakes, lots of fresh water. Really clear. To me that's where all our clean water is coming from (DKFN 2012: 52).*

In the 1920s, the Deninu K'ue reliance upon the waterways feeding into the barrenlands for trapping beavers and martens and hunting of caribou was illustrated by their desire to remove white trappers from the area (DKFN 2012). Responses to hydroelectric developments south of Great Slave Lake in the 1980s also highlight the importance of water and water flow to local hunters and trappers who expressed concerns about changing water levels and the impact on muskrat and beaver habitat. Some witnessed the massive drowning of game during the winter release of waters over the dams (Dezé 2009). Today, the DKFN continue to express concerns about the impacts of development on the quality of their water:

*At Snap Lake, the water flows this way [toward the Arctic Ocean] but then flows back down to Great Slave Lake (takes about 8 years) so we're eventually affected by the water (DKFN 2012: 311).*

### 3.4.3.2 Wildlife

Species of particular importance to the DKFN and their ancestors both traditionally and for participation in the trading economy have included the caribou, fish, Arctic fox, hare, fox, wolverine, wolf, muskox, beaver, muskrat, marten, mink, otter, and lynx. A number of these species range seasonally between the barrenlands and the forest. These include the red fox, wolf, barren-ground caribou, and wolverine. Animals found exclusively on the barrenlands include the muskox, Arctic hare, and Arctic fox. Today, the DKFN continue to hunt and trap many of these species and sell the pelts at fur auctions through the GNWT (DKFN 2012).

#### 3.4.3.2.1 Caribou

The Bathurst caribou herd is the herd most often exploited by the DKFN. The traditional seasonal patterns of the Dene depended largely on the movements of the caribou. A harvested caribou provides meat, furs, skins, sinew, bones, and antlers. Caribou hide was used for tents, clothing, snowshoes, sledges, snares, and babiche; caribou bones and antlers were carved into tools; and the caribou meat was used for food. When the trading posts became established, caribou hide was not a sought after commodity, but caribou meat was an important source of provision. All the meat was (and still is) taken home to share with other members of the family and the community. Caribou meat is often kept frozen in the winter, or dried and smoked in the summer to keep it preserved (DKFN 2012).

The caribou hunt is an important event for the entire family. Older generations pass their knowledge on to the children so that they can one day support themselves if need be. Local knowledge of the caribou and its behavior can be very detailed. Dragon (2002), for example, has noted discrete changes in caribou temperaments and approachability based on season, temperature, and herd characteristics (Dezé 2009).



Caribou skins continue to be used by members of the DKFN. The DKFN "[u]sed to wear caribou skin gloves; everyone used to get gifts: gloves, moccasins, blankets, etcetera of caribou skin."; "jackets, shoes, [and] clothing"; "[s]hoes, mitts, vests, slippers, hats, [and] jackets. Everything you could use the hides for. Dresses. A lot of people got married in caribou hide dresses."; "nobody threw the hides away. Nobody got shoes in the store" (DKFN 2012: 72).

A special delicacy when preparing freshly harvested caribou was the boiled caribou stomach, its contents, and blood. The stomach would later be hung and smoked for several days (Hearne, 1795). Dried meat was also an important source of food while travelling. In the summer, caribou were often hunted from canoes using long sticks and spears (DKFN 2012).

The DKFN were told by their ancestors to hunt with care and regard for the future of the caribou:

*Elders say that when caribou pass a camp on their way south from the summer grounds, people should let them pass for a day before beginning the hunt. They believe that by letting the leaders pass by and hunting from the middle of the herd, the migration of the herd will not be disturbed. If the lead caribou are killed, the herd may change its migration route (GNWT n.d in DKFN 2012: 64).*

*If we killed all our leaders we would be confused too (DKFN 2012: 64).*

The DKFN have expressed concerns about the mines and the ease of access now provided by winter roads. They believe that the mines, increased traffic, noise, and hunting have affected the caribou migration (DKFN 2012):

*In 1996 it was the year I saw the most caribou around Caddy [Ekati] mine. The environmental people said it was a herd of about 10,000. It came through one evening and the hills in front of the camp were just full of caribou. It looked like the hills were moving. That was the only year I've ever seen caribou like that at the Caddy [Ekati] diamond mine. A few years after the mine started the caribou stopped coming through there. They found somewhere else, they go somewhere else... they're built right on the migratory route. That's what I gathered when I saw them on the BHP property (DKFN 2012: 306).*

### **3.4.3.2.2 Other Large Animals**

Buffalo, moose, and muskoxen were hunted to supplement the caribou hunt. Muskoxen are found exclusively on the barrenlands, while buffalo and moose are found almost exclusively south of the treeline (DKFN 2012). Unlike the caribou, moose were often chased down because they were "so tender-footed, and so short-winded" and easier to catch, especially in early March when the snow had a hard crust on its surface (Hearne 1795: 382). After a long chase, the women would leave camp to collect and dismember the animal to share with the group (Franklin 1924).

Muskoxen were taken as required while travelling on the barrens, but its meat was less favorable than that of the caribou. Its fur, however, was a valuable trade commodity resulting in the over-harvest of muskoxen in the late 1800s and early 1900s. Muskoxen were hunted by the Deninu K'ue in groups of approximately ten men who would travel long distances in search of them. In an effort to preserve the species, the Government of Canada banned muskox hunting in 1917, and in 1927 established the Thelon Game Sanctuary to protect the last remaining muskoxen along the Thelon River (Bradley et al. 2001). Since that time, the population has rebounded and the hunt of muskoxen has been reinstated. Today, the DKFN travel to the Thelon River basin to hunt them (DKFN 2012).

### **3.4.3.2.3 Furbearing Animals**

Snares have been traditionally set on traplines to catch small furbearing animals such as beavers, muskrats, and hares. Fur-bearing animals are caught largely for their fur, which provide income and were valued as trade items by the Hudson's Bay Company by the late 1700s. The meat is also often used for food and bait. Oftentimes, children begin hunting small game and furbearers, such as squirrels, muskrats, beavers, and hares in preparation for the hunting of larger animals (DKFN 2012).

#### **Wolf and Wolverine**

Wolves range throughout the NWT and are most abundant where barren-ground caribou winter. According to members of the DKFN, the wolves eat the caribou, and the wolverines and foxes eat the wolves' leftovers. Today, members of the DKFN hunt white wolves for their fur:

*I shot a few white wolves. When there's a herd of caribou around they will hang around. They all follow the caribou around. Wolverines and foxes hang around too. They take the food away from the wolves (DKFN 2012: 110).*

Wolverine can be found throughout most of the NWT and were trapped and traded regularly in the 1800s. According to the DKFN, most wolverines are hunted rather than trapped and, despite their highly valued fur, most are taken opportunistically (DKFN 2012).

#### **Fox**

The Arctic fox lives throughout the barrenlands and can be found denning between March and August when it disperses in search of food. The coat of the Arctic fox changes with the season so that it protects the animal against the harsh environment and can blend into its surroundings. During the early to mid-1800s, Arctic fox pelts were quite valuable, and during the early 1900s Arctic fox trapping likely increased due to the decline in muskox populations. The trapping season for the Arctic fox typically extends from November to April and coincides with the caribou hunt on the barrenlands:

*Ya, when you go for caribou you take some traps with you. You set some on the way, and on the way back you get your fur" and "All the people from Res go to the Barren Lands to hunt white fox. Everybody in those days went out hunting white fox and harvesting caribou . . . Every year we used to get caribou (DKFN 2012: 99).*

The red fox can be found denning at the same time as the Arctic fox, and can be found both north and south of the treeline. Its coat depends on the individual and ranges from red to grey-brown to silver. The silver variation is the least common. Red foxes were harvested regularly through the trading days and continue to be hunted from early November to late February in areas below the treeline, and from early November to mid-April in the barrenlands (DKFN 2012).

## **Other**

Beaver furs were the standard by which all other furs were valued, and beavers were trapped year-round. Trapping continues today and, based on the location of the beaver lodges and dams along rivers and streams, they are generally easy to locate. Muskrats and otters can also be found around or using beaver lodges and can therefore be easily captured. Beaver and muskrat furs remain valuable for trade but the meat is also good to eat (DKFN 2012).

Arctic and snowshoe hares are more commonly caught for their fur but have also been known to supplement the Yellowknives Dene and Chipewyan diets, particularly in the fall when they are feeding on berries. The Arctic hare is found exclusively on the barrenlands (DKFN 2012).

### **3.4.3.2.4 Fish**

Fish were the second most important food for the DKFN after caribou and were harvested year-round both north and south of the treeline. Traditionally, the DKFN fished for whitefish, trout, pike, coney, loche, and sucker, but preferred eating trout and whitefish. The DKFN typically catch fish by angling or setting nets year-round (DKFN 2012). Drying fish was a common practice in preparation for winter and the trapping season. Dry fish was used as food for people and dogs, or it was made into pemmican (De Beers 2010).

### **3.4.3.2.5 Birds**

The DKFN hunted geese, ducks, grouse, and ptarmigan. Geese were a staple in the spring and fall when they can be found in large migrating flocks. Before the spring migration, ptarmigan were an important food source. Traditionally, these birds were trapped using snares. Often, children began hunting the small game, such as grouse and ptarmigan in preparation for the hunt of larger animals (DKFN 2012).

### **3.4.3.2.6 Plants**

Aboriginal people throughout the NWT use plants as part of their traditional lifestyle for food, shelter, ceremonial, and medicinal purposes. Trees, shrubs, berries, moss, and lichens are harvested as available and as required.

## **Wood**

Wood was an important resource for travelling in the barrenlands due to its extreme scarcity. Sometimes a little bit of wood could be collected for fires where eskers provide shelter to support their growth. For the most part, wood would have to be carried into the barrenlands (DKFN 2012). During Franklin's northern expeditions, he recorded that:

*[Akaitcho] stated likewise that six days would be required for the march to the Copper Mine River, and five more, before any wood would be found. Until the expiration of this time, the Party could not expect to have Fires, because we should find no trees after quitting the borders of this lake [Winter Lake]. The Indians, he said, only travelled this road [to Coppermine River] in Summer (Franklin 1995: 50).*

Wood was also used for the development of elaborate caribou traps and in the construction of snowshoes, spears, sleds, canoes, floors, and shelters (DKFN 2012). Birch syrup was collected (De Beers 2010), and wood was sometimes used for food and medicine. Willows were especially useful and could be used in place of tobacco or as an insect repellent (Andre and Fehr 2002).

## Berries

Berries are an important food source for many animals, particularly hares, and can affect how an animal tastes during different seasons:

*The flesh of those [Snowshoe] Hares is generally more esteemed than that of the former [Arctic Hares]. They are in season all the Winter; and though they generally feed on the brush of pine and fir during that season, yet many of the Northern Indians eat the contents of the stomach. They are seldom sought after in Summer, as in that season they are not esteemed good eating; but as the Fall advances they are, by feeding on berries, &c. most excellent (Hearne 1795: 384).*

Berries are also eaten by people, and as children, DKFN members recall eating “wildfoods,” which included berries (DKFN 2012). Berries were eaten fresh, or were preserved by drying, canning, or freezing (De Beers 2010). Berries were also collected as a form of medicine and used as a dye (Andre and Fehr 2002).

## Lichen and Moss

When wood was not available in the barrenlands, burning moss was the only hope for having a fire (DKFN 2012). Lichen could also be eaten and used as medicine, while moss was used as a cleaner and as diapers (Andre and Fehr 2002). Lichen and moss are important food sources for many animals, particularly caribou, and can affect how an animal tastes during different seasons (DKFN 2012). As Samuel Hearne recorded in 1795:

*In Winter, when the deer feed on fine white moss, the contents of the stomach is so much esteemed by them, that I have often seen them sit round a deer where it was killed, and eat it warm out of the paunch. In summer the deer feed more coarsely, and therefore this dish, if it deserves that appellation, is then not so much in favour (Hearne 1795: 316).*

This important food source for caribou, according to DKFN members is being affected by the development of the mines and the winter roads causing them to change their migration patterns:

*The lichen has been burnt (takes 100 years or so to grow back) in the 1980s forest fire by Rocher River. That's why the caribou don't come back to Rocher River no more but they used to (DKFN 2012: 295).*

*Before the mines they used to move around everywhere. It takes the lichen a long time to grow. But now the chemicals from the mine are infecting their food (DKFN 2012: 311).*

## Medicinal Plants

As mentioned above, many types of vegetation were collected for its medicinal values including aspen, spruce, pine, birch, tamarack, willow, alder, berries, Labrador tea, rose, bulrush, and lichen (Andre and Fehr 2002).

*We used the spruce gum for burns. We boiled the spruce gum before putting it on the burn and the burn would heal up well. Spruce gum was used for deep cuts as well. They put the spruce gum on a piece of cloth or hide then pressed the edges of the cut together and placed the cloth over the cut. They tied the cloth on until the cut was healed up. For infections, we used to scrape all the juice off of the spruce bark and put it on the infection while the juice was still fresh. It would suck all the pus out* (Fort Resolution Elders 1987: 67).

*I was taught that if someone was spitting blood they should drink the liquid of boiled spruce gum* (Fort Resolution Elders 1987: 67).

## 3.5 Fort Resolution Métis

The Fort Resolution Métis are members of the NWT Métis Nation (NWTMN) that now live in the Fort Resolution area, south of Great Slave Lake. The indigenous Métis have a distinct history, culture, community, and way of life that has been established and affirmed through intermarriage with local Dene and other Métis, and the continued use of lands and resources throughout the NWT since the late 1700s. The Métis played an important role in establishing many NWT communities, typically in association with trading posts as they participated in the subsistence and wage economies as hunters, fishers, trappers, guides, translators, middlemen, pilots/captains, and labourers (NWTMN 2014).

This section summarizes the available TLU and TK information related to the Fort Resolution Métis. The available information, however, is not specific to the Fort Resolution Métis and is applicable more broadly to Métis as a whole. A TK study specific to the expansion Project has not been done by the Fort Resolution Métis. Therefore, information documented in this section has been identified from existing sources. This information is presented under three headings:

- seasonal use cycle;
- land use sites; and,
- knowledge and use of resources.

### 3.5.1 Seasonal Use Cycle

In the Traditional Use Study completed by the NWTMN for the Gahcho Kué Mine, a combination of historical literature and information collected during community meetings was used to identify evidence of the traditional and ongoing use of the lands north of Great Slave Lake by indigenous Métis since the late 1700s. Evidence of Métis land use presented for the Gahcho Kué Project extends at least to the MacKay Lake and Aylmer Lake areas; however, this evidence does not suggest that the Métis did not use and occupy the lands further north around Lac de Gras and Lac du Sauvage (NWTMN 2012).

The seasonal migrations of the Métis may be somewhat less distinct than those of their First Nation counterparts, but the NWT Métis, including the Fort Resolution Métis, do rely heavily on caribou and other game for regular sustenance for themselves and their families. In the winter, muskoxen were traditionally harvested on the barrenlands by the Métis, and today, many Métis continue to use the winter roads to access the barrenlands in search of caribou and Arctic fox (NWTMN 2014).

In addition to hunting, fishing, and trapping, many Métis were traditionally employed by the trading posts and explorers and adventurers travelling into the north throughout the 1800s and 1900s. Ancestors of today's NWT Métis include the guides, hunters, and interpreters that led the successful expeditions of Alexander Mackenzie, Peter Pond, and Sir John Franklin through the Mackenzie River, Great Bear Lake, and the Coppermine River to the Arctic coast (NWTMN 2000).

### 3.5.2 Land Use Sites

Métis knowledge of the waterways is evident in the development of transportation routes and methods in the NWT:

*[The Métis] were famous long-distance canoemen, who showed traders new and shorter routes to the fur country. After 1826, [they] were York boatmen, and captains of brigades. And, from 1883 when steam boats came to the region, we were boat-builders, woodcutters, trackers, deckhands, and pilots like the legendary Johnny Berens (NWTMN 2000).*

The NWT Métis continue to access the barrenlands using several traditional trails stemming from Great Slave Lake. Routes leading from the Taltheilei Narrows, Fond du Lac (Lutsel K'e), MacLeod Bay, Artillery Lake, and Yellowknife remain passable. Once in the barrenlands, eskers provide a good travel surface, offering solid ground, good visibility, and relief from insects due to wind exposure (NWTMN 2012).

### 3.5.3 Knowledge and Use of Resources

This section includes a discussion of the resources, including water, wildlife, fish, and vegetation traditionally used by the NWT Métis. Each section includes information on TLU practices, as well as TK as recorded in publicly available documents.

The region north and northeast of Great Slave Lake, along the Coppermine River, and into the barrenlands supported an abundance of wildlife and was highly valuable to the local Métis who used it.

#### 3.5.3.1 Water

Members of the NWTMN, including the Fort Resolution Métis, have traditionally depended on waterways throughout the NWT for clean drinking water and for travel to and from the barrenlands. Members of the NWTMN indigenous Métis have expressed concerns about the quality of the water being discharged from the mines and the quality of water that will result after closure (NWTMN 2012).

### **3.5.3.2 Wildlife**

Species of particular importance to the NWT Métis and their ancestors both traditionally and for participation in the trading economy have included caribou, fish, beavers, muskrats, hares, and other furbearers. A number of these species range seasonally between the barrenlands and the forest. Today, the NWT Métis continue to hunt and trap many of these species and sell the pelts at fur auctions through the GNWT.

#### **3.5.3.2.1 Caribou**

The caribou migration typically follows a south-southwesterly direction in the fall out of the barrenlands, and a north-northeasterly direction in the spring. These migrations have typically crossed through Aylmer Lake and the surrounding area where their trails can be seen embedded in the landscape (NWTMN 2012).

Caribou were regularly found in plenty around Gordon Lake and MacKay Lake, but have been found less commonly in these areas over the past few years. The Métis acknowledge the natural movement of the caribou through time but stress the significance of maintaining sufficient suitable habitat to support healthy populations and the successful adjustment of the herds as the move. A healthy caribou herd will continue to provide healthy foods for the Métis people. The presence of the mines and access roads have been identified as potential stressors for the caribou and, as a result of recent evidence suggesting caribou are overwintering on the barrenlands, may present a danger or barrier to the animals while winter traffic is active (NWTMN 2012).

#### **3.5.3.2.2 Furbearing Animals**

Snares have been traditionally set on traplines to catch small furbearing animals such as beavers, muskrats, and hares. The meat is often used for food and bait but fur-bearing animals are caught largely for their furs, which provide income and were historically valued as trade items by the Hudson's Bay Company in the late 1700s.

#### **3.5.3.2.3 Fish**

Subsistence fishing supplemented the Métis diet in addition to the hunting and trapping of large game and furbearers. This subsistence fishing continues today throughout the Great Slave Lake region. Impacts from mining development, including changes to hydrological regimes, have raised concerns for NWT Métis. The potential impacts on fish, in particular, have been identified including the overall sustainability of fish populations and the long-term impacts on fish health as a result of lost habitat and changes in migration patterns (NWTMN 2012). The NWT Métis would like to maintain healthy fish populations to continue supporting their traditional subsistence fishery (NWTMN 2014).

#### **3.5.3.2.4 Plants**

Métis people throughout the NWT use plants as part of their traditional lifestyle for food, shelter, tools, ceremonial, and medicinal purposes. Trees, shrubs, berries, mosses, and lichens are harvested as available and as required (NWTMN 2012).

### 3.6 North Slave Métis Alliance Traditional Land Use

The NSMA represents Métis that now live north of Great Slave Lake, typically in the Yellowknife area. Traditionally, the members of the NSMA travelled throughout the North Slave Region trading, trapping, hunting, and fishing. For generations, the Métis have depended on the land and what it has to offer. Everything needed for physical, economic, social, cultural, and spiritual well-being was provided by the land.

Unlike the Akaitcho Dene and the Tłı̨chǫ in the region, the NSMA way of life emphasized the fur trade and many men worked for fur trade companies as labourers, boatmen, guides, traders, transporters, and translators. In this role, they acted as interpreters and intermediaries between the Aboriginal people and the Euro-Canadians. To this day, wage incomes are supplemented by harvesting local resources, including caribou, furbearing animals, fish, and birds (Stevenson 1999).

Métis voyageurs and coureurs de bois arrived in the Mackenzie Valley in the mid-eighteenth century, just ahead of the first wave of European fur traders who established their first camps on Great Slave Lake in the 1780s. Members of the NSMA trace their ancestry through two founding families: the Laffertys and the Bouviers, both based on the 18th century unions between Dene women and French or Cree men. By the 1790s, people of European ancestry had begun to establish a sufficiently persistent presence in the Great Slave Lake area that the first signs of local mixed-ancestry family formation appear. By 1800, several mixed-ancestry children had been born in the region, and Europeans had established a limited year-round presence centred on trade posts (Jones n.d.).

As the Métis established themselves as an integral part of the fur trade economy and a link between the emerging populations, they began managing trading posts and accompanying explorers and scientists further north as guides and translators (Bohnet 1995). Early explorers, surveyors, sportsmen, and trappers began passing through the region, mapping the geography and searching for interior routes to the barrenlands, as well as the Arctic and Hudson Bay coasts (Novecosky 2011).

With the transition from the trade economy to one based largely on resource development and government services, contemporary Métis are spending less time on the land. This change, however, has not diminished the value or importance that land and animals hold to the NSMA.

This section discusses information related to the NSMA. A TK study specific to the expansion Project has not been done by the NSMA; therefore, information documented in this section has been identified from existing sources. This information is discussed under three headings:

- seasonal use cycle;
- land use sites; and,
- knowledge and use of resources.



### 3.6.1 Seasonal Use Cycle

After contact, the fur trade became the centre of the NWT economy. According to the NSMA, the typical seasonal cycle of the Métis men was to work for the fur trade companies in the summer trading with locals and moving furs and supplies, and to work on the land hunting, trapping, and fishing for the remainder of the year. The women typically remained near the forts: tending gardens, netting fish, snaring and trapping birds and small game, preparing furs and hides, and making dried meat and fish. (Stevenson 1999). Everybody had a job:

*In our community there always was hunters and there always was fishermen and there always was woodcutters and different people, skilled at different aspects that brought something into the community. Not everybody fished, not everybody hunted to the degree that others did. Some other people that's all they did was hunt. Other people all they did was trap and other people they just gathered wood and others gathered berries, others ventured from community to community, they raised dogs, others provided fish for dogs. Everybody had a different job in those days in the community. Like my mother, for example, her job for her and her sisters was to feed dogs, so they had to fish, dry fish, put away fish, freeze fish - all those things (Stevenson 1999: 36).*

#### 3.6.1.1 Fall

For Métis working with trading companies, the fall was a time for working with traders and shipping goods south. For those that lived off the land, the fall caribou hunt played a prominent role: "Fall hunt, everybody goes... Years ago that's the way it used to be and the families are still close together that way" (Stevenson 1999: 191).

#### 3.6.1.2 Winter

Throughout the winter, many Métis hunt, trap, and fish: "Winter-time we already have community hunts for caribou" (Stevenson 1999: 276). The North Arm of Great Slave Lake was once important habitat for wintering caribou. "It's always a happy time to be able to go out and get some caribou, a family activity, when they're close in access is easy, winter hunting" (Stevenson 1999: 98).

#### 3.6.1.3 Spring

Spring is a good time for hunting, fishing, and trapping: "When we go on the spring hunt together, the whole family used to go" (Stevenson 1999: 191). The caribou migrate through Métis lands toward the calving grounds in the spring and geese and ducks migrate north.

*In the old days everybody used to get together at certain times in spring. It would be nice to get everybody out to a spring hunt somewhere. Get geese and that (Stevenson 1999: 276).*

Métis have expressed concerns about changes in their ability to participate in the spring hunts:

*I mean it's gone and over with here very fast in the spring, you've just got a few days basically to do it, there's really only a couple of days that are really any good. You miss that day, that's it. No geese for you. Or moose hunting time. It's a little bit longer. There's other opportunities I guess. You need to rely on somebody else to be there to take advantage of those times if you were away (Stevenson 1999: 161).*

### **3.6.1.4 Summer**

In the summer, Métis employed by trading posts were involved in the freighting of provisions by boats between posts. Métis also became free traders and middlemen, trading between the Dene on the land and the established Hudson's Bay Company posts. For those not involved in the trading industry directly, trapping became a steady occupation. The NSMA suggest that the Métis used trap lines more intensively than their Dene neighbors, who were largely caribou hunters, trapping mainly to obtain supplies (Stevenson 1999).

### **3.6.2 Land Use Sites**

The NSMA state that the land should be protected as much as possible so that it can be used for traditional pursuits again in the future. The NSMA point to the French names of the lakes in the area as having Métis influence, and recall the stories of Elders and forefathers who would travel to Lac de Gras to trap and hunt muskoxen for subsistence and the fur trade industry (Stevenson 1999).

#### **3.6.2.1 Cultural or Spiritual Sites**

Based on available literature, no Métis sites of cultural, historical, or spiritual significance were identified within the Ekati claim block. Métis cultural sites are more likely to be located near Fort Rae (including Old Fort Rae), Yellowknife, Fort Resolution, and Fort Providence (Map 1.1-1). According to Stevenson (1999), it is not common to find Métis graves in the barrenlands because if a Métis person passed away, the body was usually returned home.

#### **3.6.2.2 Camps and Cabins**

The Métis were more sedentary than their Dene counterparts, establishing homes near trading posts where women and children generally fished and procured local resources. Métis families were often issued supplies or housing from the posts as conditions of their service (Stevenson 1999). However, the establishment of the posts did depend on certain criteria:

*While ample supplies of wood and particularly fish figured importantly in the selection of the site, access to caribou, which passed by during the fall and spring migrations, was its greatest attraction (Stevenson 1999: 29).*

When setting out in large hunting parties, women would often carry baggage and set up tents. Métis who were employed by a trading post would often go out to live for weeks at a time with groups of Dene so that they would hunt and bring their furs into the post (called living en derouine) (Jones n.d.).

#### **3.6.2.3 Travel Routes**

Oral histories and the primary records of the Hudson's Bay Company indicate that Métis land use and "tripping" in the North Slave region was extensive, taking in nearby lakes, as well as areas as distant as the barrenlands. Unlike the Dene, it was less common to see entire Métis families travel "into the bush" and onto the barrenlands to hunt, fish, trap, trade, or explore.

Métis today believe that their ancestors hunted and trapped as far north as Lac de Gras and think that they may again need those lands in the future. The Métis have provided recommendations to developers building their own access routes and infrastructure in the barrenlands (Stevenson 1999). They suggest that wherever possible, the ground be left undisturbed and that roads and buildings be built directly on top of the ground so as to reduce any impacts on permafrost:

*If you are going to make a road, the best way is to just leave it the way it is because once they touch it, the permafrost will come out and then it will never work right. If they get the go-ahead, just build right on top. That's what we did when we build roads*  
(BHP 1995a: 5).

### 3.6.3 Knowledge and Use of Resources

This section includes a discussion of the resources, including water, wildlife, fish, birds, and plants traditionally used by the Métis. Each section includes information on TLU practices as well as information as recorded in publicly available documents. The extent to which Lac de Gras was used by Métis has yet to be documented.

#### 3.6.3.1 Water

Water was an important link and means of transportation for the Métis. Many Métis who came north began as coureurs de bois. Later, Métis were employed as York boat operators, provisioners, deck hands, or portage pullers for the trading companies. When steamboats replaced the York boats, some Métis collected wood while others became steamboat operators or began offering their own freighting services north and south of Great Slave Lake (Stevenson 1999).

In the Ekati claim block, the names of the lakes and prominent features suggest a French-Métis influence: Lac de Gras, Lac du Sauvage, and Pointe du Misère. Métis hunted, trapped, and acted as guides for explorers and scientists in the barrenlands, using waterways and traditional travel routes, likely shared with the Dene (Stevenson 1999).

Métis have said that Lac de Gras: “has got to be one of the crown jewels of our lake country up here and it's a major sacrifice to see that degraded” (Stevenson 1999: 133). They anticipate that any negative impacts on the water will continue to accumulate, indirectly affecting the Métis community who use the land and resources in another area: “It would be bothersome, it would trouble me because you start linking what's happening here, what has happened here and potentially happening over there, and further downstream” (Stevenson 1999: 135). The Métis have strongly suggested that developers in the area be wary of their dikes and monitor them to confirm that contaminants and tailings are not being released from the mine site storage areas into the water system (BHP 1995a).

#### 3.6.3.2 Minerals

Métis have been involved in mineral exploration in the NWT since 1789 when Alexander Mackenzie identified coal deposits along the Mackenzie River. Until recently, many Métis were employed as prospectors and have exhibited their experience with mineral exploration and development in their assessment of the impacts of mining during the environmental assessment process (BHP 1995a).

### **3.6.3.3 Air**

During ongoing community meetings, members of the Métis community have expressed concerns about the impacts of the Ekati Mine on air quality.

### **3.6.3.4 Wildlife**

#### **3.6.3.4.1 Caribou**

Caribou is an important part of the Métis culture and diet. Many Métis have complained about their growing dependence on store-bought meat and the health and cultural implications of having to change their diet. The Métis are concerned about the impacts that mining developments are having on the caribou herds, their health, and their migration patterns. The Métis have expressed their concerns about caribou mortalities near Ekati (IEMA 2011) and they are concerned that they may no longer be able to access the caribou as they once did.

Métis knowledge of caribou range and behavior as they travel provides insight into on the caribou use of lands from Great Slave Lake to Bathurst Inlet:

*It's a big migration of caribou that goes through. They start from near Bathurst Inlet around the last week of July. About the 25th of July to the first of August, they will hit Pellatt Lake and go along Contwoyto Lake. Then they go around and head northwest of Fort Rae, maybe a hundred miles (BHP 1995a: 3).*

Métis have identified the islands of Lac de Gras as important resting and grazing areas for the migrating caribou, they recall hunting in the area of Contwoyto Lake, and they have discussed the importance of Lac de Gras to the caribou migration:

*It is right in the middle of their migration route. When they are travelling south and heading back home to their calving grounds in the spring, the Lac de Gras area is right dead centre (Stevenson 1999: 107).*

Others suggest that Lac de Gras is an unreliable area for depending on caribou and that developments in the area will not seriously affect the migration:

*Lac de Gras is kind of a bad place because sometimes you get caribou and sometimes you don't. There were trappers that lived there long ago, maybe 50 or 60 years ago. White trappers went out there and just about starved because the caribou didn't come. They changed their migration. The mine is not going to affect them (BHP 1995a: 4).*

*If it [the mine] is on their migration route, they [caribou] would probably just pass through camp (BHP 1995a: 5).*

Whenever it is available, caribou are shared between friends and families; children were raised on fish and caribou and the very act of sharing the meat promoted cultural well-being and solidarity for the Métis. All parts of the caribou were used:

*Make jacket. Make moccasins. Moose hide. Make moccasins from it, but top we put caribou hide. Yeah. And we make a vest. The old timer, when you go trapping. My Mom, I remember make a vest with caribou hide, not to get cold. Everything, they make (?) out of moose hide and then dog harness with caribou hide. They make babiche with caribou hide. All kinds of things they made sleigh, snowshoe. ...And when caribou meat's good they make dry meat, make everything, they make stew meat. All the things they make with one caribou. They don't throw nothing away. Everything, the bones, the feet, the bones that were from the feet, big cords. They [put] that in the tepee tent. They dry that with little bit smoke, smoke `em. And after they put away. Summertime, when they want some soup they boil, they boil, they boil, it get really soft... (Stevenson 1999: 95).*

The diet and health of the North Slave Métis would change if caribou are negatively affected, as would social relationships of the Métis themselves. Caribou are an important source of sustenance and a catalyst for social interaction between friends and between generations.

The Métis have seen how the gold mining activities in the Yellowknife area have affected the caribou migrations. Old Fort Rae, on the North Arm of Great Slave Lake was established largely because of the reliable availability of caribou. Today, the caribou no longer migrate through the area. Forest fires also affect the habitat of the caribou, changing their travel routes. The Métis fear that the cumulative effects of the diamond mines and other disturbances will further affect the caribou migrations, health of the herd, and population. In addition to disturbances to the migration patterns, the Métis have expressed concern about the direct impacts of dust, the presence of the large open pits, increased traffic, and improved hunting access (Stevenson 1999).

The Métis believe that the presence of the diamond mines will push the caribou migration east, making it more difficult for people to hunt:

*All these mines will affect our caribou. Maybe they're [caribou] gonna go east someday instead of towards our community anymore. They're probably gonna do that.... Yeah, they're probably gonna go this way [east] pretty soon if these mines get put up. People wouldn't like that because we won't see no caribou in our area anymore. Every one of them will be on the east side, and we're gonna go a long way to hunt caribou for sure (Stevenson 1999: 118).*

Others thought it might split the migration around the mines towards Great Bear Lake in the west and Lutsel K'e or Saskatchewan in the east.

#### **3.6.3.4.2 Other Large Animals**

The Métis participated in muskoxen hunting for the Hudson's Bay Company in the late 1800s. This hunt took them northeast and into the barrenlands. Between trapping in the north and muskoxen hunting on the barrens, it is very likely that the old Métis knew and used the lands around Lac de Gras. Métis have provided knowledge about the movements of the muskoxen in relation to the caribou:

*They'd [the caribou] come through for days right passed the tent. Of course the musk-ox disappear because they know that the caribou are there, that means the wolves are there. After the caribou have gone through the musk-ox shows up again (Stevenson 1999: 107).*

As referred to above, moose also play an important part in the Métis diet and as part of Métis culture. Moose and caribou hide are used for clothing and moccasins (when travelling long distances a man could go through a pair of moccasins in a day). Sinews were extracted from large game and prepared for use in snares, snowshoes, clothing, and equipment (Jones n.d.).

The Ekati area has been identified by the Métis as good grizzly bear habitat: “The grizzly bears, they den up and stay in the area, they don't migrate anywhere” (Stevenson 1999: 137). The bears den in the sand and gravel hills (eskers) in the vicinity of Lac de Gras (BHP 1995a). The Métis identify the possibility that the bears in the area might be attracted to the smell of garbage around the mine and suggest that changes in the fat content and grizzly bear behaviour could be used as indicators or signals that they are under stress (Stevenson 1999).

### **3.6.3.4.3 Furbearing Animals**

Because of their close affiliation with the fur trade, the Métis, have always relied heavily on trapping for food, furs, and as an economic base:

*...They're all important to me, and they all have their reasons for being on the land, whether they're scavengers or they're there for us to eat, they have their use on the land. They're all important (Stevenson 1999: 94).*

According to the Métis, the lands around Lac de Gras are prime habitat for a small range of carnivores, including wolf, fox, wolverine, and grizzly. The Métis have warned that the mines will attract these animals which could become dangerous for both people and the animals, and have recommended that the mines keep everything clean to keep the scavengers away (BHP 1995a).

Trapping has played an important role in Métis culture and for this reason they have expressed concerns about the potential negative impacts of development on their ability to trap. For example, Métis have identified the presence of access roads as both a potential benefit and detriment to ongoing trapping activities. New access could interrupt existing traplines and improve access to additional trapping locations for both the Métis and other trappers (BHP 1995a). The loss of trapping would result in an economic and socio-cultural loss for the Métis.

### **Wolf and Wolverine**

Wolves have been and continue to be trapped for their furs by the Métis. The wolves follow the caribou, “they kill the weaklings” (BHP 1995a: 3) and so they are found in the Ekati area around the same time as the caribou, moving from lake to lake. The wolf-caribou relationship is one of interdependence. Métis have expressed thoughts about the intelligence of the wolves, and their importance to the health of the caribou:

*Foxes do more damage to a caribou than a wolf does because a fox doesn't know its calving season. The little guy comes out, hits the ground, the fox is not big enough to kill it so he winds up biting holes in it and then it gets sick and then the wolf comes and cleans up. So that's why I don't like shooting wolves because I know that if the wolf is gone, then the caribou will be sick (Stevenson 1999: 106).*

The Métis believe that wolverines have defined territories, some of which are around Lac de Gras. Traditionally, the Métis have used wolverine furs to trim parkas. Even today, wolverines continue to get a good price for trappers who sell the furs for trim or at auction.

## **Fox**

Arctic foxes used to be of considerable economic value to NSMA trappers, and were one of the main resources that, along with muskoxen, attracted them to the Lac de Gras area in the past. Métis used to camp near MacKay Lake to trap the Arctic fox at every opportunity (Stevenson 1999).

## **Other**

Muskrat and beaver pelts have traditionally been used for clothing. Other small game such as hares were a staple at northern posts (Jones n.d.). The Métis have expressed concern that small furbearers will be affected, not only through destruction of their habitat and subsequent displacement, but also by dust and other environmental impacts (Stevenson 1999).

### **3.6.3.4.4 Fish**

Next to caribou, fish was and remains one of the most important food sources for the Métis. It is an important source of food for people and their dogs; almost every Métis owns a fish net: "It's [fish] our bread and butter. That's all we live on is fish and caribou meat" (Stevenson 1999: 126). When rations at trading posts grew short or if hunting was poor, Métis families depended on fish for food (Jones n.d.).

At Lac de Gras, the Métis identify the narrows between Lac de Gras and Lac du Sauvage as the best area to find fish. Though the narrows are not being directly disturbed, the Métis have expressed concern about the impacts that diamond mining will have on fish and fish habitat in Lac de Gras. Infrastructure and activities that have been explicitly identified include areas where dikes will be constructed (BHP 1995a), where permanent barriers might be in place (IEMA 2011), and the dewatering of small lakes:

*Those lakes are loaded with fish in the spring and fall. That's their spawning ground (BHP 1995a: 6).*

Métis provided suggestions for the complete removal of fish before dewatering and for the construction of culverts and channels. They suggest that developers must provide channels that are deep enough to allow the winter movement of fish. They also identified blasting, dust, sedimentation during runoff, and increased metals and nutrients as having potential impacts for fish in the waters around Lac de Gras. Over the years, the NSMA have developed extensive knowledge about the ecology and health of fish and provide recommendations on how to determine fish health in the area (Stevenson 1999).

Though the majority of Métis do not use the Lac de Gras area to fish today, they expressed the desire to preserve that right and ability for the future:

*...it's a resource that you're taking away, that I always had there, my children, relatives, friends, have always had, I mean it's a resource that's there... (Stevenson 1999: 135).*

### **3.6.3.4.5 Birds**

The Métis expressed concern about the potential impacts of the mines on birds, such as ptarmigan and grouse; waterfowl, such as geese and ducks; and their habitat.

*That whole [Coppermine River] valley is [filled] with geese and swans and they have their young there (BHP 1995a: 10).*

Impacts as a result of the increased levels of dust and potential contaminant spills were of special concern for the Métis:

*If you compare the BHP site there is a number of lakes that have been taken out of the system that birds have normally used and that is going to happen at the Diavik site... if those areas aren't there [anymore] they'll have to go elsewhere and we don't know what the impact (Stevenson 1999: 147).*

Others did not think the development would have a large impact on birds, comparing the ongoing use in a developed area to that of Yellowknife. Making a comparison with the Pine Point mine, a historic zinc-lead mine on the south side of Great Slave Lake, some suggested that, after reclamation is complete, the mine area might become prime waterfowl habitat (BHP 1995a).

### **3.6.3.5 Plants**

In general, the Métis have suggested that the majority of the Lac de Gras area is almost entirely solid rock (BHP 1995a).

#### **3.6.3.5.1 Wood**

References to Métis hauling wood are widespread in the existing, publicly available TK literature:

*Work, get wood, carry water for them, fix the hide, make snowshoes, babiche. They do everything on the land (Stevenson 1999: 160).*

Like hunting and trapping, the collection of wood was an important part of a sustainable family and community.

*In our community there always was hunters and there always was fishermen and there always was woodcutters and different people, skilled at different aspects that brought something into the community. Not everybody fished, not everybody hunted to the degree that others did. Some other people that's all they did was hunt. Other people all they did was trap and other people they just gathered wood and others gathered berries, others ventured from community to community, they raised dogs, others provided fish for dogs. Everybody had a different job in those days in the community (Stevenson 1999: 36).*

*When I listen to older people they always used to ...help each other not only by giving them food and whatnot, ...you know you cut wood for your elders, ... bring them wood off the land (Stevenson 1999: 71).*



Access to wood was an important criteria for the establishment of hunting camps and trading posts where Métis lived and worked.

*While ample supplies of wood and particularly fish figured importantly in the selection of the site, access to caribou, which passed by during the fall and spring migrations, was its greatest attraction (Stevenson 1999: 29).*

*You were expected to build houses and cut the wood. Sometimes you stayed with whomever had the emptiest house until you could build one (Stevenson 1999: 173).*

*You can't cut wood. You can't make fire you got nothing (Stevenson 1999: 179).*

### **3.6.3.5.2 Berries**

The Métis collected berries to eat on their own or to use in the preparation of pemmican. Pemmican, is made from dried bison, caribou, or moose meat and pounded with fat and berries. It was primarily used by people travelling long distances to hunt or trade. For example, in the spring and fall, canoe brigades had to move too fast to depend on hunting or fishing to ship furs out and trade goods back to the posts. These brigades needed a high-energy, compact, dense food source that pemmican could provide (Jones n.d.).

### **3.6.3.5.3 Lichen and Moss**

The Métis have expressed concerns about the impacts of dust on the caribou food in the area of the mines, such as moss, lichen, and muskeg:

*...Dust will affect their [caribou's] food. To what extent, I don't know what studies have said, what kind of studies have been done. ...Lichens and muskeg they usually pick up a lot of pollution anyway, not a lot of pollution, but they are a sort of sponge. They pick up some contaminants, but not all. I don't know how the dust would affect the lichen (Stevenson 1999: 112).*

### **3.6.3.5.4 Medicinal Plants**

The Métis took advantage of the resources available to them. Many plants were used to address and treat common ailments. For example, Métis have identified the roots of cranberry bushes and rat root (sweet flag) as useful for soothing coughs; the wax from beehives for treating open sores or boils; boiled blueberry bushes for treating colds; boiled potatoes for treating ear infections; spruce gum and pine leaves to dress wounds; big leaves (ones that float like a lily pad) to soothe sore legs; moss for diapers; and black lichen for making soothing teas (Dominion Diamond 2013b).

### 3.7 Tłı̨ch̨ Government Traditional Land Use

The TG traditional territory is known as the Mowhi Gogha De Niitlee (Map 1.3-1), encompassing almost all the lands between Great Slave Lake and Great Bear Lake and between the lowlands east of the Mackenzie River to Artillery, Aylmer, and Contwoyto lakes (Sadownik and Harris 1995). The Tłı̨ch̨ (formerly called Dogrib) were nomadic people whose subsistence way of life involved hunting, trapping, and fishing throughout their seasonal use cycles. Traditional Tłı̨ch̨ trails to Lac de Gras from Tłı̨ch̨ territory have been mapped and the traditional names provide important information about the environment and resources along these traditional routes. The Tłı̨ch̨ have lived off their lands since time immemorial and have a strong and spiritual connection with the land and animals. The Tłı̨ch̨ relationship with the land is based on mutual respect (Jacobsen 2011). Mining activities have destroyed TLU sites, and the Tłı̨ch̨ worry that changes from development will continue to affect the value of their resources and their cultural connection with the region (Dogrib Treaty 11 2000).

This section discusses TLU and TK information related to the TG. A TK study specific to the expansion Project has not been done by the TG; therefore, information documented in this section has been identified from existing sources. This information is discussed under three headings:

- seasonal use cycle;
- land use sites; and,
- knowledge and use of resources.

#### 3.7.1 Seasonal Use Cycle

The Tłı̨ch̨ traditionally followed the caribou, collecting other resources based on the season.

*They travelled on the traditional trails, which people have travelled on for thousands of years. The bush was their store, where they got the food, it was their livelihood and to keep them safe (Jacobsen 2011: 10).*

Traditionally, the barrenlands were used by the Tłı̨ch̨ in every season (DCI 1995).

*Our ancestors and my father they travelled on the barren land. My father used to travel on Ek'ati. They used the birch canoe on Ek'ati, but I never travelled there in the summer time. I remember living there only in the winter time (DCI 1995: 10).*

Helm (1981) identified seven regional Tłı̨ch̨ (Dogrib) bands whose TLU activities focused on a specific geographic locality. The Tłı̨ch̨ took part in spring and fall caribou hunts, furbearing animals were harvested in the spring and in the fall, and fish were harvested throughout the year. With the introduction of the fur trade, many Tłı̨ch̨ travelled to the forts to trade their furs and to gather for feasting, dancing, and playing hand games especially in the spring and around Christmas time (Helm 1981).

### **3.7.1.1 Fall**

In the fall and winter, people would remain out on the land, hunting, fishing, and trapping (Jacobsen 2011). Women sometimes remained at fishing camps, fishing and drying fish while the hunters travelled to the edge of the forest and onto the barrenlands to hunt caribou during their south migration. Hunters would collect skins and prepare dry meat for their return to the fishing camps. Fishing continued into October until the water began to freeze. At this time, nets were removed from the water until the ice was thick enough to begin resetting them beneath the ice (Sadownik and Harris 1995).

### **3.7.1.2 Winter**

Like the other Dene, the Tłıchq travelled far distances in the fall and winter, sometimes into the barrenlands to hunt, fish, and trap (DCI 1995). Tłıchq lived all around Kqk'èetì (Contwoyto Lake), ?ek'atì (Lac de Gras) and Tideè (Great Slave Lake) during early winter. However, when winter set in, there would be a mass exodus following the caribou towards the forest. Trapping was an important winter activity. During early winter in November and December, furs were in prime condition and caribou could be found in the forest in large numbers (TG 2012).

With the introduction of the fur trade, Tłıchq families visited trading posts in late December to trade furs collected during the fall and winter hunt and to join in the Christmas celebrations (Sadownik and Harris 1995).

January and February were often the most difficult times. Dried meat and fish were relied upon for provisioning when wildlife was scarce. The intense cold made hunting a challenge because it promoted the travel of sound, making it difficult to approach game (Sadownik and Harris 1995).

### **3.7.1.3 Spring**

By March, access to wildlife began to improve. Many Tłıchq travelled to Wekweètì (Snare Lake) for the spring caribou hunt. Spring-time hunting also took place in the barrenlands:

*Come spring, the men start to make birch bark canoe. That is how they come to the barren land* (DCI 1995: 10).

With the introduction of the fur trade, Tłıchq families again visited trading posts in April or May to trade furs collected during the fall and winter hunt and to join in Easter celebrations. At the end of April, beaver and muskrat hunting for fur again took precedence (Sadownik and Harris 1995).

### **3.7.1.4 Summer**

In the summer, as the temperatures rose, the Tłıchq people would return to their camps or communities to rest and prepare for the next fall and winter hunt (Jacobsen 2011). With the introduction of the fur trade, Tłıchq men often visited trading posts in late June or early July to trade beaver and muskrat furs collected during the spring hunt. By late July or early August, Tłıchq families returned to the land (Sadownik and Harris 1995).

### 3.7.2 Land Use Sites

According to the Tłıchq, the area around Lac de Gras is known to be very valuable, providing plants and animals for year-round survival. The Tłıchq travelled by birchbark canoe or dogsled into and around the Lac de Gras area, which they refer to as “?ek’atı,” meaning the “storage house” or “like a freezer” and “Kwek’a” which refers to the veins of quartz found in the rocks resembling caribou fat (Legat et al. 2001). People could count on survival in the Lac de Gras area by taking advantage of the resources available including caribou, fish, berries, foxes, and wolves. This richness of biodiversity and the fragile relationships among the ecosystems (dè or ndè) in the region are important for maintaining the cultural significance of the land for the Tłıchq (Chocolate and Legat 2000).

#### 3.7.2.1 Cultural or Spiritual Sites

The Tłıchq see themselves, and all parts of the land, as physically and spiritually connected. Traditional harvesting, travel routes, and place names are important features of Tłıchq culture. The activities and the stories associated with the land holds, maintains, connects, and communicates TK for the Tłıchq people. The Tłıchq cannot artificially separate the ?ek’atı area from the greater Tłıchq relationship with the lands in the NWT. The Tłıchq term ndè represents the spiritual and physical aspects and relationship of the land, people, animals, and habitat. It represents the idea that everything in the environment has life and spirit (DCI 1995).

The Tłıchq give their respect to the land in many ways. Prayers and payment to the land are important for safe travel and lucky hunts. Large lake, boulders, graves, unfamiliar areas, and other notable features on the land are important places to provide offerings. Everything on the land has a purpose and should be respected (Dominion Diamond 2013b).

Elders interviewed for the initial Ekati environmental assessment acknowledged their past experiences and the experience of their ancestors living on ndè near Lac de Gras.

*My father worked on Ek’atı at one time; all of our fathers have worked on Ek’atı at one time. That is where our fathers raised us (DCI 1995: 8).*

Burial locations in the vicinity of the Project were also identified.

*All the land over there is where all the dead bodies are laid... We have lots of relatives who are buried on the barren land (DCI 1995: 8).*

#### 3.7.2.2 Camps and Cabins

The Tłıchq identify open, sparse areas with a variety of vegetation as the preferred location for campsites. Communities such as Whatı and Behchokq (Map 1.3-1) began as settlements where Tłıchq camped as they travelled along their traditional trails. People would meet in these camps in the summer to rest and prepare for the upcoming fall and winter seasons (Jacobsen 2011).

The Tłıchq communities that exist today were established as permanent settlements after the establishment of the fur trade and trading posts such as Old Fort Rae and Fort Rae (Behchokq). Behchoko and Whatı are located in strategic areas that simplified travel to and from the trading posts on Great Slave Lake. As the fur trade became more prominent in the local economy, many Tłıchq people stayed in these settlements more permanently. In the 1920s, there were a few permanent homes in Whatı and after the construction of a school; more people began to stay there year-round. Whatı and Behchokq are the largest of the four Tłıchq communities. These places have the largest, secure supply of fish, which provide people with food as an alternative to caribou (Jacobsen 2011).

### 3.7.2.3 Travel Routes

“Our ancestors footprints show on the ground” (DCI 1995: 13). Waterways and travel routes in the Tłıchq region reach throughout the Mowhi Gogha De Niitlee. Travel routes to the northwest lead to Grandin Lake and to the Sahtu Region; travel routes to the southeast lead toward Great Slave Lake; and travel routes to the southwest to the Horn Plateau (Jacobsen 2011). In the winter, Tłıchq travelled as far as the barrenlands to hunt, fish, and trap:

*... Before Christmas we went to the barren land. Ek’ati and Dehzati that is where we lived. We travelled to the barren land going through Gots’okati, and Satsoti and over the mountain... From there, there are two big lakes and a third that is called Yahbati and from there Ek’ati... We had Christmas just before Ek’ati towards the barren land... we lived there [around Ek’ati] a lot... They travelled there in the late fall and lived there. I lived there in the winter time to trap (DCI 1995: 9).*

During meetings with De Beers, Tłıchq Elders identified travel routes from Wekweèti to ?ewaànit’uti (Courageous Lake), ?ek’ati (Lac de Gras), and further north (Map 1.1-3) (TG 2012).

### 3.7.3 Knowledge and Use of Resources

This section includes a discussion of the biological resources, including wildlife, fish, birds, and plants traditionally used by the Tłıchq. Each section includes information on TLU practices as well as TK as recorded in publicly available documents.

According to Helm (1981), the main harvested resources include caribou, moose, hares, ducks, grouse, ptarmigans, beavers, muskrats, and other furbearing animals as available. The importance of these resources to the Tłıchq is reflected in the following quote: “People rely on wildlife and they in turn rely on each other” (DCI 1995:18). Elders often say that “if you take care of the land, then the land will take care of you.” This implies that everything on the land has a life and a spirit of its own. The human role in the world as hunters and trappers helps to maintain the spiritual connection with the land and resources: “a role that sustains the flow and existence of living things” (Jacobsen 2011: 28). The Tłıchq are worried about how development will contribute to the poor treatment of wildlife and poison the land and the animals (DCI 1995).

Tłıchq Elders interviewed for a study on the impacts of fire on the Bathurst caribou herd (Jacobsen 2011) have suggested that the loss of the traditional lifestyles, beliefs, and knowledge, have resulted in the gradual loss of their connection and knowledge of the land and animals (Jacobsen 2011). The Tłıchq have also expressed concerns about the impacts of development on plants, animals, and their future ability to hunt, trap, and fish in the Lac de Gras area (DCI 1995).

### **3.7.3.1 Water**

Tłıchq Elders have expressed concerns about the impacts of additional mining, winter roads, and the flooding of open pits on water quality. Specific concerns for the Ekati Mine involve the stagnation of water in the pits if they remain isolated after closure and the overflow of that water during freshet (IEMA 2011). The Tłıchq Elders Committee have stated: “In the past, our elders looked on water as a type of medicine” (TG 2012: 27). “We depend on the land - animals and water - for life, therefore we do not want anything to be destroyed” (TG 2012: 24). “If we wanted water – what will we be drinking? We need to think about this” (TG 2012: 27).

### **3.7.3.2 Wildlife**

#### **3.7.3.2.1 Caribou**

The relationship between the Tłıchq and the caribou is based on mutual respect. The Tłıchq identify caribou as individuals with the power to make decisions based on their relationships with humans. Disrespectful behaviours will keep the caribou away from people while the respectful treatment of caribou and their remains will bring caribou to the people and facilitate the rebirth of the caribou spirit, maintaining the health of the herds (Jacobsen 2011). To show respect, all parts of harvested caribou are used: the meat and bones for food, and skins for clothing (DCI 1995). The fall caribou provided the best skins for the production of clothing (Sadownik and Harris 1995).

The Tłıchq Elders say that caribou follow the cold weather and the winds. Changes in the climate and winds are therefore changing the timing and character of caribou migrations. The Tłıchq have noticed that caribou are waiting longer in the barrenlands before migrating south in the fall. Their migration through Tłıchq territory has been pushed from October or November to approximately December. They are also moving back onto the tundra earlier in the spring and are more dispersed now than ever before (Jacobsen 2011).

Lac de Gras, specifically the narrows between Ek’ati (Lac de Gras) and Nòdixati (Lac du Sauvage) have been identified by the Tłıchq as an important part of their traditional hunting area. Tłıchq people lived in this area to hunt the caribou as they migrated through the narrows. “They are easy to hunt at this spot” (DCI 1995: 19). More recently, Tłıchq Elders have said that they do not see the caribou come through here anymore (TG 2012).

Tłıchq Elders have noted that the warmer, drier climate that has characterized the last few decades has resulted in more frequent forest fires in the summers. They have also recognized changes in the amount, depth, and consistency of snow and ice: deeper, softer snows and thinner, more crusty ice. The large fires burn the caribou feeding grounds, the deep snows bury the lichen, and the thin, crusty ice pose dangers to caribou crossing lakes. These altered conditions have made travel more difficult for the caribou. Elders note these are the reasons why caribou are skinnier than they once were (Jacobsen 2011). Tłıchq Elders have expressed concerns about the mines further destroying the caribou’s food (lichen) and adding to the existing stress on the animals (TG 2012).

*Elders from Whatì, Gametì, Wekweètì and Behchokq and have travelled by boat, dog team and snow machine to Akaitcho Territory. We went there to hunt for caribou. We are concerned that the caribou’s food [lichen] will be destroyed (TG 2012: 26).*

Tłıchq people have also expressed their concerns about mine impacts on caribou and other wildlife. They fear that presence of a mine might further limit the movement of the caribou by affecting migration routes and patterns:

*There are [also] a lot of wolves and fox dens where the mine is [proposed on Ek'ati]. And the caribou migrates there too. It's like they're blocking its [caribou] path. A lot of people don't like that; they don't like it at all (DCI 1995: 19).*

Concerns about mine infrastructure such as roads and fencing have also been expressed. The Tłıchq want to make sure that infrastructure is not inhibiting the movement of caribou through the Ekati Mine site. Elders have warned that wildlife monitors at Ekati should monitor site fences to make sure that caribou are not getting stuck when they rub the velvet from their antlers. Fences at Ekati have been placed around the airstrip and open pits (IEMA 2011).

### **3.7.3.2.2 Other Large Animals**

Aside from caribou and moose, there was very little mention of big game in the publicly available TK resources consulted for this report. One mention referred to the medicinal quality of bears for treating blood poisoning (TG 2012).

### **3.7.3.2.3 Furbearing Animals**

According to the Tłıchq the eskers on the Ekati claim block area represent good trapping territory for furbearers.

*We travelled with a canoe and we go right beside the eskers. That's where I trap, the place was good for trapping. That's why we have always travelled there (DCI 1995: 21).*

## **Wolf and Fox**

Tłıchq have identified the importance of the Lac de Gras area for wolf and fox denning (DCI 1995).

### **3.7.3.2.4 Fish**

At Lac de Gras, the Tłıchq have a place known as Tłits'eza which is translated to mean "eat fish there." Fish are an important commodity for the Tłıchq and Lac de Gras is well known for its abundant fish. The Tłıchq have expressed their concern with the destruction of the lands and waters and the impacts the mine will have on their ability to fish at ?ek'atł (DCI 1995).

*...The Ek'ati area is good land. When there is smoke of any kind, it will be repulsive to the animals. It will drive them away. They [BHP] are planning to do away with our life style of fishing and hunting. It will be traumatic if it is lost (DCI 1995: 18).*

*The fish that are close to the mine, therefore the smoke and dust that blow in air gets into the water and impacts the fish, and impacts animal and bird food (TG 2012: 25).*

### **3.7.3.2.5 Birds**

In addition to hunting caribou, catching fish, and trapping furbearers in the Lac de Gras area, Tłı̨chǫ have also traditionally hunted ducks (DCI 1995).

### **3.7.3.3 Plants**

Different forms of vegetation are used by the Tłı̨chǫ for different purposes such as sustenance, starting fires, treating ailments, and protecting meat (Jacobsen 2011). The same vegetation used by the Tłı̨chǫ are also important for animals in the barrenlands.

#### **3.7.3.3.1 Grass**

Grasses can be collected, dried, and put inside clothing for warmth. Aquatic grasses are used for nesting birds and by moose for food (Dominion Diamond 2013b).

#### **3.7.3.3.2 Wood**

The barrenlands are a poor resource for wood and the Tłı̨chǫ would pack wood from long distances while travelling:

*In the summer or spring time or fall we used the old wood that they picked up as they travelled along the way (in DCI 1995: 10).*

On the barrenlands, birch bushes and willows are collected for firewood. The green wood, gum, and sap of the birch bushes create a sparkling fire that provides good heat. Birch bushes also provides shelter for birds, hare, and bears and provides food for caribou. Bundles of willow can also be used to fuel a fire, to dry meat, or to protect canoes stored on the land (Dominion Diamond 2013b).

#### **3.7.3.3.3 Berries**

Like other resources available on the land, the Tłı̨chǫ collected and consumed berries as part of their diet. Alpine berries, blueberries, gooseberries, cranberries, cloudberries, Whiskey Jack berries: "Everything that grows on the land like trees, berries is what we eat and also used for medicine" (TG 2012: 24).

#### **3.7.3.3.4 Lichen**

Tłı̨chǫ Elders have noticed that because of the warmer, drier climate, the adzii (lichens) that the caribou feed on have become dry and now die before the caribou get to feed on them (Jacobsen 2011). Lichen is the primary food source for caribou and just like people like different types of food, caribou like to eat various types of lichen (Dominion Diamond 2013b). The Tłı̨chǫ have expressed concern about the additional impacts mining will have on the lichens that make up the caribou's food (TG 2012).



### **3.7.3.3.5 Medicinal Plants**

A Lac le Martre traditional medicine study (Ryan 1994) provides Tłı̨ch̓ knowledge on 65 plants and animal parts used for the maintenance of health and healing in Dene society. Examples from the barrenlands include spruce gum, which can be boiled or chewed to treat stomach aches and colds; chewed spruce sap for maintaining healthy gums; spruce acorns, used to clean or treat sores in the mouth; the green leaves of birch plants, applied as a poultice to affected areas such as bites and stings; and jack pine sap to treat cuts and wounds.

*Everything that grows on the land like trees, berries is what we eat and also used for medicine (TG 2012: 24).*

## **3.8 Kitikmeot Inuit Traditional Land Use**

The Kitikmeot Region is an administrative region of Nunavut that consists of the southern and eastern parts of Victoria Island with the adjacent part of the mainland as far as the Boothia Peninsula, together with King William Island and the southern portion of Prince of Wales Island (Map 1.3-2). Inland, the Kitikmeot Inuit traditional territory surrounds the Coppermine River and passes between the Northwest Territories and Nunavut. Kitikmeot Inuit travelled and harvested resources year-round near the present-day Ekati Mine (Banci et al. 2006).

This section discusses relevant TLU and TK related to the Kitikmeot Inuit with a focus on their inland activities. The information documented in this section has been identified from existing sources and is discussed under three headings:

- seasonal use cycle;
- land use sites; and,
- knowledge and use of resources.

### **3.8.1 Seasonal Use Cycle**

Traditional hunting activities of the Kitikmeot Inuit were seasonal, and tied to the cycles of the animals. The most important harvesting areas, however, depended largely on the location of caribou.

With the advent of fur trading, the Kitikmeot Inuit modified their hunting patterns and their seasonal travel to include visits to the trading posts to sell furs and buy provisions. New trading posts were established every year, positioned to intercept the Inuit depending on where they travelled. Changes in animal distribution and abundance affected the movement of the Inuit people as they continued to live a largely subsistence lifestyle, occupying traditional seasonal camps and travelling extensively. Elders interviewed for the Naonayaotit Traditional Knowledge Project (Banci et al. 2006) remember travelling continuously as children with their parents and dogs:

*...I travelled using dogs during the spring and winter. I used dogs to pull the sled after there was no more snow on the ground. I remember inland long ago we let our dogs backpack and I was backpacked by my parents. I remember my parents travelled from place to place hunting caribou and our dogs would backpack our supplies. When I (can first) remember, there were rifles. I don't remember bows being used. When I was tired I remember I would get backpacked. The other reason (my parents backpacked me) is I that I kept falling behind. My parents kept moving from place to place looking for more wildlife or areas where there was more wildlife. We never stayed in one place very long (Banci et al. 2006: 44).*

The fur trade did influence their hunting and trapping style. Many inland Kitikmeot Inuit would remain inland for the majority of the year, travelling to the coast only to obtain supplies from the trading posts. Larger permanent communities did not begin to take shape until the construction of the Distant Early Warning Line's radar posts in the 1950s. These developments hastened the rate at which Inuit had to adapt their traditional way of life to participate in a wage economy. Many Inuit were involved in the construction of the Distant Early Warning line and remained employed during the operation of the sites (Banci et al. 2006).

By the mid-1960s the pattern of traditional camp life had changed as families began to move permanently into settlements. The establishment of health service facilities and schools played a role in drawing people in from the land, as did the introduction of snow machines, which allowed hunters to access several different hunting grounds from one location. Today, many Inuit still hunt and trap for both subsistence and trade (Banci et al. 2006).

### **3.8.1.1 Fall**

Kitikmeot Inuit on the barrenlands hunted caribou and fished in the fall while preparing themselves for the winter trapping season. They travelled mostly on foot, backpacking supplies with their dogs. The caribou had thick fur in the fall and this was the best time to harvest them for clothing, blankets, kayaks, and tents. Bull caribou would be killed for their fat reserves which would be used in kudlik (stone stoves). The caribou meat that was not eaten right away would be dried or cached for the winter. The entrails of the caribou were buried in the fall and used as bait where traps would be set for wolves, wolverines, and foxes before the winter trapping season (Banci et al. 2006).

Once the trading posts were established, many hunters visited the posts before the fall hunt to obtain supplies on credit (Banci et al. 2006).

### **3.8.1.2 Winter**

The Kitikmeot Inuit continued to overwinter around Tahikyoak (Contwoyto Lake) into the late 1960s, when most other Inuit had already moved to modern communities. When travelling in the winter, Inuit would pack with them only what they needed, including food that would not freeze such as dried meat and fish, fuel, and food for their dogs. Hunters and their families would travel to wherever the animals were, sometimes staying out on the land but other times returning to an established camp (Banci et al. 2006).

People travelled carefully and slowly in the winter when it was very cold. The cold temperatures made sled runners stick, forcing the Inuit to make camp frequently along their path. If caribou were accessible, several Inuit families could camp together at winter camps hunting with their dog teams. Any extra meat from the winter hunt would be stored in ice blocks around camp, protected from the dogs and scavengers. The occurrence of caribou on the barrenlands in the winter, however, was unpredictable. If caribou were not hunted, fishing and trapping consumed most of their time (Banci et al. 2006).

Once trading posts were established, families who found themselves short of supplies or food in the winter would return to the coast to visit the posts. Inuit also travelled to the posts to celebrate special occasions such as Christmas. Although the relationship between the Kitikmeot Inuit and Dene was marked with confrontation in the past, peaceful gatherings and celebrations were common during the fur trade era. Major items exchanged were dogs, harnesses, food, furs, and tools such as snow knives. The Inuit recall meeting the Dene “visitors” around Tahikyoak (Contwoyto Lake) during special occasions such as Christmas and Easter when they would trade goods. The “Dene came from the boreal forest onto the tundra in winter to trap Arctic fox, and Inuit extended their traplines south to do the same” (Banci et al. 2006: 101).

### **3.8.1.3 Spring**

The Kitikmeot Inuit, who lived in the barrenlands, harvested caribou, grizzly bears, fish, waterfowl, wolves, wolverines, muskoxen, and moose from around the Coppermine River, Tahikyoak (Contwoyto Lake) and Tahikpak (Lac de Gras) region in the spring and summer. Fishing was the main source of sustenance in the spring (Sadownik and Harris 1995). Caribou were occasionally hunted for meat and skins which could be used for clothing. These hunts happened, preferably in April and May before the insects became active. Whatever meat was not eaten would be dried for the summer or cached for the following winter (Banci et al. 2006).

“In the spring people gathered together when they were going inland to their hunting grounds. They camped together as neighbours when they were travelling inland” (Banci et al. 2006: 44). Tents were made from the thick caribou skins obtained in the fall that could be made large enough to hold feasts and celebrations under them. In the spring, Inuit stored their winter clothing in the cracks of cliffs or cached in rocks. If possible, the clothing was re-used the following winter. The people travelled slowly in the spring, often at night when the temperatures were cool so that they could use frozen soil on the runners of their sleds. Kayaks or rafts were built using willow and caribou or seal skins for travelling across water. People stopped frequently during the day to collect fish for themselves and the dogs, making their way to their summer hunting camps. Many lakes and rivers in the Coppermine basin have plenty of fish. Spring was said to be the best time for fishing, as the fish follow the shorelines and are easy to catch (Banci et al. 2006).

When the trading posts were established, many hunters would visit the posts in the early spring to trade furs, pay for the supplies they obtained on credit in the fall, and collect supplies for the winter trapping season (Banci et al. 2006).

### **3.8.1.4 Summer**

During summer, Inuit from around Tahikyoak (Contwoyto Lake) established camps and hunted widely, looking for any type of wildlife they could catch for food. The distribution of caribou was the most uncertain in the summer and the Inuit would usually spread out into smaller groups. The Inuit travelled mostly on foot in the summer, backpacking supplies with their dogs, covering a large area including Aimaokatalok (Kathawachaga Lake), Aallik (Concession Lake), Tahikaffaloknahik (Itchen Lake), Nonatoklik (Pellatt Lake), Yamba Lake, and Tahikpak (Lac de Gras) in search for food. To the north, Napaktolik Lake was an important camping and hunting area, central to inland and coastal Inuit that served as a stopping and trading point for travelers (Banci et al. 2006).

The locations of the summer camps would change every year depending on the location of wildlife but often centred around narrows where caribou were most likely to cross water. Cows would begin to head south as early as July with the bulls following around the end of August. If caribou were not available, the Inuit would fish, trap hikhik (ground squirrel), hunt ducks, loons and geese, and collect firewood (Banci et al. 2006).

Before the establishment of the trading posts, only the caribou that were needed for food were harvested in the summer so that none would spoil. Any extra meat would be shared. When traders demanded more skins, however, more caribou were killed in the summers. Their skins are thin in the summer and the meat spoils without any methods to preserve it. Storing excess meat under water or building ice boxes in the permafrost were methods used to try to keep the summer meat fresh (Banci et al. 2006).

## **3.8.2 Land Use Sites**

### **3.8.2.1 Cultural or Spiritual Sites**

Kitikmeot Inuit involved in the Naonayaotit Traditional Knowledge Project were reluctant to talk about spiritual places or supernatural events. All places on the land are said to be special (Banci et al. 2006). Place names, songs, and stories are full of history and share information about certain areas and landscape features (Sadownik and Harris 1995). A few Inuit spoke briefly of people disappearing, of giants and little people, and of a few burial locations or areas where people were left on the land when they had died. Often, Inuit left their dead on high ground (i.e., eskers) with personal belongings, covered in caribou skins, where they would eventually be eaten (Banci et al. 2006). Later, Inuit were buried more often on the land near where they died.

*There are burial sites everywhere at Tahikyoak (Contwoyto), at Nakyoknakyok and at Tahikyum (bay, north Contwoyto Lake). We found a grave site at Lac de Gras (southeast shore). One person had been buried, covered with rocks. It was a grave from long ago (Banci et al. 2006: 236).*

The Kitikmeot Inuit have expressed their opinions that archaeological sites should be left undisturbed if possible (EAP 1996).

### 3.8.2.2 *Camps and Cabins*

In the mid-1900s the Kitikmeot Inuit people lived in the principal settlements of Kugluktuk, Cambridge Bay, Holman, Bathurst Inlet, and Perry Island (Map 1.4-2). Camps of one, two, and more families were also scattered throughout the region with the most northerly camp being at Berkeley Point and the most southerly camp at Pellatt Lake (Abrahamson et al. 1964). “Long ago Inuit people gathered at Cambridge Bay, Kugluktuk, Kingaok [Bathurst Inlet], Hanigayok (James River), Tahikyoak (Contwoyto) and Kaomaogaktok (Rockinghorse Lake)” (Banci et al. 2006: 39).

*When Inuit got to (Kugluktuk), they finally started to see other Inuit from inland. There were lots of people on the land; there were people everywhere on the land. [People stayed at] Tahikyoak (Contwoyto Lake), on the lake edge, the middle, the other end [south end], and on part of Concession Lake. [People lived] all the way to Kaomaogaktok (Rockinghorse Lake) and to Napaktolik and at many other places. Inuit lived where their hunting areas were (Banci et al. 2006: 37).*

The lands and waters around Tahikyoak (Contwoyto Lake) are often described by the Kitikmeot Inuit as areas for campsites and hunting, trapping, and fishing grounds. This lake is strategically placed between the boreal forest and the caribou calving grounds, which almost guaranteed the presence of caribou for most of the year.

*Tahikyoak (Contwoyto) is the lake where Inuit gathered and grew up. Inuit gathered and hunted that area because it is good for caribou. Long ago they had only bows. They hunted the caribou in the lake narrows using kayak when the caribou were swimming across. The (hunters) without kayak made blinds on the ground and used their bows when the caribou came close. [Tahikyoak] was a major hunting area long ago (Banci et al. 2006: 51).*

Except for a few areas with an abundance of caribou or seals, large winter camps were rare in the lives of Inuit. Because of the wide distribution of resources, camps were seasonal, spread across the landscape, and only used for a few days at a time. Major wintering areas of Inuit were established along the caribou migration routes, including Kaomaogaktok (Rockinghorse Lake), Kingalhoak (Nose Lake), Tahikaffaloknahik (Itchen Lake), Hanigakhik and Hanigayok (James River), and Tahikpak (Lac de Gras). The Inuit stayed at the islands, bays, and nadlok (narrows) of lakes. In the snow-free seasons, families stayed in caribou skin tents. Sometimes, if a winter camping location was identified early, the Inuit would begin to prepare an igloo in the fall by packing snow around the tent. Igloos were built in the winter at places where the Inuit would stay and during travelling to avoid storms. When it was warmer outside, they sometimes made a half igloo and covered the top with caribou skins (Banci et al. 2006).

The Dene and Inuit both camped at the narrows of large lakes where the Inuit would capture and spear fish. Inuit Elders recall men making stone tools in higher areas, away from where they camped around the Ekati Mine area. They suggest that the remains from those activities in the area are similar to those found within the Ekati Mine area. The Inuit have helped to distinguish between the remains of Dene and Inuit campsites:

*If it was an Inuit camp, a winter camp, you might find an old snow knife or ulu, or piece of kayak, or maybe part of a stone pot or stone lamp (kudlik). These kinds of things would differentiate an Inuit camp from an Indian camp. The Indians usually made a tepee and they made a fire right inside the tepee. Those are some of the clues that help tell* (Banci et al. 2006: 130).

*An Inuit camp has tent frames, a meat cache, and a hiding place for hunting caribou... They used to use blinds (talo)...* (Banci et al. 2006: 130).

*You can distinguish between the Inuit and Indian camp sites. The Indian sites are round, Inuit are rectangular. At Lac de Gras there are a lot of Inuit camp sites. I saw both Indian and Inuit camp sites at the narrows of large lakes around there. There are camp sites at the outflows of these lakes where Inuit speared fish, near the south side of Lac de Gras* (Banci et al. 2006: 130).

As children, Kitikmeot Inuit remember meeting Dene while hunting and trapping at large winter camps, such as at Tahikyoak (Contwoyto Lake), Kaomaogaktok (Rockinghorse Lake), and Tahikpak (Lac de Gras) (Banci et al. 2006). If there were eskers in the area, winter camps would be set up on the flat areas beneath them. Eskers and cliffs provided high, dry ground, a vantage point of the surrounding lands, and a common travel route for many animals. In the summer, skin tents were erected and the Inuit hunted from the land, and from the water using their kayaks (Banci et al. 2006).

In 1958, in an effort to conserve the caribou and improve the welfare of the Kitikmeot Inuit, the Canadian Government supported the development of a domestic fishing camp, first at Tahikyoak (Contwoyto Lake) then at Nonatoklik (Pellatt Lake). The Pellatt Lake camp had six frame cabins and continued with government support. Throughout the mid1900s, camps of Inuit families could be found throughout the Kitikmeot region from Berkeley Point in the north to Nonatoklik (Pellatt Lake) in the south.

Tahikyoak (Contwoyto Lake) was an especially important location because of the caribou migration. For centuries, the Kitikmeot Inuit could rely on the caribou at traditional crossing points. Since the 1920s, Inuit have lived year-round in the Contwoyto Lake area. "We traveled along the lakes from Tahikyoak to Kingaok and to Lac de Gras, to trap. We trapped all along Tahikyoak and Pellatt Lake back then" (Banci et al. 2006: 170). The Inuit who spent most of their time living near Tahikyoak (Contwoyto), Nonatoklik (Pellatt) and Napaktolik lakes have been identified as the Nunamuit (Inlanders) (Banci et al. 2006).

### **3.8.2.3 Travel Routes**

The Inuit have travel routes from the coast to the inland hunting areas. "I had just become an adult when I walked from Kingaok [Bathurst Inlet] to Tahikyoak [Contwoyto Lake] long ago. It used to be lots of fun when I was walking back then. I was never sad, just walking" (Banci et al. 2006: 40). Travel routes as far south as MacKay Lake and Tahikpak (Lac de Gras) have been identified by Inuit Elders, who recall occasionally travelling as far as Great Bear Lake and Snare Lake to visit the Dene. The Inuit travelled overland and over frozen lakes using sleds and dogs in the winter and spring, often walking in the summer and fall. "Inuit travelled by the routes that they knew. Even though there were no inokhok [stone marker], they knew where to travel and had the knowledge of the land" (Banci et al. 2006: 44). Natural land features were natural landmarks for the Inuit which help guide travelers in the snow-free seasons. Hills, cliffs, and waterbodies helped to identify one's location.

Certain features also provided material needed for building caches, and for relief from thirst, insects, sun, and wind. High grounds also provided perspective on the surrounding landscape. The wind, snowdrifts, sun, and stars were also important indications for direction when travelling on the land: “They knew the landmarks, travelling even in winter, by using snowdrifts in blizzards. We never used maps even in blizzards. There are two prevailing wind directions. These we used for travel direction. During travelling we kept the wind in the same place on our cheeks” (Banci et al. 2006: 138).

The Inuit and Dene crossed trails, especially in the winter, when the Dene were travelling to the north and Inuit were trapping to the south. These visits were occasions for celebrations and for trading. Major items exchanged were dogs, harnesses, food, furs, and tools such as snow knives and needles (Banci et al. 2006).

With the coming of Europeans, Inuit activities expanded to include the use of snowmachines, trapping and trading with white people. The establishment of fur trading posts at Perry River (Kugyoak) and Kingaok (Bathurst Inlet) encouraged Inuit to include these locations as part of their annual travel: “After I grew up we traveled to Kingaok [Bathurst Inlet] from Tahikyoak [Contwoyto Lake] to go to the retail store...” (Banci et al. 2006: 81). After the ice in the lakes was thick enough to travel on in the fall, Kingaok was closer to Tahikyoak than Kugluktuk for purchasing supplies. Inlanders continued to overwinter at Contwoyto Lake (Tahikyoak) into the late 1960s, when most other Inuit had already moved to communities (Banci et al. 2006).

*... My father and grandparents trapped south of Omingmaktok [Umingmaktok], up around Hanningayuk (Beechey Lake) and around Tahikyoak (Contwoyto). I used to travel in the spring and fall visiting my family at Cambridge Bay, Kingaok [Bathurst Inlet] and Kugluktuk using (sled) dogs. These dogs don't break down like skidoos do, even though these places are far (Banci et al. 2006: 63).*

### 3.8.3 Knowledge and Use of Resources

This section includes a discussion of the resources, including water, minerals, wildlife, fish, birds, and plants traditionally used by the Kitikmeot Inuit. Each section includes information on TLU practices, as well as TK as recorded in publicly available documents.

During a Naonayaotit TK study, Inuit participants recalled traditional land use activities and expressed concern about the effects of mining development on the caribou, the cleanliness of the land, and on the quality of water in the Coppermine watershed (Banci et al. 2006).

#### 3.8.3.1 Water

Water is central for survival. Almost all Inuit camps were established with access to water; along lakeshores, the coast, riverbanks, and near open currents in the winter. If water was not readily available, the Inuit would look under rocks and at the base of cliffs for a water source (Banci et al. 2006).

Many Kitikmeot Inuit expressed concerns about the Ekati Mine's impact on water. There is worry about tailings ponds and oil spills affecting the clean water and water quality throughout the Coppermine River Valley; there is concern about the accessibility of the tailings ponds to animals and the potential health impacts it could create; and there is apprehension about the effects of mine seepage on caribou food such as moss and lichen (Banci et al. 2006).

### **3.8.3.2 Minerals**

The Kitikmeot Inuit were recognized very early on by explorers for their use of copper in making tools and other implements. The Inuit exploited mineral resources available to them in the same way they harvested and made use of plant and animal resources. Copper was readily available at the surface around the Coppermine River and would be used in the construction of knives, arrows, and ulu blades. Copper tools were made by pounding small pieces of the metal together (Banci et al. 2006).

Okohikhaat (soapstone), found at riverbanks and along the coast, was traditionally used to make kudlik (oil lamps) and cooking pots. More recently, soapstone carvings are being made and sold as art. Other stones were used to make blades, spear, and arrowheads, or as flint for starting fires. The stones that were used as flint were kept separately in skin bags to keep them dry (Banci et al. 2006).

### **3.8.3.3 Wildlife**

This section discusses relevant TLU and TK related to the Kitikmeot Inuit with a focus on the Nunamuit (Inlanders) who harvested resources as far south as Lac de Gras.

#### **3.8.3.3.1 Caribou**

During a tour of Ekati about traditional knowledge and wildlife monitoring, Vivian Banci (Banci et al. 2006: 3) recalls the advice of two Elders from Kugluktuk who told her that the “by understanding where the caribou travelled, we also understood where and why people travelled, hunted and lived. The caribou were central to the carnivores, the wolves, wolverines, bears and foxes. Their preferred habitats were the preferred habitats of avingak, hikhik and okalik. Only by walking in the path of the caribou could we hope to understand the complex ecology of this beautiful land.”

Like the Dene, the Inuit show a lot of respect to the caribou they depend on for their survival. When preparing and butchering the animals all work areas are kept clean. Caribou were never hunted on the calving grounds or butchered along the traditional migration paths, including the nadlok (narrows) at Ekati. When possible, caribou from the middle of the pack were targeted so that the strong leaders remained with the herd. Bulls were hunted only when needed for their fat and warm skins. Inuksuk (stone markers) were constructed to herd caribou and to mark cache locations. These markers are most effective in the spring and fall for herding caribou but may not work in the summer when it is hot or if caribou are travelling in large herds (Banci et al. 2007). In the winter, inokhok stone markers would be built high so that hunters travelling the lands could see where meat was stored beneath the snow (Banci et al. 2006). Sometimes, Inuit hunters disguised themselves as other animals to trick the caribou and get close to the herd (Sadownik and Harris 1995).

*Caribou meat was a preferred food for all Inuit and caribou skins were preferred for clothing. Seal skins were more waterproof, for kayak and summer tents. Because of differences in timing of the availability of wildlife, however, Inuit could not concentrate on both caribou and seals and relied on trading to obtain what they lacked. Inlanders traded their caribou and fox skins for seal skins and other marine mammal products provided by coastal people (Banci et al. 2006: 33).*

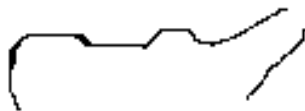


In 1961, an Royal Canadian Mounted Police (RCMP) report stated that the inland Kitikmeot Inuit supplied as much as 95% of the clothing skins for Inuit on the Arctic coast from Coppermine, Bathurst Inlet, Read Island, and Holman on Victoria Island (Abrahamson et al. 1964). The Inuit worked hard to preserve the meat, skinning and butchering the animals immediately. Caribou skins were used to make pants, underwear, footwear, mitts, and parkas. Pelts from caribou calves were said to make the best clothing because of their softness and pliability. Pelts were used as bedding, placed on top of muskoxen, grizzly, or polar bear skins, or willow branches, to keep them dry. Skins from yearlings were used for the inside lining of parkas, and for pants and parkas. On hunting trips, skins from freshly killed caribou were used as blankets and sleeping mats, so that these didn't need to be packed. Dried caribou skins were formed into balls for games and drums were made from caribou skin stretched over a wood frame (Banci et al. 2006).

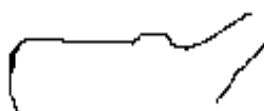
Nothing was wasted; any excess meat was dried or buried in clay to be used later for food or bait. Nigokak (stomach and contents) and intestines were mixed with fat and eaten, the marrow was extracted, and the belly of the caribou was sometimes used to make packs for the dogs to carry food and supplies. Caribou back and leg sinews were used as thread and bone marrow bones were used as sewing needles. Braided caribou sinew was used as decoration on bows, and as snare wire to catch ducks in their nests. Caribou bones and antlers were made into a variety of tools and implements or could be used to fuel a fire. Shoulder blades were used as scrapers, and carved and used as fly swatters; ribs were used as drills; large leg bones were used as ice chisels; caribou antlers were shaped into bows, snow knives, ulu handles, fishhooks, and spears (Banci et al. 2006).

Tahikpak (Lac de Gras) was known to be a good spring hunting area. Travelling this far was easier once the Inuit acquired snow machines. There were a lot of caribou at Tahikpak (Lac de Gras), crossing the narrows and bedding down on the islands. Caribou could always be found on the islands, especially in the summer, at Tahikpak (Lac de Gras), Tahikyoak (Contwotyo Lake), and Nonatoklik (Pellatt Lake). (Banci et al. 2006). From the water, caribou could be hunted using the long thin kayaks characteristic of the Inuit, made from a willow frame covered in caribou or seal skin. On land, hunters waited behind talo (hunting blinds) or constructed inokhok (stone marker) to herd the caribou towards waiting hunters, or chased the caribou on dogsled. Before acquiring guns, hunters would use bows and arrows and spears to kill the caribou (Banci et al. 2006).

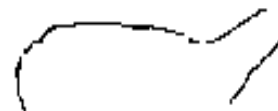
Inuit take the time to watch the caribou before hunting. For example, one way to identify the healthy caribou from the unhealthy is by observing the profile of the backsides of the animals and the way it is walking (BHP Billiton 2011: 20):



**Healthy caribou**



**Fat caribou**



**Poor health caribou**

In the spring, young bulls can be identified from the females by observing hair loss between their neck and shoulders from rutting activities. For caribou with antlers, the males can be distinguished from the females in the spring by looking for the velvet coating. Female caribou have small antlers in the spring to protect their calves. These small antlers have no velvet and are dropped near the end of August (BHP Billiton 2011c).

Kitikmeot Inuit have expressed concerns about the impact of the Ekati Mine on caribou and other animals in the area:

*The landscape wouldn't be the same. It might cause confusion for the wildlife*  
(BHP 1995b: 2).

*I'm sure it will probably make them [caribou] change direction. They may change their migration pattern. It might have psychological effects, they won't be able to mate and have as many... young caribou, it might affect their numbers in time* (BHP 1995b: 2).

*Sometime caribou... [follow] a road instead of crossing it... and that's when migrations routes... change* (BHP 1995b: 2).

Inuit are worried about how the development might affect the availability of caribou in the future for their children and grandchildren, and have recommended that if the development proceeds that it limit its footprint as much as possible.

*If they start working on the site and the animals go elsewhere, it won't [be] alright*  
(BHP 1995b: 20).

*We can't afford to live exclusively off food we get from the store. We have to supplement it with caribou... A lot of people in the community sustain themselves almost exclusively on caribou meat* (BHP 1995b: 14).

Others did not think the development of the Ekati Mine would have serious impacts:

*I don't think it's gonna have that much effect on the wildlife...look at Echo Bay, there's caribou [and] musk-ox walking right around the buildings they're not worried, nobody's chasing them..., it's just like a National Park, the animals are protected and nobody's harassing them* (BHP 1995b: 4).

In response to concerns about the Ekati project, Inuit participants have provided feedback to Ekati staff to help minimize the Project's impacts on caribou and other wildlife. In 2006, the Kugluktuk Elders Advisory Group recommended that more inokhok (stone marker) be built and made more visible by adding flagging tape, by making them larger, or by painting "hats" on them. They also suggested that inokhok be rebuilt and moved each year. They discussed creating wolf and inokhok silhouettes out of wood to help deter caribou from entering certain areas of the mine and recommended that such deterrents remain until after mine closure. They further recommended that BHP Billiton erect a fence to deflect and protect caribou from mining at the Beartooth Pit (Banci et al. 2007). With the success of this fence, in 2010, the airport electrical fence was removed and replaced with the same type of fencing as at Beartooth. New fences were also installed to deflect animals at the Pigeon Pit and Misery Camps (BHP Billiton 2011c). In 2011, Inuit participants in the WEMP suggested that caribou crossings at the roads should be larger to facilitate caribou movement, especially if in the presence of predators.

In addition to the impacts from increased development, Inuit Elders and Youth who have participated in the Caribou and Roads Workshops have identified improved methods of access and a changing climate as additional factors putting pressure on the caribou. The increased occurrence of freezing rain in the winter, for example, makes it more difficult for caribou to forage through the snow and can result in poor calving success. From 1950 to 1955, Inuit people noticed a decline in the herds as a result of freezing rain conditions (Banci et al. 2007).

### **3.8.3.3.2 Other Large Animals**

Muskoxen would never travel on the eskers, preferring to stay in the wetlands, around lakeshores, eating the grass. Muskoxen were hunted mostly when caribou were not available or for dog food. Muskoxen horns were used to make hunting bows (Banci et al. 2006).

Bears can be hunted from eskers, their furs used for sleeping mats, and their fat used for mixing with dry caribou meat. Similar to caribou, if there is extra meat, it was traditionally buried to preserve for future use (Banci et al. 2006). Inuit have expressed concerns about the impacts of roads and other developments on bear denning habitat, specifically any construction that affects eskers. In 2011, Inuit Elders helped Ekati staff identify suitable grizzly bear habitats around the Ekati claim block for the Grizzly Bear DNA Program. The sampling plots were established to collect hair samples for DNA testing to monitor the distribution and occupancy of grizzly bears near the mine (BHP Billiton 2011c).

### **3.8.3.3.3 Furbearing Animals**

When caribou were not available, many other small fur-bearing animals were hunted or trapped for food and fur. Even mice were killed for their skins, which were easy to burn and thus were used as fire starter. Once trading posts were established, trapping took on a larger role for the Inuit. The pelts they collected came from Arctic and red foxes, hares, voles, hikhiks (ground squirrels), grizzly bears, polar bears, wolverines, wolves, and muskrats (Banci et al. 2006).

### **Wolf and Wolverine**

The Inuit have traditionally hunted wolves and wolverines. They are trapped on eskers and can be found on the lakes while looking for caribou. Wolves are a main predator of the caribou and can sometimes be responsible for declining caribou populations (Banci et al. 2007). Traditionally, hunters left bait on lakes to lure and catch wolves, wolverines, and other animals. Wolves den around creeks and rivers, and only wolves use the steep eskers to den. Elders remember stealing wolf pups from their dens to breed with their own dogs when disease, such as rabies, threatened their own dog populations (Banci et al. 2006).

In the Naonayaotit TK Project, Lac de Gras was referred to as wolverine country. Elders recall catching wolverines and wolves while hunting in the area every time (Banci et al. 2006). The Inuit have made special note of the dens found throughout the eskers:

*It's probably a den site (used by wolves) during the spring. For two springs straight (that we were in) that area, there always seemed to be wolves there. This happened during the day trips at Lac de Gras, when we saw wolves around there (Banci et al. 2006: 71).*

The Inuit have recommended that the eskers and denning areas for wolves and wolverines be protected. One of the main concerns was potential impacts on the presence and health of game in the area for hunting and trapping in the future (BHP 1995b). Many Elders have made reference to a wolf control program that was initiated by the government in the 1960s that used poison to kill wolves but that also had the effect of killing numerous non-target species such as wolverines, foxes, and scavenging birds. As of 2007, Inuit participants in the Caribou and Roads Workshop recognized that the wolf population around Ekati was beginning to decline. They noted that wolf and caribou have been living together for thousands of years and that wolves will decline in concert with caribou (Banci et al. 2007).

## **Fox**

Foxes were hunted and trapped for their warm fur and often traded at the coast to the traders or to the coastal Inuit for clothing. Foxes were noted by the Inuit for denning around Tahikyoak (Contwoyto Lake) and in the eskers at Tahikpak (Lac de Gras): "There is some kind of fox dens on every esker that you run across out there. You always find fox dens. Almost everywhere you go you are bound to find coloured fox or white fox dens" (Banci et al. 2006: 72).

Inuit have warned that foxes, and other scavengers such as ravens and seagulls, will be attracted to the mine site if it is not kept clean. Concern about the ongoing ability to trap foxes in the area has also been expressed (BHP 1995b).

## **Other**

Hikhihs (ground squirrels) were captured when available and used to make food and clothing if the caribou supply was low. Young Inuit children were taught how to hunt, starting with ground squirrel, ptarmigan, and hares (Banci et al. 2006).

### **3.8.3.3.4 Fish**

The Inuit fished year-round for food for themselves and their dogs. The Inuit fished from the shore, from holes in the ice, and from their kayaks. Before having access to nets, the Inuit used lures on jiggers and spears to catch fish. Like caches and travel routes, good fishing spots could also be marked using inokhok (stone markers) near the coastline. Excess fish would be fed to the dogs or dried (Banci et al. 2006).

Most, if not all, campsites along the travel routes were established beside a lake where families would fish upon arrival. Springtime was said to be the easiest time of year to catch fish but fishing was carried out all year. Fishing was especially important in the winter on the barrenlands when the caribou had migrated south below the treeline (Banci et al. 2006). One Elder interviewed for the Naonayaotit Traditional Knowledge Project specifically identified Tahikpak (Lac de Gras) as a lake with many fish:

*We travelled many times, Tahikaffaloknahik (Itchen Lake), Yamba, Lac de Gras, yes, we know that area, and we also travelled there. I tried hard to keep that lake [Lac de Gras] [as part of Nunavut]... because that lake contains a lot of fish. That is why I fought hard to keep that area (Banci et al. 2006: 68).*

During the environmental assessment for the Ekati Mine, the Inuit provided advice to BHP Billiton on how to handle the fish coming from the lakes needing to be dewatered. The Inuit do not practice catch and release and were not, in general, in support of fishing out the lakes for relocation. Concern about the availability of fish was expressed and the potential impacts draining would have on spawning habitat and fish populations. In the end, the Inuit recommended that the fish taken from the lakes be given to people to eat (BHP 1995b).

*I don't like...catch and let the fish go. I don't like that. It hurts the fish, if they're [going to] sport fish and not get it for themselves – they should give [fish] to the people instead* (BHP 1995b: 11).

Concerns about the impact of contaminants from the tailings pond, leaks, spills, and dust have also been expressed by the Inuit. They the quality of the water and the health of the fish throughout the Coppermine watershed to be protected. Fish remain a main staple for the Inuit and a decrease in the health and populations of fish will be detrimental:

*...the loss of fish would be a loss of [a] staple part of our diet, [the] loss of their habitat... is a loss of our environment* (BHP 1995b: 19).

### **3.8.3.5 Birds**

Birds such as duck and geese are hunted when available. In the summer, moulting ducks could be chased using a kayak towards the shore to waiting hunters. Geese were also hunted around Tahikpak (Lac de Gras) (Banci et al. 2006).

Inuit have expressed concerns about the impacts of dust on the animals, and the amount of sand that has been observed inside ducks' stomachs. There was more concern about how the impacts of dust could rise through the food chain, affecting more wildlife in the area (BHP 1995b).

### **3.8.3.4 Plants**

Kangoyat (cottongrass seed heads) were collected as wicks for kudlik (oil lamps). Moss was used as fire-starter and burnt to repel insects. Kablakot (berry plant leaves) was used for tea in the summers. All berries, when available, were used for food. The Inuit would travel carrying moss, plants, and willows for starting fires. Heather and blackberry bushes were sometimes used to smoke and cure meat. Heather would also be burned in the tents or igloos to change the scent (Banci et al. 2006).

In response to development, Inuit have expressed concerns about the difficulty for vegetation to re-grow in the barrenlands:

*My understanding is that the vegetation in our area grows extremely slowly...once you start digging it up, [it] takes hundreds of years for that little bit of ground to grow. You disturbed it and the best you can do is try to put in back [in a] way...that it can try to repair itself* (BHP 1995b: 7).

*I don't think it will ever recover again once you've gone into a place and did the amount of construction that BHP seems to be working towards* (BHP 1995b: 22).

#### **3.8.3.4.1 Grass**

Traditionally, Inuit people used kangoyat (cottongrass seed heads also known as cotton balls) to mix with seal or caribou fat for kudlik (lamp) oil. The buds could also be rolled in oil in the kudlik (lamp) oil, and placed on the edge of the oil in the kudlik (lamp) to even the light to the edges. They can be used to adjust the flame depending on how the kangoyat (cottongrass seed heads) burn. Kangoyat (cottongrass seed heads) are also used to stop bleeding, for cuts, or for nose bleeds (Dominion Diamond 2013b).

#### **3.8.3.4.2 Wood**

Wood from below the treeline was collected to fuel fires, to set up tents, kimegotin (drying racks), and to build shafts, sleds, kayaks, cups, bowls, and drums. Wood was backpacked from all over the land, Inuit would often travel long distances to collect it. When wood was not readily available, small willows would be used. Dwarf birch was especially good for fires because it would not get wet, even after the rain or out of the snow (Banci et al. 2006). The ends of birch bushes are good if mixed with grass seed heads to start a fire. Birch and willow branches, cut and tied together, are also helpful when placed under bedding (caribou hides) to prevent dampness (Dominion Diamond 2013).

#### **3.8.3.4.3 Lichen and Moss**

Inuit have mostly identified the importance of moss and lichens to caribou. Caribou eat yellow lichen and moss together, they eat the little flowers of moss in early summer; and dig them out from under the snow in the winter (Dominion Diamond 2013b).

#### **3.8.3.4.4 Medicinal Plants**

In relation to the natural medicinal qualities of specific plants, Inuit have identified mushrooms that are particularly powerful. Not only can they be used to treat sore eyes or powdered to treat rashes, but species of puffy mushrooms can help these disappear. These puffy mushrooms also have been used in supporting shamans and addressing fear (Dominion Diamond 2013b).

## 4 SUMMARY

Over 200 archaeological sites and numerous stories and memories indicate traditional and ongoing use of the Ekati claim block. In recognition of the importance of TLU and TK information, and to meet regulatory requirements for the proposed Jay Project, a study program was designed and implemented to collect, document, and use relevant TLU and TK information in project planning.

The proposed Project is located within lands that have traditionally been used by Inuit, Dene, and Métis peoples. Traditionally, these groups supported themselves by harvesting resources from the land through activities such as hunting, fishing, trapping, and the gathering of berries and other plant materials. Travelling on foot, by canoe, kayak, dogsled, or snowshoe, the Inuit, Dene, and Métis shared heavily used trails leading to and from Lac de Gras and were guided by landscape features such as mountains, hills, eskers, waterbodies, inokhoks, and the caches and cairns left by previous travellers. The movement of family groups was determined by the availability of food and other resources needed for survival and changed in response to the natural shifts in animal populations. Small family groups camped near areas where caribou, fish, and water were available such as at the Lac du Sauvage and Lac de Gras narrows, on small bays along the shore, on protected islands and areas where channels with swift currents kept the water open in winter.

Although the barrenlands were used by Aboriginal people of the NWT and Nunavut year-round, the lands and waters surrounding the present-day Ekati Mine site were used seasonally when the caribou migrated in the spring and fall through places such as the Lac de Gras and Lac du Sauvage narrows. The fall caribou hunt was the most important for the Inuit, Dene, and Métis since the caribou at that time of year provide an important source of fat, food, and thick, warm furs needed for winter survival. All parts of a caribou were used and rules for the respectful hunting and butchering of the animals helped to protect the ongoing health and survival of the herds and the humans. For all potentially affected communities, the vital fall hunt traditionally occurred around Contwoyto Lake, Yamba Lake, Courageous Lake, MacKay Lake, Lac de Gras, Lac du Sauvage, and the Coppermine River.

Fishing was a secondary but important activity traditionally practiced at Lac de Gras and the surrounding area. Lac de Gras is known as a good source of large, fat fish. Fish was the main commodity in summer for people and their dogs, and were routinely dried and saved for use during the fall and winter hunts since they were light and easy to pack. Fishing was also carried out under the ice in the winter using nets made of willow and babiche.

Birds such as ptarmigan, grouse, goose, and duck have traditionally provided not only food, including meat and eggs, but also important materials, such as feathers, which were used to make blankets and pillows.

Furbearers such as wolf, fox, wolverine, and hare were trapped regularly for their meat and furs and became a major part of the Inuit, Dene, and Métis economy as fur trading posts moved into the north throughout the late 1700s and early 1800s. The eskers around Lac de Gras are known as ideal habitat for wolves and foxes and have been traditionally used for hunting and trapping activities that continue to contribute to the traditional economy. With the introduction of the fur trade around Great Slave Lake and the Arctic coast, land use patterns changed, adapting to the new fur trading economy. Many Inuit, Dene, and Métis hunters began to provide provisions to trading posts and would regularly obtain goods from the posts scattered throughout the north. The Métis were the most sedentary, often establishing small settlements and communities at the site of well-established posts. Their ongoing presence in the barrenlands, though, is exemplified in the very names of lakes and prominent features in the Ekati claim block which suggest a French-Métis influence (Lac de Gras, Lac du Sauvage, and Pointe du Misère).

Natural resources such as water and minerals are also very important to First Nations. Water is used for transportation, drinking, fishing, cleaning, and preparing hides and other materials. Stones such as quartz, chert, soapstone, and natural copper have been used in the construction of traditional tools. Plants, moss, lichens, and berries round out the traditional diet and provide fuel, construction materials, and can help treat many injuries and ailments while on the land.

The traditional and ongoing use and dependence on the lands and resources of the north has built a deep-rooted knowledge and respect for the local Inuit, Dene, and Métis communities. The culturally engrained understanding of the fragile relationship between humans and animals and the ways in which the land has been traditionally used and managed is often referred to as TK. If used appropriately, this knowledge communicates important information about local environmental values that should be maintained for future generations and how modern land use activities should be planned so as to respect and maintain these values.

Since obtaining the Ekati property, Dominion Diamond has worked with affected or potentially affected communities to support the ongoing collection and documentation of TK for communities as well as for integration into Project design, planning, operations, and eventual closure and reclamation activities. Dominion Diamond recognizes the significance of traditional land use activities and the connections local communities maintain with the Lac de Gras area, and will work with the communities to balance the traditional and present-day land uses so that the cultural connections can be maintained for future generations.



## 5 REFERENCES<sup>1</sup>

- Abel J. 1971. The Signing of Treaty No. 8 at Fort Resolution in 1900, From the Account in Dogrib by Joseph (Susie) Abel of Dettah, taped on July 5, 1971, Rae; translated by Vital Thomas and entered into field notes of July 6, 1971. In J Helm (Eds.), *The People of Denendeh*. McGill-Queen's University Press, Montreal, QC, Canada.
- Abrahamson G, Gillespie PJ, McIntosh DJ, Usher PJ, Williamson HA. 1964. *The Copper Eskimos: An economic survey, 1963*. Industrial Division, Department of Northern Affairs and Natural Resources, Ottawa, ON, Canada.
- Andre A, Fehr A. 2002. *Gwich'in Ethnobotany: Plants Using by Gwich'in for Food, Medicine, Shelter, and Tools (2<sup>nd</sup> Edition)*. Gwich'in Social and Cultural Institute and Aurora Research Institute, Inuvik, NWT, Canada. In Dezé. 2009. *Taltson Hydroelectric Expansion Project Developer's Assessment Report*. Dezé Energy, Yellowknife, NWT, Canada.
- Banci V, Hanak J, Ovilok J, Engoaloak H. 2007. *Caribou and Roads: Implementing Traditional Knowledge in Wildlife Monitoring at the Ekati Diamond Mine 2006 Annual Report*. Yellowknife, NWT, Canada.
- Banci V, Hanks C, Spicker R, Atatahak G. 2006. *Walking in the Path of the Caribou: Knowledge of the Copper Inuit, Naonaiyaotit Traditional Knowledge Project Report Series, Vol. I Pitkohit: Heritage and Culture*. Kitikmeot Inuit Association, Cambridge Bay and Kugluktuk, NU, Canada.
- BHP (Broken Hill Proprietary Company). 1995a. *NWT Diamonds Project: Environmental Impact Statement Project Description, Volume I*. Yellowknife, NWT, Canada.
- BHP. 1995b. *Métis Elder Perceptions of the Project: Individual Responses. Traditional Knowledge and Environmental Impact Assessment Study Agreement interview compilation results, Appendix 1-A7. NWT Diamonds Project: Environmental Impact Statement Project Description, Volume I*, Yellowknife, NWT, Canada.
- BHP. 2000. *Environmental Assessment Report for Sable, Pigeon and Beartooth Kimberlite Pipes*. Yellowknife, NWT, Canada.
- BHP Billiton (BHP Billiton Canada Inc. including subsidiary BHP Billiton Diamonds Inc.). 2011a. *Traditional Knowledge Inclusion at the Ekati Diamond Mine*. BHP Billiton presentation at IEMA TK Workshop, Yellowknife, NWT, Canada.
- BHP Billiton. 2011b. *2011 WEMP Łutsek'e Dene First Nation Community Engagement Program: August 24-31, 2011*. BHP Billiton, Yellowknife, NWT, Canada.
- BHP Billiton. 2011c. *2011 WEMP Kugluktuk Community Engagement Program: June 1-8, 2011*. BHP Billiton, Yellowknife, NWT, Canada.
- BHP Billiton. 2012. *2012 Traditional Knowledge Projects and Community Outreach*. BHP Billiton, Yellowknife, NWT, Canada.

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<sup>1</sup> Note: References listed in this section only pertain to those used within the body of the text and do not included all sources reviewed as listed in Section 2.

- Bohnet G. 1995. Métis Prospectors of the Slave Geological Province: A Preliminary Proposal. Métis Heritage Association NWT, Yellowknife, NWT, Canada.
- Bradley M, Gunn A, Dragon J. 2001. Numbers and abundance of muskoxen, east of Artillery Lake, NWT, July 1998. Government of the Northwest Territories Department of Resources, Wildlife & Economic Development, Fort Smith, NWT, Canada.
- Chocolate G, Legat A. 2000. A Tłıchq Perspective On Biodiversity. Dogrib Treaty 11 Council, Yellowknife, NWT, Canada.
- DCI (Dene Cultural Institute). 1995. Tłıchq Ndè: The Importance of Knowing, Dene Cultural Institute for the Dogrib Treaty 11 Council and BHP Diamonds, Appendix 1-A1 in NWT Diamonds Project: Environmental Impact Statement Project Description, Volume I, Behchokq, NWT, Canada.
- De Beers (De Beers Canada Inc.). 2010. Gahcho Kué Environmental Impact Statement. De Beers Canada Inc. Yellowknife, NWT, Canada.
- Dezé (Dezé Energy Corporation Ltd.). 2009. Taltson Hydroelectric Expansion Project Developer's Assessment Report. Dézé Energy, Yellowknife, NWT, Canada.
- DKFN (Deninu K'ue First Nation). 2012. The Deninu K'ue Ethno-history Report. Prepared for De Beers Canada for the Gahcho Kué Project. NWT, Canada.
- Dogrib Treaty 11 Council. 2000. A Tłıchq Perspective on Biodiversity. Dogrib Treaty 11 Council, Behchokq, NWT, Canada.
- Dominion Diamond (Dominion Diamond Ekati Corporation). 2013a. Draft Ekati Diamond Mine 2013 Traditional Knowledge Strategy. Dominion Diamond, Yellowknife, NWT, Canada.
- Dominion Diamond. 2013b. Appendix A. 2013 Community Vegetation Workshop Summary. Dominion Diamond Ekati Corporation, Yellowknife, NWT, Canada.
- Dominion Diamond. 2014. Jay Project Developer's Assessment Report. Dominion Diamond Ekati Corporation, Yellowknife, NWT, Canada.
- Dragon JID. 2002. Commercial Use of Caribou (*Rangifer tarandus*) in the Canadian Arctic. PhD Thesis. University of Alberta, Edmonton, AB, Canada. In Dézé. 2009. Taltson Hydroelectric Expansion Project Developer's Assessment Report. Dézé Energy, Yellowknife, NWT, Canada.
- EAP (Environmental Assessment Panel). 1996. Report on the NWT Diamonds Project. Environmental Assessment Panel Canadian Environmental Assessment Agency, Hull, QC, Canada.
- Fidler P. 1934. Journal of Journey with the Chepawyan or Northern Indians, to the Slave River, & to the East & West of the Slave River, in 1791 & 2. In J.B. Tyrell (Eds) Journal of Samuel Hearne and Philip Turnor. Pp. 493-556. The Champlain Society, Toronto, ON, Canada.
- Fort Resolution Elders. 1987. An Oral History of the Fort Resolution Elders: That's the Way We Lived. Danny Beaulieu and Gail Beaulieu (ed.). Northwest Territories Culture & Communication, Fort Resolution, NWT, Canada.

- Franklin J. 1823. Narrative of a Journey to the Shores of the Polar Sea in the Years 1819, 20, 21, and 22. Also available online at [www.canadiana.org](http://www.canadiana.org).
- Franklin J. 1924. Narrative of a Journey to the Shores of the Polar Sea in the Years 1819, 20, 21, and 22. Vol. I, 3<sup>rd</sup> Edition. John Murray (Eds). Originally published in 1824. London, England.
- Franklin J. 1995. The Journal of Occurances from Fort Chipewyan in 1820 by Lieut. Franklin RN & Commander of the Expedition. In R.C. Davis (Eds.), Franklin's First Arctic Land Expedition 1819-1822. University of Toronto Press Inc. Toronto, ON, Canada.
- Gillespie B. 1981. Yellowknife. In Sturtevant W, Helm J (Eds), Handbook of North American Indians: Vol. 6 Subarctic, Smithsonian Institute, Washington, DC, USA: pp 285-290.
- GNWT (Government of the Northwest Territories). 2008a. History of Mining in the Northwest Territories. Available at: <http://www.iti.gov.nt.ca/about-iti/copyright.shtml>. Accessed: July 9, 2013.
- GNWT. 2008b. Settlement Areas and Asserted Territories within the NWT. Government of the Northwest Territories Centre for Geomatics, Yellowknife, NWT, Canada.
- Gombay N. 1995. Bowheads and Bureaucrats indigenous Knowledge and Natural Resource Management in Nunavut. Unpublished thesis, Environment and Resource Studies, University of Waterloo, Waterloo, ON, Canada.
- Gordon B. 1996. People of the Sunlight, People of the Starlight: Barrenland Archaeology in the Northwest Territories of Canada. Canadian Museum of Civilization, Ottawa, ON, Canada.
- Government of Canada, GNWT and BHP. 1997. Environmental Agreement. Yellowknife, NWT, Canada.
- Gunn A, Arlooktoo G, Kaomayok D. 1988. The Contribution of the Ecological Knowledge of Inuit to Wildlife Management in the Northwest Territories. In Traditional Knowledge and Renewable Resource Management in Northern Regions. Freeman N, Carbyn N (Eds). Edmonton: Boreal Institute for Northern Studies, University of Alberta, Edmonton, AB, Canada.
- Hearne S. 1795. A Journey from Prince of Wales Fort in Hudson's Bay, to the Northern Ocean. Undertaken by order of the Hudson's Bay Company, for the Discovery of Copper Mines, a North West Passage, & in the Years 1769, 1770, 1771, & 1772. A. Strahan and T. Cadell (Eds). London, England.
- Helm J. 1981. Dogrib. In Sturtevant W, Helm J (Eds), Handbook of North American Indians: Vol. 6 Subarctic, Smithsonian Institute, Washington, DC, USA, pp 290-309.
- IEMA (Independent Environmental Monitoring Agency). 2011. Summary of Discussion from the Annual General Meeting of the Society of the Independent Environmental Monitoring Agency. Independent Environmental Monitoring Agency, Yellowknife, NWT, Canada.
- Jacobsen P. 2011. Tłı̨ch̓ Elders' Knowledge of Climate Change and Forest Fires: Implications for Barren-Ground Caribou Hunting. University of Northern British Columbia, Prince George, BC, Canada.

- Jones G. n.d. Historical Profile of the Great Slave Lake Area's Mixed European-Indian Ancestry Community. Aboriginal Law and Strategic Policy Group, Department of Justice, Canada.
- KIA (Kitikmeot Inuit Association). n.d. Kitikmeot Regional Map. Available at: <http://kitia.ca/en/our-lands/maps>. Accessed: November 12, 2013.
- Legat A, Chocolate G, Chocolate M, Williah P, Zoe SA. 2001. Habitat of Dogrib Traditional Territory: Placenames as Indicators of Biogeographical Knowledge. Whaehdoo Naowo Ko, Dogrib Treaty 11 Council, Behchoko, NWT, Canada.
- Linnamae U, Clarke BL. 1976. Archaeology of Rankin Inlet, N.W.T. The Muskox 19: 37-73.
- LKDFN (Łutselk'e Dene First Nation), Drybones M, Drybones N, Catholique J, Desjardans V, Lockheart M, Marlowe P, Michel A, Michel J, Rabesca JB, Catholique M, Parlee B, Catholique B, Catholique L. 1999. Habitats and Wildlife of Gahcho Kué and Katth'I Nene. West Kitikmeot Slave Study. Yellowknife, NWT, Canada.
- LKDFN, Parlee B, Basil M, Casaway N. 2001. Traditional Ecological Knowledge in the Kaché Tué Study Region. West Kitikmeot Slave Study. Yellowknife, NWT, Canada.
- Łutselk'e Dene Elders and Land Users, Ellis S, Catholique B, Desjarlais S, Catholique B, Catholique H, Basil M, Casaway N, Catholique S, Lockhart J. 2002a. Traditional Knowledge in the Kache Tué Study Region: Phase Three – Towards a Comprehensive Environmental Monitoring Program in the Kakinýne Region. West Kitikmeot Slave Study. Yellowknife, NWT, Canada.
- Łutselk'e Dene Elders and Land Users, Ellis S, Marlowe E, Catholique M, Enzoe G, Enzoe D, Desjarlais S, Basil H, Enzoe R, Isadore J, Casaway N, Enzoe T, Catholique S, Lockhart J. 2003. Ni hat'ni Watching the Land: Results and Implications of 2002–2003 Monitoring Activities in the Traditional Territory of the Łutselk'e Denesłłine. West Kitikmeot Slave Study. Yellowknife, NWT, Canada.
- Łutselk'e Dene Elders and Land Users, Ellis S, Marlowe E, Catholique M, Enzoe G, Enzoe D, Desjarlais S, Basil H, Enzoe R, Isadore J, Casaway N, Enzoe T, Catholique S, Lockhart J. 2005. Ni hat'ni Watching the Land: Results and Implications of 2002–2003 Monitoring Activities in the Traditional Territory of the Łutselk'e Denesłłine. West Kitikmeot Slave Study. Yellowknife, NWT, Canada.
- Łutselk'e Dene Elders and Land Users, Ellis S, Basil M, Catholique B, Casaway N, Desjarlais S, Catholique S. 2002b. Denesłłine Land-Use in the Eedacho Kué and Desnedhé Che Region Report #1: Traditional Practice – The Land of Legend. Submitted to De Beers Canada Exploration and BHP Billiton Inc. Yellowknife, NWT, Canada.
- Maxwell MS. 1980. Archaeology of the Arctic and Subarctic Zones. In Annual Review of Anthropology. Vol 9: Palo Alto, USA, pp 161-185.
- Maxwell MS. 1985. Prehistory of the Eastern Arctic. Arctic Academic Press, Orlando, FL, USA.

- McGhee R. 2009. Why and When did the Inuit Move to the Eastern Arctic. In: Maschner H., Mason H, McGhee R, *The Northern World AD 900-1400*. The University of Utah Press, Salt Lake City, UT, USA, pp. 155–163.
- MVRB (Mackenzie Valley Review Board). 2005. Guidelines for Incorporating Traditional Knowledge in Environmental Impact Assessment. Mackenzie Valley Review Board, Yellowknife, NWT, Canada.
- Noble WC. 1981. Prehistory of the Great Slave Lake and Great Bear Lake Region. In Sturtevant W, Helm J (Eds), *Handbook of North American Indians: Vol. 6 Subarctic*, Smithsonian Institution, Washington, DC, USA, pp 97-106.
- Novecosky B. 2011. Dezé Energy Corporation Taltson Hydroelectric Expansion Project Reliance Adjustment EA Support Archaeological Baseline Survey. Golder Associates Ltd., Saskatoon, SK, Canada.
- NWTMN (Northwest Territories Métis Nation). 2000. Northwest Territory Métis Nation Declaration. NWTMN. Available at: <http://www.nwtmetisnation.ca/declaration.html>. Accessed: March 19, 2014.
- NWTMN. 2012. Gahcho Kue Mine Project Values, Interests, and Issues Identified at NWT Métis Nation Community TK Study Sessions. NWTMN, Fort Smith, NWT, Canada.
- NWTMN. 2014. Joint Review Panel Submission – BC Hydro Proposed Site C. Speaking Notes of Ron Yaworsky and Earl Evans, Peace River, AB Hearing Session on January 9, 2014. NWTMN, Fort Smith, NWT, Canada.
- Parlee B, Marlow E. 1997. Traditional Knowledge on Community Health: Community-Based Monitoring. Łutselk'e Dene First Nation, Łutselk'e, NWT, Canada.
- Pike W. 1892. *The Barren Ground of Northern Canada*. MacMillan and Company, New York, NY, USA.
- Pike W. 1967. *The Barren Ground of Northern Canada*. Originally published in 1892. Arno Press, New York, NY, USA.
- Rescan (Rescan Environmental Services Ltd.). 2006. Summary Report Archaeological and Heritage Site Management 1994 to 2006. Rescan Environmental Services Ltd., Yellowknife, NWT, Canada.
- Riedlinger D, Bingeman K. 1999. Protecting Traditional Ecological Knowledge in Environmental Assessments and Land Use Studies: Mechanisms and Recommendations. Natural Resources Institute, University of Manitoba, Winnipeg, MB, Canada.
- Riewe R. 1992. *Nunavut Atlas*. Canadian Circumpolar Institute and the Tungavik Federation of Nunavut. Edmonton, AB, Canada.
- Ryan J. 1994. *Traditional Dene Medicine*. National Health Research and Development Program and Dene Cultural Institute, Hay River, NWT, Canada.
- Sadownik L, Harris H. 1995. Dene and Inuit Traditional Knowledge: A Literature Review. Canadian Circumpolar Institute, University of Alberta, Appendix 1-A2 in *NWT Diamonds Project: Environmental Impact Statement Project Description, Volume I*. Edmonton, AB, Canada.

- Scott DC. 1900. Summary of Indian Affairs in the Various Provinces Based on the Report of the Department's Agents and the Inspectors for the Fiscal Year Ended March 31, 1920. In Annual Report of the Department of Indian Affairs for the Year Ended March 31 1920. Thomas Mulvey (Eds.), Ottawa, ON, Canada.
- Shaw T. n.d. Appendix B – A Case Study of Community-Based Monitoring using Traditional Ecological Knowledge in Łutselk'e, NWT. In Increasing Citizen Participation In Sustainability-Centred Environmental Assessment Follow-Up. University of Waterloo, Waterloo, ON, Canada.
- Simpson G. 1821. Report on the Athabasca Department, 1821. HBCA 1M776, B.39/e/1/ fol. 3b.
- Smith E, Rogers J. 1981. Environment and Culture in the Shield and Mackenzie Borderlands. In Sturtevant W, Helm J (Eds), Handbook of North American Indians: Vol. 6 Subarctic, Smithsonian Institute, Washington, DC, USA, pp 130-144.
- Stevenson, M. 1999. Can't Live Without Work. North Slave Métis Alliance, Yellowknife, NWT, Canada.
- TG (Tłıchǵ Government). 2012. Tłıchǵ Knowledge for De Beers Canada Proposed Gahcho Kué Diamond Project. Tłıchǵ Knowledge Research and Monitoring Program. Behchokǵ, NWT, Canada.
- Tłıchǵ Community Services Agency. 2007. Reading and Writing in Tłıchǵ Yatıı. Library and Archives Canada. ISBN 978-1-896790-36-7. Behchokǵ, NWT, Canada.
- Tychon GG. 1993. The Dene Mapping Project: Past and Present. Presented at the 7th Annual Symposium on Geographic Information Systems in Forestry, Environment and Natural Resources Management. Spatial Data Systems Consulting, Vancouver, BC, Canada.
- Weledeh Yellowknives Dene. 1997. Weledeh Yellowknives Dene: A Traditional Knowledge Study of Ek'ati. Yellowknives Dene First Nation Council, Dettah, NWT, Canada.
- WKSS (West Kitikmeot Slave Study). 2001. Final Report West Kitikmeot Slave Study. West Kitikmeot Slave Study Society. Yellowknife, NWT, Canada.
- Wright JV. 1981. Prehistory of the Canadian Shield. In Sturtevant W, Helm J (Eds), Handbook of North American Indians: Vol. 6 Subarctic. Smithsonian Institute, Washington, DC, USA, pp 66-96.

## 6 GLOSSARY

Term	Definition
?ek'ati	Meaning the "storage house" or "like a freezer" (Tłı̨chq Community Services Agency 2007).
All-season road	An all-season road is a road that is motorable all year by the prevailing means of rural transport.
Aquatic Effects Monitoring Program	A monitoring program designed to determine the short- and long-term effects in the aquatic receiving environment resulting from the mine operations, to evaluate the accuracy of predictions, to assess the effectiveness of planned impact mitigation measures, and to identify additional mitigation measures to reduce or eliminate environmental effects.
Archaeology	The study of past cultures through the scientific investigation of their material remains.
Arctic Small Tool tradition (ASTt)	Represents a widespread cultural identity in the North American Arctic between approximately 4500 and 2800 Before Present (BP). It is characterized by finely made microblades, spalled burins, small side and end scrapers, and side and end blades.
Awl	Small pointed tool used for piercing holes.
Babiche	A type of cord or lacing of rawhide or sinew formed into strips and used to make items such as fastenings, animal snares, and snowshoes.
Baseline	Background or reference; conditions prior to Project development.
Baseline study area	The project area that forms the basis of the geochemical assessment, which includes the Project and the Ekati Mine.
Biodiversity	The variety of life included at the genetic, individual organism, species, population, community, ecosystem and landscape levels of organization and all the ecological and biological processes through which they are connected.
Biophysical	The biological (e.g., plants, animals) and physical (e.g., air, water, soil) components of the natural environment.
Brigade	Boat companies mostly crewed by Métis men employed by the Hudson's Bay Company.
Burin	A special type of lithic flake with a chisel-like edge which was probably also used for engraving, or for carving wood or bone.
Cache	A collection of items of the same type stored in a hidden or inaccessible place for future use.
Cairn	A man-made pile (or stack) of rough stones built as a memorial or landmark, typically on a hilltop or skyline.
Caribou rope	See babiche.
Carnivores	Any of an order of mammals that feed chiefly on flesh or other animal matter rather than plants.
Courers de bois	Independent, unlicensed, entrepreneurial fur traders who travelled inland to trade furs with the people native to the land. Along the way, they learned the trades and practices of local people.
Dry fish	Traditionally preserved fish. Drying is a method of food preservation that works by removing water from the food, which inhibits the growth of microorganisms.
Dry meat	Traditionally preserved meat. Drying is a method of food preservation that works by removing water from the food, which inhibits the growth of microorganisms.
Ecosystem	Ecological system consisting of all the organisms in an area and the physical environment with which they interact.
Ek'ati	Yellowknives Dene First Nation name for Lac de Gras referring to "ek'a," meaning "fat" (Weledeh Yellowknives Dene 1997).
Ekati Mine	Ekati Diamond Mine, Canada's first diamond mine.
En derouine	Refers to when a trader made an extended stay in an Indian village to trade goods.
Esker	An esker is a long, winding ridge of stratified sand and gravel believed to form in ice-walled tunnels by streams which flowed within and under glaciers. After the retaining ice walls melt away, stream deposits remain as long winding ridges.
Freshet	A sudden overflow of a stream caused by heavy rain or nearby thawing of snow or ice. Can be seasonal surface runoff associated with spring melt.
Furbearer	Mammals that have traditionally been trapped or hunted for their fur.

Term	Definition
Groundwater	Water that is passing through or standing in the soil and the underlying strata in the zone of saturation. It is free to move by gravity.
Groundwater regime	Water below the land surface in a zone of saturation.
Hide	An animal skin treated for human use.
Hudson's Bay Company	The oldest commercial corporation in North America which began as a fur trading business in 1670. It was at one time the largest landowner in the world having 15% of North American acreage. Undertaking early exploration, its traders and trappers forged early relationships with many Aboriginal people. Its network of trading posts formed the nucleus for later official authority in many areas of Western Canada and the United States.
Inuksuk	Stone markers.
Jiggers	Tool for setting fish nets under ice between two distant holes.
Kimberlite	Igneous rocks that originate deep in the mantle, and intrude the Earth's crust. These rocks typically form narrow pipe-like deposits that sometimes contain diamonds.
Kimberlite Pipe	Vertical structures on which kimberlites occur in the Earth's crust.
Lanceolates	Having the general shape of a lance; much longer than wide, with the widest part lower than the middle and a pointed apex. Of a class of knapped stone points, made without a stem, shoulders, notches, or other features that aid in attachment to a shaft.
Lichen	A simple slow-growing plant that typically forms a low crust-like, leaf-like, or branching growth on rocks, walls, and trees.
Métis	People of mixed North American Indian-European descent.
Microblade	Small stone blades, which are produced by chipping silica-rich stones like chert, quartz, or obsidian. Blades are a specialized type of lithic flake that are at least twice as long as they are wide with parallel lateral edges and dorsal scars, a lack of cortex, a prepared platform with a broad angle, and a proximal bulb of percussion. Microblades are generally less than 50 mm long in their finished state.
Muskeg	A North American term frequently used for peatland. The word is of Algonquin Indian origin and is applied in ordinary speech to natural and undisturbed areas covered more or less with Sphagnum mosses, tussocky sedges, and an open growth of scrubby trees. (The terms peatland and muskeg are commonly used interchangeably.)
Northern Plano Tradition	Widespread late Paleo-Indian tradition in North America from 10,000 to 7,000 BP. As the climate moderated, peoples of the Late Plano complex moved north into Saskatchewan and Alberta with the grazing game animals and, by 3000 BC, had reached the Arctic tundra zone in the Northwest Territories of Canada. It is the most recent of the three major Paleo-Indian cultures.
Ochre	An earthy pigment containing ferric oxide, typically with clay, varying from light yellow to brown or red.
Paleo-Eskimo	The peoples who inhabited the Arctic region from Russia across North America to Greenland before the rise of the modern Inuit and related cultures. The first known Paleo-Eskimo cultures developed by 4,500 BP, but were gradually displaced in most of the region, with the last one, the Dorset culture, disappearing approximately 1500.
Paleo-Indian	A classification term given to the first peoples who entered, and subsequently inhabited, the American continents during the final glacial episodes of the late Pleistocene period.
Pemmican	A paste of dried and pounded meat mixed with melted fat and other ingredients such as berries, originally made by North American Indians and later adapted by Arctic explorers.
Permafrost	Ground (soil or rock and included ice and organic material) that remains at or below 0°C for at least two consecutive years. Permafrost is defined on the basis of temperature. It is not necessarily frozen, because the freezing point of the included water may be depressed several degrees below 0°C; moisture in the form of water or ice may or may not be present.
Reclamation	The process of reconverting disturbed land to its former or other productive uses.
Runoff	The portion of water from rain and snow that flows over land to streams, ponds or other surface waterbodies. It is the portion of water from precipitation that does not infiltrate into the ground, or evaporate.
Sedges	A grass-like plant with a triangular stem often growing in wet areas. Sedge wetland habitats are typically wet sedge meadows and other sedge associations of non-tussock plant species. Sedge species such as <i>Carex aquatilis</i> and <i>C. bigelowii</i> , and cotton grass ( <i>Eriophorum angustifolium</i> ) are the dominant vegetation types. Plant species occupy wet, low-lying sites where standing water is present throughout much of the growing season.



Term	Definition
Shaman	Spiritual guide and practitioner.
Snare	A kind of trap used for capturing animals.
Spall	A chip, fragment, or flake from a piece of stone or ore.
Spring Freshet	A spring thaw event resulting from melting snow and ice on rivers.
Tailings	A by-product of oil sands extraction typically comprised of water, sands and clays, with minor amounts of residual bitumen.
Tailings Pond	Constructed impoundment structures required to contain tailings. Tailings ponds are enclosed dikes made with tailings and/or overburden materials to stringent geotechnical standards.
Talo	Hunting blind.
Taltheilei Tool Tradition	The archeological name of the material culture of a late prehistoric western-area sub-Arctic people dated to the period of 750 BC to AD 1000. The Taltheilei Shale Tradition is named after the "Taltheilei Narrows" ( <i>place of open water</i> ) of Great Slave Lake. Taltheilei people were Proto-Athapascans.
Traditional Knowledge (TK)	Knowledge systems embedded in the cultural traditions of regional, indigenous, or local communities. It includes types of knowledge about traditional technologies, the environment and ecology.
Traditional Land Use (TLU)	Use of the land by Aboriginal groups for harvesting traditional resources such as wildlife, fish or plants, or for cultural purposes such as ceremonies or camping.
Treaty 8	The first of the northern treaties covering what is now the northern half of Alberta, the northeast quarter of British Columbia, the northwest corner of Saskatchewan, and the area south of Great Slave Lake in the Northwest Territories.
Treeline	The point (or imaginary line) beyond which tree growth dwindles.
Ulu	An all-purpose rocker knife with a curved edge.
Waste Rock	Rock moved and discarded in order to access resources.
Waterbody	A general term that refers to rivers, streams, and lakes.
Watercourse	Riverine systems such as creeks, brooks, streams and rivers.
Watershed	The entire surface drainage area that contributes water to a lake or river.
Wetlands	Areas with ground slopes of less than 0.5% or depressions and typically poorly drained.
Whetstones	A sharpening stone used for knives and other cutting tools.
Wildlife	Under the Species at Risk Act, wildlife is defined as a species, subspecies, variety or geographically or genetically distinct population of animal, plant or other organism, other than a bacterium or virus that is wild by nature and is native to Canada or has extended its range into Canada without human intervention and has been present in Canada for at least 50 years.
Wildlife Effects Monitoring Program (WEMP)	A program established to investigate and monitor for the potential effects of mining activities on wildlife within the Ekati Mine study boundaries.
Winter Road	Roads which are built over frozen lakes and tundra. Compacted snow and/or ice is used for embankment construction.
Yamoria	A special man who travelled the Dene land and put everything into its rightful place. By doing this, he had set laws for the Dene to follow.
York Boat	An inland boat used by the Hudson's Bay Company to carry furs and trade goods along inland waterways.