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ANNEX VI - SOCIO-ECONOMIC BASELINE REPORT

Tazi Twé Hydroelectric Project

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REPORT

Report Number: 10-1365-0004/DCN-072



InterGroup
CONSULTANTS

List of Acronyms

Term	Definition
AADT	average annual daily traffic
AANDC	Aboriginal Affairs and Northern Development Canada
ABDLP	Athabasca Basin Development Limited Partnership
AERC	Athabasca Enterprise Region Corporation
AHA	Athabasca Health Authority
ALUPIAP	Athabasca Land Use Plan Interim Advisory Panel
AREVA	AREVA Resources Canada Inc.
ATK	Aboriginal Traditional Knowledge
ATV	all-terrain vehicle
BMI	body mass index
BP	before present
BQCMB	Beverly and Qamanirjuaq Caribou Management Board
CanNorth	Canada North Environmental Services Limited Partnership
CBC	Canadian Broadcasting Corporation
CCF	Cooperative Commonwealth Federation
CEGEP	<i>Collège d'enseignement général et professionnel</i>
CMHC	Canada Mortgage and Housing Corporation
CPI	Consumer Price Index
EA	environmental assessment
FCA	Fur Conservation Area
FFMC	Freshwater Fish Marketing Corporation
FNUC	First Nations University of Canada
GED	General Education Development
GVW	gross vehicle weight
HBC	Hudson's Bay Company
HTV	Horizontal Transport Vehicles
Hwy	Highway
IMA	Impact Management Agreements
INAC	Indian and Northern Affairs Canada
IPHRC	Indigenous Peoples' Health Research Centre
KYRHA	Keewatin Yatthé Regional Health Authority
KPI	Key Person Interview
LPN	licensed practical nurse
LSA	local study area
MBC	Missinipi Broadcasting Corporation
MCRHR	Mamawetan Churchill River Health Region
MPTP	Multi-Party Training Plan
MSRA	methicillin resistant staphylococcus aureus
NCQ	Northern Career Quest

List of Acronyms (continued)

Term	Definition
n.d.	no date
NJC	National Joint Council of Public Service of Canada
NLSD	Northern Lights School Division
NNADAP	National Native Alcohol and Drug Abuse Program
NWT	Northwest Territories
PAGC	Prince Albert Grand Council
pers. comm.	personal communication
PHU	Population Health Unit
PVC	portable vehicle classifiers
PYLL	Potential years of life lost
RCMP	Royal Canadian Mounted Police
RN	registered nurse
RSA	regional study area
RSSA	regional socio-economic study area
SCFL	Saskatchewan Cooperative Fisheries Ltd.
SGI	Saskatchewan Government Insurance
SIAST	Saskatchewan Institute of Applied Sciences and Technologies
SICC	Saskatchewan Indian Cultural Centre
SIIT	Saskatchewan Indian Institutes of Technology
SMHI	Saskatchewan Ministry of Highways and Infrastructure
SSA	site study area
STEC	Saskatchewan Tourism Education Council
STI	sexually transmitted infection
TAADT	truck average annual daily traffic
TRA	Traditional Resource Cabin
U ₃ O ₈	triuranium octoxide
WMZ	Wildlife Management Zone

List of Units

Term	Definition
accidents/Mvkm	accidents per million vehicle kilometres
\$	dollar
ha	hectare
lbs	pound(s)
kg	kilogram
kg/ha/yr	kilogram per hectare per year
km	kilometre
km/h	kilometres per hour
mm	millimetre
Mvkm	million vehicle kilometres
#	number
%	percent
pp	percentage point

Table of Contents

1.0	INTRODUCTION.....	1
1.1	Project Proponent.....	1
1.2	Project Overview.....	1
1.3	Objective of the Baseline Report	1
1.4	Overview.....	3
1.5	Approach	3
1.5.1	Literature Review	3
1.5.2	Key Person Interview Program	4
1.5.3	Traditional Land Use	4
1.6	Community Context	5
1.6.1	Community of Black Lake	5
1.6.2	Northern Hamlet of Stony Rapids.....	6
2.0	ECONOMY.....	8
2.1	Labour Force Characteristics.....	8
2.2	Potential Labour Force	8
2.2.1	Community of Black Lake	9
2.2.2	Northern Hamlet of Stony Rapids.....	10
2.3	Education and Training.....	10
2.3.1	Community of Black Lake	13
2.3.2	Northern Hamlet of Stony Rapids.....	15
2.4	Employment.....	16
2.4.1	Community of Black Lake	16
2.4.2	Northern Hamlet of Stony Rapids.....	18
2.4.3	Employment by Sector	19
2.4.4	Community of Black Lake	19
2.4.5	Northern Hamlet of Stony Rapids.....	19
2.5	Income.....	21
2.5.1	Community of Black Lake	22
2.5.2	Northern Hamlet of Stony Rapids.....	24
2.6	Cost of Living.....	26

Table of Contents (continued)

2.6.1	Community of Black Lake	28
2.6.2	Northern Hamlet of Stony Rapids.....	29
2.7	Local Business.....	29
3.0	INFRASTRUCTURE AND SERVICES	31
3.1	Area Overview	31
3.2	Transportation Infrastructure.....	31
3.2.1	Regional Roads	32
3.2.1.1	Hwy 905 – Points North Landing to the Community of Black Lake.....	34
3.2.1.2	Hwy 905 – Community of Black Lake to Stony Rapids.....	34
3.2.2	Regional Traffic.....	34
3.2.2.1	Hwy 905 – Points North Landing to Black Lake.....	35
3.2.2.2	Hwy 905 – Black Lake to Stony Rapids.....	35
3.2.2.3	Traffic-Related Public Safety	35
3.2.3	Community Roads.....	36
3.2.3.1	Black Lake – Community Roads.....	36
3.2.3.2	Northern Hamlet of Stony Rapids – Community Roads.....	37
3.2.4	Air Traffic and Transportation.....	37
3.2.5	Water Transportation	38
3.3	Community Facilities and Services.....	38
3.3.1	Education Facilities	38
3.3.1.1	Community of Black Lake – Education Facilities	38
3.3.1.2	Northern Hamlet of Stony Rapids – Education Facilities	39
3.3.2	Health Facilities and Services	40
3.3.2.1	Community of Black Lake – Health Facilities and Services	41
3.3.2.2	Northern Hamlet of Stony Rapids – Health Facilities and Services	41
3.3.3	Social Services and Programs	41
3.3.4	Housing.....	42
3.3.5	Utilities and Public Services	44
3.3.5.1	Communications.....	44
3.3.5.2	Water and Sewage	45

Table of Contents (continued)

3.3.5.3	Solid Waste Management.....	46
3.3.5.4	Emergency Services.....	46
3.3.5.5	Recreation Services and Areas	46
3.3.5.6	Community Land Use and Plans	47
4.0	LAND AND RESOURCE USE.....	49
4.1	Land and Resource Use for Traditional and Domestic Purposes by Aboriginal People.....	49
4.1.1	The Prehistory of Northern Saskatchewan.....	50
4.1.2	Early History of the Dene of Northern Saskatchewan	50
4.1.3	Settlement.....	53
4.1.4	Contemporary Land and Resource Use.....	54
4.1.5	Land and Resource Use in the Elizabeth Falls Area.....	62
4.1.5.1	Access Trails and Portages	64
4.1.5.2	Cabins and Campsites.....	64
4.1.5.3	Burial Sites	67
4.1.5.4	Traditional Stories about Elizabeth Falls.....	67
4.1.6	Changes to Resource Use.....	67
4.2	Other Land and Resource Use	70
4.2.1	Trapping.....	70
4.2.2	Commercial Fishing	76
4.2.3	Forestry and Forest Products.....	79
4.2.4	Outfitting and Lodges	80
4.2.5	Mining and Exploration.....	84
5.0	POPULATION AND HEALTH	88
5.1	Population.....	88
5.1.1.1	Historical and Current Population	88
5.1.1.2	Projected Population.....	90
5.1.1.3	Population by Age and Sex	90
5.2	Health	94
5.2.1	Health Indicators	94
5.2.2	Population	95

Table of Contents (continued)

5.2.3	Infant and Maternal Health.....	95
5.2.4	Life Expectancy and Causes of Death.....	97
5.2.5	Communicable Diseases.....	98
5.2.6	Chronic Diseases.....	99
5.2.6.1	Diabetes.....	99
5.2.6.2	Cancer.....	99
5.2.7	Hospital Use.....	100
5.2.8	Non-Medical Determinants of Health.....	101
5.2.8.1	Socio-Economic Factors.....	101
5.2.8.2	Individual Behaviours.....	102
5.3	Community Perspectives on Health.....	104
5.3.1	Community of Black Lake.....	104
5.3.2	Northern Hamlet of Stony Rapids.....	105
6.0	REFERENCES.....	107

TABLES

Table 1.6-1:	Chief and Councillors for Black Lake Denesuline First Nation.....	6
Table 1.6-2:	Chairperson and Aldermen in the Northern Hamlet of Stony Rapids.....	7
Table 2.2-1:	Potential Labour Force ^(a) in the community of Black Lake, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2001 and 2006.....	9
Table 2.2-2:	Potential Labor Force ^(a) in the Northern Hamlet of Stony Rapids, the Athabasca Region, Northern Saskatchewan and Saskatchewan 2001 and 2006.....	10
Table 2.3-1:	Highest Level of Schooling for Population 15 Years of Age and Over ^(a) for Black Lake, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006.....	11
Table 2.3-2:	Highest Level of Schooling for Population 15 Years of Age and Over ^(a) for Black Lake, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006.....	12
Table 2.4-1:	Labour Force Indicators for Black Lake, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006 ^(a)	17
Table 2.4-2:	Labour Force Indicators for the Northern Hamlet of Stony Rapids, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006 ^(a)	18
Table 2.4-3:	Employment by Industry Type ^(a) for the community of Black Lake, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006.....	20
Table 2.4-4:	Employment by Industry Type ^(a) for the Northern Hamlet of Stony Rapids, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006.....	21

Table of Contents (continued)

Table 2.5-1:	Average Employment Income ^(a) for Males and Females in the community of Black Lake, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006 ^(b)	23
Table 2.5-2:	Sources of Income ^(a) for the community of Black Lake, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006 ^(b)	24
Table 2.5-3:	Average Employment Income ^(a) for Males and Females in the Northern Hamlet of Stony Rapids, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006 ^(b)	25
Table 2.5-4:	Sources of Income ^(a) for the Northern Hamlet of Stony Rapids, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006 ^(b)	26
Table 2.6-1:	Cost of National Nutritious Food Basket for a Family of Four ^(a) in Various Regions within Saskatchewan: 2001 and 2009	27
Table 3.2-1:	Traffic Data for Provincial Highway 905 (Athabasca Seasonal Road).....	35
Table 3.2-2:	Traffic Data for Provincial Highway 905 (Black Lake to Stony Rapids)	35
Table 3.2-3:	Registered Aerodrome Facilities and Runways at the Stony Rapids Airport.....	37
Table 3.3-1:	Housing Characteristics for the community of Black Lake, the Northern Hamlet of Stony Rapids, Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006 ^(a)	43
Table 4.1-1:	Caribou Harvest in the Communities of Black Lake and Stony Rapids: 2004-2005 to 2007-2008 ^(a)	60
Table 4.2-1:	Fur Block N-24 by Season: 1990/1991 to 2010/2011	74
Table 4.2-2:	Fur Block N-80 by Season: 1990/1991 to 2009/2010	75
Table 4.2-3:	Fish Production on Athabasca Region Lakes	79
Table 4.2-4:	Lodges ^(a) and Outfitters in a 50 km Radius of the Project Site	83
Table 4.2-5:	Highlights of Uranium Mines Operating in the Northern Saskatchewan: 2012.....	85
Table 5.1-1:	Population of the community of Black Lake, the Northern Hamlet of Stony Rapids, Northern Saskatchewan, and Saskatchewan by Source (2001, 2006, and 2011).....	88
Table 5.1-2:	Age Characteristics of the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2011 ^(a)	90
Table 5.1-3:	Age Characteristics of the community of Black Lake, Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2011 ^(a)	92
Table 5.1-4:	Age Characteristics of the Northern Hamlet of Stony Rapids, Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2011 ^(a)	93

FIGURES

Figure 1.2-1:	General Project Location.....	2
Figure 3.2-1:	Provincial Highways in Northern Saskatchewan	33
Figure 4.1-1:	Dene Territory in Historical Times	52
Figure 4.1-2:	Black Lake First Nation Land and Resource Use.....	56
Figure 4.1-3:	Land and Resource Use Near Black Lake First Nation and the Tazi Twé Hydroelectric Project Site	63
Figure 4.1-4:	Trail Below Elizabeth Falls	65

Table of Contents (continued)

Figure 4.2-1:	Fur Block Boundary.....	71
Figure 4.2-2:	Annual Trend in the Number of Licensed Trappers and Marketed Pelts.....	73
Figure 4.2-3:	Wildlife Management Zone 76	82
Figure 4.2-4:	Black Lake Infrastructure	87
Figure 5.1-1:	Sex and Age Characteristics for the Athabasca Region (a) and Saskatchewan, 2011	91
Figure 5.1-2:	Sex and Age Characteristics for Black Lake and Saskatchewan, 2011	93
Figure 5.1-3:	Sex and Age Characteristics for the Northern Hamlet of Stony Rapids and Saskatchewan, 2011	94
Figure 5.2-1:	Saskatchewan Regional Health Authorities	96

1.0 INTRODUCTION

1.1 Project Proponent

In response to an increasing demand for energy in northern Saskatchewan, Black Lake First Nation (BLFN) together with Saskatchewan Power Corporation (SaskPower) is the Proponents of the Tazi Twé Hydroelectric Project (Project). Black Lake First Nation's interest in the Project is being held through the Elizabeth Falls Hydro Limited Partnership (EFHLP).

1.2 Project Overview

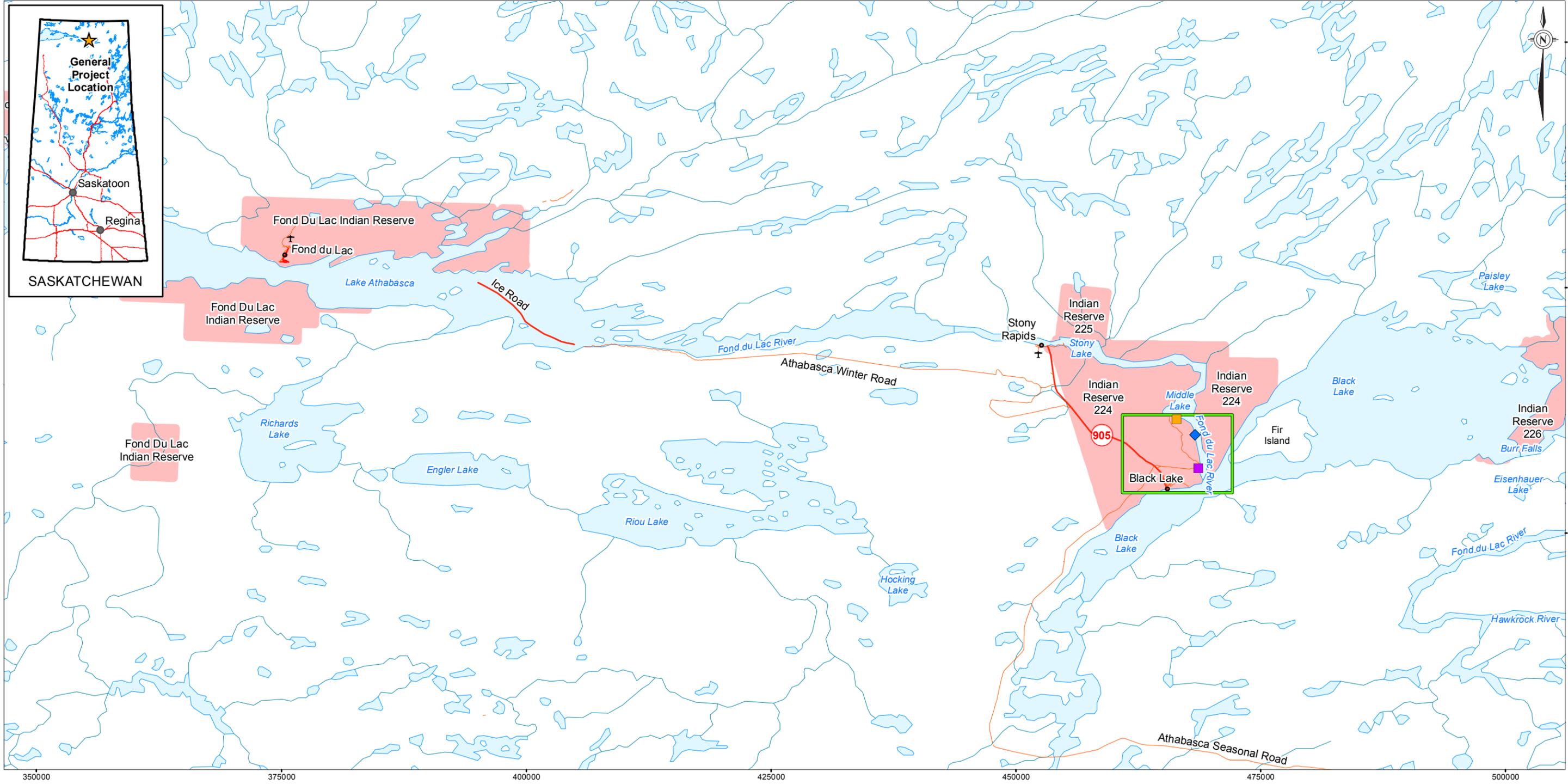
The proposed Project will be a 50 megawatt (MW) water diversion type electrical generating station. The Project is located on the Chicken Indian Reserve 224, approximately 7 kilometres (km) from the community of Black Lake adjacent to the Fond du Lac River between Black Lake and Middle Lake (Figure 1.2-1). Black Lake has an approximate area of 418 square kilometres (km²) and discharges an average flow of 305 cubic metres per second (m³/s) into the Fond du Lac River. The Fond du Lac River traverses Elizabeth Falls on its way to Middle Lake. Water from Black Lake will be diverted through an intake and power tunnel to the powerhouse before being released through a tailrace channel into the Fond du Lac River, which ultimately discharges into Middle Lake.

The principal components of the Project consist of the following:

- gravel, all-season access road to the Project site from the all-season road between the communities of Stony Rapids and Black Lake;
- bridge over the Fond du Lac River;
- powerhouse and associated infrastructure;
- intake and power tunnel to convey flow from Black Lake to the powerhouse;
- tailrace channel from the powerhouse to the Fond du Lac River just upstream of Middle Lake;
- submerged weir located in the Fond du Lac River at the outlet of Black Lake at Grayling Island;
- transmission lines and switching stations to connect to the northern Saskatchewan electrical grid; and
- all related physical works and physical activities required to carry out these works, including the associated coffer dams, access roads, laydown areas, construction camp, borrow areas, waste rock piles, concrete batch plant, fuel storage facility and fueling areas, explosives storage, construction camp, and sewage treatment and potable water facilities.

1.3 Objective of the Baseline Report

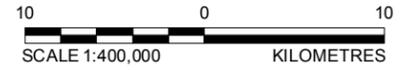
The objective of baseline reporting is to provide information on the current environmental conditions related to socio-economics in the Project area. This information will be used to support assessment of the effects of the proposed Project on biophysical and socio-economic environments in the area.



LEGEND

● VILLAGE	◆ ELIZABETH FALLS
⊕ RUNWAY	■ CAMP GRAYLING
— HIGHWAY	■ PERMANENT RESIDENT'S CABIN
— ROAD	□ GENERAL PROJECT LOCATION
— RIVER	
— WATERBODY	
— INDIAN RESERVE	

REFERENCE
 DMT1 HIGHWAYS AND ROADS
 NTS MAPSHEET 741, 74J, 74O, 74P
 DATUM: NAD 83 PROJECTION: UTM ZONE 13



PROJECT		TAZI TWÉ HYDROELECTRIC PROJECT	
TITLE		GENERAL PROJECT LOCATION	
PROJECT	10-1365-0004	FILE No.	
DESIGN		SCALE AS SHOWN	REV. 1
GIS	LMR/SM	27/08/13	
CHECK	KZ	03/07/13	FIGURE: 1.2-1
REVIEW	PY	03/07/13	



1.4 Overview

This report presents a summary of the current socio-economic environment of the area anticipated to be affected by the proposed Project. Similar to other parts of the environmental assessment, the socio-economic baseline considers the site study area (SSA), the local study area (LSA), and the regional study area (RSA), and introduces a regional socio-economic study area (RSSA) specific to the socio-economic environment.

The regional and local areas of influence for socio-economic effects differ from those for biophysical effects and cannot accurately be analyzed or portrayed utilizing the same boundaries. Thus, the socio-economic assessment and reporting presented herein utilize boundaries that coincide with the way the effects will be distributed. The RSSA includes communities that may be affected by the project through project expenditures (e.g., employment and business opportunities), as well as those communities with documented ties to the site and local study areas through traditional land and resource use. In this report, the RSSA refers to communities and the social and economic interactions these communities have beyond the boundaries of the communities themselves. The following two communities are included in the RSSA of the Project:

- Black Lake Denesuline First Nation (hereafter Black Lake); and
- the northern hamlet of Stony Rapids (hereafter Stony Rapids).

This report is organized into the following broad categories:

- **Economy:** Includes information concerning labour force characteristics, education and training, employment by sector, income, and cost-of-living.
- **Infrastructure and Services:** Includes information concerning transportation, education facilities, health facilities and services, housing, and other community infrastructure.
- **Land and Resource Use:** Includes information concerning traditional land and resource use and commercial land and resource use.
- **Population and Health:** Includes information concerning community health, community goals and plans, public safety, and aesthetics and visual impact.

1.5 Approach

The characterization of the existing socio-economic environment reflects review of both primary and secondary data sources. Data collection began with a review of existing literature and databases from a variety of public sources. Where sufficient detail was not available from secondary data sources to describe the existing environment, primary data collection interviews were completed to address these gaps.

1.5.1 Literature Review

The review of literature and databases included the following sources:

- statistical data sources (e.g., Statistics Canada, Indian and Northern Affairs Canada (INAC), Aboriginal Affairs and Northern Development Canada¹ (AANDC), Saskatchewan Health);

¹ Formerly known as Indian and Northern Affairs Canada (INAC).

- federal and provincial government reports and data (e.g., press releases and reports from INAC/AANDC, Canada Mortgage and Housing Corporation (CMHC), Statistics Canada, Saskatchewan Highways and Infrastructure);
- health reports and data (e.g., Athabasca Health Authority reports and statistics and Saskatchewan Health);
- regional-level documents (e.g., education reports, health authority reports, Northlands College annual reports);
- environmental assessments conducted for other projects in the region;
- online sources (e.g., community web pages and profiles, business web pages and profiles); and
- documents, maps and other items used to determine resource use.

1.5.2 Key Person Interview Program

A Key Person Interview (KPI) program was undertaken to address gaps that could not be readily filled by secondary sources, to provide perspectives on community interests and concerns in the communities of Black Lake and Stony Rapids, and to learn more about local land and resource use in the Project area. Key persons were identified with the assistance of a community consultant from the community of Black Lake. The community consultant was recruited to assist in the KPI program, act as a liaison between the researchers and the community service providers, and provide translation services where applicable. Key person interview instruments were developed to address the subject areas documented in this report.

Interview instruments were developed according to subject area requirements. In some instances, respondents were interviewed on more than one occasion to ask for further detail or clarification of certain topics. In 2011, fifteen (15) interviews were carried out, including five people from the community of Black Lake and ten people from the northern hamlet of Stony Rapids (these interviews were conducted as part of another project and each person was contacted and provided informed consent to use their information for this Project). In February 2012, 20 interviews were carried out, including five people in the northern hamlet of Stony Rapids and 15 people in the community of Black Lake. In spring and summer of 2013, three additional interviews and follow up phone calls were completed. In most cases, respondents are residents of their respective communities; these residents include community leadership, service providers, local and provincial government agencies, and land and resource users.

1.5.3 Traditional Land Use

Traditional land and resource use information was collected to supplement the land and resource use sections of this report. The information presented in this report was collected in discussion with community members and resource users in the communities of Black Lake and Stony Rapids and includes a description of Aboriginal Traditional Knowledge (ATK) as it relates to the Project area. This approach is similar to what has been used for other environmental assessments in the region. From the overall KPI program 13 of the interviews were either specifically related to or had components related to land and resource use. These interviews were conducted with community resource users, Elders, and government employees from the communities of Black Lake and Stony Rapids.

The information on land and resource use in this document is not intended to provide a comprehensive description of the community of Black Lake and Stony Rapids residents' traditional land use and occupancy, but rather to serve to highlight the importance of land and resource use to local residents. Most discussions focused

on the Project area along the Fond du Lac River, Black Lake, Middle Lake, and Stony Lake, as well as near the communities of Black Lake and Stony Rapids. Residents' experiences with resource use around the communities and Elizabeth Falls provide a greater understanding of the ways that the local population interacts with the environment and the context of the Project.

Aboriginal Traditional Knowledge has a role in the environmental assessment (EA) process, and is identified in EA legislation and guidelines. Aboriginal Traditional Knowledge is particularly relevant where projects affect Aboriginal communities, typically because of effects to traditional land and resource use.

For the purposes of this document the following concepts help to define ATK:

- At its broadest level, ATK can be understood as the unique and collective knowledge of Aboriginal peoples, which may include but is not limited to, the environmental, cultural, economic, political, and spiritual conditions of a community or region.
- This knowledge is passed down orally from generation to generation by elders and is best understood in the Aboriginal language in which it originated, since meaning is often lost through its translation.
- ATK has been developed by Aboriginal groups after generations of living in close contact with the land and, fundamentally, this knowledge holds respect for people and the earth.
- The ownership of ATK is vested in the communities from where it originates.

1.6 Community Context

The proposed Project site is located northern Saskatchewan on the Chicken Indian Reserve Number 224, approximately 7 km north of the community of Black Lake and 25 km southeast of the northern hamlet of Stony Rapids (Figure 1.2-1). Highway 905, west of the Fond du Lac River, joins these two communities and is the only all-season road access in the area. The general zone of influence and footprint of the Project will include the area between Black Lake and Middle Lake, extending approximately 2 to 3 km on either side of the Fond du Lac River. Elizabeth Falls, a well-known area of cataracts and rapids is located on the Fond du Lac River (59° 11' N, 105° 33' W) between Black Lake and Middle Lake.

The proposed Project would be located in an area of northern Saskatchewan known as the Athabasca region. This region is located in the northern-most part of Saskatchewan and is sparsely populated relative to other areas of the province. The Athabasca region consists of seven communities, including First Nations, northern settlements, and a northern hamlet; the communities of Black Lake and Stony Rapids are located closest to the proposed Project site. The BLFN is a proponent of the Project and the Project would be built on its reserve territory. The communities are relatively remote but can be accessed by the Athabasca Seasonal Road and by air via the Stony Rapids airport.

This section details the location, population, and community leadership of the two communities. Elections and community leadership information were obtained through the KPI program and from the Saskatchewan Ministry of Municipal Relations and AANDC.

1.6.1 Community of Black Lake

The community of Black Lake is located on the north shore of Black Lake approximately 100 kilometres (km) south of the Northwest Territories (NWT) border, and about 22.2 km south-east of the northern hamlet of Stony Rapids.

According to Saskatchewan Health, the community of Black Lake had a population of 1,417 residents in 2011. Aboriginal Affairs and Northern Development Canada placed the total First Nation membership, including members who live off-reserve, at 2,028 in 2011. Further description of the population profile and demographic trends in the community of Black Lake are provided in [Section 5.1](#).

The BLFN is a Dene First Nation with members residing throughout Saskatchewan and in other locations. The BLFN has three registered reserve locations; two are unpopulated. The reserve parcels have permanent, seasonal, or historical ties to the community and include the following:

- Chicken 224 – populated – 25,819.4 hectares (ha) (Federal Order-in-Council (OIC) 1978-1647);
- Chicken 225 – no resident population – 2,193.4 ha (Federal OIC 1970-1822); and
- Chicken 226 – no resident population – 4,216.9 ha (AANDC 2012a) (Federal OIC 1970-1657) (Aboriginal Affairs and Northern Development Canada [AANDC] 2012a).

Chicken 224 includes an earlier settlement at Stony Lake, as well as the current settlement of the community of Black Lake. For the purposes of this report, references to Black Lake generally refer to the main community on the Chicken 224 reserve territory which extends to just east of the northern hamlet of Stony Rapids; however, the term Black Lake First Nation (BLFN) also refers to the community as a political entity (i.e., as a First Nation governed by a Chief and Council). For the purposes of the report the population of Black Lake refers to those First Nation Members living at Black Lake, Stony Lake, and elsewhere on BLFN reserve land. Distinction will be made between the community of Black Lake and the body of water, Black Lake, where the main community is located.

Black Lake First Nation (BLFN) leadership is elected according to a custom electoral system. The Band is governed by a chief and six councillors who hold office for two years (AANDC 2012b). [Table 1.6-1](#) presents the elected Chief and Councillors of BLFN as of October 2012. The next Band election will take place in June 2014. The BLFN is also part of the Prince Albert Grand Council (PAGC), a tribal council whose membership includes 12 First Nations in central and northern Saskatchewan. PAGC offices are located in Prince Albert.

Table 1.6-1: Chief and Councillors for Black Lake Denesuline First Nation

Title	Name	Appointment Date	Expiry Date
Chief	Ricky Robillard	06/25/2012	06/25/2014
Councillor	Edwin Boneleye	06/25/2012	06/25/2014
Councillor	Magloire Broussie	06/25/2012	06/25/2014
Councillor	Alphonse Disain	06/25/2012	06/25/2014
Councillor	James Laban	06/25/2012	06/25/2014
Councillor	Donna Sandypoint	06/25/2012	06/25/2014
Councillor	Ambrose Stalthanee	06/25/2012	06/25/2014
Councillor	John Toutsaint	06/25/2012	06/25/2014

Source: AANDC 2012b.

1.6.2 Northern Hamlet of Stony Rapids

The northern hamlet of Stony Rapids is located approximately 82 km south of the border with the NWT. The northern hamlet of Stony Rapids is located on the Fond du Lac River, about 22.2 km north-west of the community of Black Lake. The two communities are historically interconnected, but are separate administrative entities. They share some of the same infrastructure and services, including an airport, a landfill, and medical

facilities. The northern hamlet of Stony Rapids is a central hub for the Athabasca region (Black Lake and Stony Rapids KPI Program 2011-2013).

According to Saskatchewan Health, the northern hamlet of Stony Rapids had a population of 158 residents in 2011. Further description of the population profile and demographic trends in the northern hamlet of Stony Rapids are provided in [Section 5.1](#).

The northern hamlet of Stony Rapids follows a three year term for elected officials. The current leadership consists of a chairperson and four aldermen. [Table 1.6-2](#) presents the elected chairperson and aldermen of Stony Rapids as of October 2012. The last elections were held on October 24, 2012 (MBC News 2012). The northern hamlet of Stony Rapids is part of the Métis Northern Region I and is organized as Métis Local #80.

Table 1.6-2: Chairperson and Aldermen in the Northern Hamlet of Stony Rapids

Title	Name
Mayor	Daniel Powder
Alderman	Scott Hale
Alderman	Mervin MacDonald
Alderman	Connie Mercredi
Alderman	Al Sayn

Source: Black Lake and Stony Rapids KPI Program 2011-2013.

2.0 ECONOMY

This section describes the economic environment in the communities of Black Lake and Stony Rapids, using the Athabasca region, northern Saskatchewan, and Saskatchewan as points of comparison. In particular, this section reviews the topics of labour force, education and training, employment, local business development, income, and cost of living. The primary sources of information for this section are Statistics Canada and a KPI Program (2012) in the communities of Black Lake and Stony Rapids. Other sources of information include Saskatchewan Regional Health Authorities, community-related websites, other federal and provincial government websites, and reports on northern Saskatchewan.

2.1 Labour Force Characteristics

Statistics Canada uses the following indicators to describe the labour force:

- **Potential Labour Force:** The number of people aged 15 years and over on Census Day. It is often described as a percentage of the total population.
- **Active Labour Force:** The number of people in the potential labour force who were either employed or unemployed and looking for work in the week (Sunday to Saturday) prior to Census Day. Typically, Statistics Canada does not consider the following persons as part of the active labour force: full-time students, homemakers, retired workers, seasonal workers in an 'off-season' who are not looking for work, as well as individuals with disabilities or illnesses that preclude them from being able to work.
- **Participation Rate:** The labour force in the week prior to Census Day, expressed as a percentage of the potential labour force (i.e., population 15 years of age and over).
- **Employment Rate:** The number of persons employed in the week prior to Census Day, expressed as a percentage of the potential labour force (i.e., population 15 years and over).
- **Unemployment Rate:** The percentage of persons in the labour force that are not employed, in the week prior to Census Day.

The following sections consider each of these indicators in relation to the communities of Black Lake and Stony Rapids, the Athabasca region, northern Saskatchewan, and Saskatchewan as a whole.

2.2 Potential Labour Force

Potential labour force is the percentage of the total population in a specific geographical region that may be economically active. Often potential labour force is defined as the population between 15 and 65 years of age. A small potential labour force indicates a large dependent population. Generally, persons under 15 and over 65 years of age are considered dependent. Statistics Canada, however, considers the potential labour force to be comprised of the entire part of the population that is 15 years or older, which includes persons aged 65 and older.

The potential labour force in Saskatchewan in 2006 was 79.1 percent (%), which is up from 77.2% in 2001. The potential labour force in northern Saskatchewan was smaller; 66% of the population comprised the potential labour force in 2006, up from 62.8% in 2001. The difference between the potential labour forces for the entire province and northern Saskatchewan can be explained by the differing demographic profile of each entity. Overall, northern Saskatchewan has a significantly younger population than the entire province (see [Table 5.1-2](#)), which increases the percentage of the dependent population.

The percent of the population in the potential labour force in the Athabasca region, similar to northern Saskatchewan, is smaller than for the province as a whole. The percentage of the population in the potential labour force in the Athabasca region in 2006 was 63.4%, up from 60.3% in 2001. In the Athabasca region, the percentage of the population in the potential labour force in 2006 was 15.7 percentage points (pp) less than the potential labour force in Saskatchewan as a whole.

According to medium-growth population projections calculated by Saskatchewan Health, the proportion of the potential labour force in northern Saskatchewan and the province is likely to increase somewhat by 2021 (see [Section 5.1.1.2](#) for population projections). In the three northern Regional Health Authorities (Mamawetan Churchill River Health Region, Keewatin Yatthé Regional Health Authority, and Athabasca Health Authority), this increase is predicted to be minimal, from 66.0% to 66.7%, while in Saskatchewan as a whole, the proportion of residents considered part of the potential labour force is projected to grow from 79.1% to 81.3% by 2021, a trend that is indicative of an aging population (Saskatchewan Health 2002).

2.2.1 Community of Black Lake

[Table 2.2-1](#) presents the potential labour force in the community of Black Lake, the Athabasca region, northern Saskatchewan, and Saskatchewan in 2001 and 2006.

The potential labour force in the community of Black Lake² is similar to the potential labour force in the Athabasca region and northern Saskatchewan. This similarity reflects a shared demographic breakdown between the two regions and the community; that is, the population in the north tends to be younger than in the province as a whole.

In 2001, about 63% of the population in the community of Black Lake belonged to the potential labour force, which were 2.8 pp more than in the Athabasca region and 0.3 pp more than the potential labour force in northern Saskatchewan. The potential labour force in Black lake was 14.1 pp less than in the province as a whole in 2001.

While the potential labour force in the Athabasca region, northern Saskatchewan, and Saskatchewan grew by 3.1 pp, 3.2 pp, and 1.9 pp, respectively, between 2001 and 2006, the potential labour force in the community of Black Lake grew by 1.4 pp.

Table 2.2-1: Potential Labour Force^(a) in the community of Black Lake, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2001 and 2006

Year	the community of Black Lake ^(b)		Athabasca Region ^(c)		Northern Saskatchewan ^(d)		Saskatchewan	
	Potential Labour Force	% of total population	Potential Labour Force	% of total population	Potential Labour Force	% of total population	Potential Labour Force	% of total population
2001	665	63.1%	1,755	60.3%	20,100	62.8%	755,525	77.2%
2006	745	64.5%	2,010	63.4%	22,365	66.0%	766,230	79.1%

Sources: Statistics Canada 2002, 2007.

^(a) The potential labour force is defined by Statistics Canada as all persons aged 15 years and over.

^(b) Statistics Canada defined Black lake as Chicken 224 in 2001, and Chicken 224 and 225 in 2006.

^(c) The Athabasca region is defined as the communities of Stony Rapids, Fond du Lac, Black Lake (Chicken 224 in 2001; Chicken 224 and 225 in 2006), and Hatchet Lake (Lac La Hache 220). The communities of Camsell Portage, Uranium City, and Wollaston Lake were not included in these calculations, as Statistics Canada does not report on the communities individually.

^(d) Northern Saskatchewan is defined by Statistics Canada as Census Division No. 18.

² In the 2001 Census of Canada, Statistics Canada defined Black Lake as Chicken 224; in the 2006 Census of Canada, Statistics Canada defined Black Lake as Chicken 224 and Chicken 225.

2.2.2 Northern Hamlet of Stony Rapids

Table 2.2-2 presents the potential labour force in the northern hamlet of Stony Rapids, the Athabasca region, northern Saskatchewan, and Saskatchewan in 2001 and 2006.

The percent of the population in the potential labour force in the northern hamlet of Stony Rapids was larger than in the Athabasca region and northern Saskatchewan in both 2001 and 2006. In 2001, 74.1% of the northern hamlet of Stony Rapids population belonged to the potential labour force, which was 13.8 pp higher than in the Athabasca region, 11.3 pp greater than in northern Saskatchewan, and 3.1 pp lower than in Saskatchewan as a whole.

Between 2001 and 2006, the percentage of the population in the potential labour force in the northern hamlet of Stony Rapids fell by 3.6 pp to 70.5%, while the percentage of the population in the potential labour force in the Athabasca region, northern Saskatchewan, and Saskatchewan grew. Despite the decrease in the percentage of the population in the potential labour force in the northern hamlet of Stony Rapids, the community still had a higher percentage of its population in the potential labour force than the Athabasca region and northern Saskatchewan. When compared to Saskatchewan, the community had 8.6 pp less of its population in the potential labour force.

Table 2.2-2: Potential Labor Force^(a) in the Northern Hamlet of Stony Rapids, the Athabasca Region, Northern Saskatchewan and Saskatchewan 2001 and 2006

Year	Northern Hamlet of Stony Rapids		Athabasca Region ^(b)		Northern Saskatchewan ^(c)		Saskatchewan	
	Potential Labour Force	% of total population	Potential Labour Force	% of total population	Potential Labour Force	% of total population	Potential Labour Force	% of total population
2001	140	74.1%	1,755	60.3%	20,100	62.8%	755,525	77.2%
2006	180	70.5%	2,010	63.4%	22,365	66.0%	766,230	79.1%

Sources: Statistics Canada 2002, 2007.

^(a) The potential labour force is defined by Statistics Canada as all persons aged 15 years and over.

^(b) The Athabasca region is defined as the communities of Stony Rapids, Fond du Lac, Black Lake (Chicken 224 in 2001; Chicken 224 and 225 in 2006), and Hatchet Lake (Lac La Hache 220). The communities of Camsell Portage, Uranium City, and Wollaston Lake were not included in these calculations, as Statistics Canada does not report on the communities individually.

^(c) Northern Saskatchewan is defined by Statistics Canada as Census Division No. 18.

2.3 Education and Training

There are two distinct kindergarten-to-grade 12 school systems operating in northern Saskatchewan, the provincial system and the federal system. The provincial system includes three school divisions (i.e., Ile-a-la-Crosse, Northern Lights, and Creighton) with a total of 23 schools. The federal school system includes 29 northern First Nation- or Band- operated schools and 6,500 students under the umbrella of the PAGC, whose main office is located in Prince Albert (PAGC 2008).

The data presented in Tables 2.3-1 and 2.3-2 outline the highest level of schooling achieved by residents of the communities of Black Lake and Stony Rapids, as well as comparison data for the Athabasca region, northern Saskatchewan and Saskatchewan. The figures presented in these tables should be interpreted with caution due to small sample sizes and rounding of totals. It should also be noted that mobility plays a role in measuring educational achievement, as some people who complete high school and post-secondary education have to leave the community to find employment. Therefore the overall level of educational achievement of a community may appear lower than it actually is (Saskatchewan Trends Monitor 2010). However, these data highlight general trends in northern Saskatchewan and the communities in the RSSA.

Table 2.3-1: Highest Level of Schooling for Population 15 Years of Age and Over^(a) for Black Lake, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006

Highest Level of Schooling	Black Lake ^(b)	Athabasca Region ^(c)	Northern Saskatchewan ^(d)	Saskatchewan
Total population ^(e)	745	2,020	22,370	766,230
No certificate, diploma or degree	83.9% (625)	77.8% (1,570)	58.4% (13,055)	30.2% (231,730)
High school certificate or equivalent	4.7% (35)	7.4% (150)	15.6% (3,500)	26.8% (205,495)
Apprenticeship or trades certificate or diploma	2.7% (20)	5.0% (100)	8.4% (1,875)	11.3% (86,310)
College, CEGEP or other non-university certificate or diploma	1.3% (10)	1.7% (35)	8.5% (1,910)	14.6% (111,770)
University certificate, diploma or degree	4.0% (30)	5.4% (110)	9.4% (2,010)	17.1% (130,930)
University certificate or diploma below bachelor level	0.0% (0)	1.0% (20)	3.2% (715)	4.2% (32,175)

Source: Derived from Statistics Canada 2007.

^(a) 20% sample data; totals may not add up due to rounding.

^(b) Statistics Canada refers to Black Lake as Chicken 224 and 225.

^(c) The Athabasca region is defined as the communities of Stony Rapids, Fond du Lac, Black Lake (Chicken 224 and 225), and Hatchet Lake (Lac La Hache 220). The communities of Camsell Portage, Uranium City, and Wollaston Lake were not included in these calculations, as Statistics Canada does not report on the communities individually.

^(d) Northern Saskatchewan is defined as Census Division No. 18.

^(e) Total population aged 15 and older.

Table 2.3-2: Highest Level of Schooling for Population 15 Years of Age and Over^(a) for Black Lake, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006

Highest Level of Schooling	Northern Hamlet of Stony Rapids	Athabasca Region ^(b)	Northern Saskatchewan ^(c)	Saskatchewan
Total population ^(d)	180	2,020	22,370	766,230
No certificate, diploma or degree	50.0% (90)	77.8% (1,570)	58.4% (13,055)	30.2% (231,730)
High school certificate or equivalent	11.1% (20)	7.4% (150)	15.6% (3,500)	26.8% (205,495)
Apprenticeship or trades certificate or diploma	13.9% (25)	5.0% (100)	8.4% (1,875)	11.3% (86,310)
College, CEGEP or other non-university certificate or diploma	13.9% (25)	1.7% (35)	8.5% (1,910)	14.6% (111,770)
University certificate, diploma or degree	11.1% (20)	5.4% (110)	9.4% (2,010)	17.1% (130,930)
University certificate or diploma below bachelor level	5.6% (10)	1.0% (20)	3.2% (715)	4.2% (32,175)

Source: Derived from Statistics Canada 2007.

^(a) 20% sample data; totals may not add up due to rounding.

^(b) The Athabasca region is defined as the communities of Stony Rapids, Fond du Lac, Black Lake (Chicken 224 and 225), and Hatchet Lake (Lac La Hache 220). The communities of Camsell Portage, Uranium City, and Wollaston Lake were not included in these calculations, as Statistics Canada does not report on the communities individually.

^(c) Northern Saskatchewan is defined as Census Division No. 18.

^(d) Total population aged 15 and older.

CEGEP = *Collège d'enseignement général et professionnel*

Between 1998/9 and 2006, enrolment in all schools in northern Saskatchewan increased by 3% each year (Northlands College et al. 2006). Since 2006, enrolment in northern Saskatchewan has remained constant with just over 10,000 students (Northlands College et al. 2011). In contrast, rural school populations in Saskatchewan have declined over the same period (Northlands College et al 2010).

Although school enrolment is increasing in northern Saskatchewan, students are still at a disadvantage in completing post-secondary programs due to fewer high school classes in math and science, lower grades, the absence of programs located in their home communities, and the difficulty in finding qualified instructors (Northlands et al 2011). Data from the 2006 Census of Canada indicate that northern Saskatchewan had the highest regional proportion of 25-64 year olds without a high school certificate or higher education in Canada (Centre for the North 2010). The lack of high school education, as well as skill gaps in mathematics and the sciences, serves to reduce the number of Athabasca residents pursuing post-secondary training and excludes them from entry-level positions in most sectors (Northlands College et al. 2009). During interviews conducted through the KPI program, inadequate grounding in math, and the sciences, as well as in English proficiency, were identified as important issues in the Athabasca region. Even among high school graduates, residents pointed to insufficient prerequisites and standards in these areas, leading to the need to upgrade skills (Black Lake and Stony Rapids KPI Program 2011-2013).

As enrolment has increased, so has the number of students in northern Saskatchewan graduating from Grade 12 or earning an Adult Secondary diploma from provincial, First Nations, and post-secondary Grade 12 programs (Northlands College et al. 2011). While there has been an increase in school enrolment and

education attainment in the last decade, educational attainment in northern Saskatchewan, the Athabasca region, and the communities of Black Lake and Stony Rapids remains low.

In recent years, industries that employ northern Saskatchewan residents have offered scholarships and bursaries to help encourage enrolment in post-secondary education. Several oil sands companies are offering scholarships to Aboriginal students earning post-secondary degrees in the sciences or in health sciences (Northlands College et al. 2011). Mining companies also support training opportunities for residents of northern Saskatchewan. Other training initiatives from recent years include:

- **The Multi-Party Training Plan (MPTP)** is a multi-stakeholder partnership among public, private, and non-profit organizations, including the mining sector, northern educational institutions, and the provincial and federal governments, that offers scholarships for students focusing on engineering, math, and sciences. In 2011, the community of Black Lake had programs in Security Guard training, Construction Worker Preparation, and Home Building Renovation (Athabasca Working Group 2012; Northlands College 2011).
- **Northern Career Quest (NCQ)** is a multi-stakeholder partnership among northern educational institutions, businesses working in the resource sector, tribal councils, and the provincial and federal governments that offers training that leads directly to employment in the resource sector to Aboriginal students in northern Saskatchewan and Prince Albert (Northern Career Quest n.d.). Programs in the community of Black Lake include Grade 12 math and science courses (Athabasca Working Group 2011).
- **Early Learning and Childcare Program** is offered through the PAGC's Credenda Virtual High School, with the PAGC-Dene Division providing students with tuition and Credenda supplying laptops (PAGC 2011a).
- **A Carpentry Preparation Program** offered through a partnership of Northlands College, Black Lake Denesuline First Nation, and PAGC-Dene. Individuals who completed the program entered a 26-week work experience partnership with Black Lake Denesuline First Nation housing (PAGC 2011a).

2.3.1 Community of Black Lake

In the community of Black Lake, 83.9% of the population over 15 years of age had not completed high school in 2006 (Table 2.3-1). The proportion of non-graduates is much higher than the province as a whole (30.2%) and northern Saskatchewan (58.4%). To some extent, the low rates of high school completion in the community of Black Lake may be a result of the fact that the community did not offer high school courses and graduation until 1994. Before the community of Black Lake offered these courses, residents had to leave the community to complete their high school education (Black Lake and Stony Rapids KPI Program 2011-2013).

In 2001, a similar proportion – over 81% of adult respondents to the Aboriginal Peoples Survey of Black Lake – stated that they had not completed high school (Statistics Canada 2004a). Among these respondents, approximately 32% said that they had not finished high school because they wanted or needed to work, while 14% stated that they left due to pregnancy or in order to take care of children. An additional 14% of respondents left school because of problems at home or because they wished to help at home (Statistics Canada 2004a).

Although the proportion of the community of Black Lake residents with high school diplomas or equivalent is quite low, the majority of secondary school graduates in the community have pursued some form of post-

secondary education after completing high school. The rate of completion³ for post-secondary certificates, diplomas, or degrees among high school graduates was 63.2% for the community, compared to lower rates in northern Saskatchewan and the province as a whole, at 62.4% and 61.6%, respectively.

It should be noted, however, that while the proportion of residents who graduate from high school and continue to pursue post-secondary programs may be relatively high in the community, post-secondary rates as a whole are low. For example, the rate of apprenticeship or trades certification in 2006 in the community of Black Lake, at 2.7%, was lower than the average for the Athabasca region (5.0%), northern Saskatchewan (8.4%), and Saskatchewan (11.3%). Similarly, the proportion of residents of the community of Black Lake who completed college, Collège d'enseignement général et professionnel (CEGEP) or other non-university certificates or diplomas, at 1.3%, was lower than the 1.7% for the Athabasca region, 8.5% for northern Saskatchewan, and 14.6% for the province as a whole. University certificate, diploma, or degree rates for the community of Black Lake residents (4.0%) were also lower compared to rates for the Athabasca region (5.4%), northern Saskatchewan (9.4%) and Saskatchewan (17.1%).

There were 17 high school graduates in the community in 2011. Those graduates who have continued onto post-secondary training have chosen fields such as nursing, therapy, and education. Most members who pursue post-secondary training outside of the community are enrolled at the University of Regina, the University of Saskatchewan, Saskatchewan Institute of Applied Sciences and Technologies (SIAST), and Saskatchewan Indian Institute of Technology (SIIT) (Black Lake and Stony Rapids KPI Program 2011-2013).

For those members of BLFN who graduate from high school and pursue post-secondary education, the Band is able to support approximately 35 students each year through AANDC post-secondary funding. This funding covers tuition and books, as well as living and some travel expenses for students who are registered in full-time studies. Members of BLFN who live on- and off-reserve are eligible for this funding, though most students live on-reserve when applying for post-secondary support. Support for post-secondary education is capped at 48 months for undergraduate degrees and an additional 26 months for graduate degrees. Post-secondary funding is in high demand and the Band uses all of its allocated funding each year. The BLFN members who wish to pursue trades training or courses and certificates less than eight months in duration seek funding arrangements with the PAGC, Canada Student Loans, or through grants and bursaries (Black Lake and Stony Rapids KPI Program 2011-2013).

Industry is also involved in funding training initiatives; for example, five students from the community participated in a pilot project funded by Cameco Corporation (Cameco) and AREVA Resources Canada Inc. (AREVA) from January to June 2011. The program, "Call to Action", allowed students to study in southern Saskatchewan to acquire the prerequisites to enter math and science studies at a university level (Black Lake and Stony Rapids KPI Program 2011-2013). In addition to training outside the community, the Band has arranged for a number of training and post-secondary educational programs in the community. Community administrators estimate that at least 120 members have taken advantage of major training initiatives offered in the community of Black Lake in the last 5 to 6 years (Black Lake and Stony Rapids KPI Program 2011-2013).

Twice in the last five years, the community, in association with the Saskatchewan Tourism Education Council (STEC), presented a six-month training program that included courses in catering, food preparation and cooking, and janitorial work. Approximately 40 students completed these courses. They were trained in the local hospital,

³ Post-secondary completion rates among high school graduates were calculated by InterGroup Consultants based on Statistics Canada 2006 Census of Canada data. This rate is equal to the number of individuals who had completed post-secondary studies as a percent of the total number who had received at least a high school certificate or diploma.

providing meals to the patients and staff. Following training, the students were guaranteed employment through Athabasca Catering, which provides services to Cameco and AREVA. In April 2011, a week-long security training certification program was offered in the community through the Commissionaires. Fifteen students participated in the training course (Black Lake and Stony Rapids KPI Program 2011-2013; Saskatchewan Tourism Education Council n.d.).

The community is currently offering a teacher training degree program in association with Northlands College and First Nations University of Canada (FNUC). The course has 19 students who have completed their second year of the four-year program. Adult upgrading programs have also been offered in the community in association with Northlands College and the PAGC, as well as two-month residential renovation and construction training programs focussing on carpentry in association with AANDC and Northlands College. Students renovated a building that was donated by Northlands College and will be used for training programs in the community. Several community members have completed Carpentry Level 1 and 2 training and are seeking opportunities to perform their certified apprenticeship hours (Black Lake and Stony Rapids KPI Program 2011-2013).

Additional programs are in the planning stage or have begun in the last year. These programs include Office Education and Administration, life skills training, General Education Development (GED) and adult education, and training programs in association with Quantum Murray related to reclamation work at the Gunnar Mine site near Uranium City (Black Lake and Stony Rapids KPI Program 2011-2013).

Residents feel that training programs need to precede major projects in the region by months or even years so that community members can gain the necessary qualifications to apply for jobs once projects are initiated (Black Lake and Stony Rapids KPI Program 2011-2013).

While mining companies, such as Cameco and AREVA, offer training programs for residents working in the industry, community members feel that more training should be offered in the community, rather than at the mine operations. The lack of a training centre near the community of Black Lake is believed to discourage industrial partners, including mining companies, from working with the community to offer training that is accessible to all members (Black Lake and Stony Rapids KPI Program 2011-2013).

2.3.2 Northern Hamlet of Stony Rapids

Approximately 50% of the population over 15 years of age in the northern hamlet of Stony Rapids had not completed high school in 2006 (Table 2.3-2). The proportion of residents who did not complete high school or post-secondary training in the community is higher than in Saskatchewan as a whole (30.2%) and higher than northern Saskatchewan (58.4%). The low rate of high school completion in the northern hamlet of Stony Rapids is likely a result of the fact that the local school does not offer high school-level classes. Residents who want their children to pursue education beyond the grade 9 level have to send them to other communities. Most residents send their children to La Ronge, Prince Albert, or Saskatoon, depending on where they have extended family or friends who can provide support and supervision. A few students travel to the community of Black Lake for high school; in the 2010-2011 school year two students from the northern hamlet of Stony Rapids were completing their high school education at Father Porte Memorial School in the community of Black Lake through an arrangement between the Band and Northern Lights School Division (NLSD) #113 (Black Lake and Stony Rapids KPI Program 2011-2013).

Table 2.3-2 shows that while the proportion of residents with high school diplomas or equivalent was relatively low in the northern hamlet of Stony Rapids in 2006, the majority of secondary school graduates in the community pursued some form of post-secondary education after completing high school. The rate of

completion⁴ for post-secondary certificates, diplomas, or degrees among high school graduates in the community was nearly 89% in 2006, considerably higher than the rates for northern Saskatchewan and the province as a whole, at 62.4% and 61.6%, respectively. The rate of apprenticeship or trades certification in 2006 in the northern hamlet of Stony Rapids, at nearly 14%, was higher than northern Saskatchewan (8.4%) and Saskatchewan (11.3%). The rate of college, CEGEP, and non-university graduates in the community was also nearly 14% and was higher than that of northern Saskatchewan (8.5%) and closely resembled the rate for the province as a whole (14.6%). Residents of the northern hamlet of Stony Rapids also had a high rate of university certificates, diplomas or degrees, at over 11%, and a higher level of university diplomas or certificates below the bachelor level (5.6%) than in northern Saskatchewan (3.2%) or provincially (4.2%) in 2006.

The Chairperson and Board members in the northern hamlet of Stony Rapids have been working with NLSO #113 to expand high school education to the community. The NLSO #113 has indicated that due to budget restrictions and building capacity, there are no immediate plans to offer high school curriculum in the community. Currently, the school division pays part of the costs of sending local students to high schools in southern communities. Local students who pursue their education beyond grade 9 are often required to take transitional classes to upgrade their skill levels (Black Lake and Stony Rapids KPI Program 2011-2013).

In addition to expanding access to high school education, the northern hamlet of Stony Rapids has also recommended that the community become a training site for the north. The hamlet administration has approached the Saskatchewan Ministry of Education to discuss creating a training centre for the Athabasca region in the community (Black Lake and Stony Rapids KPI Program 2011-2013). Northlands College has also put in a capital submission to Advanced Education, Employment, and Immigration for funds to purchase and renovate an existing facility in the northern hamlet of Stony Rapids (Northlands College 2011). A similar project was proposed by BLFN but jurisdictional issues stalled its progress (Black Lake and Stony Rapids KPI Program 2011-2013).

Overall, residents of the northern hamlet of Stony Rapids are frustrated by what they perceive as a lack of training opportunities in the community (Black Lake and Stony Rapids KPI Program 2011-2013).

2.4 Employment

Statistics Canada uses several indicators to report on employment. These indicators are normally expressed as a percentage of the potential labour force, which is the population aged fifteen years or older. The participation rate is the labour force working or seeking employment in the week (Sunday to Saturday) prior to Census Day. The employment rate refers to the number of persons employed in the week (Sunday to Saturday) before Census Day. The unemployment rate is the number of persons unemployed in the week (Sunday to Saturday) before Census Day.

2.4.1 Community of Black Lake

Table 2.4-1 reports the participation rate, employment rate, and unemployment rate for Black Lake, the Athabasca region, northern Saskatchewan, and Saskatchewan.

⁴ Post-secondary completion rates among high school graduates were calculated by InterGroup Consultants based on Statistics Canada 2006 Census of Canada data (Statistics Canada 2007). This rate is equal to the number of individuals who completed post-secondary studies as a percent of the total number who received at least a high school certificate or diploma in 2006.

Table 2.4-1: Labour Force Indicators for Black Lake, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006^(a)

Location	Participation Rate ^(b)			Employment Rate ^(c)			Unemployment Rate ^(d)		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Black Lake ^(e)	27.5	27.4	27.5	22.5	23.3	21.7	17.9	15.0	21.1
Athabasca Region Average ^(f)	40.3	41.2	39.7	32.6	31.4	33.2	19.8	23.8	13.9
Northern Saskatchewan ^(g)	50.4	54.6	46.2	40.3	41.6	39.0	20.2	24.0	15.6
Saskatchewan	68.4	74.4	62.8	64.6	70.0	59.4	5.6	5.9	5.3

Source: Statistics Canada 2007.

^(a) Based on 20% sample data; totals may not add up due to rounding.

^(b) Participation rate refers to the labour force in the week (Sunday to Saturday) prior to Census day and is expressed as a percentage of the population 15 years of age and over.

^(c) The employment rate refers to the number of persons employed in the week (Sunday to Saturday) prior to Census day and is expressed as a percentage of the population 15 years and over.

^(d) The unemployment rate is the percentage of persons unemployed in the labour force in the week (Sunday to Saturday) prior to Census day.

^(e) Statistics Canada refers to Black Lake as Chicken 224 and 225.

^(f) The Athabasca region is defined as the communities of Fond du Lac, Black Lake Denesuline First Nation (Chicken 224 and 225), Stony Rapids, and Hatchet Lake First Nation (Lac La Hache 220). The communities of Camsell Portage, Uranium City, and Wollaston Lake are not included in these calculations, as Statistics Canada does not report on the communities individually. The Athabasca region average was calculated by InterGroup as the weighted average rates of participation, employment and unemployment of the Athabasca region communities.

^(g) Northern Saskatchewan is defined by Statistics Canada as Census Division No. 18.

In 2006, the participation rate in the community of Black Lake was 27.5%, with nearly equal participation rates for males (27.4%) and females (27.5%). The participation rate in the community of Black Lake was about 12 to 40 pp lower than the participation rates for the Athabasca region (40.3%), northern Saskatchewan (50.4%), and Saskatchewan (68.4%). Results of the KPI programs and Statistics Canada data suggest that females in the Athabasca region attain higher levels of education compared to their male counterparts. This could impact their ability to obtain employment and may partially account for males and females in the community of Black Lake having almost identical participation rate in 2006 (Black Lake and Stony Rapids KPI Program 2011-2013; Statistics Canada 2007).

The employment rate in the community of Black Lake in 2006 was 22.5%, with males (23.3%) having a higher employment rate than females (21.7%). The employment rate in the community of Black Lake was 10.1 to 42.1 pp lower than the employment rate in the Athabasca region (32.6%), northern Saskatchewan (40.3%), and Saskatchewan (64.6%). According to KPI programs, official statistics may not accurately represent employment levels in the Athabasca region. KPI results suggest that local employment is often seasonal, contract, or part time, and these are jobs which tend to be filled by local men (Black Lake and Stony Rapids KPI Program 2011-2013). Results of the 2001 Aboriginal Peoples Survey data for the community of Black Lake suggest that 16% of adult residents in the community work part-time and about 20% of residents over 15 years of age who are not working for earnings participate in the labour force in another way (e.g., working without pay or self-employed) (Statistics Canada 2004a).

In 2006, the community of Black Lake had an unemployment rate of 17.9%. The unemployment rate for males (15.0%) and females (21.1%) differed by 6.1 pp. the community of Black Lake had a lower unemployment rate than both the Athabasca region and northern Saskatchewan, which had unemployment rates of 19.8% and 20.2%, respectively. The unemployment rate for Saskatchewan as a whole (5.6%) was 12.3 pp lower than the unemployment rate for the community of Black Lake.

The labour force indicators for the community of Black Lake reflect the major trend in Aboriginal labour force participation in Canada. Generally, Aboriginal people are under-represented in the workplace due to systemic and attitudinal barriers. Systemic barriers include non-inclusive dispute resolution mechanisms. Attitudinal barriers include misconceptions and stereotypes of Aboriginal people. Additionally, location, distance to work sites, and lack of education, which often results in poor qualifications, can impede the participation of Aboriginal people in the labour force (INAC 2005).

2.4.2 Northern Hamlet of Stony Rapids

Table 2.4-2 reports the participation rate, employment rate, and unemployment rate for the northern hamlet of Stony Rapids, the Athabasca region, northern Saskatchewan, and Saskatchewan.

Table 2.4-2: Labour Force Indicators for the Northern Hamlet of Stony Rapids, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006^(a)

Location	Participation rate ^(b)			Employment rate ^(c)			Unemployment rate ^(d)		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
The Northern Hamlet of Stony Rapids	69.4	68.4	70.6	66.7	63.2	64.7	8.0	0.0	0.0
Athabasca Region Average ^(e)	40.3	41.2	39.7	32.6	31.4	33.2	19.8	23.8	13.9
Northern Saskatchewan ^(f)	50.4	54.6	46.2	40.3	41.6	39.0	20.2	24.0	15.6
Saskatchewan	68.4	74.4	62.8	64.6	70.0	59.4	5.6	5.9	5.3

Source: Statistics Canada 2007.

^(a) Based on 20% sample data; totals may not add up due to rounding.

^(b) Participation rate refers to the labour force in the week (Sunday to Saturday) prior to Census day and is expressed as a percentage of the population 15 years of age and over.

^(c) The employment rate refers to the number of persons employed in the week (Sunday to Saturday) prior to Census day and is expressed as a percentage of the population 15 years and over.

^(d) The unemployment rate is the percentage of persons unemployed in the labour force in the week (Sunday to Saturday) prior to Census day.

^(e) The Athabasca region is defined as the communities of Fond du Lac, Black Lake Denesuline First Nation (Chicken 224 and 225), Stony Rapids, and Hatchet Lake First Nation (Lac La Hache 220). The communities of Camsell Portage, Uranium City, and Wollaston Lake are not included in these calculations, as Statistics Canada does not report on the communities individually. The Athabasca region average was calculated by InterGroup as the weighted average rates of participation, employment and unemployment of the Athabasca region communities.

^(f) Northern Saskatchewan is defined by Statistics Canada as Census Division No. 18.

In the northern hamlet of Stony Rapids, the participation rate in 2006 was 69.4%. The participation rate for males and females was about equal, with males having a participation rate of 68.4% and females having a participation rate of 70.6%. The northern hamlet of Stony Rapids had a higher participation rate than the Athabasca region (40.3%), northern Saskatchewan (50.4%), and Saskatchewan (68.4%).

The employment rate in the northern hamlet of Stony Rapids in 2006 was 66.7%. The employment rate for males was 63.2% and the employment rate for females was 64.7%. The northern hamlet of Stony Rapids had a higher employment rate than the Athabasca region (32.6%), northern Saskatchewan (40.3%), and Saskatchewan (64.6%).

In 2006, the unemployment rate in the northern hamlet of Stony Rapids was 8.0%. Statistics Canada did not provide the rate broken down by sex in the northern hamlet of Stony Rapids for 2006 due to its small population. The northern hamlet of Stony Rapids has a lower unemployment rate than the Athabasca region (19.8%) and northern Saskatchewan (24%), but had a higher unemployment rate than Saskatchewan (5.6%).

2.4.3 Employment by Sector

Table 2.4-3 and Table 2.4-4 list the employment by industry for the communities of Black Lake and Stony Rapids, respectively; each table also presents employment by industry in the Athabasca region, northern Saskatchewan, and Saskatchewan.

2.4.4 Community of Black Lake

Table 2.4-3 outlines employment by key occupational industries for the community of Black Lake compared to the Athabasca region, northern Saskatchewan, and Saskatchewan. The top five industries in which residents of the community of Black Lake were employed in 2006 were education services industries (23.6%), mining and oil and gas extraction (23.5%), health care and social assistance industries (17.6%), public administration (14.7%), and construction industries (8.8%). The community of Black Lake residents are also employed in the administrative and support, waste management, and remediation services (5.9%), which includes janitorial and security services. Although no BLFN members are currently employed in accommodations and food services, results from the KPI program suggest that some members in the community have training in that capacity; however, it is unknown whether those individuals are employed in other sectors or participating in the labour force (Black Lake and Stony Rapids KPI Program).

Employment by sector in the Athabasca region was similar to employment by sector in the community of Black Lake in 2006. The top industries by percentage of the population employed for the Athabasca region in 2006 were education service industries (25.4%), mining and oil and gas extraction industries (21.8%), health care and social assistance industries (14.8%), public administration (14.1%), and retail trade industries (7.7%). Compared to the community of Black Lake, a lower percentage of the population in the Athabasca region was employed in administrative and support, waste management, and remediation services (2.8%), while 6.9% of the population of the Athabasca region worked in accommodation and food services industries.

Northern Saskatchewan had a much lower percentage of the population employed in education services industries (15.6%) and mining and oil and gas extraction industries (9.5%) compared to the proportion of the population employed in these industries in the community of Black Lake. The community of Black Lake also differed from Saskatchewan as a whole in terms of the percentage of the population employed in education services industries (7.8%), mining and oil and gas extraction industries (3.7%), administrative and support, waste management and remediation services (2.6%), and accommodations and food services (6.9%).

2.4.5 Northern Hamlet of Stony Rapids

Table 2.4-4 outlines employment by key occupational industries for the northern hamlet of Stony Rapids compared to the Athabasca region, northern Saskatchewan, and Saskatchewan. The top industries in which residents of the northern hamlet of Stony Rapids were employed in 2006 were health and social assistance industries (24.0%), mining and oil and gas extraction (20.0%), retail services (16.0%), and education service industries (12.0%). Four other industries evenly split the remainder of Stony Rapids' employed residents: manufacturing industries, transportation and warehousing industries, accommodation and food service industries, and public administration. As opposed to the community of Black Lake, no substantial proportion of the population worked in the construction industries.

Employment in the Athabasca region was dissimilar to employment in the northern hamlet of Stony Rapids in 2006. The top industries by percentage of the population employed for the Athabasca region in 2006 were education service industries (25.4%), mining and oil and gas extraction industries (21.8%), health care and social assistance industries (14.8%), public administration (14.1%), and retail trade industries (7.7%).

Compared to the northern hamlet of Stony Rapids, northern Saskatchewan had a much lower percentage of the population employed in health care and social assistance industries (13.6%) and mining and oil and gas extraction (9.5%). The northern hamlet of Stony Rapids also differed from Saskatchewan as a whole in terms of the percentage of the population employed in health care and social assistance industries (11.3%) and mining and oil and gas extraction (3.7%).

Table 2.4-3: Employment by Industry Type^(a) for the community of Black Lake, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006

Industry Division	Black Lake ^(b)	Athabasca Region ^(c)	Northern Saskatchewan ^(d)	Saskatchewan
<i>Total – All Industries</i>	<i>170 people</i>	<i>710 people</i>	<i>10,220 people</i>	<i>517,480 people</i>
Agriculture, forestry, fishing, and hunting	5.9%	1.4%	3.7%	11.6%
Mining and oil and gas extraction industries	23.5%	21.8%	9.5%	3.7%
Utilities	0.0%	0.0%	1.0%	1.0%
Construction industries	8.8%	4.9%	6.5%	5.8%
Manufacturing industries	0.0%	1.4%	4.3%	5.8%
Wholesale trade industries	0.0%	0.0%	0.9%	3.7%
Retail trade industries	5.9%	7.7%	9.0%	11.0%
Transportation and warehousing industries	5.9%	4.2%	3.9%	4.7%
Information and cultural industries	0.0%	1.4%	1.1%	2.3%
Finance and insurance industries	0.0%	0.0%	1.0%	3.6%
Real estate and rental and leasing industries	0.0%	0.0%	0.9%	1.3%
Professional, scientific and technical services	0.0%	0.0%	1.0%	3.7%
Management of companies and enterprises	0.0%	0.0%	0.0%	0.1%
Administrative and support, waste management, and remediation services	5.9%	2.8%	2.6%	2.8%
Education service industries	23.6%	25.4%	15.6%	7.8%
Health care and social assistance industries	17.6%	14.8%	13.6%	11.3%
Arts, entertainment and recreation industries	0.0%	1.4%	1.1%	1.8%
Accommodation and food service industries	0.0%	3.5%	6.9%	6.7%
Other services (except public administration)	0.0%	0.0%	2.8%	5.0%
Public administration	14.7%	14.1%	14.5%	6.4%

Source: Statistics Canada 2007.

^(a) 20% sample data; total may not add up due to rounding.

^(b) Statistics Canada refers to Black Lake as Chicken 224 and 225.

^(c) The Athabasca region is defined as the communities of Stony Rapids, Fond du Lac, Black Lake (Chicken 224 and 225), and Hatchet Lake (Lac La Hache 220). The communities of Camsell Portage, Uranium City, and Wollaston Lake were not included in these calculations, as Statistics Canada does not report on these communities individually.

^(d) Northern Saskatchewan is defined by Statistics Canada as Census Division No. 18.

Table 2.4-4: Employment by Industry Type^(a) for the Northern Hamlet of Stony Rapids, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006

Industry Division	The Northern Hamlet of Stony Rapids	Athabasca Region ^(b)	Northern Saskatchewan ^(c)	Saskatchewan
Total – All Industries	125 people	710 people	10,220 people	517,480 people
Agriculture, forestry, fishing, and hunting	0.0%	1.4%	3.7%	11.6%
Mining and oil and gas extraction industries	20.0%	21.8%	9.5%	3.7%
Utilities	0.0%	0.0%	1.0%	1.0%
Construction industries	0.0%	4.9%	6.5%	5.8%
Manufacturing industries	8.0%	1.4%	4.3%	5.8%
Wholesale trade industries	0.0%	0.0%	0.9%	3.7%
Retail trade industries	16.0%	7.7%	9.0%	11.0%
Transportation and warehousing industries	8.0%	4.2%	3.9%	4.7%
Information and cultural industries	0.0%	1.4%	1.1%	2.3%
Finance and insurance industries	0.0%	0.0%	1.0%	3.6%
Real estate and rental and leasing industries	0.0%	0.0%	0.9%	1.3%
Professional, scientific and technical services	0.0%	0.0%	1.0%	3.7%
Management of companies and enterprises	0.0%	0.0%	0.0%	0.1%
Administrative and support, waste management, and remediation services	0.0%	2.8%	2.6%	2.8%
Education service industries	12.0%	25.4%	15.6%	7.8%
Health care and social assistance industries	24.0%	14.8%	13.6%	11.3%
Arts, entertainment and recreation industries	0.0%	1.4%	1.1%	1.8%
Accommodation and food service industries	8.0%	3.5%	6.9%	6.7%
Other services (except public administration)	0.0%	0.0%	2.8%	5.0%
Public administration	8.0%	14.1%	14.5%	6.4%

Source: Statistics Canada 2007.

^(a) 20% sample data; total may not add up due to rounding.

^(b) The Athabasca region is defined as the communities of Stony Rapids, Fond du Lac, Black Lake (Chicken 224 and 225), and Hatchet Lake (Lac La Hache 220). The communities of Camsell Portage, Uranium City, and Wollaston Lake were not included in these calculations, as Statistics Canada does not report on these communities individually.

^(c) Northern Saskatchewan is defined by Statistics Canada as Census Division No. 18.

% = percent

2.5 Income

The following sections outline income information for the communities of Black Lake and Stony Rapids, the Athabasca region, northern Saskatchewan, and Saskatchewan as a whole.

The data presented for income should be interpreted with caution. Statistics Canada uses 20% sample data to report for smaller communities where the data is not suppressed. Changes expressed as percentages may appear to shift dramatically over time in smaller communities while the change expressed in absolute numbers is relatively small. Income data from Statistics Canada also does not take into account differences in tax burden between income earned from employment on-reserve in First Nations communities, such as Black Lake, and income earned off-reserve. Status Indians under the *Indian Act* are eligible for a tax exemption for income earned on-reserve.

2.5.1 Community of Black Lake

Table 2.5-1 presents the average employment income for residents of the community of Black Lake, the Athabasca region, northern Saskatchewan, and Saskatchewan in 2006. Average employment income was, for the most part, lower in the community of Black Lake than in the Athabasca region, northern Saskatchewan, and the province of Saskatchewan. Full year, full-time income earners in the community of Black Lake, the Athabasca region, and northern Saskatchewan earned on average between \$2,300 and \$8,400 less than the average full year, full time income earner in Saskatchewan. The differences in average employment income may, in part, be explained by differences in the proportion of persons who worked full-time during the census year compared to all those with earnings. In the community of Black Lake, the Athabasca region, and northern Saskatchewan, 33%, 36% and 38% of persons with employment income, respectively, worked full time during the year, while 52% of the population of Saskatchewan with employment income worked full time throughout the year.

The average income of female employees in the Athabasca region, including Black lake, exceeded those of female employees in both northern Saskatchewan and provincially. This may be linked to a variety of factors, including an inclination to work in the health care and social assistance, educational services, and public administration industries. According to Statistics Canada data for 2006, female employees in the community of Black Lake comprise the majority of employees in public administration, health care and social assistance industries, and educational service industries. In the Athabasca region, female employees comprise 40% of public administration employees, over 69% of educational services employees, and over 90% of health care and social assistance industry employees. These three sectors combined account for approximately 67% of employment among female employees in the Athabasca region communities (Statistics Canada 2007). Results from the KPI Program confirm that more women than men are currently working to attain credentials in educational services and public administration industries (Black Lake and Stony Rapids KPI Program 2011-2013). These industries tend to provide relatively high salaries, while compensation packages in these sectors are often accompanied by Northern Allowance payments, effectively raising the average income for residents employed in these industries.

Table 2.5-1: Average Employment Income^(a) for Males and Females in the community of Black Lake, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006^(b)

	Black Lake ^(c)	Athabasca Region ^(d)	Northern Saskatchewan ^(e)	Saskatchewan
All persons with employment income				
Total	275	860	11,885	553,655
Male	150	460	6,360	288,790
Female	125	346	5,520	264,865
Average employment income (all persons with earnings)^(f)				
Total	\$21,860	\$26,070	\$25,614	\$30,773
Male	\$22,538	\$27,474	\$28,355	\$36,495
Female	\$21,039	\$24,159	\$22,456	\$24,534
Worked full year (full time)				
Total	90	310	4,595	286,895
Male	50	155	2,390	166,030
Female	40	160	2,205	120,865
Average employment income (worked full year, full time)^(f)				
Total	\$33,924	\$37,780	\$39,983	\$42,298
Male	\$31,949	\$39,834	\$44,505	\$47,125
Female	\$36,507	\$36,445	\$35,091	\$35,667

Source: Statistics Canada 2007.

^(a) 20% sample data; totals may not add up due to rounding.

^(b) Employment income calculated calendar year 2005 in 2005 dollars, reported in Census of Canada 2006.

^(c) Statistics Canada refers to Black Lake as Chicken 224 and 225. Data for Black Lake Chicken 225 reserve parcel were not included in these calculations due to the suppression of income data for 2006.

^(d) The Athabasca region is defined as the communities of Fond du Lac, Black Lake (Chicken 224 and 225), Stony Rapids, and Hatchet Lake (Lac La Hache 220). The communities of Camsell Portage Uranium City and Wollaston Lake were not included in these calculations, as Statistics Canada does not report on the communities individually. Data for Black Lake Chicken 225 reserve parcel were not included in these calculations due to the suppression of income data for 2006.

^(e) Northern Saskatchewan is defined by Statistics Canada as Census Division No. 18.

^(f) Average employment income before taxes.

\$ = dollar

Table 2.5-2 presents the sources of income for the community of Black Lake, the Athabasca region, northern Saskatchewan, and Saskatchewan in 2006. For the community of Black Lake residents, 69.9% of income came from earnings. Residents of the Athabasca region and northern Saskatchewan had a slightly higher percentage of their income come from earnings, at 72.8% and 71.5%, respectively. For residents of Saskatchewan as a whole, 76.8% of income came from earnings. Government transfers accounted for 29.7% of income for residents of the community of Black Lake, which was slightly higher than the rate experienced by residents of the Athabasca region and northern Saskatchewan and much higher than the rate for residents of Saskatchewan as a whole, where 11.0% of income came from government transfers. In contrast, the proportion of income from other sources comprised 0.4% of income for the community of Black Lake residents, 1.5% for Athabasca region residents, 5.0% for northern Saskatchewan residents, and 12.2% for the province as a whole. This low percentage of income from other sources may be the result of demographic factors, such as the smaller proportion of the population over the age of 65 receiving income from Old Age Security pensions, Guaranteed Income Supplement payments, and Canada Pension Plan benefits. It also likely reflected lower payouts from Employment Insurance benefits, as well as less income from investments, among communities with fewer available jobs and lower incomes than the provincial average.

Table 2.5-2: Sources of Income^(a) for the community of Black Lake, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006^(b)

	Black Lake^(c)	Athabasca Region^(d)	Northern Saskatchewan^(e)	Saskatchewan
Percent of income from earnings	69.9	72.8	71.5	76.8
Percent of income from government transfers	29.7	25.8	23.6	11.0
Percent of income from other sources ^(f)	0.4	1.5	5.0	12.2

Source: Statistics Canada 2007.

^(a) 20% sample data; 100% census data on-reserve for Fond du Lac, Black Lake and Hatchet Lake.

^(b) Calculated for family income for all economic families for calendar year 2005.

^(c) Statistics Canada refers to Black Lake as Chicken 224 and 225. Data for Black Lake Chicken 225 reserve parcel were not included in these calculations due to the suppression of income data for 2006.

^(d) The Athabasca region is defined as the communities of Fond du Lac, Black Lake (Chicken 224 and 225), Stony Rapids, and Hatchet Lake (Lac La Hache 220). The communities of Camsell Portage, Uranium City, and Wollaston Lake were not included in these calculations, as Statistics Canada does not report on the communities individually. Data for Black Lake Chicken 225 reserve parcel were not included in these calculations due to the suppression of income data for 2006.

^(e) Northern Saskatchewan is defined as Census Division No. 18.

^(f) Other income sources include severance pay and retirement allowances, alimony, child support, periodic support from other persons not in the household, income from abroad (excluding dividends and interest), non-refundable scholarships, bursaries, fellowships and study grants, and artists' project grants (Statistics Canada 2010a).

2.5.2 Northern Hamlet of Stony Rapids

Table 2.5-3 presents the average employment income for the northern hamlet of Stony Rapids, the Athabasca region, northern Saskatchewan, and Saskatchewan in 2006. Average employment income for residents of the northern hamlet of Stony Rapids was higher than that of the Athabasca region, northern Saskatchewan, and Saskatchewan. In addition, the average employment income for residents of the northern hamlet of Stony Rapids who worked full-time throughout the year was greater than those of residents of the Athabasca region, northern Saskatchewan, and Saskatchewan. On average, male residents of the northern hamlet of Stony Rapids who worked full-time during the year earned about \$2,000 less than their provincial counterparts, while female residents of the community who worked full-time earned approximately \$7,000 more than their counterparts in the province.

Table 2.5-4 presents the sources of income for the northern hamlet of Stony Rapids, the Athabasca region, northern Saskatchewan, and Saskatchewan in 2006. The sources of income for residents of the northern hamlet of Stony Rapids more closely resembled the sources of income for residents of Saskatchewan as a whole than the sources of income in the Athabasca region or northern Saskatchewan. In the northern hamlet of Stony Rapids, 86.1% of income came from earnings, while 72.8% of income came from earnings in the Athabasca region, 71.5% of income came from earnings in northern Saskatchewan, and 76.8% of income came from earnings in the province as a whole. Approximately the same proportion of income came from government transfers in the northern hamlet of Stony Rapids and Saskatchewan (10.9% and 11%, respectively), while income from government transfers in the Athabasca region and northern Saskatchewan were closer to 25%. In terms of income from other sources, the northern hamlet of Stony Rapids more closely resembled the Athabasca region and northern Saskatchewan than Saskatchewan as a whole, with 3.1% of income coming from other sources in the community. This low percentage of income from other sources may be the result of demographic factors, such as the smaller proportion of the population over the age of 65 receiving income from Old Age Security pensions, Guaranteed Income Supplement payments, and Canada Pension Plan benefits. It also likely

reflected lower payouts from Employment Insurance benefits, as well as less income from investments, among communities with fewer available jobs and lower average incomes than the provincial average.

Table 2.5-3: Average Employment Income^(a) for Males and Females in the Northern Hamlet of Stony Rapids, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006^(b)

	The Northern Hamlet of Stony Rapids	Athabasca Region ^(c)	Northern Saskatchewan ^(d)	Saskatchewan
All persons with employment income				
Total	140	860	11,885	553,655
Male	80	460	6,360	288,790
Female	60	346	5,520	264,865
Average employment income (all persons with earnings)^(e)				
Total	\$34,427	\$26,070	\$25,614	\$30,773
Male	\$37,847	\$27,474	\$28,355	\$36,495
Female	\$29,733	\$24,159	\$22,456	\$24,534
Worked full year (full time)				
Total	60	310	4,595	286,895
Male	35	155	2,390	166,030
Female	30	160	2,205	120,865
Average employment income (worked full year full time)^(e)				
Total	\$44,151	\$37,780	\$39,983	\$42,298
Male	\$44,969	\$39,834	\$44,505	\$47,125
Female	\$43,158	\$36,445	\$35,091	\$35,667

Source: Statistics Canada 2007.

^(a) 20% sample data; totals may not add up due to rounding.

^(b) Employment income calculated calendar year 2005 in 2005 dollars, reported in Census of Canada 2006 (Statistics Canada 2007).

^(c) The Athabasca region is defined as the communities of Fond du Lac, Black Lake (Chicken 224 and 225), Stony Rapids, and Hatchet Lake (Lac La Hache 220). The communities of Camsell Portage, Uranium City and Wollaston Lake were not included in these calculations, as Statistics Canada does not report on the communities individually. Data for Black Lake Chicken 225 reserve parcel were not included in these calculations due to the suppression of income data for 2006.

^(d) Northern Saskatchewan is defined by Statistics Canada as Census Division No. 18.

^(e) Average employment income before taxes.

Table 2.5-4: Sources of Income^(a) for the Northern Hamlet of Stony Rapids, the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006^(b)

	The Northern Hamlet of Stony Rapids	Athabasca Region ^(c)	Northern Saskatchewan ^(d)	Saskatchewan
Percent of income from earnings	86.1	72.8	71.5	76.8
Percent of income from government transfers	10.9	25.8	23.6	11.0
Percent of income from other sources ⁵	3.1	1.5	5.0	12.2

Source: Statistics Canada 2007.

^(a) 20% sample data; 100% census data on-reserve for Fond du Lac, Black Lake and Hatchet Lake.

^(b) Calculated for family income for all economic families for calendar year 2005.

^(c) The Athabasca region is defined as the communities of Fond du Lac, Black Lake (Chicken 224 and 225), Stony Rapids, and Hatchet Lake (Lac La Hache 220). The communities of Camsell Portage, Uranium City, and Wollaston Lake were not included in these calculations, as Statistics Canada does not report on the communities individually. Data for Black Lake Chicken 225 reserve parcel were not included in these calculations due to the suppression of income data for 2006.

^(d) Northern Saskatchewan is defined as Census Division No. 18.

^(e) Other income sources include severance pay and retirement allowances, alimony, child support, periodic support from other persons not in the household, income from abroad (excluding dividends and interest), non-refundable scholarships, bursaries, fellowships and study grants, and artists' project grants (Statistics Canada 2010a).

2.6 Cost of Living

While average income in the Athabasca Basin communities and northern Saskatchewan is generally lower than the provincial average income, many of the everyday costs of living in northern Saskatchewan, such as the price of grocery items, are higher than the average costs experienced in Saskatchewan as a whole (Public Health Nutritionists of Saskatchewan 2010).

Table 2.6-1 presents the National Nutritious Food Basket costs calculated for Saskatchewan in 2001 and 2009. The Food Basket is a list of foods that are frequently purchased and make up a healthy diet based on the current recommendations of Canada's Food Guide. In June 2009, food costing at 96 randomly selected grocery stores throughout Saskatchewan was performed by Registered Dietitians and/or Public Health Nutritionists. The locations of the randomly selected grocery stores included large and small cities, towns, and villages, and northern communities (Public Health Nutritionists of Saskatchewan 2010). In June 2001, food costing was performed at 71 store locations in large and small cities, towns, and villages and northern locations (Public Health Nutritionists of Saskatchewan 2005).

In northern Saskatchewan, the high cost of food adds to the overall higher cost of living. The cost of food in northern Saskatchewan is dramatically higher when compared to the cost of food in southern urban centres in Canada. Table 2.6-1 demonstrates that the average cost increase of the Food Basket between 2001 and 2009 did not vary widely among locations. Interestingly, families in large cities experienced the greatest percentage increase in the cost of the Food Basket between 2001 and 2009. However, northern families experienced the greatest absolute increase in the cost of the Food Basket, with an increase of \$69.81 between 2001 and 2009; meanwhile, large city families and the average Saskatchewan family experienced absolute increases of \$54.58 and \$55.23, respectively. In terms of the absolute increase to the cost of the Food Basket between 2001 and 2009, northern families experienced an increase that was 27.9% and 26.4% greater than large city families and the average Saskatchewan family, respectively.

Table 2.6-1: Cost of National Nutritious Food Basket for a Family of Four^(a) in Various Regions within Saskatchewan: 2001 and 2009

	2001	2009	% Change (2001-2009)
Northern Family ^(b)	\$182.46	\$252.27	38.3%
Large City Family ^(c)	\$130.33	\$184.91	41.9%
Average Saskatchewan Family	\$149.79	\$205.02	36.9%

Source: Public Health Nutritionists of Saskatchewan 2005, 2010.

^(a) A family of four is defined as two adults, age 31-50, and two children (female, age 4-8, and male, age 14-18).

^(b) A northern family is defined as a family living in a community in the Athabasca Health Authority, Keewatin Yatthé Regional Health Authority, or Mamawetan Churchill River Health Authority.

^(c) A large city family is defined as a family living in Regina or Saskatoon.

% = percent; \$ = dollar

Recently, the Population Health Unit (PHU) in La Ronge published another study that describes the costs associated with healthy food purchases for residents of northern Saskatchewan. This study builds upon the work completed by the Public Health Nutritionists of Saskatchewan in 2001 and 2009, calculating the average weekly food prices for a family of four in 2009 in the far northern areas of the province, including the Athabasca region. According to their calculations, weekly food prices for a family of four can average as high as \$349.99 in the far north. As with the Public Health Nutritionists of Saskatchewan study, the PHU compares northern food prices to those in the province as a whole as well as in southern towns and cities (PHU 2011).

Food prices calculated by the PHU correspond to the conclusions reached by the Public Health Nutritionists of Saskatchewan in 2009 for most northern communities. However, due to the depth of the study, it provides more accurate details related to food costs in the Athabasca region. In general, the differences in food prices calculated by the PHU were associated with community accessibility, including road and air access (PHU 2011). According to the study results, for residents of the communities of Black Lake and Stony Rapids, both located in the far north region discussed by PHU, the weekly costs associated with healthy food choices are approximately 70% higher than the average weekly food price for a family of four in Saskatchewan as a whole (\$205.02) (PHU 2011).

Another tool used by government and industry to understand costs of living, particularly cost differentials between locations and the effects of inflation on prices over time, is the Consumer Price Index (CPI). The CPI tracks monthly changes to the retail prices of approximately 600 goods and services in a number of categories, including food; shelter; household operations, furnishings, and equipment; clothing and footwear; transportation; health and personal care; recreation, education, and reading; and alcoholic beverages and tobacco products. The compiled prices are indexed to a baseline of 100, which represents a comparison community and/or point in time. For example, the CPI for Saskatchewan in September 2010 was 118.9, meaning that the cost of living in the province rose 18.9% between 2002 (the point of comparison) and September 2010. During that period, the cost of food in Saskatchewan rose approximately 23%. Overall, the cost of living in Saskatchewan has increased more than the Canadian average. In comparison to the CPI for Saskatchewan, the CPI for Canada in September 2010 was 116.9, indicating an average increase of 16.9% in the cost of living in the country between 2002 and September 2010. Taking a longer view, the cost of living in Saskatchewan rose approximately 47% between 1992 and September 2010, while the cost of living in Canada rose about 39% during the same period (Statistics Canada 2010b).

Although the CPI value of 118.9 represents price increases in Saskatchewan since 2002, it does not specify those costs in a dollar value, nor does it distinguish between northern and southern Saskatchewan. However, as demonstrated in [Table 2.6-1](#) and the PHU food price study, the cost of food varies significantly between northern and southern Saskatchewan.

Many residents of the communities of Black Lake and Stony Rapids rely on all-terrain vehicles (ATVs) as well as other small vehicles within the communities over the summer, due to their manoeuvrability and better fuel efficiency. In March 2012, the price of gasoline in the northern hamlet of Stony Rapids was over \$1.50 per litre and the price of a four-litre jug of milk was \$14.00 (Black Lake and Stony Rapids KPI Program 2011-2013).

2.6.1 Community of Black Lake

While there are no comprehensive studies on the cost of living in the community of Black Lake, the National Joint Council of the Public Service of Canada (NJC) offers a glimpse of the costs associated with living in northern and isolated communities through their Classification of Isolated Posts (NJC 2012a). This classification system is used by the public sector to determine rates and allowances for travel and relocation of employees based on a number of factors, including costs of living. NJC rates include Environmental Allowances, Living Cost Differential Allowances, and Fuel and Utilities Differential Allowances, and are updated on a quarterly basis. The reserve community of Black Lake is one of the isolated posts in Saskatchewan that is assigned these rates by the NJC (NJC 2012a, 2012b, 2012c, 2012d).

To determine Environmental Allowances, the NJC uses criteria such as total population, climate data, and community accessibility. Fuel and Utilities Differential Allowances are determined because of utility and fuel consumption, average utility costs, and temperature. The Living Cost Differential Allowance is determined because of a CPI system that compares costs of living⁵ in these communities to costs in nearby cities; in Saskatchewan, the point of comparison is the city of Saskatoon (NJC 2012e). Living Cost Differential Allowance is provided to federal employees living in communities where “the price of these goods and services, as measured by Statistics Canada, reaches an index level of 115 or higher in relation to an index of 100 at the point of comparison” (National Joint Council 2012e). According to this index, costs of living in the community of Black Lake were 40% to 44% higher than in Saskatoon as of October 2012 (NJC 2012a, 2012e).

With food prices in northern Saskatchewan about 23% greater than in Saskatchewan, on average, and as much as 70% higher in a far northern community such as Black Lake, as well as a cost differential between 40% to 44% higher than Saskatoon for a large basket of goods and services, the costs of living in the community of Black Lake are considerably higher than in Saskatchewan as a whole. As a result, while residents of the community of Black Lake have incomes lower than the provincial average, they also pay more for necessary goods and services.

The high cost of living can be a source of stress for residents of the community of Black Lake. It was noted that housing repairs can be expensive since the cost to ship timber into the community is high. Residents will sometimes use the seasonal road to Points North Landing in the off-season to avoid the expense of flying goods into the community. The high cost of goods in the community is compounded by the high cost of utilities; electricity bills alone often take up a large percentage of a household’s monthly income. The stress of the high

5 Costs of living included for comparison include “food (from stores and restaurants), household supplies and operations, household tenant insurance premiums, transportation expenses, personal care supplies and services, pharmaceutical products (excluding prescribed drugs), entertainment supplies, rental of cablevision satellite services, reading materials, tobacco and alcoholic beverages” (National Joint Council 2012e).

cost of living is suspected to cause health problems for residents of the community of Black Lake (Black Lake and Stony Rapids KPI Program 2011-2013).

2.6.2 Northern Hamlet of Stony Rapids

Although there are no comprehensive studies on the cost of living in the northern hamlet of Stony Rapids, the NJC offers a glimpse of the costs associated with living in the community through their Classification of Isolated Posts (see [Section 2.6-1](#) above for further details of the classification system used by the NJC) (NJC 2012a). According to the NJC, similar to the costs of living in the community of Black Lake, costs of living in the northern hamlet of Stony Rapids were 40% to 44% higher than in Saskatoon as of October 2012 (NJC 2012a, 2012e). In addition, food prices in the northern hamlet of Stony Rapids are as much as 70% higher than in Saskatchewan, on average. As a result, while residents of the northern hamlet of Stony Rapids have incomes lower than the provincial average they also pay more for necessary goods and services.

The northern hamlet of Stony Rapids residents face many of the same issues with respect to cost of living as BLFN members. Rent for those who do not own their own homes can cost up to 25% of their gross income. Power costs are also high in the community, with no respite in the summer months. Food costs are high, which makes shopping trips in the south attractive options from an economic point of view, despite the high freight costs of flying items back into the community or the risks associated with using the Athabasca Seasonal Road in the off-season (Black Lake and Stony Rapids KPI Program 2011-2013).

2.7 Local Business

The communities of Black Lake and Stony Rapids have a variety of community-based businesses that range from taxi services to local contractors (Keewatin Career Development Corporation 2012). Additionally, both communities actively seek to build capacity and expand their business holdings. In the community of Black Lake, a dedicated Band employee focuses on bringing training to the community and nurturing local businesses. In the northern hamlet of Stony Rapids, the approach to developing local business is less organized, but it is a goal of community members that more residents become employed and more local business initiatives succeed (Black Lake and Stony Rapids KPI Program 2011-2013).

In the Athabasca region as a whole, the for-profit Athabasca Basin Development Limited Partnership (ABDLP) is an investment company that focuses on business and training initiatives in the mining and exploration service sector (Athabasca Basin Development Limited Partnership n.d.). Both communities are stakeholders in the ABDLP. As stakeholders in the ABDLP, the communities of Black Lake and Stony Rapids are part-owners of ten joint ventures, including:

- Athabasca Labour Services;
- Points North Group of Companies;
- Athabasca Basin Security;
- Flyer Electric;
- Points Athabasca;
- Team Drilling;
- West Wind Aviation;

- Double Diamond Industrial Structures;
- Mudjatik Thyssen Mining; and
- Lonona Contracting (ABCLP 2013).

Points Athabasca (Points Athabasca n.d.a.), which has been awarded contracts with the uranium mining sector, including building the McClean Lake Gymnasium and the Cigar Lake Permanent Camp. In addition to working on construction projects at uranium mining operations, Points Athabasca has also done work on community-based projects, such as the Wollaston Lake Arena and the Athabasca Health Facility (Points Athabasca n.d.b.). In addition to being a stakeholder in the ABDLP, the BLFN is also a part owner in other businesses that work and create capacity in northern Saskatchewan, including Athabasca Catering (Athabasca Catering 2007) and Pronto Airways (Pronto Airways 2012b), Northern Resource Trucking (Northern Resource Trucking 2013), the Prince Albert Development Corporation (PADC), which supplies investment and business development services, and Black Lake Business Ventures Limited Partnership, an investment holding company (Northern Saskatchewan Regional Suppliers 2013)..

The ABDLP's interest in work for the resource industry, and primarily mining and exploration work arises from the prevalence of gold and uranium deposits and mining operations in northern Saskatchewan. Impact Management Agreements (IMA) have been signed by mining companies with interest in the region, such as Cameco and AREVA, that, in part, guarantee that the companies will provide special consideration to existing contractors in the Athabasca region when awarding new contracts (Cameco 2011).

Northern Saskatchewan's mining industry spent \$355 million on contracts with northern Saskatchewan companies and joint ventures in 2008 (Northlands College et al. 2011). Services provided by these companies include trucking, catering, mining, and security. Since 1991, businesses and residents of northern Saskatchewan have earned \$3 billion from northern mine sites (Northlands College et al. 2011).

In addition to community-based contractors that work in the resource sector, there are other companies in the Athabasca region that are not based in the communities of Black Lake or Stony Rapids but employ residents of both communities. To employ residents, position-specific training has been offered, which helps build capacity in the communities by creating a workforce that possesses not only position-specific skills, but also transferable ones that could help them acquire and retain other positions in different companies (Black Lake and Stony Rapids KPI Program 2011-2013).

3.0 INFRASTRUCTURE AND SERVICES

The following section presents information concerning transportation infrastructure, including regional and community roads and air traffic, and community facilities and services, including those related to education, health, and social services, in and around the communities of Black Lake and Stony Rapids. Information related to community land use and plans is also presented.

This section is broken down into the following topics:

- transportation infrastructure; and
- community facilities and services.

Information on community facilities and services was obtained from a combination of key person interviews conducted in the communities of Stony Rapids and Black Lake, Statistics Canada data, and relevant Saskatchewan and Canadian government reports and data sources.

3.1 Area Overview

There is a network of access roads between Highway (Hwy) 905 and the Fond du Lake River. The largest access road leads to Camp Grayling, which is located on the Fond du Lac River at its outflow point from the community of Black Lake. The access road heads southeast from the all-season portion of Hwy 905 between the communities of Black Lake and Stony Rapids to the Fond du Lac River. The access road is not maintained daily. The owner of Camp Grayling contacts the maintenance crew based in the northern hamlet of Stony Rapids when the access road needs to be bladed or snow needs to be removed (Toutsaint pers. comm. 2012).

In addition to the access road, there is a network of trails in the area east of Hwy 905 to the Fond du Lac River and Middle Lake. These trails include:

- the Elizabeth Portage, which runs north-south from Elizabeth Falls to Middle Lake;
- a trail that connects the Elizabeth Portage and Hwy 905;
- a network of trails northwest of the Camp Grayling Access Road and southeast of the trail connecting the highway and the portage; and
- a network of trails between the Elizabeth Portage and the Fond du Lac River.

More information on trails and portages in the region can be found in [Section 4.1.5.1](#), Access Trails and Portages.

The area also has several existing borrow areas. Four of the borrow areas are just off Hwy 905, while an additional borrow area is north of Camp Grayling.

3.2 Transportation Infrastructure

This section describes infrastructure and services related to transportation in the region and in the communities of Black Lake and Stony Rapids. General information, along with statistical data, has been assembled from the Saskatchewan Ministry of Highways and Infrastructure (SMHI) and Statistics Canada and supplemented with results from the KPI Program.

SMHI has an office and equipment storage yard in the northern hamlet of Stony Rapids.

3.2.1 Regional Roads

Figure 3.2-1 illustrates highways in northern Saskatchewan, as well as selected communities in the region, including the communities of Black Lake and Stony Rapids.

As shown in Figure 3.2-1, road access to the Athabasca region of northern Saskatchewan originates at Hwy 102, which extends north from La Ronge to its terminus in Southend. Hwy 905 branches north off Hwy 102 near Southend. Hwy 905 has three distinct parts.

- Southend Junction to Points North Landing - this all-season portion of Hwy 905 passes north along the west shore of Wollaston Lake and terminates at Points North Landing (ADI Limited 2002).
- Points North Landing to the community of Black Lake - beyond Points North Landing, Hwy 905 continues as a gravel seasonal road, known as the Athabasca Seasonal Road. The first portion of the Athabasca Seasonal Road is a seasonal road that extends from Points North Landing to near the community of Black Lake. This seasonal road is about 185 km long and is suitable for passenger vehicles and tractor-trailer trucks from roughly December to the end of March of the following year, while it is suitable for all-terrain vehicles in the summer and fall (AERC n.d.a.). As such, during the non-winter seasons Athabasca region communities, including Black Lake and Stony Rapids, do not have road access to the south on a road designed for general traffic use (Black Lake and Stony Rapids KPI Program 2011-2013) although some residents of the communities of Black Lake and Stony Rapids continue to use the seasonal gravel road all year to avoid the freight costs associated with transporting goods by plane (Black Lake and Stony Rapids KPI Program 2011-2013).
- The communities of Black Lake to Stony Rapids - Hwy 905 becomes an all-season gravel road that connects the communities of Black Lake and Stony Rapids. This portion of Hwy 905 was formerly called Hwy 964.

SMHI issues annual fleet permits to carriers operating on Hwy 905. For the carriers granted the permit, it effectively changes the designation of Hwy 905 to a primary weight highway, which increases accessibility and reduces costs for transporting goods to northern Saskatchewan. The permit is required for trucks that exceed 41,500 kilograms (kg) in gross vehicle weight (GVW) on Hwy 905 from July 1 to March 30 of the following year. From April 1 to June 20, vehicle weights revert back to regulated limits for secondary weight highways (SMHI 2013). The extent to which the GVW is reduced on secondary highways is determined by SMHI and is subject to vehicle tire size, inter-axle spacing, and axle spread. In general, the maximum allowable GVW on secondary highways is 83-92% of the maximum allowable GVW on primary highways (SMHI 2011). SMHI has also proposed the construction of an all-weather road from the northern hamlet of Stony Rapids to the south shore of Lake Athabasca near Fond-du-Lac. The year round road would enable more efficient transportation between Fond-du-Lac and the northern hamlet of Stony Rapids (SMHI 2010a). Residents of the communities of Black Lake and Stony Rapids support the proposed road, (Black Lake and Stony Rapids KPI Program 2011-2013). Although there are currently no firm commitments for its development, the Province is currently conducting a cost-benefit analysis of building more all-season roads in northern Saskatchewan. The minister responsible for First Nations and Métis Relations, along with the CEO of the Saskatchewan Chamber of Commerce also toured the Athabasca region in July 2012 (Johnstone 2012).

3.2.1.1 *Hwy 905 – Points North Landing to the Community of Black Lake*

The portion of the Athabasca Seasonal Road that connects the community of Black Lake to Points North Landing is a seasonal, gravel highway. This portion of Hwy 905 was built in the 1990s; since it was built, no major work has been completed (Hoehn pers. comm. 2012). The total length of this section of Hwy 905 is about 185.1 km (SGI 2012).

Since the 2002/2003 season, this portion of the Athabasca Seasonal Road has had two official opening dates, both of which were on June 6. In addition, since the 2002/2003 season, this portion of the Athabasca Seasonal Road has had five official closing dates, four of which were on March 31 and one on April 4. In the 2002-03, 2005-06, and 2009-10 seasons there were no official opening or closing dates (SMHI n.d.). This portion of the Athabasca Seasonal Road is typically subject to closure each year around the middle of April to the middle of May due to spring break-up (Hoehn pers. comm. 2012).

The Athabasca Seasonal Road is used throughout the year by exploration teams, community members, and others. The road travels through very rough terrain, with many large stones, bedrock, and occasional soft spots. It is recommended that only half ton trucks and four wheel drive vehicles travel the road in the off-season, and average a speed of about 40 kilometres per hour (km/h). The condition of the road improves during the winter months, when the ground is frozen and rough spots are evened out by packed snow (Hoehn pers. comm. 2012).

In 2012, the Athabasca Seasonal Road was maintained by Lonona Contracting based in Prince Albert. During the summer, blading and graveling activities are conducted, as required. In the winter season, the driving lanes are cleared within 48 hours of the cessation of a storm (Hoehn pers. comm. 2012).

3.2.1.2 *Hwy 905 – Community of Black Lake to Stony Rapids*

Formerly Hwy 964, the Black Lake to Stony Rapids portion of Hwy 905 is an all-weather gravel highway. This portion of Hwy 905 was built in 1976-1978; since that time, no additional major work has been completed (Toutsaint pers. comm. 2012). The total length of this section of Hwy 905 is about 22.2 km (SGI 2012).

In the snow-free season, this portion of Hwy 905 is bladed and graded as required, which often depends on environmental conditions. A daily road report, describing road conditions due to weather related affects and reports about potholes, is faxed in to SMHI each day. During the winter months, this portion of Hwy 905 receives a high level of snow removal service since the maintenance crew is locally based in the northern hamlet of Stony Rapids. Other maintenance, such as ice control using sand mixed with road salt, is performed on an as-needed basis (Toutsaint pers. comm. 2012).

Calcium chloride is applied to this portion of Hwy 905 for dust suppression at least once every year during the snow-free season; in very dry years, calcium chloride may be applied twice. The calcium chloride is typically applied on an as-needed basis (Toutsaint pers. comm. 2012).

A winter road is established every year between the northern hamlet of Stony Rapids and Fond du Lac and continues on from Fond du Lac to Uranium City (Black Lake and Stony Rapids KPI Program 2011-2013).

3.2.2 **Regional Traffic**

Regional traffic data presented herein was acquired from SMHI. The SMHI does not conduct regular traffic counts on northern highways due to the relatively low traffic density. The current practice by SMHI is to use portable vehicle classifiers (PVCs) to count traffic volumes on an occasional basis. These PVCs are placed across the entire roadway, counting vehicles traveling in both directions over a period of 48 hours. SMHI staff

use data received from these counts, traffic data acquired in earlier years, and known travel patterns on other similar highways to produce estimated Average Annual Daily Traffic (AADT) volumes for northern highways (Anderson pers. comm. 2010).

Since traffic counts are generally conducted over a 48-hour period and do not specify travel direction, it is possible for a particular vehicle to be counted twice during the counting period. In addition, near communities there would be an increase in traffic counts due to the use of the highways by local traffic. The traffic count does not necessarily represent the volume of traffic on the highways further out from the communities. There is seasonal variation in traffic volumes, with the AADT much lower than 20 vehicles in the spring, summer and fall, and at least double in the winter months when the ice road to Fond du Lac and Uranium City, and Camsell Portage is in operation (Guitard pers. Comm. 2013).

3.2.2.1 Hwy 905 – Points North Landing to Black Lake

Table 3.2-1 presents AADT and truck average annual daily traffic (TAADT) estimates for total traffic and truck traffic on the Athabasca Season Road (Hwy 905). Traffic counts were conducted by the SMHI along two control sections of the Athabasca Seasonal Road.

Table 3.2-1: Traffic Data for Provincial Highway 905 (Athabasca Seasonal Road)

Highway	Location Description		Average Annual Daily Traffic	
	From	To	AADT ^(a)	TAADT ^(b)
905	Points North Landing	Hawkrock River Bridge	20	5
905	Hawkrock River Bridge	Black Lake Access	20	5

Source: Muhr pers. comm. 2012.

^(a) AADT: Annual Average Daily Traffic; the average 24-hour traffic volume for one year.

^(b) TAADT: Truck Average Annual Daily Traffic; the average 24-hour truck traffic volume for one year.

3.2.2.2 Hwy 905 – Black Lake to Stony Rapids

Table 3.2-2 presents AADT and TAADT estimates for total traffic and truck traffic on the portion of Hwy 905 that connects the communities of Black Lake and Stony Rapids. Traffic counts were conducted by the SMHI along two control sections of the road connecting the communities of Black Lake and Stony Rapids.

Table 3.2-2: Traffic Data for Provincial Highway 905 (Black Lake to Stony Rapids)

Highway	Location Description		Average Annual Daily Traffic	
	From	To	AADT ^(a)	TAADT ^(b)
905	Black Lake Access	Highway 966	132	20
905	Highway 966	Stony Rapids Access	132	20

Source: Muhr pers. comm. 2012; Brenner pers. com. 2013

^(a) AADT: Annual Average Daily Traffic; the average 24-hour traffic volume for one year.

^(b) TAADT: Truck Average Annual Daily Traffic; the average 24-hour truck traffic volume for one year.

3.2.2.3 Traffic-Related Public Safety

The northern hamlet of Stony Rapids RCMP detachment carries out periodic roadside checks on vehicles coming into the communities of Black Lake and Stony Rapids. The detachment does not have a radar system; it

was noted that the road conditions make it difficult to speed. Accidents typically are the result of driver error (Black Lake and Stony Rapids KPI Program 2011-2013).

3.2.2.3.1 Hwy 905

In 2010, it is estimated that the total amount of vehicle travel on Hwy 905 was approximately 9.26 million vehicle kilometres (Mvkm). In 2010, 12 collisions causing property damage were reported; five collisions causing personal injury were reported; and one collision causing death was reported. Accidents per total vehicle travel was 1.94 accidents/Mvkm on Hwy 905 in 2010, compared to a provincial average of 0.78 accidents/Mvkm (SGI 2012). The low traffic levels on Hwy 905 tend to magnify calculated accident rates.

3.2.2.3.2 Hwy 905 – Points North Landing to Black Lake

In 2010, the total amount of vehicle travel on Hwy 905 between Points North Landing and the community of Black Lake was broken down into two sections: Points North Landing to Hawkrock River Bridge and Hawkrock River Bridge to Black Lake Access.

In 2010, from Points North Landing to Hawkrock River Bridge the total amount of vehicle travel was approximately 0.57 Mvkm). In 2010, one collision causing property damage was reported and no collisions causing personal injury or death were reported. Accidents per total vehicle travel was 1.75 accidents/Mvkm in 2010, compared to 1.94 accidents/Mvkm on the entirety of Hwy 905 and a provincial average of 0.78 accidents/Mvkm (SGI 2012).

In 2010, from Hawkrock River Bridge to Black Lake Access the total amount of vehicle travel was approximately 0.78 Mvkm. In 2010, one collision causing property damage was reported; one collision causing personal injury was reported; and no collisions causing death were reported. Accidents per total vehicle travel was 2.57 accidents/Mvkm in 2010, compared to 1.94 accidents/Mvkm on the entirety of Hwy 905 and a provincial average of 0.78 accidents/Mvkm (SGI 2012).

3.2.2.3.3 Hwy 905 – Black Lake to Stony Rapids

In 2010, it is estimated that the total amount of vehicle travel on Hwy 905 between the communities of Black Lake and Stony Rapids was approximately 1.07 Mvkm. In 2010, one collision causing property damage was reported, three collisions causing personal injury were reported; and no collisions causing death were reported. Accidents per total vehicle travel was 3.74 accidents/Mvkm in 2010, compared to 1.94 accidents/Mvkm on the entirety of Hwy 905 and a provincial average of 0.78 accidents/Mvkm (SGI 2012). The high accident rate is influenced by low traffic levels.

3.2.3 Community Roads

Neither the community of Black Lake nor the northern hamlet of Stony Rapids have year around road access. The Athabasca Seasonal Road is inaccessible during the winter freeze up and during the spring thaw periods.

3.2.3.1 Black Lake – Community Roads

The roads in the community of Black Lake are gravel and were initially constructed in 1967. Since then, there has only been minor work done on the roads to maintain them. Although the roads are very dusty in the summer months, the only dust suppression activity undertaken by the community is watering down the roads. Local residents describe the condition of the roads in the community of Black Lake as fair (Black Lake and Stony Rapids KPI Program 2011-2013).

3.2.3.2 Northern Hamlet of Stony Rapids – Community Roads

During the winter, residents can use the winter road established between the northern hamlet of Stony Rapids and Fond du Lac (AERC n.d.a.). An all-weather road to Fond du Lac is in the planning stages (Athabasca Working Group 2011; Black Lake and Stony Rapids KPI Program 2011-2013). The provincial government is currently undertaking a cost-benefit analysis of increasing the number of roads in northern Saskatchewan (Johnstone 2012).

The roads in the northern hamlet of Stony Rapids are in poor condition. To alleviate wear and tear on roads in the community, the northern hamlet of Stony Rapids applied for and received funding via the Canada P3 Fund to build a road that bypasses the community. The road would extend from the Athabasca Health Authority (AHA) health facility to the airport (Black Lake and Stony Rapids KPI Program 2011-2013).

3.2.4 Air Traffic and Transportation

The communities of Stony Rapids and Black Lake are served by an airport in the northern hamlet of Stony Rapids, which is one of 18 airports in northern Saskatchewan owned and operated by SMHI. Northern airports provide passenger services for northerners and air ambulance and medi-vac services, as well as facilitate tourism and economic development (SMHI 2002). The runway at the Stony Rapids airport has a treated gravel surface, is 5,050 feet long and 100 feet wide, and has runway lighting (see Table 3.2-3). Runway maintenance is conducted by SMHI (Black Lake and Stony Rapids KPI Program 2011-2013). The airport is also used as a base for Saskatchewan Ministry of Environment's water bomber aircraft (SMHI 2002), and is a stopover point for smaller aircraft and provides a commercial fuel service.

Table 3.2-3: Registered Aerodrome Facilities and Runways at the Stony Rapids Airport

Aerodrome Name	Identifier Airport Code	Aerodrome Status	Flight Service Station	Runway Size	Surface Type	Elevation	Airfield Lighting	Estimated Annual Aircraft Movements
Stony Rapids	CYSF	Certified	Regina 306-352-6265	5,050 feet x100 feet	Treated Gravel	805 feet	Yes	8,800

SMHI 2010b

Scheduled passenger flights into the northern hamlet of Stony Rapids are available from Pronto Airways and Transwest Air. Combined, these airlines offer flights to and from southern Saskatchewan, including Saskatoon, every day of the week. The airlines also offer flights to Fond du Lac, La Ronge, Points North, Prince Albert, Uranium City, and Wollaston Lake (Pronto Airways 2012a; Transwest Air 2012). Chartered airplanes and helicopters also use the airport, including regularly scheduled charter flights that transport workers to mine sites in northern Saskatchewan.

the northern hamlet of Stony Rapids has a Water Aerodrome Seaplane Base (CKW5) on the Fond du Lac River immediately north of the community. Docks on the waterfront allow charter companies to access the community (Airport Guide 2012). Transwest Air is the primary user of the seaplane base (Black Lake and Stony Rapids KPI Program 2011-2013) and several fly-in fishing and hunting lodges throughout northern Saskatchewan and the NWT use the Stony Rapids Water Aerodrome Seaplane Base to pick up passengers from the Stony Rapids Airport.

3.2.5 Water Transportation

During the summer months, there is limited barge service to ship goods from east to west from the northern hamlet of Stony Rapids to Fond du Lac, Uranium City, and Camsell Portage (Cousins and Coneghan 2006). The barge is privately run (Canada 2012).

3.3 Community Facilities and Services

This section provides details of community facilities and services in the communities of Black Lake and Stony Rapids, including discussion of how these communities compare to northern Saskatchewan and Saskatchewan, where data is available. Infrastructure and services discussed in this section include the following:

- educational facilities;
- health care facilities and services;
- emergency services;
- social services and programs;
- housing;
- utilities and public services; and
- community land use and plans.

Information on community facilities and services comes from a variety of sources, but principally from the KPI Programs conducted in the communities in 2011 and 2012. Statistical data from Statistics Canada, as well as government reports and other documents, are also cited where appropriate.

3.3.1 Education Facilities

There are two distinct kindergarten-to-grade 12 school systems operating in northern Saskatchewan, the provincial system that serves non First Nation communities, and the federal system that serves First Nation communities. The provincial system includes three school divisions (i.e., Ile-a-la-Crosse, Northern Lights, and Creighton) with a total of 23 schools. The federal school system includes 29 northern First Nation- or Band-operated schools and 6,500 students under the umbrella of the PAGC, whose main office is located in Prince Albert (PAGC 2008). The communities of Black Lake and Stony Rapids each have schools. The school in the community of Black Lake is federally funded and the school in the northern hamlet of Stony Rapids is provincially funded.

There are no post-secondary institutions in the Athabasca region, although Northlands College offers training and adult education programs throughout northern Saskatchewan when a need is identified in their annual training needs assessment (Cameco 2011).

3.3.1.1 Community of Black Lake – Education Facilities

The Father Porte Memorial Dene School in the community of Black Lake, a First Nation school funded by the federal government, was constructed in 1994 and is a kindergarten-to-grade 12 school with approximately 50 staff, many of whom are members of BLFN. Most of the BLFN members who work in the school are employed as teachers in the elementary grades, as teaching assistants, or in support roles. For the 2011/12 school year, there was the equivalent of 410 full-time students enrolled at the school, including students

attending Headstart (K4) classes. There are more students in the elementary grades, with students typically dropping out or attending school less as they progress onto high school (Black Lake and Stony Rapids KPI Program 2011-2013).

Since AANDC will not provide funding for students over 21 years of age, the school does not normally accept students over the age of 21; however, exceptions are occasionally made. Adult education programs, which are funded by Northlands College and the PAGC, are offered in the community throughout the school year (Black Lake and Stony Rapids KPI Program 2011-2013).

Results of the KPI Program suggest that the school is at or beyond capacity in terms of space and resources, although there are plans to expand the school.

The school currently provides Dene cultural programming for all students. All grade levels participate in an organized Dene-language program. The school has an annual cultural camp near the community that provides instruction to all grade levels in traditional activities. In past years, select students have also participated in a yearly hunting trip in the area. In 2012, the schools in the communities of Black Lake, Fond du Lac, and Hatchet Lake were organizing a hunting trip to the NWT for high school students (Black Lake and Stony Rapids KPI Program 2011-2013).

The school has a daycare as well as a Headstart program. The daycare is housed off school property, near the band office, while the Headstart program is in the school building. There are plans to move the daycare services onto school property (Black Lake and Stony Rapids KPI Program 2011-2013).

Northlands College has a small training facility in the community of Black Lake that offers training and adult education programs when a need is identified and funding is available. BLFN has had members participate in the Northern Teacher Education Program (NORTEP) which is administered out of and offers classroom training in La Ronge. In 2013 there was one member from BLFN participating in this program (Black Lake and Stony Rapids KPI Program 2011-2013).

3.3.1.2 Northern Hamlet of Stony Rapids – Education Facilities

The Stony Rapids School, part of the Northern Lights School Division (NLSA), was built in the late 1950s or early 1960s and was gradually expanded to its current form. The school has five large classrooms, a library, a gym, and an industrial arts shop (Black Lake and Stony Rapids KPI Program 2011-2013; NLSA n.d.). The gym is often used for community activities, and the industrial arts shop is currently used for storage. One of the five classrooms is currently being used as a daycare for infants. There is no current demand for daycare for children older than one year of age (Black Lake and Stony Rapids KPI Program 2011-2013).

The school is a kindergarten-to-grade-nine school with seven staff members, all but two of whom are from outside the community. The two community members who work at the school fill support roles (Black Lake and Stony Rapids KPI Program 2011-2013). The school in the northern hamlet of Stony Rapids had an enrolment of 55 students as of September 30, 2011 (NLSA 2011).

Since the Stony Rapids School does not offer grades 10 to 12, students wishing to complete the high school curriculum either attend Father Porte Memorial Dene School in the community of Black Lake or a school in a more southerly community. Most students from the northern hamlet of Stony Rapids relocate to a southern community where they have family. Students typically go onto high school, although a high percentage of them

drop out and return home before completing grade 12. At the moment, NLS #113 is not planning to offer the high school curriculum in the community (Black Lake and Stony Rapids KPI Program 2011-2013).

Although the school currently meets the community's needs, it does need repairs and residents would like a new building. The school is currently scheduled to have its floor and roof replaced. Additionally, members of BLFN stated that the heating system is inefficient and should be replaced (Black Lake and Stony Rapids KPI Program 2011-2013).

There are no post-secondary training facilities in the northern hamlet of Stony Rapids.

3.3.2 Health Facilities and Services

This section describes the health facilities and services that are available in the communities of Black Lake and Stony Rapids. This information relies on data collected through KPIs in the communities, and is supplemented by First Nations, Regional Health Authority, and Saskatchewan Health data. Further description of the types of health issues and concerns in both communities is provided in [Section 5.3-1](#) and [Section 5.3-2](#).

Residents of the communities of Black Lake and Stony Rapids have access to the AHA Health Facility⁶, which is funded by both the Government of Saskatchewan Health Ministry and Health Canada, located outside of the northern hamlet of Stony Rapids on BLFN reserve land. The AHA health facility opened in June 2003 (Government of Saskatchewan 2003b). The Dene name for this facility is Yutthe Dene Nakohoki, which means "a place to heal northern people".

The AHA health facility is unique because it is a joint provincial-federal initiative, which is a situation that offers both benefits and drawbacks. The benefits include the following:

- the AHA's improved ability to offer integrated health care since jurisdictional battles can prevent individuals from receiving the care they need, particularly due to certain responsibilities not being clearly assigned to either the provincial or federal health care systems;
- the ability to offer more preventative care; and
- increased access to programs and services (Black Lake and Stony Rapids KPI Program 2011-2013).

One of the primary drawbacks is the funding reporting requirements since these differ between provincial and federal agencies and are often due at different times.

The AHA health facility has 14 beds in private and semi-private rooms and is considered a hub for AHA health services in the Athabasca region. There is also a health centre located in the community of Black Lake. The health centre in the community of Black Lake and the AHA health facility together employ 55 staff members. The AHA has 150 employees throughout the entire Athabasca region, including independent contractors, licensed practical nurses (LPN), registered nurses (RN), nurse practitioners, and doctors (Black Lake and Stony Rapids KPI Program 2011-2013).

Dental, optometry, and podiatry services, as well as occupational therapy and physiotherapy services are available in each community on a monthly or bi-monthly basis. Since women in the Athabasca region currently need to fly south to give birth under medical supervision, the AHA is currently developing a midwifery initiative

⁶ The Athabasca Health Authority health facility is often referred to as the "Athabasca Health Authority hospital" or "hospital" by residents of Black Lake and Stony Rapids.

that would allow women with low risk pregnancies to give birth in their home communities throughout the Athabasca region. The AHA will be hiring a midwife to develop and implement the program (AHA 2011).

The AHA health facility operates Horizontal Transport Vehicles (HTV), which fulfill a similar function to ambulances. Physicians and nurses on-site can perform some emergency functions (Black Lake and Stony Rapids KPI Program 2011-2013). The AHA health facility provides access to medical evacuation services for patients who need to be flown south for emergency surgeries (AHA 2011). Patients requiring emergency services unavailable at the AHA health facility are typically flown to La Ronge, Prince Albert, or Saskatoon, depending on their needs.

3.3.2.1 Community of Black Lake – Health Facilities and Services

the community of Black Lake residents have access to a health centre, funded by Health Canada, and the AHA health facility located on reserve land near the northern hamlet of Stony Rapids. The health centre in the community of Black Lake opened in 2004 and is located centrally in the community, with day-to-day operations and hiring overseen by the Health Director for the Band. Funding for the health centre is provided by the AHA, with some programs operated in association with the PAGC. There are four full-time nurses on staff and members have access to a physician in the community twice per week (AHA 2011). Over 800 patients are seen at the health centre in the community of Black Lake each month. The health centre is currently at capacity, and a lack of office space creates confidentiality issues related to patients seeking assistance with mental health or addictions issues (Black Lake and Stony Rapids KPI Program 2011-2013).

Services provided through the health centre include homecare, pre- and post-natal programs, diabetes education, medical transportation, mental health therapy, National Native Alcohol and Drug Abuse Program (NNADAP) addictions counseling and maternal/child health programs. Medical travel services are coordinated at the health centre and are funded through AHA (Black Lake and Stony Rapids KPI Program 2011-2013). Specialist services are available in the community twice each month, including occupational therapy, diabetes and dietary sessions, optometry, and ophthalmology. A tuberculosis specialist comes into the community once each month. Chiropractic and massage therapy services are not currently available in the community (Black Lake and Stony Rapids KPI Program 2011-2013).

the community of Black Lake has an ambulance that can take members to the AHA health facility, where some emergency services are provided (Black Lake and Stony Rapids KPI Program 2011-2013).

3.3.2.2 Northern Hamlet of Stony Rapids – Health Facilities and Services

The Stony Rapids Clinic closed in 2003 when the AHA health facility opened. Medical treatment and services offered by the AHA health facility are available and used by the residents of the northern hamlet of Stony Rapids. (AHA n.d.). The AHA health facility does offer some services specific to the northern hamlet of Stony Rapids, such as homecare for Elders, diabetes management classes, and a Meals on Wheels program for Elders (AHA 2011; Black Lake and Stony Rapids KPI Program 2011-2013).

the northern hamlet of Stony Rapids residents have access to some emergency services at the AHA health facility (Black Lake and Stony Rapids KPI Program 2011-2013).

3.3.3 Social Services and Programs

Social services in the Athabasca region communities are typically provided through the health centre or a related facility. In the community of Black Lake, social services in the community include Native Alcohol and Drug Abuse Program (NADAP), Brighter Futures, Athabasca Denesuline Child and Family Services, and a residential

schools resolution program (AHA 2011; Black Lake and Stony Rapids KPI Program 2011-2013). In the northern hamlet of Stony Rapids, social services include a meals on wheels program for Elders and diabetes management classes (AHA 2011; Black Lake and Stony Rapids KPI Program 2011-2013). A Service Canada office is located in the northern hamlet of Stony Rapids, providing residents of the community with access to federal programs and services. Centre employees mainly help residents with old age pension, Canada Pension, and Employment Insurance. Employees of the centre are in the community of Black Lake two days a week (Black Lake and Stony Rapids KPI Program 2011-2013).

The AHA, the community of Black Lake, and the northern hamlet of Stony Rapids have collaborated to create a regional addictions treatment centre just outside the community of Black Lake. The treatment centre would provide addictions treatment services to residents of the Athabasca region. The location of the facility is strategic to provide a barrier between those seeking treatment and the patients' home communities (Black Lake and Stony Rapids KPI Program 2011-2013). The focus for addictions treatment remains outpatient treatment in the patient's home community (Black Lake and Stony Rapids KPI Program 2011-2013). While the communities are supportive of this initiative, for the addictions treatment centre, it remains in the planning stages with no definite commitments to proceed.

3.3.4 Housing

This section describes the existing housing environment in the communities of Black Lake and Stony Rapids compared to the Athabasca region, northern Saskatchewan, and Saskatchewan, based on data collected by Statistics Canada in 2006 and supplemented with data collected during KPIs in the communities in 2011 and 2012.

Statistics Canada data presents a number of important markers that help to understand the state of housing stock in communities. Taken together, the total number of homes and the total population in the communities on Census Day 2006 provide a glimpse into the average number of residents living in each home. The average number of bedrooms per household is also collected by Statistics Canada. These averages are useful for understanding the conditions under which residents live; for example, when the average number of persons per household exceeds the average number of bedrooms per household, these homes may be described as overcrowded, which usually highlights the need for additional housing in a community. In addition, data related to the state of repair of dwellings in a community is an important indicator of the need for investment in housing. According to Statistics Canada, households requiring major repairs need the "repair of defective plumbing or electrical wiring, structural repairs to walls, floors or ceilings, etc." (Statistics Canada 2010a, p. 167). Research indicates that overcrowded and inadequately maintained housing conditions have negative effects on individual health and may exacerbate chronic health conditions (Murphy 2006).

The 2006 Census of Canada data presented in [Table 3.3-1](#) indicate that, in general, communities in the Athabasca region had higher levels of crowding than northern Saskatchewan and Saskatchewan as a whole. Athabasca region communities averaged 4.7 persons per household, compared to an average of 3.7 persons per household in northern Saskatchewan and 2.4 persons per household provincially. The community of Black Lake averaged five people per household, which is slightly more than the average in the Athabasca region. The northern hamlet of Stony Rapids, on the other hand, averaged 3.1 persons per household. Houses were of similar size throughout the province (Statistics Canada 2007).

Houses in the Athabasca region communities and northern Saskatchewan were much more likely to be in need of major repairs compared to the provincial average. In 2006, the percentage of houses in the Athabasca region

in need of major repairs was 37.5%, in northern Saskatchewan the percentage was 37.8%, and provincially the percentage was 10.5%. In the community of Black Lake, 34.9% of houses needed major repairs. In the northern hamlet of Stony Rapids, 25% of houses needed major repairs, which was about 12.5 pp below the average in the Athabasca region, but 14.5 pp higher than in Saskatchewan as a whole. The 2006 Census of Canada indicates that northern Saskatchewan has the highest percentage of homes needing major repairs (37.8%) when compared to all other provinces and territories in Canada (Centre for the North 2010).

A report by the Conference Board of Canada's Centre for the North indicated that 18% of homes in Northern Saskatchewan house six or more people (Centre for the North 2010).

Table 3.3-1: Housing Characteristics for the community of Black Lake, the Northern Hamlet of Stony Rapids, Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2006^(a)

Housing Characteristics	Total number of occupied private dwellings	Average number of bedrooms per dwelling	Average number of persons per household	Percentage of households requiring major repairs
Black Lake ^(b)	225	2.8	5.0	34.9%
Stony Rapids	80	2.5	3.1	25.0%
Athabasca Region ^(c)	675	2.8	4.7	37.5%
Northern Saskatchewan ^(d)	9,250	2.8	3.7	37.8%
Saskatchewan	387,160	2.9	2.4	10.5%

Source: Statistics Canada 2007.

^(a) Based on 20 per cent sample data; data subject to rounding.

^(b) Statistics Canada in 2006 refers to Black Lake as Chicken 224 and 225.

^(c) The Athabasca Region is defined as the communities of Stony Rapids, Fond du Lac, Black Lake (Chicken 224 and 225), and Hatchet Lake (Lac La Hache 220). The communities of Camsell Portage, Uranium City, and Wollaston Lake were not included in these calculations as Statistics Canada does not report on the communities individually.

^(d) Northern Saskatchewan is defined as Census Division No. 18.

% = percent

Residents of both communities have stated that most of the housing units are in fair condition. According to Statistics Canada, as of 2007, 70 dwellings were older than 20 years old, with the remainder of the housing less than 20 years old (Statistics Canada 2007). Since 2006, the last census year, the community has added 55 new units. All housing in the community of Black Lake is owned by the Band. There is one maintenance worker for housing in the community of Black Lake. In the past three years, the Band has replaced close to 200 hot water tanks in housing units on reserve. The major problem, though, is over-crowding, especially in the community of Black Lake (Black Lake and Stony Rapids KPI Program 2011-2013).

the community of Black Lake adds approximately ten houses to the community every year, and is currently working on stage 2 of a subdivision plan because all of the current lots are occupied (Black Lake and Stony Rapids KPI Program 2011-2013; Bullée Consulting 2010). The additional housing is made possible by AANDC funding, which is insufficient to meet the demand for new housing in the community, and the Band's work with the CMHC. There are currently 47 CMHC units on-reserve and plans to add 10 more in 2012. The Band Council assesses the applications for CMHC housing when new homes are available and gives preference to newlyweds and couples with young children. There are currently 80 people on the waiting list for housing in the community of Black Lake. Some of the housing for the community of Black Lake is constructed in a commercial compound in the northern hamlet of Stony Rapids and then moved onto the reserve (Black Lake and Stony Rapids KPI Program 2011-2013).

In the northern hamlet of Stony Rapids, KPI results suggest that there are just over 100 homes including approximately 20 housing units that have been added since 2006. The houses range in age from about sixty years old to a few years old; most units are older (Black Lake and Stony Rapids KPI Program 2011-2013). According to Statistics Canada, 50 houses in the community were built before 1986 and 30 homes were built between 1986 and 2006 (Statistics Canada 2007). Overall, residents in the community feel that their houses are well-maintained (Black Lake and Stony Rapids KPI Program 2011-2013).

Close to three-quarters of the housing in the northern hamlet of Stony Rapids is privately owned. Saskatchewan Housing Corporation, based in Regina with northern offices in Prince Albert, administers rental units in the community. In 2013 the Saskatchewan Housing Corporation administered 27 rental units and 26 government housing units that are occupied by government employees (Huculiak pers. com. 2013) There are long-term plans to implement a community housing authority. In addition, there are some residences that are owned by Northern Lights School division for teachers, RCMP housing and some private rental housing (Black Lake and Stony Rapids KPI Program 2011-2013).

Rent for residents of the northern hamlet of Stony Rapids Saskatchewan Housing-owned units is set at approximately 25% of their gross income. However, due to the high cost of electricity, food, and other costs of living in the community, renters often face financial difficulties. Homeowners are also affected by high utility costs; as a result, many homeowners are installing wood-burning stoves in their residences to avoid high electricity bills (Black Lake and Stony Rapids KPI Program 2011-2013).

3.3.5 Utilities and Public Services

This section presents an overview of utilities and public services available in the Athabasca region communities, which include the following:

- communications;
- water and sewer;
- solid waste management;
- emergency services; and
- recreation services and areas.

Information related to the utilities and services in each community was collected through the KPI Programs in the communities, as well as from secondary sources, such as local websites, and regional, provincial, and national statistics and reports.

3.3.5.1 Communications

All Athabasca region communities have satellite high-speed internet service provided through SaskTel. Cellular telephone service is not available in the communities of Black Lake and Stony Rapids, although the KPI Program indicated that many residents had cell phones registered in Prince Albert (and other southern locations) for use during travel (Black Lake and Stony Rapids KPI Program 2011-2013).

There is one television station: Canadian Broadcasting Corporation (CBC) North, but most residents have satellite dishes.

Two radio stations can be received in the communities of Black Lake and Stony Rapids: CBC and Mississippi Broadcasting Corporation (MBC).

3.3.5.2 Water and Sewage

Community of Black Lake – Water and Sewage

Water and sewer services were first installed in 1973 to provide services to the school, teacherages, and community buildings. The water treatment plant, sewage pumping stations, lagoon and the water distribution and sewage collection systems were built in 1992, with a subdivision project being completed in 1997. All houses in the community are connected to the sewer system. The water treatment plant was upgraded in 2004/2005. The raw water intake, sewage pumps, and treatment systems were upgraded in 2010 (Bullée Consulting 2010).

Overall, the water treatment and distribution services are well-maintained and adequately serve the needs of the community. Aside from a boil-water advisory several years ago, the community has not experienced any issues. PAGC tests water quality in the community every two weeks (Black Lake and Stony Rapids KPI Program 2011-2013).

The sewage treatment facility and lagoon in the community of Black Lake was upgraded in 2010. A new standby generator was installed at one of three pumping stations, while new generators were installed at the other two pumping stations (Bullée Consulting 2010). Additionally, a new three-cell lagoon was constructed in 2010.

Stony Lake, which has about ten housing units on it, does not have a sewage pump or water treatment facility. Since the population there is small and there are no plans to add more units at Stony Lake, there are no plans to install any water treatment facilities there.

The community of Black Lake is serviced by the Stony Rapids – Uranium City transmission line, which is owned and operated by SaskPower Corporation.

Northern Hamlet of Stony Rapids – Water and Sewage

In the northern hamlet of Stony Rapids, the water treatment facility and sewage system was initially installed between 2000 and 2005 to connect the entire community. Prior to the new service, there were no services in the community (Government of Saskatchewan 2005). Now all residential units and all but two businesses are connected to the water system. There are currently no plans to extend the lines to the two businesses still on septic tanks. The water system is maintained by two full-time and one part-time employee, who also work in solid waste management (Black Lake and Stony Rapids KPI Program 2011-2013).

The community's water system and lagoon was expanded in 2010 as part of Saskatchewan's Northern Water and Sewer Program (Ministry of Municipal Relations 2010). The water treatment plant was constructed in 2002 and uses a modified conventional surface water treatment process consisting of an absorption clarifier and dual media down flow filtration system. The filter (BCA model AC-100) has a rated capacity of 6.3 L/s (100 US gpm) or 544 m³/day. There is a truck fill station at the treatment plant to accommodate hauling water.

The sewage lagoon expansion project was completed in 2012. The primary cell capacity of the new lagoon is 98,900 cubic metres (m³) over 2.4 ha and has 220 days of storage to allow for the long winters experienced in the area. The estimated requirement for the hamlet in 2020 with an estimated population growth of 3% per year is 65,900 m³, which is well below the capacity of the system.

There are no problems with water quality in the community, although the hamlet will occasionally issue boil water advisories during the spring thaw as a preventative measure. Water samples are taken daily and sent out once a week for testing.

the northern hamlet of Stony Rapids is serviced by the Stony Rapids – Uranium City transmission line, which is owned and operated by SaskPower Corporation.

3.3.5.3 Solid Waste Management

The communities of Black Lake and Stony Rapids share the same solid waste disposal site, which is located on leased Crown land about 5 km east of the northern hamlet of Stony Rapids off Hwy 905. The facility is owned and operated by BLFN. It is a relatively new four-cell landfill, and the communities are still filling the first cell with solid waste. The landfill was built in 2005-06. Garbage is collected from both communities by municipal employees of each community and brought to the solid waste disposal site at least once a week. The northern hamlet of Stony Rapids pays the Band to maintain the site. The most recent operating permit was issued by Saskatchewan Ministry of the Environment in July of 2012 and is valid through to 2018 (Black Lake and Stony Rapids KPI Program 2011-2013).

3.3.5.4 Emergency Services

Community of Black Lake – Emergency Services

the community of Black Lake has a fire hall, a fire truck, and a team of voluntary firefighters.

The Royal Canadian Mounted Police (RCMP) detachment in the northern hamlet of Stony Rapids serves the community of Black Lake (Black Lake and Stony Rapids KPI Program 2011-2013). Many BLFN members would like to develop an RCMP detachment in the community (Bullée Consulting 2010).

Ambulance services were described under Health Services and Facilities above.

Northern Hamlet of Stony Rapids – Emergency Services

The northern hamlet of Stony Rapids has a fire truck and a team of volunteer firefighters. These firefighters are also seasonal workers for the Saskatchewan Ministry of Environment during the forest fire season.

The Saskatchewan Ministry of Environment (MOE) identifies the northern hamlet of Stony Rapids as a Forest Protection Base. The Forest Protection base includes a staff bunkhouse, a warehouse of firefighting equipment, including sprinklers for remote facilities such as cabins and lodges, a truck mounted pump and tanks at the airport for foam for aerial response.

There is an RCMP detachment in the northern hamlet of Stony Rapids that serves the communities of Stony Rapids and Black Lake. There are 10 officers in the detachment, including the detachment commander. All members of the detachment reside in the community. The RCMP periodically carry out roadside checks. It was noted that speeding is not an issue due to road conditions and that accidents have typically been the result of driver error (Black Lake and Stony Rapids KPI Program 2011-2013).

3.3.5.5 Recreation Services and Areas

Community of Black Lake – Recreation Services and Areas

The community has a large skating rink used for local hockey games and other activities. The rink remains open during winter afternoons and evenings, and local children often play hockey there. The community hosts a week-long winter carnival in February or March each year, drawing residents from many Athabasca region

communities and featuring traditional and recreational activities for children, youth, and adults (Black Lake and Stony Rapids KPI Program 2011-2013).

The Father Porte Memorial School gym is open to the public in evenings and on weekends and is used to host community events and workshops, such as drug-and-alcohol prevention and healing groups. The school gym also hosts a weekly bingo night and volleyball tournaments, and will soon provide access to gym equipment and a new community fitness program in association with the AHA. Other extracurricular activities held at the school include a drumming class taught by a local teacher and family literacy programs at the library. The Band maintains several camp sites on reserve land that are used for annual cultural and community activities (Black Lake and Stony Rapids KPI Program 2011-2013).

Results of the KPI Program indicate that community members feel there is a need for additional recreation options for youth in the community (Black Lake and Stony Rapids KPI Program 2011-2013).

The BLFN recently built a new Band hall that will be used for training programs, community meetings, and social recreation activities. The new hall opened in spring 2012.

Northern Hamlet of Stony Rapids – Recreation Services and Areas

The community has an outdoor skating rink and a recreation centre for community events. The northern hamlet of Stony Rapids would like to update their current recreation centre, which was built approximately 40 years ago. A feasibility study is underway to explore building a larger multipurpose facility near the airport that would accommodate 600 people (the current centre accommodates 250 people). The new centre would also include a skating rink, new space for hamlet administration offices, as well as other public offices and space for rental offices. The facility is proposed to house classrooms that would be used by Northlands College for community-based training (Black Lake and Stony Rapids KPI Program 2011-2013).

the northern hamlet of Stony Rapids recently moved its lagoon and paved over the old one. It is hoped that the newly available space can be used to host recreation events, such as drag racing and skidoo races. The community is currently upgrading its outdoor basketball and volleyball facilities at the school, and is planning to build a skateboard park. Other plans related to community recreation include updating the soccer field at the school for local youth. The school also hosts three gym nights a week for children of different ages, garage sales, and bingo (Black Lake and Stony Rapids KPI Program 2011-2013).

3.3.5.6 Community Land Use and Plans

Community of Black Lake

Land use in the community of Black Lake is either for residential units, commercial/economic development, or community facilities. Most of the developed reserve territory is used for housing. Commercial economic development use includes the Northern Store, a gas bar, and two pool halls. Community facilities include the school, the Band office, the Band hall, and the arena (Bullée Consulting 2010).

The community of Black Lake is working on stage 2 of a subdivision in the community. the community of Black Lake, in association with the AHA and other Athabasca region communities, plans to establish an outpatient addictions centre just outside the community at Black Lake. As of February 2012, the project had stalled (Black Lake and Stony Rapids KPI Program 2011-2013).

The Band has a community development plan from 2010, which it plans to update soon. The plan highlights some of the development Band members would like see. These plans include expanding the health clinic, developing a public works yard, and building a new Youth Centre (Bullée Consulting 2010).

Northern Hamlet of Stony Rapids

Land use in the northern hamlet of Stony Rapids is primarily residential with other zones established for recreational activities and parks, community services, commercial use, tourism, and industrial use (Northern Hamlet of Stony Rapids 2011). Commercial and tourist commercial development use includes Scott's General Store and the White Water Inn (Black Lake and Stony Rapids KPI Program 2011-2013). Community facilities include the school and the Hamlet office.

the northern hamlet of Stony Rapids plans to establish a new multipurpose centre that will be used for training programs, office space, and a daycare, in addition to space for recreational programs. The multipurpose centre would also host evening activities for residents, specifically youth, as well as other events, such as court proceedings.

Northlands College is supporting the request for land to build the multipurpose training facility, which is envisioned to provide local training programs for residents of the Athabasca region. As of February 2012, funding had not yet been secured for this project; however, a feasibility study was underway (Black Lake and Stony Rapids KPI Program 2011-2013).

the northern hamlet of Stony Rapids has an Official Community Plan from 2011. It lists the goals of the community, which include:

- enhancing its position as a service provider and employment centre;
- encouraging the creation of existing businesses and the expansion of existing businesses;
- encouraging the location and retention of educational and recreational facilities in the community; and
- reclaiming the waterfront area for recreation and park space (Northern Hamlet of Stony Rapids 2011).

4.0 LAND AND RESOURCE USE

This section provides an overview of land and resource use in the area around the Project site near the communities of Black Lake and Stony Rapids, located in the Athabasca region of northern Saskatchewan. Resource use and associated activities is a way of life for individuals in northern Saskatchewan, particularly the communities in the Athabasca region. Renewable resource uses include both traditional resource uses by Aboriginal people, such as domestic hunting and fishing, along with resource use for commercial purposes, such as commercial fishing, trapping and outfitting. Non-renewable resource uses are less common in the Athabasca region, with the mining industry being the main sector.

The characterization of land and resource use by residents of the communities of Black Lake and Stony Rapids incorporates a review of both primary and secondary data sources. Data collection began with a review of existing literature and databases from a variety of public sources. Where sufficient detail was not available from secondary data sources, primary data collection interviews were completed to address these gaps.

The Project RSSA includes the First Nation community of Black Lake as well as the northern hamlet of Stony Rapids (see [Section 1.0](#)). While trapping, hunting, fishing, and gathering are practiced by residents of both communities, this section focuses primarily on land and resource use by Aboriginal people, particularly members of BLFN. Where possible, residents of the community of Black Lake have been interviewed to learn about land and resource in the Project area. Some of this information constitutes ATK and is recorded at a high level to maintain the integrity of the knowledge for the people of the community of Black Lake.

4.1 Land and Resource Use for Traditional and Domestic Purposes by Aboriginal People

The Project is located on the Fond du Lac River approximately seven kilometres from the community of Black Lake. The Project site is located within BLFN reserve land (Chicken 224) (INAC 2008) and a short section of the new transmission line would connect to the existing transmission line just west of the reserve land. The Hamlet of Stony Rapids is about 25 km southeast of the Project site.

The proposed Project area has been used traditionally by the Aboriginal people of the region for generations. Among northern Aboriginal peoples, traditional resource use is a defining feature of their cultures and identities. Natcher (2008) equates traditional resource use to their social economy, which he describes as the harvest and use of wild foods and resources. “Having endured profound social and economic change, Aboriginal peoples throughout northern Canada have maintained a lasting connection with the environment through hunting, fishing and gathering resources. Aboriginal people from across the north harvest, process, distribute, and consume considerable volumes of wild foods annually. Collectively, these activities have come to be known as ‘subsistence’ and together comprise an essential component of northern Aboriginal Culture” (p. 2-3).

The following section provides a brief historical overview of the communities, particularly the Denesuline (or Dene) of the community of Black Lake, and their use of renewable resources for traditional, commercial, and subsistence purposes. Residents continue to pursue activities such as hunting, fishing, and trapping to supplement their diet and incomes and maintain connections to the land, history, and cultural traditions of their ancestors; however, the prevalence of these activities, particularly from a commercial perspective, has been declining over the last few decades (McNab 1992; Brown 2007a; Brown 2007b; Black Lake and Stony Rapids KPI Program 2011-2013).

4.1.1 The Prehistory of Northern Saskatchewan

The Dene (“People of the barrens”) are descendants of the Taltheilei Tradition, a tradition understood by archaeologists as the most recent period on a continuum of technological adaptation by the Dene people and their ancestors, which dates back about 2,600 years. The Dene of northern Saskatchewan have also been referred to as the Chipewyan Denesuline or Chipewyan, an Algonquian-Cree name meaning ‘Pointed skins’, in reference to their traditional pointed caribou skin clothing; this term is generally considered derogatory (Jarvenpa 2003; PAGC 2008).

Dene peoples and their ancestors have lived throughout the northern regions of what are now Alberta, Saskatchewan, and Manitoba, the NWT and Nunavut for thousands of years. There is archaeological evidence of continuous occupation in northern Saskatchewan for an estimated 8,000 years (Meyer 1981). Archaeological work completed on the south shore of Black Lake in the 1970s recovered tool fragments attributed to the Paleo-Indian period, from approximately 6,000 to 5,000 before present (BP). Local archaeological sites also suggest a Pre-Dorset presence from 1,500 to 1,000 BP. For the last three millennia the area has experienced a prolonged period of Chipewyan⁷ occupation, with shorter periods of use by Northern Plains and Woodland Cree peoples (Minni 1975).

Several major regional groups of Dene have been known historically in northern Saskatchewan, including the *Gáne-kúnan-hot!inne* (“jack pine home they dwell”), centered along the eastern Fond du Lac River; BLFN is historically connected to this regional group (Irimoto 1981; Jarvenpa 2003).

Prior to settlement in contemporary First Nation communities, the Dene, much like their Taltheilei ancestors, practiced a subsistence economy based on the barren-ground caribou. Attuned to the life patterns of the caribou, they followed the herds on their annual migrations (Irimoto 1981; Jarvenpa 2003; PAGC 2008; Wakelyn 2001a; Wakelyn 2001b). As the large caribou herds dispersed into smaller groups, so did the Dene. The basic social unit of the Dene was the ‘tent’, which numbered around eight to ten people and was typically composed of a couple and their children, siblings and offspring, or hunting partners and their families. Tent units may have banded together into camps in order to cooperate during the hunt; but, these camps were rarely permanent and tended to remain relatively small (Raby 1973). Familial hunting territories did not exist in a contemporary sense, although knowledge of particular areas was likely shared by kin (Raby 1973).

4.1.2 Early History of the Dene of Northern Saskatchewan

Prior to the mid-1700s the Dene were known to live off the caribou on the northern edge of the boreal forest and into the barren grounds. The abundance of caribou for food and skins and the relatively easy access to the animals were important factors in keeping the Dene out of the fur trade and on the margins of the boreal forest (Smith 1976). In Samuel Hearne’s inland travels in 1769-1772, he noted that there were few furbearing animals in the region where the Dene lived and that they required little in the way of trade goods, since the caribou provided for almost all their needs (Smith 1981). Animal antlers and bones were traditionally used to make soup and utensils, such as hide scrapers, sewing needles, knives, spear points, fish hooks, kitchen utensils, and other tools. Rawhide sinew, used as thread, was another product obtained from animals that were hunted in the region. Caribou hides were used to make lodges, clothing, and bags, as well as babiche line for snowshoes, fishing nets, and snares (ALUPIAP 2003; Raby 1973). Some animals’ organs were associated with different

⁷ The Denesuline or Dene peoples were historically referred to as the Chipewyan. The term Chipewyan continues to be used in some anthropological texts, particularly with reference to pre-contact and historical occupations by Dene peoples; where used in this report, it should be understood as interchangeable with the terms Denesuline or Dene.

medicinal properties and may have had spiritual uses in traditional ceremonies (Athabasca Land Use Plan Interim Advisory Panel [ALUPIAP] 2003; Cigar Lake Mining Corporation 1995).

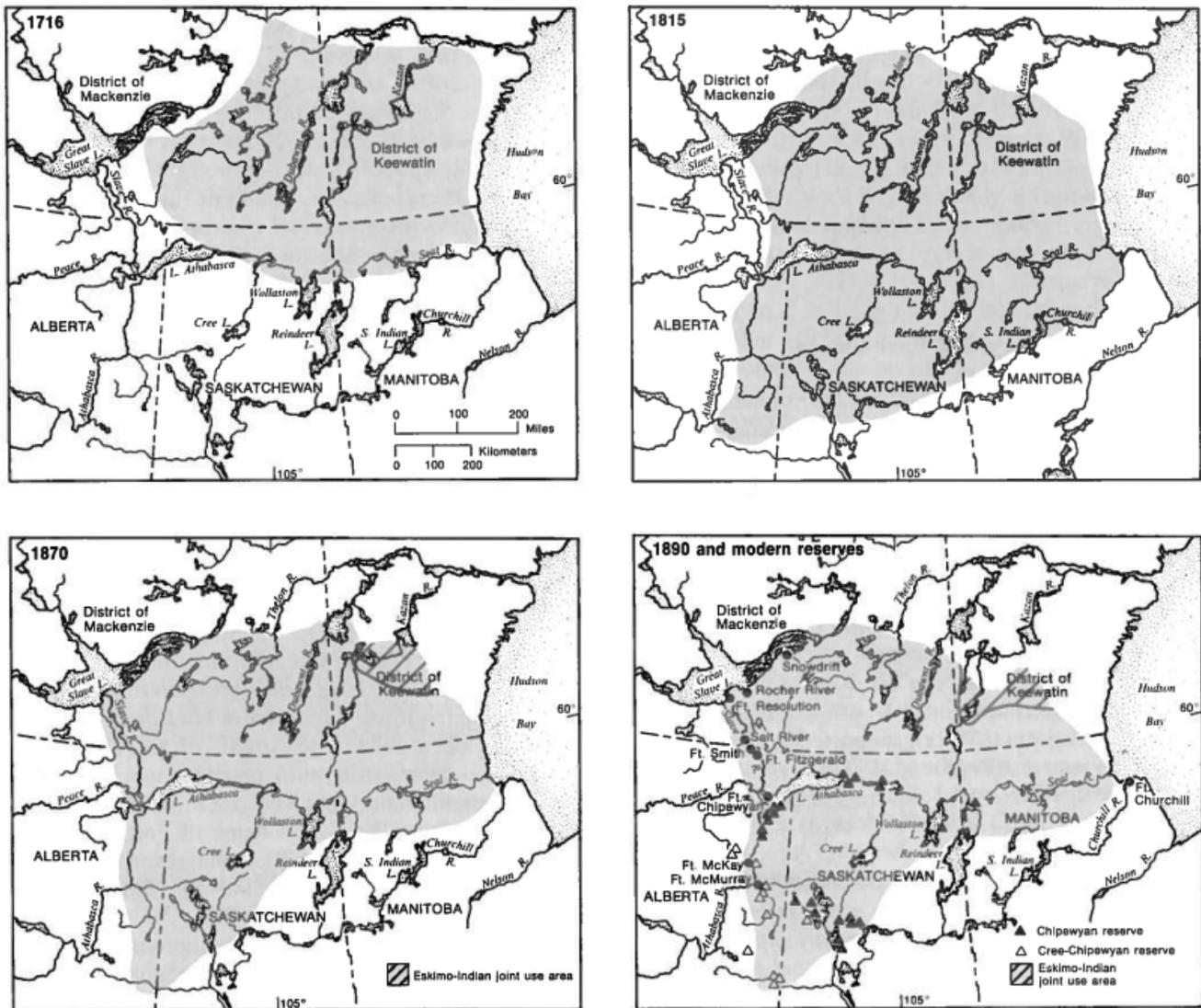
Between the mid-18th century and the early part of the 20th century, contact with European peoples became more frequent and the Dene people were encouraged to move into the boreal forest by the Hudson's Bay Company (HBC) to gain their active participation in the fur trade (Yerbury 1976; Gillespie 1976; Raby 1973). Before this, there was little need for, or experience with, trapping animals. In a recent study on subsistence activities in Saskatchewan, a Dene Elder from Wollaston Lake is quoted saying, "Before the white man, people didn't trap. Why should they? They didn't know what to collect fur for. They only killed animals for clothing and to eat" (Mackenzie 2004, p. 2). The HBC men actively recruited and trained the Dene people in the skills of trapping and skinning furs to engage them in the fur trade (Jarvenpa 2003; Raby 1973).

As the Dene learned to trap and produce valuable furs that could be exchanged for goods at the trading posts, they moved further south into the boreal forest where there was a greater abundance of fur-bearing animals. The move into the boreal forest was enabled by a peace agreement between the Cree and the Dene in the winter of 1715-1716 (Gillespie 1976; Smith 1976). The move was further enabled by the smallpox epidemic of 1781, which drastically reduced the Cree population in the boreal forest region of western Saskatchewan (Smith 1976; Yerbury 1976). The small pox epidemic was followed by outbreaks of influenza every seven years, further reducing the Cree population (Yerbury 1976). The maps produced by Smith (1981), depicted in [Figure 4.1-1](#), illustrate the south and westward movement of the Dene people.

According to Raby (1973), the Dene of the Athabasca region soon assumed the role of "the middlemen of the Barrens", trading between the HBC and the Aboriginal people of the present-day NWT, northern Alberta, Saskatchewan, and Manitoba. By denying the more northerly Yellowknife and Dogrib peoples access to Churchill, the Dene were able to profit until 'free traders' began penetrating into the area during the last two decades of the 18th century. By the end of the 18th century, the North West Company had gained control of the area around Lake Athabasca and its lucrative trade networks.

In 1788, the North West Company founded Fort Chipewyan, near Lake Athabasca in present-day Alberta, and by 1800 the North West Company was operating an outpost near the current site of the community of Fond du Lac. This outpost, which was an attempt to draw the local Dene into the company's trading range, was closed in 1804. By 1821, when the HBC and North West Company merged under the HBC name, several more posts were opened and closed around Lake Athabasca. In 1845, the Fond du Lac post was re-established, with additional HBC posts opening in the northern hamlet of Stony Rapids in 1927 and the community of Black Lake in 1957 (Raby 1973). A Catholic mission was founded in 1853 at Fond du Lac, which attracted regular attendance by the Dene of the area, particularly at Easter and Christmas (Raby 1973; Elias et al. 1997).

Figure 4.1-1: Dene Territory in Historical Times



Source: Smith 1981.

In 1899, Maurice's Band signed an adhesion to Treaty 8 at Fond du Lac (INAC 2011). According to the Indian Claims Commission (1993), "Maurice's Band was named after Maurice Piche (also known as Moberly), the Chief who Signed Treaty 8 in 1899; it later split into the Fond du Lac and Black Lake (Stony Rapids) Bands" (p. 18). While the HBC post and Catholic mission at Fond du Lac were already well-established by the time the Treaty was signed, most members of Maurice's Band continued to live a nomadic lifestyle, following the caribou herds and fishing, hunting, and trapping in the boreal forest throughout the Athabasca region and north into the barren lands in what is now the NWT (PAGC 2011b; Raby 1973; Black Lake and Stony Rapids KPI Program 2011-2013). Those members of Maurice's Band who frequented the area around Stony Rapids, Middle Lake, and Black Lake eventually came to be known as the Stony Rapids Dene; today they are known as the Black Lake Denesuline First Nation (Mease n.d.).

4.1.3 Settlement

With the practice of a traditional nomadic lifestyle, the Athabasca region had few permanent settlements and most of the larger groupings of Dene were temporary. While the population of southern Saskatchewan grew and diversified through immigration in the late 19th and early 20th century, the population of the Athabasca region remained small and predominantly Dene (Shannon 1973; Elias et al. 1997). Settlement into present day communities occurred over the course of many years and was influenced by many activities, including the establishment of missions, trading posts, and other government policies.

Between the turn of the twentieth century and the Great Depression, some white and Métis trappers, often single men, started moving into the region, with many settling into the Stony Rapids area. The establishment of the HBC post at Stony Rapids in 1927 helped establish the community as a major economic centre in the north (Raby 1973; Shannon 1973).

In the late 1920s and early 1930s, provincial and federal government changes, such as the Natural Resources Transfer Agreement of 1930, also had implications for the development of permanent settlements in the Athabasca region. Saskatchewan's Cooperative Commonwealth Federation (CCF) government, led by Tommy Douglas, introduced a number of development measures in the north, including the creation of the Fish Marketing Service, Fur Marketing Service, and Government Trading. With these measures, the commercial fishery was extended into the Athabasca region in the 1940s and the Northern Fur Conservation Areas were established (Elias et al. 1997).

Employment in commercial fishing, retail trade, and trapping were largely dominated by white and Métis southerners in the early years of the settlements at Fond du Lac and Stony Rapids; however, these economic activities provided some employment to local Dene, as well as drawing them into the settlements regularly for supplies, to trade in furs and fish, and to attend church and Treaty Day (Indian Claims Commission 1993; Elias et al. 1997; Shannon 1973).

Although the First Nations of the Athabasca region were signatories to Treaties circa 1900, reserves were not established at that time. Kenneth Coates (1986) writes, "In northern Saskatchewan, the Natives of Treaty Ten felt few of...[the] constraints [of reserves] and were encouraged instead to continue their hunting and gathering activities" (p.37). Dennis F. K. Madill (1986) reports that during negotiations for Treaty 8, to which Black Lake and Fond du Lac signed adhesion, signatories expressed concern and opposition to reserves, preferring to continue their traditional economic activities, such as hunting, fishing, and trapping. It was not until the 1930s that the government began exploring the possibility of setting aside reserve lands (Indian Claims Commission 1993). This possibility was revisited several times throughout the 1940s and 1950s. By the mid-1950s the Dene

of the Athabasca region had settled into the three regional communities of Fond du Lac, Black Lake, and Hatchet Lake (Heber 2005). In 1960, the Department of Indian Affairs acknowledged an outstanding treaty land entitlement to the Dene of the Athabasca region (Indian Claims Commission 1993; Mease n.d.; PAGC 2011b).

Middle Lake, a small lake between Stony Lake and Black Lake, was a traditional camping area for families following the migration route of the caribou. Due to the lake's small size, the ice would break up much earlier than at Black Lake and the spot became a popular spring fishing site. Dene families would camp on the lake for several weeks each spring; this practice continued through the 1970s (Black Lake and Stony Rapids KPI Program 2011-2013; Bone 1973; Shannon 1973).

Stony Lake, located a few kilometres east of the northern hamlet of Stony Rapids on the Fond du Lac River, became the preferred short-term settlement for Dene families while trading furs in Stony Rapids. Stony Rapids is called *Deschaghe* in Dene, meaning "settlement on the other side of the rapids" (Saskatchewan Indian Cultural Centre [SICC] 2011). As time went by, families would spend summers at Stony Lake instead of their traditional camps on Middle Lake. Eventually, the establishment of a church and school at Stony Lake provided further incentive to settle. However, as the settlement grew, local fishing and hunting became poorer and then, with the encouragement of Father Porte, the resident Catholic priest, most community members abandoned Stony Lake in 1952 to form a new settlement on the north shore of Black Lake, also known as *Tazen tuwé* in Dene (Shannon 1973; SICC 2011). A school and the BLFN reserve territories (Chicken 224, 225, and 226) were established in the following decades (Mease n.d.; PAGC 2011b).

Members of BLFN have identified specific lands as their traditional territory, including Fur Blocks N-24 and N-80, as well as north beyond present-day settlements and the border of Saskatchewan and the NWT traditional territory (Black Lake and Stony Rapids KPI Program 2011-2013).

4.1.4 Contemporary Land and Resource Use

Many people from the communities of Black Lake and Stony Rapids take advantage of resources near the community at Black Lake, in addition to travelling south as far as Pasfield and Theriault lakes and as far north as Selwyn and Wholdaia lakes in the NWT. A number of BLFN members have cabins and camps in the Selwyn Lake area, as well as further north into the NWT, for use in subsistence hunting, fishing and trapping. There are also cabins and camp sites around Black Lake, Stony Lake, and Middle Lake, as well as near Chipman Lake and other small lakes close to the communities. Residents of the communities of Black Lake and Stony Rapids also travel south to the area around Wapata Lake and Riou Lake. These areas are used for trapping, gathering and subsistence hunting and fishing. Some BLFN members travel northeast toward the Milton Lake area (Black Lake and Stony Rapids KPI Program 2011-2013).

Henry Sharp (1975) described two distinct social groups among members of BLFN: those who hunted and trapped south of the community and those who hunted and trapped to the north, into the NWT. When speaking with BLFN members it was noted that 15 to 20 members of BLFN currently trap or hold licenses in northern Saskatchewan, while approximately five community members actively trap in the NWT (Black Lake and Stony Rapids KPI Program 2011-2013).

Contemporary use of waterways is important for participating in traditional activities for the people of BLFN. Traditionally, travel for resource use by members of BLFN and their ancestors has been via land trails and waterways; these trails, as well as waterways, provided natural corridors for on-foot travel and dog teams in the winter and canoe in the summer, and helped to establish the extent of traditional territories (Elias pers. comm. 2001; ALUPIAP 2003; Black Lake and Stony Rapids KPI Program 2011-2013). Waterways continue to be used

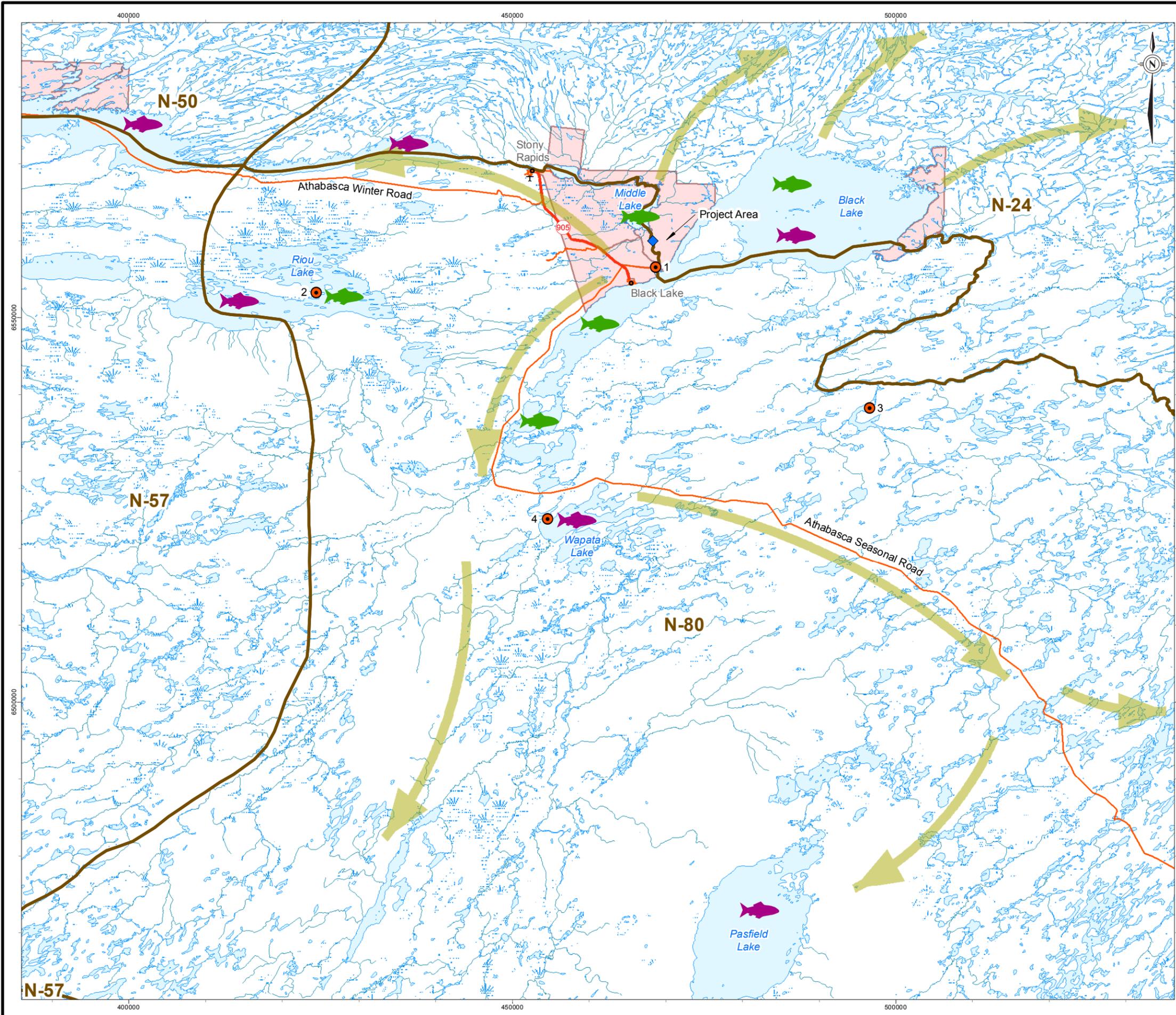
for subsistence fishing, hunting, gathering, and general transportation for people in the Athabasca region. Today, members of BLFN mainly use land trails and frozen waterways to hunt in winter (Black Lake and Stony Rapids KPI Program 2011-2013). The Fond du Lac River is not typically used as a travel corridor from Black Lake to Middle Lake to Stony Lake. This is due to many sets of rapids and waterfalls along this route which hampers safety. There are two long portages, located between Black Lake and Middle Lake and Middle Lake and Stony Lake, which are used primarily by non-local recreational canoe trippers (Black Lake and Stony Rapids KPI Program 2011-2013).

The BLFN members use the all-season road, seasonal roads, and exploration trails for hunting activities. This includes the all-season road between Stony Lake and Black Lake, the Athabasca Seasonal Road (Hwy 905) connecting the communities of Stony Rapids and Black Lake with Points North Landing and the southern half of the province, and the winter road heading west from the northern hamlet of Stony Rapids towards the community of Fond du Lac and the south shore of Lake Athabasca (Black Lake and Stony Rapids KPI Program 2011-2013). There are also numerous exploration trails and other access corridors leading off these roads that are used to access a wider area for hunting, other domestic harvesting activities, and commercial resource use activities.

In the northern-most extent of their traditional territory, hunters follow barren-ground caribou herds onto the Barren Lands, an area beyond the treeline in the NWT and Nunavut (Meyer 1981; InterGroup 2008; Black Lake and Stony Rapids KPI Program 2011-2013). Due to the unpredictable patterns of caribou migration, the territories used for traditional hunting and gathering purposes vary from season to season and year to year. The Selwyn and Wholdaia lakes regions on the border between Saskatchewan and the NWT are among the areas frequented for caribou hunting by residents of the communities of Black Lake and Stony Rapids (Black Lake and Stony Rapids KPI Program 2011-2013).

Figure 4.1-2 demonstrates the general movement patterns of BLFN members in a portion of their traditional territory. Figure 4.1-2 does not illustrate all of the land and resource use activities that occur throughout the area but rather the main patterns of use. It is recognized that BLFN members' land and resource use extends throughout Fur Blocks N-80 and N-24 and into the NWT (Black Lake and Stony Rapids KPI Program 2011-2013).

Throughout northern Saskatchewan Aboriginal people have come together at traditional gathering grounds, some of which have been used for centuries, to provide food for the communities. These gathering grounds also play an important role in the social structure of the community (ALUPIAP 2003). Residents of the communities of the Athabasca region, including Black Lake, Stony Rapids, Fond du Lac, and Hatchet Lake, are interconnected through a shared history, as well as historical and contemporary familial connections. First Nation members from these communities continue to gather for cultural camps near their communities as well as attend annual religious pilgrimages to Lac St. Anne (Alberta) and Pine Channel on Lake Athabasca (Saskatchewan). While at these gatherings, people participate in traditional cultural activities, such as feasts, while socializing with extended family members from other communities and attending religious ceremonies. In February and March each year, a winter carnival circuit moves from Fond du Lac to Black Lake, Black Lake to Wollaston Lake, and finally Wollaston Lake to Lac Brochet, Manitoba. Residents of the Athabasca region often travel to other communities to participate in the festivities, with the community of Wollaston Lake hosting the region's largest and most well-attended event (Black Lake and Stony Rapids KPI Program 2011-2013).



LEGEND

- ◆ ELIZABETH FALLS
- VILLAGE
- PROVINCIAL ROAD
- ATHABASCA WINTER/ SEASONAL ROAD
- INDIAN RESERVE
- ▭ FUR BLOCK BOUNDARY

LODGES AND OUTFITTER CAMPS

- 1. CAMP GRAYLING
- 2. CAMP GRAYLING ON RIOU LAKE
- 3. HAWKROCK WILDERNESS ADVENTURES
- 4. CREE RIVER LODGE

- 🐟 DOMESTIC FISHING LAKE
- 🐟 COMMERCIAL FISHING LAKE

➔ BLACK LAKE FIRST NATION RESOURCE USE MOVEMENT

REFERENCE
 CANVEC © NATURAL RESOURCES CANADA
 NAD83 UTM ZONE 13



PROJECT				
TAZI TWÉ HYDROELECTRIC PROJECT				
TITLE				
BLACK LAKE FIRST NATION LAND AND RESOURCE USE				
 Golder Associates Saskatoon, Saskatchewan	PROJECT	10-1365-0004	FILE No.	
	DESIGN		SCALE AS SHOWN	REV. 0
	GIS	SMLR	28/06/13	
	CHECK	KD	24/07/13	
	REVIEW	HS	25/06/13	FIGURE: 4.1-2

Some have predicted that as time passes Aboriginal people will increasingly stop trying to live off the land and cease relying on renewable resources for sustenance (Natcher 2008). The prevalence of store-bought food, a decline in fur prices, and the increased cost of fuel to access resource use areas have resulted in a decrease in resource-based harvest activities by Aboriginal people. However, while there has been some decline in active participation in hunting, trapping, fishing, and gathering activities by Aboriginal people over time, these activities continue to hold an important place in the lifestyle of people living in the Athabasca region, including the communities of Black Lake and Stony Rapids (Black Lake and Stony Rapids KPI Program 2011-2013).

Concerning Aboriginal resource use in general, Natcher (2008) states, “Subsistence economies continue to demonstrate considerable resilience and remain integral to the health and well-being of northern Aboriginal communities. Subsistence research, in the form of harvest studies and Aboriginal land use mapping reveal that fishing, hunting and collecting wild resources remain integral to the economies of many, if not most, Aboriginal communities located across Canada’s north” (p. 3). The importance of connections with the environment and resources on the land was clearly articulated during the 2012 KPI Program in the communities of Black Lake and Stony Rapids. For many members of these communities, particularly Elders, the use of wild foods remains a fundamental part of maintaining their health and well-being (Natcher 2008; Black Lake and Stony Rapids KPI Program 2011-2013).

In 2001, Statistics Canada conducted an Aboriginal Peoples Survey, which, in part, surveyed the resource use in participating Aboriginal communities across Canada. Results of the study indicate that average participation rates in activities on the land by both Métis and First Nation communities of northern Saskatchewan were 26% for trapping, to 51% for hunting, 55% for berry picking and plant gathering, and 71% for fishing. In the community of Black Lake, the only Aboriginal community in the Athabasca region for which Aboriginal Peoples Survey data was collected, a majority of respondents reported participating in resource harvesting.

The following information was found by Statistics Canada (2004a) concerning activities in the 12 months prior to the survey:

- 50% of adults reported hunting, 97% of whom reported hunting for food;
- 71% of respondents reported fishing, 94% of whom reported fishing for food; and
- 45% of respondents reported gathering wild plants, such as berries, 97% of whom reported gathering for food.

In the community of Black Lake, trapping continues to be an important activity for some community members, particularly for elders who spent considerably more of their lives living on the land. Trapping is done primarily for commercial purposes, although it also provides some food and fur for domestic purposes. Marten is the preferred commercial species. Some community members believe that more people from the community would be likely to trap actively if fur prices were to rise again (Black Lake and Stony Rapids KPI Program 2011-2013). In addition to resource use for subsistence purposes, 26% of the community of Black Lake residents reported having trapped for economic gain in the 12 months prior to the 2001 Aboriginal Peoples Survey (Statistics Canada 2004a). These results demonstrate a high level of resource use by members of BLFN.

Consumption of Traditional Foods

Resource use for subsistence purposes by residents of the communities of Black Lake and Stony Rapids provides insight into the role of traditional or country foods by local residents. While no recent dietary surveys have captured the use of traditional foods in these communities, a survey of consumption patterns among

members of the nearby First Nation community of Hatchet Lake, located on Wollaston Lake, was published in 2000 (Canada North Environmental Services Limited Partnership [CanNorth] 2000). A similar study on seasonally available traditional foods in Hatchet Lake was published in 1997 (Elias et al. 1997). Given the close relations between the people of the communities of Black Lake, Stony Rapids, and Hatchet Lake – including family connections among the communities – these studies serve as useful proxies for the consumption of traditional food by the people of the communities of Black Lake and Stony Rapids.

The Hatchet Lake Dietary Survey, prepared by CanNorth, describes the consumption of traditional food among members of Hatchet Lake. The study included surveys of traditional food use as well as focus groups to provide details on hunting and consumption patterns among community members. It was conducted with representative samples of the community, in association with community members, in July and August 1998 (116 interviews) and January and February 1999 (145 interviews) (CanNorth 2000).

Residents of the communities of Black Lake and Stony Rapids report that caribou⁸ and fish are the most consumed traditional foods in the communities (Black Lake and Stony Rapids KPI Program 2011-2013). This supports the finding in the Hatchet Lake study. Black Lake and Stony Rapids community residents also report preference for traditional meats compared to store-bought foods, with some Black Lake residents stating that they rarely use store-bought foods (Black Lake and Stony Rapids KPI Program 2011-2013). Similarly, in Hatchet Lake, consumption of store-bought meats is substantially lower than consumption of traditional meat, poultry, and fish. The Hatchet Lake survey found that approximately 73% of meat consumed in the summer and 78% of meat consumed in the winter, by weight, were from traditional sources. Black Lake and Stony Rapids community Elders and older adults report that they consume more traditional foods than their children and grandchildren (Black Lake and Stony Rapids KPI Program 2011-2013). This is comparable with the results of the Hatchet Lake survey, which revealed that older individuals (41 to 60 years of age) tend to consume more traditional foods than children and adolescents (2 to 20 years of age) (CanNorth 2000).

In addition to the CanNorth study, the University of Manitoba's Department of Community Health Sciences and the Centre for Aboriginal Health Research published a report in 1997 (Elias et al. 1997) that surveyed Hatchet Lake residents' monthly consumption of 'country foods'. The following presents the percentage of community members that reported consuming country food at least once per month, by season:

- **in summer:** 95.2% reported eating animals, 50.5% reported eating birds, 97.2% reported eating fish, and 61% reported eating berries;
- **in fall:** 98.1% reported eating animals, 79% reported eating birds, 91.4% reported eating fish, and 46.6% reported eating berries;
- **in winter:** 98.1% reported eating animals; 31.4% reported eating birds, 87.6% reported eating fish, and 24% reported eating berries; and
- **in spring:** 95.2% reported eating animals, 54.3% reported eating birds, 89.5% reported eating fish, and 21.9% reported eating berries (Elias et al. 1997).

University of Manitoba researchers noted that seasonal variation and availability account for much of the variability in country food consumption in Hatchet Lake (Elias et al. 1997).

⁸ Woodland caribou are hunted by First Nations and Metis peoples living in more southern communities in Saskatchewan; however, there is no evidence to suggest that residents of the Athabasca region, particularly those living in Black Lake and Stony Rapids, hunt these animals. All references to caribou in this document should be understood as barren-ground caribou.

Interviews with members of BLFN confirm that while residents use a variety of preservation methods – including freezing, canning and drying fresh meat, fish and berries – seasonal hunting, fishing, and gathering patterns play a role in the availability of fresh traditional foods in the community (Black Lake and Stony Rapids KPI Program 2011-2013). In addition to seasonality, published reports on country food consumption by Aboriginal peoples in Canada suggest that the presence of a skilled hunter, trapper, or fisher in a household is one of the major influences on the use of traditional foods (Wein et al. 1991; Wein et al. 1992).

Caribou

Barren-ground caribou is the most important traditional food source of the people of the Athabasca region, including those residing in the communities of Black Lake and Stony Rapids. Residents continue to undertake caribou harvesting for domestic use. In the past, the people of the region depended on the caribou herds for food, clothing, and shelter. They followed the migratory animals during hunting seasons, and, when the caribou were scarce, starvation and even death were possible. Modern times have reduced the people's dependency on the caribou herds for survival, but caribou remain an important part of the culture and lifestyle of the people. According to the Beverly and Qamanirjuaq Caribou Management Board (BQCMB), the use of caribou “fulfils social, cultural and economic needs and contributes to the foundation and legacy of several cultures” in the north (BQCMB 2010, p. 11). Interviews with residents of the community of Black Lake confirm the special role that caribou hold in their cultural traditions. Respect for the caribou is paramount and many traditional stories and legends, including those holding spiritual significance to community members, relate to caribou (Black Lake and Stony Rapids KPI Program 2011-2013).

Caribou hunting usually takes place around freeze up, through the winter, and into the early spring. Many the community of Black Lake residents prefer to hunt at least once per month through the winter months. Hunters tend to go in small groups of family and friends or, in some cases, individuals may go hunting alone. Hunting trips are usually short, lasting one day, but may include an overnight stay on the land. Some groups stay out for a few days and nights in pursuit of caribou, particularly if they have access to cabins or other shelters near their hunting grounds north of Selwyn Lake. Caribou meat is shared with community members, particularly among families and with Elders. Meat is also provided to the AHA hospital and school in the community of Black Lake for use in cultural programming and local feasts and events (Black Lake and Stony Rapids KPI Program 2011-2013).

Historically, caribou hunted in spring were traditionally smoked for preservation; this practice continues in the area, although meat is also kept frozen in freezers for use over the summer months (Black Lake and Stony Rapids KPI Program 2011-2013). BLFN members commented that following the closure of the Nisto Mine, located approximately 12 km east of the community on the north shore of Black Lake, residents would use the open shaft as a deep freeze in summer to keep their meat from spoiling (Black Lake and Stony Rapids KPI Program 2011-2013).

Residents of the communities of Black Lake and Stony Rapids area tend to follow the Beverly caribou herd⁹ (Meyer 1981; InterGroup 2008). Due to the unpredictable patterns of caribou migration, residents of the Athabasca region often must travel into the NWT, Nunavut, and northern Manitoba to hunt. Black Lake and Stony Rapids community residents tend to travel to the NWT to hunt caribou. According to Black Lake community residents, caribou used to migrate further south, through the Stony Lake-Middle Lake-Black Lake

⁹ The mixing of the Beverly and Qamanirjuaq herds, including overlapping ranges that extend into the territory occupied by other herds, such as the Bathurst and Ahiak herds, create uncertainties regarding community affiliation with specific herds. In recent years, the BQCMB has reported that residents of Black Lake and Stony Rapids have increased their hunt of the Qamanirjuaq herd due to fewer Beverly animals in their traditional hunting territories (BQCMB 2011).

area, as well as further south to the Cree River and Wollaston Lake region. However, caribou have not been seen around Middle Lake since the mid-1980s (Black Lake and Stony Rapids KPI Program 2011-2013).

Recent community observations of caribou behaviour report that in early November 2010 small numbers of the animals were seen along the NWT border north of Fond du Lac and northeast of Wollaston Lake along the Cochrane River. By mid-December, larger numbers were observed in the north eastern region of the province, north of Wollaston Lake and as far west as Selwyn Lake. Small numbers were also seen near the tree line in the Rennie Lake area of NWT. By late winter, large concentrations of caribou were seen along the Saskatchewan-Northwest Territories border, including the Scott Lake, Wholdaia Lake and Dodge Lake areas. Residents of the communities of Black Lake and Stony Rapids reported good hunting access in the NWT during the 2010-2011 season (BQCMB 2011).

The high cost of transporting food and other goods to remote communities means that caribou meat remains an important source of country food (BQCMB n.d.). The annual economic value of the caribou harvest in Saskatchewan for 2005-2006, including domestic hunting, resident licensed hunting, outfitting, and commercial sales of meat, was estimated to be over \$3 million (InterGroup 2008; BQCMB 2011). The domestic harvest accounted for more than 75% of the net economic value of the caribou harvest that year (BQCMB 2011).

In 1992, the BQCMB estimated that, on average, 1.25 caribou are taken per person each year, a stable trend since the 1980s, with the exception of the period of 1991/1992, when a much higher number of caribou were harvested (7,011) (BQCMB 1992). More recently, the community of Black Lake residents estimate annual harvests per household at between five and 10 animals per season, depending on the size of the household unit (Black Lake and Stony Rapids KPI Program 2011-2013). A harvest summary for the communities of Black Lake and Stony Rapids from 2004-2005 to 2007-2008 is provided in [Table 4.1-1¹⁰](#).

Table 4.1-1: Caribou Harvest in the Communities of Black Lake and Stony Rapids: 2004-2005 to 2007-2008^(a)

Community	Total Number of Caribou Harvested per Year				Average Annual Harvest per Community
	2004-2005	2005-2006	2006-2007	2007-2008	
Black Lake	1,600	1,600	400	1,000	1,150
Stony Rapids	200	200	320	200	230
Total	1,800	1,800	720	1,200	1,380

Source: BQCMB Annual Report 2005, 2006, 2007, 2008, 2009, 2010, 2011.

^(a) Reliable 2008-2009, 2009-2010, and 2010-2011 harvest estimates are not available for any Saskatchewan communities.

Other Hunted Species

While caribou is the main species hunted by residents of the Athabasca region, moose, black bear, and waterfowl, such as geese and ducks, are also hunted. Most of these species are hunted at specific times of year: moose hunting takes place year-round but is preferred in the summer and early fall, while geese and ducks are hunted during their migrations in both spring and fall, with spring the preferred season. Residents of the community of Black Lake also hunt smaller mammals, such as beaver and rabbit, as well as ptarmigan and grouse (“chicken”). Hunting for these species tends to take place opportunistically, often off the roads and trails

¹⁰ Although the BQCMB issued annual reports in 2008-2009, 2009-2010, and 2010-2011 these reports do not provide hunting season harvest estimates per community due to a lack of reported harvest data for those years (BQCMB 2009; BQCMB 2010; BQCMB 2011).

that criss-cross the region. In addition to hunting, some residents of the community of Black Lake report gathering duck and other bird eggs in spring (Black Lake and Stony Rapids KPI Program 2011-2013).

Fish

Fish have been a vital part of traditional life in the Athabasca region and continue to be prepared for consumption based on local cultural practices (Marles et al. 2000; Black Lake and Stony Rapids KPI Program 2011-2013). Fishing for domestic use occurs throughout the year for various species. Subsistence fishing among residents of the community of Black Lake tends to be small-scale, with fishers using 100 m nets to bring in 30 to 18 kilograms of fish per harvest. Due to the use of nets, domestic fishing is rarely targeted to specific species; however, lake whitefish is a preferred fish species because it is easily smoked. Fish are usually smoked for preservation in the spring and summer months (Black Lake and Stony Rapids KPI Program 2011-2013). Other species in the area include lake trout, walleye, northern pike, Arctic grayling, and suckers. These species can be prepared in many ways, including frying, roasting and baking, drying, and use in soups. Domestic fishing is done on various lakes near the communities of Black Lake and Stony Rapids, particularly on Stony Lake, Black Lake, and Middle Lake, as well as several other smaller lakes nearby (Black Lake and Stony Rapids KPI Program 2011-2013). Studies indicate that fish have traditionally provided approximately 15% of the protein requirements of Athabasca residents (Cigar Lake Mining Corporation 1995).

Some fish species, particularly suckers, were traditionally fed to dog teams. Although dog teams for hunting and trapping have largely been replaced by snowmobiles and all-terrain vehicles in the community of Black Lake, some residents continue to raise dogs for racing purposes. In addition to net fishing for domestic use, rod fishing is a favourite recreational activity in the Athabasca region, with annual fishing derbies held in the communities of Camsell Portage, Uranium City, Black Lake, and Hatchet Lake/Wollaston Lake (Black Lake and Stony Rapids KPI Program 2011-2013).

Plants

Traditional uses of forest plant species are numerous. Wood continues to be collected for heating by residents. Some trees and plants may also have cultural significance and are used in medicinal, ceremonial, and spiritual activities. Traditional knowledge of plants for medicinal purposes and the importance of these plants have been transmitted orally from one generation to the next. A few members of BLFN have knowledge of traditional plants and their uses (Black Lake and Stony Rapids KPI Program 2011-2013). Some plants have also been used by community members for specific purposes; for example, mosses were once used by local residents in babies' diapers and for cleaning (Black Lake and Stony Rapids KPI Program 2011-2013).

In the community of Black Lake, gathering for domestic use is largely for berries, particularly blueberries, bog cranberries and moss berries, as well as other edible vegetation, like mushrooms, when available (Black Lake and Stony Rapids KPI Program 2011-2013). Traditionally, the location of good patches of berries was shared with community and family members, and extended family groups camped nearby to gather the fruit together and socialize (Cigar Lake Mining Corporation 1995). To this day, many residents are aware of good berry-picking spots around the communities and traplines, including the Middle Lake area and on Fir Island on Black Lake, and use these activities to interact socially with family and friends. Berry-picking is also done opportunistically while out on the land for hunting, trapping, and fishing (Black Lake and Stony Rapids KPI Program 2011-2013).

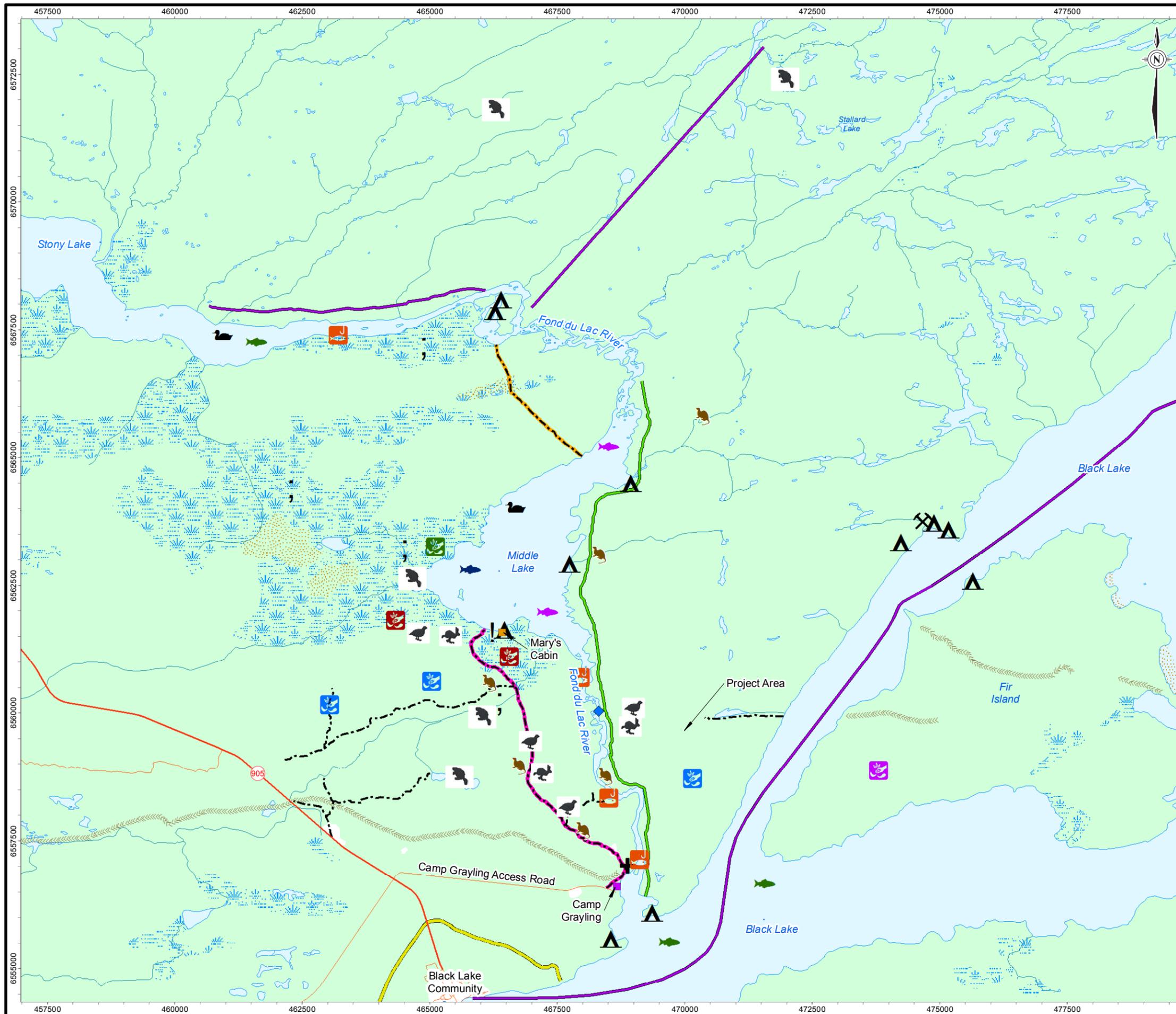
4.1.5 Land and Resource Use in the Elizabeth Falls Area

The residents of the communities of Black Lake and Stony Rapids use an expansive region, including areas of the NWT, for traditional land and resource use. While their most culturally important resource use activities, such as hunting caribou, tend to take place in the northern reaches of the province and into the NWT, other resource use activities take place closer to the communities. These activities include domestic fishing and gathering, as well as some trapping and hunting for smaller mammals and birds. Commercial fishing and moose hunting are also practiced near the communities (Black Lake and Stony Rapids KPI Program 2011-2013).

Discussions with resource users, including hunters, trappers, fishers, individuals who gather local plants, and the cabin owner on Middle Lake (see [Section 4.1.5.2](#) for more details), focused on resource use in the area around the Fond du Lac River, particularly around Elizabeth Falls, as well as near Black Lake, Middle Lake, and Stony Lake. Interviews were conducted in conjunction with mapping exercises to identify important resource use areas near the proposed Project site. The results of these exercises have been compiled and are presented in [Figure 4.1-3](#).

Hunting and trapping activities in the region have been limited due to the effects of successive forest fires over the last few decades. The destruction of habitat has resulted in fewer animals and less localized resource use. According to residents, caribou have not travelled through the area since the 1980s and, in general, caribou hunting occurs to the north (see [Section 4.1.4.1](#) for more details). The area near Middle Lake also supports a variety of mammals and birds, including moose, beaver, rabbit, muskrat, mink, marten, porcupine, ptarmigan, spruce grouse, geese and ducks, though their numbers have diminished due to the effects of fire (Black Lake and Stony Rapids KPI Program 2011-2013).

Since the forest started to regenerate, small mammals, moose and birds have returned and some hunting, trapping, and snaring occurs in the region. Rabbits, ptarmigan and spruce grouse are prevalent in the forest around the Fond du Lac River and Middle Lake. These animals are hunted and snared year-round by BLFN members, including the cabin owner on Middle Lake. Moose are also hunted year-round, particularly on the northwest side of Middle Lake and along the Fond du Lac River near Stony Lake. Summer and fall months are preferred moose hunting seasons. Ducks and geese are hunted in spring and fall during their annual migration through the area, mainly on Stony Lake and Black Lake. Small mammals, such as beaver, otter, marten, mink, and muskrat, live along the tributaries of the river and lakes and are sometimes trapped for domestic and commercial use, though the area does not support extensive trapping activities. Larger mammals, such as wolves, foxes, and lynx, are occasionally hunted and trapped in the area (Black Lake and Stony Rapids KPI Program 2011-2013). Recent burn areas around Middle Lake and on Fir Island in Black Lake support several plant species, particularly berries. Blueberries, bog cranberries, moss berries, and strawberries are gathered by community members for domestic use, such as jam production and freezing, from mid-summer to late fall (Black Lake and Stony Rapids KPI Program 2011-2013).



- LEGEND**
- ◆ ELIZABETH FALLS
 - PROVINCIAL HIGHWAY
 - LOCAL ROAD
 - BLACK LAKE COMMUNITY FIRE BREAK
 - ⋯ ESKER
 - ⋯ WETLAND
 - ELIZABETH PORTAGE
 - WOODCOCK PORTAGE
 - TRAIL OR PORTAGE
 - SNOWMOBILE TRAIL
 - TRAPPING ROUTE
 - ⚡ ABANDONED NISTO MINE SITE
 - 🍷 BLUEBERRIES AND STRAWBERRIES
 - 🍇 BLUEBERRIES AND CRANBERRIES
 - 🍓 CRANBERRIES
 - 🍄 MOSS BERRIES
 - 🎣 FISHING FROM SHORE
 - ⊕ BURIAL SITE
 - ! CABINS
 - ⚖️ CAMP SITES
 - 🦫 BEAVER AND MUSKRAT
 - 🦆 DUCK AND GOOSE HUNTING
 - 🦉 GAME BIRD HUNTING
 - 🐻 MOOSE AREA
 - 🦊 OTHER FUR-BEARING ANIMALS
 - 🐰 RABBIT SNARING
 - 🐟 NET FISHING AREA - LAKE TROUT
 - 🐟 NET FISHING AREA - WINTER
 - 🐟 NET FISHING AREA

REFERENCE
 DATUM: NAD83 PROJECTION: UTM ZONE 13
 GOOGLE IMAGERY 2012; DIGITALGLOBE 2012



PROJECT				
TAZI TWÉ HYDROELECTRIC PROJECT				
TITLE				
LAND AND RESOURCE USE NEAR BLACK LAKE FIRST NATION AND THE TAZI TWÉ HYDROELECTRIC PROJECT SITE				
 Golder Associates Saskatoon, Saskatchewan	PROJECT	10-1365-0004	FILE No.	
	DESIGN		SCALE AS SHOWN	
	GIS	SMLR	28/06/13	REV. 2
	CHECK	KD	24/07/13	FIGURE: 4.1-3
REVIEW	HS	25/06/13		

The majority of fishing for domestic use takes place on Stony Lake, with some fishing on Middle Lake and Black Lake. The community of Black Lake also has a small commercial fishery. Ice fishing takes place on Black Lake and Stony Lake, but is less prevalent on Middle Lake due to open water and thin ice during the winter months. The cabin owner on Middle Lake is the main year-round domestic fisher on the lake, though other residents use the area in spring before the ice on Black Lake has melted. Fishing is mainly by net, and as such, does not tend to target specific species. Lake whitefish, lake trout, northern pike, walleye, suckers, and grayling are among the preferred species. Lake trout fishing occurs near the junctions of the Fond du Lac River and local lakes, particularly in fall, and grayling are prevalent in the Fond du Lac River near Elizabeth Falls (Black Lake and Stony Rapids KPI Program 2011-2013).

4.1.5.1 Access Trails and Portages

There are small trails throughout the region, most of which are trunk trails that connect larger roads. These trails are used to access cabins and camp sites and to portage through the area. Trails are located off the road leading to Camp Grayling, off another road that provides access to the cabin on Middle Lake and to the east of the Elizabeth Falls Portage along the Fond du Lac River. These trails also provide access to camp sites used for community cultural camp activities (Black Lake and Stony Rapids KPI Program 2011-2013).

The area around the proposed project site has historically been used as a travel corridor when following the caribou herds, as well as used as a temporary camp site, particularly for spring fishing prior to ice break-up on Black Lake. There are two main portage routes in the area, one between Black Lake and Middle Lake (i.e., the Elizabeth Portage) and the other between Middle Lake and Stony Lake (i.e., the Woodcock Portage). The Fond du Lac River on either side of Middle Lake is too dangerous to travel by boat due to a series of rapids, including Elizabeth Falls. Residents avoid using boats on these stretches of the river. In the winter, people travel through the proposed project site by snowmobile. Trails lead north to caribou hunting grounds from the outlet of Stony Lake, near the northern hamlet of Stony Rapids, as well as from the outlet of Middle Lake (Black Lake and Stony Rapids KPI Program 2011-2013).

Figure 4.1-4 and Figure 4.1-5 illustrate some of the trails to the west of the Fond du Lac River near Elizabeth Falls.

4.1.5.2 Cabins and Campsites

One person has lived in a cabin on the southern shore of Middle Lake year-round since the late 1970s. Prior to building a cabin at the site, the current occupant and family lived in a tent structure on the same site. At one time several seasonally-used cabins were located near this residence, but fires in the last decade have destroyed these structures. The location of the cabin roughly corresponds to a traditional spring Dene camp site on Middle Lake (Black Lake and Stony Rapids KPI Program 2011-2013).

The remaining one-room log cabin is a relatively new building, having replaced a cabin that was destroyed by fire around 2006. It is heated by woodstove and does not have electricity or running water. In the summer, drinking water is collected from a deep spot in the middle of the lake (see Figure 4.1-3); in the winter, clean snow is collected and melted for use. The current occupant uses Middle Lake for domestic fishing year-round and also hunts around the lake for small animals, such as spruce grouse and rabbit, as well as larger animals, such as moose. The area is suitable for berry picking in the summer and is used by the local resident as well as families from the communities of Black Lake and Stony Rapids (Black Lake and Stony Rapids KPI Program 2011-2013).



REFERENCE

DATUM: NAD83 PROJECTION: UTM ZONE 13
 GOOGLE IMAGERY 2012; DIGITALGOBE 2012



PROJECT			
TAZI TWÉ HYDROELECTRIC PROJECT			
TITLE			
TRAILS BELOW ELIZABETH FALLS			
 Golder Associates Saskatoon, Saskatchewan	PROJECT	10-1365-0004	FILE No.
	DESIGN		SCALE AS SHOWN
	GIS	SMLR	28/06/13
	CHECK	KD	24/07/13
	REVIEW	HS	25/06/13
			REV. 2
FIGURE: 4.1-4			



PROJECT		TAZI TWÉ HYDROELECTRIC PROJECT	
TITLE		QUARRY AREA AND ROAD	
PROJECT		10-1365-0004	FILE No.
DESIGN			SCALE AS SHOWN REV. 0
GIS	SM	20/11/13	
CHECK	CD	20/11/13	FIGURE: 4.1-5
REVIEW	BC	20/11/13	



There are a few campsites located off the main trails and roads between the northern hamlet of Stony Rapids and Middle Lake. One campsite is located near Camp Grayling and is sometimes used for community cultural camps. Several other campsites are located off the Athabasca Seasonal Road, to the southeast of the community of Black Lake (Black Lake and Stony Rapids KPI Program 2011-2013).

4.1.5.3 Burial Sites

A burial site is located north of Camp Grayling near the Fond du Lac River. The site has eight graves, with the last burial taking place around 1952. The site has been marked, but it is difficult to find because the brush has begun to reclaim the area. This site is marked on [Figure 4.1-3](#), north of Camp Grayling.

A second burial site, not shown on the map, is located at Sandypoint, a spot across Black Lake from the community of Black Lake. The site is believed to have been used to bury members of Dene families travelling through the area who succumbed to influenza in the early 20th century (Black Lake and Stony Rapids KPI Program 2011-2013).

An archaeological survey completed in the area in the 1970s identified a number of burial sites, as well as other heritage sites around Black Lake, Middle Lake, Stony Lake, and the Fond du Lac River. The results of this survey, and earlier surveys in the area, are presented in Annex V Cultural Environment Baseline Report.

4.1.5.4 Traditional Stories about Elizabeth Falls

The dangerous nature of rapids on the Fond du Lac River has also been reported through the use of stories about the area. One story involves a group of Cree warriors who were said to have perished at Elizabeth Falls in pursuit of a Dene healer. This healer is believed to be the only person to successfully navigate the rapids. The story serves as a warning to those who would attempt to paddle through Elizabeth Falls: without the medicine power of a Dene healer, Elizabeth Falls is not navigable (Black Lake and Stony Rapids KPI Program 2011-2013).

4.1.6 Changes to Resource Use

In using the land and resources, residents of the Athabasca region have observed changes in their environment and communities over time. This includes changes in travel and means of transportation, the development of mining and exploration, the introduction of government policies, and advances in technology. Residents of the Athabasca region have also observed changes to the natural environment and to overall community well-being.

Some Elders and older adults believe that life, when lived closer to the land, is better and healthier. They expressed feeling unsatisfied with store-bought meats and ‘southern’ foods, tending to prefer fresh fish and caribou, and even craving these foods when they are away from the community. People also noted that dietary changes and an increased reliance on store-bought foods have affected the health of people in the communities. Country foods, like fish and caribou, are viewed as healthier and free of the hormones and pesticides used in agriculture. In addition, traditional endeavours, like fishing, hunting, and trapping on the land, provide exercise, which helps to keep people active and healthy. Many believe that the changes to peoples’ diets, along with the more sedentary lifestyle that comes with living in a community all year, have negatively influenced the well-being of community members and the communities as a whole. Some people believe that the introduction of the welfare system contributed to the communities’ shift to a sedentary lifestyle, since harvesting wild foods was no longer necessary for survival (Black Lake and Stony Rapids KPI Program 2011-2013).

Historically, people from the Athabasca region traveled throughout their traditional territory by canoe, dog sled, and by walking or snowshoeing (Black Lake and Stony Rapids KPI Program 2011-2013; Elias et al. 1997;

Raby 1973). In the past, dog sled teams were used to travel in the winter, each team consisting of at least six dogs. In the 1970s, an all-weather road between the communities of Black Lake and Stony Rapids was constructed along the old dog sled trail between the communities (Black Lake and Stony Rapids KPI Program 2011-2013). As airplanes, power boats, snowmobiles, and, eventually, roads and cars and trucks appeared the ability to travel throughout the traditional territory improved. In the past, when airplane travel was substantially less expensive and fur prices were higher, some people flew into the NWT by plane with their family and dog team to trap. Typically, people would travel north in August and stay out on the land trapping until Christmas, at which time they would return to the community of Black Lake. In some years people would travel back to the NWT after Christmas and remain there until mid-March. According to some trappers, furs in January and February are still thick and worth trapping. Often, children of trappers would bring their school books with them and learn on the trapline. However, it was pointed out that trapping in the later winter months was financially viable only if fur prices were high and the furs themselves were of good quality (Black Lake and Stony Rapids KPI Program 2011-2013).

While advances in technology have improved access into difficult terrain, as well as reduced the time needed to fish, visit the trapline, and hunt for caribou, the costs associated with these technologies have also increased the expense of commercial fishing, trapping, and hunting. High gasoline prices make trapping and commercial fishing difficult from an economic perspective, especially with low prices offered for pelts and fresh fish. Provincial regulations determining trap and net sizes and types have also increased the costs of these activities. Traveling by air is now prohibitively expensive (Black Lake and Stony Rapids KPI Program 2011-2013).

Forest fires and fire management are among the most important concerns for land and resource users. In the last few years, forest fires have influenced nearly all of the communities in the Athabasca region, requiring evacuations and threatening the communities themselves (see Section 4.2.3.1 for further details). Residents, particularly resource users, believe that the province's forest fire management strategy of 'let it burn' only protects what the province deems as 'valuable properties', while the habitats considered valuable by residents are allowed to burn. They recognize the forest as an essential part of their livelihood, which can be negatively affected when fire destroys important habitat. Recent fires near the community of Black Lake have rendered the area less useful than in the past (Black Lake and Stony Rapids KPI Program 2011-2013).

Fire has had an effect on resource harvesting activities. Fur Block N-24 has become a poorer place to trap because many of the fur-bearing animals have left the area following forest fires. Recently, trappers have had more success in the NWT (Black Lake and Stony Rapids KPI Program 2011-2013).

Fire is also believed to have affected the migration patterns of caribou. Caribou used to travel to the region between Wollaston Lake and Black Lake, and even as far as Cree Lake in the 1950s and 1960s. Caribou last returned to the Black Lake area in the 1980s, before fires had burnt much of the forest in the area. Some people do not believe the caribou will return to the area until the forest has grown back to the point where it can be useful habitat for the caribou. The majority of hunting activity takes place in the NWT because the caribou no longer come as far south as they used to. People travel to Selwyn Lake and use it as a base to go hunting further north. Caribou are typically hunted during the winter months (Black Lake and Stony Rapids KPI Program 2011-2013).

In the 1940s, Middle Lake was believed to be a good area for beaver hunting. Now it is observed that many of the animals (including beaver, porcupine, rabbit, muskrat, and spruce grouse) have left the area as a result of forest fires and low water levels. Some animals are slowly returning to the area, including beaver, as well as

larger mammals such as moose, wolves and bear. Some people noted that the spruce grouse to the north and south of the Middle Lake area are different colours than those that were at Middle Lake historically (Black Lake and Stony Rapids KPI Program 2011-2013).

Hunters have typically shared hunting locations with each other. Now that communications technology has improved, news travels faster than it used to. Snowmobiles have also changed how quickly hunters can reach hunting locations; however, more equipment must be taken out on a snowmobile in case of emergency, such as extra gasoline and extra parts (Black Lake and Stony Rapids KPI Program 2011-2013).

In recent years, Black Lake and Stony Rapids community residents have observed changes in the water level on Black Lake, Middle Lake, Stony Lake, and the Fond du Lac River. About three years ago, some residents noticed a large drop in the water levels on those lakes and the Fond du Lac River. Although water levels in the region tend to vary by season, the most recent drop in water level was unusual. Some residents believe that falling water levels on Black Lake are the cause of animals leaving their historical habitats. For instance, there used to be many Canada geese and beavers on Middle Lake, but residents report that the Canada geese now land on Stony Lake instead and many of the beavers have left the area (Black Lake and Stony Rapids KPI Program 2011-2013).

Fewer people have been fishing on Middle Lake in recent years because of low water levels. While a few people continue to set nets on the lake, these efforts are less frequent than in the past. When there were more people on the lake, the quality of the fish was compromised; fish had sores on their heads, which may have been due to fish escaping nets or from catch and release practices among local outfitters. In recent years, fish appear to be healthier, with fewer sores. In addition to reduced fishing because of lower water levels, in the last 15 years there seems to have been a shift toward less fishing overall. This may be due to fewer dogs to feed in the community, or because of shifting eating practices among residents (Black Lake and Stony Rapids KPI Program 2011-2013).

In general, resource users in the Athabasca region believe that increased road and airplane traffic, as well as more people in the bush conducting exploration and other resource development-related work, have affected the number of animals available for trapping and hunting. Some resource users expressed frustration regarding mineral exploration and mining in the Athabasca region. Trappers said that they do not feel adequately notified or consulted when exploration companies come into the area of their traplines. Resource users mentioned the effects of line-cutting and clearing on trapline areas, including the traffic and noise created by the presence of exploration crews (Black Lake and Stony Rapids KPI Program 2011-2013).

Some resource users spoke about the implications of climate change in the Athabasca region. Average annual precipitation levels in the Athabasca region are relatively low (250 to 450 millimetres [mm] each year) (University of Saskatchewan n.d.); however, during the 2012 KPI program, residents discussed what they viewed as abnormally low lake water levels and dry conditions. Many said that the temperatures had been warmer than normal over the last few winters, with less snow cover, followed by a very dry and warm springs with hardly any rain. They pointed to dry forest conditions and the number of forest fires in recent years, as well as discussing the dangers associated with the low water conditions on regional lakes. While southern Saskatchewan experienced record high water levels in 2011, several people in the communities of Black Lake and Stony Rapids mentioned hitting unknown rocks and reefs while boating in Black Lake and Middle Lake (Black Lake and Stony Rapids KPI Program 2011-2013).

4.2 Other Land and Resource Use

Throughout northern Saskatchewan, renewable and non-renewable resource harvesting and extraction have been an integral part of the economy and lifestyle of the people living there. In many cases, some resource harvesting activities have been intertwined with the subsistence economy and cultural lifestyle of Aboriginal people. Activities such as trapping, commercial fishing, and using forest products have become a part of the way of life and culture, as well as providing approximately 4,000 seasonal jobs and important seasonal income to residents. Income from resource harvesting remained fairly stable between the 1980s and early 2000s, at about \$6 million to \$7 million annually – or approximately \$2,000 per job in the resource harvesting sector (Northlands College et al. 2004). Further to this, mineral exploration has resulted in the mining of various ore bodies since the early 1900s, and has continued to the present day. The following section examines the extent of these resource activities in proximity to the Project area.

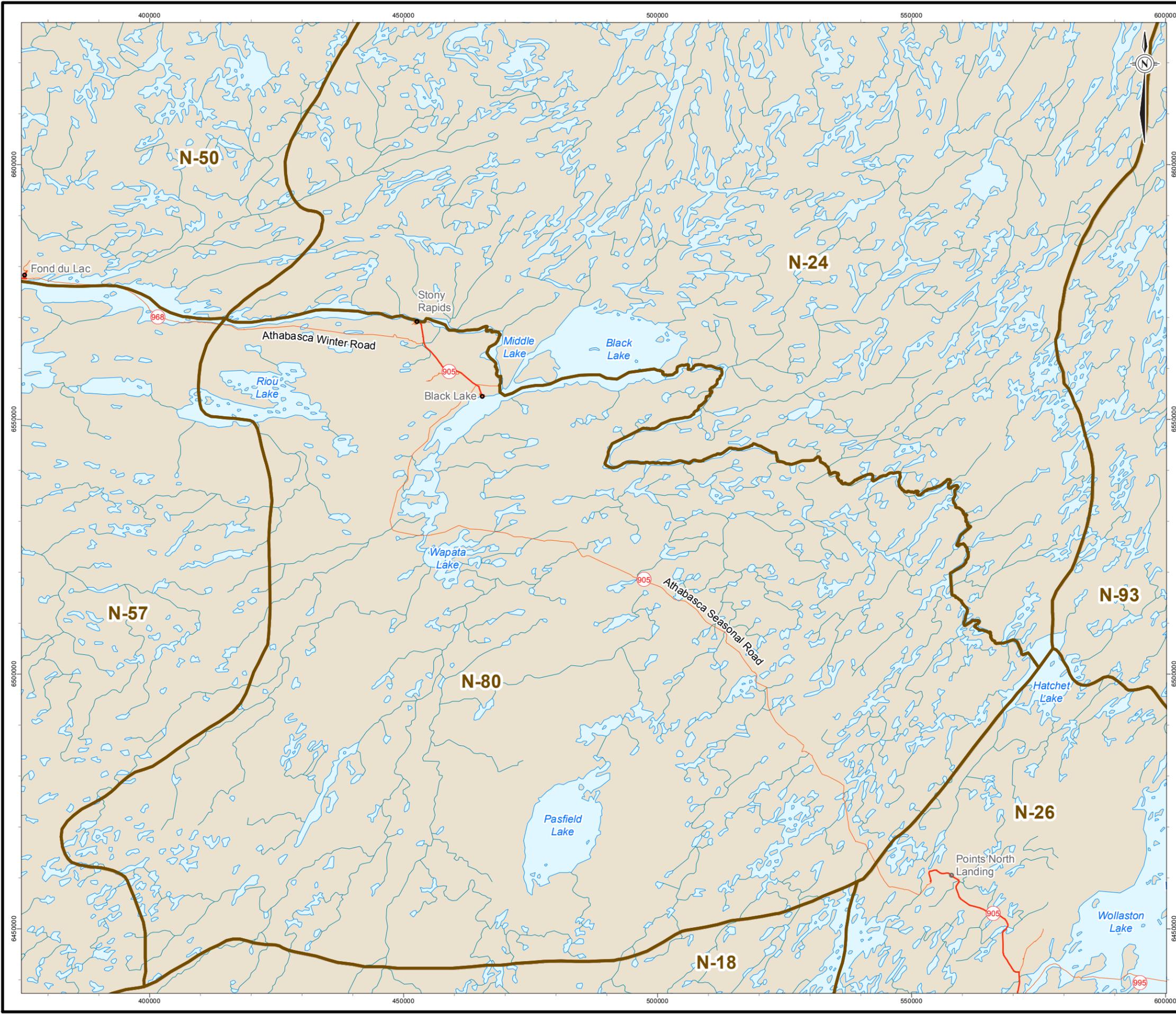
4.2.1 Trapping

Aboriginal people in northern Saskatchewan have been involved in trapping animals for financial gain since they were first drawn into the fur trade by the HBC in the 1700s (as described in [Section 4.1.2](#)). Trapping provides benefits to trappers, their families, and their communities, including money from fur sales, meat from certain species, furs for domestic purposes, as well as having implications for local land stewardship. Trapping continues to be an important activity for some community members, particularly for Elders who spent considerably more of their lives living on the land than most community members. Trapping has been done primarily for commercial purposes. Animals are hunted and trapped for food and hides to make coverings, mats, clothing, and other household articles. Most trappers will also hunt opportunistically while on the trapline (Black Lake and Stony Rapids KPI Program 2011-2013).

In northern Saskatchewan, the fur-bearing animals that have been consistently trapped are beaver, muskrat, squirrel, marten, mink, weasel, fox, rabbit, and otter; other, rarer species include wolf and lynx. Fisher, wolverine, and bear are also found in the northern region (Hay 2007). In the Athabasca region, species trapped include Arctic fox, badger, bear, beaver, coyote, fisher, fox (cross), red fox, silver fox, lynx, marten, mink, muskrat, otter, raccoon, skunk, squirrel, weasel, wolf, and wolverine (Cigar Lake Mining Corporation 1995; ALUPIAP 2003; Black Lake and Stony Rapids KPI Program 2011-2013).

In 1946, the forested area of northern Saskatchewan was partitioned into 89 Fur Conservation Areas (FCAs), which make up the Northern Fur Conservation Block. In organizing the fur block system, the provincial government sought to “regulate trapping by assigning specific trapping areas to individuals” (International Labour Organization 2000, p. 305). Each fur block has a fur block chairman, who is tasked with coordinating trappers in the fur block and participating on a co-management board with the province. The Athabasca region includes Fur Blocks 10, 18, 22, 23, 24, 26, 50, 57, 68, 80, and 93. The proposed Project would be located in Fur Block N-24, with the proposed transmission line passing into Fur Block N-80.

[Figure 4.2-1](#) illustrates the fur blocks near the communities of Black Lake and Stony Rapids. The boundary between these fur blocks follows the Fond du Lac River past Elizabeth Falls and through Middle Lake and Stony Lake.



LEGEND

- VILLAGE
- HIGHWAY
- ROAD
- FUR BLOCK BOUNDARY

REFERENCE
 CANVEC © NATURAL RESOURCES CANADA
 SASKATCHEWAN MINISTRY OF ENVIRONMENT
 NAD83 UTM ZONE 13



PROJECT
 TAZI TWÉ HYDROELECTRIC PROJECT

TITLE
 FUR BLOCK BOUNDARY

 Golder Associates Saskatoon, Saskatchewan	PROJECT	10-1365-0004	FILE No.	
	DESIGN		SCALE AS SHOWN	REV. 0
	GIS	SM	07/11/13	
	CHECK	KD	07/11/13	
	REVIEW	HS	07/11/13	
FIGURE: 4.2-1				

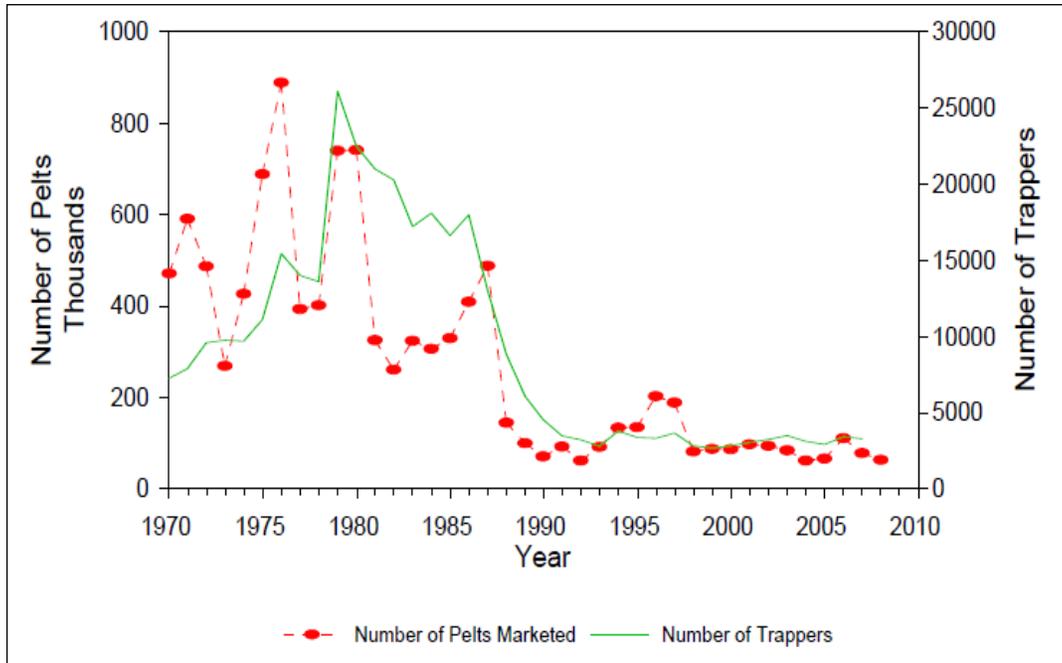
Jarvenpa (1980) notes that with the institution of the Northern Fur Conservation Program each fur block “became associated with distinct populations of trappers from specific settlements” (p. 59). The communities of Black Lake and Stony Rapids are located near the boundary of fur blocks N-24 and N-80, and most resident trappers are registered to trap in one of these fur blocks. Fur Block N-24 has approximately 30 listed trappers and N-80 has about 36 listed trappers. No one traps in both fur blocks. Most trapping in N-80 occurs along the Athabasca Seasonal Road up to the Hawkrock River, into Pasfield Lake, and on Forsyth Lake. Most trapping in N-24 occurs north of Black Lake toward the border with the NWT (Black Lake and Stony Rapids KPI Program 2011-2013).

Some fur blocks are partitioned into zones, which are assigned to specific trappers, while other fur blocks are not subdivided in this way, with trappers working larger, unassigned areas. Fur blocks in the Northern Fur Conservation Area are closed blocks and individuals wishing to trap in these areas must be nominated and voted onto the list of trappers for each block. According to interviews, many older trappers (i.e., people 70 years of age and older) continue to buy trapping licenses to pass on the trapline to the next generation, but rarely trap themselves; younger trappers tend to trap less frequently or on occasion to supplement their income. It was suggested that some younger trappers hold licenses in anticipation of mineral claims on their trapline areas (Black Lake and Stony Rapids KPI Program 2011-2013).

Trappers have noted that the replacement of traditional dog teams with snowmobiles beginning in the 1960s had implications for the costs associated with trapping: although snowmobiles allow for greater mobility and access during trapping activities, the price of gasoline and the machines themselves have increased operating costs (Black Lake and Stony Rapids KPI Program 2011-2013). This, in combination with changes starting in the 1970’s related to the international market for fur, has resulted in setbacks for trappers. A European Union ban on leg-hold traps and its demand for more humane trapping methods increased the cost of supplies for trappers; trappers pay \$150 for 12 traps of one size (Black Lake and Stony Rapids KPI Program 2011-2013). While the cost of trapping has increased, the market prices for furs have decreased, along with public interest in the product. Animal rights groups have had an impact on reducing the demand for fur products and affecting fur prices (Myers and Summerville 2004). Commercial fur farming has also had a detrimental impact, further reducing the market and prices for wild furs (Brown 2007a; Brown 2007b).

With relatively low fur prices and the high cost of accessing trap lines, the number of trappers has been decreasing across Saskatchewan (Black Lake and Stony Rapids KPI Program 2011-2013). Between 1981 and 2001, total licence sales declined throughout the province; however, the rate of decline in the south was much higher than in the north. During that time, northern licence sales declined from 3,350 to 2,094, while southern sales declined from 19,166 to 1,263 (Brown 2007a). [Figure 4.2-2](#) illustrates the declining trend in the number of registered trappers and marketed pelts in Saskatchewan between 1970 and 2010 (Saskatchewan Ministry of Environment 2010).

Figure 4.2-2: Annual Trend in the Number of Licensed Trappers and Marketed Pelts



Source: Saskatchewan Ministry of the Environment 2010.

Table 4.2-1 and Table 4.2-2 provide a summary of trapping data for Fur Blocks N-24 and N-80 by season, from 1990/1991 to 2010/2011. Over this period, the number of registered trappers and total number of pelts has fluctuated annually, with an overall declining trend over these two decades.

In N-24, the total number of registered trappers declined to four in the 2010/2011 season from a high of 25 in 1991/1992. At the same time, the total number of marketed pelts also declined to 101, from a high of 912 in the 1991/1992 season. The total value of pelts was \$7,210.98 in 2010/2011, down from a high of \$46,534.00 in 1991/1992. Similarly, in N-80, the total number of registered trappers declined to five in the 2010/2011 season from a high of 28 in 1991/1992. The total number of marketed pelts also declined that year to 127 from a high of 587 in the 1993/1994 season. The total value of pelts was \$9,459.48 in 2010/2011, down from a high of \$31,595 in 1991/1992.

As trapping has become more expensive and the value of fur has declined, trappers have increasingly targeted the species with the highest market value. In recent years, marten, which is abundant in the region, has attracted a high price for its fur and become one of the most highly sought animals among local trappers (Black Lake and Stony Rapids KPI Program 2011-2013; Statistics Canada 2010c; Winnipeg Free Press 2009). In 2012, fur prices in general were above average compared to previous years. In particular, there were record high prices for fox fur pelts, with some going for more than triple the average price of previous years (Trapping Today 2012).

Table 4.2-1: Fur Block N-24 by Season: 1990/1991 to 2010/2011

Year	Total		
	Number of Trappers	Number of Pelts	Total Pelt Value ^(a) (\$)
1990/1991	17	336	\$7,278
1991/1992	25	912	\$46,534
1992/1993	24	597	\$15,551
1993/1994	20	517	\$12,053
1994/1995	11	195	\$5,758
1995/1996	4	55	\$1,519
1996/1997	10	204	\$9,682
1997/1998	8	132	\$3,660
1998/1999	2	34	\$686
1999/2000	6	77	\$1,871
2000/2001	5	73	\$3,475
2001/2002	7	78	\$2,358
2002/2003	8	135	\$8,576
2003/2004	9	170	\$7,647
2004/2005	10	158	\$10,200
2005/2006	9	156	\$16,062
2006/2007	8	182	\$11,901
2007/2008	4	46	\$4,495
2008/2009	2	28	\$1,514
2009/2010	3	40	\$2,394
2010/2011	4	101	\$7,211

Sources: Koback pers. comm. 2012; Saskatchewan Ministry of Environment 2005b, 2006b, 2008b, 2009b, 2010b, 2011, 2012.

^(a) Total pelt values have been rounded to the nearest dollar by InterGroup Consultants.

Table 4.2-2: Fur Block N-80 by Season: 1990/1991 to 2009/2010

Year	Total		
	Number of Trappers	Number of Pelts	Total Pelt Value ^(a) (\$)
1990/1991	11	313	\$8,362
1991/1992	28	585	\$31,595
1992/1993	17	467	\$20,446
1993/1994	18	587	\$15,663
1994/1995	10	439	\$9,330
1995/1996	13	234	\$6,315
1996/1997	10	387	\$12,002
1997/1998	6	175	\$4,265
1998/1999	9	179	\$3,945
1999/2000	5	84	\$2,590
2000/2001	5	95	\$2,685
2001/2002	8	94	\$2,466
2002/2003	10	123	\$10,168
2003/2004	12	153	\$10,628
2004/2005	11	118	\$8,025
2005/2006	3	18	\$1,890
2006/2007	6	64	\$3,750
2007/2008	2	15	\$1,597
2008/2009	5	84	\$4,695
2009/2010	12	137	\$7,933
2010/2011	5	127	\$9,459

Sources: Koback pers. comm. 2012; Saskatchewan Ministry of Environment 2005b, 2006b, 2008b, 2009b, 2010, 2011, 2012.

^(a) Total pelt values have been rounded to the nearest dollar by InterGroup Consultants.

Overall, there is recognition that the number of active trappers in Fur Blocks N-24 and N-80 has been decreasing over the years. In recent years, most trappers in N-24 and N-80 trap as a means of supplementing their income. The few community members who continue to trap as their primary employment do so in the NWT. These individuals trap in the traditional way, leaving the community in late September prior to freeze-up and staying on the land until late December, when they return to sell their furs (Black Lake and Stony Rapids KPI Program 2011-2013). Since most trapping license holders do not trap as a lifestyle and may not trap actively, trapping activities are expected by some to continue to decline into the future for these fur blocks. However, with the recent rise in price of furs such as marten and otter, trapping is once again being considered for its potential financial viability. Marten are among the most financially lucrative furs in the area (Black Lake and Stony Rapids KPI Program 2011-2013).

Some residents of the communities of Black Lake and Stony Rapids hold trapping licenses in order to maintain the status of their Traditional Resource Cabins (TRC). In order to qualify for a TRC permit, cabin owners must have a valid license to trap or fish. A TRC is distinct from a recreational cabin and includes both registered cabins and trespass cabins built on Crown land and later licensed. Cabins must be licensed to qualify for insurance and fire protection; each permit costs \$25 for a 25-year lease. There are about 80 cabins in the Athabasca region, from Lake Athabasca to south of the communities of Stony Rapids and Black Lake, that have valid permits and are known to MOE (Black Lake and Stony Rapids KPI Program 2011-2013). Fifteen of these

cabins are located at Wapata Lake. At least one cabin, and as many as two or three, are located in the area around Stony Lake, Middle Lake, and the Fond du Lac River; two of these cabins are believed to be used only seasonally, while the cabin on Middle Lake (see [Section 4.1.5.2](#) for further details) is occupied year-round (Black Lake and Stony Rapids KPI Program 2011-2013).

Trapping continues in Fur Blocks N-24 and N-80, although the number of active trappers in these areas is low. The Tazi Twé Hydroelectric Project would be constructed on BLFN reserve land, which is designated as an area that any BLFN member can trap (i.e., the area is not allocated to a single trapper). However, trappers without active trapping licenses are not permitted to sell furs commercially and tend to trap on reserve land for personal use (Black Lake and Stony Rapids KPI Program 2011-2013).

In the proposed Project area, some trapping occurs along the Fond du Lac River from Black Lake to Stony Lake. People who trap this area live in the communities of Stony Lake or Black Lake and trap off the Elizabeth Portage trail between Black Lake and Middle Lake. Fox, marten, mink, beaver, otter, and muskrat were once abundant around Middle Lake; however, the area has burned in several wildfires over the last few decades, including three fires in the area since 2006 (see [Section 4.1.5.4](#) for further details). As a result of these fires, there is less habitat for furbearing populations in the area than there used to be and current trapping activities tend to be for personal use (Black Lake and Stony Rapids KPI Program 2011-2013).

4.2.2 Commercial Fishing

Saskatchewan has 1,190 lakes that are eligible for the commercial net fishery, with approximately 950 lakes allocated to commercial fisheries in northern Saskatchewan. Of the 950 lakes in the north, about 726 lakes are registered to an independent commercial fisherman or co-op. Many of the lakes in northern Saskatchewan provide good fishing for cold-water species like lake trout, Arctic grayling, and whitefish, as well as northern pike and walleye. Saskatchewan Ministry of Environment sets guidelines for commercial fishery operations. Many of the lakes open to commercial fishing are currently in use (Saskatchewan Ministry of Environment n.d.).

Commercial fishing in northern Saskatchewan is generally a seasonal activity and not the primary occupation of the fishers. Fishing activities take place in both the summer and winter seasons, depending on the lake and existing facilities. The majority of commercial fishers are licensed Aboriginal fishers who fish lakes close to where they reside. All fishers must follow provincial legislation that restrict net-mesh size and impose quota limits on the lakes that are harvested. A lake can be licensed for annual or pulse (every other year) fishing depending on the population and productivity of the lake (MOE n.d.).

The MOE assigns quota limits at 2.5 kg of game fish per hectare of lake. The minimum size of a lake to be considered for commercial fishing is 200 ha and the general quota is broken down according to individual fish species productivity on each lake. Whitefish are generally allocated at 1.0 kilograms per hectare per year (kg/ha/yr) and lake trout at 0.5 kg/ha/yr. If studies are done on specific lakes, the quotas may vary accordingly. Once the quota for one species has been reached, Saskatchewan Ministry of Environment closes the fishery on that lake for the year so that no more fish of that species are caught. This is an attempt to prevent over-harvesting (ALUPIAP 2003; Duffy pers. comm. 2010).

The Government of Saskatchewan supports northern commercial fishing licence holders through two subsidies. First, a freight subsidy to help equalize transportation costs for fisherpersons throughout the North. In general, those people who fish in the most isolated areas qualify for the highest subsidy on the fish they ship south. Second, a price support mechanism exists to compensate commercial fishers for reduced market prices or increased operating costs on some species (Saskatchewan Northern Affairs Division 2010). Government

subsidies have been reduced in recent years. The Government of Saskatchewan had previously subsidized the cost of airplanes flying to the northern lakes and picking up fish directly from the fishermen or from small fish processing facilities. In 1987, the Province removed the subsidy from walleye due to the higher price this species can obtain in the market (Saskatchewan Ministry of Environment 2006c).

In addition to the support programs offered by the Government of Saskatchewan, Northern Affairs Division also assists the Saskatchewan Co-operative Fisheries Ltd. (SCFL) and their member co-ops in efforts to revitalize and grow the fishing industry in northern Saskatchewan. The Northern Affairs Division assists SCFL in its annual operations and provides technical advice in support of the Board's efforts to implement a new business plan and related marketing efforts on behalf of the commercial fishing industry (Saskatchewan Northern Affairs Division 2010).

Commercial fishers have traditionally sold their catch through a local co-operative to the Freshwater Fish Marketing Corporation (FFMC) in Winnipeg. Some commercial fishers also market their catch to small processors and for local consumption. Independent commercial fishermen and three fishermen's co-ops operate in the Athabasca region, including a co-op in the community of Black Lake (Black Lake and Stony Rapids KPI Program 2011-2013). Each co-op develops their own guidelines and rules for how the co-op members are to fish, who can be a member, and under what circumstances co-op membership can be changed or increased. The Black Lake Fishermen's Co-op has approximately 10 members, most who fish on Wapata Lake (Black Lake and Stony Rapids KPI Program 2011-2013).

In 2009, Saskatchewan fishers successfully lobbied the Government of Saskatchewan to be released from the monopoly FFMC holds over sales of inland fish. Originally, the FFMC was set to discontinue purchasing fish from Saskatchewan commercial fishers as of April 1, 2011; however, that date was extended to April 1, 2012 to provide Saskatchewan fishers, the SCFL, and other related business "more time to explore new partnerships and value-adding opportunities that will be possible in the future open-market setting for the industry" (Government of Saskatchewan 2011). The province has negotiated with potential buyers in the United States and eastern Canada, but as of March 2012, no plans had been finalized (CJME 2012; Duffy pers. comm. 2011). After April 1, 2012, the FFMC will continue to have an opportunity to purchase Saskatchewan fish on an open-market basis, and some northern fishermen's co-ops have signed one-year contracts with the FFMC to continue selling to the agency (CJME 2012; Government of Saskatchewan 2011). The President of the Saskatchewan Commercial Fishers Co-operative has reported that fishers want to construct a new processing plant in Prince Albert and establish their own markets, though funding for the plant has not been secured (Black Lake and Stony Rapids KPI Program 2011-2013; CJME 2012; Duffy pers. comm. 2011; MBC News 2010).

Within the Athabasca region, approximately 230 lakes are commercially fished. Important commercial lakes near the communities of Black Lake and Stony Rapids include the following (see [Figure 4.1-2](#) for the location of commercial fishing lakes near the communities):

- Lake Athabasca;
- Black Lake;
- Pasfield Lake;
- Riou Lake;
- Theriau Lake;

- Wapata Lake; and
- Wollaston Lake.

Lake Athabasca and Wollaston Lake are two of the largest freshwater lakes in Saskatchewan. Both lakes have large summer commercial fishing quotas, totalling approximately 1 million kilograms annually; the quota on Lake Athabasca is 638,500 kg annually, while the quota on Wollaston Lake is 365,000 kg annually (Saskatchewan Ministry of Environment 2008c)¹¹. In recent years the quota has not been met on either lake (Athabasca Economic Development and Training Corporation 2003; M. Duffy, pers. comm. 2011). Residents of the communities of Black Lake and Stony Rapids participate in the commercial fishery on Lake Athabasca, Black Lake, Riou Lake, Pasfield Lake, and Wapata Lake (Black Lake and Stony Rapids KPI Program 2011-2013).

The Black Lake commercial fishery is primarily a summer fishery. Commercial fishermen may fish until they reach the quota. If they do not reach the quota over the summer months, they may extend the fishery into the winter season. The commercial fishing quota on Black Lake is approximately half of the overall allocation for the lake, with the other portion allocated to Camp Grayling. The Black Lake quota for commercial fishing is 1,100 kg of pike and walleye, 55,000 kg of lake whitefish, and 3,200 kg of lake trout per year (Saskatchewan Ministry of Environment 2008c). In 2012 there was one active commercial fisher on Black Lake, although in the past there have been other operators. The current commercial fisherman peddles directly to buyers, mainly residents of the communities of Black Lake and Stony Rapids, including the Athabasca Health Facility and local schools. The communities of Black Lake and Stony Rapids do not currently have fish processing facilities (Black Lake and Stony Rapids KPI Program 2011-2013).

A summary of the most recent fish production and values for lakes in the Athabasca region is provided in [Table 4.2-3](#).

¹¹ Both Lake Athabasca and Wollaston Lake have quotas for lake whitefish, pike, walleye and trout. Lake Athabasca has annual quotas as follows: lake whitefish – 340,000 kg; pike = 68,000 kg; walleye – 68,000; trout – 150,000 kg; and a combined quota of 12,500 kg for all species in the Fond du Lac Bay area of the lake. Wollaston Lake has annual quotas as follows: lake whitefish – 205,000 kg; pike – 17,000 kg; walleye – 8,000 kg; and trout – 135,000 kg (Saskatchewan Ministry of Environment 2008c)

Table 4.2-3: Fish Production on Athabasca Region Lakes

Lake ^(a)	Year ^(b)	Kilograms ^(c)	Total \$ ^(c,d)
Freshwater Fish Marketing Corporation^(e)			
Fond du Lac River	2004-2005	694	\$1,439
Pasfield Lake	2004-2005	316	\$259
Theriau Lake	2004-2005	554	\$381
Black Lake	2005-2006	1,035	\$817
Riou Lake	2007-2008	698	\$552
Wapata Lake	2008-2009	1,004	\$4,839
Peddled^(e)			
Riou Lake	2006-2007	1,764	n/a
Wapata Lake	2006-2007	13,097	n/a

Source: Saskatchewan Ministry of Environment, 2004, 2005a, 2006a, 2007a, 2008a, 2009a.

(a) Data is not available for all Athabasca region lakes where commercial fishery is present; data presented represents recent lake production where data is available.

(b) Total fish production for each lake is unavailable for every year; years presented represent most recently available data for each lake and production type.

(c) The total kilograms and dollars include lake whitefish, lake trout, walleye, northern pike, cisco, and others; each species of fish has its own market value.

(d) Prices paid for peddled fish are unknown.

(e) Freshwater Fish Marketing Corporation and Peddled refer to the production type; bait fishing is not included.

4.2.3 Forestry and Forest Products

Timber production in the Athabasca region is not commercially viable. Some timber permits are issued for small areas for commercial firewood purposes, although most people cut firewood for their own use. In recent years, exploration companies and contractors have also received timber permits from Saskatchewan Ministry of Environment for the construction of roads in the region, such as the Athabasca Seasonal Road and Fond du Lac winter road (ALUPIAP 2003).

Business in non-timber forest products in the Athabasca region is minimal, except through local trade and sale and gift-giving. Non-timber forest products include gathered products, such as berries, herbs, and medicinal plants, and labour-intensive goods, such as snowshoes, articles of clothing made of animal hides and furs, as well as cultural items. In addition to the minimal trade and sale of these items, forests and plants are considered vital components of the ecosystem that provides a basis for the food chain. Wildlife and human populations rely on healthy forests to provide them with animals to hunt and trap, as well as providing medicinal and other plants for local usage (ALUPIAP 2003). Residents of the communities of Black Lake and Stony Rapids, as well as other Athabasca communities, pick blueberries, bog cranberries, strawberries, and moss berries throughout the region (see Figure 4.1-3) (Black Lake and Stony Rapids KPI Program 2011-2013).

Between 1996 and 2003, the Government of Saskatchewan evaluated its existing forest fire response program. In 2003, a new policy framework for managing wild land fires and forest insects and diseases was developed after extensive consultation (Government of Saskatchewan 1996; Government of Saskatchewan 2003a). The

outcome of this evaluation put the northern forest into the observation zone. In this zone, Saskatchewan's forest fire management strategy is designed to observe and assess the values of physical structures (e.g., trapper cabins, recreational cabins, outfitter lodges and cabins, industrial sites, etc.) at risk with the intent to allow fires to burn as a part of the ecological process. As such, forest fire intervention is based on a "values-at-risk" model, which places a priority on protecting human life and property and is guided by input from local residents and recommendations from organizations, such as the BQCMB (ALUPIAP 2006; Saskatchewan Ministry of Environment 2005c). Saskatchewan Ministry of Environment responds to forest fires within 20 km of communities and properties considered valuable, such as mines and outfitter lodges (ALUPIAP 2006).

When there are physical structures of value that require protection a number of strategies may be used depending on the property. For larger facilities, such as mine sites and facilities, a number of staff would be trained to respond to immediate forest fire threats. This would include having equipment on site to action a fire. In addition, some facilities utilize fire breaks and sprinkler systems to protect the property (Davies pers. comm. 2010).

In recent years, forest fires and heavy smoke from fires have affected the residents of most of the communities in the Athabasca region. In 2006, over 200 residents of the communities of Stony Rapids and Black Lake were evacuated due to two fires within 40 km from the communities (CBC News 2006). In 2008, over 100 residents of Fond du Lac and Black Lake, and 74 residents of Uranium City were evacuated due to forest fires (Star Phoenix 2008a; Star Phoenix 2008b). In 2010, more than 300 residents of the communities of Black Lake and Stony Rapids were evacuated when forest fires came close to the communities (CBC News 2010).

The effects of fires on forests, communities, and wildlife are considered a major issue by residents of the Athabasca region, including the communities of Black Lake and Stony Rapids. Many residents feel that the current fire management policies – referred to as a "let it burn" policy by residents – are having a detrimental impact on residents' ability to pursue resource-use activities, especially trapping and caribou hunting, since the forest habitat in which these activities are pursued is destroyed (BQCMB 2011; Black Lake and Stony Rapids KPI Program 2011-2013).

4.2.4 Outfitting and Lodges

Outfitting and guiding in Saskatchewan are controlled by The Outfitter and Guide Regulations passed under *The Natural Resources Act* of Saskatchewan. These regulations set licensing requirements and conditions to control outfitting and guiding, and are administered by MOE (Saskatchewan Outfitters Association 2003).

Outfitters rent equipment, offer guide services, and also may offer accommodation. Guides assist clients to locate game or fish, provide campsite services, and provide field dressing and cleaning services; however, a guide cannot provide equipment or accommodation to a client. Guiding services can be provided by outfitters and guides, but guides must be employed by a licensed outfitter (Saskatchewan Outfitters Association 2003).

The outfitting and lodge industry in Saskatchewan has been relatively stable for the last few years, with most lakes and hunting allocations committed (Skafffeld pers. comm. 2010). Before this, there was a growth rate of 7% per year from 1988 to 2004 in the number of angling outfitters. In 2004, there were 391 sport fishing-endorsed outfitters in Saskatchewan (MOE n.d.). Outfitting opportunities for big game, migratory birds, and angling are currently almost fully allocated, making it difficult to start up any new facilities in Saskatchewan (MOE 2007b). In the northern wildlife management zones, most of the outfitters and lodges have limited road access, relying on float planes and small private landing strips.

Outfitting licences are issued annually by MOE and include conditions, such as the following:

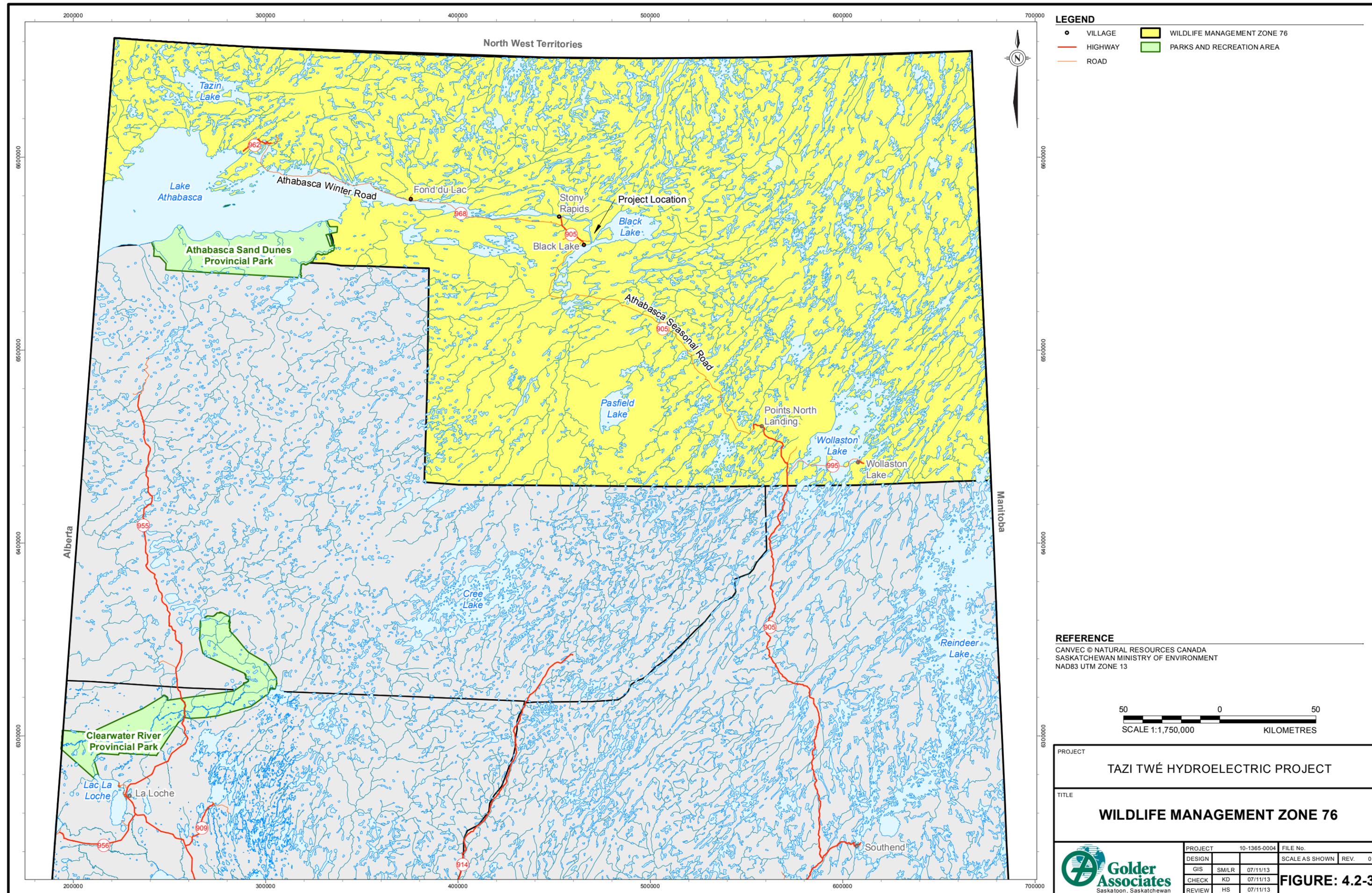
- the type of fishing and/or hunting activity allowed;
- the species and amounts that may be harvested;
- where and when an outfitter or guide is authorized to provide services;
- the number of clients that can be served at one time or annually;
- the type of equipment that an outfitter can provide; and
- other terms and conditions considered appropriate for fish and wildlife management.

Outfitters pay a one-time application fee and annual fees based on the number of categories in which they offer services (e.g., big game, fishing, game bird). Big-game outfitters also pay a resource allocation fee for each client. Outfitter clients are required to buy hunting and fishing licenses (MOE 2007b).

The majority of the outfitters and lodges provide guided and self-directed fishing activities in the open water season, though there are a few outfitters in the region who offer only hunting. Game fish include Arctic grayling, lake trout, lake whitefish, walleye, and northern pike. Fishing-related activities usually include a shore lunch and eating fish at the lodge or camp. Many of the lodges follow the practice of catch and release. A few lodges offer services that bring clients to other nearby lakes either by float plane or by ATV (Saskatchewan Outfitters Association 2003).

In the Athabasca region, outfitters operate in Wildlife Management Zone (WMZ) 76, as shown [Figure 4.2-3](#). The Saskatchewan government allocates a certain number of tags for black bear, moose, and migratory bird hunting within each WMZ. For the 2011/2012 season, the following conditions existed in WMZ 76:

- Fourteen outfitters had black bear allocations, with the number ranging from one to 50 tags per outfitter and averaging approximately seven; the quota is unlimited.
- Eleven moose licences were allocated to outfitters, with a quota of 15 moose tags. Moose tags are all typically allocated to outfitters; the number varies per outfitter, typically ranging from two to six.
- Migratory birds are not an important economic activity and currently no licences are allocated to outfitters in the area (Trottier pers. comm. 2011).



There are 26 lodges operating in the Athabasca region, with three known lodges and outfitters offering sport fishing and hunting services within a 50 km radius of the proposed Project site around the communities of Black Lake and Stony Rapids. [Table 4.2-4](#) describes the location of these lodges and outlines their features; and [Figure 4.1-2](#) illustrates the locations of these lodges.

Table 4.2-4: Lodges^(a) and Outfitters in a 50 km Radius of the Project Site

Lodge	Location	Features
Camp Grayling	Black Lake at the outflow of the Fond Du Lac River	Fly-in; June-September 14 units (24 people) Fishing
Camp Grayling	Riou Lake	Fly-in; June-September Lodge (24 people) Fishing and hunting
Hawkrock Wilderness Adventures	Hawkrock River	Fly-in June-mid September 2 units (16 people) Fishing and hunting
Cree River Lodge	Wapata Lake/Cree River	Fly-in June-September 5 units (20 people) Fishing only

Source: Compiled by InterGroup Consultants, March 2012, based on Tourism Saskatchewan (2011), Camp Grayling (2010), Hawkrock Wilderness Adventures (n.d.) and Cree River Lodge (2012) and Black Lake and Stony Rapids KPI Program (2012).

^(a) Lodges are identified by corresponding number on [Figure 4.1-2](#).

Camp Grayling opened in 1952 and is the only lodge located within the Local Study Area (LSA). The camp has a large active area used for fishing and hunting, including outpost fishing on 22 lakes in addition to Black Lake and Middle Lake. Outposts include McDonald Lake, two leases on Riou Lake, Selwyn Lake and Dodge Lake. The camp has boats on about half of these lakes, including 11 near the main site and another 15 on Riou Lake. Several lakes have camp-owned infrastructure, such as docks, and Riou Lake also has a lodge, cabins, a cookhouse and staff buildings (Black Lake and Stony Rapids KPI Program 2011-2013; Fredrickson pers. comm. 2012).

Camp Grayling's main site is located on the Fond du Lac River at its outflow point from Black Lake and includes more than 10 acres of titled and leased land. The river is a grayling fishing location where sport fishers have easy access to sections of the Fond du Lac River using trails along the west shore of the river. Black Lake is fished for northern pike, walleye and lake trout. The main site includes cabins, maintenance building and a lodge. Over the last 10 years the camp has averaged approximately 200 guests per season, fluctuating from a high of about 400 to a low of 100. Most guests are repeat customers, including families and sport fishers who return annually (Black Lake and Stony Rapids KPI Program 2011-2013; Fredrickson pers. comm. 2012).

Camp Grayling has been under the management of several owners through its history, and is currently owned by a family from southern Saskatchewan. One of the owners spends most of the year at the main campsite near Elizabeth Falls to protect camp assets. The camp employs residents of the communities of Black Lake and Stony Rapids as guides for fishing activities in the area on a seasonal basis, from June to September. Approximately 20 local residents are employed as guides, about half of whom work on a part-time or casual basis. The camp also employs a cook from the south in the summer and a local maintenance person year-round (Black Lake and Stony Rapids KPI Program 2011-2013; Fredrickson pers. comm. 2012).

4.2.5 Mining and Exploration

Saskatchewan has substantial mineral resource potential from a number of commodities including uranium, potash, diamonds, gold, platinum, palladium, rare earth elements, copper, zinc, nickel and mineralized brines (Saskatchewan Mining Association 2011). Most mineral exploration activity in the province takes place in the north and central regions, with uranium exploration activity concentrated in the Athabasca region. Other northern mineral exploration includes diamond exploration east and northeast of Prince Albert and gold exploration northeast of La Ronge (Saskatchewan Mining Association 2011). The only mining activity currently taking place in the Athabasca region is uranium mining. No mining activities are taking place in the area around Elizabeth Falls. However, numerous mineral deposits have been identified in the area, including uranium, gold, base metals and other minerals.

Uranium mining and exploration in Saskatchewan occurs in two main regions: the Beaverlodge District on the north shore of Lake Athabasca, and on the eastern edge of the Athabasca Basin¹². Initial mining and production began in the Beaverlodge District in the 1950s, when 16 ore bodies and three separate milling facilities were developed in the Uranium City area (Saskatchewan Ministry of Energy and Resources 2010). In the 1960s, higher-grade uranium deposits were discovered at Rabbit Lake and Cluff Lake, followed by high-grade discoveries at Key Lake in the 1970s. The Cigar Lake ore body was discovered in the early 1980s. In the 1990s, high-grade discoveries and expansions were started at Cigar Lake, Midwest Lake, McArthur River, McClean Lake, and Cluff Lake (Parson and Barsi 2001). Currently, there are five uranium mining operations located in the Athabasca Region – the Rabbit Lake operation, the Mclean Lake operation, the Cigar Lake operation, the McArthur River operation, and the Key Lake operation. Another operation, the Millennium mine, has also been proposed and is currently undergoing the environmental assessment process. Saskatchewan's uranium mines are primarily owned and operated by Cameco and AREVA. Rio Tinto recently entered the uranium sector in Saskatchewan with its late 2011 acquisition of Hathor Exploration Ltd. [Table 4.2-5](#) provides an overview of the mining operations in northern Saskatchewan.

Saskatchewan Energy and Resources is responsible for the disposition of Crown mineral rights through the *Crown Minerals Act* and related regulations. There are two main types of mineral dispositions: a mineral claim and a mineral lease. A mineral claim allows the claim holder the exclusive right to explore for minerals within the claim area with claims being held on a year to year basis through expenditures and paperwork recording assessment credits. The claim holder has a guaranteed right to convert the claim to a lease, assuming that all of the requirements are met. A mineral lease allows the holder the exclusive right to develop and produce from the lease area, subject to lease fees and royalty payments. A mineral lease has a renewable term of ten years. Mineral claim and lease holders have a guaranteed right of access to their dispositions, subject to meeting the requirements of the surface permits and leases issued by Saskatchewan Ministry of the Environment (ALUPIAP 2003).

¹² The Athabasca Basin is a geographic region of northern Saskatchewan that covers about 100,000 square kilometres and is best known as the world's leading source of high grade uranium. It currently supplies approximately 20% of the world's uranium, as well as other important minerals and metals.

Table 4.2-5: Highlights of Uranium Mines Operating in the Northern Saskatchewan: 2012

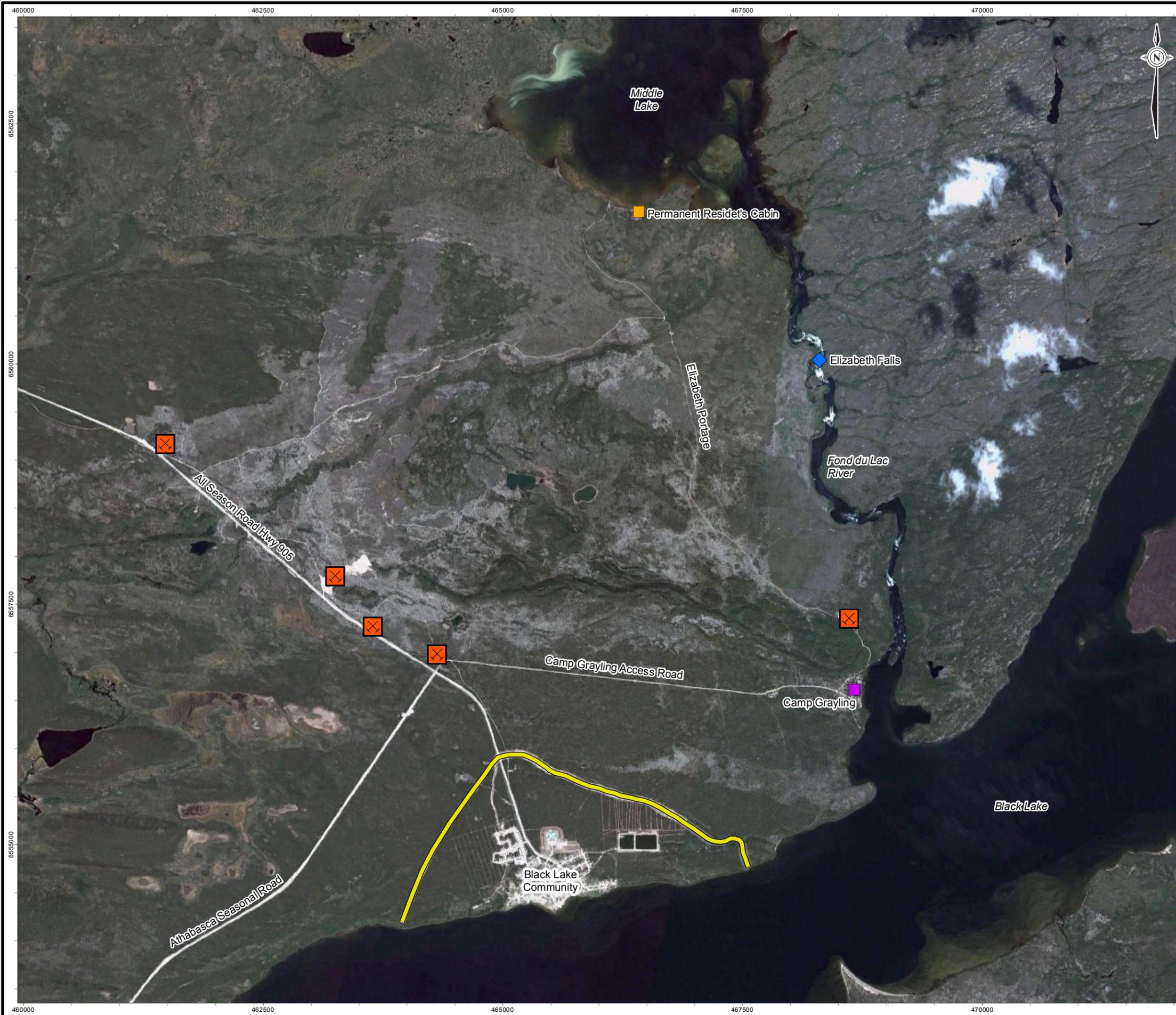
Mine	Owner	Operator	Discovered	Operating Since	Note
McArthur River operation	Cameco (69.8%) AREVA (30.2%)	Cameco	1988 by Cameco	December 1999	World's largest high-grade uranium deposit. Mine produced 19.3 million pounds of uranium (U ₃ O ₈) in 2010. Ore is processed through the Key Lake mill.
Key Lake operation	Cameco (83.3%) AREVA (16.7%)	Cameco	1975 by Uranerz Exploration and Mining Ltd.	1983	Mining until 1999. Since 2000 milled ore from McArthur River/Key Lake. Operating licence has been renewed and is valid until 2013.
Cigar Lake project	Cameco (50.0%) AREVA (37.1%) Idemitsu Uranium Explo. Can. Ltd. (7.9%) TEPCO (5.0%)	Cameco	1981 by AREVA (formerly COGEMA)	Under construction	A non-routine water inflow in October 2006 stalled underground construction. A remediation project dewatered the mine and is restoring underground workings. Currently in development with a target of mid-2013 for first production.
Cluff Lake	AREVA (100%)	AREVA	1971 by AREVA (formerly COGEMA)	1980 closed 2002	Mine and facilities were almost completely decommissioned by 2006, with 600,000 trees planted in 2007. Monitoring program now in effect.
McClellan Lake operation	Denison Mines Ltd. (22.5%) OURD Canada Co. Ltd. (7.5%)	AREVA	1979	Mining began in 1995 Milling began in 1999	Mill expanded to process future ore from the Cigar Lake mine. Canadian Nuclear Safety Commission approved renewal of operating licence for eight years, effective July 1, 2009 to June 30, 2017, including authorization to mine McClellan Lake North Deposits.
Rabbit Lake operation	Cameco (100%)	Cameco	1968 by Gulf Mineral Resources	1975	Seven open-pit mines closed (1984, 1991, 1996, and 1997). Recent exploration drilling has extended Eagle Point mine life to at least 2017. The site has 300 direct employees and 400 contractors (Northlands et al. 2010).

Table 4.2-5: Highlights of Uranium Mines Operating in the Northern Saskatchewan: 2012 (continued)

Mine	Owner	Operator	Discovered	Operating Since	Note
Midwest Mine 3,4,5,6	(69.16%) Denison Mines Corp. (25.17%) OURD Canada Co. Ltd. (5.67%)	AREVA	1978	Approval to proceed with development in December 2007	Planned open-pit mine located near landing strip at Points North Landing (along Mink Arm). Plans to build dedicated haul road to move ore to McClean Lake mill for processing. Repeatedly delayed. Most recently due to rising costs and lower uranium prices. EA and engineering activities continue. Licence for the current care and maintenance activities at Midwest are included in McClean Lake license.

AREVA = AREVA Resources Canada Inc.; Cameco = Cameco Corporation; EA = environmental assessment; U₃O₈ = Triuranium octoxide; % = percent

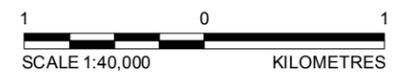
Figure 4.2-4 shows that there are several gravel quarry areas on reserve land within the LSA. These sites are not registered within the provincial mineral dispositions database. However, they have been used recently and may still be in use. Additional gravel quarries and borrow areas are found along the road to the northern hamlet of Stony Rapids and at the beginning of the seasonal road leading to Fond du Lac (SMHI 2010a).



LEGEND

- ◆ ELIZABETH FALLS
- CAMP GRAYLING
- PERMANENT RESIDENT'S CABIN
- ✕ QUARRY
- FIRE BREAK

REFERENCE
 DATUM: NAD83 PROJECTION: UTM ZONE 13
 GOOGLE IMAGERY 2012; DIGITALGLOBE 2012



PROJECT			
TAZI TWÉ HYDROELECTRIC PROJECT			
TITLE			
BLACK LAKE INFRASTRUCTURE			
 Golder Associates Saskatoon, Saskatchewan	PROJECT	10-1365-0004	FILE No.
	DESIGN	SMLR	28/06/13
	CHECK	KD	24/07/13
	REVIEW	HS	25/06/13
	SCALE AS SHOWN	REV.	2
			FIGURE: 4.2-4

5.0 POPULATION AND HEALTH

5.1 Population

This section describes the population profiles of the communities of Black Lake and Stony Rapids and, for comparison purposes, the population profiles of the Athabasca region, northern Saskatchewan, and the province of Saskatchewan. The following are included in these profiles:

- an overview of recent and current population levels and growth rate; and
- age and sex characteristics of the current population.

Population data for the community of Black Lake, the northern hamlet of Stony Rapids, northern Saskatchewan, and Saskatchewan are available from Statistics Canada and Saskatchewan Health Covered Population Reports; AANDC population data is available for the community of Black Lake population. Several sources have been cited in this section because data collection methods vary by source. Variations in data collection methods can lead to differences among sources with respect to reported population. Actual population levels are expected to be somewhere within the ranges reported.

5.1.1.1 Historical and Current Population

Table 5.1-1 presents population data from 2001, 2006, and 2011 for the community of Black Lake, the northern hamlet of Stony Rapids, the Athabasca region, northern Saskatchewan and Saskatchewan. Data sources include Statistics Canada, Saskatchewan Health, and AANDC. Data available for 2011 for the community of Black Lake indicates that the largest enumerated population was just under 1,600 people (AANDC 2012c), while the population of the northern hamlet of Stony Rapids is smaller at between 158 (Saskatchewan Health 2011) and 243 (Statistics Canada 2012). According to Statistics Canada, between 2001 and 2011, the population of the Athabasca region grew by 18.2%; the population of northern Saskatchewan grew by 14.1%, while the population of Saskatchewan grew by 4.6%. During this period, the rate of growth for the community of Black Lake was below the rate for the Athabasca region at 1.5% while for the northern hamlet of Stony Rapids it was well above the rate for the Athabasca Region at 28.6%. According to AANDC data, the community of Black Lake's on reserve population grew by 27.6% from 2001 to 2011. Saskatchewan Health data for the community of Black Lake, the northern hamlet of Stony Rapids and the Athabasca Region are not considered accurate for 2001 and 2006 because they are inconsistent with other data sources and local knowledge. For this reason, Table 5.1-2 does not include Saskatchewan Health population for these places for 2001 and 2006. Based on the other data sources, the population growth for the community of Black Lake, the northern hamlet of Stony Rapids and the Athabasca Region over the decade of 2001 to 2011 would likely have exceeded the 14.4% calculated for Northern Saskatchewan based on Saskatchewan Health data.

Table 5.1-1: Population of the community of Black Lake, the Northern Hamlet of Stony Rapids, Northern Saskatchewan, and Saskatchewan by Source (2001, 2006, and 2011)

	2001	2006	2011	Population Change (since 2001) ^(a)
Black Lake Denesuline First Nation				
AANDC ^(b) – Black Lake on-reserve population ^(c)	1,281	1,408	1,592	24.3%
AANDC ^(b) – Black Lake total population	1,589	1,775	2,028	27.6%

Table 5.5-1: Population of the community of Black Lake, the Northern Hamlet of Stony Rapids, Northern Saskatchewan, and Saskatchewan by Source (2001, 2006, and 2011) (continued)

	2001	2006	2011	Population Change (since 2001) ^(a)
Saskatchewan Health ^(d,e) – Black Lake	n/a	n/a	1,417	n/a
Statistics Canada ^(f) – Black Lake ^(g)	1,054	1,109	1,070	1.5%
The Northern Hamlet of Stony Rapids				
Saskatchewan Health ^(d,e)	n/a	n/a	158	n/a
Statistics Canada ^(f)	189	255	243	28.6%
Athabasca Region				
Saskatchewan Health ^(d,e)	n/a	n/a	2,743	n/a
Statistics Canada ^(f,h)	2,909	3,118	3,438	18.2%
Northern Saskatchewan				
AANDC ^(b) – Northern Saskatchewan Aboriginal on-reserve population ^(c,i)	43,614	49,036	54,729	25.5%
AANDC ^(b) – Northern Saskatchewan Aboriginal total population ^(h,i)	74,098	84,207	94,648	27.7%
Saskatchewan Health ^(d)	34,078	35,402	39,001	14.4%
	2001	2006	2011	Population Change (since 2001)^(a)
Statistics Canada ^(f,j)	32,029	33,919	36,557	14.1%
Saskatchewan				
AANDC ^(b) – Saskatchewan Aboriginal on-reserve population ^(c)	55,340	61,564	68,190	23.2%
AANDC ^(b) – Saskatchewan Aboriginal total population ^(k)	108,801	123,017	137,439	26.3%
Saskatchewan Health ^(d)	1,024,788	1,003,231	1,084,127	5.8%
Statistics Canada ^(f)	987,933	968,157	1,033,381	4.6%

Sources: Statistics Canada 2002, 2007, 2012; INAC 2002, 2007 AANDC 2012c; Saskatchewan Health 2001, 2006, 2011.

^(a) Where 2011 data is available, population changes are expressed for 2001-2011; where 2011 data is not available, population changes are expressed for 2001-2006.

^(b) AANDC data refers to population as of December 31, 2001, December 31, 2006, and December 31, 2011.

^(c) On-reserve residence includes individuals living on Crown land.

^(d) Saskatchewan Health data refers to population as of June 30, 2001, June 30, 2006, and June 30, 2011.

^(e) The data collection method for Saskatchewan Health is based on mailing address. Since many northern residents keep post boxes in locations other than their place of residence, they are considered residents of the community listed in their mailing address, not their home community (Saskatchewan Health 2011). For this reason, Saskatchewan Health data for Black Lake, the northern hamlet of Stony Rapids, and the Athabasca Region are not consistent with other data sources for 2001 and 2006 and local knowledge and have been omitted from [Table 5.1-2](#).

^(f) Statistics Canada data refers to population as of Census Day – May 15th 2001, May 16th 2006, and May 10, 2011.

^(g) Statistics Canada defined Black Lake as Chicken 224 in 2001, and Chicken 224 and 225 in 2006.

^(h) The Athabasca region is defined as the communities of Stony Rapids, Fond du Lac, Black Lake (Chicken 224 in 2001; Chicken 224 and 225 in 2006), and Hatchet Lake (Lac La Hache 220). The communities of Camsell Portage, Uranium City, and Wollaston Lake were not included in these calculations, as Statistics Canada does not report on the communities individually.

⁽ⁱ⁾ Northern Saskatchewan includes the total population of AANDC's North Central District, including 44 First Nations and the regional general list.

^(j) Statistics Canada defined northern Saskatchewan as census division no. 18.

^(k) Saskatchewan includes the total Aboriginal population of the province.

Table 5.1-2: Age Characteristics of the Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2011^(a)

Age Group	Athabasca Region ^(b)	Northern Saskatchewan ^(c)	Saskatchewan
Proportion of school-age children (Ages 5-19)	30.9%	29.5%	19.1%
Proportion of labour force age (Ages 15-64)	61.8%	63.7%	66.9%
Proportion of seniors (Ages 65 and over)	4.1%	5.4%	14.2%

Source: Saskatchewan Health 2011.

^(a) Totals do not add to 100 percent because of overlaps in age between the population categories of school-age children (ages 5 to 19) and total labour force (ages 15 to 64); population less than 5 years of age is not shown.

^(b) The Athabasca region is defined as Camsell Portage, Uranium City, Fond du Lac, Black Lake, Stony Rapids, Hatchet Lake, and Wollaston Lake. Saskatchewan Covered Health Report 2010 does not provide population data for Camsell Portage.

^(c) Northern Saskatchewan is defined by Saskatchewan Health as the three northern health authorities; the Athabasca Health Authority, Mamawetan Churchill River Health Region, and Keewatin Yatthé Regional Health Authority.

5.1.1.2 Projected Population

In 2002, Saskatchewan Health produced population projections for potential growth in the province between 2006 and 2021. The study found that the population of Saskatchewan was predicted to remain stable, with very little change occurring under the medium growth scenario. This is proving to be a conservative estimate due to higher than anticipated economic growth and in-migration to the province. The growth rate in northern Saskatchewan was estimated at 27.0% under the medium scenario. By 2021, northern Saskatchewan is projected to have between 38,285 and 55,578 residents (Saskatchewan Health 2002, pp. 74, 78 and 82). In 2011, Saskatchewan Health reported a northern population of 39,001 (Saskatchewan Health 2011). The Athabasca Health Authority was also anticipating substantially higher growth rates than the entire province, although they are somewhat lower than northern Saskatchewan at an expected rate of about 20.9%. While there are no population projections for the communities of Black Lake and Stony Rapids, their populations can reasonably be expected to grow in the range of between the northern Saskatchewan and AHA populations i.e., between 21% and 27% between 2006 and 2021 or, on a prorated basis, between 14 and 18% between 2011 and 2021.

Statistics Canada reports that Aboriginal people will make up a larger proportion of Saskatchewan's population by 2017. The report, Projections of the Aboriginal Populations, Canada, Provinces and Territories 2001 to 2017, (2005) predicts that Saskatchewan's Aboriginal population will grow from 138,300 in 2001 to 202,800 by 2017 — a growth rate of 46.6% over 16 years, or almost 3% annually. By 2017, Aboriginal people would represent 20.8% of the total population, up from 13.8% in 2001. Statistics Canada states that the two main reasons for the increase are higher birth rates and the younger age of the Aboriginal population. The report projects that the proportion of Aboriginal children aged zero to 14 in Saskatchewan will increase from 25.9% in 2001 to 36.6% by 2017. The report also indicated that the Aboriginal population will be aging and by 2017 there will be proportionally fewer Aboriginal children and more seniors than in 2001, although the Aboriginal segment of the population will be much younger than the provincial and Canadian populations.

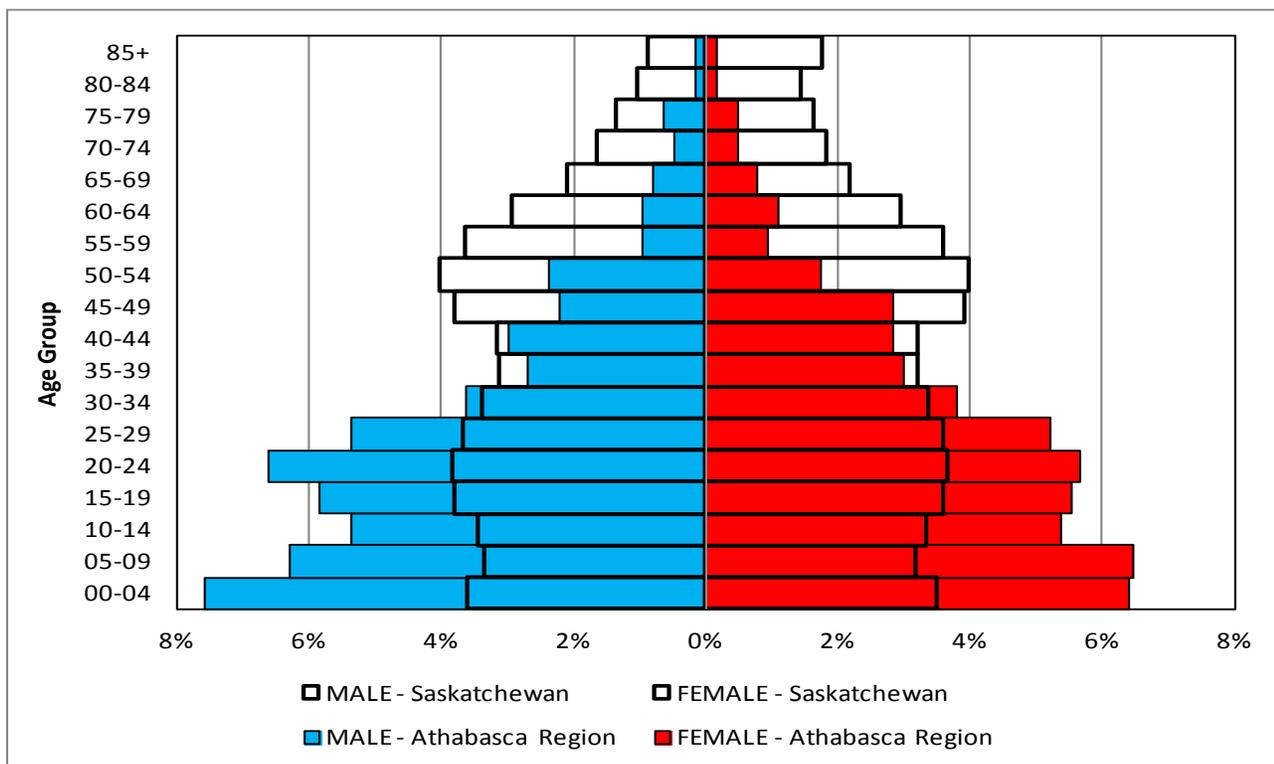
5.1.1.3 Population by Age and Sex

Since Saskatchewan Health and Statistics Canada collect population data differently, where data from both sources are available, it will be presented. Table 5.1-2 presents a breakdown of age groups for the Athabasca region, northern Saskatchewan, and Saskatchewan in 2011, based on Saskatchewan Health data. The

populations of the Athabasca region and northern Saskatchewan were structured similarly in that both populations skewed younger than the province as a whole.

Figure 5.1-1 illustrates the age and sex characteristics of the Athabasca region compared to Saskatchewan in 2011, based on Statistics Canada data. It demonstrates that the population in the Athabasca region was structured differently than the remainder of the province. In the Athabasca region, a larger proportion of the population fell into the lower age ranges and a smaller proportion of the population fell into the higher age ranges compared to the province as a whole in 2006. For instance, 48.83% of the population of the Athabasca region were 19 years of age or younger, while 27.85% of the population of Saskatchewan fell into that age range. In addition, 4.26% of the Athabasca region’s population was 65 years of age or older, while 15.88% of the population of Saskatchewan fell into that age range. The sex and age distribution results from the Statistics Canada comparison are consistent with those from the Saskatchewan Health data.

Figure 5.1-1: Sex and Age Characteristics for the Athabasca Region (a) and Saskatchewan, 2011



Source: Developed from Statistics Canada 2012.

(a) The Athabasca region is defined as the communities of Stony Rapids, Fond du Lac, Black Lake (Chicken 224 in 2001; Chicken 224 and 225 in 2006), and Hatchet Lake (Lac La Hache 220). The communities of Camsell Portage, Uranium City, and Wollaston Lake were not included in these calculations as Statistics Canada does not report on the communities individually.

Community of Black Lake

Table 5.1-3 presents a breakdown of age groups for the community of Black Lake, the Athabasca region, northern Saskatchewan, and Saskatchewan in 2011, based on Saskatchewan Health data. The populations of the community of Black Lake, the Athabasca region and northern Saskatchewan were structured similarly in that those populations skewed younger than the province as a whole. In the community of Black Lake, the proportion of school-age children was slightly higher than in the Athabasca region and northern Saskatchewan, and much

higher than in Saskatchewan. The proportion of the population of labour force age in the community of Black Lake was slightly higher than in the Athabasca region, but slightly lower than in northern Saskatchewan, and nearly 5 pp lower than in the province as a whole. The proportion of seniors in the community of Black Lake (3.2%) is lower than in the Athabasca region (4.1%), northern Saskatchewan (5.4%), and Saskatchewan (14.2%).

Table 5.1-3: Age Characteristics of the community of Black Lake, Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2011^(a)

Age Group	Black Lake	Athabasca Region ^(b)	Northern Saskatchewan ^(c)	Saskatchewan
Proportion of school-age children (Ages 5-19)	32.8%	30.9%	29.5%	19.1%
Proportion of labour force age (Ages 15-64)	62.2%	61.8%	63.7%	66.9%
Proportion of seniors (Ages 65 and over)	3.2%	4.1%	5.4%	14.2%

Source: Saskatchewan Health 2011.

^(a) Totals do not add to 100 percent because of overlaps in age between the population categories of school-age children (ages 5 to 19) and total labour force (ages 15 to 64); population less than 5 years of age is not shown.

^(b) The Athabasca region is defined as Camsell Portage, Uranium City, Fond du Lac, Black Lake, Stony Rapids, Hatchet Lake, and Wollaston Lake. Saskatchewan Covered Health Report 2010 does not provide population data for Camsell Portage.

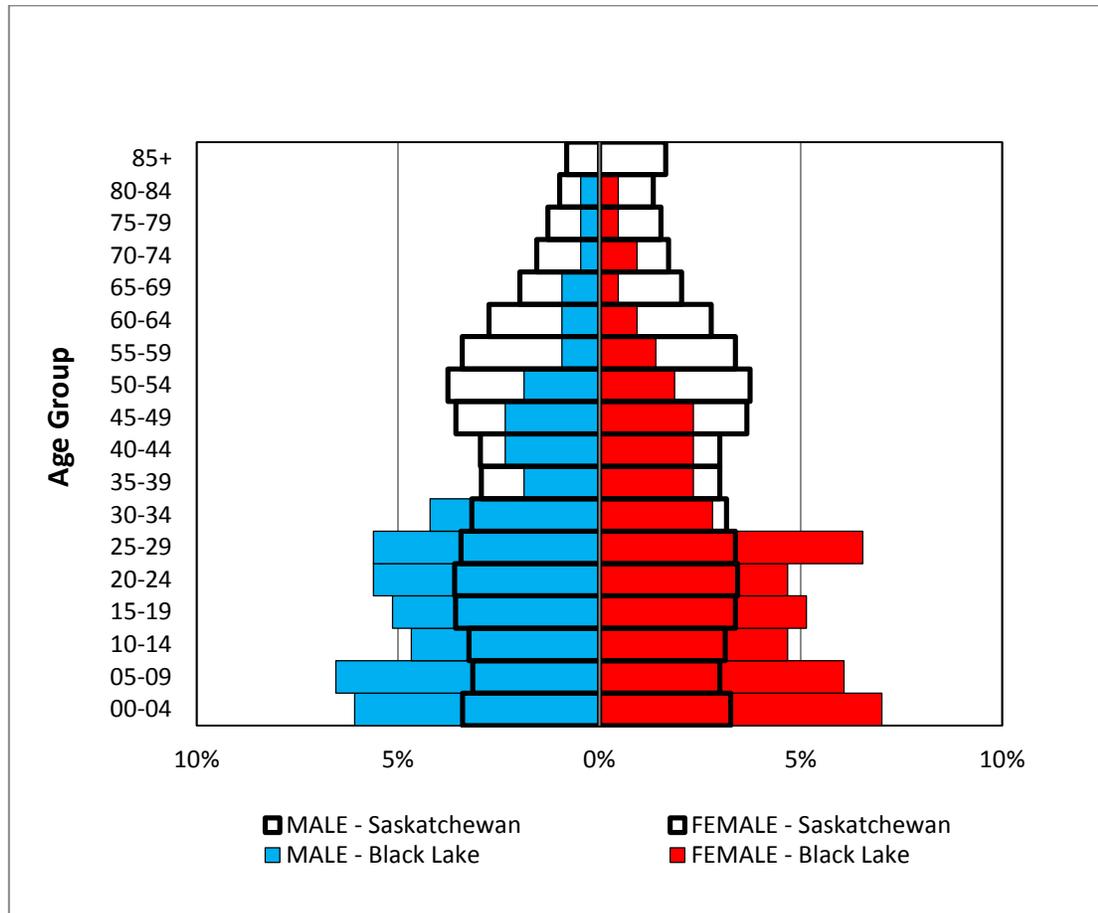
^(c) Northern Saskatchewan is defined by Saskatchewan Health as the three northern health authorities; the Athabasca Health Authority, Mamawetan Churchill River Health Region, and Keewatin Yatthé Regional Health Authority.

Figure 5.1-2 illustrates the age and sex characteristics of the community of Black Lake compared to Saskatchewan in 2011, based on Statistics Canada data. It demonstrates that the population in the community of Black Lake was structured differently than the remainder of the province. Similar to the Athabasca region and northern Saskatchewan, the community of Black Lake contained a larger proportion of the population falling into the lower age ranges and a smaller proportion of the population falling into the higher age ranges compared to Saskatchewan as a whole.

Northern Hamlet of Stony Rapids

Table 5.1-4 presents a breakdown of age groups for the northern hamlet of Stony Rapids, the Athabasca region, northern Saskatchewan, and Saskatchewan in 2011, based on Saskatchewan Health data. The population of the northern hamlet of Stony Rapids was structured differently than the comparison populations. The proportion of school-age children in the northern hamlet of Stony Rapids (15.8%) was nearly half the proportion of school-age children in either the Athabasca region (30.9%) or northern Saskatchewan (29.5%) and closer to the proportion of school-age children in Saskatchewan as a whole (19.1%). In the northern hamlet of Stony Rapids, the proportion of population that was of labour force age was lower than in any of the comparison populations. The proportion of seniors in the population of the northern hamlet of Stony Rapids was higher than in the Athabasca region and northern Saskatchewan, but was about half the proportion in Saskatchewan as a whole.

Figure 5.1-2: Sex and Age Characteristics for Black Lake and Saskatchewan, 2011



Source: Developed from Statistics Canada 2012.

Table 5.1-4: Age Characteristics of the Northern Hamlet of Stony Rapids, Athabasca Region, Northern Saskatchewan, and Saskatchewan: 2011^(a)

Age Group	Stony Rapids	Athabasca Region ^(b)	Northern Saskatchewan ^(c)	Saskatchewan
Proportion of school-age children (Ages 5-19)	15.8%	30.9%	29.5%	19.1%
Proportion of labour force age (Ages 15-64)	55.1%	61.8%	63.7%	66.9%
Proportion of seniors (Ages 65 and over)	7.0%	4.1%	5.4%	14.2%

Source: Saskatchewan Health 2011.

^(a) Totals do not add to 100 percent because of overlaps in age between the population categories of school-age children (ages 5 to 19) and total labour force (ages 15 to 64); population less than 5 years of age is not shown.

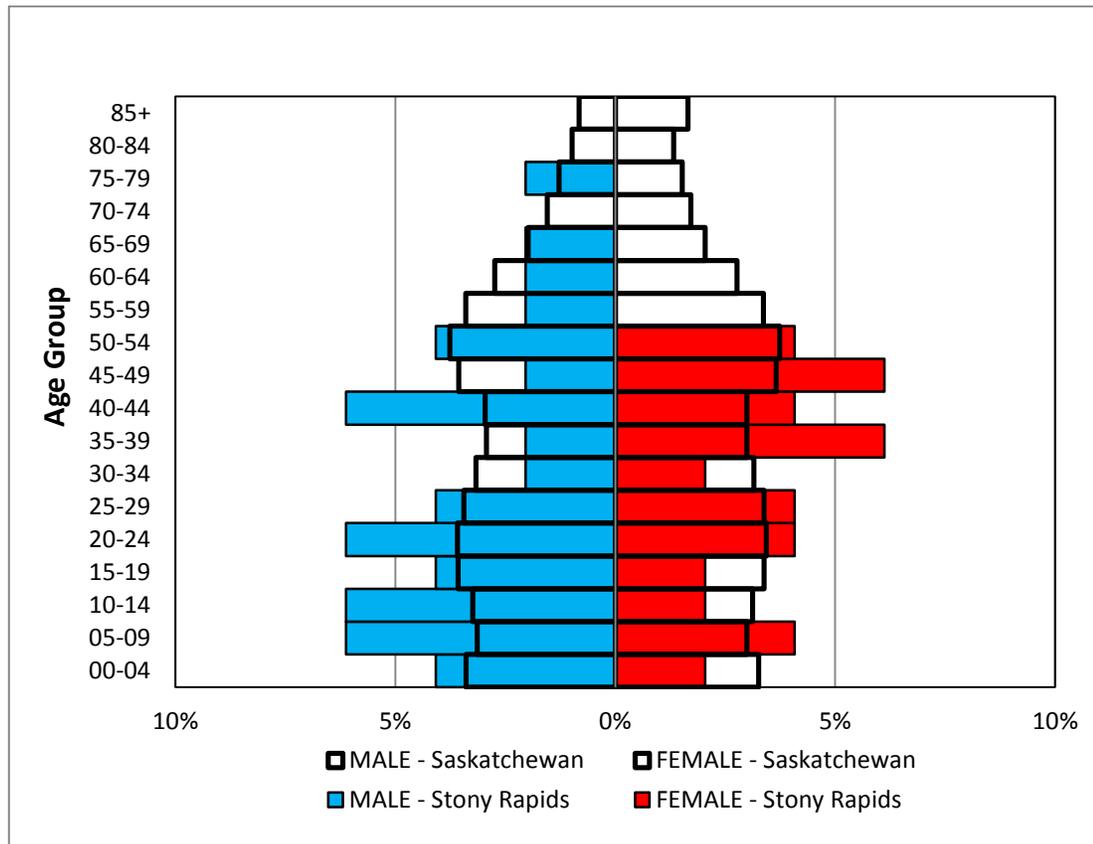
^(b) The Athabasca region is defined as Camsell Portage, Uranium City, Fond du Lac, Black Lake, Stony Rapids, Hatchet Lake, and Wollaston Lake. Saskatchewan Covered Health Report 2010 does not provide population data for Camsell Portage.

^(c) Northern Saskatchewan is defined by Saskatchewan Health as the three northern health authorities; the Athabasca Health Authority, Mamawetan Churchill River Health Region, and Keewatin Yatthé Regional Health Authority.

% = percent

Figure 5.1-3 illustrates the age and sex characteristics of the northern hamlet of Stony Rapids compared to Saskatchewan in 2011, based on Statistics Canada data. It demonstrates that the population in the northern hamlet of Stony Rapids was structured differently than the remainder of the province. Similar to the Athabasca region and northern Saskatchewan, the northern hamlet of Stony Rapids contained a larger proportion of the population falling into the lower age ranges and a smaller proportion of the population falling into the higher age ranges compared to Saskatchewan as a whole.

Figure 5.1-3: Sex and Age Characteristics for the Northern Hamlet of Stony Rapids and Saskatchewan, 2011



Source: Developed from Statistics Canada 2012.

5.2 Health

5.2.1 Health Indicators

Health is influenced by a wide variety of factors, which makes it difficult to describe a community's overall health status. Drinking water, food choices, behaviours, such as smoking and physical activity, and air quality, all affect health. Socio-economic factors, including housing, income, social status, education, early childhood development, and family and community support, are also considerations. Measuring these determinants of health can be challenging due to the breadth of factors and the availability of data, since this type of information is not routinely collected.

This section presents data on six indicators of community health as follows:

- population;

- infant and maternal health;
- life expectancy and causes of death;
- communicable diseases;
- chronic diseases;
- hospital utilization; and
- non-medical determinants of health.

Data on the health indicators was obtained from the AHA, the Mamawetan Churchill River Health Region (MCRHR), and the Keewatin Yatthé Regional Health Authority (KYRHA), which collectively represent northern Saskatchewan (see [Figure 5.2-1](#)), as well as the PHU in La Ronge. Data from the AHA is discussed in relation to health and well-being in the Athabasca region. The AHA encompasses most of the communities in the Athabasca region, including the communities of Black Lake and Stony Rapids, as well as Camsell Portage, Uranium City, and Fond du Lac. Hatchet Lake and Wollaston Lake officially form part of the MCRHR, although the communities collaborate with the AHA to provide programming related to Mental Health and Addictions services (AHA 2011).

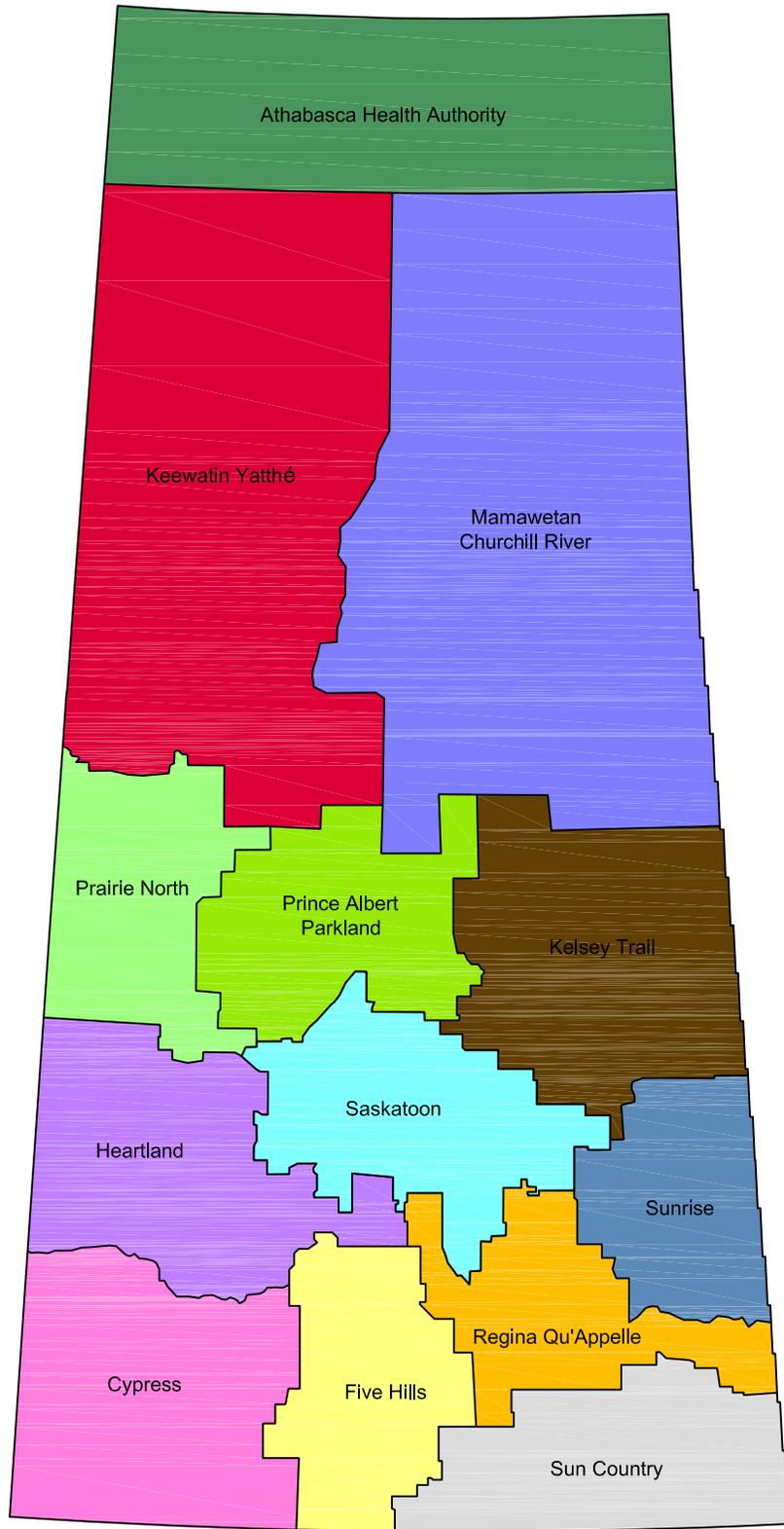
Aside from population, most data is presented at the regional level i.e., northern Saskatchewan or the AHA. Community level data is not presented due to the small size of the communities involved and the need to respect the confidentiality of their residents.

5.2.2 Population

Population is an important determinant of health. [Section 5.1](#) above describes the historical, current, and projected population of the AHA, the community of Black Lake, and the northern hamlet of Stony Rapids including sex and age characteristics. Demographic factors in northern Saskatchewan present challenges to the overall health of individuals and communities. A fast-growing population in the northern half of the province places strain on available health services. Due to the large proportion of adolescents and young adults in the northern region population, as well as higher birth rates and a relatively low population over the age of 65, the prevalence of conditions typically seen in younger age groups, such as injuries, pregnancies, and sexually transmitted infections (STI), tend to be higher in northern Saskatchewan. However, as growth continues among the middle age groups, the number of residents affected by diseases such as diabetes, heart disease, chronic lung disease, and cancer will rise.

5.2.3 Infant and Maternal Health

This section outlines infant and maternal health, including recent statistics on birth rates, birth weight, and infant mortality data. Birth rates and infant health, such as high and low birth weights, provide useful indications of the health of a community.



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REFERENCE
IRVINE AND STOCKDALE 2004

PROJECT	TAZI TWÉ HYDROELECTRIC PROJECT		
TITLE	SASKATCHEWAN REGIONAL HEALTH AUTHORITIES		
	PROJECT	10-1365-0004	FILE No.
	DESIGN		SCALE
	CADD	JDS 04/11/13	REV.
	CHECK	KD 04/11/13	FIGURE: 5.2-1
	REVIEW	HS 04/11/13	



The birthrate in northern Saskatchewan is higher than the rate in Saskatchewan. In 2007, the crude birthrate (number of births per 1,000 residents per year) in Saskatchewan was 13.1, while it was 22.1 in northern Saskatchewan. In the AHA, the crude birthrate was higher than in both Saskatchewan and northern Saskatchewan at 32.8. Birth rates in the AHA, in general, show greater variation than in Saskatchewan and northern Saskatchewan because there are fewer births per year in the region. In general, between 1998 and 2007, the crude birth rate in the AHA ranged from 1.9 to 2.3 times higher than in the province (Irvine et al. 2011).

Birth weight is another indicator of the health status of a population, especially the health status of children and mothers. Between 2005 and 2009, the AHA had a lower proportion of infants with low birth weight than the other northern Saskatchewan health authorities, northern Saskatchewan, and Saskatchewan. During the same period, the AHA had a higher proportion of infants with high birth weights than the other northern Saskatchewan health authorities, northern Saskatchewan, and the province. High birth weight is linked to birth complications and an increased risk in developing diabetes (Irvine et al. 2011).

The infant mortality rate is the number of deaths in infants younger than one year of age per 1,000 live births. It is thought to be one of the most comprehensive measures of health in a community as it reflects the health status of a population, the efficacy of preventative care, and broader social factors, such as deprivation (Health Canada 2008).

The infant mortality rate in northern Saskatchewan has been decreasing, but it remains over 1.6 times greater than the provincial rate (AHA 2011). Due to the small absolute numbers of infant deaths in the northern health regions, wide rate fluctuations are common among periods. The infant mortality rate in northern Saskatchewan decreased from a rate of 13.6 in 1993-1999 to 10.4 deaths per 1,000 live births in 2000-2007. Over the same period, the provincial rate decreased from 8.3 to 6.3 deaths per 1,000 live births (Irvine et al. 2011).

The teen pregnancy rate tells us the average number of pregnancies per woman aged 15- 19 years in a given period. The teen pregnancy rate captures the number of live births, stillbirths, spontaneous abortions (miscarriage) and planned abortions. The AHA continues to have the highest rate of teen pregnancies in the province, registering 172.4 teen pregnancies per 1,000 females aged 15-19 years of age in the years 2008-2009. This is 3.5 times the provincial rate of 58.8 teen pregnancies per 1,000 females aged 15-19 years of age and 1.4 times the northern Saskatchewan rate of 125.9 teen pregnancies per 1,000 females aged 15-19 years of age for the same period (Irvine et al. 2011).

5.2.4 Life Expectancy and Causes of Death

Mortality data is another useful indicator in determining the health status of an entire community. For example, the premature mortality rate (a death is considered “premature” if it occurs before the age of 75) has been identified as one of the best single measures of overall community health. Communities with higher premature mortality rates tend to have higher rates of illnesses, hospital use, and poorer overall health. Mortality data by cause allows for the determination of the number of deaths that may have been preventable (e.g., death due to injury) (AHA 2009).

Between 2000-02 and 2005-07, life expectancy at birth in northern Saskatchewan increased by 1.1 years for females, from 76.2 years to 77.3 years, and by 0.6 years for males, from 71.9 years to 72.5 years. Despite this increase, life expectancy for northern residents remains lower than the provincial average: in 2005-07, female life expectancy was 81.8 years and male life expectancy was 76.2 years (Irvine et al. 2011).

Since the elderly and middle-aged comprise a small proportion of the population in northern Saskatchewan, the crude mortality rate from the 10 leading causes of death in the AHA between 2000-09 is approximately half that of the province as a whole. Once the mortality rate has been age standardized, the mortality rate from the 10 leading causes of death between 2000 and 2009 is nearly twice that of the province (Irvine et al. 2011).

The leading causes of death in the AHA region between 1998 and 2007 were cancers, injuries, and circulatory diseases; in contrast, the leading causes of death in Saskatchewan were circulatory diseases, cancer, and respiratory diseases (Irvine et al. 2011). This difference reflects the much younger population in the northern half of the province, with a smaller proportion of middle and older age groups. After age and sex adjustments to the data, circulatory diseases, cancers, injuries and respiratory diseases remain the four leading causes of death in the AHA region, with rates higher than the provincial averages (AHA 2010).

The Saskatchewan Northern Health Indicators report (Irvine et al. 2011) indicates that once age is accounted for, individuals less than 65 years of age in Saskatchewan's northern region experience higher rates of age-specific mortality: in fact, these rates are double those of Saskatchewan. Mortality rates for individuals under one year of age (the infant mortality rate) in northern Saskatchewan are also higher than the provincial average. However, the mortality rate for individuals 65 years of age or older in northern Saskatchewan is slightly less than the provincial average (Irvine et al. 2011).

5.2.5 Communicable Diseases

Communicable disease transmission in a population is often related to lifestyle, general health, and access to resources to aid with personal hygiene. Certain communicable diseases are spread through poorly cooked food or by a lack of personal hygiene. Others diseases that tend to affect people who are in poor overall health do not tend to affect the generally healthy population. In northern Saskatchewan, tuberculosis and STIs are communicable diseases of concern, while methicillin resistant staphylococcus aureus (MSRA) is considered an emerging issue (Irvine et al. 2011).

Northern Saskatchewan has reported a very high rate of tuberculosis compared with the entire province as a whole in recent years. The new active and relapsed crude tuberculosis rate in northern Saskatchewan in 2001 was 167.4 cases per 100,000, which fell to 159.1 cases per 100,000 in 2010. For comparison, southern Saskatchewan saw 5.8 cases per 100,000 residents in 2001 and 1.7 cases per 100,000 residents in 2010. Between 2001 and 2010, the proportion of new and relapsed tuberculosis cases in Saskatchewan that were located in the northern part of the province increased from 50% in 2001 to 76% in 2010 (Irvine et al. 2011). The rate of tuberculosis infection for northern Saskatchewan was higher than any other provincial or territorial rate other than Nunavut, and about 28 times greater than the Canadian average (AHA 2009; KYRHA 2009).

New cases of tuberculosis continue to be diagnosed regularly in the AHA (AHA 2013). The health authority is working with the Northern Inter-Tribal Health Authority (NITHA) and TB Control to focus efforts on strategic planning, screening, contact tracing, and treatment of the disease among residents of the region (AHA 2013). Regular TB clinics for monitoring and follow-up are coordinated in the communities by TB Control (AHA 2013).

In addition to the high rate of tuberculosis in the northern half of the province, other infectious diseases affect a large proportion of the population in the region. Sexually transmitted infections, such as Chlamydia, are significantly more prevalent in the northern health regions than in the south. In 2008, the last year for which the crude Chlamydia rate is available for Saskatchewan as a whole, the crude rate in the AHA was 12 times greater than the provincial rate (AHA 2011). Crude Chlamydia rates in the health authority decreased by about half between 2008 and 2009, and remained steady between 2009 and 2010 (Irvine et al. 2011).

The rate of MRSA has similarly been on the rise in the northern regions. Methicillin resistant staphylococcus aureus “is a type of staph bacteria that is resistant to certain antibiotics called beta-lactams. These antibiotics include methicillin and other more common antibiotics such as oxacillin, penicillin, and amoxicillin. In the community, most MRSA infections are skin infections” (Center for Disease Control and Prevention 2010). Since 2006, the MRSA rate in the AHA region (total individual MRSA cases per 10,000) has been steadily increasing. In 2006, the rate was 52.1 cases per 10,000; in 2007, the rate was 189.7 per 10,000; and in 2008, the rate was 315.8 cases per 10,000 residents (Irvine et al. 2011).

5.2.6 Chronic Diseases

This section reports regional data from the AHA concerning chronic diseases, such as diabetes and cancer. The 2011 Northern Health Indicators Report shows that chronic diseases, such as type-II diabetes, are increasing in northern Saskatchewan (Irvine et al. 2011).

5.2.6.1 Diabetes

Individuals who are overweight or obese are at higher risk of developing a variety of health conditions, including type-II diabetes, heart disease, and some cancers. The crude diabetes rate in the AHA region for 2005-06 was 17.3 per 1,000 residents, which is a slight decrease from the 2004-05 rates of 18.9 cases per 1,000 residents. However, the crude diabetes rate in the AHA has continued to be higher than the low observed in 2002-03 when the rate was 16.6 cases per 1,000 residents. The provincial crude diabetes rate increased from 52.7 cases per 1,000 residents in 2002-03 to 62 cases per 1,000 residents in 2005-06. In 2009, the provincial crude diabetes rate was three times higher than the rate in the AHA region (AHA 2010). The lower crude diabetes rate in the AHA than in the province as a whole may reflect the differences in age structure between northern and southern Saskatchewan. Since the northern population is, on average, much younger than the southern population, there are relatively fewer people in the north in the age range that would be most likely affected by diabetes. Once age and sex adjustments are made to allow for provincial comparisons, the proportion of people with diabetes in the AHA region remained relatively stable between 2002 and 2006, ranging between 44.3 and 46.0 cases per 1,000 residents. In 2006, the AHA region had the lowest age-sex adjusted prevalence rate in the province (AHA 2010). To prevent underestimating the impact diabetes has on the AHA, the health authority maintains a manual tracking system. Using the numbers from this tracking system and the figures of the 2009 covered population estimates, the Population Health Unit estimates that there was a crude rate of 35 cases per 1,000 residents in 2010 (Irvine et al. 2011).

In a 2006 report from the Indigenous Peoples’ Health Research Centre (IPHRC), diabetes was the most commonly identified health issue affecting Saskatchewan Aboriginal populations in the category of chronic diseases, nutrition, and lifestyle. Overall, diabetes ranked as the third most commonly mentioned health issue, with many participants observing that it is tied to larger issues of lifestyle, physical activity, and nutrition (Sinclair et. al. 2006).

5.2.6.2 Cancer

According to the 2011 Northern Saskatchewan Health Indicators Report, the northern region has a lower rate of Potential Years of Life Lost (PYLL) or premature deaths from cancer than the province as a whole, where cancer is the leading cause of premature death (Irvine et al. 2011).

In northern Saskatchewan, as well as in Saskatchewan as a whole, lung cancer was the most common cause of cancer deaths in both men and women between 1998 and 2007. For northern Saskatchewan residents, the number of other cancer deaths were markedly lower than lung cancer deaths, with breast cancer the second

leading cause of death among women and cancer of unknown primary site (i.e., cancer that has spread and for which doctors cannot determine the original site) being the second leading cause of death among men. Among northern Saskatchewan residents between 1998 and 2007, cancer incidence, which is the number of new cases of cancer diagnosed per 100,000 persons, exhibits a slightly different trend than cancers causing death: among women, breast cancer was the most commonly diagnosed cancer, followed by lung cancer, colorectal cancer, and cervical cancer; among men, lung cancer was the most commonly diagnosed cancer, followed by prostate cancer, colorectal cancer, kidney cancer, and non-Hodgkin's lymphoma (Irvine et al. 2011).

In contrast to the northern region, the most common cause of death in the AHA region between 1999 and 2008 was cancer, with rates that were more than double the other leading causes of death with the exception of circulatory disease; for which the rate was less but similarly high. In Saskatchewan during that time circulatory diseases were the leading cause of death; cancer was the second (AHA 2010).

5.2.7 Hospital Use

Hospitalization data provide information concerning in-patient admittance to hospitals, regardless of location. This information indicates when illness has become serious enough to require hospital care, and is often used to describe the need for resources to support people to better manage their health.

While hospitalization rates are commonly used as a proxy for health status, caution should be used in interpreting this data. There are a variety of other influences on hospitalization rates in addition to health status, including availability and access to hospital beds, patterns of physician practice, the availability of, and access to, alternative services, facilities, and supports, and distance from hospital facilities (Irvine et al. 2011). For example, if hospitalizations due to diabetes are increasing, this may indicate that there are more people living with diabetes, but this may also suggest that there are not enough resources in the community to help people effectively manage their diabetes before complications occur.

According to the 2011 Northern Saskatchewan Health Indicators Report, the crude rate of hospitalization for all causes in Saskatchewan's three northern health regions remained relatively stable or decreased slightly between 2004-05 and 2008-09, with a similar trend occurring in Saskatchewan as a whole. While the rates of hospitalization in the KYHR and MCRHR were slightly higher than the rate for the province, the AHA had nearly twice the number of hospitalizations per 1,000 residents than the province (Irvine et al. 2011). Challenges in maintaining small regional hospitals, as well as staffing challenges, were cited as two important factors necessary for reducing hospitalization rates in northern Saskatchewan (Irvine and Stockdale 2004).

In the IPHRC study (Sinclair et al. 2006), First Nations and Métis communities in northern Saskatchewan reported major issues with health services, access, and delivery. Métis respondents, in particular, were concerned about the access and delivery, in addition to funding, of health services in their communities. Both First Nation and Métis participants suggested that additional services and programs targeted to youth were especially important. Another major challenge in northern communities is a lack of services compared to urban and southern Saskatchewan. For many respondents, travel to larger centers for treatment, especially for Elders, was problematic, with the costs involved cited as one of the major hurdles associated with healthcare-related travel. In addition, overall lack of services in small and remote communities, as well as the difficulties involved in attracting and retaining healthcare professionals, were important considerations for many respondents. A suggested response to this crisis included promoting healthcare related fields of study among local residents, especially among Indigenous children, as a way to meet the future healthcare needs of northern communities (Sinclair et al. 2006).

Beyond access to health facilities and services, the greatest influence on hospitalization rate is age. The highest rates of hospitalization generally occur among older age groups, in particular over the age of 75 years, followed by the under one year age group. In the three northern Saskatchewan health authorities, the hospitalization rate followed this trend between 2004-05 and 2008-09. For the same period, in terms of the number of hospitalizations the under one year category followed by the 15-30 year old category had the greatest number of hospitalizations between 2004-05 and 2008-09. This, in part, is due to the large proportion of residents in the younger age groups in northern Saskatchewan compared to Saskatchewan as a whole (Irvine et al. 2011).

The leading causes of hospitalization in the northern Saskatchewan health authorities were supplementary factors¹³ (16.1%), pregnancy and childbirth (15.5%), respiratory diseases (14.0%), injuries and poisonings (9.0%), and digestive diseases (7.9%). These five categories accounted for over half the hospitalizations in northern Saskatchewan between 2004-05 and 2008-09. In the province as a whole, the same categories, except for injuries and poisonings, accounted for over half of the hospitalizations during the same five-year period. Supplementary factors accounted for 13.6% of hospitalizations in the province, pregnancy and childbirth for 10.5%, respiratory diseases for 10.3%, and digestive diseases for 11.1%. Once the hospitalization rates are age-adjusted to exclude newborns, the top five causes for hospitalizations between 2004-05 and 2008-09 in the northern Saskatchewan health authorities are respiratory diseases, pregnancy and childbirth, digestive diseases, injury and poisoning, and circulatory diseases. The difference between hospitalization rates in the northern health authorities and Saskatchewan also increase after adjustments are made by age (Irvine et al. 2011).

5.2.8 Non-Medical Determinants of Health

This section describes non-medical determinants of health and briefly explores the importance of these factors in the overall health and well-being of the Athabasca region communities, as well as in northern Saskatchewan.

5.2.8.1 Socio-Economic Factors

Non-medical determinants of health include factors such as education, income, and employment (Irvine et al. 2011). These three factors are linked, since education presents pathways to employment and higher income potential. Improved job security and education provides people a feeling of control over their life (Health Council of Canada 2005), which influences overall health. People who are unemployed are more likely to experience “psychological distress, anxiety, health problems, hospitalization, etc. than the employed” (Health Canada 2004: p. 1-4). There is a growing body of evidence to support that income and social status are the most important social determinants of health, since “health status improved at each step up the income and social hierarchy” (Health Council of Canada 2005: p. 22). Higher income is also associated with improved living conditions and the ability to access resources. These predominantly economic factors are described in greater detail in [Section 2.0](#) of this report.

Living conditions are also among the factors of the physical environment that contribute to health. Housing, for example, can contribute to quality of life, since the average number of persons per room, indoor air quality, and need for repairs are indicators related to housing that influence overall health status. Accessibility of services, such as proximity to a hospital, also contributes to health (Atlas of Canada 2009). Housing conditions are described in [Section 3.3.4](#).

¹³ Supplementary factors are when an individual with a diagnosed disease or injury is hospitalized for a specific treatment of that disease or injury or when an individual is hospitalized with a problem that is not itself an illness or injury (ICD9.US n.d.)

Raphael (2004), in his analysis of Canadian health determinants, identifies Aboriginal status as one of the key determinants of health in Canada. The Aboriginal population in Saskatchewan represents the fastest growing segment of the population and “experiences a disproportionate burden of illness” (Sinclair et al. 2006: p. 9). Aboriginal people are more likely than other Canadians to experience inequalities and disadvantages that act as barriers to overall health. Examples of these inequalities include the following:

- **Education:** Aboriginal people have lower education levels than their non-Aboriginal counterparts. Aboriginal youth are less likely to complete high school. Insufficient education diminishes the level of skills people have to enter the labour market.
- **Employment:** Unemployment rates are higher for Aboriginal people than the general Canadian population.
- **Income and Social Status:** Aboriginal people are typically overrepresented in the low-income bracket. Annual earnings are lower than that of other Canadians, irrespective of whether they are working full-time or part-time.
- **Social Support Networks:** Colonialism resulted in losses of land, language, and socio-cultural resources. The residential school system furthered these losses by removing young children from their communities, which has been linked to Aboriginal people being unable to establish effective family relationships.
- **Physical Environments:** Aboriginal communities often face housing shortages and people are more likely to live in crowded conditions or in homes in need of major repairs. This can result in stressors, such as children having little room to study or play, or adults lacking private space to relax. The AHA has nearly four times the proportion of dwellings needing major repairs and 17 times the rate of overcrowding than Saskatchewan as a whole (AHA 2011).
- **Access to Services:** Aboriginal communities are less likely to have community facilities and infrastructure to promote healthy lifestyle choices/behaviours, such as recreation centres, playgrounds, swimming pools (Loppie et. al. 2009; Health Council of Canada 2005).

5.2.8.2 Individual Behaviours

Personal behaviours and lifestyle choices also contribute to the overall level of health in a community. Personal health practices refer to those actions that can prevent disease, promote self-care, and make decisions that enhance health (Health Canada 2003). Choices such as smoking, alcohol and drug use, physical activity, and dietary practices are discussed further below.

Smoking

Off-reserve smoking rates¹⁴ for Aboriginal residents in northern Saskatchewan are substantially higher than in Saskatchewan as a whole. The number of daily or occasional smokers living off reserve aged 12 and over in northern Saskatchewan is broken down by gender. Smoking by male Aboriginal residents in northern Saskatchewan remained fairly stable between 2003 and 2009-10 at 41%, with a decrease in smoking rates in 2007-08. Smoking by female Aboriginal residents during the same period has also remained relatively stable at slightly over 42% with a sharp decrease in 2005 and a sharp increase in 2007-08. Overall, the rate in northern Saskatchewan for off-reserve females aged 12 or older who are daily or occasional smokers is more than twice

¹⁴ On reserve smoking rates are not documented.

the provincial rate. In comparison, the number of smokers in Saskatchewan remained stable for males at about 24% and decreased for females from 23.1% to 20.2% over the same period (Irvine et al. 2011).

Alcohol and Drug Abuse

For many First Nation and Métis communities, issues of mental health, addictions, and substance abuse are among the most pressing health concerns. Respondents to the study conducted by the IPHRC noted that mental health and substance abuse often go hand in hand, with several respondents observing that addictions in their communities seemed to be shifting from alcohol abuse to drug-related problems, leading to cocaine, solvents, and crystal methamphetamine addictions. Several respondents recognized that mental health and addictions issues have broad implications for families and the larger community, including violence in the home and on the street, and that these issues are also often symptoms of underlying social issues, such as poverty, lack of education, and lack of employment opportunities. Although many respondents in the IPHRC study spoke in negative terms regarding recent trends in mental health and addictions, some participants pointed to models of Indigenous healing and community development as potentially positive approaches to dealing with these issues in northern communities. For example, research on traditional knowledge, the importance of language, cultural identity, history, and kinship suggested methods for addressing mental health and addictions issues. In addition, programs targeting youth and focusing on addictions treatment and counselling were identified as potentially beneficial tools to combat alcohol and drug abuse in northern Saskatchewan (Sinclair et al. 2006).

Physical Activity

Off-reserve residents aged 12 and over in the northern health regions reported the highest rates of participation in active or moderately active levels of physical activity during leisure time in Saskatchewan between 2003 and 2009-10. In addition, these regions reported the lowest percentage of inactive residents for the same time period. While the rate of participation in active or moderately active levels of physical activity in northern Saskatchewan is higher than that of Saskatchewan as a whole, there has been a decrease in the amount of physical activity reported by residents of the north in recent years. The percentage of the off-reserve population aged 12 and over being physically active or moderately active during leisure time in northern Saskatchewan has remained relatively stable with a decrease from 58.8% in 2003 to 57.3% in 2009-10. In Saskatchewan during the same timeframe, the rate increased from 50.9% in 2003 to 51.2% in 2009-10 (Irvine et al. 2011).

Obesity and Dietary Practices

People who are classified as overweight have a body mass index (BMI) of 25.0 - 29.0, while those who are obese have a BMI of 30.0 or greater (AHA 2010). Residents of northern Saskatchewan were more overweight or obese (38.6% and 27.7%, respectively) compared to the population of Saskatchewan as a whole (37.0% and 21.7%, respectively) in 2009-10. The proportion of individuals aged 18 and over living off-reserve who was either overweight or obese in northern Saskatchewan increased from 57.4% in 2003 to 66.2% in 2009-10, with the proportion spiking in 2007-08; in comparison, the proportion in Saskatchewan rose from 56.8% in 2003 to 58.7% in 2009-10 (Irvine et al. 2011).

Several participants in the IPHRC study noted that poor nutrition and obesity in the north were connected to the high cost of healthy food in the region, as well as to the limited facilities and resources for operating programs for physical activity (Sinclair et al. 2006).

Social support networks, both informal and institutional, also contribute to health, since support from families, friends, and communities contribute to problem solving, dealing with adversity, as well as an overall sense of

control over life circumstances: “The caring and respect that occurs in social relationships and well-being seem to act as a buffer against health problems” (Health Canada 1999: p. 60).

5.3 Community Perspectives on Health

The significant Aboriginal and Métis populations in northern Saskatchewan often experience health issues that are distinct from other residents of the region. As such, a perspective that includes First Nation and Métis health indicators and concerns is crucial to better understand overall northern health.

In northern Saskatchewan, First Nation and Métis respondents to the 2006 IPHRC report identified the following key health issues that they considered to be critical:

- health services access and delivery;
- chronic diseases;
- nutrition and lifestyle;
- indigenous healing;
- mental health;
- addictions and fetal alcohol syndrome;
- prevention; and
- environmental health (Sinclair et al. 2006).

Many of the health concerns reported by First Nation and Métis residents of northern Saskatchewan are echoed by residents of the communities of Black Lake and Stony Rapids. The following section outlines local concerns and issues raised by residents and service providers in each of the communities.

5.3.1 Community of Black Lake

Residents of the community of Black Lake participated in the 2001 Aboriginal Peoples Survey, which included several questions related to health. Among participants in the survey, 83% of adults living at the community of Black Lake reported excellent, very good, or good health, with approximately 17% reporting fair or poor health. Approximately 25% reported one or more long-term health condition(s), including 6.1% who cited high blood pressure, heart problems, or effects of stroke, and 13.6% who cited other long term health conditions (Statistics Canada 2004a). Sixty-nine percent of children in the community of Black Lake were reported to be in excellent or very good health, while 26% were reported to be in good health. About 28.2% were reported to have one or more long-term health condition(s), including 12.8% with ear infections or ear problems (Statistics Canada 2004b).

According to the Aboriginal Peoples Survey, 42% of adult residents saw or spoke with a family doctor or general practitioner regarding physical, emotional, or mental health concerns in the 12 months preceding the survey. In addition, 58% said that they saw or spoke on the telephone with a nurse; 15% with a traditional healer; 58% with a dentist or orthodontist; and 44% with another health professional over that period (Statistics Canada 2004a). Children in the community of Black Lake were reported to have seen or spoken with general practitioners and family physicians (29%), a public health nurses and nurse practitioners (53%), or with another medical specialist

(18%) regarding health concerns over the 12 month period prior to the Aboriginal Peoples Survey (Statistics Canada 2004b).

The results of KPIs conducted for this baseline report were largely consistent with the outcomes of the 2001 Aboriginal Peoples Survey. For example, residents expressed concern over the lack of specialist services in the community of Black Lake. Most specialist services are either unavailable or infrequently available in the community and residents often postpone their regular check-ups and preventative treatments until there is a problem. Results of the KPI program suggest that there should be a greater emphasis placed on preventative health programs in the community (Black Lake and Stony Rapids KPI Program 2011-2013).

Recreational activities and physical exercise are important to local residents. The 2012 KPI program indicated that members feel that the community would benefit from having a youth centre and more recreational programming to keep young people occupied. These are also listed in the Local Concerns, Desires and Priorities section of the Band's most recent Community Development Plan (Bullée Consulting 2010). Residents expressed concern over alcohol and drug abuse among community members, particularly youth and young adults. In terms of healthy eating and nutrition, residents commented that Elders, who eat mainly traditional foods, may not be consuming enough fruits and vegetables (Black Lake and Stony Rapids KPI Program 2011-2013).

Fish and wild game are an important part of the diet of many residents of the community of Black Lake, in addition to being a significant component in cultural and social practices. As a result, the health of the environment is an important element of overall health in the region. Many residents, particularly those who actively participate in fishing, hunting, and trapping, as well as those who consume these foods, expressed concerns over environmental conditions within the region that could be problematic to people's health. Concerns related to environmental health include the effects of forest fires on land and the effects of fire on wildlife and fish populations; the effects of precipitation levels and temperatures on wildlife; and pollution related to natural resource exploration and extraction in the region. Residents are particularly concerned about the policies dictating how forest fires are fought in northern Saskatchewan (Black Lake and Stony Rapids KPI Program 2011-2013).

The following health issues are also recognized as requiring attention and resources in the community:

- tuberculosis;
- cancer rates;
- diabetes, particularly among Elders;
- alcohol and drug addictions; and
- lack of housing and overcrowding.

5.3.2 Northern Hamlet of Stony Rapids

Cancer rates are a concern to residents of the northern hamlet of Stony Rapids. Results of the 2012 KPI program suggest that the incidence of cancers in the community have increased over the last few years. Residents also expressed concern with rising diabetes and tuberculosis rates in the community. It is felt that there needs to be a greater emphasis placed on preventative care in the community (Black Lake and Stony Rapids KPI Program 2011-2013).

Residents of the northern hamlet of Stony Rapids would like to see increased mental health, addictions, and healing programs in their community. Results of the 2012 KPI program indicate that community members have participated in healing programs in the south and would benefit from access to these and similar programs within their community (Black Lake and Stony Rapids KPI Program 2011-2013).

Recreational and sports programming are important aspects of life in the northern hamlet of Stony Rapids. Residents would like to see an expansion of programs and facilities in the community, particularly programs and equipment for children and youth to encourage healthy lifestyles and provide an alternative to drugs and alcohol. There are currently three gym nights each week at the school gym for children of different ages (Black Lake and Stony Rapids KPI Program 2011-2013).

The following health issues are also recognized as requiring attention and resources in the community:

- differential access to health care services between First Nation members and non-members;
- environmental health, especially the effects of forest fires in the area; and
- prenatal care and support services (Black Lake and Stony Rapids KPI Program 2011-2013).

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